California State Teachers' Retirement System

(A component unit of the State of California)

Independent auditor's report

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For the fiscal year ended June 30, 2023

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Crowe LLP
Independent Member Crowe Global

INDEPENDENT AUDITOR'S REPORT

Teachers' Retirement Board of the California
State Teachers' Retirement System
West Sacramento, California

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the California State Teachers' Retirement System ("System" or "CalSTRS"), a component unit of the State of California, as of and for the year ended June 30, 2023, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the California State Teachers' Retirement System, as of June 30, 2023, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards (Government Auditing Standards)*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matters

Net Pension Liability of Employers and Nonemployer Contributing Entity

As discussed in Note 3, based on the most recent actuarial valuation as of June 30, 2022, the System's independent actuaries determined that, at June 30, 2023, the value of the State Teachers' Retirement Plan (STRP) total pension liability exceeded the STRP fiduciary net position by $76.2 billion. The actuarial valuation is sensitive to the underlying actuarial assumptions, including investment rate of return of 7.10%, consumer price inflation of 2.75%, wage growth of 3.5% and custom mortality tables based on CalSTRS most recent Experience Analysis. Our opinion is not modified with respect to this matter.

Fair Value of Investments

As discussed in Note 5 and 6, the financial statements include investments valued at approximately $139.3 billion as of June 30, 2023, for which fair value has been estimated by general partners and investment advisors, and reviewed and approved by the System's management, in the absence of readily ascertainable market values. Because of the inherent uncertainty of valuation, the estimated values may differ from the values that would have been used had a ready market existed for the investment securities, and the differences could be material. Our opinion is not modified with respect to this matter.

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 financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibility 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 auditor's report that includes our opinion. 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 GAAS and *Government Auditing Standards* 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.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- 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 audit 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 System's 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.
- Conclude whether, in our judgement, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

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

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's discussion and analysis on pages 4 - 19 and the Schedule of changes in net pension liability of employers and nonemployer contributing entity, Schedule of net pension liability of employers and nonemployer contribution entity, Schedule of pension contributions from employers and nonemployer contributing entity, Schedule of money-weighted rate of return for the State Teachers' Retirement Plan and Medicare Premium Payment Program, Schedule of changes in net OPEB liability of employers and Schedule of net OPEB liability of employers on pages 58 - 65 be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit 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.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The Schedule of administrative expenses, Schedule of investment expenses and Schedule of consultant and professional services expenses are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of administrative expenses, Schedule of investment expenses and Schedule of consultant and professional services expenses are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards,* we have also issued our report dated October 5, 2023 on our consideration of the California State Teachers' Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering California State Teachers' Retirement System's internal control over financial reporting and compliance.

Crowe LLP

Crowe LLP

Sacramento, California
October 5, 2023

Management's discussion and analysis (unaudited)

Introduction

Management's discussion and analysis of the California State Teachers' Retirement System's (CalSTRS, the system, we, our) financial performance is intended to fairly and transparently provide an overview of activities for the fiscal year ended June 30, 2023. The discussion and analysis focuses on business events and resulting changes for the fiscal year. This discussion is more meaningful when read in conjunction with CalSTRS' basic financial statements and accompanying notes.

CalSTRS' actual results, performance and achievements expressed or implied in these statements may differ from expectations and are subject to changes in interest rates, securities markets, general economic conditions, legislation, regulations and other factors.

Mission

Founded in 1913, CalSTRS was made up of approximately 15,000 members, held no assets and paid an average annual benefit of $500. As of June 30, 2023, we have grown to serving approximately 1,022,000 members and their beneficiaries, holding approximately $319.0 billion in net assets and paying an average annual Member-Only Benefit of approximately $54,157.

Today, we are the largest educator-only pension fund in the world and continue to deliver on our mission—*securing the financial future and sustaining the trust of California's educators.*

Year in review

This section provides discussion on significant events and changes impacting CalSTRS for the fiscal year ended June 30, 2023.

Teachers' Retirement Board updates

Joe Stephenshaw was appointed as director of the California Department of Finance by Governor Newsom in July 2022. His term began July 1, 2022, as he replaced Keely Bosler as an Ex Officio member of the Teachers' Retirement Board (board). Stephenshaw has previously served as staff director for the California State Senate Budget and Fiscal Review Committee and held several positions in the California Legislature.

Malia M. Cohen was elected Controller for the State of California in November 2022 and replaced Betty Yee effective January 1, 2023, as an Ex Officio member on the board. Controller Cohen has previously served as a member of the California State Board of Equalization, president of the Board of Supervisors for the City and County of San Francisco and president of the San Francisco Employees' Retirement System.

In January 2023, William Prezant was reappointed to the board by Governor Newsom to a public representative seat with a four-year term through December 31, 2026.

Denise Bradford, Harry M. Keiley and Sharon Hendricks were all reelected to the board and each will now serve an additional four-year term beginning January 1, 2024, extending through December 31, 2027. Additionally, in May 2023, the board reelected Harry Keiley as chair and elected Denise Bradford as vice chair for the fiscal year 2023–24 term. This is the fourth consecutive year Keiley is serving as chair, while Bradford succeeds Sharon Hendricks who previously served as vice chair for three consecutive terms.

Michael Gunning, who was appointed to the board in April 2022 and whose term runs through December 31, 2025, received Senate confirmation in April 2023.

Headquarters Expansion Project

In November 2018, the board approved the expansion of CalSTRS' West Sacramento headquarters to meet the long-term space needs of the organization resulting from increases in size and complexity of the system. In December 2019, CalSTRS issued tax-exempt lease-revenue green bonds (Series 2019 Bonds) to finance the construction of the headquarters expansion. These bonds were issued through a conduit issuer, the California Infrastructure and Economic Development Bank (IBank), a public instrumentality of the state, which provides financing for business development and public improvements.

Due to the unforeseen impacts resulting from the COVID-19 pandemic and construction delays, the project schedule has been extended, and the substantial completion date has been moved to late 2023. As a result of the extended schedule, the project required additional funding to ensure that the expansion facility meets all sustainability goals, adheres to code required changes and maintains the functionality necessary to support CalSTRS' operations.

In January 2022, the board approved additional funding not-to-exceed $18.5 million utilizing tax-exempt lease-revenue green bonds. The additional funding brings the total not-to-exceed project budget to $318.5 million. In December 2022, through the IBank, CalSTRS issued $16.2 million ($15.6 million par and $0.6 million original issue premium) in tax-exempt lease-revenue green bonds (Series 2022 bonds) to complete the headquarters expansion and pay cost of issuance of these bonds.

Pension Solution Project

The Pension Solution Project is an ongoing effort by CalSTRS to modernize the legacy pension administration system. The project is the largest technology effort in CalSTRS' history and encompasses the implementation of a new benefits program management system to support program and policy changes, incorporates automated internal controls, and improves processing times. It will interface with multiple systems, including our financial and electronic content management systems, and will provide upgraded secure portals for members and employers.

In March 2023, the board approved an interim budget augmentation of $87.2 million to fund internal and external resources to continue fiscal year 2023–24 system implementation activities. This adjustment brought the interim project budget to $422.0 million.

During the course of the fiscal year, CalSTRS worked directly with Sagitec Solutions to develop lessons learned and strengthen the foundation of the project. CalSTRS has exercised an extension on the interim service period contract with Sagitec Solutions through October 2023 and is working on a new contract to continue our partnership to bring the project to a successful implementation—scheduled for fall 2025.

CalSTRS Collaborative Model

The CalSTRS Collaborative Model is an investment strategy to manage more assets internally—to reduce costs, control risks and increase expected returns—and leverage our external partnerships to achieve similar benefits, which will have long-term benefits for the system and our members.

This approach embraces partnerships and collaboration by expanding direct investment opportunities through various investment structures, including peer partnerships, joint ventures, co-investments, and passive and controlling stakes in investment companies, while building additional direct investing capabilities. The Pillars Project supported the CalSTRS Collaborative Model investment strategy and required resources from across four enterprise-wide pillars: Human Resources, Procurement, Travel and Hybrid (which includes Legal, Technology, Financial Services and Communications).

The Pillars Project had broadly met its objectives as of December 2022 and completed its planned work schedule with most objectives fully operationalized. As such, the project has officially sunset and shifted to ongoing monitoring and maintenance of the beneficial goals and processes.

CalSTRS will continue to execute and capitalize on the cost savings of internal management in public and private markets while increasing the number and types of strategies using the Collaborative Model. According to the Collaborative Model Savings report presented to the board in November 2022, which details savings results through calendar year 2021, CalSTRS has achieved an estimated average annual savings of $243.6 million and more than $1.2 billion in total savings since 2017. The Collaborative Model Savings report is available online at CalSTRS.com.

Benefit overpayment legislation

California Assembly Bill 1667 (Chapter 754, Statutes of 2022) (AB 1667) was signed into law in September 2022 and pertains to member benefit overpayments and how those funds are paid back to CalSTRS.

Among other provisions, AB 1667 requires CalSTRS to provide advisory letters on the proper reporting of compensation to specified parties, prescribes various processes for employer audit notifications and appeals, requires final audit reports to be published on the CalSTRS website, and mandates that CalSTRS annually provide resources to interpret and clarify the applicability of creditable compensation and creditable service laws.

This legislation resulted in changes to operations and has associated upfront and ongoing costs, including the hiring of additional staff. AB 1667 requires that when a benefit is overpaid, the party responsible for the error that caused the overpayment must pay CalSTRS the full amount of the resulting overpayment, except in instances of CalSTRS error, in which case the overpayment must be recovered from the state's General Fund and employers. It also creates new cross-functional processes involving multiple business areas to review and provide advisory letters on compensation, implements changes to the employer audit resolution and appeals processes, and modifies the accounting and legacy pension administration systems. Ultimately, this bill aims to reduce the number of benefit errors and aligns with CalSTRS' ongoing efforts to improve benefit reporting, build trust and ensure the accuracy of our members' retirement benefits.

Financial highlights

This section discusses major changes in account balances for the State Teachers' Retirement Plan (STRP), CalSTRS Pension2 Personal Wealth Plan (Pension2®), the Medicare Premium Payment (MPP) Program and the Teachers' Deferred Compensation Fund (TDCF). Comparative financial statement information is presented for the STRP through condensed versions of the statement of fiduciary net position and statement of changes in fiduciary net position as of and for the fiscal years ended June 30, 2023, and June 30, 2022.

State Teachers' Retirement Plan

The STRP is a multiple-employer, cost-sharing defined benefit plan composed of four programs: the Defined Benefit (DB) Program, Defined Benefit Supplement (DBS) Program, Cash Balance Benefit (CBB) Program and Replacement Benefits Program. The STRP holds assets for the exclusive purpose of providing benefits to members of these programs and their beneficiaries.

Fiduciary net position — STRP

(dollars in thousands)

Assets and deferred outflows of resources	2023	2022	% change
Investment assets[1]	$345,997,115	$329,926,317	4.9%
Cash	205,676	253,397	(18.8%)
Investment receivables	5,741,755	10,633,857	(46.0%)
Member, employer, state and other receivables	7,081,372	7,317,803	(3.2%)
Capital and other assets	732,114	615,194	19.0%
Total assets	**359,758,032**	**348,746,568**	**3.2%**
Deferred outflows of resources	**174,427**	**87,781**	**98.7%**
Total assets and deferred outflows of resources	**359,932,459**	**348,834,349**	**3.2%**
Liabilities and deferred inflows of resources			
Investment liabilities	455,138	931,721	(51.2%)
Investments purchased payable	6,652,763	13,014,265	(48.9%)
Loans and bonds payable	6,018,133	5,845,531	3.0%
Benefits in process of payment	426,849	1,802,164	(76.3%)
Net pension and OPEB liabilities	773,868	612,234	26.4%
Securities lending obligation	27,384,547	25,288,492	8.3%
Securities sold short	379,280	354,821	6.9%
Other	652,336	559,490	16.6%
Total liabilities	**42,742,914**	**48,408,718**	**(11.7%)**
Deferred inflows of resources	**271,035**	**369,346**	**(26.6%)**
Total liabilities and deferred inflows of resources	**43,013,949**	**48,778,064**	**(11.8%)**
NET POSITION RESTRICTED FOR PENSIONS	**$316,918,510**	**$300,056,285**	**5.6%**

[1] Includes securities lending collateral of $27.3 billion and $25.3 billion as of June 30, 2023, and June 30, 2022, respectively.

Changes in fiduciary net position — STRP

(dollars in thousands)

Additions	2023	2022	% change
Member contributions	$4,304,648	$4,067,526	5.8%
Employer contributions	7,746,196	6,521,356	18.8%
State of California contributions	3,719,874	4,279,964	(13.1%)
Net investment income (loss)	19,674,901	(7,390,290)	366.2%
Other income	303,053	130,195	132.8%
Total additions	**35,748,672**	**7,608,751**	**369.8%**
Deductions			
Benefit payments	18,244,899	17,414,245	4.8%
Refunds of member contributions	138,940	112,424	23.6%
Administrative expenses	221,678	191,116	16.0%
Borrowing costs	272,176	122,794	121.7%
Other expenses	8,754	5,340	63.9%
Total deductions	**18,886,447**	**17,845,919**	**5.8%**
Increase (decrease) in net position	**16,862,225**	**(10,237,168)**	**264.7%**
Net position restricted for pensions			
Beginning of the year	300,056,285	310,293,453	(3.3%)
END OF THE YEAR	**$316,918,510**	**$300,056,285**	**5.6%**

Net position for the STRP increased approximately $16.8 billion, or 5.6%, from $300.1 billion as of June 30, 2022 to $316.9 billion as of June 30, 2023, primarily due to positive investment returns.

The STRP's time-weighted investment return for fiscal year 2022–23 was 6.3% (net of fees), which resulted in a net investment income of $19.7 billion for the same period. Net investment income increased $27.1 billion compared to the prior fiscal year, which had a time-weighted investment return of -1.3% (net of fees) and net investment loss of $7.4 billion. Investment assets increased $16.1 billion, or 4.9%, primarily due to positive returns. Investment liabilities decreased $476.6 million, or 51.2%, primarily due to derivative instrument liabilities (such as forwards, futures and swap contracts) being in more favorable positions as of June 30, 2023. Refer to the investment management section of management's discussion and analysis for detail of the STRP's investment returns.

Total member, employer and State of California contributions increased $0.9 billion, or 6.1%, primarily due to an increase in the total employer contribution rate for the DB Program, active members and creditable compensation. Member contribution rates remained unchanged from prior fiscal year, while the total employer contribution rate increased from 16.92% in fiscal year 2021–22 to 19.10% in fiscal year 2022–23. Although the total state contribution rate remained unchanged at 10.828%, state contributions decreased due to the recognition of one-time, supplemental contributions totaling $583.7 million in fiscal year 2021–22 while no supplemental contributions were recognized in fiscal year 2022–23.

Changes in the net pension liability (NPL), net other postemployment benefit (OPEB) liability, deferred outflows of resources and deferred inflows of resources are primarily driven by the STRP's annual recognition of changes to its proportionate share of the state's NPL, net OPEB liability and related deferrals.

Capital and other assets increased $116.9 million, or 19.0%, due to capitalized costs for the Headquarters Expansion Project and the Pension Solution Project. Additional information on capital assets is in Note 2 of the notes to the basic financial statements.

Benefit payments increased $0.8 billion, or 4.8%, due to an increase in the STRP's retirees and their beneficiaries and the annual benefit adjustment added to benefit allowances. Benefits in process of payment decreased $1.4 billion, or 76.3%, due to timing as the June 2022 monthly benefit payments were disbursed in July 2022 (in accordance with the annual pay dates calendar).

Investment receivables decreased $4.9 billion, and investments purchased payable decreased $6.4 billion due to the timing of settlement of investment purchases and sales. Borrowing costs increased $149.4 million due to increased interest expense on outstanding loans within CalSTRS' Master Credit Facility Portfolio (MCFP), which consists of unsecured revolving lines of credit and unsecured term loans that source funds for managing capital flows of certain investment strategies. Additional information on the MCFP is in Note 7 of the notes to the basic financial statements.

Other income increased $172.9 million, or 132.8%, primarily due to an increase in interest income received from joint venture investments that utilized the MCFP.

Other programs and funds

In addition to the STRP, CalSTRS administers two defined contribution plans within the Pension2 Program, a postemployment benefit plan known as the MPP Program and the TDCF that accounts for ancillary activities associated with deferred compensation plans and programs. The following discussion provides noteworthy changes for each of these programs and funds.

Pension2 403(b) Plan

CalSTRS Pension2 403(b) Plan is a voluntary defined contribution program that offers low-cost and tax-deferred 403(b) and Roth 403(b) plans for additional retirement savings.

Net position for the Pension2 403(b) Plan increased $0.3 billion, or 16.6%, to approximately $1.9 billion as of June 30, 2023, primarily due to positive investment returns on program participants' investment assets. Net investment income for the 403(b) Plan was $164.0 million for the fiscal year ended June 30, 2023, compared to a net investment loss of $141.6 million for the fiscal year ended June 30, 2022.

Pension2 457(b) Plan

CalSTRS Pension2 457(b) Plan is a voluntary defined contribution program that offers low-cost and tax-deferred 457(b) and Roth 457(b) plans for additional retirement savings.

Net position for the Pension2 457(b) Plan increased $29.1 million, or 28.5%, to approximately $131.1 million as of June 30, 2023, primarily due to positive investment returns on program participants' investment assets. Net investment income for the 457(b) Plan was $11.8 million for the fiscal year ended June 30, 2023, compared to a net investment loss of $11.1 million for the fiscal year ended June 30, 2022.

Medicare Premium Payment Program

CalSTRS administers the MPP Program through the Teachers' Health Benefits Fund. The MPP Program pays Medicare Part A premiums and Medicare Parts A and B late enrollment surcharges for retired members of the DB Program who meet certain eligibility criteria. Members who retire on or after July 1, 2012, are not currently eligible for coverage under the MPP Program.

The MPP Program has reflected a net deficit for the past six years resulting from the implementation of Governmental Accounting Standards Board (GASB) Statement No. 68, *Accounting and Financial Reporting for Pensions—an amendment of GASB Statement No. 27*, in fiscal year 2014–15 and GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, in fiscal year 2017–18. The implementation of these standards resulted in the program incurring increased administrative expenses from the recognition of its share of the state's NPL and net OPEB liability. The amounts recognized represent long-term liabilities reported on an accrual basis and do not adversely impact the viability of the fund or its ability to meet current obligations.

Operationally, the MPP Program is funded on a pay-as-you-go basis, with contributions generally being made at the same time and in the same amount as benefit payments and expenses coming due. The net deficit decreased by $0.2 million to approximately $2.9 million as of June 30, 2023, with no significant change in activity compared to fiscal year 2021–22.

Teachers' Deferred Compensation Fund

The TDCF is a trust fund established to account for ancillary activities associated with deferred compensation plans and programs offered by CalSTRS, such as the Pension2 403(b) and 457(b) plans.

The TDCF has reflected a net deficit for the past nine years resulting from the implementation of GASB Statement No. 68 and GASB Statement No. 75. Implementation of these standards resulted in the TDCF recognizing increased administrative expenses from the recognition of its share of the state's NPL and net OPEB liability. The amounts recognized represent long-term liabilities reported on an accrual basis and do not adversely impact the viability of the fund or its ability to meet current obligations.

The current net deficit of the TDCF decreased by $0.9 million to approximately $2.2 million as of June 30, 2023. Decreases in the net deficit is primarily due to administrative fees earned by the TDCF in fiscal year 2022–23 exceeding administrative expenses incurred, with no other significant change in activity compared to fiscal year 2021–22.

Overview of financial statements

Management's discussion and analysis is also an introduction to CalSTRS' basic financial statements. CalSTRS' financial statements include the following components:

- Basic financial statements
  - Statement of fiduciary net position
  - Statement of changes in fiduciary net position
  - Notes to the basic financial statements
- Required supplementary information (unaudited)
- Other supplementary information

Statement of fiduciary net position

The statement of fiduciary net position presents information on all of CalSTRS' assets and liabilities, with the difference between the two reported as net position. Over time, the increase or decrease in net position serves as an indicator of CalSTRS' financial condition and our ability to fund future benefit payments.

Statement of changes in fiduciary net position

The statement of changes in fiduciary net position reflects how CalSTRS' net position changed during the fiscal year and presents contributions earned, benefit payments made, investment returns and the costs of plan administration.

Notes to the basic financial statements

The notes to the basic financial statements provide information essential to a full understanding of the basic financial statements. The type of information provided in each note is as follows:

- Note 1 provides a summary of information on the significant provisions of CalSTRS' plans and programs.
- Note 2 provides a summary of significant accounting policies, including the basis of accounting for CalSTRS, management's use of estimates, cash and investment accounting policies.
- Note 3 provides information regarding the NPL of employers and nonemployer contributing entity for the STRP, including the actuarial assumptions and methods used to determine the total pension liability.
- Note 4 provides information regarding the net OPEB liability of employers for the MPP Program, including the actuarial assumptions and methods used to determine the total OPEB liability.
- Note 5 provides information related to deposits, investments and risks (credit, interest rate and foreign currency) in addition to a schedule of investments that discloses the types of investments within each broad investment category.
- Note 6 provides information related to the fair value measurement of investments.
- Note 7 provides information on the various outstanding debt obligations for CalSTRS.
- Note 8 provides information on the potential contingencies of CalSTRS.
- Note 9 provides a summary of CalSTRS' significant commitments.

Required supplementary information

The required supplementary information section consists of six unaudited schedules intended to assist readers in understanding the NPL of the STRP and the net OPEB liability of the MPP Program. The information available in this section includes:

- Schedule I – Schedule of changes in net pension liability of employers and nonemployer contributing entity
- Schedule II – Schedule of net pension liability of employers and nonemployer contributing entity
- Schedule III – Schedule of pension contributions from employers and nonemployer contributing entity
- Schedule IV – Schedule of money-weighted rate of return for the State Teachers' Retirement Plan and Medicare Premium Payment Program
- Schedule V – Schedule of changes in net OPEB liability of employers
- Schedule VI – Schedule of net OPEB liability of employers

Other supplementary information

Other supplementary information includes details on administrative expenses, investment expenses, and consultant and professional services expenses. The schedules available in this section include:

- Schedule VII – Schedule of administrative expenses
- Schedule VIII – Schedule of investment expenses
- Schedule IX – Schedule of consultant and professional services expenses

Major business components

The sections that follow describe the activities and results of CalSTRS' major business components (investment management and pension administration) for the fiscal year ended June 30, 2023.

Investment management

CalSTRS' primary goal is to maintain a financially sound retirement system. Our investment philosophy is "long-term patient capital"—investing for long-term net cash flows and capital gain potential at a reasonable price. The chief investment officer has authority to oversee and manage the investments and assets of the system in compliance with policy guidelines adopted by the board or its Investment Committee.

Investment beliefs

CalSTRS' investment beliefs provide a foundational framework for all of CalSTRS' investment decision-makers to invest in a manner that reflects CalSTRS' unique view of the global investment markets and its vision for participating in these markets to accomplish its fiduciary goal. In this respect, these investment beliefs should help guide CalSTRS' policy leaders and other decision makers to develop appropriate policies, procedures and investment plans for CalSTRS' assets. The nine investment beliefs are:

1. Diversification strengthens the fund.
2. The global public investment markets are largely, but not completely, efficient.
3. Managing investment costs yields long-term benefits.
4. Internal management is a critical capability.
5. CalSTRS can potentially capture an illiquidity risk premium.
6. Managing short-term drawdown risk can positively impact CalSTRS' ability to meet its long-term financial obligations.
7. Responsible corporate governance, including the management of environmental, social and governance (ESG) factors, can benefit long-term investors like CalSTRS.
8. Alignment of financial interests between CalSTRS and its advisors is critical.
9. Investment risks associated with climate change and the related economic transition—physical, policy and technology driven—materially impact the value of CalSTRS' investment portfolio.

Sustainability

CalSTRS recognizes the importance of sustainability and that ESG risks affect the performance of the investment portfolio to varying degrees across companies, sectors, regions and asset classes. We continuously look to improve ESG disclosures and integration that support long-term value creation and provide leadership in the global marketplace as long-term investors.

We publish several reports and provide relevant updates to convey our progress: *Sustainability Report*, *Diversity in the Management of Investments Report*, and the triennial *Addressing Climate-Related Financial Risk Report*, all of which are available at CalSTRS.com.

Time-weighted returns

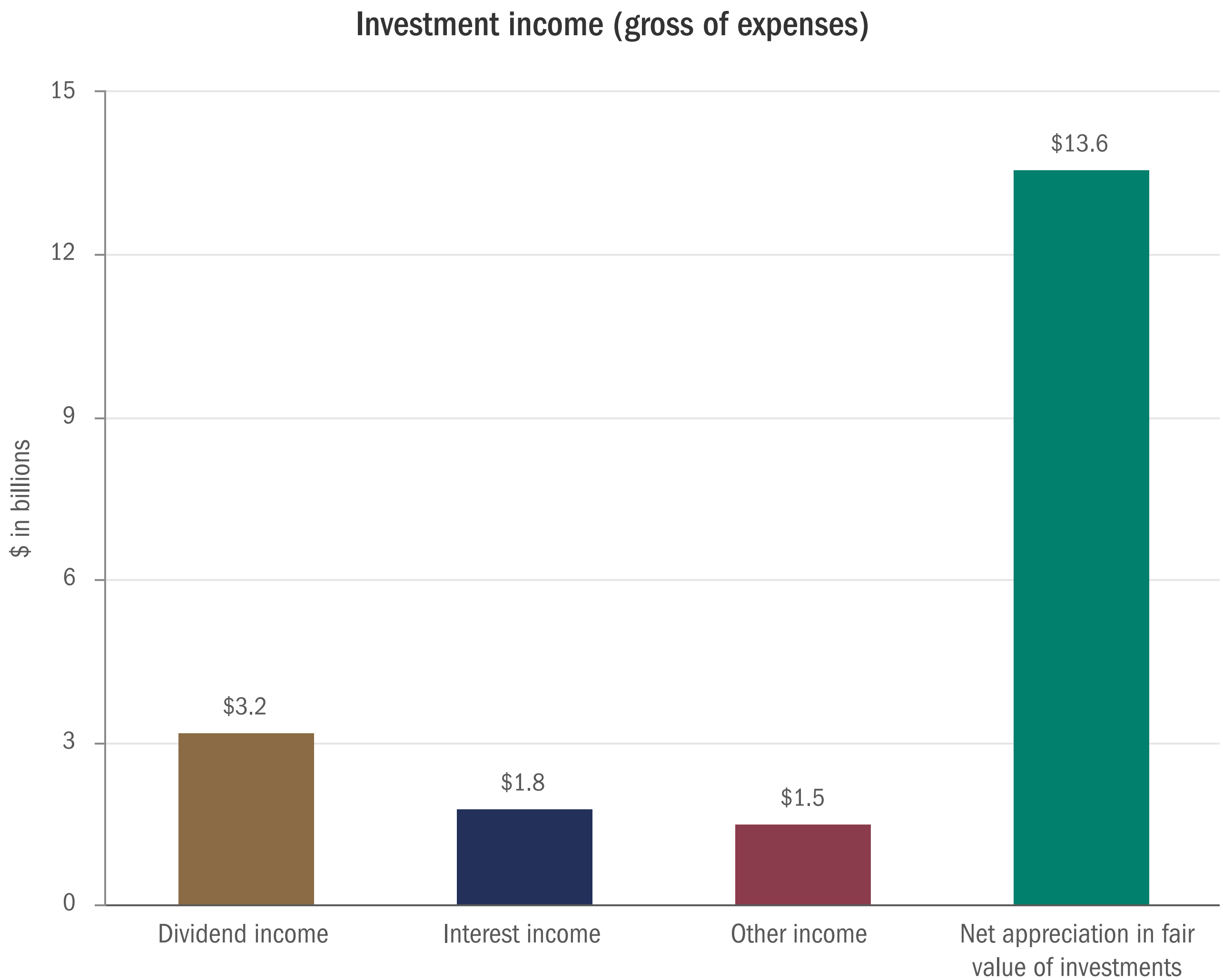
CalSTRS uses a time-weighted return to evaluate returns for portfolio performance purposes, and the discussion of investment performance that follows is based on the time-weighted methodology. CalSTRS also prepares and discloses a money-weighted return for financial reporting purposes in accordance with GASB Statement No. 67, *Financial Reporting for Pension Plans—an amendment of GASB Statement No. 25*, and GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. The money-weighted rate of return for the STRP was 6.6% for the fiscal year ended June 30, 2023. Additional detail and discussion of money-weighted returns can be found in Note 5 of the notes to the basic financial statements.

For the fiscal year ended June 30, 2023, our time-weighted return calculated on a net-of-fees basis was 6.3%. CalSTRS is a long-term investor with a goal of achieving an average return of 7.0% over a multiyear horizon to meet pension obligations. Our returns (net of fees) reflect the following long-term performance:

- 10.1% over 3 years
- 8.2% over 5 years
- 8.7% over 10 years
- 8.0% over 20 years
- 7.8% over 30 years

Sources of investment income

The graph below displays a detailed view of the sources of investment income for the STRP (excluding securities lending income), based on the statement of changes in fiduciary net position as of June 30, 2023.



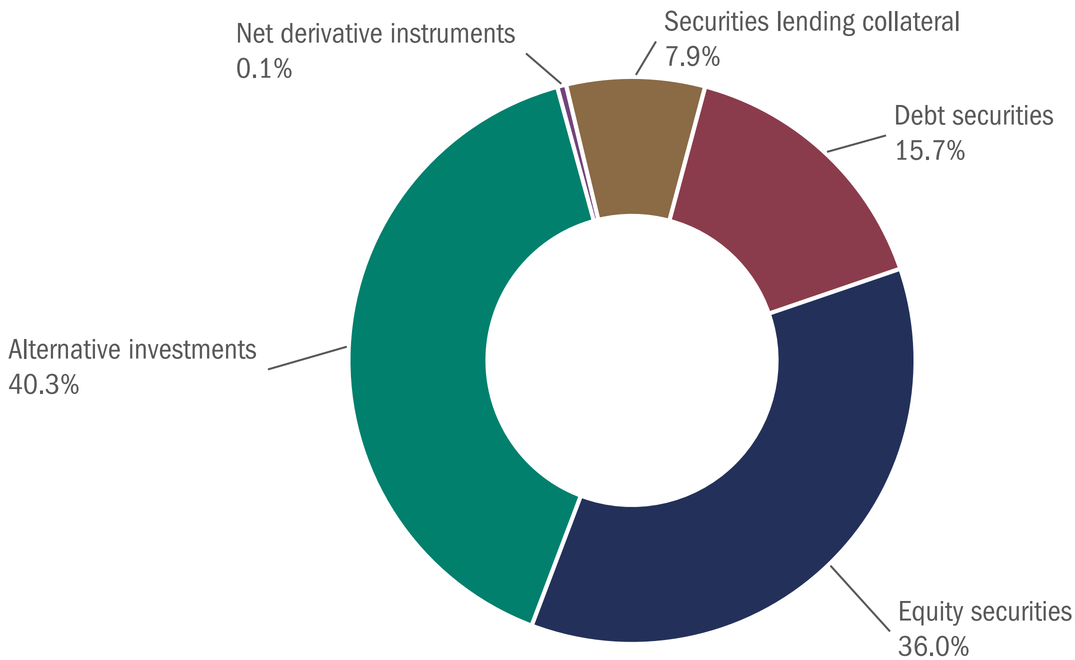
CalSTRS' investments earn income in the form of interest and dividends from holding fixed income securities and various types of equity interests in public companies and limited partnerships.

Other income consists primarily of distributed income from alternative investments (such as rent), term loans and securities litigation. Net appreciation consists of realized gains (losses) and unrealized appreciation (depreciation). Realized gains and losses are generally a result of investment sales, write-offs and reorganizations. Unrealized appreciation and depreciation are generated by period-over-period valuation fluctuations in all types of investments.

Asset allocation and performance

The chart below presents net STRP investments based on their classification on the statement of fiduciary net position as of June 30, 2023.

Allocation of investments based on the statement of fiduciary net position[1,2,3]



1 This chart only represents net investment assets of the STRP as these assets are managed by CalSTRS. While CalSTRS offers investment strategies for the Pension2 Program, investment assets of the 403(b) and 457(b) plans are not actively managed by CalSTRS. Additionally, investment assets in the MPP Program and the TDCF are invested in the Surplus Money Investment Fund, which is a pooled investment program administered by the California State Treasurer.

2 Bond proceeds investment represents 0.02% of total net investments for the STRP and is not presented in the above chart.

3 Recalculation of investments based on figures presented within the statement of fiduciary net position may differ due to rounding.

Management's discussion and analysis (unaudited)

The following table displays the distribution of investments in the STRP (excluding bond proceeds investment and securities lending collateral and obligations) based on the portfolio allocation compared to the classification within the statement of fiduciary net position as of June 30, 2023.

Portfolio allocation versus financial statement classification

Portfolio allocation		Financial statement classification	
Asset class/Strategy	**Asset allocation**	**Investments**	**% of asset class**
Public Equity[1]	40.4%	Equity securities	97.3%
		Debt securities	1.2%
		Alternative investments	1.1%
		Other[2]	0.4%
Real Estate[1]	16.1%	Alternative investments	99.6%
		Equity securities	0.4%
Private Equity[1]	15.5%	Alternative investments	100.0%
Fixed Income	10.1%	Debt securities	100.9%
		Alternative investments	0.5%
		Other[2]	(1.4%)
Risk Mitigating Strategies	8.8%	Alternative investments	70.3%
		Debt securities	29.4%
		Other[2]	0.3%
Inflation Sensitive	6.1%	Alternative investments	65.5%
		Debt securities	34.8%
		Derivative instruments	(0.1%)
		Other[2]	(0.2%)
Cash/Liquidity	1.5%	Debt securities	100.0%
Innovative Strategies[1]	1.4%	Alternative investments	100.0%
Strategic Overlay	0.1%	Debt securities	230.5%
		Derivative instruments	29.7%
		Equity securities	0.2%
		Other[2]	(160.4%)
Total Fund	**100.0%**		

1 Includes Sustainable Investments and Stewardship Strategies public and private investments totaling $10.0 billion.

2 Other consists of cash, payables and receivables that are reflected as such on the statement of fiduciary net position and any investment categories less than 0.1%.

Equity securities

As of June 30, 2023, the STRP held $124.4 billion in equity securities across all portfolios, an increase of 10.9% compared to the prior year. Equity securities are primarily composed of publicly traded domestic and international securities within the Public Equity Portfolio. The Public Equity Portfolio consists of two main strategies, Global Equity and Sustainable Investment and Stewardship Strategies (SISS). The SISS Portfolio has two components: the SISS Public Portfolio and the SISS Private Portfolio. SISS funds are included within the Public Equity, Private Equity, Real Estate and Innovative Strategies portfolio allocations, but are classified primarily as Equity Securities and Alternative Investments on the financial statements, as reflected in the table above.

Equity securities generated strong positive returns for the fiscal year ended June 30, 2023. During the first quarter of the fiscal year, equity markets declined due to high inflation, aggressively rising interest rates and recession fears. Despite the decline, equities gained overall in subsequent quarters as inflation levels decelerated and as central banks decreased the magnitude of interest rate hikes. During the third quarter of the fiscal year, the financial sector declined due to banking turmoil resulting from failures with Silicon Valley Bank and Credit Suisse. However, investor sentiment increased as stocks of other U.S. regional banks stabilized and with news of all the largest U.S. banks passing the U.S. Federal Reserve's stress tests. Additionally, the market experienced strong gains in the fourth quarter as rapid development in generative artificial intelligence lifted the technology sector and with strong performances from the consumer discretionary and communication services sectors.

Debt securities

As of June 30, 2023, the STRP held $54.3 billion in debt securities across all portfolios, a decrease of 6.9% compared to the prior year. The Fixed Income Portfolio holds primarily debt securities comprised of U.S. and non-U.S. dollar-based investment grade and non-investment grade securities.

Fixed income securities generated a slight loss for the fiscal year ended June 30, 2023. The bond market declined in the first quarter of the fiscal year as the U.S. Federal Reserve, European Central Bank and other global central banks aggressively increased interest rates to curb increasing inflation. The U.S. Federal Reserve increased its policy rate 3.50% in total over eight policy meetings during the fiscal year. However, the magnitude of rate increases decelerated from three consecutive 0.75% hikes from July through November to a 0.50% and three 0.25% increases in December through May. Rates were kept steady in June after 10 consecutive rate hikes.

In the second and third quarters of the fiscal year, bonds rebounded as inflation decelerated. The regional banking crisis in March increased demand for bonds causing most U.S. Treasury yields to decrease, increasing bond prices. However, short- and long-term yields increased in the fourth quarter partially in response to the U.S. government's agreement to raise the U.S. federal debt limit. Additionally, various global central banks acknowledged that ongoing inflation is still elevated, increasing investor sentiment that further rate increases may be required.

Alternative investments

As of June 30, 2023, the STRP held $139.3 billion in alternative investments, an increase of 4.6% compared to the prior year. Alternative investments include investments in private equity, real estate, inflation sensitive, SISS, innovative strategies and risk mitigating strategies (RMS).

The Private Equity asset class is comprised primarily of limited partnership and co-investment structures invested in equity-based and debt-based opportunities. Types of investment strategies include leveraged buyouts, venture capital, expansion capital, distressed debt and mezzanine investments. As part of the Collaborative Model, a system-wide initiative to bring more investment capacity in-house, the Private Equity asset class continues to grow with an increased focus on co-investment opportunities.

Private equity posted a slight loss for the fiscal year ended June 30, 2023. Fundraising and the number of private equity funds reaching a final close declined during the fourth quarter of fiscal year 2022–23 as the industry continues to be affected by economic and geopolitical concerns. Despite a decline in fundraising in the private equity market, CalSTRS' pace in investing in private equity remains consistent. Long-term Private Equity Portfolio performance continues to be strong individually and has outperformed its relative benchmark over the three, five and 10-year periods.

The Real Estate asset class is comprised of equity and debt-based investments in directly held real estate, such as wholly owned properties and joint venture investments, and non-directly held real estate, which consists primarily of commingled funds and co-investments. The Real Estate asset class is focused on investing in direct, discretionary investments to provide CalSTRS with control and better alignment of interests with partners.

The Real Estate asset class posted a slight loss for fiscal year ended June 30, 2023. Real estate capital markets have shown signs of moderation as the continuous rise of interest rates impacted real estate pricing and values, leading to a slowdown in returns from the record levels over the prior fiscal year. Real estate performance declined throughout the fiscal year driven by depreciating property values. Despite the slowdown, the Real Estate Portfolio has outperformed its target return benchmark in both the short- and long-term performance.

Management's discussion and analysis (unaudited)

Asset allocation targets

CalSTRS conducts an Asset Liability Management (ALM) study every four years to direct how the Investment staff allocates assets among different opportunities. This study weighs the system's pension liabilities versus assets needed to fund these pensions over the long term and is a critical process that drives the performance of the investment portfolio.

The long-term allocation targets in place as of June 30, 2023, were based on the 2019 ALM study and approved by the board's Investment Committee in January 2020. CalSTRS staff made gradual shifts in allocations through a series of steps to move toward these long-term targets, which were ultimately reached when the fifth and final step was approved by the board in January 2023. The table below shows approved allocation steps and their effective dates en route to reaching our long-term targets based on the 2019 ALM study:

	Effective date				
Asset class/ Strategy	7/1/20 Step 1	7/1/21 Step 2	1/1/22 Step 3	7/1/22 Step 4	1/1/23 Step 5
Public Equity	49.0%	47.0%	45.0%	43.0%	42.0%
Real Estate	14.0%	14.0%	14.0%	15.0%	15.0%
Private Equity	10.0%	11.0%	13.0%	13.0%	13.0%
Fixed Income	13.0%	12.0%	12.0%	12.0%	12.0%
Risk Mitigating Strategies	9.0%	10.0%	10.0%	10.0%	10.0%
Inflation Sensitive	3.0%	4.0%	4.0%	5.0%	6.0%
Cash/Liquidity	2.0%	2.0%	2.0%	2.0%	2.0%

In May 2023, the board approved new long-term asset allocations based on the 2023 ALM study and adopted it into policy in July 2023. Transition to the new long-term targets became effective July 1, 2023, and is expected to take place in steps dependent upon market opportunities. These new targets have the same expected return as the current allocation policy but with slightly lower expected volatility due to a small increase in diversification. The table below shows the approved long-term asset allocations, which became effective July 1, 2023, and are based on the 2023 ALM study:

Asset class/Strategy	Long-term allocation
Public Equity	38.0%
Real Estate	15.0%
Private Equity	14.0%
Fixed Income	14.0%
Risk Mitigating Strategies	10.0%
Inflation Sensitive	7.0%
Cash/Liquidity	2.0%

Investment Cost Report

The 2021 calendar year *Investment Cost Report* was presented to the board in November 2022. This report provides cost trend data over a seven-year period for each asset class and investment strategy, a peer comparison of investment cost data, and a capture ratio analysis to show cost effectiveness of the total fund, asset classes and strategies over time.

Total portfolio investment cost (excluding carried interest) increased from $1.5 billion in calendar year 2020 to $1.8 billion in calendar year 2021. These costs include management fees and internal operating costs that are highly correlated to the total fund's net asset value, which increased from $262.0 billion in 2020 to $338.3 billion in 2021. Total portfolio costs (including carried interest) rose approximately 35% primarily due to a 69% increase in carried interest paid in 2021, which is reflective of realized gains from private asset investments in recent years.

CalSTRS categorizes investment costs in the *Investment Cost Report* as either externally or internally managed and distinguishes assets as either public or private. Per the 2021 *Investment Cost Report*, internally managed public and private investment assets accounted for 67% of the total portfolio net asset value, yet represented only 28% of total portfolio costs. Conversely, externally managed public and private investment assets represented 33% of the total portfolio net asset value and 72% of total portfolio costs. Although some investment strategies require significant infrastructure or specialized expertise that economically justify external management, it generally costs more to manage investments externally than internally.

A third-party cost measurement service provider used various customized methodologies to compare CalSTRS' investment costs to 14 global peers whose assets under management ranged from $100.6 billion to $751.0 billion. CalSTRS' investment strategies, including those from the Collaborative Model, saved approximately $491 million more in calendar year 2021 as compared to our peers (adjusting for asset mix). CalSTRS will continue to work with third-party cost measurement service providers to monitor our effectiveness in managing investment costs compared to peers.

Pension administration

As a provider of pension and other postemployment benefits, CalSTRS must ensure that the contributions we receive and investment income we earn will fund current and future benefits owed to our members and their beneficiaries. Actuarial valuation reports are prepared on an annual basis to help assess the funded status of our programs and are integral to our administration of benefits. As a result of requirements set forth by GASB standards, CalSTRS engages with our consulting actuary (Milliman) to produce two types of actuarial valuation reports for both the STRP and MPP Program: one for financial reporting purposes and one for funding purposes.

Pension system actuarial valuation reports

The financial reporting actuarial valuation is performed to determine the NPL and other required financial disclosures in accordance with GASB standards. The NPL is calculated for the STRP as a whole and reflects benefits earned by plan members as of a certain date net of pension plan assets. The total pension liability for the STRP was determined by applying update procedures to the financial reporting actuarial valuation as of June 30, 2022, and rolling forward the total pension liability to June 30, 2023. CalSTRS does not project a depletion of assets with the provision of additional member, employer and state contributions resulting from the enactment of the CalSTRS Funding Plan. CalSTRS discounted all future obligations for the STRP using the long-term assumed rate of return on plan assets gross of administrative costs (currently 7.10%). Based on that assumption, the STRP has an NPL of $76.2 billion as of June 30, 2023.

The funding actuarial valuation assesses the sufficiency of existing assets and future contributions to fund promised benefits and guides decisions regarding the long-term viability of the programs. Separate funding actuarial valuations are performed for the DB Program, DBS Program and CBB Program. An actuarial projection is also performed for the Supplemental Benefit Maintenance Account (SBMA), which is a special account in the STRP that provides inflation protection (after revenue received from the School Land Bank Fund administered by the State Lands Commission is exhausted) to CalSTRS members whose current purchasing power has fallen below 85% of the purchasing power of their initial benefit.

Assumptions used in the financial reporting actuarial valuation report and the funding actuarial valuation reports are the same except for the long-term rate of return, which is gross of administrative costs (7.10%) for financial reporting purposes and net of administrative costs (7.00%) for funding purposes. Investment return assumptions are developed by CalSTRS' investment and actuarial consultants and are adopted by the board.

The most recent funding actuarial valuation indicates that the DB Program had 74.4% of the funds needed to pay the actuarial cost of the benefits accrued as of June 30, 2022, which increased by 1.4% from the June 30, 2021, valuation. This increase is primarily attributable to the recognition of deferred investment gains (primarily from fiscal year 2020–21) and additional state contributions over the required amounts.

Additionally, the funding actuarial valuation for the DBS Program indicates that as of June 30, 2022, the DBS Program had a funded ratio of 129.9% compared to the June 30, 2021, funded ratio of 150.6% before consideration of additional earnings credits (AEC). The funded ratio per the funding actuarial valuation for the CBB Program was 115.5% as of June 30, 2022, compared to 146.0% as of June 30, 2021, before the consideration of AECs.

In May 2023, the board granted AECs for the DBS and CBB programs totaling $609.5 million and $15.3 million, respectively. Awarding AECs reduced the funded ratios cited above to 124.1% and 111.0% for the DBS and CBB programs, respectively. Refer to Note 1 of the notes to the basic financial statements for additional information.

Other postemployment benefits actuarial valuation reports

The financial reporting actuarial valuation is performed to determine the net OPEB liability (NOL) of the MPP Program and other required financial disclosures in accordance with GASB standards. The NOL reflects the present value of projected benefits to program participants as of a certain date, net of plan assets. The total OPEB liability for the MPP Program was determined by applying update procedures to the financial reporting actuarial valuation as of June 30, 2022, and rolling forward the total OPEB liability to June 30, 2023. As of June 30, 2023, the NOL for the MPP Program was $303.4 million.

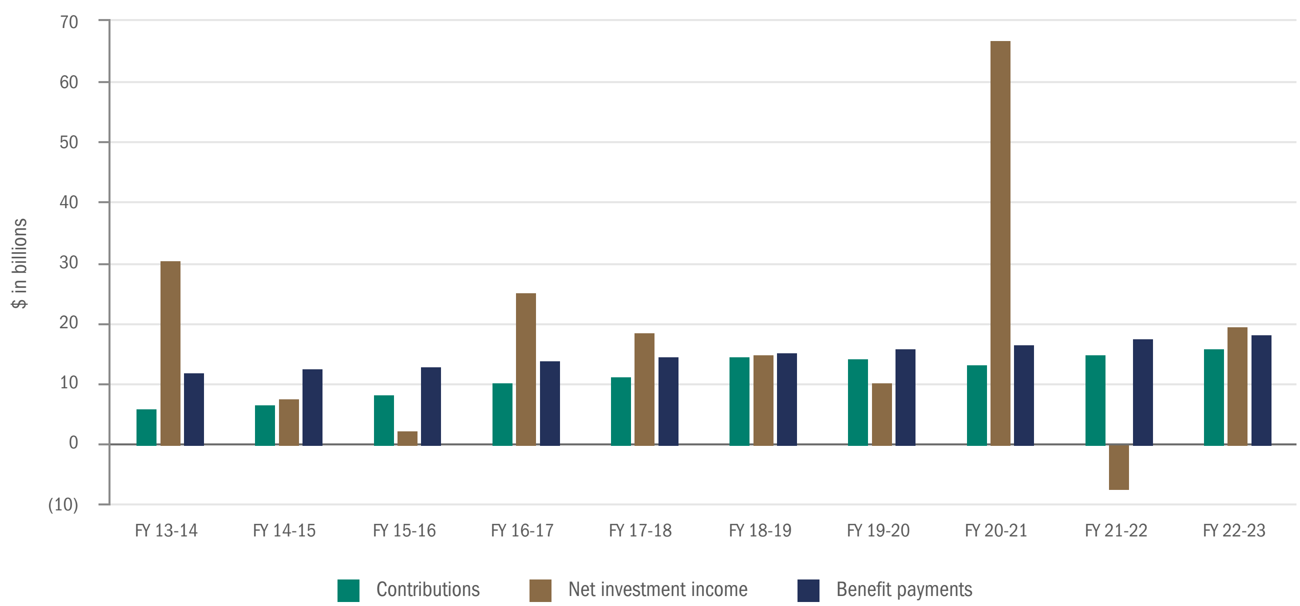
For financial reporting purposes, the plan is essentially unfunded as the fiduciary net position of the plan will not be sufficient to make the projected future benefit payments. Therefore, in accordance with GASB Statement No. 74, in instances such as this, the rate used to discount the total OPEB liability represents the yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. The discount rate as of June 30, 2023, for the MPP Program OPEB liability was 3.65% as measured by the Bond Buyer's 20-Bond GO Index as of June 30, 2023.

The MPP Program is funded on a pay-as-you-go basis by contributions that are redirected from the DB Program. As such, the funding actuarial valuation measures the sufficiency of DB Program employer contributions that will be available to fund the MPP Program benefits in future periods. This differs from the financial reporting actuarial valuation, which focuses on the obligation an employer incurs on behalf of employees through the employment-exchange process.

The MPP Program funding actuarial valuation as of June 30, 2022, found that the MPP Program assets, along with MPP Program allocated funding from future DB Program employer contributions, are sufficient to finance the future MPP Program obligations of $243.3 million for both Part A premiums and Part A and Part B surcharges.

STRP investment income, benefit payments and contributions

The following chart is a 10-year comparison of contributions, net investment income and benefit payments.

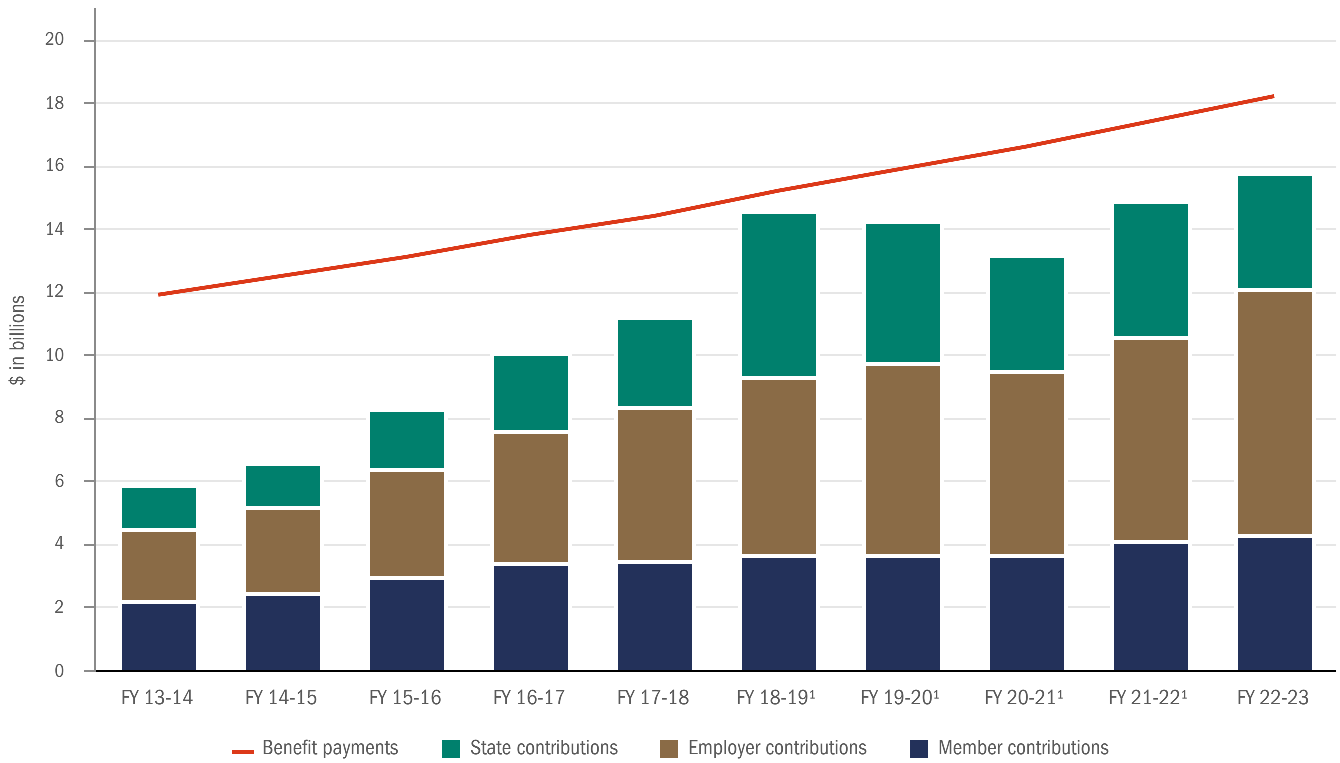


Note: Each data set shown by fiscal year in the chart above is presented in the order of contributions on the left, net investment income in the middle and benefit payments on the right.

Management's discussion and analysis (unaudited)

As seen in the previous chart, annual contributions generally fall short of annual benefit payments; however, it is normal for a mature pension plan to have benefit payments exceed contributions coming into the system. Additionally, investment income and the associated cash generated on our investments have historically been sufficient to cover the gap between contributions and benefit payments. Over the last 30 years, investment returns have funded approximately 61.4% of retirement benefits with the remainder coming from a combination of member, employer and state contributions.

The following chart compares STRP contributions to benefit payments for the last decade.



Note: Each data set shown by fiscal year in the chart above is presented in the order of state contributions on top, employer contributions in the middle and member contributions on the bottom.

[1] CalSTRS recognized one-time, supplemental contribution payments from the state of approximately $583.7 million, $297.0 million, $1.1 billion and $2.2 billion in fiscal years 2021–22, 2020–21, 2019–20 and 2018–19, respectively.

As shown in the chart above, the gap began to decrease as a result of increased contribution rates beginning in fiscal year 2014-15 and was significantly reduced when the state made supplemental contribution payments of approximately $2.2 billion and $1.1 billion in fiscal years 2018–19 and 2019–20, respectively. However, those supplemental payments were one-time, nonrecurring contributions. Going forward, the gap between contributions and benefit payments is expected to increase in perpetuity in line with a maturing pension plan.

As a pension plan matures, having negative cash flows is expected and does not necessarily imply the system will have to sell assets to make benefit payments. Through the end of the CalSTRS Funding Plan, cash generated from investment income (such as dividends, coupons on bonds and rental income on real estate holdings) would need to be at least 2.5% of total assets to avoid having to sell assets to pay benefits. Enough cash is currently generated from investment income to cover this gap and has averaged 2.7% over the last 30 years.

Management's discussion and analysis (unaudited)

Closing remarks

Net position for all CalSTRS administered funds as of June 30, 2023, was $319.0 billion, which is an increase of approximately $17.2 billion, or 5.7%, from the previous fiscal year. This increase was primarily driven by positive investment returns and keeps CalSTRS on track to achieve full funding despite rising interest rates, inflation and global sociopolitical uncertainty. The funded status of our DB Program continues to increase and was 74.4% as of the most recent funding actuarial valuation report. Financial markets made some recoveries from severe volatility in fiscal year 2021–22, but CalSTRS remains a broadly diversified, long-term investor, which helps manage periods of market volatility and uncertainty. Our overall diversification minimizes the risk of loss and maximizes the rate of return.

Our investment and enterprise risk management programs and strategic and funding plans all position CalSTRS to remain in a sound financial position to meet our obligations to our members and their beneficiaries. We remain committed to securing the financial future and sustaining the trust of California's educators.

Requests for information

This financial report is designed to provide a general overview of CalSTRS' finances. For questions concerning the information in this report or for additional information, contact:

CalSTRS
P.O. Box 15275
Sacramento, CA 95851–0275

Respectfully submitted,

Julie Underwood

Julie Underwood
Chief Financial Officer

Statement of fiduciary net position

As of June 30, 2023

(dollars in thousands)

	State Teachers' Retirement Plan	Pension2 403(b) Plan	Pension2 457(b) Plan	Medicare Premium Payment Program	Teachers' Deferred Compensation Fund	Total
Assets and deferred outflows of resources						
Investments						
Debt securities	$54,348,633	$832,828	$42,520	$334	$3,791	$55,228,106
Equity securities	124,435,441	1,093,405	87,309	–	–	125,616,155
Alternative investments	139,291,775	–	–	–	–	139,291,775
Derivative instruments	586,445	–	–	–	–	586,445
Securities lending collateral	27,276,497	–	–	–	–	27,276,497
Bond proceeds investment	58,324	–	–	–	–	58,324
Total investment assets	**345,997,115**	**1,926,233**	**129,829**	**334**	**3,791**	**348,057,302**
Cash	**205,676**	**–**	**–**	**1**	**1**	**205,678**
Receivables						
Investments sold	4,890,114	–	–	–	–	4,890,114
Interest and dividends	851,641	–	–	11	30	851,682
Member, employer and state	1,044,066	12,740	1,157	–	–	1,057,963
Loans receivable	5,641,476	6,622	320	–	–	5,648,418
Other	395,830	–	–	1	46	395,877
Total receivables	**12,823,127**	**19,362**	**1,477**	**12**	**76**	**12,844,054**
Other assets						
Capital assets, net of accumulated depreciation	731,819	–	–	–	–	731,819
Other	295	–	–	–	1	296
Total other assets	**732,114**	**–**	**–**	**–**	**1**	**732,115**
Total assets	**359,758,032**	**1,945,595**	**131,306**	**347**	**3,869**	**361,839,149**
Deferred outflows of resources	**174,427**	**–**	**–**	**398**	**896**	**175,721**
Total assets and deferred outflows of resources	**359,932,459**	**1,945,595**	**131,306**	**745**	**4,765**	**362,014,870**
Liabilities and deferred inflows of resources						
Investments						
Derivative instruments	455,138	–	–	–	–	455,138
Total investment liabilities	**455,138**	**–**	**–**	**–**	**–**	**455,138**
Investments purchased payable	6,652,763	–	–	–	–	6,652,763
Loans and bonds payable	6,018,133	–	–	–	–	6,018,133
Benefits in process of payment	426,849	–	–	–	–	426,849
Net pension and OPEB liabilities	773,868	–	–	2,608	4,494	780,970
Securities lending obligation	27,384,547	–	–	–	–	27,384,547
Securities sold short	379,280	–	–	–	–	379,280
Other	652,336	3,797	160	94	730	657,117
Total liabilities	**42,742,914**	**3,797**	**160**	**2,702**	**5,224**	**42,754,797**
Deferred inflows of resources	**271,035**	**–**	**–**	**914**	**1,709**	**273,658**
Total liabilities and deferred inflows of resources	**43,013,949**	**3,797**	**160**	**3,616**	**6,933**	**43,028,455**
NET POSITION RESTRICTED FOR PENSIONS/ OPEB	**$316,918,510**	**$1,941,798**	**$131,146**	**($2,871)**	**($2,168)**	**$318,986,415**

The accompanying notes are an integral part of these statements.

Statement of changes in fiduciary net position

For the fiscal year ended June 30, 2023

(dollars in thousands)

	State Teachers' Retirement Plan	Pension2 403(b) Plan	Pension2 457(b) Plan	Medicare Premium Payment Program	Teachers' Deferred Compensation Fund	Total
Additions						
Contributions						
Member	$4,304,648	$229,088	$21,642	$–	$–	$4,555,378
Employer	7,746,196	2,615	274	25,812	–	7,774,897
State of California	3,719,874	–	–	–	–	3,719,874
Total contributions	**15,770,718**	**231,703**	**21,916**	**25,812**	**–**	**16,050,149**
Investment income						
Net appreciation/(depreciation) in fair value of investments	13,564,262	130,094	9,329	(2)	(17)	13,703,666
Interest, dividends and other	6,539,517	33,866	2,458	33	83	6,575,957
Securities lending income	1,033,041	–	–	–	–	1,033,041
Investment expenses						
Cost of lending securities	(1,051,472)	–	–	–	–	(1,051,472)
Other investment expenses	(410,447)	–	–	–	–	(410,447)
Net investment income	**19,674,901**	**163,960**	**11,787**	**31**	**66**	**19,850,745**
Other income	**303,053**	**333**	**14**	**–**	**1,960**	**305,360**
Total additions	**35,748,672**	**395,996**	**33,717**	**25,843**	**2,026**	**36,206,254**
Deductions						
Retirement, disability, death and survivor benefits	17,763,876	–	–	–	–	17,763,876
Premiums paid	–	–	–	25,103	–	25,103
Distributions and withdrawals	–	111,059	4,199	–	–	115,258
Purchasing power benefits	481,023	–	–	–	–	481,023
Refunds of member contributions	138,940	4,005	121	–	–	143,066
Administrative expenses	221,678	4,945	309	544	1,118	228,594
Borrowing costs	272,176	–	–	–	–	272,176
Other expenses	8,754	–	–	1	4	8,759
Total deductions	**18,886,447**	**120,009**	**4,629**	**25,648**	**1,122**	**19,037,855**
Increase in net position	**16,862,225**	**275,987**	**29,088**	**195**	**904**	**17,168,399**
Net position restricted for pensions/OPEB						
Beginning of the year	300,056,285	1,665,811	102,058	(3,066)	(3,072)	301,818,016
END OF THE YEAR	**$316,918,510**	**$1,941,798**	**$131,146**	**($2,871)**	**($2,168)**	**$318,986,415**

The accompanying notes are an integral part of these statements.

1. Significant provisions of CalSTRS plans and programs

The California State Teachers' Retirement System (CalSTRS, the system, we, our) administers a hybrid retirement system consisting of a defined benefit plan, two defined contribution plans, a postemployment benefit plan and a fund used to account for ancillary activities associated with the deferred compensation plans and programs:

- State Teachers' Retirement Plan (STRP)
- CalSTRS Pension2 403(b) Plan
- CalSTRS Pension2 457(b) Plan
- Medicare Premium Payment (MPP) Program
- Teachers' Deferred Compensation Fund (TDCF)

CalSTRS provides pension benefits, including disability and survivor benefits, to full-time and part-time California public school teachers from pre-kindergarten through community college and certain other employees of the public school system. The Teachers' Retirement Law (Education Code section 22000 et seq.), as enacted and amended by the California Legislature and the Governor, established these plans and CalSTRS as the administrator. The terms of the plans may be amended through legislation.

CalSTRS is a component unit of the State of California (the state). These financial statements include only the accounts of CalSTRS. The state includes CalSTRS' various plans and programs as fiduciary funds in its financial statements.

Under California Constitution, Article 16, Section 17, the Teachers' Retirement Board (the board) has plenary authority and fiduciary responsibility for investment of moneys and administration of the system. The board is composed of 12 members:

- Five members appointed by the Governor and confirmed by the Senate for a term of four years: one school board representative, one retired CalSTRS member and three public representatives.
- Four ex officio members who serve for the duration of their term in office: the California Director of Finance (who is appointed by the Governor and confirmed by the Senate), the California State Controller, the California State Treasurer and the State Superintendent of Public Instruction.
- Three member-elected positions representing current educators who serve for a term of four years.

Section 22209 of the Education Code gives the board authority to appoint a chief executive officer (CEO), while Section 20520 of the California Code of Regulations gives the board authority to delegate any acts within its power to the CEO. Pursuant to Section 22301 of the Education Code, the CEO may delegate any act or duty to subordinates unless required by the board to act personally.

State Teachers' Retirement Plan

The STRP is a multiple-employer, cost-sharing defined benefit plan composed of four programs: Defined Benefit (DB) Program, Defined Benefit Supplement (DBS) Program, Cash Balance Benefit (CBB) Program and Replacement Benefits (RB) Program. A Supplemental Benefit Maintenance Account (SBMA) exists within the STRP and provides purchasing power protection for DB Program benefits. The STRP holds assets for the exclusive purpose of providing benefits to members of these programs and their beneficiaries. CalSTRS also uses plan assets to defray reasonable expenses of administering the STRP. Although CalSTRS is the administrator of the STRP, the state is the sponsor and obligor of the trust. In addition, the state is both an employer and nonemployer contributing entity to the STRP.

STRP Defined Benefit Program

As of June 30, 2023, there were approximately 1,800 employers (school districts, community college districts, county offices of education, charter schools, state agencies and regional occupational programs) reporting payroll data through 73 reporting entities to the DB Program. Membership is mandatory for all employees meeting certain statutory requirements and optional for all other employees performing creditable service activities. The DB Program provides retirement benefits based on members' final compensation, age and years of service credit. In addition, the program provides benefits to members upon disability and to their survivors or beneficiaries upon the death of eligible members.

As of June 30, 2023, membership consisted of:

Active members	
Vested	325,000
Nonvested	133,000
Total active members	**458,000**
Inactive members	
Vested	51,000
Nonvested	184,000
Total inactive members	**235,000**
Retirees and beneficiaries	**329,000**
TOTAL MEMBERS, RETIREES AND BENEFICIARIES	**1,022,000**

Notes to the basic financial statements

The DB Program has two benefit structures:

- CalSTRS 2% at 60: Members first hired on or before December 31, 2012, to perform service that could be creditable to CalSTRS.
- CalSTRS 2% at 62: Members first hired on or after January 1, 2013, to perform service that could be creditable to CalSTRS.

There are several differences between the two benefit structures, which are noted below.

CalSTRS 2% at 60

- CalSTRS 2% at 60 members are eligible for normal retirement at age 60, with a minimum of five years of credited service. The normal retirement benefit is equal to a factor of 2.0% of final compensation multiplied by the number of years of credited service. Early retirement options are available at age 55 with five years of credited service or as early as age 50 with 30 years of credited service. The age factor for retirements after age 60 increases with each quarter year of age to a maximum of 2.4% at age 63 or older. Members who have 30 years or more of credited service receive an additional increase of 0.2% to the age factor, up to the 2.4% maximum.
- CalSTRS calculates retirement benefits based on one-year final compensation for members with 25 or more years of credited service, or for classroom teachers with fewer than 25 years of credited service if the employer entered into, extended, renewed or amended an agreement prior to January 1, 2014, to elect to pay the additional benefit cost for all of its classroom teachers. One-year final compensation is a member's highest average annual compensation earnable for 12 consecutive months based on the creditable compensation that the member could earn in a school year while employed on a full-time basis. For most members with fewer than 25 years of credited service, final compensation is the highest average annual compensation earnable for any 36 consecutive months based on the creditable compensation that the member could earn in a school year while employed on a full-time basis.
- For fiscal year 2022–23, the limit on compensation that can be counted toward a member's benefit is $305,000, if hired on or after July 1, 1996, pursuant to Internal Revenue Code (IRC) section 401(a)(17). No contributions are paid by the member, employer or the state on compensation in excess of the limit, and any compensation beyond the limit is excluded from determining final compensation.
- Final compensation is based on salary and certain other types of remuneration. Other types of compensation, such as allowances, cash in lieu of fringe benefits and compensation for unused accumulated leave are not creditable compensation and do not count toward any CalSTRS benefit program. Contributions on compensation paid a limited number of times and compensation determined to have been paid to enhance a benefit are creditable to the DBS Program.
- Members who accumulated at least 30 years of credited service by December 31, 2010, receive a longevity bonus of $200, $300 or $400 per month for 30, 31 or 32 or more years of credited service, respectively.
- Specified members retired under the DB Program, their option beneficiaries and surviving spouses receiving a benefit as of January 1, 2000, are guaranteed a minimum benefit based on the member's years of service credit. The total annual amount payable to the member with 20 years of service credit generally will not be less than $15,000, increasing incrementally to $20,000 with 30 or more years of service credit.

CalSTRS 2% at 62

- CalSTRS 2% at 62 members are eligible for normal retirement at age 62, with a minimum of five years of credited service. The normal retirement benefit is equal to 2.0% of final compensation multiplied by the number of years of credited service. An early retirement option is available at age 55. The age factor for retirement after age 62 increases with each quarter year of age to 2.4% at age 65 or older.
- All CalSTRS 2% at 62 members have their final compensation based on their highest average annual compensation earnable for 36 consecutive months based on the creditable compensation that the member could earn in a school year while employed on a full-time basis.
- The limit on creditable compensation that can be counted toward a member's benefit is adjusted each fiscal year based on changes in the Consumer Price Index for All Urban Consumers: U.S. City Average. In fiscal year 2022–23, the limit was $166,617.
- Compensation paid in cash by an employer, pursuant to a publicly available written contractual agreement, for each pay period in which creditable service is performed is creditable to CalSTRS benefit programs for CalSTRS 2% at 62 members. Other compensation, such as allowances, cash in lieu of fringe benefits, compensation paid a limited number of times and compensation determined to have been paid to enhance a benefit, is not creditable to any CalSTRS benefit program.

The following provisions apply to both CalSTRS 2% at 60 and CalSTRS 2% at 62 members:

- After earning five years of credited service, members become vested to receive service retirement benefits.
- After five years of credited service, a member (younger than age 60 if under disability Coverage A or no age limit if under disability Coverage B) is eligible for disability benefits of 50% of final compensation plus 10% of final compensation for each eligible child, up to a maximum addition of 40%. Final compensation for these disability benefits is based on the creditable compensation that the member actually earned. The member must have a disability that can be expected to last continuously for at least 12 months to qualify for a benefit.
- Contributions on compensation for service in excess of one year due to overtime or working additional assignments are credited to the DBS Program at the lowest annualized pay rates up to the creditable compensation limit.
- A family benefit is available if an active member dies and has at least one year of credited service.
- Members' accumulated contributions are refundable with interest upon separation from CalSTRS. The board determines the credited interest rate for each fiscal year. For the fiscal year ended June 30, 2023, the rate of interest credited to members' accounts was 0.43%.
- There is a postretirement annual benefit increase of 2% per year on a simple (rather than compound) basis. This benefit is vested for members who retired in 2014 or pay the higher contribution rates resulting from the CalSTRS Funding Plan, which was enacted in June 2014 with the passage of California Assembly Bill 1469.
- The member's benefit is reduced dollar for dollar, regardless of age, for the first 180 calendar days after retirement if the member performs activities in the public schools that could be creditable to CalSTRS, unless the governing body of the school district takes certain actions specified in Education Code section 24214.5 with respect to a member who is above normal retirement age.
- There is an annual limitation on earnings from activities that could be creditable to CalSTRS for retired members. The member's benefit is reduced dollar for dollar by the amount of any earnings in excess of $49,746 in fiscal year 2022–23.
- Any benefit enhancements to the DB Program made on or after January 1, 2013, apply only to service performed on or after the effective date of the enhancement.
- A CalSTRS member who is convicted of committing a felony in the course of their official duties, including specifically, a felony involving a child with whom the member had contact as part of the member's official duties, forfeits their right to any benefits accrued commencing with the commission of the felony.

Purchasing power protection

Purchasing power protection payments are provided to retired and disabled members of the DB Program and their beneficiaries through annual distributions (in quarterly payments) to restore purchasing power up to 85% of the initial monthly benefit. These payments are funded by revenue generated from the School Land Bank Fund (school lands) with the remaining balance covered by the SBMA. Purchasing power protection payments are not a vested benefit and are paid only to the extent funds are available.

School lands revenue is generated from land granted to California by the federal government to support schools and in lieu lands, which are properties purchased with the proceeds from the sale of school lands. California Public Resources Code section 6217.5 allocates school lands revenue to the system for purchasing power protection. The SBMA is funded through a continuous appropriation from the state's General Fund in an amount equal to 2.5% of the total creditable compensation of the fiscal year ended in the immediately preceding calendar year, reduced by $72.0 million, pursuant to Education Code section 22954.

For the fiscal year ended June 30, 2023, the amount of school lands revenues credited toward purchasing power protection was $7.6 million while the amount contributed to the SBMA from the General Fund was $801.7 million.

Benefit enhancements

A school employer may provide, at the employer's cost, an additional two years of service credit to increase the amount of the member's monthly retirement benefit. This may be paid for by the employer in installments not to exceed eight years. If the employer chooses to pay in installments, the employer is charged interest on the unpaid balance at the actuarially assumed rate of return on investments for the DB Program (currently 7.00%). As of June 30, 2023, the outstanding balance of receivables for benefit enhancements was $8.5 million.

Contributions

The parameters for member, employer and state contribution rates are set by the California Legislature and the Governor and detailed in the Teachers' Retirement Law. Current contribution rates were established by California Assembly Bill 1469 (CalSTRS Funding Plan), which was passed into law in June 2014 and established a schedule of contribution rate increases shared among members, employers and the state to bring CalSTRS toward full funding by 2046.

Members

The member contribution rate for CalSTRS 2% at 60 members is set in statute at 10.25%, while CalSTRS 2% at 62 members are required to pay at least one-half of the normal cost of their DB Program benefit (rounded to the nearest quarter of 1%).

For fiscal year 2022–23, CalSTRS 2% at 62 members pay 9% toward the normal cost and an additional 1.205% as per the CalSTRS Funding Plan for a total member contribution rate of 10.205%. The contribution rate for CalSTRS 2% at 62 members is adjusted if the normal cost increases or decreases by more than 1% since the last time the member contribution rate was set. Based on the June 30, 2022, funding actuarial valuation adopted by the board in May 2023, the increase in normal cost was less than 1%. Therefore, the contribution rate for CalSTRS 2% at 62 members will not change effective July 1, 2023.

Member contribution rates as described above and effective for fiscal years 2022–23 and 2023–24 are summarized below:

Effective date	CalSTRS 2% at 60 members	CalSTRS 2% at 62 members
July 1, 2022	10.250%	10.205%
July 1, 2023	10.250%	10.205%

Employers

Employers are required to contribute a base contribution rate set in statute at 8.25%. Pursuant to the CalSTRS Funding Plan, employers also have a supplemental contribution rate to eliminate their share of the CalSTRS unfunded actuarial obligation by 2046. The CalSTRS Funding Plan authorizes the board to adjust the employer supplemental contribution rate up or down by a maximum of 1% for a total rate of no higher than 20.25% and no lower than 8.25%. In May 2023, the board voted to keep the employer supplemental contribution rate at 10.85% for fiscal year 2023–24 for a total employer contribution rate of 19.10%.

Employer contribution rates as described above and effective for fiscal year 2022–23 and beyond are summarized below:

Effective date	Base rate	Supplemental rate per CalSTRS Funding Plan	Total rate
July 1, 2022	8.250%	10.850%	19.100%
July 1, 2023	8.250%	10.850%	19.100%
July 1, 2024 – June 30, 2046	8.250%	[1]	[1]
July 1, 2046	8.250%	Increase from AB 1469 not applicable in 2046–47 and beyond	

[1] The CalSTRS Funding Plan authorizes the board to adjust the employer contribution rate up or down by up to 1% each year, but no higher than 20.25% and no lower than 8.25%.

State

The state is required to contribute a base contribution rate set in statute at 2.017%. Pursuant to the CalSTRS Funding Plan, the state also has a supplemental contribution rate, which the board can increase by no more than 0.5% each fiscal year to help eliminate the state's share of the CalSTRS unfunded actuarial obligation by 2046. In May 2023, the board voted to keep the state supplemental contribution rate at 6.311% for fiscal year 2023–24 for a total contribution rate of 10.828%.

State contribution rates as described above and effective for fiscal year 2022–23 and beyond are summarized below:

Effective date	Base rate	Supplemental rate per CalSTRS Funding Plan	SBMA funding[1]	Total
July 1, 2022	2.017%	6.311%	2.500%	10.828%
July 1, 2023	2.017%	6.311%	2.500%	10.828%
July 1, 2024 – June 30, 2046	2.017%	[2]	2.500%	[2]
July 1, 2046	2.017%	[3]	2.500%	[3]

1 The SBMA contribution rate excludes the $72 million that is reduced from the required contribution in accordance with Education Code section 22954. Refer to Note 1, Purchasing Power Protection, for further discussion.

2 The board has limited authority to adjust the state contribution rate annually through June 2046 to eliminate the remaining unfunded actuarial obligation. The board cannot increase the supplemental rate by more than 0.5% in a fiscal year, and if there is no unfunded actuarial obligation, the supplemental contribution rate imposed would be reduced to 0%.

3 From July 1, 2046, and thereafter, the rates in effect prior to July 1, 2014, are reinstated, if necessary, to address any remaining unfunded actuarial obligation.

STRP Defined Benefit Supplement Program

The DBS Program, established pursuant to Education Code section 25000, is a cash balance defined benefit pension program that operates within the STRP. All members of the DB Program have an account under the DBS Program and are eligible to receive a DBS benefit based on the amount of funds contributed to their DBS account.

Interest is credited to the nominal DBS Program accounts at the minimum guaranteed annual rate established by the board prior to each plan year, which was 2.09% for the fiscal year ended June 30, 2023. The board may credit additional earnings to members' nominal accounts if actual investment earnings exceed the minimum guaranteed annual rate and meet criteria set out in the board policy.

In May 2023, the board elected to award an additional earnings credit (AEC) of 5.47% of DBS members' June 30, 2022, nominal account balances. The total value of the AEC awarded was approximately $609.5 million.

Contributions

For creditable service performed by DB Program members in excess of one year of service credit within one fiscal year, member contributions of either 8% (CalSTRS 2% at 60 members) or 9% (CalSTRS 2% at 62 members) and employer contributions of 8% are credited to the members' nominal DBS Program accounts (up to any applicable compensation cap). For CalSTRS 2% at 60 members only, member contributions of 8% and employer contributions of 8% for compensation as a result of limited-term payments or compensation determined to have been paid to enhance their DB Program benefits are also credited to DBS Program accounts.

STRP Cash Balance Benefit Program

The CBB Program, established and subsequently merged into the STRP pursuant to Education Code section 26000, is a cash balance defined benefit pension program. The CBB Program is designed for employees of California's public schools who are hired to perform creditable service for less than 50% of the full-time equivalent for a position in a school district or county office of education or on a part-time or temporary basis in a community college district.

Participation in the CBB Program is optional; a school district, community college district, county office of education, charter school or regional occupational program may elect to offer the CBB Program. Under such election, the program will automatically cover each eligible employee, unless the employee elects to participate in the DB Program or an alternative plan provided by the employer within 60 days of hire or the election period determined by the employer. As of June 30, 2023, there were 29 employers reporting payroll data through 28 reporting entities for 42,095 contributing participants.

Interest is credited to nominal CBB Program accounts at the minimum guaranteed annual rate established by the board prior to each plan year, which was 2.09% for the fiscal year ended June 30, 2023. The board may credit additional earnings to members' nominal accounts if actual investment earnings exceed the minimum guaranteed annual rate and meet criteria pursuant to the board policy. In May 2023, the board elected to award an AEC of 4.19% of CBB members' June 30, 2022, nominal account balances. The total value of the AEC awarded was approximately $15.3 million.

Contributions

A summary of statutory contribution rates for the CBB Program is as follows:

Participants – 4.0% of applicable participant salaries

Employers – 4.0% of applicable participant salaries

Employers may enter into a collective bargaining agreement to pay different rates if certain minimum conditions are met.

STRP Replacement Benefits Program

The RB Program is an excess benefits arrangement for DB Program members that is administered as a qualified excess benefit arrangement through a separate pension program apart from the other three STRP programs. It was created pursuant to Education Code section 24260 and is established in accordance with IRC section 415(m). IRC section 415(b) imposes a dollar limit on the annual retirement benefits an individual may receive from a qualified defined benefit pension plan. The limit for individual CalSTRS 2% at 60 members varies based on the age at which they retire. For calendar year 2023, the federal dollar limit applicable to a CalSTRS member retiring at exactly age 65 and receiving only a single-life benefit from the DB Program is $225,213. The federal dollar limit for other ages at retirement and other benefit types will differ.

Employer contributions that would otherwise be credited to the DB Program each month are instead credited to the RB Program to fund monthly program costs. Monthly employer contributions are received and paid to members in amounts equivalent to the benefits not paid as a result of IRC section 415(b), subject to withholding for any applicable income or employment taxes. As of June 30, 2023, there were 205 retirees, beneficiaries and nonmember spouses receiving benefits from the RB Program.

CalSTRS Pension2 Personal Wealth Plan

The CalSTRS Pension2 Personal Wealth Plan (Pension2) includes two tax-deferred defined contribution plans pursuant to IRC sections 403(b) and 457(b), which were established by Education Code sections 24950 and 24975, respectively. Voya Institutional Plan Services (Voya) and the Teachers Insurance and Annuity Association (TIAA) are responsible for administrative services, including custody and record-keeping, while CalSTRS determines the investment options that are offered to plan participants.

The 403(b) plan and the 457(b) plan had 28,491 and 2,225 plan participants and 1,098 and 177 participating employers, respectively, with account balances as of June 30, 2023. Pension2 is only available to all full-time California prekindergarten through community college district and county office of education employees. Part-time employees' eligibility is determined by their employers. Enrollment in the 457(b) plan is by employer adoption only.

Employee contributions to the plans are voluntary and require no minimum limitations; however, the IRC imposes an annual maximum amount that can be contributed to the plans. Pension2 is not directly affected by the California Public Employees' Pension Reform Act of 2013 (PEPRA). However, according to PEPRA, employers may provide a contribution to a defined contribution plan, such as Pension2, for CalSTRS 2% at 62 member compensation in excess of the compensation limit.

Pension2 investments are composed of a selection of mutual funds with underlying investments that include stocks, bonds, real estate investments and guaranteed annuity contracts, which are participant directed. The Pension2 benefits are the accumulation of contributions and investment earnings credited to the members' accounts.

Medicare Premium Payment Program

The MPP Program is a cost-sharing multiple-employer other postemployment benefit (OPEB) plan administered by CalSTRS through the Teachers' Health Benefits Fund, which was established pursuant to Education Code section 25930. The MPP Program pays Medicare Part A premiums and Medicare Parts A and B late enrollment surcharges for eligible members of the DB Program who were retired or began receiving a disability allowance prior to July 1, 2012, and were not eligible for premium-free Medicare Part A. Members who enrolled in Medicare after July 1, 2012, are not eligible for CalSTRS' payment of late enrollment surcharges. Also, members who retire on or after July 1, 2012, are not eligible for coverage under the MPP Program.

As of June 30, 2023, 4,457 retirees participated in the MPP Program; however, the number of retired members who will participate in the program in the future is unknown as eligibility cannot be predetermined.

The MPP Program is funded on a pay-as-you-go basis from a portion of monthly employer contributions. In accordance with Education Code section 22950, contributions that would otherwise be credited to the DB Program each month are instead credited to the MPP Program to fund monthly program and administrative costs. Total redirections to the MPP Program are monitored to ensure that total incurred costs do not exceed the amount initially identified as the cost of the program.

Teachers' Deferred Compensation Fund

The TDCF was established pursuant to Education Code section 24976 and is used to account for ancillary activities associated with deferred compensation plans and programs offered by CalSTRS to enhance the tax-deferred financial options for the members and their beneficiaries.

The TDCF is funded by the fee revenues received by CalSTRS from deferred compensation plans and a vendor registration program.

2. Summary of significant accounting policies

Basis of accounting

CalSTRS maintains accounting records using the accrual basis of accounting. We recognize member, employer and state contributions in the period in which the contributions are due pursuant to legal requirements. Also, CalSTRS recognizes benefits when due and payable in accordance with our retirement and benefits plans and programs.

Purchases and sales of investments are recorded on the trade date. Interest income is recorded when earned. Dividends are recorded on the ex-dividend date.

Use of estimates in the preparation of financial statements

CalSTRS' financial statements are prepared in conformity with accounting principles generally accepted in the U.S. as promulgated by the Governmental Accounting Standards Board (GASB). Management makes estimates and assumptions that affect certain amounts and disclosures in the accompanying financial statements, the most significant of which include estimates related to contribution revenues, total pension liability, total OPEB liability and the fair value of certain alternative investments.

New accounting standards

CalSTRS reviews the requirements of all new GASB pronouncements and their impact on our financial statements. For the fiscal year ended June 30, 2023, there was no material impact to CalSTRS' financial statements resulting from the implementation of GASB standards.

Cash

Cash held by CalSTRS includes foreign currency, deposits with the California State Treasurer's Office (STO), global custodian and cash held at commercial banks for operational purposes. CalSTRS maintains a targeted balance within the Pooled Money Investment Account (PMIA) held with the STO to meet daily obligations. Cash balances in excess of needs are swept nightly into PMIA and invested in short-term assets by the STO. In addition to the PMIA account, CalSTRS also operates checking accounts and zero balance accounts with various banking institutions authorized to provide services to state agencies. While zero balance accounts do not require collateralization, other non-zero balance accounts have a collateralization requirement set forth by the California Government Code section 16521 and are monitored by the STO.

Investments

Under the California Constitution, the board has the sole and exclusive fiduciary responsibility over the assets of the system. The constitution also requires the diversification of investments to minimize the risk of loss and maximize the rate of return, unless, under the circumstances, it is clearly not prudent to do so.

As an administrator of public pension funds, CalSTRS is not subject to the Employee Retirement Income Security Act (ERISA), which governs corporate pension plans. However, our investment decision-making criteria are based on the "prudent investor" standard, for which the ERISA standards serve as a basis.

To manage growth of assets in a prudent manner, the CalSTRS Investment Policy and Management Plan (IPMP) provides a framework for the operation of the investment portfolio and may be amended by a majority vote of the board. It allows for investments consisting of debt and equity securities, alternative investments and derivative instruments. See Note 5 for disclosures on deposits and investments.

In the statement of changes in fiduciary net position, we present the net appreciation (depreciation) in the fair value of our investments, which consists of the realized gains and losses on securities sold and the unrealized appreciation (depreciation) on those investments still held in the portfolio.

The value and performance of CalSTRS' investments are subject to various risks, including credit risk, interest rate risk, concentration of credit risk, custodial credit risk and foreign currency risk, which are in turn affected by economic and market factors affecting certain industries, sectors or geographies. See Note 5 for disclosures related to these risks.

Most investments are reported at fair value. The diversity of the investment types held by CalSTRS requires a wide range of valuation techniques to determine fair value. See Note 6 for disclosures related to fair value.

Expenses directly associated with investment management, operations and servicing, as well as foreign taxes, have been included as other investment expenses in the statement of changes in fiduciary net position. The schedule of investment expenses in the other supplementary information section of this report provides a listing of investment expenses by type. Certain costs such as carried interest, private asset manager fees and broker commissions for securities trades are included in the cost basis of the investment, with the exception of broker commissions for certain equity securities and derivative instruments for which they are expensed.

Investment risk management

To protect the value of non-U.S. investments against foreign currency fluctuation, CalSTRS enters into currency forwards and option contracts. CalSTRS could be exposed to risk if the counterparties to the forward and option contracts are unable to meet the terms of their contracts. CalSTRS also enters into futures contracts, swaps and options to reduce portfolio risks and volatility. CalSTRS seeks to minimize risk from counterparties by establishing minimum credit quality standards and through the use of master trading agreements, which require a daily exchange of collateral that is marked to market as required to help offset counterparty risk. See Note 5 for disclosures related to these risks.

Capital assets

Capital assets held by CalSTRS (which consist of land, building, equipment and intangible assets) are recorded at cost and reflected on the statement of fiduciary net position, net of accumulated depreciation/amortization. The capitalization threshold is $1.0 million. Depreciation/amortization is charged to operations using the straight-line method on the estimated useful life of the related asset and is included in administrative expenses on the statement of changes in fiduciary net position. Generally, estimated useful lives range from a minimum of more than one year to 40 years. As of June 30, 2023, accumulated depreciation/amortization was $115.1 million and depreciation/amortization expense was $8.1 million for the fiscal year ended June 30, 2023.

CalSTRS reviews our capital assets for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. As of June 30, 2023, there has been no impairment of capital assets.

Interest cost incurred before the end of the construction period of an asset is recognized as an expense in the period in which the cost is incurred.

Bonds payable

Bonds payable are carried at their outstanding principal balances plus unamortized bond premiums. The bond premium received in the issuance of the bonds is amortized as a reduction to interest expense over the term of the bonds using the straight-line method.

Administrative expenses

The cost of administering CalSTRS is financed through contributions and investment earnings. The schedule of administrative expenses in the other supplementary information section of this report provides a listing of administrative expenses by type.

Income taxes

The STRP and MPP Program are organized as tax-exempt retirement plans under the IRC. Pension2 (which includes IRC 403(b) and 457(b) plans) and the TDCF are organized as tax-deferred supplemental programs under the IRC. CalSTRS management believes that it has operated these funds and programs within the constraints imposed by federal tax law.

Securities sold short

Securities sold short represent obligations to deliver borrowed securities from the lenders of equity securities. These obligations are valued at the last quoted price or official closing prices taken from the primary markets and exchanges in which each security trades. The gains and losses from the changes in fair valuation are reported within net appreciation (depreciation) on the statement of changes in fiduciary net position.

Securities lending transactions

CalSTRS reports securities lent, reinvested cash collateral and the related liabilities resulting from securities lending transactions on the statement of fiduciary net position. CalSTRS also reports the income earned and costs of lending securities as investment income and expenses on the statement of changes in fiduciary net position.

Reserves

CalSTRS maintains reserve accounts for various operating purposes within net position restricted for pensions/OPEB. These include four reserve accounts for the DBS Program, four reserve accounts for the CBB Program, one reserve account for the SBMA and a combination of other reserve accounts not legally required for disclosure.

Defined Benefit Supplement Contribution, Accumulated Interest and Annuitant Reserves

Section 25002 of the Education Code formed the DBS Annuitant Reserve to establish and maintain a segregated account for expenditures on annuities payable under the DBS Program. The DBS Program is a cash balance defined benefit pension program that provides a supplemental benefit in addition to the regular DB Program benefit. During a member's career, credits and interest accumulate in the DBS Program's Contribution and Accumulated Interest reserves, respectively. When a member retires, the reserve funds are either paid out as a lump sum or transferred to the DBS Annuitant Reserve if the participant elects to receive their benefit as an annuity.

Defined Benefit Supplement Gain and Loss Reserve

Section 25001 of the Education Code establishes the DBS Gain and Loss Reserve, which represents a segregated account that may be used to: 1) credit interest to member DBS accounts at the minimum interest rate for plan years in which the obligation cannot be met from the plan's investment earnings, 2) make additional earnings credits to DBS accounts upon a decision by the board to allocate excess investment earnings, or 3) provide additions to the DBS Annuitant Reserve for annuities payable under the DBS Program.

Cash Balance Benefit Active Contribution, Accumulated Interest and Annuitant Reserves

Section 26204 of the Education Code establishes the CBB Annuitant Reserve for the payment of monthly annuities with respect to the CBB Program. The CBB Program is an optional cash balance pension plan for part-time certificated educators available to CalSTRS employers as an alternative to the DB Program, Social Security and other retirement plans. During a participant's career, credits and interest accumulate in the Cash Balance Benefit Active Contribution and Accumulated Interest reserves. When a participant retires, the reserve funds are either paid out as a lump sum or transferred to the Cash Balance Benefit Annuitant Reserve if the participant elects to receive their benefit as an annuity.

Cash Balance Benefit Gain and Loss Reserve

Section 26202 of the Education Code establishes the CBB Gain and Loss Reserve, which may be used to: 1) credit interest to participants' accounts at the minimum interest rate during years in which CalSTRS' investment earnings with respect to the CBB Program are not sufficient for that purpose, 2) make additional earnings credits to participants' accounts upon a decision by the board to allocate excess investment earnings, or 3) provide additions to the CBB Annuitant Reserve for monthly annuity payments.

Supplemental Benefit Maintenance Account Reserve

Section 22400 of the Education Code establishes the SBMA to separately maintain and manage annual supplemental payments disbursed in quarterly installments to all benefit recipients whose purchasing power has fallen below 85% of the purchasing power of the initial benefit, as long as funds are available. The SBMA is primarily funded by contributions from the state and the interest earned on the SBMA reserve balance credited at the actuarially assumed interest rate.

Other reserves not legally required for disclosure

These represent accumulated changes in operations reflecting contributions earned, benefit payments made, investment returns and the costs of plan administration for the DB Program (excluding SBMA), Pension2, MPP Program and TDCF.

The reserve balances as of June 30, 2023, are summarized in the table below:

Reserve type	Reserve balance (dollars in thousands)
Defined Benefit Supplement Contribution Reserve	$9,189,384
Defined Benefit Supplement Accumulated Interest Reserve	2,844,172
Defined Benefit Supplement Annuitant Reserve	639,089
Defined Benefit Supplement Gain and (Loss) Reserve	5,430,711
Cash Balance Benefit Active Contribution Reserve	306,483
Cash Balance Benefit Accumulated Interest Reserve	85,858
Cash Balance Benefit Annuitant Reserve	8,112
Cash Balance Benefit Gain and (Loss) Reserve	76,163
Supplemental Benefit Maintenance Account Reserve	24,978,434
Other reserves not legally required for disclosure	275,428,009
TOTAL	**$318,986,415**

3. Net pension liability of employers and nonemployer contributing entity

The components of the net pension liability (NPL) of the STRP for participating employers and the state (nonemployer contributing entity) as of June 30, 2023, are as follows:

Components of the NPL — STRP

(dollars in millions)

Total pension liability	$393,080
Less: STRP fiduciary net position	316,919
NPL of employers and the State of California	**$76,161**
STRP fiduciary net position as a % of the total pension liability	80.6%

Actuarial methods and assumptions

The total pension liability for the STRP was determined by applying update procedures to the financial reporting actuarial valuation as of June 30, 2022, and rolling forward the total pension liability to June 30, 2023. Significant actuarial methods and assumptions used in the financial reporting actuarial valuation to determine the total pension liability as of June 30, 2023, include:

Valuation date	June 30, 2022
Experience study	July 1, 2015–June 30, 2018
Actuarial cost method	Entry age normal
Investment rate of return[1]	7.10%
Consumer price inflation	2.75%
Wage growth	3.50%
Postretirement benefit increases	2% simple for DB (annually) Maintain 85% purchasing power level for DB, not applicable for DBS/CBB

[1] Net of investment expenses but gross of administrative expenses.

The sections that follow provide additional discussion on key assumptions and methods for the valuation of the STRP.

Discount rate

The discount rate used to measure the total pension liability was 7.10%, which was unchanged from the prior fiscal year. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and employers are made at statutory contribution rates in accordance with the rate increases as disclosed in Note 1. Projected inflows from investment earnings were calculated using the long-term assumed investment rate of return of 7.10% and assume that contributions, benefit payments and administrative expenses occur midyear. Based on those assumptions, the STRP's fiduciary net position was projected to be available to make all projected future benefit payments to current plan members. Therefore, the long-term assumed investment rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

The long-term investment rate of return assumption was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. The best-estimate ranges were developed using capital market assumptions from CalSTRS investment staff and investment consultants as inputs to the process.

The actuarial investment rate of return assumption was adopted by the board in January 2020 in conjunction with the most recent experience study. For each current and future valuation, CalSTRS' independent consulting actuary (Milliman) reviews the return assumption for reasonableness based on the most current capital market assumptions. Best estimates of expected 20-year geometrically linked real rates of return and the assumed asset allocation for each major asset class as of June 30, 2023, are summarized in the following table:

Asset class/Strategy	Assumed asset allocation	Long-term expected real rate of return[1]
Public Equity	38.0%	5.25%
Real Estate	15.0%	4.05%
Private Equity	14.0%	6.75%
Fixed Income	14.0%	2.45%
Risk Mitigating Strategies	10.0%	2.25%
Inflation Sensitive	7.0%	3.65%
Cash/Liquidity	2.0%	0.05%

[1] 20-year average. Real rates of return are net of assumed 2.75% inflation.

Sensitivity of NPL to changes in the discount rate

Presented below is the NPL of employers and the state using the current discount rate as well as what the NPL would be if it were calculated using a discount rate that is 1% to 3% lower or 1% to 3% higher than the current rate:

Discount rate	NPL of employers and nonemployer contributing entity (dollars in millions)
3% decrease (4.10%)	$267,073
2% decrease (5.10%)	190,459
1% decrease (6.10%)	127,754
Current rate (7.10%)	76,161
1% increase (8.10%)	33,307
2% increase (9.10%)	(2,601)
3% increase (10.10%)	(32,814)

Mortality

CalSTRS uses a generational mortality assumption, which involves the use of a base mortality table and projection scales to reflect expected annual reductions in mortality rates at each age, resulting in increases in life expectancies each year into the future. The base mortality tables are CalSTRS custom tables derived to best fit the patterns of mortality among our members. The projection scale was set equal to 110% of the ultimate improvement factor from the Mortality Improvement Scale (MP–2019) table issued by the Society of Actuaries.

4. Net other postemployment benefit (OPEB) liability of employers

The components of the net OPEB liability of the MPP Program for participating employers as of June 30, 2023, are as follows:

Components of the net OPEB liability — MPP Program

(dollars in thousands)

Total OPEB liability	$300,566
Less: MPP Program fiduciary net position	(2,871)
Net OPEB liability of employers	**$303,437**
MPP Program fiduciary net position as a % of the total OPEB liability	(0.96%)

Actuarial methods and assumptions

The total OPEB liability for the MPP Program as of June 30, 2023, was determined by applying update procedures to the financial reporting actuarial valuation as of June 30, 2022, and rolling forward the total OPEB liability to June 30, 2023. Significant actuarial methods and assumptions used in the financial reporting actuarial valuation to determine the total OPEB liability as of June 30, 2023, include:

Valuation date	June 30, 2022
Experience study	July 1, 2015–June 30, 2018
Actuarial cost method	Entry age normal
Investment rate of return	3.65%
Medicare Part A premium costs trend rate[1]	4.5%
Medicare Part B premium costs trend rate[1]	5.4%

[1] The assumed increases in the Medicare Part A and Part B cost trend rates vary by year; however, the increases are approximately equivalent to a 4.5% and 5.4% increase each year for Medicare Part A and Part B, respectively.

The sections that follow provide additional discussion on specific assumptions and methods for the valuation of the MPP Program.

Discount rate

The MPP Program is funded on a pay-as-you-go basis with contributions generally being made at the same time and in the same amount as benefit payments and expenses coming due. Any funds within the MPP Program as of June 30, 2023, were to manage differences between estimated and actual amounts to be paid and were invested in the Surplus Money Investment Fund (SMIF), which is a pooled investment program administered by the California State Treasurer.

As the MPP Program is funded on a pay-as-you-go basis, the OPEB plan's fiduciary net position was not projected to be sufficient to make projected future benefit payments. Therefore, the MPP Program used the Bond Buyer's 20-Bond GO Index from Bondbuyer.com as of June 30, 2023, as the discount rate, which was applied to all periods of projected benefit payments to measure the total OPEB liability. The discount rate as of June 30, 2023, was 3.65%, which is an increase of 0.11% from 3.54% as of June 30, 2022.

Sensitivity of the net OPEB liability to changes in the discount rate

Presented below is the net OPEB liability of employers using the current discount rate as well as what the net OPEB liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

Discount rate	Net OPEB liability of employers (dollars in thousands)
1% decrease (2.65%)	$329,774
Current discount rate (3.65%)	303,437
1% increase (4.65%)	280,537

Future enrollment

Assumptions were made about future participation (enrollment) into the MPP Program as CalSTRS is unable to determine which members not currently participating meet all eligibility criteria for enrollment in the future. Assumed enrollment rates were derived based on past experience and are stratified by age with the probability of enrollment diminishing as the members' ages increase. This estimated enrollment rate was then applied to the population of members who may meet criteria necessary for eligibility but are not currently enrolled in the MPP Program. Based on this, the estimated number of future enrollments used in the financial reporting valuation was 179 or an average of 0.13% of the potentially eligible population of 138,780.

Mortality

CalSTRS uses a generational mortality assumption, which involves the use of a base mortality table and projection scales to reflect expected annual reductions in mortality rates at each age, resulting in increases in life expectancies each year into the future. The base mortality tables are CalSTRS custom tables derived to best fit the patterns of mortality among our members. The projection scale was set equal to 110% of the ultimate improvement factor from the Mortality Improvement Scale (MP–2019) table issued by the Society of Actuaries.

Medicare costs trend rate

The June 30, 2022, financial reporting actuarial valuation uses the 2023 Medicare Part A and Part B premiums as the basis for future premium calculations. Future premiums are assumed to increase with a medical trend rate that varies by year, as shown in the following table:

Trend assumption

	Assumed annual increase	
Years[1]	Part A	Part B
2019–2028	4.3%	5.5%
2029–2038	5.0%	5.1%
2039–2048	4.9%	4.5%
2049 & later	4.3%	4.4%

[1] Trend rates indicate medical inflation in the specific year and, therefore, affect the premiums for the following years. For example, the projected 2022–23 premium is the 2021–22 premium increased by the assumed 2021–22 trend rate.

The Part A trend is approximately equivalent to assuming a fixed 4.5% increase each year. The Part B trend is approximately equivalent to assuming a fixed 5.4% increase each year.

Presented below is the net OPEB liability of employers using the current Medicare costs trend rates, as well as what the net OPEB liability would be if it were calculated using Medicare costs trend rates that are 1% lower and 1% higher than the current rate:

Medicare costs trend rate	Net OPEB liability of employers (dollars in thousands)
1% decrease (3.5% Part A and 4.4% Part B)	$279,192
Current rates (4.5% Part A and 5.4% Part B)	303,437
1% increase (5.5% Part A and 6.4% Part B)	330,809

Use of assumptions and methods

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts (such as Medicare premiums) and assumptions about the probability of the occurrence of events far into the future (such as mortality, disabilities and retirees eligible for the program). Actuarially determined amounts are subject to continual review and potential modifications, as actual results are compared with past expectations and new estimates are made about the future.

Projections of benefits for financial reporting purposes are based on the substantive plan and include the types of benefits provided at the time of each valuation and the historical pattern of benefit costs. The projection of benefits for financial reporting purposes does not explicitly incorporate the potential effects of legal or contractual funding limitations.

Actuarial calculations reflect a long-term perspective and take into account the premiums and surcharges paid after termination of employment until the death of the employee. In many cases, actuarial calculations reflect several decades of payments after termination of employment.

5. Deposits and investments

Money-weighted rate of return

For the fiscal year ended June 30, 2023, the money-weighted rate of return on STRP investments, net of pension plan investment expenses, was 6.6%. Although the MPP Program is funded on a pay-as-you-go basis, any excess funds are held in the Surplus Money Investment Fund. The money-weighted rate of return on MPP Program investments, net of OPEB plan investment expenses, was 2.1%. The money-weighted rate of return expresses investment performance, taking into account the impact of cash infusion into and disbursements from the pension or OPEB plan.

Schedule of investments

CalSTRS is authorized to invest and reinvest the monies of the system to meet the objectives of the IPMP as established by the board.

The table on the following page represents the investments by type as presented in the statement of fiduciary net position, including detailed investments within debt securities, equity securities, alternative investments and derivative instruments.

Notes to the basic financial statements

Schedule of investments

As of June 30, 2023

(dollars in thousands)

	State Teachers' Retirement Plan	Pension2 403(b) Plan	Pension2 457(b) Plan	Medicare Premium Payment Program	Teachers' Deferred Compensation	Total
Assets						
Debt securities						
Asset-backed securities	$539,936	$–	$–	$–	$–	$539,936
Corporate bonds	10,405,350	–	–	–	–	10,405,350
Foreign government issues	440,663	–	–	–	–	440,663
Mortgage-backed securities	9,338,837	–	–	–	–	9,338,837
Municipal securities	136,152	–	–	–	–	136,152
U.S. government and agency obligations	23,324,483	–	–	–	–	23,324,483
Short-term securities	10,163,212	19,146	1,996	334	3,791	10,188,479
Mutual funds-bond funds	–	143,064	11,395	–	–	154,459
Guaranteed annuity contracts	–	670,618	29,129	–	–	699,747
Total debt securities	**54,348,633**	**832,828**	**42,520**	**334**	**3,791**	**55,228,106**
Equity securities						
Common stocks	118,704,507	–	–	–	–	118,704,507
Depository receipts	1,541,968	–	–	–	–	1,541,968
Mutual funds-stock funds	1,050,607	1,093,405	87,309	–	–	2,231,321
Preferred stocks	446,249	–	–	–	–	446,249
Real estate investment trusts	2,692,110	–	–	–	–	2,692,110
Total equity securities	**124,435,441**	**1,093,405**	**87,309**	**–**	**–**	**125,616,155**
Alternative investments						
Debt-privately held	10,355,677	–	–	–	–	10,355,677
Equity-privately held	82,375,483	–	–	–	–	82,375,483
Real estate-directly held	32,224,894	–	–	–	–	32,224,894
Real estate-non-directly held	14,335,721	–	–	–	–	14,335,721
Total alternative investments	**139,291,775**	**–**	**–**	**–**	**–**	**139,291,775**
Derivative instruments						
Forwards	412,303	–	–	–	–	412,303
Futures	123,270	–	–	–	–	123,270
Options	3,934	–	–	–	–	3,934
Rights and warrants	19,494	–	–	–	–	19,494
Swaps	27,444	–	–	–	–	27,444
Total derivative instruments	**586,445**	**–**	**–**	**–**	**–**	**586,445**
Securities lending collateral	**27,276,497**	**–**	**–**	**–**	**–**	**27,276,497**
Bond proceeds investment	**58,324**	**–**	**–**	**–**	**–**	**58,324**
Total investment assets	**345,997,115**	**1,926,233**	**129,829**	**334**	**3,791**	**348,057,302**
Liabilities						
Derivative instruments						
Forwards	364,533	–	–	–	–	364,533
Futures	45,746	–	–	–	–	45,746
Options	7,600	–	–	–	–	7,600
Swaps	37,259	–	–	–	–	37,259
Total derivative instruments	**455,138**	**–**	**–**	**–**	**–**	**455,138**
Total investment liabilities	**455,138**	**–**	**–**	**–**	**–**	**455,138**
TOTAL NET INVESTMENTS	**$345,541,977**	**$1,926,233**	**$129,829**	**$334**	**$3,791**	**$347,602,164**

Debt securities

Debt securities consist primarily of long-term investments issued by the U.S. government and U.S. government-sponsored agencies, municipal securities, foreign governments, corporations, securitized offerings backed by residential and commercial mortgages, and inflation-indexed bonds (also known as inflation-linked bonds). Debt securities also consist of short-term securities that by definition typically have maturities of less than one year. Debt securities in Pension2 include securities such as bond mutual funds and guaranteed annuity contracts. The annuity contracts offer a guaranteed minimum interest rate for the life of the contract.

Short-term investments consist of money market funds, certificates of deposits and similar instruments with maturities and/or holding periods generally of less than one year. Deposits in the PMIA (classified under short-term securities), administered by the STO, represent various investments with approximately 260 average days to maturity. The STO pools these monies with those of other state agencies for investing in short-term securities. The monies are available for withdrawal at any time. Deposits in the Short-Term Investment Fund, administered by State Street Bank and Trust Company (State Street Bank), represent various investments with approximately 26 average days to maturity.

Equity securities

Equity securities consist primarily of domestic and international common stocks, preferred stocks, depository receipts, real estate investment trusts (REITs), exchange-traded funds (ETFs) and stock mutual funds.

Alternative investments

Alternative investments consist primarily of limited partnership structures invested in privately held debt or privately held equity, including venture capital, leveraged buyouts and co-investments, as well as investments in real estate, infrastructure, agriculture and timberland. They include investments held within Private Equity, Real Estate, Public Equity, Risk Mitigating Strategies, Inflation Sensitive, Innovative Strategies, and Sustainable Investment and Stewardship Strategies (SISS).

Alternative investments are generally long-term and illiquid in nature. As a result, investors are subject to redemption restrictions, which generally limit distributions and restrict the ability of limited partners to exit a partnership investment prior to its dissolution.

Investments in real estate directly held assets are in separate accounts and joint ventures, which are primarily composed of retail, office, industrial and multifamily properties. Certain real estate investments are leveraged through partnerships using a combination of equity contributions from CalSTRS and other investors and through the use of debt. CalSTRS engages real estate advisors and operating partners who are responsible for managing a portfolio's day-to-day activities, performance and reporting. Real estate non-directly held investments primarily include commingled limited partnership investments in which CalSTRS does not have a controlling interest.

While SISS activist manager funds are included in the Public Equity and Private Equity asset classes, they are classified primarily as equity securities and alternative investments on the financial statements due to their structure. These funds employ specific investment strategies and co-investments, including, but not limited to, publicly traded equity securities of companies on U.S., Asian, Canadian and European exchanges.

Derivative instruments

CalSTRS holds investments in derivative instruments, such as futures, foreign currencies, forward contracts, options, swaps, rights and warrants.

A futures contract is an exchange-traded contract whereby the purchaser agrees to buy an asset at a stated price on a specific future date. A foreign currency forward contract is a customized, bilateral agreement to exchange a specified currency at a specified future settlement date at a forward price agreed to on the trade date.

CalSTRS invests in exchange-traded options and over-the-counter options. An option is a contract that entitles the holder to purchase or sell a specific amount of contracts or notional amount at a specified price (strike price). The underlying asset, quantity of the underlying or notional amount, expiration date and strike price are standardized for exchange-traded options and are customized for over-the-counter options.

Swaps are derivative instruments in which two parties agree to exchange one stream of cash flows against another stream or a guarantee. These streams are called the legs of the swap, and usually at least one leg has a rate that is variable. The variable leg can depend on a reference rate, the total return of an asset or an economic statistic. Cash flows are calculated based on a notional amount, which are usually not exchanged between counterparties.

Rights and warrants held by CalSTRS are typically acquired through corporate actions. A right is a privilege granted to shareholders of a corporation to subscribe to shares of a new issue of common stock before it is offered to the public. A warrant gives the holder the right, but not the obligation, to buy an underlying equity security at a given price and quantity during a specified period.

Securities lending

California statutes and board policies permit CalSTRS to make short-term, collateralized loans of its securities to broker-dealers and other entities to earn incremental income. CalSTRS has contracted with our global custodian (State Street Bank), third-party securities lending agents and their respective custodians to lend equity and debt securities. The majority of the security loans can be terminated on demand by either CalSTRS or the borrower. The underlying securities on loan are reported as assets on the statement of fiduciary net position.

Collateral in the form of cash or other securities is required for 102% and 105% of the fair value of domestic and international securities loaned, respectively. For non-U.S. debt securities loaned, CalSTRS follows market practice, which requires collateral of 102% of the fair value of the loaned securities. Since the majority of loans are terminable at will, their duration does not generally match the duration of the investments made with the cash collateral. As of June 30, 2023, the weighted duration difference between the investments and these loans was approximately six days.

As of June 30, 2023, the fair value of the securities on loan was $34.5 billion. The securities lending obligations were $27.4 billion. The fair value of the reinvested cash collateral was $27.3 billion, the non-cash collateral was $8.2 billion, and the calculated mark (collateral adjustment requested for the next business day) was $38.2 million. The invested collateral and corresponding obligation are reflected in the statement of fiduciary net position as assets and liabilities, respectively. The reinvested cash collateral securities in this program are typically held to maturity and are expected to mature at par.

In accordance with GASB Statement No. 28, *Accounting and Financial Reporting for Securities Lending Transactions*, the non-cash collateral of $8.2 billion is not reported in the statement of fiduciary net position as CalSTRS is not permitted to pledge or sell these collateral securities received unless the borrower defaults. The contracts with the securities lending agents require them to indemnify CalSTRS if the borrowers fail to return the securities (or if the collateral is not sufficient to replace the securities lent) or if the borrowers fail to pay CalSTRS for income distributions by the securities' issuers while the securities are on loan.

Bond proceeds investment

Bond proceeds investment represents the investment of the proceeds of the CalSTRS Series 2019 Bonds and CalSTRS Series 2022 Bonds, which were issued in December 2019 and December 2022, respectively. Both were issued through the California Infrastructure and Economic Development Bank for the construction of CalSTRS' headquarters expansion, issuance costs and payment of interest during the construction period. Until the bond proceeds are needed, they are invested at the direction of CalSTRS. The investment of the proceeds is restricted to certain types of investment securities by the terms of the governing bond trust agreement.

The primary objectives of bond proceeds investment are the preservation of capital, liquidity and return on investment. Investment decisions are undertaken in a manner to preserve capital by mitigating credit and interest rate risk. Additionally, the bond proceeds investment portfolio is structured to have security maturities align with scheduled construction and interest payments.

Investment risk schedules

In accordance with GASB Statement No. 40, *Deposit and Investment Risk Disclosures–an amendment of GASB Statement No. 3*, the following investment risk schedules disclose CalSTRS' investments that are subject to certain types of risks, including credit risk, interest rate risk, concentration of credit risk, custodial credit risk and foreign currency risk. The policies addressing each risk, discussed in more detail below, are contained within the IPMP reviewed and approved annually by the board.

Credit risk

Credit risk is the risk that an issuer or other counterparty to a debt instrument will not fulfill its obligations. This is measured by the assignment of ratings by nationally recognized statistical rating organizations.

CalSTRS Investment Guidelines require that, at the time of purchase, at least 95% of the fair value of the corporate securities comprising the credit portion of the core fixed income portfolio be rated investment grade.

The ratings used to determine the quality of the individual securities in the table on the following page are the ratings provided by Standard & Poor's (S&P) Global Inc. Obligations issued or guaranteed by the U.S. government or government-sponsored agencies are eligible without limit. Furthermore, the total position of the outstanding debt of any non-agency mortgage-backed, asset-backed and commercial mortgage-backed securities issuer shall be limited to 10% of the fair value of the portfolio, on the basis of each separate trust (pool of assets), at the time of purchase. Obligations of other issuers are not to exceed 5% per issuer, at the time of purchase, of the fair value of any individual portfolio.

CalSTRS' investment policies and guidelines also include an allocation for opportunistic strategies, which allows for the purchase of bonds rated below investment grade. The amount of these investments that each investment manager may hold is negotiated on a manager-by-manager basis.

CalSTRS may invest in an unrated security if the security is comparable in quality to other rated securities that are eligible for purchase. The notation N/R represents those securities that are not rated, and N/A represents those securities for which the rating disclosure requirements are not applicable, such as obligations of the U.S. government and obligations explicitly guaranteed by the U.S. government.

As of June 30, 2023, the credit ratings of all debt securities are as follows:

Debt securities

(dollars in thousands)

Ratings	Asset-backed securities	Corporate bonds	Foreign government issues	Mortgage-backed securities	Municipal securities	U.S. government and agency obligations	Short-term securities	Mutual funds - bond funds	Guaranteed annuity contracts	Total
Long-term ratings										
AAA	$129,153	$275,725	$9,066	$139,131	$19,718	$–	$–	$–	$–	$572,793
AA	1,570	506,682	73,640	51,176	88,256	856,568	–	56,483	–	1,634,375
A	3,363	2,992,115	57,054	9,510	16,467	–	–	–	–	3,078,509
BBB	8,420	4,239,168	219,014	11,050	3,188	–	–	–	–	4,480,840
BB	14,109	828,669	29,082	3,047	–	–	–	–	–	874,907
B	1,693	1,078,589	9,379	298	–	–	–	–	–	1,089,959
CCC	1,389	163,295	3,110	658	–	–	–	–	–	168,452
CC	–	99	–	–	–	–	–	–	–	99
D	–	530	–	–	–	–	–	–	–	530
N/R	380,239	320,478	40,318	7,229,918	8,523	52,406	–	–	699,747	8,731,629
N/A	–	–	–	1,894,049	–	22,415,509	–	97,976	–	24,407,534
Short-term ratings										
N/R	–	–	–	–	–	–	8,111,763	–	–	8,111,763
N/A	–	–	–	–	–	–	2,076,716	–	–	2,076,716
TOTAL	**$539,936**	**$10,405,350**	**$440,663**	**$9,338,837**	**$136,152**	**$23,324,483**	**$10,188,479**	**$154,459**	**$699,747**	**$55,228,106**

Notes to the basic financial statements

As of June 30, 2023, the credit ratings of all securities lending collateral are as follows:

Securities lending collateral

(dollars in thousands)

Ratings	Asset-backed securities	Corporate bonds	Foreign government issues	Mortgage-backed securities	U.S. government and agency obligations	Short-term securities	Total
Long-term ratings							
AAA	$97,957	$–	$9,564	$–	$–	$–	$107,521
AA	–	837,795	–	–	210,935	–	1,048,730
A	–	1,013,378	–	–	–	–	1,013,378
BBB	–	89,818	–	–	–	–	89,818
N/A	–	–	–	–	15,021	–	15,021
N/R	425,472	967,850	–	767	79,802	–	1,473,891
Short-term ratings							
A-1	–	–	–	–	–	3,265,242	3,265,242
N/A	–	–	–	–	–	49,379	49,379
N/R	–	–	–	–	–	20,213,517	20,213,517
TOTAL	**$523,429**	**$2,908,841**	**$9,564**	**$767**	**$305,758**	**$23,528,138**	**$27,276,497**

Interest rate risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment.

Investments may contain terms that increase the sensitivity of their fair values to increasing and decreasing interest rates. Although CalSTRS has investments that have an inherent prepayment risk as well as caps, floors and step-up features, these are mitigated through the diversification of asset classes, security selection, maturity and credit quality.

CalSTRS' investment policies and guidelines allow the core long-term investment grade portfolios the discretion to deviate the average duration of the portfolio within a range of +/– 20% (80% to 120%) of the weighted average effective duration of the performance benchmark.

As of June 30, 2023, the overall weighted effective duration and benchmark of the long-term Fixed Income portfolios were 6.06 years and 6.15 years, respectively. The following table presents the net asset values, durations and associated benchmarks by investment type held in the long-term Fixed Income portfolios.

Long-term fixed income duration

(dollars in thousands)

Investment type (by portfolio)	Portfolio net asset value	Effective duration	Benchmark duration	Difference
Core portfolio				
Commercial mortgage-backed securities	$444,945	4.47	4.47	–
Credit obligations	7,479,170	6.90	7.05	(0.15)
Mortgage-backed securities	7,161,408	5.85	5.84	0.01
U.S. government and agency obligations	11,037,443	6.16	6.15	0.01
Debt opportunistic				
Corporate high yield	1,027,044	3.50	3.68	(0.18)
Debt core plus	3,390,425	6.06	6.05	0.01
Leveraged loans	1,033,093	0.41	0.25	0.16
Special situations	36,404	0.04	6.15	(6.11)
TOTAL	**$31,609,932**			

The U.S. Treasury Inflation Protected Securities (TIPS), CalSTRS Home Loan Program, long-duration U.S. Treasury securities and other debt securities in non-Fixed Income portfolios are not included in the previous table. The duration or weighted average maturity for these investments are as follows:

- The U.S. TIPS had a net asset value of $3.2 billion with an effective duration of 6.68 years compared to the benchmark duration of 6.68 years.
- The CalSTRS Home Loan Program had a net asset value of $24.7 million with a weighted average maturity of 16.26 years.
- The long-duration U.S. Treasury securities had a net asset value of $8.2 billion with an effective and benchmark duration of 17.50 years.
- Other debt securities in non-Fixed Income portfolios had a fair value of $548.0 million with a weighted average maturity of 12.42 years.
- Cash and accruals totaling ($381.9) million and swaps and other collateral totaling ($9.0) million are included in the net asset value within the Fixed Income portfolios but are not included in debt securities on the statement of fiduciary net position.

As of June 30, 2023, the segmented time distribution for the short-term securities based upon the expected maturity or first reset dates is as follows:

Short-term fixed income segmented time distribution

(dollars in thousands)

Investment type	0–30 days	31–90 days	91–120 days	121–180 days	181–365 days	366+ days	Total
Asset-backed securities	$24,269	$49,447	$72,652	$4,453	$–	$–	$150,821
Corporate bonds	99,975	–	16,286	–	–	–	116,261
Money-market securities	3,553,196	1,549,179	227,582	426,151	74,926	–	5,831,034
Pooled money investment account	125,666	–	–	–	–	–	125,666
Short-term investment fund	1,084,838	–	–	–	–	–	1,084,838
U.S. government and agency obligations	322,880	1,442,170	426,111	673,082	389,095	–	3,253,338
TOTAL	**$5,210,824**	**$3,040,796**	**$742,631**	**$1,103,686**	**$464,021**	**$–**	**$10,561,958**
WEIGHTINGS	**49.3%**	**28.8%**	**7.0%**	**10.5%**	**4.4%**	**0.0%**	**100.0%**

The primary investment objective for short-term investments is to seek the preservation of capital and liquidity and to generate the highest possible current income consistent with a prudent level of risk. The above table includes $394.6 million in debt securities that are managed within the short-term fixed income portfolio. The investment guidelines of the short-term portfolio state that the average maturity of the investments shall be managed so that it will not exceed 180 days.

As of June 30, 2023, the segmented time distribution based upon the expected maturity or first reset date for the invested securities lending collateral is as follows:

Securities lending collateral segmented time distribution

(dollars in thousands)

Investment type	0–1 day	2–6 days	7–29 days	30–59 days	60–89 days	90+ days	Total
Asset-backed securities	$–	$13,977	$432,468	$4,483	$25,446	$47,055	$523,429
Corporate bonds	–	2,119,189	82,356	–	115,561	591,735	2,908,841
Foreign government issues	–	–	–	–	–	9,564	9,564
Mortgage-backed securities	–	–	767	–	–	–	767
U.S. government and agency obligations	–	54,997	23,607	33,238	–	193,916	305,758
Short-term securities	1,274,517	15,326,735	689,002	930,087	1,092,514	4,215,283	23,528,138
TOTAL	**$1,274,517**	**$17,514,898**	**$1,228,200**	**$967,808**	**$1,233,521**	**$5,057,553**	**$27,276,497**
WEIGHTINGS	**4.7%**	**64.2%**	**4.5%**	**3.5%**	**4.5%**	**18.6%**	**100.0%**

The invested securities lending cash collateral is diversified among different investment types with the maximum remaining effective maturity of any instrument being three years at the time of purchase. The fund must remain liquid to meet collateral returns.

Pension2

The primary objectives of Voya Fixed Plus III and TIAA Traditional Annuities are the guarantee of principal and a guaranteed minimum interest rate of 1.0% for the life of the contract. The interest rate guarantees under the contracts are subject to the claim-paying abilities of Voya Retirement Insurance and Annuity Company and TIAA.

As of June 30, 2023, the weighted average maturity of investments with underlying debt holdings for the Pension2 403(b) and 457(b) plans on the statement of fiduciary net position are as follows:

Pension2 weighted average maturity

(dollars in thousands)

Investment	Maturity	Fair value
CREF money market account	38 days	$2
Federated U.S. treasury cash reserves	34 days	21,140
Vanguard inflation-protected securities fund	7.2 years	97,976
Vanguard short-term bond index fund	2.8 years	18,259
Vanguard total bond market index fund	9.0 years	38,224
TOTAL		**$175,601**

Concentration of credit risk

Concentration of credit risk is the risk of loss attributed to the magnitude of CalSTRS' investment in a single issuer. The CalSTRS IPMP states that no more than 3% of the total fund shall be invested in or exposed to any one security or corporation, with the exception of U.S. treasury or agency obligations. As of June 30, 2023, this condition from the IPMP was met. As such, no single issuer, excluding investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools and other pooled investments, exceeded 5% of total investments.

Custodial credit risk

Custodial credit risk is the risk that if a depository institution or counterparty fails, CalSTRS would not be able to recover the value of our deposits, investments or collateral securities. As of June 30, 2023, all of CalSTRS non-cash investments are not exposed to custodial credit risk because they are held in CalSTRS' name. Demand and time deposits held by the various financial institutions and the state banks are insured up to $250,000 by the Federal Deposit Insurance Corporation or by collateral held by the STO or an agency of that office in the state's name. CalSTRS does not have a general policy relating to custodial credit risk.

Foreign currency risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. As of June 30, 2023, CalSTRS' investment exposure in foreign currency risk is as follows:

Foreign currency risk

(dollars in thousands; in U.S. dollar equivalents)

Currency name	Debt securities	Alternative investments	Equity securities	Derivative instruments	Cash[1]	Total exposure
Argentine peso	$–	$–	$–	$–	$10	$10
Australian dollar	–	–	1,983,370	(15,529)	5,827	1,973,668
Bahraini dinar	–	–	–	(1)	–	(1)
Brazilian real	–	–	771,620	(14,642)	3,004	759,982
Canadian dollar	302,890	498,516	3,541,532	(8,930)	19,350	4,353,358
Chilean peso	–	–	52,066	(7,490)	1,799	46,375
Colombian peso	–	–	2,438	13,310	492	16,240
Czech koruna	–	–	8,190	(12,124)	417	(3,517)
Danish krone	–	–	907,096	3,851	3,505	914,452
Egyptian pound	–	–	3,132	(11,488)	159	(8,197)
Euro	126,400	7,649,263	10,682,277	15,973	27,021	18,500,934
Hong Kong dollar	–	–	3,290,806	(664)	9,382	3,299,524
Hungarian forint	–	–	67,162	(4,996)	389	62,555
Indian rupee	–	–	1,712,323	1,832	1,296	1,715,451
Indonesian rupiah	–	–	377,353	(579)	1,514	378,288
Israeli new shekel	–	–	164,584	671	1,460	166,715
Japanese yen	–	–	7,494,529	67,486	36,217	7,598,232
Kazakhstani tenge	–	–	–	(678)	–	(678)
Kuwaiti dinar	–	–	–	11	–	11
Malaysian ringgit	–	–	95,394	396	1,177	96,967
Mexican peso	54,225	–	296,755	1,556	3,300	355,836
Moroccan dirham	–	–	–	16	–	16
New Taiwan dollar	–	–	2,000,599	(748)	8,359	2,008,210
New Zealand dollar	–	–	68,288	1,092	782	70,162
Norwegian krone	–	–	240,617	(755)	1,360	241,222
Peruvian sol	–	–	–	(202)	146	(56)
Philippine peso	–	–	32,177	486	1,381	34,044
Polish zloty	–	–	141,153	(5,375)	2,135	137,913
Pound sterling	23,966	1,587,168	4,196,028	(2,731)	6,682	5,811,113
Qatari riyal	–	–	38,386	(25)	1,500	39,861
Romanian leu	–	–	–	(45)	–	(45)
Russian ruble	8,221	–	–	11,068	468	19,757
Saudi riyal	–	–	65,122	(6)	2,127	67,243
Singapore dollar	–	–	490,393	1,094	2,414	493,901
South African rand	–	–	443,558	(3,742)	8,338	448,154
South Korean won	–	–	1,737,156	(2,634)	1,961	1,736,483
Swedish krona	–	–	844,084	611	2,993	847,688
Swiss franc	–	–	2,693,871	11,708	2,935	2,708,514
Thai baht	–	–	155,739	(2,365)	2,451	155,825
Turkish lira	–	–	41,001	(3,566)	1,570	39,005
UAE dirham	–	–	72,115	1	1,438	73,554
Yuan renminbi	–	–	814,853	6,687	9,275	830,815
TOTAL	**$515,702**	**$9,734,947**	**$45,525,767**	**$38,534**	**$174,634**	**$55,989,584**

[1] Spot contracts of $651 are included in the cash total above.

CalSTRS' investments denominated in foreign currencies are reported within assets and liabilities on the statement of fiduciary net position.

Foreign currency is composed of international investment proceeds and income to be repatriated into U.S. dollars and funds available to purchase international securities. Foreign currency is held temporarily in foreign accounts until it is able to be repatriated or expended.

In accordance with the IPMP, CalSTRS has established a strategic allocation to non-U.S. dollar public and private equity assets (i.e., private equity investments and real estate). Considering this commitment to non-U.S. dollar assets and the impact currency fluctuations can have on the total return of dollar-based investors, CalSTRS has recognized the need to implement strategies designed to address the management of currency risk.

CalSTRS believes that our Currency Management Program should emphasize the protection of the value of its non-U.S. dollar public and private equity assets against a strengthening U.S. dollar first, yet recognizes that opportunities also exist for alpha generation (the ability to derive a return in excess of a market return) within the currency markets.

CalSTRS Fixed Income staff has management and oversight responsibilities for the Currency Management Program. The position range has been designed to allow for some degree of symmetry around the underlying exposure to the foreign-denominated assets within CalSTRS to both protect the translation value of the assets against a strengthening U.S. dollar and to enhance returns in a declining U.S. dollar environment.

As of June 30, 2023, the Pension2 403(b) and 457(b) plans do not expose CalSTRS to foreign currency risk.

Bond proceeds investment risk schedules

Bond proceeds were invested primarily in U.S. government and agency obligations and money market funds. As of June 30, 2023, the bond proceeds investment does not expose CalSTRS to foreign currency and concentration of credit risk. Additionally, as of June 30, 2023, all of CalSTRS' non-cash bond proceeds investment is not exposed to custodial risk as they are held in CalSTRS' name.

As of June 30, 2023, the segmented time distribution for the bond proceeds investment based upon the expected maturity or first reset dates is as follows:

Bond proceeds investment segmented time distribution

(dollars in thousands)

Investment type	0–30 days	31–90 days	91–120 days	121–180 days	181–365 days	366+ days	Total
Short-term securities	$16,160	$–	$–	$–	$–	$–	$16,160
U.S. government and agency obligations	29,704	12,460	–	–	–	–	42,164
TOTAL	**$45,864**	**$12,460**	**$–**	**$–**	**$–**	**$–**	**$58,324**
WEIGHTINGS	**78.6%**	**21.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**100.0%**

As of June 30, 2023, the credit ratings of all bond proceeds investment are as follows:

Bond proceeds investment credit risk

(dollars in thousands)

Ratings	U.S. government and agency obligations	Short-term securities	Total
Short-term ratings			
N/A	$42,164	$16,160	$58,324
TOTAL	**$42,164**	**$16,160**	**$58,324**

Derivative instruments

As of June 30, 2023, the derivative instruments held by CalSTRS are considered investments and not hedges for accounting purposes. The term hedging, as it is used elsewhere in the notes to these financial statements, denotes an economic activity and not an accounting method. The gains and losses arising from this activity are recognized as incurred in the statement of changes in fiduciary net position.

All investment derivative instruments discussed below are included within the investment risk schedules. Investments in derivative instruments are disclosed separately to provide a comprehensive view of this activity and its impact on the overall investment portfolio.

Derivative instrument fair values are reported as investments in the statement of fiduciary net position with changes in fair values reported as investment income (loss) in the statement of changes in fiduciary net position.

The table below presents the related net change in fair value, fair value, and notional amount of derivative instruments outstanding as of June 30, 2023.

Derivative instruments disclosure

(dollars in thousands)

Derivative instruments	Net change in fair value for the fiscal year ended June 30, 2023	Fair value	Notional amount[1]	
Forwards				
Foreign currency forward contracts	$34,818	$47,770	22,289,335	
Total forwards	**34,818**	**47,770**		
Futures				
Commodity futures long	(54,990)	(669)	36,246	
Commodity futures short	160,495	12,934	(39,021)	
Fixed income futures long	(158,366)	(12,938)	2,545,945	
Fixed income futures short	29,634	3,843	(458,438)	
Index futures long	1,097,499	75,164	111,459	
Index futures short	(18,639)	(810)	(2,068)	
Total futures	**1,055,633**	**77,524**		
Options				
Commodity futures options bought	(212)	–	–	
Commodity futures options written	8,443	(5,481)	(1,246)	
Credit default swap options bought	(1)	–	–	
Credit default swap options written	(3)	–	–	
Fixed income futures options bought	(12,171)	2,259	4,178	
Fixed income futures options written	9,403	(1,968)	(6,730)	
Foreign currency options bought	(23,735)	1,674	710,709	
Foreign currency options written	1,855	–	–	
Index options written	2,027	(150)	(15)	
Total options	**(14,394)**	**(3,666)**		
Rights and warrants				
Rights	4,110	158	788	units
Warrants	2,296	19,336	2,678	units
Total rights and warrants	**6,406**	**19,494**		
Swaps				
Commodity forward swaps	(478,662)	(27,480)	(3,468,879)	units
Credit default swaps bought	50	(1,119)	74,500	
Credit default swaps written	19,498	11,307	775,932	
Pay-fixed interest rate swaps	11,896	9,025	108,703	
Receive-fixed interest rate swaps	(2,781)	(2,096)	88,315	
Total return swaps	(41,123)	(2,273)	179,462	
Variance swaps	2,198	2,821	94,773	
Total swaps	**(488,924)**	**(9,815)**		
TOTAL DERIVATIVE INSTRUMENTS	**$593,539**	**$131,307**		

1 In U.S. dollars unless otherwise indicated.

Counterparty credit risk

The table below depicts the counterparty credit ratings of CalSTRS non-exchange traded investment derivative instruments outstanding and subject to loss as of June 30, 2023.

Counterparty credit rating

(dollars in thousands)

S&P rating	Commodity forward swaps	Credit default swaps written	Foreign currency forwards	Total return swaps	Variance swaps	Total
AA	$–	$9	$38,834	$–	$–	$38,843
A	1,499	–	373,469	241	2,821	378,030
TOTAL INVESTMENTS IN ASSETS	**$1,499**	**$9**	**$412,303**	**$241**	**$2,821**	**$416,873**

The ratings used to determine the quality of the individual counterparty are S&P ratings. The aggregate fair value of investment derivative instruments in an asset position subject to counterparty credit risk as of June 30, 2023, was $416.9 million. This represents the maximum loss that would be recognized at the reporting date if all counterparties failed to perform as contracted. However, master agreements exist that call for daily exchange of collateral for the mark-to-market to minimize this risk.

CalSTRS may enter into a master netting arrangement with a counterparty. In the event of default or early termination, the master agreement permits the non-defaulting party the right to close-out all transactions in a single net settlement to one net amount payable by one counterparty to the other. As of June 30, 2023, there were assets of $370.6 million, including collateral pledged by CalSTRS, and liabilities of $396.1 million from non-exchange traded derivative instruments subject to master netting agreements. As of June 30, 2023, CalSTRS did not have any significant exposure to counterparty credit risk with any single party.

Custodial credit risk

The custodial credit risk disclosure for exchange-traded derivative instruments is made in accordance with the custodial credit risk disclosure requirements of GASB Statement No. 40. As of June 30, 2023, all of CalSTRS' investments in derivative instruments are held in CalSTRS' name or CalSTRS' nominee's name and are not exposed to custodial credit risk.

Interest rate risk

As of June 30, 2023, CalSTRS is exposed to interest rate risk on its derivative instruments described below by maturity period.

Investment maturities

(dollars in thousands)

		Investment maturities (in years)			
Investment type	**Fair value**	**Less than 1**	**1–5**	**6–10**	**More than 10**
Commodity forward swaps	($26,952)	($17,107)	($1,743)	($8,102)	$–
Fixed income futures long	(12,938)	(12,481)	(457)	–	–
Fixed income futures short	3,843	3,843	–	–	–
Fixed income futures options bought	2,259	2,259	–	–	–
Fixed income futures options written	(1,968)	(1,968)	–	–	–
Pay-fixed interest rate swaps	9,025	–	–	1,239	7,786
Receive-fixed interest rate swaps	(2,096)	–	(1,287)	(809)	–
Total return swaps	(2,273)	(2,273)	–	–	–
TOTAL	**($31,100)**	**($27,727)**	**($3,487)**	**($7,672)**	**$7,786**

The table below shows swaps that are highly sensitive to changes in interest rates. The table below details the reference rate, fair value and notional amount of these derivative instruments as of June 30, 2023.

Derivative instruments highly sensitive to interest rate changes

(dollars in thousands)

Investment type	Reference rate/asset	Fair value	Notional amount
Interest rate swap	Receive Fixed 3.45%, Pay Variable Secured Overnight Financing Rate	($903)	$47,775
Interest rate swap	Receive Fixed 3.50%, Pay Variable Secured Overnight Financing Rate	(384)	18,235
Interest rate swap	Receive Fixed 7.44%, Pay Variable 1-month Mexico Interbank Equilibrium Interest Rate	(415)	11,376
Interest rate swap	Receive Fixed 7.45%, Pay Variable 1-month Mexico Interbank Equilibrium Interest Rate	(394)	10,930
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 1.52%	3,532	12,081
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 2.50%	397	3,029
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 2.60%	2,820	23,851
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 2.85%	620	12,588
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 3.05%	728	16,573
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 3.15%	309	11,645
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 3.25%	551	19,531
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 3.27%	87	3,096
Interest rate swap	Receive Variable Secured Overnight Financing Rate, Pay Fixed 3.85%	(19)	6,308
Interest rate swaps total		**$6,929**	**$197,018**
Commodity forward swap	Receive 3-month U.S. Treasury Bill, Pay BCOMTR Index	$213	$12,195
Commodity forward swap	Receive BCOMF1NTC Index, Pay 3-month U.S. Treasury Bill plus 0.20%	(21)	(7,648)
Commodity forward swap	Receive BCOMF1TC Index, Pay 3-month U.S. Treasury Bill plus 0.14%	(4,274)	(231,759)
Commodity forward swap	Receive BCOMTR Index, Pay 3-month U.S. Treasury Bill plus 0.11%	(575)	(32,905)
Commodity forward swap	Receive BCOMTR Index, Pay 3-month U.S. Treasury Bill plus 0.12%	(2,585)	(147,929)
Commodity forward swap	Receive BCOMTR Index, Pay 3-month U.S. Treasury Bill plus 0.13%	(8,887)	(508,468)
Commodity forward swap	Receive BCOMTR1 Index, Pay 3-month U.S. Treasury Bill plus 0.14%	(3,977)	(227,555)
Commodity forward swap	Receive BCOMTR2 Index, Pay 3-month U.S. Treasury Bill plus 0.14%	(4,581)	(256,702)
Commodity forward swap	Receive RBCAECT0 Index, Pay 3-month U.S. Treasury Bill plus 0.10%	(2,265)	(126,886)
Commodity forward swaps total		**($26,952)**	**($1,527,657)**
Total return swap	Receive 1-month Singapore Interbank Offered Rate minus 0.10%, Pay MSCI Singapore Net Return Index	$145	$16,992
Total return swap	Receive 1-month US Overnight Bank Rate minus 0.15%, Pay MSCI Daily TR Net Emerging Markets Thailand USD	47	912
Total return swap	Receive 1-month Warsaw Interbank Offered Rate minus 0.60%, Pay MSCI Poland Net Return Index	(136)	8,986
Total return swap	Receive MSCI AC World Daily TR Net USD, Pay 12-month Secured Overnight Financing Rate minus 0.04%	47	(1,013)
Total return swap	Receive MSCI Daily TR Net Emerging Markets Taiwan USD, Pay 1-month US Overnight Bank Rate minus 0.35%	(64)	(2,170)
Total return swap	Receive MSCI Mexico Net Return Index, Pay 1-month Mexico Interbank Equilibrium Interest Rate plus 1.20%	(239)	(12,856)
Total return swap	Receive Tel Aviv 35 Index, Pay 1-month Tel Aviv Interbank Rate minus 0.10%	(2)	(999)
Total return swaps total		**($202)**	**$9,852**

Investment allocation policy

In accordance with GASB Statement No. 67, *Financial Reporting for Pension Plans—an amendment of GASB Statement No. 25*, and GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, CalSTRS discloses investment policies pertaining to asset allocation and changes to any significant investment policies. The board approves the allocation of investment assets as described in the board policy manual. The key goal of the asset allocation process is to develop an asset allocation policy that maximizes the likelihood that the investment portfolio's assets will, over the planning horizon, fund plan benefits. CalSTRS conducts an asset allocation study every four years, or more frequently if there is a significant change in the liabilities or assets.

The asset allocation study involves a comprehensive review of the financial condition of the plan, including the actuarial requirements of the plan, such as future benefit payments and expected cash flow of contributions. The board adopted the current long-term asset allocation targets in November 2019. The long-term allocation plan is implemented in stages and includes a current target allocation for each asset class with ranges to keep the actual allocation close to the target while minimizing the transaction costs that result from rebalancing.

The following table displays the previous and current board-approved target allocation, the policy range and the actual allocation for the STRP per the portfolio allocation and management structure as of June 30, 2023.

Asset class/Strategy	Previous target allocation as of June 30, 2022	Current target allocation as of June 30, 2023	Policy range	Actual allocation as of June 30, 2023
Public Equity[1]	45.0%	42.0%	+/- 6.0%	40.4%
Real Estate[1]	14.0%	15.0%	+/- 3.0%	16.1%
Private Equity[1]	13.0%	13.0%	+/- 3.0%	15.5%
Fixed Income	12.0%	12.0%	+/- 3.0%	10.1%
Risk Mitigating Strategies	10.0%	10.0%	+/- 3.0%	8.8%
Inflation Sensitive	4.0%	6.0%	+/- 3.0%	6.1%
Cash/Liquidity	2.0%	2.0%	+/- 3.0%	1.5%
Innovative Strategies[1]	0.0%	0.0%	+/- 2.5%	1.4%
Strategic Overlay	0.0%	0.0%		0.1%
TOTAL ASSET ALLOCATION	**100.0%**	**100.0%**		**100.0%**

[1] Includes Sustainable Investments and Stewardship Strategies public and private investments totaling $10.0 billion.

Bond proceeds investment is excluded from the asset allocation table and asset allocation process that is approved by the board. All excess monies from the MPP Program and TDCF are invested into the SMIF.

6. Fair value measurements

The fair value of a financial instrument is the amount 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 (the exit price). Fair value is a market-based measurement, not a CalSTRS-specific measurement; hence, valuation assumptions reflect those that market participants would use to price assets and liabilities at the measurement date.

U.S. Generally Accepted Accounting Principles (GAAP) as promulgated by GASB establish a hierarchy that prioritizes and ranks the inputs to valuation techniques used to measure fair value based on observability. Market price observability may be affected by a number of factors, including the investment type, investment-specific characteristics, state of the marketplace, and existence and transparency of transactions between market participants.

CalSTRS follows the fair value measurement and disclosure guidance under U.S. GAAP, which establishes a hierarchical disclosure framework. This framework prioritizes and ranks the level of market price observability used in measuring investments at fair value. U.S. GAAP also allows investments to be valued at cost or net asset value (NAV). The Fair Value Leveling Hierarchy table on the following page presents CalSTRS' investments at their fair value level but also includes certain investments at cost or NAV.

Investments with readily available active quoted prices or for which fair value can be measured from actively quoted prices in an orderly market generally will have a higher degree of market price observability and a lesser degree of judgment used in measuring fair value. In all cases, an instrument's level within the hierarchy is based upon the market pricing transparency of the instrument and does not necessarily correspond to CalSTRS' perceived risk or the liquidity of the instrument.

Assets and liabilities measured at fair value are classified into one of the following categories:

Level 1 – Fair value is determined using unadjusted quoted prices in active markets for identical assets or liabilities accessible on the measurement date.

Level 2 – Fair value is determined using quoted prices in inactive markets or significant observable inputs (including, but not limited to, quoted prices for similar investments, interest rates, foreign exchange rates, volatility and credit spreads), either directly or indirectly. These inputs may be derived principally from, or corroborated by, observable market data through correlation or by other means.

Level 3 – Fair value is determined using unobservable inputs, including situations where there is little market activity, if any, for the asset or liability.

The fair value hierarchy level within which a fair value measurement falls is determined based on the lowest level input that is significant to the fair value measurement. The availability of valuation techniques and observable inputs may vary and is affected by factors such as the type of security, whether the security is established in the marketplace and market liquidity. Inputs used to measure fair value may require significant judgment or estimation, and CalSTRS may use models or other valuation methodologies to estimate fair value. Accordingly, the degree of judgment exercised by CalSTRS in estimating fair value is greatest for assets and liabilities categorized in Level 3.

Fair value leveling hierarchy

(dollars in thousands)

		Fair value measurements using		
	June 30, 2023	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Assets				
Investments by fair value level				
Debt securities				
Asset-backed securities	$539,936	$–	$538,366	$1,570
Corporate bonds	10,405,350	–	10,400,464	4,886
Foreign government issues	440,663	–	440,663	–
Mortgage-backed securities	9,338,837	–	9,323,534	15,303
Municipal securities	136,152	–	136,152	–
U.S. government and agency obligations	23,324,483	–	23,324,483	–
Short-term securities	9,230,479	1,105,980	8,124,499	–
Mutual funds-bond funds	154,459	154,459	–	–
Guaranteed annuity contracts	699,747	–	–	699,747
Total debt securities	**54,270,106**	**1,260,439**	**52,288,161**	**721,506**
Equity securities				
Common stocks	118,704,507	118,594,696	93,694	16,117
Depository receipts	1,541,968	1,541,903	7	58
Mutual funds-stock funds	2,231,321	2,231,321	–	–
Preferred stocks	446,249	446,249	–	–
Real estate investment trusts	2,692,110	2,689,727	1,877	506
Total equity securities	**125,616,155**	**125,503,896**	**95,578**	**16,681**
Alternative investments				
Debt-privately held	2,374,912	–	–	2,374,912
Equity-privately held	736,397	–	–	736,397
Real estate-directly held	32,189,649	–	–	32,189,649
Total alternative investments	**35,300,958**	**–**	**–**	**35,300,958**
Derivative instruments				
Forwards	412,303	–	412,303	–
Futures	123,270	123,270	–	–
Options	3,934	–	3,934	–
Rights and warrants	19,494	18,660	–	834
Swaps	27,444	–	27,444	–
Total derivative instruments	**586,445**	**141,930**	**443,681**	**834**
Securities lending collateral	**22,487,413**	**1,524,250**	**20,963,163**	**–**
Bond proceeds investment	**58,324**	**16,160**	**42,164**	**–**
Total investment assets recorded at fair value	**238,319,401**	**128,446,675**	**73,832,747**	**36,039,979**
Investments measured at cost				
Short-term securities	958,000			
Securities lending collateral	4,789,084			
Total investments measured at cost	**5,747,084**			
Investments measured at NAV				
Debt-privately held	7,980,765			
Equity-privately held	81,639,086			
Real estate—directly held	35,245			
Real estate—non-directly held	14,335,721			
Total investments measured at NAV	**103,990,817**			
Total investment assets	**$348,057,302**			
Liabilities				
Investments by fair value level				
Derivative instruments				
Forwards	$364,533	$–	$364,533	$–
Futures	45,746	45,746	–	–
Options	7,600	–	7,600	–
Swaps	37,259	–	37,259	–
Total derivative instruments	**455,138**	**45,746**	**409,392**	**–**
Total investment liabilities recorded at fair value	**$455,138**	**$45,746**	**$409,392**	**$–**
TOTAL NET INVESTMENTS	**$347,602,164**			

The $379.3 million in securities sold short are not represented in the fair value leveling hierarchy table because they represent obligations to deliver borrowed securities to a lender. The obligations were valued using Level 1 measurements in the fair value hierarchy as of June 30, 2023.

Level 1 measurements are generally valued at the official closing price (usually the last trade price) or the last bid price on the security's primary exchange. Such investments generally include common stocks, REITs, depository receipts and mutual funds.

Level 2 measurements are generally valued using indicative prices from vendors, brokers or ask prices. These indicative measurements often use matrix pricing, the Black-Scholes-Merton model or a lattice model and incorporate observable inputs such as yield, prepayment speeds, credit spreads, volatility curves or currency curves. Such investments generally include debt securities, bonds and over-the-counter derivative instruments. Other factors such as infrequent trading, inactive market or adjusted quoted prices may also result in Level 2 measurements.

Level 3 measurements are generally valued using significant inputs that are unobservable to the marketplace. This may occur if an investment is illiquid or is internally estimated. For CalSTRS, such investments primarily include directly held real estate. Properties are appraised using discounted cash flows, income capitalization, adjusted comparable sales and replacement cost (if recent) methods. The method chosen is the one most relevant to how an investor would assess a property as a potential buyer. Additionally, debt associated with real estate properties is valued using income approach methods such as cash equivalency (gross method) or leveraged equity (net method).

CalSTRS measures certain investments that do not have a readily determinable fair value using NAV as a practical expedient. These investments are generally structured as limited partnerships with an investment manager and are created by raising pools of capital from investors that will be invested according to one or more specific investment strategies. Investors commit capital to the fund, and as the investment manager identifies investment opportunities, the committed capital is called to purchase the investments.

NAV is calculated using measurement principles similar to investment companies. CalSTRS updates the NAV for cash contributions, cash distributions and changes in the fair value of the underlying investments using capital account statements and estimates if the NAV is not updated as of the reporting date. CalSTRS does not currently have plans to sell any of these investments before their stated term.

The following table displays information regarding investments that use NAV per share (or equivalent) as their fair value measurement:

NAV practical expedient

(dollars in thousands)

	Fair value June 30, 2023	Total unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period
Debt–privately held				
Debt-privately held[1]	$7,326,914	$5,911,806	N/A	N/A
Real Estate funds[6]	227,659	241,047	N/A	N/A
Other[8]	426,192	58,108	Quarterly	45-90 days
Equity–privately held				
Private Equity funds[2]	58,345,870	15,089,036	N/A	N/A
Risk Mitigating Strategies funds[3]	19,534,050	—	Monthly, Quarterly	2-60 days
Sustainable Investment and Stewardship Strategies funds[4]	1,515,442	325,047	Monthly, Quarterly, Annually, N/A	45-120 days
Other[5]	2,243,724	66,944	Daily, Quarterly	3-90 days
Real Estate–directly held	35,245	—	N/A	N/A
Real Estate–non-directly held				
Real Estate funds[6]	10,218,847	8,263,697	N/A	N/A
Sustainable Investment and Stewardship Strategies funds[7]	6,039	18,254	N/A	N/A
Other[8]	4,110,835	109,698	Quarterly	30-90 days
TOTAL INVESTMENTS MEASURED AT NAV	**$103,990,817**	**$30,083,637**		

1 This category includes private equity funds that invest in privately held debt. CalSTRS investment in each fund is generally not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying assets over a weighted-average period of approximately 11 years as of June 30, 2023.

2 This category includes private equity funds that invest in nonmarketable securities of private companies, which ultimately may become public in the future and whose strategies include leveraged buyouts and venture capital. Generally, CalSTRS investment in each fund in this category may not be subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying assets over a weighted-average period of approximately 10 years as of June 30, 2023.

3 This category includes funds that include investment strategies with structural aspects that provide improved diversification and potential protection in negative equity markets. Investments representing 88.1% and 3.5% in this category can be redeemed monthly and quarterly, respectively, upon written notice. The remaining 8.4% of the value of the investments in this category is subject to a lockup period before a one-time full redemption is permissible.

4 This category includes private asset funds and funds that invest strategically in publicly traded equities of companies on U.S. and non-U.S. exchanges to achieve capital appreciation and income. The funds in this category are generally subject to a lockup period before redemption is permissible. Investments representing 24.7%, 0.5%, 23.3% and 22.7% of the value of the investments in this category can be redeemed monthly, quarterly, annually and at the end of a three-year or rolling three-year period, respectively. The other investments of 20.9% in this category are subject to a lockup period before a one-time full redemption is permissible. The remaining 7.9% of the value of the investments in this category is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying assets.

5 This category includes funds that invest primarily in equities, fixed income securities, opportunistic and other funds. Investments representing 47.3% and 52.7% in this category can be redeemed daily and quarterly, respectively, upon written notice.

6 This category includes funds that invest directly in real estate and real estate-related assets, including retail, industrial, office, residential and hotels. Generally, CalSTRS' investment in each fund in this category may not be subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying assets over a weighted-average period of approximately five years as of June 30, 2023.

7 This category includes funds that invest indirectly in real estate and real estate-related assets, including retail, industrial, office, residential and hotels. Generally, CalSTRS' investment in each fund in this category may not be subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying assets over a weighted-average period of approximately nine years as of June 30, 2023.

8 This category includes open-ended funds that invest directly in real estate and real estate-related assets, including retail, industrial, office, residential and hotels. Investments in this category can be redeemed quarterly upon written notice.

Debt securities

Certain debt securities have an active market for identical securities and are valued using the close or last-traded price on a specific date. Debt securities that are not as actively traded are valued by pricing vendors using modeling techniques that include market observable inputs as well as unobservable inputs required to develop a fair value. Typical inputs include recent trades, yields, price quotes, cash flows, maturity, credit ratings and other assumptions based upon the specifics of the investment type.

Short-term investments are reported at fair value or at cost or amortized cost. For those investments that are reported at fair value, the investments are valued using similar methodologies as debt securities traded in active markets.

Bond mutual funds offered by Voya and TIAA are open-ended funds that are priced daily at NAV based generally upon the exchange-traded official closing price of the securities held by the funds. CalSTRS' allocation in the Voya annuity contracts is carried at contract value, which approximates fair value.

Equity securities

The majority of equity securities held by CalSTRS are actively traded on major stock exchanges. These exchanges make information on trades of securities available daily on a last trade or official close basis. If such information is not available, other preestablished means are used to determine a price. Short sales of common stocks are valued at the last quoted sales price or exchange-traded official closing price. Stock mutual funds, held in the STRP and Pension2, are open-ended funds that are priced daily at NAV by the fund sponsor based generally upon the exchange-traded official closing price of the securities held by the fund.

Alternative investments

Partnership interests are valued using their respective NAV calculated in accordance with the general partner's valuation policy as of the measurement date and are audited annually. The most significant input into the NAV of such an entity is the fair value of its investment holdings, which is typically valued on a quarterly or semiannual basis by the general partners. The valuation assumptions are based upon the nature of the investment and the underlying business. The valuation techniques vary by investment type and involve a certain degree of expert judgment.

SISS funds structured as limited partnerships have been valued using the NAV of the entity, with the most significant input into the NAV being the value of its investment holdings. The general partners obtain prices for their holdings in a manner similar to that described above for equity securities.

Investments in directly held real estate assets are subject to independent third-party appraisals performed annually in accordance with the Uniform Standards of Professional Appraisal Practice. On a quarterly basis, fair values are estimated by the third-party advisor or operating partner using general market and property-specific assumptions, which are reviewed by CalSTRS' valuation consultant. Leverage may be used to enhance investment returns as set forth in the CalSTRS Real Estate Investment Policy.

Real estate investments in non-directly held limited partnership interests in commingled funds are valued by CalSTRS using the NAV of the partnership provided by the general partner. The most significant input into the NAV of such an entity is the fair value of its investment holdings. These holdings are valued using the general partners' valuation policy on a continuous basis, audited annually and periodically appraised by an independent third party as directed by the governing document for each commingled fund investment. The valuation assumptions use both market and property-specific inputs.

Derivative instruments

The fair value of exchange-traded derivative instruments, such as futures, options, rights and warrants, are determined based on the quoted market prices or mean prices. The fair value of derivative instruments that are not exchange-traded, such as swaps, is determined by external pricing services.

Futures contracts are exchange-traded financial instruments that derive their value from underlying securities, indices or reference rates and are marked-to-market at the end of each day. The fair value of futures is accounted for as unrealized appreciation or depreciation until the contract is closed.

The fair value of the foreign currency forward contracts is the unrealized gain or loss calculated based on the difference between the specified exchange rate and the closing forward rate as of the reporting period.

7. Loans and bonds payable

As of June 30, 2023, CalSTRS' outstanding debt obligations consist of amounts under the Master Credit Facility Portfolio, the Series 2019 Bonds and the Series 2022 Bonds.

Master Credit Facility Portfolio

CalSTRS Master Credit Facility Portfolio consists of unsecured revolving lines of credit and unsecured term loans. The proceeds from the Master Credit Facility Portfolio provide the source of funds for managing capital flows of investment strategies.

As of June 30, 2023, the total lender commitments available under the credit facilities was $8.7 billion. The principal amount of draws and repayments for the fiscal year ended June 30, 2023, were $4.1 billion and $2.8 billion, respectively. As of June 30, 2023, there was approximately $5.6 billion of principal outstanding under the credit facilities, while approximately $3.1 billion remained available. These credit facilities will mature between November 2023 and June 2026, although certain instruments may have the option to extend.

Pursuant to the terms and conditions of the loan agreements, upon an event of default, all outstanding amounts shall become due immediately, and any commitments of the lenders to fund additional borrowings shall automatically terminate if CalSTRS is unable to make the required payments. The loan agreements may also contain a subjective acceleration clause that allows the lender to accelerate payment of the principal amount to become immediately due if the lender determines, with reasonable judgment, that a material, adverse change occurs.

Bonds payable

In December 2019, CalSTRS issued $340.6 million ($272.6 million par and $68.0 million original issue premium) in tax-exempt lease-revenue green bonds (Series 2019 Bonds). The Series 2019 Bonds, officially titled “California Infrastructure and Economic Development Bank Lease Revenue Bonds (California State Teachers' Retirement System Headquarters Expansion), Series 2019 (Green Bonds – Climate Bond Certified),” were issued through a conduit issuer, the California Infrastructure and Economic Development Bank (IBank), a public instrumentality of the State of California, which provides financing for business development and public improvements.

In December 2022, CalSTRS issued $16.2 million ($15.6 million par and $0.6 million original issue premium) in tax-exempt lease-revenue green bonds (Series 2022 Bonds). The Series 2022 Bonds, officially titled "California Infrastructure and Economic Development Bank Lease Revenue Bonds (California State Teachers' Retirement System Headquarters Expansion), Series 2022 (Green Bonds – Climate Bond Certified)," were also issued through the IBank. The proceeds from the Series 2019 and Series 2022 Bonds are being used to construct, furnish and equip the expansion to CalSTRS' existing headquarters and pay costs of issuance. Additionally, proceeds from the Series 2019 Bonds were used to pay capitalized interest through February 2023.

The financing transaction is structured as a lease-leaseback transaction, whereby CalSTRS leased the project site to IBank pursuant to a Site Lease, dated as of December 1, 2019, and then contemporaneously leaseback the project site and the newly constructed building from the IBank pursuant to a facility lease dated December 1, 2019 (amended on December 1, 2022, to facilitate the issuance of the Series 2022 Bonds), in exchange for annual base rental payments.

The annual base rental payments are in an amount sufficient to pay, when due, the annual principal and interest payments (debt service) of the Series 2019 and Series 2022 Bonds. The obligation of CalSTRS to make base rental payments does not commence until the date construction of the expansion to CalSTRS' existing headquarters is substantially complete. Notwithstanding this, in connection with the issuance of the Series 2022 Bonds, CalSTRS committed to make full and timely debt service payments on the Series 2019 and Series 2022 Bonds by depositing approximately $12.5 million with the bond trustee. This amount and the earnings thereon will be sufficient to pay debt service due on August 1, 2023. As of June 30, 2023, the amount on deposit with the bond trustee to pay base rental payments due on August 1, 2023, was $12.8 million. This amount is reported within bond proceeds investment on the statement of fiduciary net position.

As of June 30, 2023, the Series 2019 Bonds consist of serial bonds amounting to $129.0 million with interest rates ranging from 4.00% to 5.00%, with various maturity dates from 2023 to 2039, and two term bonds amounting to $63.1 million and $80.5 million with interest rates at 5.00% and maturing in 2044 and 2049, respectively. The effective interest rates range from 1.02% to 2.21%.

As of June 30, 2023, the Series 2022 Bonds consist of serial bonds amounting to $9.1 million with interest rates ranging from 4.00% to 5.00%, with various maturity dates from 2023 to 2041, and three term bonds amounting to $2.2 million, $1.6 million and $2.7 million with interest rates at 4.00% and maturing in 2044, 2046 and 2049, respectively. The effective interest rates range from 2.27% to 4.11%.

Notes to the basic financial statements

Generally, CalSTRS is considered to be in default if it fails to pay the principal of and interest on the outstanding bonds when due and payable. If an event of default has occurred and is continuing, the principal of the Series 2019 and Series 2022 Bonds, together with the accrued interest, may be declared due and payable immediately.

Bond activity for the Series 2019 and Series 2022 Bonds for the fiscal year ended June 30, 2023, is summarized as follows (dollars in thousands):

	Balance as of June 30, 2022	Increases	Decreases	Balance as of June 30, 2023	Due within one year
Series 2019 Bonds - Principal	$272,605	$–	$–	$272,605	$5,125
Series 2019 Bonds - Original issue premium	62,163	–	(2,295)	59,868	2,295
Series 2022 Bonds - Principal	–	15,640	–	15,640	550
Series 2022 Bonds - Original issue premium	–	597	(12)	585	22
Bonds payable, net	**$334,768**	**$16,237**	**($2,307)**	**$348,698**	**$7,992**

Future debt service payments for the combined Series 2019 and Series 2022 Bonds for each of the five fiscal years subsequent to June 30, 2023, and thereafter are presented below (dollars in thousands):

Fiscal year ending June 30	Principal	Interest	Total debt service
2024	$5,675	$14,105	$19,780
2025	5,640	13,799	19,439
2026	5,870	13,565	19,435
2027	6,110	13,293	19,403
2028	6,415	12,981	19,396
2029 – 2033	37,215	59,630	96,845
2034 – 2038	47,485	49,115	96,600
2039 – 2043	60,470	35,820	96,290
2044 – 2048	76,980	18,898	95,878
2049 – 2050	36,385	1,823	38,208
TOTAL	**$288,245**	**$233,029**	**$521,274**

8. Contingencies

CalSTRS is involved in litigation relating to various matters. In the opinion of management, after consultation with legal counsel, the outcome of these matters is not expected to have a material adverse effect on CalSTRS' basic financial statements.

9. Commitments

In connection with the purchase of partnership interests under various investment portfolios, CalSTRS has remaining unfunded commitments of approximately $34.8 billion as of June 30, 2023.

The following table depicts the unfunded commitments by asset strategy:

Asset class/Strategy	Unfunded commitments (dollars in thousands)
Sustainable Investment and Stewardship Strategies	$543,300
Inflation Sensitive	2,480,851
Innovative Strategies	2,302,792
Private Equity	20,382,994
Real Estate	9,122,550
TOTAL	**$34,832,487**

These unfunded commitments include agreements for acquisitions not yet initiated, which are not included in the NAV practical expedient table in Note 6.

Medicare Premium Payment Program

Under current board policy, assets are set aside from the future employer contributions to the DB Program to fund the MPP Program. Based on the funding actuarial valuation for the DB Program, as of June 30, 2022, the assets set aside are equal to the actuarial obligation of the MPP Program, less the value of any assets already in the program, and future employer contributions committed to funding the MPP Program totaled $243.1 million. This, along with existing assets of the MPP Program, equals the projected cost of the program.

This amount is a funding measure that assumes the value of these contributions will be available to fund the MPP Program benefits in future periods, as the assets currently in the program are not sufficient to fund the projected future benefits. This differs from the net OPEB liability as of June 30, 2023, of $303.4 million, which was measured in accordance with GASB Statement No. 74, and represents the actuarial present value of projected benefit payments that is attributable to the MPP Program participants.

Required supplementary information (unaudited)

Schedule of changes in net pension liability of employers and nonemployer contributing entity

Schedule I[1]

(dollars in millions)

State Teachers' Retirement Plan

Year ended June 30	2023	2022	2021	2020	2019
Total pension liability					
Service cost	$8,175	$7,675	$7,612	$7,340	$7,055
Interest	26,177	25,196	24,373	23,334	22,458
Changes in benefit terms	587	70	–	–	32
Differences between expected and actual experience	6,983	(1,673)	(3,369)	(963)	(1,847)
Changes of assumptions[2]	–	–	–	1,029	–
Benefit payments, including refunds of member contributions	(18,384)	(17,527)	(16,708)	(16,025)	(15,296)
Net change in total pension liability	**23,538**	**13,741**	**11,908**	**14,715**	**12,402**
Beginning total pension liability	**369,542**	**355,801**	**343,893**	**329,178**	**316,776**
Ending total pension liability (a)	**393,080**	**369,542**	**355,801**	**343,893**	**329,178**
Plan fiduciary net position					
Member contributions	4,305	4,068	3,743	3,735	3,648
Employer contributions	7,746	6,521	5,758	6,080	5,644
State of California contributions	3,720	4,280	3,731	4,447	5,335
Net investment income (loss)	19,675	(7,390)	67,039	10,103	14,898
Other income	304	130	90	101	127
Benefit payments, including refunds of member contributions	(18,384)	(17,527)	(16,708)	(16,025)	(15,296)
Administrative expenses	(222)	(191)	(252)	(219)	(254)
Borrowing costs	(272)	(123)	(90)	(95)	(105)
Other expenses	(9)	(5)	(2)	(5)	(4)
Net change in plan fiduciary net position	**16,863**	**(10,237)**	**63,309**	**8,122**	**13,993**
Beginning plan fiduciary net position-as previously reported	**300,056**	**310,293**	**246,984**	**238,862**	**224,869**
Adjustment for application of new GASB statements	–	–	–	–	–
Beginning plan fiduciary net position-as adjusted	**300,056**	**310,293**	**246,984**	**238,862**	**224,869**
Ending plan fiduciary net position (b)	**316,919**	**300,056**	**310,293**	**246,984**	**238,862**
ENDING NET PENSION LIABILITY OF EMPLOYERS AND THE STATE (a) – (b)	**$76,161**	**$69,486**	**$45,508**	**$96,909**	**$90,316**

1 Some numbers in this schedule are rounded for presentation purposes and may differ slightly from those presented in the statement of changes in fiduciary net position.

2 Assumptions used in determining the total pension liability (TPL) of the State Teachers' Retirement Plan (STRP) changed due to actuarial experience studies. Changes in assumptions effective in fiscal year 2019–20 were to termination rates and service retirement rates based on the experience study for the period July 1, 2015, through June 30, 2018.

Schedule of changes in net pension liability of employers and nonemployer contributing entity (continued)

Schedule I[1]

(dollars in millions)

State Teachers' Retirement Plan

Year ended June 30	2018	2017	2016	2015	2014
Total pension liability					
Service cost	$7,142	$6,064	$5,874	$5,556	$5,338
Interest	21,496	20,227	19,332	18,556	17,822
Changes in benefit terms	–	–	–	–	–
Differences between expected and actual experience	(94)	399	(1,209)	(1,312)	–
Changes of assumptions[2]	–	19,988	–	–	–
Benefit payments, including refunds of member contributions	(14,537)	(13,903)	(13,149)	(12,565)	(12,035)
Net change in total pension liability	**14,007**	**32,775**	**10,848**	**10,235**	**11,125**
Beginning total pension liability	**302,769**	**269,994**	**259,146**	**248,911**	**237,786**
Ending total pension liability (a)	**316,776**	**302,769**	**269,994**	**259,146**	**248,911**
Plan fiduciary net position					
Member contributions	3,496	3,441	2,957	2,510	2,264
Employer contributions	4,867	4,173	3,391	2,678	2,272
State of California contributions	2,797	2,478	1,940	1,426	1,383
Net investment income	18,674	25,165	2,305	7,612	30,402
Other income	106	72	42	4	2
Benefit payments, including refunds of member contributions	(14,537)	(13,903)	(13,149)	(12,565)	(12,035)
Administrative expenses	(216)	(182)	(180)	(145)	(154)
Borrowing costs[3]	(94)	(58)	–	–	–
Other expenses	(2)	(10)	(15)	(10)	(9)
Net change in plan fiduciary net position	**15,091**	**21,176**	**(2,709)**	**1,510**	**24,125**
Beginning plan fiduciary net position-as previously reported	**210,289**	**189,113**	**191,822**	**190,474**	**166,349**
Adjustment for application of new GASB statements[4]	(511)	–	–	(162)	–
Beginning plan fiduciary net position-as adjusted	**209,778**	**189,113**	**191,822**	**190,312**	**166,349**
Ending plan fiduciary net position (b)	**224,869**	**210,289**	**189,113**	**191,822**	**190,474**
ENDING NET PENSION LIABILITY OF EMPLOYERS AND THE STATE[5] (a) – (b)	**$91,907**	**$92,480**	**$80,881**	**$67,324**	**$58,437**

1 Some numbers in this schedule are rounded for presentation purposes and may differ slightly from those presented in the statement of changes in fiduciary net position.

2 Assumptions used in determining the TPL of the STRP changed due to actuarial experience studies. Changes in assumptions effective in fiscal year 2016–17 were to price inflation, wage growth, discount rate and mortality tables based on the experience study for the period July 1, 2010, through June 30, 2015.

3 Borrowing costs of $58 million associated with the master credit facility portfolio, which were previously recorded within net investment income, have been reclassified for the year ended June 30, 2017.

4 Adjustments were made to the STRP's beginning net position in fiscal years 2017–18 and 2014–15 due to the implementation of requirements from GASB Statement No. 75 and No. 68, respectively.

5 The net pension liability (NPL) for fiscal years 2016–17 and 2013–14 excludes the $511 million and $162 million reduction to net position as a result of CalSTRS' implementation of GASB Statement No. 75 and GASB Statement No. 68, respectively.

Required supplementary information (unaudited)

Schedule of net pension liability of employers and nonemployer contributing entity

Schedule II[1]

(dollars in millions)

State Teachers' Retirement Plan

Year ended June 30	(a) Total pension liability	(b) Plan fiduciary net position	(a – b) NPL of employers and the state	(b / a) Plan fiduciary net position as a % of total pension liability	(c) Covered payroll	(a – b) / c NPL of employers and the state as a % of covered payroll
2023	$393,080	$316,919	$76,161	80.6%	$42,552	179.0%
2022	369,542	300,056	69,486	81.2%	40,103	173.3%
2021	355,801	310,293	45,508	87.2%	36,737	123.9%
2020	343,893[2]	246,984	96,909	71.8%	36,668	264.3%
2019	329,178	238,862	90,316	72.6%	35,805	252.2%
2018	316,776	224,869	91,907	71.0%	34,753	264.5%
2017	302,769[2]	210,289	92,480[3]	69.5%	34,126	271.0%
2016	269,994	189,113	80,881	70.0%	31,910	253.5%
2015	259,146	191,822	67,324	74.0%	32,026[4]	210.2%
2014	248,911	190,474	58,437[3]	76.5%	27,486	212.6%

1 Some numbers in this schedule are rounded for presentation purposes and may differ slightly from those presented in the statement of fiduciary net position.

2 Assumptions used in determining the TPL of the STRP changed due to actuarial experience studies. Changes in assumptions effective in fiscal year 2019–20 were to termination rates and service retirement rates based on the experience study for the period July 1, 2015, through June 30, 2018. Changes in assumptions effective in fiscal year 2016–17 were to price inflation, wage growth, discount rate and mortality tables based on the experience study for the period July 1, 2010, through June 30, 2015.

3 The NPL for fiscal years 2016–17 and 2013–14 excludes the $511 and $162 reduction to net position as a result of CalSTRS implementation of GASB Statement No. 75 and GASB Statement No. 68, respectively.

4 In fiscal year 2013–14, CalSTRS reported pensionable compensation as part of GASB Statement No. 67 implementation. In fiscal year 2014–15, GASB clarified the requirement to be covered-employee payroll, which includes both pensionable and non-pensionable compensation. In fiscal year 2015–16, GASB Statement No. 82 was issued, which amended GASB Statements No. 67 and No. 68, to instead require the presentation of covered payroll, which is pensionable compensation. The amount reported in the schedule above for fiscal year 2014–15 includes pensionable and non-pensionable compensation; however, the covered payroll amount for fiscal year 2014–15 is $30.5 billion.

Required supplementary information (unaudited)

Schedule of pension contributions from employers and nonemployer contributing entity

Schedule III

(dollars in millions)

State Teachers' Retirement Plan

Year ended June 30	(a) Actuarially determined contributions	Legally required contributions for employers and the state	(b) Employer contributions[1,2]	(c) State contributions[3]	(b + c) Total contributions	a – (b + c) Contribution deficiency (excess)	(d) Covered payroll	(b + c) / d Contributions as a % of covered payroll
2023	$10,634	$11,458	$7,738	$3,720	$11,458	($824)	$42,552	26.9%
2022	11,059	10,793	6,513	4,280	10,793	266	40,103	26.9%
2021	10,245	9,475	5,744	3,731	9,475	770	36,737	25.8%
2020	10,849	10,512	6,065	4,447	10,512	337	36,668	28.7%
2019	10,790	10,968	5,633	5,335	10,968	(178)	35,805	30.6%
2018	9,577	7,654	4,857	2,797	7,654	1,923	34,753	22.0%
2017	7,959	6,638	4,160	2,478	6,638	1,321	34,126	19.5%
2016	7,748	5,318	3,378	1,940	5,318	2,430	31,910	16.7%
2015	7,707	4,093	2,667	1,426	4,093	3,614	32,026[4]	12.8%
2014	7,158	3,641	2,258	1,383	3,641	3,517	27,486	13.2%

1 Excludes $8.2 million, $8.1 million, $13.7 million, $14.7 million, $10.7 million, $10.3 million, $13.3 million, $13.5 million, $11.2 million and $14.5 million for fiscal years 2022–23, 2021–22, 2020–21, 2019–20, 2018–19, 2017–18, 2016–17, 2015–16, 2014–15 and 2013–14, respectively, in contributions to separately finance specific liabilities, such as benefit enhancements, of an individual employer.

2 Includes employer contributions under Education Code sections 22711, 22713, 22905, 22950, 22950.5, 22951, 24260, 26503 and 26504.

3 Includes state contributions under Education Code sections 22954, 22955, and 22955.1 as well as Public Resources Code section 6217. State contributions for fiscal years 2021–22, 2020–21, 2019–20 and 2018–19 include supplemental contribution payments from the state of $583.7 million, $297.0 million, $1.1 billion and $2.2 billion, respectively.

4 In fiscal year 2013–14, CalSTRS reported pensionable compensation as part of GASB Statement No. 67 implementation. In fiscal year 2014–15, GASB clarified the requirement to be covered-employee payroll, which includes both pensionable and non-pensionable compensation. In fiscal year 2015–16, GASB Statement No. 82 was issued, which amended GASB Statements No. 67 and No. 68, to instead require the presentation of covered payroll, which is pensionable compensation. The covered payroll amount for fiscal year 2014–15 is $30.5 billion.

Methods and assumptions used in calculations of actuarially determined contributions

The actuarially determined contribution (ADC) for the STRP for 2023 presented in this schedule of pension contributions from employers and nonemployer contributing entity was determined based on the assumptions used in the June 30, 2021, funding actuarial valuation. The following actuarial methods and assumptions were used to determine the ADC:

Actuarial methods for the STRP

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll, closed
Amortization period	Ending June 30, 2046
Asset valuation method	Adjustment to fair value

Actuarial assumptions for the STRP[1]

Investment rate of return	7.00%[2]
Interest on accounts	3.00%
Wage growth	3.50%
Consumer price inflation	2.75%
Postretirement benefit increases	2.00%

1 The assumptions shown are for the ADC of the Defined Benefit (DB) Program. The ADC for the year ended June 30, 2023, is the statutory contribution rate as of the June 30, 2021, funding actuarial valuation applied to actual DB Program payroll for the fiscal year ended June 30, 2023. For the Defined Benefit Supplement Program, Cash Balance Benefit Program and Supplemental Benefit Maintenance Account, the ADC reflects the contributions recognized on an accrual basis for the fiscal year ended June 30, 2023.

2 The ADC for the fiscal year ended June 30, 2023, was calculated based on the economic and demographic assumptions in place for the funding actuarial valuation as of June 30, 2021. This valuation was performed using a 7.00% assumed investment rate of return, net of investment and administrative expenses. For financial reporting purposes, the NPL (shown in Note 3 of the basic financial statements) was calculated using actuarial assumptions adopted in 2019, which included an assumed rate of return of 7.10%, net of investment expenses but gross of administrative expenses.

Required supplementary information (unaudited)

Schedule of money-weighted rate of return for the State Teachers' Retirement Plan and Medicare Premium Payment Program

Schedule IV

State Teachers' Retirement Plan

Year ended June 30	Money-weighted rate of return, net of investment expenses
2023	6.6%
2022	(2.4%)
2021	27.2%
2020	4.2%
2019	6.6%
2018	8.9%
2017	13.4%
2016	1.2%
2015	4.1%
2014	18.7%

Medicare Premium Payment Program[1]

Year ended June 30[2]	Money-weighted rate of return, net of investment expenses
2023	2.1%
2022	0.1%
2021	0.4%
2020	1.9%
2019	2.3%
2018	1.3%
2017	0.9%

1 Any funds within the Medicare Premium Payment (MPP) Program as of June 30, 2023, were to manage differences between estimated and actual amounts to be paid and were invested in the Surplus Money Investment Fund, which is a pooled investment program administered by the California State Treasurer.

2 This is a 10-year schedule. However, the information in this schedule is not available for periods prior to fiscal year 2016–17. Years will be added to this schedule in future fiscal years until 10 years of information is available.

Schedule of changes in net OPEB liability of employers

Schedule V

(dollars in thousands)

Medicare Premium Payment Program

Year ended June 30[1]	2023	2022	2021
Total OPEB liability			
Interest	$11,111	$8,270	$9,009
Differences between expected and actual experience	(9,070)	(9,627)	(9,598)
Changes of assumptions[2]	(2,717)	(42,212)	1,874
Premiums paid	(25,103)	(25,776)	(26,377)
Net change in total OPEB liability	**(25,779)**	**(69,345)**	**(25,092)**
Beginning total OPEB liability	**326,345**	**395,690**	**420,782**
Ending total OPEB liability (a)	**300,566**	**326,345**	**395,690**
Program fiduciary net position			
Employer contributions	25,812	26,352	26,988
Net investment income	31	1	6
Premiums paid	(25,103)	(25,776)	(26,377)
Administrative expenses	(544)	(468)	(788)
Other expenses	(1)	(1)	–
Net change in program fiduciary net position	**195**	**108**	**(171)**
Beginning program fiduciary net position-as previously reported	**(3,066)**	**(3,174)**	**(3,003)**
Adjustment for application of new GASB statements	–	–	–
Beginning program fiduciary net position-as adjusted	**(3,066)**	**(3,174)**	**(3,003)**
Ending program fiduciary net position (b)	**(2,871)**	**(3,066)**	**(3,174)**
ENDING NET OPEB LIABILITY OF EMPLOYERS (a) – (b)	**$303,437**	**$329,411**	**$398,864**

1 This is a 10-year schedule. However, the information in this schedule is not available for periods prior to fiscal year 2016–17. Years will be added to this schedule in future fiscal years until 10 years of information is available.

2 Changes of assumptions include changes to the discount rate, Medicare costs trend rate, mortality and future enrollment in the MPP Program.

Required supplementary information (unaudited)

Schedule of changes in net OPEB liability of employers (continued)

Schedule V

(dollars in thousands)

Medicare Premium Payment Program

Year ended June 30[1]	2020	2019	2018	2017
Total OPEB liability				
Interest	$12,457	$14,225	$14,567	$12,928
Differences between expected and actual experience	(4,288)	(10,605)	(15,759)	(41)
Changes of assumptions[2]	70,417	12,111	(10,293)	(31,240)
Premiums paid	(27,217)	(27,546)	(28,036)	(28,929)
Net change in total OPEB liability	**51,369**	**(11,815)**	**(39,521)**	**(47,282)**
Beginning total OPEB liability	**369,413**	**381,228**	**420,749**	**468,031**
Ending total OPEB liability (a)	**420,782**	**369,413**	**381,228**	**420,749**
Program fiduciary net position				
Employer contributions	27,685	27,977	28,218	29,117
Net investment income	25	29	18	11
Premiums paid	(27,217)	(27,546)	(28,036)	(28,929)
Administrative expenses	(510)	(1,901)	(578)	(168)
Other expenses	(2)	(1)	–	–
Net change in program fiduciary net position	**(19)**	**(1,442)**	**(378)**	**31**
Beginning program fiduciary net position-as previously reported	**(2,984)**	**(1,542)**	**41**	**10**
Adjustment for application of new GASB statements[3]	–	–	(1,205)	–
Beginning program fiduciary net position-as adjusted	**(2,984)**	**(1,542)**	**(1,164)**	**10**
Ending program fiduciary net position (b)	**(3,003)**	**(2,984)**	**(1,542)**	**41**
ENDING NET OPEB LIABILITY OF EMPLOYERS[4] (a) – (b)	**$423,785**	**$372,397**	**$382,770**	**$420,708**

1 This is a 10-year schedule. However, the information in this schedule is not available for periods prior to fiscal year 2016–17. Years will be added to this schedule in future fiscal years until 10 years of information is available.

2 Changes of assumptions include changes to the discount rate, Medicare costs trend rate, mortality and future enrollment in the MPP Program.

3 An adjustment was made to the MPP Program's beginning net position in fiscal year 2017–18 due to the implementation of requirements from GASB Statement No. 75.

4 The net OPEB liability for fiscal year 2016–17 excludes the $1.2 million reduction to the net position as a result of CalSTRS' implementation of GASB Statement No. 75.

Required supplementary information (unaudited)

Schedule of net OPEB liability of employers

Schedule VI[1]

(dollars in thousands)

Medicare Premium Payment Program

Year ended June 30[2]	(a) Total OPEB liability	(b) Program fiduciary net position	(a – b) Net OPEB liability of employers	(b / a) Program fiduciary net position as a % of total OPEB liability
2023	$300,566	($2,871)	$303,437	(0.96%)
2022	326,345	(3,066)	329,411	(0.94%)
2021	395,690	(3,174)	398,864	(0.80%)
2020	420,782	(3,003)	423,785	(0.71%)
2019	369,413	(2,984)	372,397	(0.81%)
2018	381,228	(1,542)	382,770	(0.40%)
2017	420,749	41	420,708	0.01%

1 Contributions to the MPP Program are not based on a measure of pay; as such, covered payroll and net OPEB liability as a percentage of covered payroll are not applicable for this schedule.

2 This is a 10-year schedule. However, the information in this schedule is not available for periods prior to fiscal year 2016–17. Years will be added to this schedule in future fiscal years until 10 years of information is available.

Other supplementary information

Schedule of administrative expenses

Schedule VII

(dollars in thousands)

	State Teachers' Retirement Plan	Pension2 403(b) Plan	Pension2 457(b) Plan	Medicare Premium Payment Program	Teachers' Deferred Compensation Fund	Totals
Personnel services						
Salaries and wages	$93,132	$–	$–	$314	$682	$94,128
Staff benefits	16,624	–	–	94	184	16,902
Accrued pension and OPEB expense[1]	16,392	–	–	(47)	24	16,369
Total personnel services	**126,148**	**–**	**–**	**361**	**890**	**127,399**
Operating expenses and equipment						
General	1,755	–	–	164	134	2,053
Depreciation/Amortization	8,081	–	–	–	–	8,081
Printing	502	–	–	–	3	505
Communications	1,223	–	–	–	–	1,223
Postage	1,113	–	–	–	–	1,113
Insurance	1,242	–	–	–	–	1,242
Travel	491	–	–	–	23	514
Training	575	–	–	2	–	577
Facilities operations	10,171	–	–	–	–	10,171
Consultants and professional services	39,531	4,945	309	–	68	44,853
Information technology	14,764	–	–	–	–	14,764
Indirect state central services	12,273	–	–	17	–	12,290
Equipment	3,762	–	–	–	–	3,762
Other	47	–	–	–	–	47
Total operating expenses and equipment	**95,530**	**4,945**	**309**	**183**	**228**	**101,195**
TOTAL ADMINISTRATIVE EXPENSES	**$221,678**	**$4,945**	**$309**	**$544**	**$1,118**	**$228,594**

[1] Negative amount in accrued pension and OPEB expense is due to changes in CalSTRS' proportionate share of the state's net pension liability and net OPEB liability.

Other supplementary information

Schedule of investment expenses

Schedule VIII

(dollars in thousands)

	Contract start date	Amount
Investment management fees		
Acadian Asset Management, LLC	2/1/18	$1,634
AGF Investments America, Inc.	3/19/07	1,789
AQR Capital Management Holdings, LLC	12/1/14	14,394
Ares Capital Management III, LLC	5/1/22	701
Arrowstreet Capital, Ltd.	8/1/15	8,007
Baillie Gifford Overseas, Ltd.	1/15/06	9,334
Bivium Capital Partners, LLC	2/15/08	2,816
BlackRock Financial Management, Inc.	7/1/06	1,581
CIBC Asset Management, Inc.	11/21/19	1,350
Credit Suisse Asset Management, LLC	9/1/11	1,825
Fidelity Institutional Asset Management, Co.	2/1/00	2,440
FIS Group, Inc.	9/1/16	3,989
Generation Investment Management	3/19/07	8,962
Hermes Investment Managers, Ltd.	2/1/19	1,996
Impax Asset Management Limited	2/1/19	1,483
Jacobs Levy Equity Management, Inc.	3/1/19	14,239
JP Morgan Investment Management, Inc.	1/1/14	10,951
Lazard Asset Management, LLC	1/15/06	4,365
Leading Edge Investment Advisors, LLC	9/1/16	2,910
Lee Overlay Partners, Ltd.	10/15/09	2,675
LM Capital Group, LLC	10/30/06	658
Lyxor Asset Management, Inc.	8/1/16	11,500
Millennium Global Investments, Ltd.	7/1/10	975
Mondrian Investment Partners, Ltd.	5/13/99	12,204
PanAgora Asset Management, Inc.	11/1/18	2,166
PIMCO	2/28/17	6,199
Principal Global Investors, LLC	11/1/17	1,483
Principal Real Estate Investors, LLC	1/1/14	684
Pyrford International Limited	8/15/18	1,900
Pzena Investment Management, LLC	7/1/15	4,767
RBC Global Asset Management US, Inc.	2/1/22	2,166
Schroder Investment Management	9/1/14	12,182
Silvercrest Asset Management	7/1/11	1,961
State Street Global Advisors Trust Company	11/30/15	3,480
Templeton Asset Management, Ltd.	5/18/99	2,896
Western Asset Management, Co.	10/30/06	1,879
William Blair Investment Management, LLC	11/1/22	1,634
Total investment management fees		**166,175**

Schedule of investment expenses (continued)

Schedule VIII

(dollars in thousands)

	Contract start date	Amount
Advisors and consultants		
Aksia, LLC	6/1/19	$40
Albert Risk Management Consultants	12/1/21	139
Albourne America, LLC	11/1/19	1,140
Bard Consulting, LLC	9/20/07	1,437
Callan Associates	9/20/07	170
Cambridge Associates, LLC	10/1/17	2,666
Colmore, Inc.	4/1/19	286
Ernst & Young U.S. LLP	1/1/21	371
Meketa Investment Group, Inc.	5/1/16	3,111
Mercer Investments, LLC	3/1/18	242
Principal Real Estate Investors, LLC	1/1/14	1,600
R.V. Kuhns & Associates, Inc.	6/12/13	35
RCLCO Fund Advisors, LLC	1/15/18	468
SitusAMC	7/1/15	8,668
Stout Risius Ross, LLC	3/1/18	50
Valuation Research Corporation	8/1/01	444
Miscellaneous	Various	5
Total advisors and consultants		**20,872**
External services-legal and attorney fees		
BLA Schwartz, PC	11/1/13	1,444
Cohen Milstein Sellers & Toll, PLLC	7/1/20	47
Cox, Castle & Nicholson, LLP	11/30/09	4,788
DLA Piper, LLP (US)	3/1/18	1,490
Morgan, Lewis & Bockius, LLP	12/9/10	774
Olson, Hagel & Fishburn, LLP	7/1/20	33
Proskauer, LLP	3/9/11	358
Sheppard Mullin Richter & Hampton, LLP	4/1/19	401
Steptoe & Johnson, LLP	3/1/17	17
Williams & Jensen, PLLC	7/1/22	176
Miscellaneous	Various	12
Total external services-legal and attorney fees		**9,540**
Global custodian		
State Street Bank & Trust, Co.	10/1/21	3,633
Total global custodian		**3,633**

Other supplementary information

Schedule of investment expenses (continued)

Schedule VIII

(dollars in thousands)

	Contract start date	Amount
Research and rating services		
Abel Noser Holdings, LLC	10/1/21	$60
AcadiaSoft, Inc.	9/1/22	21
AlternativeSoft AG	10/1/18	77
CEM Benchmarking, Inc.	1/1/22	80
CPR & CDR Alpha, LLC	3/1/23	60
Equilar, Inc.	7/1/22	46
eVestment Alliance, LLC	8/1/22	67
FactSet Research System, Inc.	7/1/22	1,022
Fitch Ratings, Inc.	12/30/22	282
Glass Lewis & Co., LLC	6/1/10	351
ICE Benchmark Administration	1/1/23	79
Insightia Limited	9/1/22	20
Institutional Shareholder Services	1/1/23	66
KDP Investment Advisors, Inc.	10/1/22	41
London Stock Exchange PLC	1/1/23	44
Markit N. America, Inc. / Markit Group	10/15/22	38
Mergermarket Limited US	1/28/23	21
Moody's Investors Service	12/29/22	526
MSCI, Inc.	1/1/22	2,000
Nomura Research Institute	1/1/23	18
PEI Media, Ltd.	7/10/22	78
Preqin Limited	6/1/22	13
Refinitiv US, LLC	7/1/20	77
Russell Investment Group	7/1/21	107
Standard & Poor's	1/1/23	588
StarCompliance Operating, LLC	3/28/23	54
State Street Global Advisors Trust Company	7/1/21	131
Strategas Securities, LLC	7/1/22	75
Technical Analysis Group, LLC	2/3/23	35
The Spaulding Group	4/17/21	93
TradeWeb, LLC	7/1/22	34
Trahan Macro Research, LLC	12/1/21	38
Miscellaneous	Various	20
Total research and rating services		**6,262**
Risk management systems		
BlackRock Financial Management, Inc.	7/1/06	7,832
MSCI, Inc. d/b/a Barra, LLC	4/1/23	174
Total risk management systems		**8,006**

Schedule of investment expenses (continued)

Schedule VIII

(dollars in thousands)

	Contract start date	Amount
Trading systems		
Bloomberg, LP	7/1/21	$1,736
Fixed Income Clearing Corp	7/1/21	13
Intex Solutions, Inc.	9/1/22	168
Omgeo, LLC	7/1/21	62
Society for Worldwide Interbank Financial Telecommunication	11/8/21	22
TSX, Inc.	1/1/23	12
Miscellaneous	Various	12
Total trading systems		**2,025**
Operating expenses		
Administrative costs		68,214
Aon Risk Insurance		3,869
Council of Institutional Investors		36
Total operating expenses		**72,119**
Subtotal		**288,632**
Other investment expenses		
Foreign tax withheld		83,067
Capital gains tax		8,054
Real estate		310
Broker commissions		16,306
Securities sold short expense		8,096
Miscellaneous		5,982
Total other investment expenses		**121,815**
TOTAL INVESTMENT EXPENSES		**$410,447**

Other supplementary information

Schedule of consultant and professional services expenses

Schedule IX

(dollars in thousands)

Individual or firm	Amount
State Teachers' Retirement Plan	
Actuarial services	
Milliman, Inc.	$437
Total actuarial services	**437**
Auditing services	
Clifton Larson Allen, LLP	243
Crowe LLP	2,634
Grant Thornton, LLP	423
Weaver and Tidwell, LLP	1,359
Total auditing services	**4,659**
Consultant and other professional services	
22nd Century Technologies, Inc.	103
A1 Consulting Services, LLC	86
Abacus Data Systems, Inc.	22
Accenture, LLP	320
Accuity, Inc.	112
Acuity Technical Solutions	471
Advanced Technical Solutions, Inc.	17
Agile Global Solutions, Inc.	365
AgreeYa Solutions, Inc.	396
Alpha Executive Coaching, LLC	16
American Unit, Inc.	212
Aptakrit Technology Solutions, LLC	198
Articulate Global, LLC	59
Aspire HR, Inc.	569
Astute Solutions, LLC	141
Avante Solutions, Inc.	71
AVI-SPL, LLC	119
BM Associates, Inc.	263
Business Advantage Consulting, Inc.	83
California State University Sacramento	28
Capio Group	273
Carahsoft Technology Corp.	51
CDW Government, LLC	40
Celer Systems, Inc.	229
CGI Technologies and Solutions, Inc.	3,789
Deloitte & Touche, LLP	157
Deloitte Consulting, LLP	3,279
Department of Forestry and Fire Protection	433
Department of General Services	116
Department of Human Resources	33
Digital Deployment, Inc.	88
Diligent Corporation	52
DirectApps, Inc.	172
Entisys Solutions, Inc.	431

Schedule of consultant and professional services expenses (continued)

Schedule IX

(dollars in thousands)

Individual or firm	Amount
Estrada Consulting, Inc.	$187
ExamWorks, LLC	105
Forrester Research, Inc.	490
Fortuna Business Management	198
Gartner, Inc.	797
Global Governance Advisors, LLC	44
GoldLink Pacific, Inc.	1,188
Government Operations Agency	226
Grant Thornton Public Sector, LLC	613
Guidehouse, Inc.	356
HHS Technology Group, LLC	213
Hogan Lovells US, LLP	140
Info-Tech Research Group, Inc.	103
Integrated Consulting and Management	179
IntelliSurvey, Inc.	310
International Business Machines Corp.	25
International Network Consulting	592
International Projects Consultancy	100
ISOS Group, Inc.	56
Jayson Carpenter Photography	23
JR Hobbs Group, Inc.	91
Kanini Infotech Consultants	175
Legato Solutions	195
Linea Solutions, Inc.	676
Lucas Public Affairs	568
Mactum, Inc.	257
Matthew Bender & Company, Inc.	35
Maximus Human Services, Inc.	1,982
Mentis Solutions, LLC	450
Metro Mailing Service, Inc.	26
MG Systems and Software, LLC	448
Miles Treaster & Associates	8,921
Montague DeRose and Associates, LLC	13
Mosaic Governance Advisors, LLC	189
MRC Smart Technology Solutions	17
National Disability Evaluations, Inc.	40
Natix, Inc.	226
Oak Technical Services, LLC	164
OnCore Consulting, LLC	410
Ope Technology, LLC	212
Pacific Storage Company	22
Pension Benefit Information, LLC	205
Peraton State & Local, Inc.	5,649
Pinnacle Consulting	245
Pitney Bowes, Inc.	14
Presidio Holdings, Inc.	2,497
Providence Technology Group, Inc.	603

Other supplementary information

Schedule of consultant and professional services expenses (continued)

Schedule IX

(dollars in thousands)

Individual or firm	Amount
QualApps, Inc.	$160
Quest Media & Supplies, Inc.	1,483
R Systems, Inc.	382
Radian Solutions, LLC	13
RELX, Inc.	33
Resiliensoft	265
Ridge Capital, Inc.	77,224
RMA Consulting Group, Inc.	300
Robert J. Yetman	103
Sagitec Solutions, LLC	18,803
Schetter Electric, LLC	40
Sierra Metrics, Inc.	90
Signal Perfection, Ltd.	135
Silicon Valley Consulting Group	138
Solutions Simplified	183
Speridian Technologies, LLC	165
State Controller's Office	2,210
SupportFocus, Inc.	578
Taborda Solutions, Inc.	396
TEKsystems, Inc.	236
Templar Shield, Inc.	186
The Centre for Organization	31
The Highlands Consulting Group, LLC	66
Thomas/Ferrous, Inc.	71
University Enterprises, Inc.	1,053
Vector Consulting, Inc.	178
Veteran Enhanced, Inc.	17
Visionary Integration Professionals	1,152
West Advanced Technologies, Inc.	129
Williams & Jensen, PLLC	83
Workiva, Inc.	48
xFusion Technologies, Inc.	291
Total consultant and other professional services	**149,311**
Legal services	
Cuyler & Tufts, LLP	391
Department of General Services	64
Department of Human Resources	12
Klinedinst, PC	162
Littler Mendelson, PC	46
Meyers Nave	125
Olson Remcho, LLP	787
Nossaman, LLP	43
Pillsbury Winthrop Shaw Pittman, LLP	330
Shaw Law Group, PC	88
Sheppard Mullin Richter & Hampton	1,381
State Personnel Board	48
Total legal services	**3,477**

Schedule of consultant and professional services expenses (continued)

Schedule IX

(dollars in thousands)

Individual or firm	Amount
Regional counseling services	
Santa Barbara County Office of Education	$168
Total regional counseling services	**168**
Various services under $10K	
Others	99
Total various services under $10K	**99**
Gross consultant and professional services	**158,151**
Less: amounts capitalized[1]	118,620
Total State Teachers' Retirement Plan — consultant and professional services net of amounts capitalized	**$39,531**
Pension2 – IRC 403(b) Plan	
Administrative services	
Voya Institutional Plan	$4,945
Total administrative services	**4,945**
Total Pension2–IRC 403(b) Plan — consultant and professional services	**$4,945**
Pension2 – IRC 457(b) Plan	
Administrative services	
Voya Institutional Plan	$309
Total administrative services	**309**
Total Pension2–IRC 457(b) Plan — consultant and professional services	**$309**
Teachers' Deferred Compensation Fund	
Consultant services	
Morningstar, Inc.	$68
Total consultant services	**68**
Total Teachers' Deferred Compensation Fund — consultant and professional services	**$68**
TOTAL CONSULTANT AND PROFESSIONAL SERVICES	**$44,853**

[1] Vendor costs that meet the CalSTRS capitalization criteria are deducted from gross consultant and professional services expenses and reported as capital assets on the statement of fiduciary net position. Refer to Note 2 of the notes to the basic financial statements for discussion of CalSTRS' treatment of capital assets.