CALSTRS

Investments Branch

BUSINESS PLANS

Fiscal Year 2022–23

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TABLE OF CONTENTS

INTRODUCTION

Sometimes in life if you stick around long enough you see things go full circle and that is occurring with the Investment Branch Business Plans. The idea of a business plan was started by the second CalSTRS Chief Investment Officer, Patrick Mitchell, around 1997 or so. It has been the cornerstone of the Investment Office operating like a money manager rather than a State agency for these nearly 25 years. Starting in 2002, the current CIO introduced the idea of a 10-year financial plan to supplement the business plans and guide the budget and expenses of the Investment Branch. The Investment Committee enjoyed the planning so much they asked the CEO to develop a similar approach for the entire building.

The building wide business plans grew into a multi-year strategic planning process. That process has grown and matured to involve the Board and staff in combination. The most recent long-term strategic plan was reviewed at the April Board Off-site. We have reached a point where the Investment Business Plans are fully integrated into the long-term strategic plan. The key difference is a level of granularity. The Strategic Plan, governed by the Board and Executive staff, covers the entire operation, where the Investment Business Plans dive down into the particular asset classes and are overseen by the Investment Committee. The key is clean alignment from the detail to the big picture.

We have gone full cycle where now the business plans will always be a subset of the long-term strategic plan:

#1 Fully fund the Defined Benefit plan
#2 Strive for lower investment costs
#3 Race to Net Zero GHG by 2050 or sooner
#4 Expand the Diversity of the Management of Investments

Sounds straightforward, but there are many competing demands and requests, yet if we do not achieve goal #1, we have failed in our entire mission. It bears saying, we can achieve # 2,3, and 4 and solve global problems, but if we do not achieve fully funding the plan we have failed in our mission and purpose. So, these goals are presented in rank order. They are all important, as are so many other issues in life, but we must keep our focus and priorities.

With over 200 staff, across nine asset classes and teams, three Board appointed investment consultants, a half a dozen staff retained advisors and consultants, these business plans are an important process to keep everyone marching in the same direction and toward the common goals. They are streamlined one page double-sided and with a consistent format for easy reading.

An important improvement started last year is to streamline the ten-year financial plan to highlight the three sources of investment costs; internal investments costs represented by the Traditional Support Budget; investment manager contract fees represented by the Continuous Appropriation Budgets, and the third yet largest, the Investment Performance incentive fees and Partnerships costs. As with last year, the staff has estimated the potential costs savings from the Collaborative Model. The saving range depends upon the level of implementation. There is a direct linkage between internal costs and Collaborative Model savings. For every dollar you spend on more internal staff, you save ten dollars in external money manager costs. Simple formula of ten to one cost, but it has proven hard to implement in a government setting.

Please review the Fiscal Year 2022-23 Investment Branch Business Plans and 10-year Financial Plan. This process has served us well and guided our path of 25 years. It has proven its worth by the test of time.

Christopher Ailman
Chief Investment Officer

Scott Chan
Deputy Chief Investment Officer

Ten Year Financial Plan – Assumed AUM growth

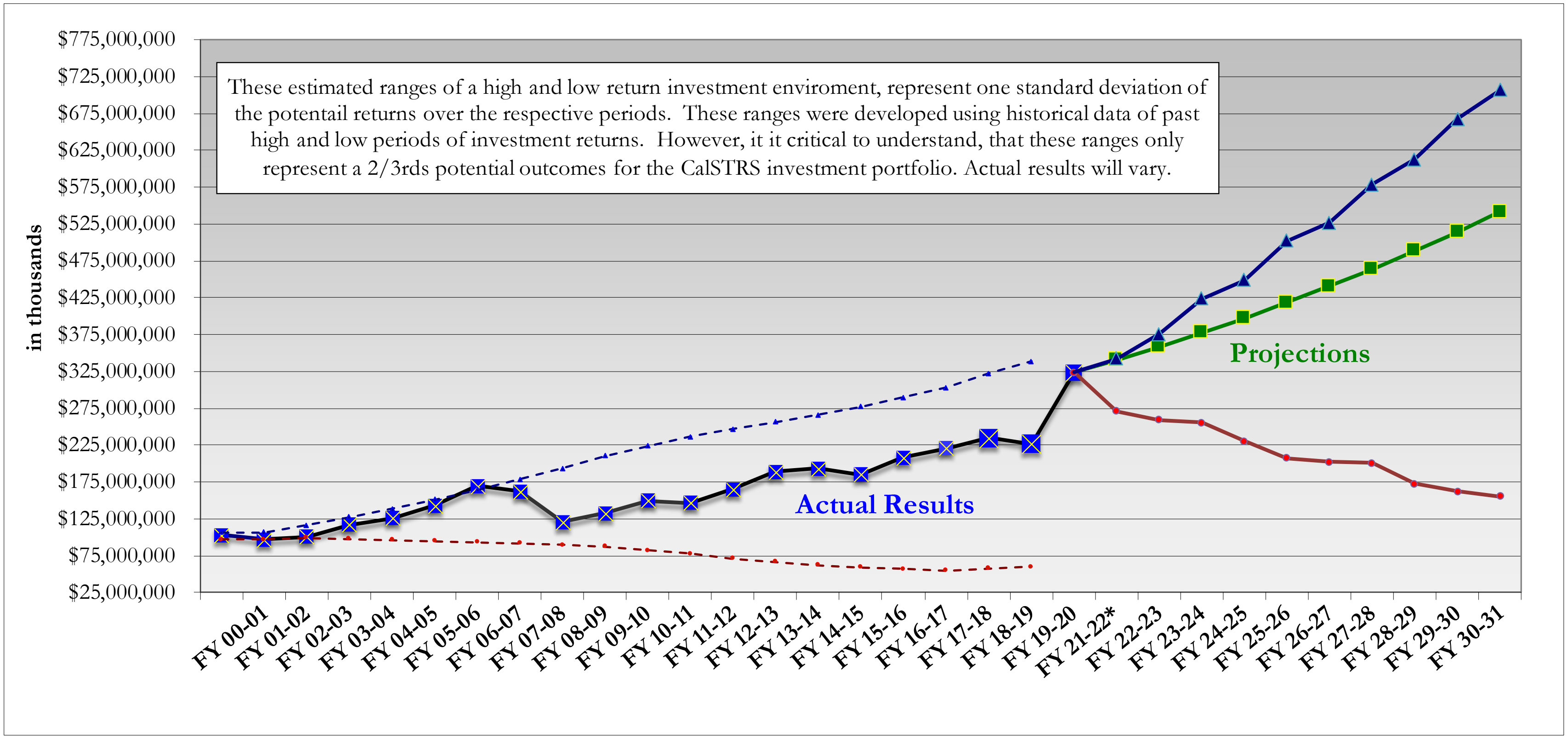
(in thousands)	FY 21-22*	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
Defined Benefit Plan	$ 304,559,163	$ 322,263,304	$ 341,073,736	$ 360,873,897	$ 381,726,070	$ 403,695,895	$ 426,840,608	$ 451,163,450	$ 476,700,892	$ 503,481,954	$ 531,526,691
D.B.S. & Cash Bal.	$ 19,008,105	$ 18,318,024	$ 17,534,844	$ 16,659,495	$ 15,692,900	$ 14,935,971	$ 13,886,612	$ 12,847,745	$ 11,819,268	$ 10,801,075	$ 9,793,065
Pension2® #	$ 1,769,284	$ 2,034,677	$ 2,339,878	$ 2,690,860	$ 3,094,489	$ 3,558,662	$ 3,460,268	$ 3,979,309	$ 4,576,205	$ 5,262,636	$ 6,052,031
Total {less Pension 2}	**$ 323,567,268**	**$ 340,581,328**	**$ 358,608,579**	**$ 377,533,392**	**$ 397,418,970**	**$ 418,631,866**	**$ 440,727,219**	**$ 464,011,196**	**$ 488,520,160**	**$ 514,283,029**	**$ 541,319,755**

** FY 21-22 are based on March 31, 2022 posted values.*

 # PENSION 2 assets: 403(b), 457, Roth IRA & IRA assets managed outside the Investment Branch and not included in growth estimate.

Low Return Environment**	$ 323,567,268	$ 284,830,326	$ 272,291,548	$ 267,581,250	$ 242,113,526	$ 218,303,863	$ 212,591,926	$ 210,495,808	$ 181,791,434	$ 171,187,605	$ 163,437,087
High Return Environment**	$ 323,567,268	$ 342,201,977	$ 375,710,194	$ 423,888,571	$ 448,745,310	$ 502,029,605	$ 526,602,531	$ 578,674,225	$ 612,719,846	$ 667,108,295	$ 706,793,417

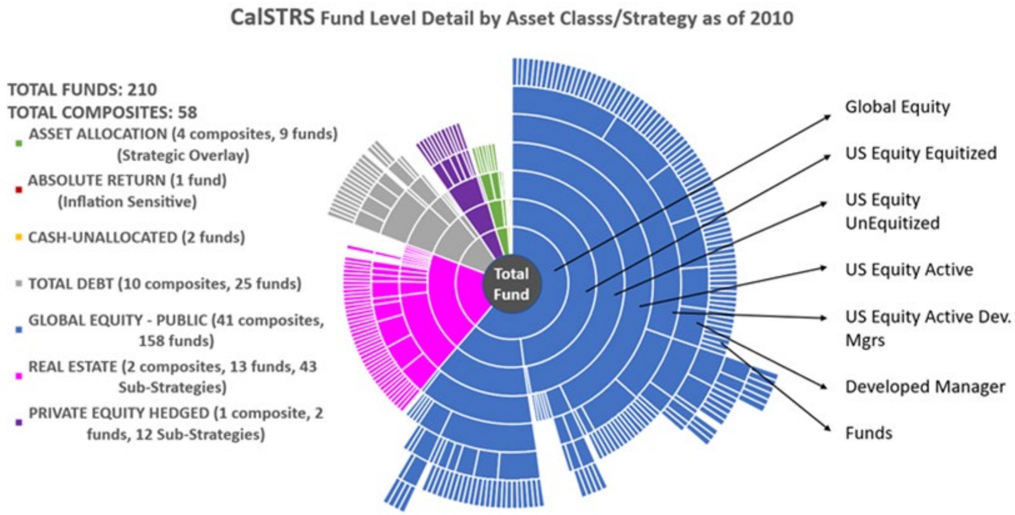
***Return assumptions based on CalSTRS capital market assumptions for 10 year period. High and low estimate based on 10 year standard deviation for CalSTRS asset mix as of June 30, 2000 starting date, and then a March 31, 2020 starting date.*



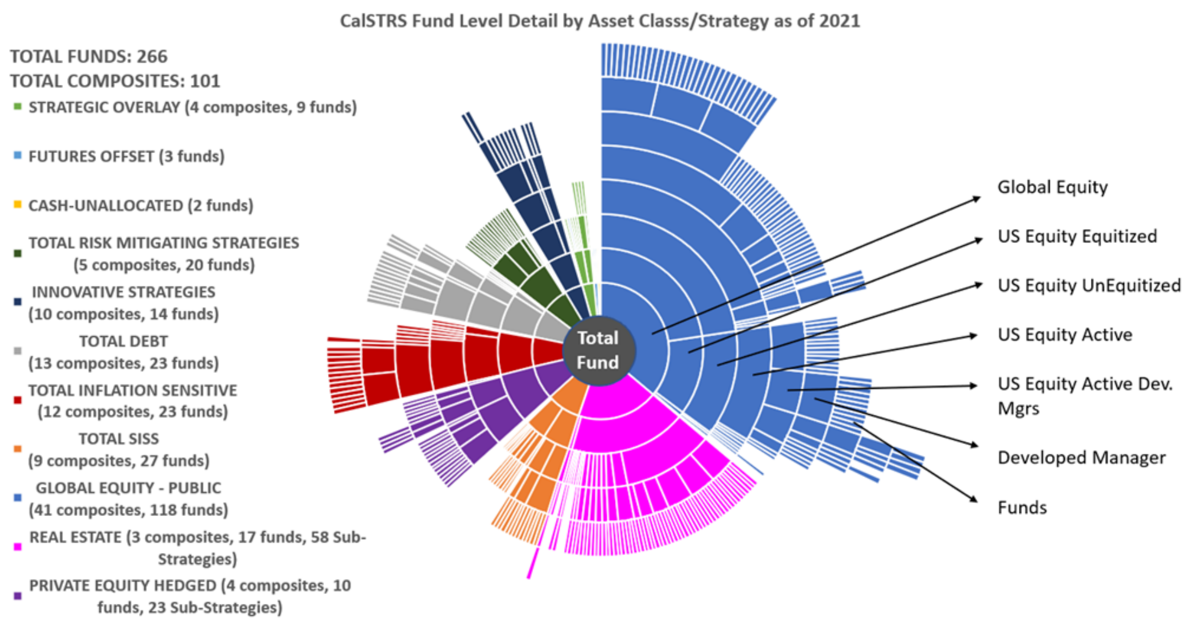
This forecast is based upon the current CalSTRS capital market assumptions over the next ten years. <u>Actual results will vary widely.</u> Since this chart is based upon a ten year average, individual years return can and will vary significantly. The purpose of the chart is to help explain the <u>potential</u> growth in the investment portfolio. Asset allocation shifts and changes in the assumptions will move the chart. As described above this only includes one standard deviation, or two thirds of the potential outcomes. <u>This information is for estimation of the CalSTRS business plan and should not be used for any other forecast without the consultation of the CalSTRS Investment Branch amd the CalSTRS Actuaries.</u>

Ten Year Financial Plan – Increased complexity over the past decade

Portfolio Structure and Strategies back in 2010



Present Day

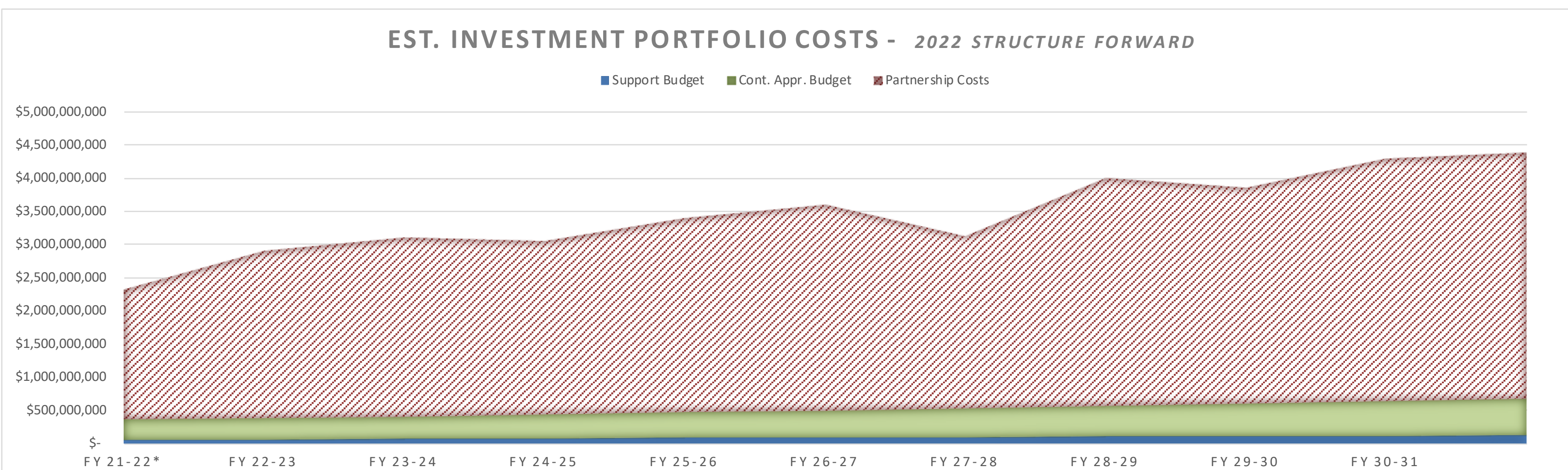


Over the past decade, the portfolio structure has expanded to include the new asset classes of Inflation Sensitive, Risk Mitigating Strategies, and Innovation. While we have structured and simplified the breakout of Global Equity, the overall complexity, as measured by accounts and strategies have expanded in every other asset class. The increase in complexity of the Total Portfolio is in line with what our peers, of similar and larger size, have experienced over this same time period.

Ten Year Financial Plan – Investment portfolio costs – Status Quo

Projected Investment Costs (based on status quo, 2022 structure)

#	Fiscal Year	FY 21-22*	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
	Total Assets (in billions)	$ 323.6	$ 340.6	$ 358.6	$ 377.5	$ 397.4	$ 418.6	$ 440.7	$ 464.0	$ 488.5	$ 514.3	$ 541.3
	Investment Branch Support Budget											
1	**Total Staff - PY's** (Personnel years)	**247**	**269**	**289**	**305**	**321**	**337**	**354**	**373**	**390**	**408**	**427**
2	Salaries, Benefits & Est. Inct (w/o SISS.)	$ 55,575,000	$ 62,340,750	$ 68,650,144	$ 74,262,115	$ 89,880,000	$ 94,360,000	$ 99,120,000	$ 106,305,000	$ 111,150,000	$ 116,280,408	$ 121,695,854
3	General Expense & (excludes IT exp.)	125,750	176,236	179,760	183,356	187,023	190,763	194,578	198,470	202,439	206,488	210,618
4	Travel (In State, U.S. & Non-U.S.)	1,049,750	2,043,488	2,248,476	2,473,655	2,721,126	2,995,358	3,295,358	3,625,580	3,988,851	4,388,173	4,826,716
5	CP&S & Misc. (Print, Comm., Training)	75,000	76,875	78,797	80,767	82,786	84,856	86,977	89,151	91,380	93,665	96,006
6	**TOTAL SUPPORT BUDGET**	$ 56,825,500	$ 64,637,349	$ 71,157,177	$ 76,999,893	$ 92,870,935	$ 97,630,976	$ 102,696,913	$ 110,218,201	$ 115,432,670	$ 120,968,734	$ 126,829,194
7	**In Basis Points***	1.8	1.9	2.0	2.0	2.3	2.3	2.3	2.4	2.4	2.4	2.3
	Continuous Appropriation											
8	Invst. Mgrs.. Fees (excld. Partnerships)	242,675,451	258,841,810	276,128,606	298,251,380	317,935,176	334,905,493	356,989,048	375,849,068	400,586,531	424,283,499	449,295,397
9	Consultants Fees	17,519,621	18,395,602	19,315,382	20,281,151	21,295,208	22,359,969	23,477,967	24,651,866	25,884,459	27,178,682	28,537,616
10	Custodian & Legal Fees	12,004,636	12,604,868	13,235,112	13,896,867	14,591,711	15,321,296	16,087,361	16,891,729	17,736,315	18,623,131	19,554,288
11	Risk systems (Bloomberg, Blackrock)	5,403,534	5,619,676	5,844,463	6,078,241	6,321,371	6,574,226	6,837,195	7,110,682	7,395,110	7,690,914	7,998,551
12	Corp.Gov./ SISS (Exp & Inv Mgrs.)	22,075,000	18,148,750	16,157,675	15,167,136	15,167,136	15,177,164	18,687,793	18,699,061	21,211,005	21,223,665	22,237,085
13	Research & Market Data	5,734,750	6,012,140	6,300,626	6,600,651	6,912,677	7,237,184	7,574,671	7,925,658	8,290,684	8,670,312	9,065,124
14	Trading Systems	2,139,294	2,224,865	2,313,860	2,406,414	2,502,671	2,602,778	2,706,889	2,815,164	2,927,771	3,044,882	3,166,677
15	Misc.	3,523,528	3,664,469	3,811,048	3,963,490	4,122,030	4,286,911	4,458,387	4,636,723	4,822,192	5,015,079	5,215,683
16	**TOTAL CONTINUOUS**	$ 311,075,814	$ 325,512,180	$ 343,106,771	$ 366,645,330	$ 388,847,979	$ 408,465,020	$ 436,819,311	$ 458,579,952	$ 488,854,067	$ 515,730,164	$ 545,070,420
27	**In Basis Points***	9.6	9.6	9.6	9.7	9.8	9.8	9.9	9.9	10.0	10.0	10.1
18	**Partnership Costs (Netted Fees)**											
19	Partnership costs & Mngt. Fees	$ 1,130,157,408	$ 1,387,185,761	$ 1,303,888,537	$ 1,486,696,354	$ 1,593,320,309	$ 1,612,859,702	$ 1,685,254,063	$ 1,717,155,757	$ 1,753,544,631	$ 1,811,190,988	$ 1,902,738,564
20	Profit Sharing Split	820,152,304	1,135,492,017	1,391,847,784	1,122,037,194	1,321,851,253	1,483,207,968	896,171,315	1,720,048,489	1,501,594,365	1,853,248,489	1,810,566,307
21	**TOTAL PARTNERSHIP COSTS**	$ 1,950,309,712	$ 2,522,677,779	$ 2,695,736,321	$ 2,608,733,549	$ 2,915,171,561	$ 3,096,067,669	$ 2,581,425,378	$ 3,437,204,246	$ 3,255,138,996	$ 3,664,439,477	$ 3,713,304,871
22	**In Basis Points***	60.3	74.1	75.2	69.1	73.4	74.0	58.6	74.1	66.6	71.3	68.6
23	**Total Portfolio Inv Expenses**	$ 2,318,211,026	$ 2,912,827,307	$ 3,110,000,269	$ 3,052,378,771	$ 3,396,890,475	$ 3,602,163,666	$ 3,120,941,602	$ 4,006,002,398	$ 3,859,425,733	$ 4,301,138,375	$ 4,385,204,485
24	**In Basis Points***	**71.6**	**85.5**	**86.7**	**80.9**	**85.5**	**86.0**	**70.8**	**86.3**	**79.0**	**83.6**	**81.0**



Ten Year Financial Plan – Investment portfolio costs – Implementation of the Collaborative Model

Projected Investment Costs (based on full implementation of the COLLABORATIVE MODEL

	Fiscal Year	FY 21-22*	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
	Total Assets (in billions)	$ 323.6	$ 340.6	$ 358.6	$ 377.5	$ 397.4	$ 418.6	$ 440.7	$ 464.0	$ 488.5	$ 514.3	$ 541.3
	Investment Branch Support Budget											
1	**Total Staff - PY's** (Personnel years)	**243**	**262**	**282**	**298**	**313**	**329**	**346**	**365**	**382**	**400**	**419**
2	Salaries, Benefits & Est. Inct (w/o SISS.)	$ 55,575,000	$ 62,340,750	$ 68,650,144	$ 74,262,115	$ 89,880,000	$ 94,360,000	$ 99,120,000	$ 106,305,000	$ 111,150,000	$ 116,280,408	$ 121,695,854
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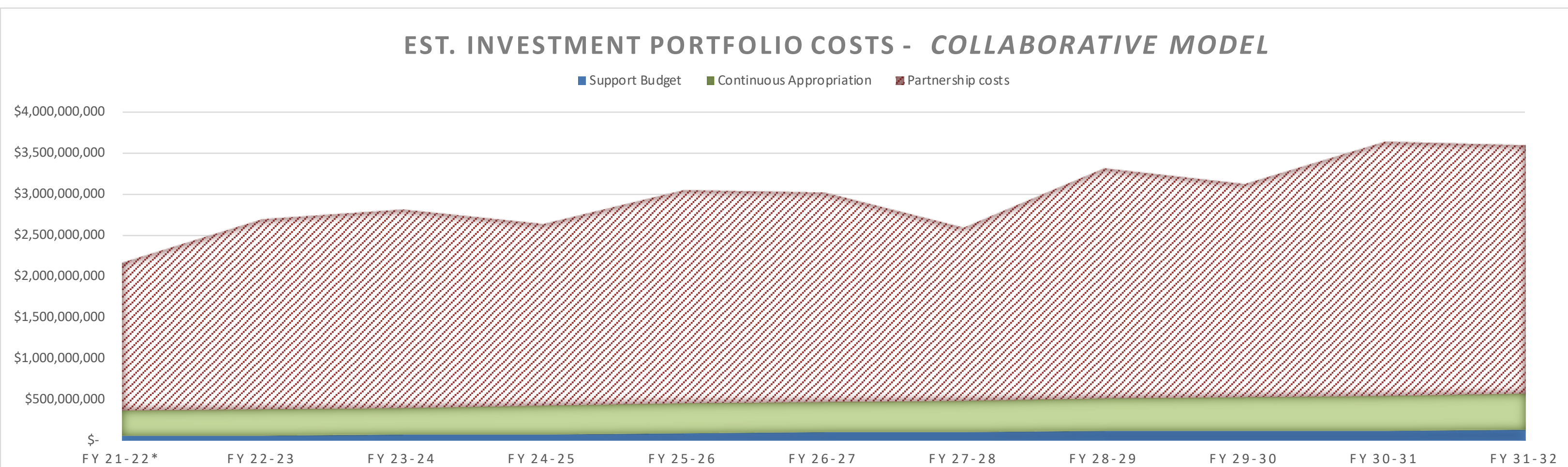
4	Travel (In State, U.S. & Non-U.S.)	1,049,750	2,043,488	2,248,476	2,473,655	2,721,126	2,995,358	3,295,358	3,625,580	3,988,851	4,388,173	4,826,716
5	CP&S & Misc. (Print, Comm., Training)	75,000	76,875	78,797	80,767	82,786	84,856	86,977	89,151	91,380	93,665	96,006
6	**TOTAL SUPPORT BUDGET**	$ 56,825,500	$ 64,637,349	$ 71,157,177	$ 76,999,893	$ 92,870,935	$ 97,630,976	$ 102,696,913	$ 110,218,201	$ 115,432,670	$ 120,968,734	$ 126,829,194
7	**In Basis Points***	1.8	1.9	2.0	2.0	2.3	2.3	2.3	2.4	2.4	2.4	2.3
	Continuous Appropriation											
8	Invst. Mngrs. Fees (exdd. Partnerships)	242,675,451	245,899,719	256,799,604	274,391,270	286,141,659	294,716,834	307,010,581	315,713,217	328,480,955	339,426,799	350,450,410
9	Consultants Fees	17,519,621	18,395,602	19,315,382	20,281,151	21,295,208	22,359,969	23,477,967	24,651,866	25,884,459	27,178,682	28,537,616
10	Custodian & Legal Fees	12,004,636	12,604,868	13,235,112	13,896,867	14,591,711	15,321,296	16,087,361	16,891,729	17,736,315	18,623,131	19,554,288
11	Risk systems (Bloomberg, Blackrock)	5,403,534	5,619,676	5,844,463	6,078,241	6,321,371	6,574,226	6,837,195	7,110,682	7,395,110	7,690,914	7,998,551
12	Corp.Gov. / SISS (Exp & Inv Mngrs)	22,075,000	18,148,750	16,157,675	15,167,136	15,167,136	15,177,164	18,687,793	18,699,061	21,211,005	21,223,665	22,237,085
13	Research & Market Data	5,734,750	6,012,140	6,300,626	6,600,651	6,912,677	7,237,184	7,574,671	7,925,658	8,290,684	8,670,312	9,065,124
14	Trading Systems	2,139,294	2,224,865	2,313,860	2,406,414	2,502,671	2,602,778	2,706,889	2,815,164	2,927,771	3,044,882	3,166,677
15	Misc.	3,523,528	3,664,469	3,811,048	3,963,490	4,122,030	4,286,911	4,458,387	4,636,723	4,822,192	5,015,079	5,215,683
16	**TOTAL CONTINUOUS**	$ 311,075,814	$ 312,570,089	$ 323,777,769	$ 342,785,220	$ 357,054,461	$ 368,276,360	$ 386,840,845	$ 398,444,101	$ 416,748,491	$ 430,873,464	$ 446,225,433
27	**In Basis Points***	9.6	9.2	9.0	9.1	9.0	8.8	8.8	8.6	8.5	8.4	8.2
18	**Partnership Costs (Netted Fees)**											
19	Partnership costs & Mngt. Fees	$ 1,010,157,408	$ 1,213,173,149	$ 1,167,490,464	$ 1,189,214,796	$ 1,285,639,832	$ 1,316,093,624	$ 1,349,717,838	$ 1,379,106,551	$ 1,359,230,813	$ 1,401,360,045	$ 1,441,360,045
20	Profit Sharing Split	788,633,218	1,100,816,970	1,250,615,645	1,029,172,011	1,307,479,593	1,232,413,104	751,872,349	1,423,151,118	1,233,191,634	1,681,262,178	1,583,498,228
21	**TOTAL PARTNERSHIP COSTS**	$ 1,798,790,626	$ 2,313,990,119	$ 2,418,106,109	$ 2,218,386,807	$ 2,593,119,425	$ 2,548,506,729	$ 2,101,590,186	$ 2,802,257,669	$ 2,592,422,447	$ 3,082,622,223	$ 3,024,858,273
22	**In Basis Points***	55.6	67.9	67.4	58.8	65.2	60.9	47.7	60.4	53.1	59.9	55.9
23	**Total Portfolio Inv Expenses**	$ 2,166,691,941	$ 2,691,197,557	$ 2,813,041,054	$ 2,638,171,919	$ 3,043,044,821	$ 3,014,414,066	$ 2,591,127,944	$ 3,310,919,971	$ 3,124,603,608	$ 3,634,464,421	$ 3,597,912,900
24	**In Basis Points***	**67.0**	**79.0**	**78.4**	**69.9**	**76.6**	**72.0**	**58.8**	**71.4**	**64.0**	**70.7**	**66.5**



GLOBAL EQUITY

FAST FACTS

Assets: $126.6 billion as of 3/31/2022

Inception Date: 1986

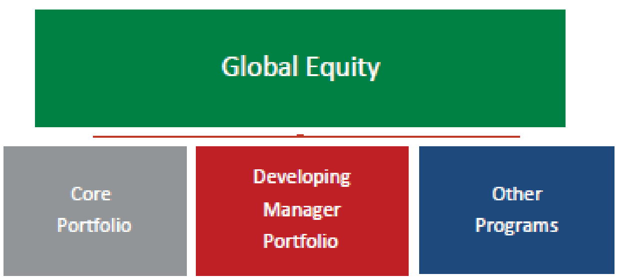
Asset Management:
Internal Management: $97.1B (77%)
External Management: $29.5B (23%)
Number of External Manager Portfolios: 27

Benchmark: Custom MSCI All Country World Investable Market Index (MSCI ACWI IMI)

Return Assumption: 7.5%
Risk Assumption: 17.6%

Excess Return Target: 30 basis points, net-of-fees

PROGRAM DESCRIPTION



Established in 1986 the Global Equity portfolio is invested in passive and active strategies across the U.S., developed non-U.S., and emerging markets. Approximately seventy-seven percent of the portfolio is managed internally by CalSTRS staff with the rest managed by external investment managers.

The Global Equity team also manages a Developing Manager Program, Cash Equitization Program, and Stock Distribution Program.

INVESTMENT TEAM (22)

Director: June Kim (8 years at CalSTRS; 26 years total)
Portfolio Managers: David Murphy, Jason Crawford, Raymond Venner, Wilson Yee
Associate Portfolio Managers: Edgar Ramirez, Justin Wiles, Sharon Jou, Shawn Webster, Wayne Yim
Investment Officers: Adriana Gutierrez, Alex Glaeser, Jessie Kong, Jimmy Garcia, Justin Bosley, Mark Melvani, Misty Watson, Shivi Krishna
Support Team: Katherine Chamorro
Vacant Positions: 3

OUTLOOK FOR 2022-23

Global stock markets were resilient through 2021 as the global economy recovered from the pandemic, but stock markets declined in the first quarter of 2022, due to elevated market valuations, rising inflation and bond yields, and Russia's invasion of Ukraine. The expected return for the Global Equity portfolio for the fiscal year is below the assumed rate of return as the aforementioned reasons will continue to weigh on markets. However, the Global Equity portfolio should benefit from slight position tilts to less expensive and higher-quality companies and from a more favorable market environment for active managers.

With an active risk budget, staff has the flexibility to allocate to the most promising opportunities across global equity markets. Staff will continue to thoughtfully and incrementally adjust Global Equity portfolio allocations, along with on-going evaluation of existing and top-tier potential replacement managers, to maximize Global Equity risk-adjusted returns. The team continues to internally manage equity portfolios in all regions, which provides flexibility to adjust allocations to actively managed portfolios.

COLLABORATIVE MODEL 2.0

- Since the start of the Collaborative Model initiative, Global Equity has implemented internally managed emerging markets portfolios, "Other Beta" equity strategies such as diversified multi-factor and collaborated with SISS on low-carbon portfolios.
- The expansion of internal management has improved flexibility in implementing timely and risk-controlled rebalancing. Global Equity has continued to implement tactical asset allocation trades for the Total Fund across increasingly challenging global equity markets.
- Global Equity continues to augment internal management capabilities with other asset classes and industry partners to research and evaluate new strategies that could potentially add value to the Fund. For example: 1) hybrid strategies such as public/private crossover; 2) single country; 3) portable alpha; and 4) thematic (e.g., sector) strategies.
- The Collaborative Model has enabled the Total Fund to benefit from economies of scale and cost efficiencies through internal management as Global Equity works with other asset classes to develop and implement risk-controlled portfolios designed to achieve return targets.

RACE TO NET ZERO

- In alignment with CalSTRS' Investment Beliefs and the goals of the Paris Climate Agreement, Global Equity is committed to achieving a net zero investment portfolio by 2050 or sooner. An important step in this endeavor last fiscal year was to establish a baseline carbon emissions measurement of the Global Equity portfolio. Staff will conduct a carbon emissions update annually to provide visibility to the progress towards net zero goals.
- To explore best practices and ideas, CalSTRS hired a consultant to research the efforts of global asset owners. The scope of the engagement includes: 1) a summary of practices related to net zero emissions targets, plans, procedures, and accountability mechanisms; and 2) identifying strategies that reduce carbon emissions within global equity portfolios, including the benefits and costs of each approach.
- Since 2017, Global Equity has managed a low-carbon index portfolio for SISS. The strategy has performed in line with expectations, providing a reduction in carbon emissions (Scopes 1 & 2) with low active risk versus the parent index.
- To set an aspirational, interim carbon reduction goal, Global Equity will conduct scenario analyses to incorporate investment strategies (including the existing low-carbon portfolio) that reduce carbon emissions and focus on achieving CalSTRS' risk-return objectives. Staff will present the findings and seek guidance from the Board.
- Global Equity will continue to work with its external investment managers to understand how they approach and assess the physical and transition risks of climate change, and how they recognize and measure their portfolio companies' progress on achieving stated net zero goals.

DIVERSITY, EQUITY & INCLUSION

- The Global Equity team is very diverse across various factors including work experience, education, background, ethnicity, age, and gender.
- When recruiting, open positions are posted at organizations known for their diverse membership in addition to posting at common venues such as local universities. The goal is to get a diverse pool of qualified candidates.
- Global Equity has allocated approximately $2 billion to minority and women-owned firms that invest with approximately 20 developing managers. In addition, 30% of the equity brokers Global Equity trades with are minority, women, or disabled veteran business enterprise (DVBE).
- Staff actively facilitates and participates in conferences and organizations to promote diversity, equity, and inclusion (DEI) in the investment industry. E.g., Beyond Talk, Girls Who Invest, P&I Diversity and Inclusion, NASP, Texas ERS Emerging Manager Conference, and Meketa's Emerging & Diverse Manager Roundtable.
- Many of Global Equity's external investment managers are leaders in DEI. If compelling opportunities arise, Staff will collaborate with them on DEI efforts (e.g., Beyond Talk).
- The team continues to support mentorship opportunities for diverse and underrepresented students through CalSTRS' Internship Program.
- The Global Equity Director chairs the Investments Branch Diversity Steering Committee, which provides direction for DEI initiatives within and external to CalSTRS.

FIXED INCOME

FAST FACTS

Assets: $34.4 billion as of 3/31/2022

Inception Date: 1987

Asset Management:

Internal Management: $30.5B (89%)

External Management: $3.9B (11%)

Number of External Managers: 5

Benchmark: 95% Bloomberg U.S. Aggregate-Custom/5% Bloomberg U.S. High Yield Cash Pay 2% Cap-Custom

2022/23 Return Assumption: 4%

Alpha Objective: 15bps

Fixed Income (FI) also manages programs and/or portfolios for the Fund or other asset classes. Each has their own unique return objective: cash management, protect against inflation and rising interest rates, an increase in market risk and a strengthening U.S. dollar.

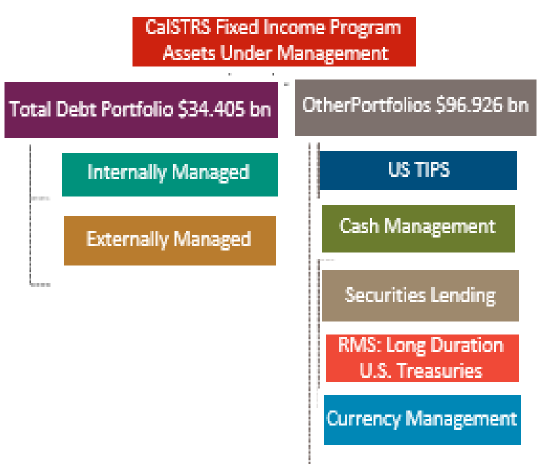
AUM: $96.9B as of 3/31/2022

Internal Management: $74.6B (77%)

External Management: $22.3B (23%)

PROGRAM DESCRIPTION

Established in 1987 the Fixed Income portfolio is managed both internally and externally using enhanced and active strategies. Fixed Income seeks to provide value through innovative/active asset allocation and bond selection taking advantage of internally and externally managed strategies. In addition, Fixed Income is responsible for several other portfolios and programs including Cash Management, Currency Management, Risk Mitigating Long Duration U.S. Treasuries, Securities Lending and U.S. TIPS.



INVESTMENT TEAM (25 + 4 vacancies)

Director: Glenn Hosokawa (24 years at CalSTRS)

Portfolio Managers: Cathy DiSalvo, Dan Depner, David Gold, Debra Ng, Geetha Arani, Ian McCarty, Rosie Lucchesini-Jack

Associate Portfolio Managers: Anthony Kennedy, Dante Malvini, Darin Yi, Sunny Dhillon

Investment Officers: Aidan Hunter, Earl Hsu, Julie Song, Kimmie Nicolas, Marina Kong, Matt Schott, Melanie Guzman, Nick Clyde, Stacey Reichenberg, Solomiya Williams, Tiffany Lau

Support Team: Allison Prior, Laurie Masters

New Positions for FY 22-23: 1

OUTLOOK FOR 2022-23

The massive coordination of monetary policy and fiscal stimulus the last two years has resulted in a multitude of unintended consequences impacting the economy and financial markets. Namely the debate surrounding inflation and whether such levels seen last year were transitory and a result of the global covid shutdowns, or more persistent and needing to be addressed via tighter policy, seems to have been resolved with central bankers around the globe expressing their determination to raise interest rates and stem the increase seen thus far. The result has been an upward surge in yields not seen in decades with global bond markets suffering their heaviest losses in decades resulting in negative returns to Fixed Income assets. For the first three months of the calendar year, US government debt has lost 5.5% and investment grade credit is down 7.4%. Provided monetary policy makers continue in their path to reduce stimulus, further losses are to be expected.

During the upcoming fiscal year staff will continue to navigate the changing landscape of tighter policy, higher interest rate and spread volatility while managing to our active risk budget range of ten to 60 basis points. With a 5% target allocation to private credit within Fixed Income, staff continues to research these strategies as they become available and when they fit our investment goals. We expect private credit strategies will remain a small part of the portfolio in the upcoming year, but potentially a more significant allocation in the future. Staffing and workload will challenge the team as they navigate the turbulence in the fixed income markets while performing due diligence on additional opportunities as well as responding to stakeholder divestment inquiries.

COLLABORATIVE MODEL 2.0

This past fiscal year, Fixed Income received approval to allocate 5% of its assets to Private Credit strategies. In preparation for this shift, staff contracted with a consultant to advise us on the opportunities, approach due diligence and manager vetting protocols. The private credit focus for Fixed Income will primarily be as a core Fixed Income replacement, namely capital preservation strategies in direct lending and subordinated capital. These strategies may be sponsor-backed or non-sponsored deals to primarily middle-market borrowers with a targeted 6-12% return. In addition, a smaller allocation to more opportunistic private credit may also be pursued. These strategies provide exposure across the capital structure with all-weather approaches to an economic cycle and therefore a higher targeted rate of return of 10-15%. Initially, both core and opportunistic private credit strategies will have a geographic focus of North America and Europe.

Going forward, we will continue to collaborate with other asset classes in addition to forging relationships to direct lending managers outside of Fixed Income. In addition to the direct lending push, Fixed Income is in the process of onboarding and funding a new leveraged loan manager.

RACE TO NET ZERO

Given the Fund's pledge of net zero portfolio emissions by 2050 or sooner, the measurement of scope 1 and scope 2 carbon emissions for 90% of the credit segment of the Fixed Income portfolio and 100% of the Treasury sleeve has been reported with total and normalized emissions very close to the benchmark. Going forward, staff will continue to research how best to incorporate CalSTRS net zero commitment into our portfolio management practices including, but not limited to, research into the impacts of alternative indices or index modifications, revisions to active risk budgets, restricting certain high-emitting companies and/or altering performance targets. Ongoing measurement of the portfolio's emissions exposure will allow staff to monitor and assess changes as well as forecast progress towards the fund's broader emissions reduction goals.

In addition to evaluating net zero emissions reductions, Fixed Income remains at the forefront of investors guiding the conversation on industry-wide climate related groups, including the Standards Board of the Climate Bonds Initiative and the International Capital Market Associations Green Bond Principles and we continue to be an active buyer of green bonds, sustainability bonds and social bonds.

DIVERSITY, EQUITY & INCLUSION

Fixed Income has a long-standing relationship with diverse manager LM Capital since the onset of the Core Plus program in 2007. Another Core Plus manager, created Employee Resource Groups (ERGs) to promote dialogue and foster inclusive spaces for employees who share similar interests in gender, ethnicity, lifestyle and/or perspectives. These include those targeted to Asian-Pacific Islander employees, women, Hispanic/Latin employees, those of African descent and the LGBTG+ community. When hiring a new manager, staff queries a potential manager on their culture and DEI efforts, including the way the firm looks to promote diversity of background, experience, gender, and skill across all staffing levels.

Diversity is a competitive advantage factor to be integrated and applied across the Total Fund as it (1) brings advantages to our workforce through increased profitability, enhanced creativity, and better problem-solving capabilities; (2) contributes to a sustainable investment portfolio that is aligned with the risk and return objectives of Fixed Income; and (3) drives innovation and change within the investment industry to support and collaborate on a global scale. Consistent with our fiduciary duties, Fixed Income will continue to contribute towards the following:

- Research, identify, offer, and implement DEI practices within Fixed Income and the Investments branch.
- Support the Diversity in Management Strategic Roadmap to enhance the management, monitoring and reporting of DEI progress and accomplishments.
- Apply innovative solutions to build an inclusive culture that will draw the best talent from the investment industry.
- Pursue and maintain emerging and diverse managers that generate performance aligned with CalSTRS financial and return objectives to meet benefit obligations.
- Collaborate with investment leaders on a global scale, to motivate positive momentum, including hosting and/or participating in diversity events.
- Assist in voluntary and mandatory reporting requirements

REAL ESTATE

FAST FACTS

Assets: $46.1B NAV as of 3/31/2022

Inception Date: 1985

Controlled Positions: $35B (78%)
Non-Controlled Positions: $10B (22%)
External Manager Portfolios: 51
Benchmark: Open End Diversified Core Equity (NFI-ODCE)
Alpha Return Objective: 70 basis points over benchmark

PROGRAM DESCRIPTION

CalSTRS Real Estate Program		
Core $27 Billion 60%	Value Add $9 Billion 20%	Opportunistic $9 Billion 20%

The Real Estate (RE) program strategy is predominately lower risk/return core strategies (60%) with additional allocations to higher-returning value add and opportunistic strategies. Direct investment structures with high levels of control (Collaborative Model) are preferred. Staff seeks out best-in-class investment managers and institutional capital to diversify the portfolio on a national, regional, or local level. The portfolio is well diversified by product type/geographies and includes debt investments to further reduce risk. Our long-standing partner relationships in control positions allow CalSTRS to take leadership positions on Board ESG and Diversity goals.

INVESTMENT TEAM (30)

Director: Mike DiRe (22 years at CalSTRS)

Portfolio Managers: Bruce Deutsch, Daniel Clark, Don Palmieri, Hank Thomas, Julie Donegan, Mike Thompson, Mitch Pleis, Sally Stocks

Associate Portfolio Managers: Christopher Preston, Greg Arendt, Kari Maynard, Michael McGowan,

Investment Officers: Cristine Chan, Emilio Navarrete, Gina Tavarez, Hiep Tran, Jake O'Hagan, Mauricio Smith, Michael Yager, Orintheo Swanigan, Samantha Phan, Tiffany Vispetto

Support Team: Alina Lindquist, Ashley Chapman, Kayla Ruotolo, Oksana Kovalchuk, Susan Daniel

New Positions for FY 22-23: 2

OUTLOOK FOR 2022-23

The predominant issues facing the RE asset class as we hopefully exit the pandemic are higher interest rates, inflation, and significant supply shortages of goods and labor.

Higher interest rates will lower investment demand and likely negatively affect pricing. Real Estate investments have historically been a strong hedge against inflation, which has and will continue to affect the cost of construction and operations. Limiting construction will lower supply and support valuations. Operating cost increases will negatively affect values; however, many of those costs are passed through to tenants. Additionally, most of our leases have CPI increases that will protect values. The labor and supply shortages are adding to inflation while also adding a risk to the businesses that lease space, thereby reducing demand.

Overall, we feel our portfolio is positioned to perform relatively well. We are focused on increasing investment in those areas that can adjust quickly to inflation. Residential assets where leases turn quickly and high demand asset classes like industrial and life science whose rental rates currently exceeding inflation are good examples. In addition, we are adjusting our leverage strategy to lower our portfolio's risk to increasing rates, both on our mortgage liabilities and our debt investments. Lastly, we are slowing our investment pace and selling non-strategic assets to position the team to be ready to take advantage of future opportunities.

RE does not anticipate any need for a policy change this fiscal year.

COLLABORATIVE MODEL 2.0

- The vast majority of the RE portfolio is currently in collaborative structures. Staff is expanding the use of highly-controlled joint ventures and strategic investments into real estate operating companies (REOC).
- Staff has hired an outside advisor to oversee CalSTRS REOC investments. This will improve our ability to seek out and react to additional REOC opportunities.
- Build on recent collaborative investments with other CalSTRS asset classes. (FI and SISS)
- Expand efforts to utilize CalSTRS strong investment reputation to build strategic partnerships with other LP partners and to grow existing REOC platforms.

RACE TO NET ZERO

- Several members of RE's ESG + Diversity committee are active participants in the net zero Green Team and additional internal working groups. After consulting with industry thought leaders and leading investment peers, they have devised methodologies to undertake an initial measurement of the carbon footprint of our large and complex property portfolio.
- An important new tool in this measurement process is the requirement that the managers of CalSTRS' direct real estate holdings submit building-level carbon emissions data to GRESB (formally known as the Global Real Estate Sustainability Benchmark). GRESB is a widely recognized industry group that helps track and benchmark real estate ESG practices and data. CalSTRS became an Investor Member of GRESB in 2022.
- RE is actively working to improve the sustainability of our portfolio and reduce the overall level of its emissions through the development of "Green" buildings". These properties are designed with new technologies to reduce their carbon footprint.
- The RE team continues to engage with its investment manager partners to challenge them to improve sustainability and enact emissions reduction plans that will align with our net zero goals.
- Green buildings, such as those certified by LEED or similar programs, are viewed in the Real Estate industry as one type of "low-carbon" investments. The CalSTRS Real Estate portfolio already includes $14B of assets that we classify as "green".

DIVERSITY, EQUITY & INCLUSION

- We ensure that our own internal hiring practices proactively promote fairness and conditions that will help build a well-qualified, diverse, and inclusive team. Among our accomplishments, we have hired or promoted four women to leadership positions in recent years.
- For the second successive year, RE increased its allocation to Belay Investment Group. Belay is a majority woman-owned firm that invests in emerging and diverse manager platforms. A recent notable investment was made in collaboration with SISS to help fund an emerging and diverse manager that provides affordable housing to traditionally undersupplied diverse neighborhoods in central Los Angeles.
- CalSTRS RE has used its ownership position and influence to encourage our management teams to promote CalSTRS' diversity, equity, and inclusion goals.
- CalSTRS staff regularly participates in industry-wide diversity and inclusion programs. For example, Real Estate has a leadership role in supporting the PREA diversity initiatives and is helping promote DEI initiatives at NCREIF and other industry conferences.

PRIVATE EQUITY

FAST FACTS

Assets: $46.6B as of 03/31/2022

Inception: 1988

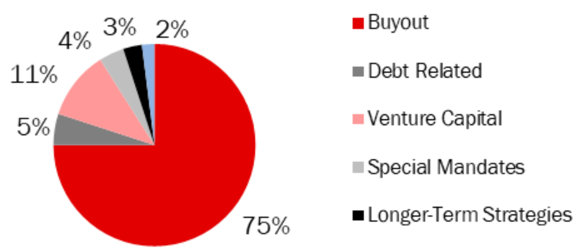
Blind Pool Partnerships: $37.8B (81%)
Co-investments: $7.8B (17%)
Other Co-investments: $1.0B (2%)
Number of Active Partners: 122

Benchmarks: (1) Customized State Street Global Exchange℠ Private Equity Index (GXPEI); and (2) MSCI ACWI IMI plus 150 basis points.

Capital Market Assumptions:
Return: 9%
Risk: 24%

Long Term Target Allocation: 13%

Asset Class and Sub-Asset Class % as of 12/31/2021



INVESTMENT TEAM (28)

Director: Margot Wirth (21 years with CalSTRS)

Portfolio Managers: Aizaz Ali, Georgia Pappas, Robert Ross, Seth Hall, Tom Baker

Associate Portfolio Managers: Danny Fuller, Delfina Palomo, Geetika Misra, Henry Ha, Josh Ungar, Katherine Rodota, Nadiath Adechoubou

Investment Officers: Arthur Ma, Christopher Moore, Christopher Singh, Dominic Latino, Khoi Nguyen, Miguel Uribe, Nick Koehler, Ryan Brown, Samantha Pollick, Scott Huckell, Tyler Rico, Vanessa Morris, Wayne Chung

Support Team: Jessica Singh, Nancy Vang

New Positions for FY 22-23: 2

OUTLOOK FOR FY 2022-23

In the wake of capital market price declines, concerns over slowing economic growth, and inflation, activity in the private equity industry is falling from the record levels experienced in the preceding fiscal year. Deal volume is decreasing and the fund-raising fervor of the preceding several years is cooling. Many institutional private equity portfolios are at or above their allocation targets due to the "denominator effect" further dampening activity.

Private equity investing involves long time horizons and patient capital. Staff believes that the long-term strategies and plans for CalSTRS's Private Equity program remain intact. That said, Private Equity is considering and, in some cases, implementing shorter-term tactical shifts regarding commitment pacing and portfolio composition. Staff is identifying potential stress points in the portfolio in the event of ongoing capital market turmoil while also strategizing for potential high return investment opportunities that tend to result from such occurrences.

Private Equity policy changes adopted last year position the program well for many years to come with an increased emphasis on co-investing. Staff believes that the program's co-investment efforts would be further enhanced by certain technical adjustments regarding when third-party concurring opinions are required. As discussed in the following section, the contemplated fund-wide "Opportunity Portfolio" would enable the sourcing of larger scale private asset deals that would, in many instances, broaden horizons for both the Private Equity portfolio and the overall CalSTRS portfolio.

COLLABORATIVE MODEL 2.0

Having increased the percentage of co-investments from less than 5% to over 20% of commitments from 2019 through 2021 (Collaborative Model 1.0), Private Equity intends to further increase this metric to 25% to 35% (Collaborative Model 2.0). These objectives are always subject to the availability of high-quality deal flow.

Private Equity is well positioned to accomplish the Collaborative Model 2.0 objectives, having built a highly capable specialist team over the last several years and having impressed business partners with the team's professionalism, knowledge, efficiency, and reliability. The resources provided and policy changes enacted have been put to good use and the team will continue to build upon the already established platform.

Private Equity's co-investment platform could be further employed beyond the goals stated above to source, analyze and execute appealing larger-scale investment opportunities within the framework considered for the fund-wide Opportunity Portfolio. Participating in the larger end of the private asset investment market offers several potential advantages –

volume, diversification, company staying power, lower volatility, reduced competition for deals, and proportionately lower fees and incentives.

Anticipating Collaborative Model 3.0, Private Equity is building skills and planning to increase capabilities to transact secondary deals (both partnerships and co-investments). No associated policy issue for this will arise in the coming fiscal year. Staff continues striving to become better and more sophisticated in co-investments and other forms of direct investing. With increased resources, staff is now serving as observers on corporate boards to better monitor larger portfolio positions and to further advance knowledge of operating companies in general.

RACE TO NET ZERO

Private Equity believes its industry will play an important role in society's transition to a decarbonized future. The private equity industry excels at providing "transformational capital" to effectuate substantial, rapid change to corporate entities. The private equity industry will play an ever-increasing role in providing capital to companies on the front line of directly reducing greenhouse gas emissions. Additionally, the industry has always been instrumental in establishing and following best industry best practices across all sectors which will increasingly include carbon disclosure and reduction.

CalSTRS continues to collaborate with ILPA in molding the private equity industry's response to climate change and in particular, carbon disclosure. Staff believes that privately held companies will likely follow rather than lead their public company counterparts concerning carbon disclosure practices, but that large private companies owned and managed by private equity firms will not be far behind.

Private Equity collaborates extensively with SISS, especially with respect to sourcing, analyzing, and executing private asset co-investments opportunities with a sustainability theme.

DIVERSITY, EQUITY & INCLUSION

Private Equity highly values diversity and has successfully maintained and recruited a team with a high-level gender, ethnic, racial, and other forms of diversity.

Private Equity collaborates with ILPA on industry initiatives and issues related to diversity as well as with other diversity-focused organizations such as NAIC, NASP, AAIM and NAA.

Private Equity seeks and promotes diversity amongst its investment partners. Such efforts are multi-faceted and include (but are not limited to) the funding of emerging mangers (which tend to be substantially more diverse than established legacy organizations). To date, Private Equity has made commitments targeting such managers totaling $2.4B.

An additional estimated $4.1B in commitments have been made to partners with a majority ownership by diverse individuals.

SUSTAINABLE INVESTMENT & STEWARDSHIP STRATEGIES (SISS)

FAST FACTS

Assets: $10.6 billion as of 3/31/2022

Inception Date: 1978 (Corporate Governance)
Internal Management: $5.73B (54%)
External Management: $4.83B (46%)
Number of External Manager Portfolios: 10
Benchmark: CalSTRS Custom MSCI All Country World Investable Market Index (MSCI ACWI IMI)
Target Return & Current Active Risk (SISS Public Portfolio): 45 bps target return; 136 bps forecasted active risk.

PROGRAM DESCRIPTION

The SISS (formally known as Corporate Governance) unit was established in 1978 and is responsible for CalSTRS sustainable investment related activities. The unit is organized around three focus areas, including the implementation of CalSTRS net zero portfolio emissions, by 2050 or sooner, pledge:

Sustainable Investment: Portfolio management includes public market strategies (activist, sustainability-focused and risk-controlled low-carbon) and private market strategies with attractive risk-return characteristics and demonstrable positive social and environmental outcomes.

Stewardship: Activities to align the financial markets with CalSTRS long-term investment horizon. Primary activities include proxy voting, portfolio company engagement and regulatory/legislative engagement relating to material financial and ESG factors that affect sustainable business practices.

Strategic Relations: Outreach and communications to a wide range of internal and external audiences with a focus on CalSTRS investments and engagements.

INVESTMENT TEAM (23)

Director: Kirsty Jenkinson (3yrs CalSTRS; 27yrs total)
Portfolio Managers: Aeisha Mastagni; Brian Rice
Associate Portfolio Managers: Jackie Liu; Nicholas Abel; Philip Larrieu; Sarah Maile
Investment Officers: Douglas Chen; Gabriel DeMesa; Ilena Montanez; Joakim Mahlberg; Matthew Saha; Michael Wilson; Nile Garritson; Rajveer Dhanoa
CEA: Michael Weston
Support Team: Juliet Baker; Samuel Hernandez
Vacancies: 5
New Positions for FY 22-23: 2

OUTLOOK FOR 2022-23

SISS believes there are significant long-term tailwinds – driven by public policies, technology, and consumer preferences – supporting the sustainable investment efforts of the unit. The recent performance of sustainability-oriented investment opportunities has been mixed, with rising interest rates negatively impacting longer duration growth investments – which multiple SISS strategies tilt towards. However, inbound asset flows continue to increase, bolstering performance. Furthermore, many governments and regulatory agencies around the world are requiring or considering mandatory integration, including labeling and or reporting of sustainability considerations, into investment management. These new rules and regulations also provide strong support for CalSTRS Stewardship efforts to influence more sustainable business practices and markets.

The team's investment priorities continue to focus on building the SISS Private Portfolio in collaboration with other private asset classes and within the SISS Public Portfolio, diversifying the pool of sustainability managers and rationalizing activist strategies.

A principal challenge in the next fiscal year will be balancing the allocation of resources between investment due diligence, escalating stewardship initiatives, and the need to prioritize the extensive opportunities being presented to CalSTRS as the world's focus on sustainability continues to grow.

COLLABORATIVE MODEL 2.0

The SISS Private Portfolio is structured to advance the goals of the Collaborative Model through its "Scaling" portfolio sleeve and its "New Opportunities" portfolio sleeve. During fiscal year 21-22, the SISS team allocated inaugural capital commitments to each sleeve of this new portfolio.

The Scaling portfolio leverages existing CalSTRS partnerships to increase sustainability-focused co-investment and joint venture opportunities at preferred economics with CalSTRS private asset classes (Private Equity, Real Estate, and Inflation Sensitive). The Scaling portfolio currently focuses on collaborating with Real Estate to expand affordable housing joint ventures and green building investments. With Private Equity and Inflation Sensitive, the Scaling portfolio focuses on expanding low-carbon solution co-investments (e.g., in renewable energy, sustainable transport, technology-aided resource efficiency).

The New Opportunities portfolio allows SISS to explore new CalSTRS sustainability-focused partnerships to take advantage of unique alpha opportunities where advantaged economics may exist. At times, these investments could include opportunities that do not 'fit' cleanly into existing private asset class policies and benchmarks. The New Opportunities portfolio currently focuses on private equity low-carbon solutions and opportunistic climate infrastructure. Investments within this portfolio contribute to the Innovative Strategies team's allocation.

COLLABORATIVE MODEL OUTLOOK

Capital Deployment: The SISS Private Portfolio intends to commit at least $1 billion this next fiscal year. Staff anticipates a higher proportion of underlying investment within the New Opportunities portfolio, given its significant pipeline.

Potential Focus Areas: SISS will continue to evaluate private market low-carbon solutions, flexible capital structures for opportunistic climate infrastructure, and innovative investments through partnership investing and co-investing to decarbonize hard-to-abate emission sectors. It is worth noting that as co-investments increase operational complexity, additional operational resources might be required as the team anticipates an increase in co-investment deal flow.

Policy Considerations: Higher investment allocations within the SISS New Opportunities sleeve create the potential for SISS to approach the upper limit of its allotted capacity granted within the Innovative Strategies portfolio. Staff will monitor pipeline development and proactively communicate with colleagues, Investments leadership and the Board as needed, especially in light of broader discussions regarding a new, total fund Opportunities Portfolio.

Further Private Asset Class Collaboration: SISS will build upon successful cross-asset class collaboration to further develop the Scaling Portfolio pipeline. In addition, SISS intends to collaborate with CalSTRS private asset classes to establish an external pool of consultants as an extension of staff to assist with more complex transactions (i.e., a greater proportion of co-investments, joint ventures, and direct investments) in line with the Collaborative Model.

RACE TO NET ZERO STEPS

SISS Public Portfolio: SISS measured the portfolio's carbon footprint and found emissions to be 60% lower than the CalSTRS Custom ACWI IMI Index. This can be attributed to the portfolio's allocation of $4.6 billion to a low-carbon index. This low-carbon index achieves significantly lower emissions than the parent index through over/under weighting securities based on carbon emissions intensity, while minimizing tracking error.

$1.1 billion is allocated to a low-carbon transition readiness strategy, a risk-controlled investment in public companies most prepared to succeed in the transition to a net zero economy.

$3 billion is invested in sustainability-focused public equity managers who look to invest in companies that are directly and indirectly supporting the transition to a net zero economy.

SISS Private Portfolio: As described above, the portfolio is actively seeking to expand investments in attractive opportunities enabling a net zero emissions economy.

SISS is developing, in consultation with each asset class, a framework to help classify investments across the total fund as green (net zero aligned), olive (transitioning), or grey (not yet transitioning or not classified). The framework is intended to help evaluate the low-carbon alignment of both public and private market investments, including co-investments.

Stewardship: The SISS team is responsible for escalating CalSTRS climate and net zero oriented engagements with companies, regulators, and policy makers. The SISS proxy voting team continues to hold company directors accountable for corporate climate risk management. Companies are expected to provide climate risk reporting aligned with the Taskforce on Climate-Related Financial Disclosures (TCFD) and provide scope 1 or scope 2 emissions disclosure. High emitting companies are also expected to set appropriate targets to reduce greenhouse gas emissions. The SISS Stewardship team will continue to escalate engagement strategies to influence portfolio companies and the broader market towards more sustainable business practices that create long-term value.

DIVERSITY, EQUITY & INCLUSION

SISS Team: Two SISS team members sit on the CalSTRS Diversity Steering Committee and support Investment Branch diversity efforts including reporting, events, and external manager initiatives.

Recruiting is an ongoing challenge for the SISS team given the very strong demand for sustainable investment professionals across the global investment industry. While recruiting is a challenge, the team aims to continually increase diversity as part of the process. The current team benefits from national and cultural diversity with multiple team members having been born outside the U.S. and at least five languages spoken fluently.

Stewardship: Diversity, equity and inclusion continue to be a Stewardship Priority under Board Effectiveness through CalSTRS collaboration with the Human Capital Management Coalition (HCMC), the 30 Percent Coalition, and the California Investors for Effective Board Diversity. Additionally, DEI is addressed in proxy votes, including support for racial equity audits and the removal of employee contract clauses which entrench discriminatory behavior.

SISS Portfolio: SISS does not have a formal emerging manager program, but four (out of 13 total) SISS external managers are diverse managers. In addition, all sustainability-focused managers in the SISS Public Portfolio have extensive diversity and inclusion programs. These programs seek to strengthen policies and activities in gender and ethnic diversity and include firm-wide unconscious bias training and staff and stewardship-related diversity goals. The SISS team also intentionally requests that potential new partners provide a written policy addressing workplace diversity, equity, and inclusion as well as supporting implementation practices.

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INFLATION SENSITIVE

FAST FACTS

Assets: $16.1 billion as of 3/31/2022

Inception Date: 2008 – part of the Absolute Return asset class
2014 - renamed Inflation Sensitive

Asset Management:

Internal Management: $4.47B (28%)
External Management: $11.62B (72%)

Number of External Manager Portfolios: 21

Benchmark: The weighted blend of the Bloomberg U.S. Government Inflation Linked Bond Index, Bloomberg Commodities Index, CPI +400 (quarterly lagged), NCREIF Timberland Fund and Separate Account Index (NTFSAI – Value Weighted, net), and CPI +300 (quarterly lagged). New strategy benchmarks will be blended with the index as they are added.

Alpha Return Objective: 15 to 25 basis points.

PROGRAM DESCRIPTION

The Inflation Sensitive asset class was established in 2014. The asset class is a hybrid currently comprised of: Infrastructure, Commodities, U.S. TIPS, Timberland, and Agriculture. Approximately 50% of the portfolio is comprised of Infrastructure investments with most of the team focused on that strategy. Additional time is spent, as opportunities arise, on Timberland and Agriculture investments with one team member devoted to Commodities and U.S TIPS portfolio oversight. The team is also reviewing private infrastructure debt opportunities.

INVESTMENT TEAM (13)

Director: Paul V. Shantic (28 years at CalSTRS)

Portfolio Manager: Charles Fitzpatrick

Associate Portfolio Managers: Daniel Lau, John-Charles Gish, Michael Warmerdam

Investment Officers: Christopher Ellis, Guldip Dhillon, Jackee Mwiti, Madison Doris, Mohammad Quader, Selina Muasya, Taylor Tsao

Support Team: Richard Novoa

New Positions for FY 22-23: 2

OUTLOOK FOR 2022-23

Inflation Sensitive currently comprises approximately 5% of the total CalSTRS Fund and expects to reach its 6% AUM goal by the next asset allocation exercise in 2023. We continue to focus portfolio expansion on the acquisition of Infrastructure investments using our Fund, Account and Co-investment structures. Within that mix we have increased our allocations to existing Account structures, in keeping with the Collaborative Model, and are focusing our Fund commitments among a smaller and more select group of managers. Infrastructure assets now represent approximately 50% of the Inflation Sensitive portfolio since we have increased our allocation to U.S. TIPS and Commodities due to increasing inflation expectations over the last two years. Infrastructure investments will continue to increase and represent a critical and stable part of the Inflation Sensitive portfolio. Inflation Sensitive will continue to receive periodic allocations for the U.S. Treasury Inflation Protected Securities (U.S. TIPS) and Commodities sub-portfolios over the coming fiscal year. We expect that not all parts of the portfolio will outperform their benchmarks for the coming fiscal year. If inflation remains elevated throughout 2022, assets that reprice more slowly due to increased inflation will be impacted.

In July 2022, we expect to bring investment policy changes to the Board for both the Inflation Sensitive Policy and the Infrastructure Policy. Key changes will deal with manager concentration limits, direct investments, debt, and debt structures, the movement of some policy language to internal Guidelines in keeping with previous Board policies, and ministerial clean up language throughout both of the policies. These changes are a continuation and refinement of the Collaborative Model and our approach to managing risk and generating alpha for the Fund.

COLLABORATIVE MODEL 2.0

The Inflation Sensitive unit continues to focus portfolio growth through further use of our Account and Co-investments investment sleeves. These are low cost/high control structures with better return profiles and very much in keeping with the Collaborative Model. In addition, the team worked diligently to launch a renewables platform in the form of a C-Corp of 4.5 GW of solar and battery storage projects with two existing partners. The unit still has a cautious approach to core assets as pricing continues to be aggressive and have judiciously begun to focus on value-added and opportunistic investments.

Agriculture and Timberland opportunities are limited as the structures around many of these investments do not seem suitable for the risk incurred. We still maintain contacts in the sub-asset class, but the return profile is not, in our opinion, favorable at this time.

Allocations to Commodities will slow as we have hit our policy allocation limits. Market uncertainties abound as the Federal Reserve raises rates, supply chains are still challenged, and geopolitical events affect all aspects of financial markets. A higher allocation will be going to U.S. TIPS. We have added at least one additional commodity contract type to our internal portfolio and have more under review.

RACE TO NET ZERO

The Inflation Sensitive unit has invested in low-carbon solutions for several years. This includes renewable power, agriculture, timberland, and LEED certified structures. We are actively involved with the CalSTRS Private Markets Net Zero Team and are working with that team and our managers to develop metrics around carbon measurement. Even our most advanced managers are still compiling and sifting data for their first reports. Private assets either individually acquired or as part of a portfolio are more bespoke and idiosyncratic than public markets and some of our managers are beginning to develop methodologies around net zero. However, there is no broad agreement around emissions measurement and clear pathways towards the net zero goals. All our managers are receiving questions and pressure from their clients around net zero measurement and other ESG aspects of their portfolios. The larger managers have put together staffs of specialists in this area. We will continue to look towards their thought development in this area as well as working with other CalSTRS asset classes and internal research to figure out the best way to approach and measure these emissions. As investment professionals in our field, we are knowledgeable about net zero and its importance. However, we are not experts in terms of the science and the field in general. Therefore, it is incumbent upon us to reach out to experts and professionals in the field to look at the best science and measurement tools available with the recognition that things will shift and change over the coming years. Being flexible and thoughtful will be key towards CalSTRS' forward progress.

The unit continues to collaborate with SISS on its private portfolio to develop assets and managers that offer low-carbon solutions around promising technologies in energy, water and waste management, and agriculture. Many of these strategies do not fit our risk profile but we have experience in looking at some of these assets and aid and advise SISS, including sitting on Investment Review Committees for new investment opportunities.

DIVERSITY, EQUITY & INCLUSION

We have staff representation on our internal diversity team and integrate questions around diversity into our manager due diligence reviews. Staff training and preparation for advancement is critical to the unit's growth and expertise developed under the Collaborative Model framework. Therefore, training our current staff to be ready to pursue promotional and educational opportunities (e.g., MBA, CFA, CAIA and other designations) to expand their skill set is a necessity along with on-the-job training and mentoring by more senior staff. Our diversity is a competitive advantage leading to enhanced creativity and problem solving, which in the end, leads to better outcomes.

We continue our engagement and outreach efforts with: Beyond Talk, NAA, NASP, NASP/MIDA Africa, along with our own CalSTRS sponsored diversity efforts. We have added one diverse manager and are in contact with a handful of others on a regular basis and are watching their capabilities develop.

INVESTMENT STRATEGY & RISK (ISR)

FAST FACTS

Total Fund and Risk Management's goal is to improve the risk/return of the CalSTRS fund with short- and long-term Total Fund positioning through research, insights, reporting, and cross asset-class initiatives.

Innovative Strategies' primary goal is to research and invest in strategies that improve the risk and return profile of the Total Fund.

Innovative Assets as of 3/31/2022: $3.07B

Inception Date: May 2019

External Managers: $3.07B (100 percent)

External Manager Portfolios: 15 managers &

8 co-investments

Benchmark: A short-term blended performance benchmark comprised of underlying strategies and a long-term benchmark of the assumed actuarial rate of return for the Fund at 7%.

Total Fund Alpha return objective: 0.40% over the CalSTRS custom blended strategic benchmark.

OUTLOOK FOR 2022-23

With the changing economic outlook due to the global pandemic resulting in central bank easy monetary and fiscal policies, managing through this environment will continue to be challenging.

In addition, the multi-year recovery appears to be fading as the uncertain inflation outlook and slowing economic growth point to increased recession risk. Monetary policy, inflation risk, recession concern, and geopolitical news introduced and will continue to introduce volatility to all asset classes. However, volatility is accompanied by opportunities. Some asset classes will outperform in certain economic environments and others may become more fairly priced. The goal is to work with all asset classes to navigate the economic and market uncertainty by rebalancing active weights for the Total Fund.

In preparation for the Asset Liability Management (ALM) Study beginning in January 2023, a streamlined and modernized Investment Policy and Management Plan (IPMP) will be presented to the Investment Committee in FY 22/23. Revisions will include enhancements to relevant asset classes, processes, and risk metrics.

INVESTMENT TEAM (12)

Director: Geraldine Jimenez, 7 years at CalSTRS (32 years in industry)

Portfolio Managers: Benjamin Wang, Glen Blacet, Josh Diedesch

Associate Portfolio Managers: Anthony Schmitz, Matt Lisonbee

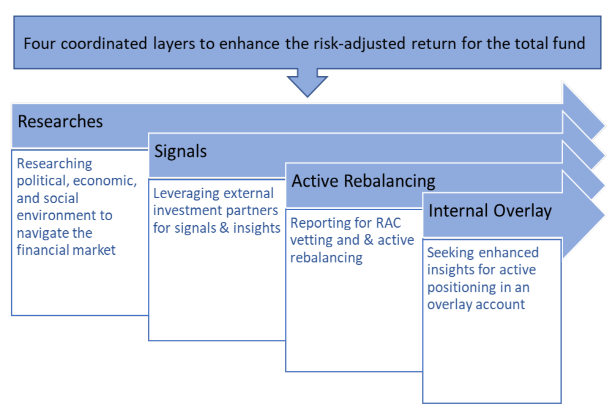
Investment Officers: Angela Tran, Debora Green, Kate Wallen, Kristian Altier, Matthew Toepel

Support Team: Kylee Neidigh

New Positions for FY 22-23: 3 positions

PROGRAM DESCRIPTION

The ISR team focuses on the CalSTRS portfolio through a One-fund approach with cross asset-class initiatives, smart rebalancing, risk management, the incubating of investments strategies, and overlay positioning. The ISR team focuses on the longer-term ALM study and shorter-term tactical Total Fund positioning with risk budgeting and opportunistic investing by gathering and reporting on market, political, economic, and social turbulences to help inform the Risk Allocation Committee's (RAC) cash management and rebalancing decisions.



COLLABORATIVE MODEL 2.0

The ISR team's Collaborative Model focuses on:

- One-fund initiatives and strategies to take advantage of cross asset class opportunities while managing risks including liquidity requirements and leverage optimization.
- Collaborating with internal teams and external investment partners for research, tactical positioning, and overlay strategies.
- Seeking partners for potential investment ideas and opportunities for JV's, co-investment, and "enhanced economics" such as revenue sharing as well as identifying and investing in new opportunistic strategies to capitalize on potential market dislocations.
- Enhancing risk analytics, reporting, and modeling new investment opportunities and structures in the 2023 Asset-Liability (ALM) Study. As investment opportunities like Private Credit continue to grow in scale, ALM analyses and portfolio construction need to reflect these opportunities.

RACE TO NET ZERO

In collaboration with the SISS team, the ISR team has a major role in the net zero strategy research and implementation, playing an active role on several internal working groups to support GHG emissions measurement and the analytical support of different implementation options. The ISR team also has a primary role in incorporating CalSTRS net zero commitment into the 2023 ALM Study.

Low-carbon solutions are comprised of many different metals and minerals which are utilized throughout various supply chains. The metals and mining industry will continue to be a pivotal component of modern society as we transition towards a low-carbon economy. The Innovative Strategies portfolio has an allocation to a general partner that purchases royalties and commodity streams from junior miners primarily located in North America, Australia, and Scandinavia. They expect 50% of the deals to be in metals needed for a transition to a low-carbon future (cobalt, lithium, nickel, copper, etc.).

DIVERSITY, EQUITY & INCLUSION

The ISR Director is a member of the CalSTRS Investment Office Diversity Steering Committee, providing direction and oversight of diversity and inclusion initiatives within and external to CalSTRS. She actively participates in mentoring and on industry panels and events to promote diversity within the investment industry. ISR staff will support engagement and outreach opportunities within Diversity in Investment Management including but not limited to CalSTRS Beyond Talk, CalSTRS Affinity Group Tour and CalPERS/CalSTRS Diversity Forum.

To promote inclusivity, the team focuses on providing opportunities for contribution and growth of every team member through stretch assignments and actively contributing to team discussions. As the team grows, we seek diverse candidates from different backgrounds and ethnic identities by (a) ensuring the pool of qualified candidates includes a sufficient degree of diversity, and (b) considering how differences can be leveraged to improve effectiveness.

To ensure diversity, equity, and inclusion (DEI) efforts of external partners, the Innovative Strategies team has a diversity section in their standard due diligence questionnaire that prospective managers must complete prior to the team starting in-depth due diligence. Staff uses an industry standard Diversity Metric template and follows guidelines to motivate GPs to adopt actions that advance DEI over time. During the on-site due diligence, staff engages with the manager on their diversity efforts. All asset managers in the Innovative Strategies portfolio have a diversity program.

One GP that stands out as being very committed to fostering a culture of diversity, equity, and inclusion actively participates in several diversity-focused recruitment initiatives, some of which include the following: OppNet Ignite, a summer internship program that supports first-generation college students of color and their exposure to careers in alternative asset management and Synergist, a series of networking, recruiting, and mentorship events for young women seeking to develop their investing careers. This GP also applies their DEI policy across other corporate practices, including compensation and benefits, professional training and promotions, transfers, and social/recreational programs. Currently, women represent 34% and underrepresented groups represent 21% of the firm's total employees.

RISK MITIGATING STRATEGIES (RMS)

FAST FACTS

Assets: $31.6 billion as of 3/31/2022

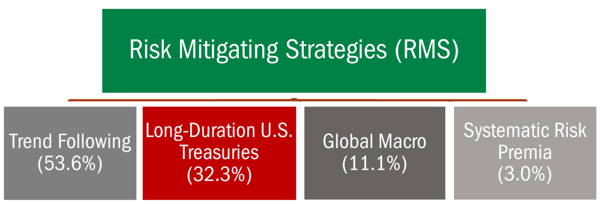
Inception Date: July 2016

Asset Management:

Internal Management: $10.2B (32.3%)
External Management: $21.4B (67.7%) Number of External Manager Portfolios: 13

Benchmark: RMS asset class uses a blended performance benchmark comprised of the actual weightings for each of the strategies utilized in the portfolio multiplied by their respective benchmarks.

PROGRAM DESCRIPTION



The objective of RMS is to provide protection to the Total Plan during deep and extended equity market downturns. The portfolio is currently composed of trend following, long-duration U.S. Treasuries, global macro and systematic risk premia (SRP).

RMS maintains a level of portfolio risk that is prudent and allows the program to fulfill its mandate of providing diversification over a full business cycle. RMS' stated objective is to generate 20 basis points of positive relative return versus the policy benchmark.

INVESTMENT TEAM (10)

Director: Steven Tong (35+ years tenure at CalSTRS)
Portfolio Managers: Jeffrey Jaro, Carrie Lo
Investment Officers: IBK Aina, J.P. Blardony, Dianna Dean, Stefanie Meza, Michel Paniagua, Denny Young
Support Team: Karen Pham
New Positions for FY 22-23: 2

OUTLOOK FOR 2022-23

At the time of writing, prolonged inflation, rising interest rates, elevated volatility, and lower growth rates globally present challenges to traditional asset classes. This is the type of environment that certain strategies within RMS should be able to find opportunities. The trend following strategy, for example, should continue to benefit from these events. However, it is vulnerable to any trend reversals that may occur over the year. Long duration U.S. Treasuries are expected to continue to serve as a first line of defense when investors immediately seek relatively safe assets. However, the effectiveness of this hedge will be challenged by continued central bank interest rate hiking and sustained inflation which can reduce bond prices. For global macro, this environment creates market dislocations and asset price dispersion across regions that can benefit this type of strategy. Systematic risk premia is expected to benefit from a return to investors' focus on fundamental investing spurred by the higher inflationary environment and monetary policy normalization. However, rotations in risk premia remain the largest risk.

Across the portfolio, the largest challenge continues to be identifying appropriate managers with sufficient capacity. Another major challenge is to attract the necessary staff to execute the work needed to achieve RMS's goals. One of these goals is to add strategies or managers that will further offer protection to the Total Plan during periods of equity market turmoil. Ideally, these additions would also participate in equity up-markets and complement existing RMS strategies by performing when other strategies do not.

COLLABORATIVE MODEL 2.0

The Collaborative Model provides an opportunity for staff to reduce the costs of running the RMS program by leveraging the expertise of its external partners including its advisor, managed account provider and investment managers. Potential means of doing so broadly include improving fee structures, expanding the opportunity set of investment strategies and increasing the internalization of asset management.

Any ability for staff to negotiate lower fees with investment managers represents a meaningful opportunity to reduce costs. Since the inception of RMS in 2016, staff has diligently monitored the costs of running the program and has sought to restructure the fees paid to investment managers opportunistically. Current efforts in this area are focused on identifying the appropriate split of profits between CalSTRS and each manager in the portfolio and structuring the fees in a manner that is fair and acceptable to all parties.

A larger opportunity set of investment strategies may also support cost reductions. Staff is currently researching additional investment strategies that would complement the existing four. Some of these strategies are supported by academic research but have relatively short track records and limited assets under management. These characteristics may enable staff to negotiate more attractive terms.

Beyond FY22-23, staff will look to enhance its internal management capabilities. This will entail working with the advisor to design and conduct a feasibility study to determine the appropriate opportunity set. This may include bank products, manager seeding and internal strategy design and implementation.

RACE TO NET ZERO STEPS

RMS is committed to helping CalSTRS tackle the most urgent issue of our time – climate change. As part of the Board's pledge to achieve a net zero emissions portfolio by 2050, we aim to find climate-aware solutions for the RMS portfolio that create real-world impact while still allowing the program to achieve its mandate of mitigating Total Plan risk.

RMS has taken the important first step of measuring GHG emissions from the portfolio's holdings of cash, equities, corporate credits, and U.S. Treasuries. RMS has also begun to study the current state of low-carbon investing in the alternatives space. Staff conducted a survey of the largest systematic managers to learn how low-carbon objectives are being integrated into firm operations and investment processes. Lastly, staff is leveraging its relationships with current managers, some of whom are net zero thought leaders, to offer teach-ins to Investments staff.

RMS faces unique challenges to achieving a net zero portfolio. The program invests in long-short strategies where portfolio exposures can change quickly depending on market conditions. The portfolio also makes extensive use of derivative instruments. Currently, there is no consensus within the investment community on how to treat these aspects of alternatives investing in the context of constructing a net zero portfolio. Staff continues to research these and other features specific to the RMS program to determine which, if any, part of the portfolio should be considered for emissions measurement and reduction.

Challenges notwithstanding, staff is moving forward with an agenda that aims to produce a net zero investment program that is appropriate for RMS. First, staff will engage with an external consultant charged with determining the parameters of such a program. Second, staff will examine manager frameworks that consider ESG factors. Lastly, RMS will continue to use its influence in the alternatives investing space to highlight the critical importance of net zero alignment.

DIVERSITY, EQUITY & INCLUSION

Diversity has been a pillar of RMS since it was established in July 2016. When recruiting, at least one or two women participate on the interview panel and usually all are ethnically diverse.

Staff has been active on the Diversity Team as well. This includes contributing ideas to influence the investment community and develop definitions for diversity effort terms. Furthermore, staff routinely emphasize the importance of diversity to its external partners. For instance, staff asked an investment manager about whether its recent recruitment efforts attracted diverse candidates. It had not despite the firm's desire to do so. This led to a broader conversation about the recruitment and retention of a diverse workforce. From this, the firm decided to create a new position to focus on diversity, established an internship program with a university to reach underrepresented students, and hired a woman as a junior researcher with the intention of developing her career.

Staff also seeks to participate and speak at conferences, webinars and podcasts, including AAAIM. Staff also participated in the 100 Women in Finance's Global Fund Women emerging managers conference for women-run funds and the Texas Retirement System / Employee Retirement System of Texas emerging manager conference. These events showcase the diversity of CalSTRS and hopefully inspire women and people of color to seek roles in and advance in the industry. Four of RMS's 13 external managers include investment teams where women and/or people of color have significant leadership roles. Consideration of a firm's diversity and diversity efforts is part of the RMS due diligence process for managers and service providers and will soon include a diversity survey. RMS's first allocation to a women-owned investment manager has been approved by its internal advisory committee and is expected to launch during the 22-23 FY.

INVESTMENT OPERATIONS

FAST FACTS

Assets: $ 323.6 billion as of 3/31/2022

Asset Mix	In Millions	%
Public Equity*	137,136	42.4
Real Estate	46,074	14.2
Private Equity*	46,614	14.4
Fixed Income	34,405	10.6
Risk Mitigating Strategies	31,597	9.8
Inflation Sensitive	16,091	5.0
Cash	8,198	2.5
Innovative Strategies	3,070	1.0
Strategic Overlay	382	0.1
Total	**$323,567**	**100%**

* Includes Sustainable Investment & Stewardship Strategies Public and Private investments total of $10.6 (in Millions).

Asset Management:

Internal Management: $156.6B (48%)

External Management: $167.0B (52%)

Number of External Managers Portfolios: 182

PROGRAM DESCRIPTION

Investment Operations was formally established in 1987 and is an essential component of the Investment branch. Investment Operations focuses on a multitude of middle-office functions to support internal and external portfolio activities across all asset classes, such as pre-settlement and post trade portfolio controls, and cash flow management to ensure fund liquidity to meet member obligations. Additionally, Investment Operations manages the CalSTRS global custodian relationship to protect investment assets and minimize custodial risk, which enables investment management to concentrate on generating alpha.

INVESTMENT TEAM (33)

Head of Investment Operations: Kelly Criss (8.5 years at CalSTRS, 17 years industry)

Associate Portfolio Managers: Harmony Kingston, Haytham Sharief, Matthew Schroeder, Pedro Morais,

Investment Officers: Alicia Osborn, Andrey Golub, Carlos Maciel, Daniel Thai, Diego Sanchez, Eli Bradaric, Erica Hogans, Harshini Perera, Huy Ngo, James Hagerty, Jen Enos, Joanne Taylor, Karen Tuason, Lilit Arakelyan, Lucy Yang, Mami Wong, Michael Carlson, Mylene Wu, Ralph Smith, Robert Corey, Ron Leu, Sonia Sanchez, Taylor Henry, Thomas Willardsen, Timothy Smith, Vicky Quan

Support Team: Muriel Dimel

Vacancies: 1

OUTLOOK FOR 2022-23

Valuation Oversight: We are continuing to strengthen our fair value measurement and oversight process for private asset investments. With the conclusion of the consultation engagement, we will review and implement any recommended enhancements to our existing valuation controls and oversight functions.

Operational Risk: We will continue to focus on identifying and assessing potential risks, improving the effectiveness of our controls, and increasing industry knowledge and investment expertise across the team.

Custodial Risk: Following the execution of the new global master custodian contract, we will finalize the negotiation and implementation of a service level agreement.

Technology: Operations oversees the technology initiatives across the Investment Branch. New analytics solutions are needed for dynamic data aggregation to provide deeper analysis on complex investments, which will require a unique skillset of staff with expertise in both investments and technology infrastructure. To address this need, we will be recruiting for two leadership positions in Investment Services.

Challenges: To be successful in achieving our goals, we will require additional expertise, support, and resources, and will need to prioritize the competing new strategies/projects across the Investment branch.

COLLABORATIVE MODEL 2.0

The expansion of the Collaborative Model will require enhancements and added responsibilities to our existing essential day-to-day functions. In-depth investment knowledge and partnership with the asset classes is critical to not only implementing and servicing the investment strategies, but also mitigating potential costs associated with operational and/or trading errors.

Operations staff will continue to innovate and optimize current tasks to expand bandwidth, increase efficiency, and enhance our operational control, monitoring and mitigation functions. Examples of areas we will need to focus on include:

- Digital Asset Infrastructure, including Blockchain, Unitization Structures, Cryptocurrency, Direct Company Ownership, and Hybrid Public/Private Investments.
- Completing the migration of operational tasks from the private asset classes into Operations which will allow the asset classes to focus on investing.
- Enhancing our valuation and pricing oversight functions.
- Increasing foreign tax coverage and knowledge as we continue to invest in more global assets.
- Customizing the operational setup for onboarding new, more complex strategies.
- Optimizing and automating cash and trade support, reconciliations, and payment processing.
- Partnering with the asset classes to add operational due diligence expertise to public asset investments and managers.

Investment Operations is committed to supporting CalSTRS pledge to move the investment portfolio to net zero emissions by 2050 or sooner.

RACE TO NET ZERO

We are a critical member of the Net Zero Green Team and additional internal working groups, assisting with the development and implementation of action plans and evaluating potential operational risks. The team partners with the asset classes to implement and support new sustainability-focused investment strategies across the Total Plan. We will leverage our strategic partnerships with our service providers to gain new low-carbon related insights while keeping overall investment costs down.

With the need for increased analytics and reporting around net zero strategies, we will partner with the asset classes to research and support analytics solutions, data feeds, and technology needs.

DIVERSITY, EQUITY, & INCLUSION

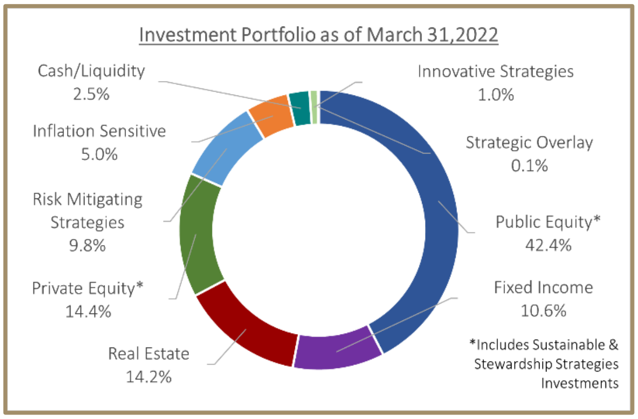
The Director of Investment Services is a member of the CalSTRS Investment Office Diversity Steering Committee. Members of our Operations team actively participate in the Diversity and Inclusion Committee and continue to support engagement and outreach efforts by attending industry events and participating in community programs such as: Beyond Talk, Pathways for Women, National Charity League, Stanford Women's Leadership Corporate Program – Mental Health & Wellbeing Inclusion, and the Brazilian Center for Cultural Exchange of Sacramento.

From a recruitment perspective, we advertise our positions with the various affinity groups to identify potential diverse recruits. Prior to conducting interviews, we ensure the pool of qualified candidates includes a sufficient degree of diversity, and that our interview panel is gender balanced when possible. In addition, we partner with Human Resources to assist in the screening criteria for our recruitments.

INVESTMENT PERFORMANCE & COMPLIANCE (IPC)

FAST FACTS

AUM: $323.6 billion (3/31/2022)
Internal *$156.6 billion (48%)*
External *$167.0 billion (52%)*
Benchmark: STRS Custom Total Fund Index



PROGRAM DESCRIPTION

The IPC program comprises of two functional areas: **Investment Performance** and **Investment Compliance.**

Investment Performance provides strategy support, performance attribution and cost analysis. Our team ensures performance accuracy through a robust examination. We produce performance and costs analytics to help understand the drivers of performance, evaluating short and long-term investment decisions. We also implement and manage investment benchmarks and the portfolio hierarchy structure.

Investment Compliance reduces business risks of the Total Fund while cultivating a culture of integrity. We monitor investment compliance and ethics activities while advising the asset classes on compliance topics and best practices over the life cycle of an investment or strategy. We also oversee adherence to current policies, local and foreign laws, and regulations.

INVESTMENT TEAM (16)

Head of Investment Performance & Compliance: Shifat Hasan (10 years; 18 years total)
Associate Portfolio Managers (APM): Kimberly McDonnell, Melissa DaRonco, Mike Dunigan
Investment Officers: Ankur Prabhakar, April Uyematsu, David Munoz, Marcella Gonzales, Nicole Yamamoto, Ramona Marzion, Richard Morgan, Ryan Phillips, Sanjay Singh, Zang Thao
Support Team: Katie Lee
New Positions for FY 22-23: 2

OUTLOOK FOR 2022-23

The Total Fund is managed through a complex structure of portfolios and benchmarks representing various aggregates rolling up to an asset class. Currently there are 264 portfolios, 127 composites and 409 benchmarks. As the asset classes and management bring in new strategies to the Total Fund, this complex structure needs to maintain its consistency and integrity. IPC is poised to support all strategic and tactical portfolio decisions in asset classes and for the Risk Allocation Committee. Our role is to stay on task and up to date on internal and external events impacting the investments in the Total Fund and support the Investment Branch's objectives.

An area of immediate focus in FY 22/23 for IPC is the implementation of an enhanced performance reporting system known as Solovis. In partnership with our master custodian, State Street Bank, Solovis will replace our performance book-of-records and is a critical step toward modernizing the investment reporting infrastructure.

We continue to enhance performance analytics to provide valuable insights related to investment objectives and allocation decisions. Our team is heavily involved in the Investments Branch's policy update process. We partner with the CIO, DCIO and the respective asset classes, working with the board's consultant to ensure policy updates are adhering to sound and consistent practices and are operationally implementable. In FY 22/23 we will work closely with stakeholders to bring forward a new Investment Procurement policy. Also, we will work closely with the Investment Strategy and Risk team to understand policy implications of the Asset-Liability Management study.

COLLABORATIVE MODEL 2.0

As we shift to the new phase of the Collaborative Model, our team is ready to provide advice, insights and support for any policy updates, strategy implementation and analytics, maintenance, and oversight. In addition, to level up with peers across the globe, our team is going through a modernization phase, increasing efficiencies, and enhancing existing processes to strengthen controls. This is being done very carefully with in-depth cost/benefit analysis, given the current staffing, resourcing and available systems in the marketplace. The goal is to maintain a lean team, while also becoming a cutting-edge investment servicer and be seen as the partner of choice. Our team continues to play a key role in the Total Fund initiatives that will assist to take the Collaborative Model to the next level. Initiatives including Total Fund liquidity, leverage and active risk budgets are heavily supported by the IPC team with their expert advice, insights, and implementation support. Our team continues to provide leadership in calculating savings from the Collaborative Model strategies. These efforts are in line with Collaborative Model 2.0 objectives as we take advantage of our opportunity set, implement nontraditional portfolio hierarchies and measure our results.

With the expansion of the Collaborative Model, we will have to be further integrated in the investment decision making and monitoring process. This also includes being involved in upcoming legislation analysis, unique investment strategies, portfolio risk assessment and overall management viewpoint on portfolio positioning (short and long term) in order to bring in performance reporting and policy compliance perspectives. Our team has embarked on a service-oriented model to support the asset classes in their investment endeavors while keeping us all within the guardrails of internal controls, policies, and regulations.

RACE TO NET ZERO STEPS

IPC is actively involved in the net zero strategic priority providing valuable subject matter expertise and discussing best practices in the following areas: regulatory oversight, divestment cost scenario reporting and performance and cost implications relating to active portfolio decisions. IPC staff are members of multiple net zero working groups. As the initiatives around net zero progress, IPC will be relied upon to provide advice around cost measures, measuring performance results and adhering to the overall project plan.

IPC continues to support implementation decisions as the asset classes seek to align with the board's net zero portfolio emissions pledge and meet the Total Fund's risk and return goals. Specifically, our team serves as a critical strategic partner to the asset classes in the implementation of investments, benchmarks and assessing certain pre-funding and post funding business risks. In partnership with the Sustainable Investments and Stewardship Strategies (SISS) team, IPC has analyzed divestment costs to the portfolio and plans to expand analytics around these types of opportunity costs in FY 22/23, including the impacts of different divestment scenarios.

DIVERSITY, EQUITY & INCLUSION

Diversity is a competitive advantage factor to be integrated and applied across the total fund as it: (1) brings advantages to our workforce (2) contributes to a sustainable investment portfolio that is aligned with the risk and return objectives; and (3) drives innovation & change.

The Director of Investment Services and the Head of IPC are members of the Diversity Steering Committee. The Head of IPC provides day-to-day management of the Diversity in the Management of Investments (DIMI) program. This includes oversight and review of the Diversity Officer's work and ongoing guidance regarding DIMI approach and initiatives. IPC supports the vision of the DIMI program and its increased integration into the asset classes. IPC plays a key role in the implementation of the AB890, including but not limited to providing support for the survey and its management. Our participation in DIMI initiatives is outlined below:

For us, diversity and inclusion begin with our hiring practices, expanding beyond traditional definitions and seeking to create a team of individuals with complimentary backgrounds and skill sets. We come to the table with diverse work styles, apparent with our education and experience and integrate inclusion within our team. We focus on learning and utilizing individuals' strengths through focus sessions to better understand and appreciate our collective strength derived from our diverse personas. We support mentorship opportunities for staff and diverse students through CalSTRS internal mentorship programs and Student Internship Program respectively. Our comprehensive diversity and inclusion practices help us make well researched and sound recommendations and find solid solutions to mitigate business risks and ultimately provide the highest value to our members.

CALSTRS
HOW WILL YOU SPEND YOUR FUTURE?