



September 19, 2022

California State Teachers' Retirement System
100 Waterfront Place
Sacramento, CA 95605

Independent Verifier's Verification and Performance Examination Report

We are pleased to report that we have verified whether California State Teachers' Retirement System (the Asset Owner) has, for the periods July 1, 2019 through June 30, 2022, established policies and procedures for complying with the Global Investment Performance Standards (GIPS®) related to composite and total fund maintenance and the calculation, presentation, and distribution of performance that are designed in compliance with the GIPS standards, as well as whether these policies and procedures have been implemented on an asset owner-wide basis. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein. We have also examined the Asset Owner's California State Teachers' Retirement System Total Fund for the periods July 1, 2019 through June 30, 2022.

The Asset Owner's management is responsible for its claim of compliance with the GIPS standards, the design and implementation of its policies and procedures, and for the accompanying California State Teachers' Retirement System Total Fund's GIPS asset owner report. Our responsibilities are to be independent from the Asset Owner and to express an opinion based on our verification and performance examination. We conducted this verification and performance examination in accordance with the required verification and performance examination procedures of the GIPS standards, which includes testing performed on a sample basis. We also conducted such other procedures as we considered necessary in the circumstances.

In our opinion, for the periods from July 1, 2019 through June 30, 2022, the Asset Owner's policies and procedures for complying with the GIPS standards related to composite and total fund maintenance, as well as the calculation, presentation, and distribution of performance, have been, in all material respects:

- Designed in compliance with the GIPS standards, and
- Implemented on an asset owner-wide basis.

Also, in our opinion, the Asset Owner has, in all material respects:

- Constructed the California State Teachers' Retirement System Total Fund and calculated the California State Teachers' Retirement System Total Fund's performance for the periods from July 1, 2019 through June 30, 2022 in compliance with the GIPS standards, and
- Prepared and presented the accompanying California State Teachers' Retirement System Total Fund's GIPS asset owner report for the periods from July 1, 2019 through June 30, 2022 in compliance with the GIPS standards.

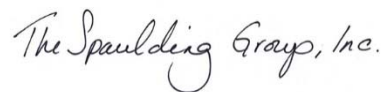
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We have not been engaged to examine, and did not examine, the Asset Owner's California State Teachers' Retirement System Total Fund for any periods prior to July 1, 2019 and, accordingly, we express no opinion on the GIPS asset owner report of the Asset Owner's California State Teachers' Retirement System Total Fund for any periods prior to July 1, 2019.

This report does not relate to or provide assurance on any specific performance report of the Asset Owner other than the Asset Owner's accompanying California State Teachers' Retirement System Total Fund's GIPS asset owner report, or on the operating effectiveness of the Asset Owner's controls or policies and procedures for complying with the GIPS standards.

We greatly appreciate the opportunity to conduct this verification and performance examination for you.

Sincerely,

A handwritten signature in cursive script that reads "The Spaulding Group, Inc.".

The Spaulding Group, Inc.

We Are Performance™

33 Clyde Road • Suite 103 • Somerset, NJ 08873 • (732) 873-5700 • www.SpauldingGrp.com
Malibu, CA • Denver, CO • Washington, D.C. • Louisville, KY • Naples, FL

California State Teachers' Retirement System

CALSTRS

Global Investment Performance Standards Asset Owner Report

CalSTRS Total Fund

1-Year Period Ending	Total Fund Net-of-Fees Return (%)	Custom Blended Benchmark Return (%)	3-Year Standard Deviation Total Fund (%) ¹	3-Year Standard Deviation Benchmark (%) ¹	Number of Portfolios	Total Fund Assets (\$MM)	Total Asset Owner Assets (\$MM)
30-Jun-20	3.82%	3.73%	N/A	N/A	241	\$246,028	\$246,028
30-Jun-21	27.11%	24.94%	N/A	N/A	272	\$306,776	\$306,776
30-Jun-22	- 1.35%	- 2.18%	9.41%	9.43%	268	\$301,580	\$301,580

California State Teachers' Retirement System (CalSTRS) claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. CalSTRS has been independently verified for the periods July 1, 2019 through June 30, 2022.

An asset owner that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the asset owner's policies and procedures related to total fund and composite maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on an asset owner-wide basis. The CalSTRS Total Fund has had a performance examination for the periods July 1, 2019 through June 30, 2022. The verification and performance examination reports are available upon request.

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¹ The three-year annualized standard deviation measures the variability of the Total Fund and the benchmark for the 36-month period. The Total Fund standard deviation is calculated using net returns. For periods marked "N/A", it is not presented because the Total Fund history is shorter than 36 months.

California State Teachers' Retirement System



Asset Owner Definition:

For the purposes of complying with the GIPS standards, the asset owner is defined as the California State Teachers' Retirement System (CalSTRS). The Teachers' Retirement Fund is a special trust fund established by law that holds the assets of the Defined Benefit, Defined Benefit Supplement and Cash Balance Benefit programs. The Fund assets are held for the exclusive purpose of providing benefits to participants in the pension or retirement system and their beneficiaries, and defraying reasonable expenses of administering the system.

Performance Calculations:

Valuations are computed and performance is reported in U.S. Dollar (\$). Performance presented is net of actual internal and external investment costs, including non-claimable withholding taxes. Performance of external managers is captured net of advisory and management fees, as well as performance fees and carried interest, if applicable. Internal investment management related expenses include personnel, investment research services, trading, custodian services, portfolio accounting services, performance measurement services, legal, and technology services. Total internal management expenses accounted for roughly 3.5 basis points for period shown.

Total Fund and Benchmark Description:

The CalSTRS Total Fund includes all individual portfolios that are combined into one aggregate fund. The plan's overall mandate pursued using both internal and external managers to invest in a broad range of asset classes and strategies. There are five performance objectives identified for the overall Total Fund: (a) relative to the Actuarial Rate of Return, which we set at 7.0%; (b) relative to CalSTRS liabilities, which we measure by using the actuarial rate of return to discount the liabilities which then gives us our funded ratio; (c) relative to inflation, which we measure as the Consumer Price Index plus 4.25%; and (d) relative to the Policy Benchmark Index and (e) relative to the CalSTRS reference portfolio. The Total Fund inceptioned on June 1, 1986 and has been in compliance with the GIPS standards since July 1, 2019. External managers have been used for all periods presented.

CalSTRS may employ leverage or use derivatives and/or short positions for investment, hedging, or in order to maintain target range exposure in asset classes and to reduce transaction costs that would otherwise be incurred by the buying and selling of actual securities. Limits and restrictions are defined in the CalSTRS' Investment Policy and Management Plan (IPMP).

The Policy Benchmark Index is weighted by the policy target asset allocation and calculated on a monthly basis. The benchmark strategic weights and asset class allocations are presented in the table below as of June 30, 2022. Strategic weights and asset class allocations for prior periods are available upon request.

California State Teachers' Retirement System



Asset Class	Asset Class Allocation as of June 30, 2022	Benchmark Strategic Weight as of June 30, 2022	Custom Benchmark
Global Equity	42.2%	45%	Custom MSCI All Country World Investable Market Net Index (MSCI ACWI IMI)
Fixed Income	10.5%	12%	(95%) Bloomberg U.S. Aggregate Custom Index (5%) Bloomberg U.S. High Yield 2% Issuer Capped Custom Index
Real Estate	16.3%	14%	NCREIF ODCE Value Weighted index, Net of fees (quarter lagged)
Private Equity	15.7%	13%	Dynamically weighted blend of the CalSTRS Custom Private Equity Traditional and Non-Traditional Indices comprised of segments of the State Street Global Exchange Private Equity Index (quarter lagged), further detailed in the Private Equity Policy. Traditional: Buyout, Debt-Related and Venture Capital Non-Traditional: Longer Term, Multi Strategy and Special Mandates
Risk Mitigating Strategies (RMS)	10.4%	10%	Dynamically weighted blend: Bloomberg U.S. Treasury 20+year Total Return Index, SG Trend Index, HFRI Macro: Discretionary Thematic Index, (SG) Societe Generale Multi Alternative Risk Premia Index
Inflation Sensitive	5.5%	4%	Dynamically weighted blend: Bloomberg U.S. Treasury Inflation Linked-Bond Index (Series L), NCREIF Timberland Fund Index (quarter lagged), Bloomberg Commodity Index, CPI+3% (quarter lagged), CPI+4% (quarter lagged)
Liquidity	-1.8%	2%	90-day Treasury Bill Index
Innovative Strategies	1.1%	0%	N/A
Strategic Overlay	0.0%	0%	N/A

California State Teachers' Retirement System



Global Equity comprises of U.S., non-U.S. developed, and emerging markets. The Portfolio shall be managed under an active risk budget framework, as defined in the CalSTRS Global Equity Investment Policy, utilizing both active and passive management strategies.

Fixed Income comprises of investment grade and non-investment grade securities. The portfolio will target 80 percent using an enhanced indexing strategy, while 20 percent will be externally actively managed using a broader universal fixed income and high-yield securities opportunity set. The internally managed portfolio will emphasize tracking the risk characteristics of the performance benchmark.

The *Real Estate* Portfolio will be comprised of direct real estate investments, joint venture/value added investments, and commingled funds (opportunistic funds) with adopted targets of 60 percent to core, 20 percent value added and 20 percent to higher- risk tactical investments. Leverage maybe applied within the constraints set forth in the CalSTRS Real Estate Investment Policy.

The *Private Equity* Portfolio can include limited partnerships, (and other limited liability vehicles), direct investments in general partnerships, co-investments, and secondary interests in the following market segments: Buyouts, Venture Capital, Debt Related, Core Private Equity, and Private Equity Special Mandates. The primary objective for the Private Equity Portfolio is to provide enhanced investment returns over those available in the public market.

The purpose of *RMS* is to help diversify CalSTRS portfolio large exposure to global economic growth within the overall investment portfolio. This class will contain assets and investment strategies with structural aspects that provide improved diversification and potential protection in negative equity markets. This class will consist of four core strategies: long-term U.S. Government Bonds, Trend Following, Global Marco, and Systematic Risk Premia.

Inflation Sensitive consists of several asset types that, when combined, should produce a relatively stable return stream, with a return level between equities and fixed income, and an overall higher correlation to inflation than equity or fixed income. The initial portfolio was comprised of global inflation linked bonds/securities and infrastructure investments. Additional investment areas and strategies have been added upon the Investment Committee's approval.

Innovative Strategies will invest in a diversified portfolio of assets that generally fall outside of the traditional asset classes currently used by the Board. The purpose is to provide the Board with the opportunity to invest in a wide spectrum of investment opportunities that will be required to demonstrate success before committing larger dollar amounts to a specified strategy.

Liquidity shall be managed internally with emphasis on safety and liquidity. The portfolio shall be comprised of investment grade securities; and other appropriate securities as approved in the policies and procedures.

California State Teachers' Retirement System



Other Disclosures:

A list of total fund descriptions, a list of composite descriptions, and policies for valuing investments, calculating performance, and preparing a GIPS Asset Owner Report are available upon request.

Private assets are valued quarterly, and valuations are adjusted intra-quarter to reflect capital contributions and distributions as they occur. Controlling interests in real assets and directly held private equity investments are valued annually by an independent third party. These investments are material as they represent 11.17% of the total net investments as of June 30, 2022.

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