

September 19, 2023



**Pennsylvania State Employees'  
Retirement System – 457(b) Plan**

Second Quarter 2023

Executive Summary

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Callan

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**Market Environment**

# Equity Markets Rebound Sharply in 1Q and 2Q; Fixed Income Markets Down in 2Q

Stocks and bonds still have ground to make up after first three quarters of 2022

S&P 500 up 16.9% in first half of 2023.

- Loss through first three quarters of 2022 was 23.9%; rebound in the following three quarters reduced the loss to 2.9% since the start of 2022. Greater loss reduction in large cap (U.S. and global ex-U.S.) compared to emerging and small cap

Fixed income recovered as high inflation began to ease; speculation about interest rate cuts evaporated in 2Q

- Bloomberg Aggregate: up 3% in 1Q, but declined 0.8% in 2Q as Fed continued to raise rates
- CPI-U: +3% year-over year for 2Q, down from +6.5% for the year ended Dec. 2022

Inflation hit the highest rate (9%) in decades in June of 2022.

Economic data defied expectations of recession; GDP growth was revised up to 2.0% in 1Q, and hit 2.4% in 2Q

- Job market remains solid, providing support to Fed efforts to fight inflation

## Returns for Periods ended 6/30/23

	Quarter	Last 3 Qtrs	1Q-3Q 2022	5 Years	10 Years	25 Years
<b>U.S. Equity</b>						
Russell 3000	8.39	24.51	-24.62	11.39	12.34	7.72
S&P 500	8.74	25.73	-23.87	12.31	12.86	7.61
Russell 2000	5.21	14.82	-25.10	4.21	8.26	7.26
<b>Global ex-U.S. Equity</b>						
MSCI World ex USA	3.03	29.30	-26.23	4.58	5.40	4.49
MSCI Emerging Markets	0.90	15.07	-27.16	0.93	2.95	--
MSCI ACWI ex USA Small Cap	2.05	21.06	-29.37	2.62	5.75	6.73
<b>Fixed Income</b>						
Bloomberg Aggregate	-0.84	4.00	-14.61	0.77	1.52	3.90
90-day T-Bill	1.17	3.12	0.61	1.55	0.98	1.89
Bloomberg Long Gov/Credit	-1.29	7.11	-28.94	0.66	2.86	5.33
Bloomberg Global Agg ex-US	-2.16	7.70	-23.88	-2.65	-0.90	2.62
<b>Real Estate</b>						
NCREIF Property	-1.81	-6.97	9.35	5.94	7.84	8.53
FTSE Nareit Equity	2.62	10.89	-28.13	4.55	6.42	8.32
<b>Alternatives</b>						
CS Hedge Fund Index	1.71	2.80	0.14	4.52	4.06	5.49
Cambridge Private Equity*	2.12	1.12	-1.84	15.98	15.04	13.83
Bloomberg Commodity	-2.56	-5.74	13.57	4.73	-0.99	2.04
Gold Spot Price	-2.86	15.39	-8.56	8.99	4.66	7.76
<b>Inflation - CPI-U</b>	1.08	2.80	6.46	3.90	2.71	2.54

\*Cambridge PE data as of 1Q23

Sources: Bloomberg, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

# Diversification Remains Key Risk Control

## Periodic Table of Investment Returns

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2 Qtrs. 2023
Emerging Markets	Emerging Markets	Emerging Markets	Emerging Markets	U.S. Fixed	Emerging Markets	Small Cap	Real Estate Funds	Emerging Markets	Small Cap	Large Cap	Real Estate Funds	Small Cap	Emerging Markets	Real Estate Funds	Large Cap	Small Cap	Large Cap	Real Estate Funds	Large Cap
25.55%	34.00%	32.17%	39.38%	5.24%	78.51%	26.85%	14.96%	18.23%	38.82%	13.69%	13.95%	21.31%	37.28%	7.36%	31.49%	19.96%	28.71%	6.55%	16.89%
Non-U.S. Equity	Real Estate Funds	Non-U.S. Equity	Real Estate Funds	Non-U.S. Fixed	High Yield	Emerging Markets	U.S. Fixed	Non-U.S. Equity	Large Cap	Real Estate Funds	Large Cap	High Yield	Non-U.S. Equity	Cash Equivalent	Small Cap	Large Cap	Real Estate Funds	Cash Equivalent	Non-U.S. Equity
20.38%	20.15%	25.71%	14.84%	4.39%	58.21%	18.88%	7.84%	16.41%	32.39%	11.46%	1.38%	17.13%	24.21%	1.87%	25.52%	18.40%	21.02%	1.46%	11.29%
Small Cap	Non-U.S. Equity	Small Cap	Hedge Funds	Cash Equivalent	Non-U.S. Equity	Real Estate Funds	High Yield	Small Cap	Non-U.S. Equity	U.S. Fixed	U.S. Fixed	Large Cap	Large Cap	U.S. Fixed	Non-U.S. Equity	Emerging Markets	Small Cap	Hedge Funds	Small Cap
18.33%	14.47%	18.37%	12.56%	2.06%	33.67%	15.26%	4.98%	16.35%	21.02%	5.97%	0.55%	11.96%	21.83%	0.01%	22.49%	18.31%	14.82%	1.06%	8.09%
Non-U.S. Fixed	Hedge Funds	Large Cap	Non-U.S. Equity	Real Estate Funds	Small Cap	High Yield	Non-U.S. Fixed	Large Cap	Real Estate Funds	Small Cap	Cash Equivalent	Emerging Markets	Small Cap	High Yield	Emerging Markets	Non-U.S. Fixed	Non-U.S. Equity	High Yield	High Yield
12.54%	7.61%	15.79%	12.44%	-10.70%	27.17%	15.12%	4.36%	16.00%	12.90%	4.89%	0.05%	11.19%	14.65%	-2.08%	18.44%	10.11%	12.62%	-11.19%	5.38%
Real Estate Funds	Large Cap	Real Estate Funds	Non-U.S. Fixed	Hedge Funds	Large Cap	Large Cap	Large Cap	High Yield	Hedge Funds	Hedge Funds	Hedge Funds	Real Estate Funds	Non-U.S. Fixed	Non-U.S. Fixed	High Yield	Non-U.S. Equity	Hedge Funds	U.S. Fixed	Emerging Markets
12.00%	4.91%	15.27%	11.03%	-19.07%	26.47%	15.06%	2.11%	15.81%	9.73%	4.13%	-0.71%	7.79%	10.51%	-2.15%	14.32%	7.59%	8.23%	-13.01%	4.89%
High Yield	Small Cap	Hedge Funds	U.S. Fixed	High Yield	Hedge Funds	Hedge Funds	Cash Equivalent	Real Estate Funds	High Yield	High Yield	Non-U.S. Equity	Non-U.S. Equity	High Yield	Hedge Funds	Hedge Funds	U.S. Fixed	High Yield	Non-U.S. Equity	Cash Equivalent
11.13%	4.55%	13.86%	6.97%	-26.16%	18.57%	10.95%	0.10%	9.79%	7.44%	2.45%	-3.04%	2.75%	7.50%	-3.19%	9.31%	7.51%	5.28%	-14.29%	2.25%
Large Cap	Cash Equivalent	High Yield	Large Cap	Small Cap	Non-U.S. Fixed	Non-U.S. Equity	Hedge Funds	Hedge Funds	Cash Equivalent	Cash Equivalent	Small Cap	U.S. Fixed	Hedge Funds	Large Cap	U.S. Fixed	High Yield	Cash Equivalent	Large Cap	U.S. Fixed
10.88%	3.06%	11.85%	5.49%	-33.79%	7.53%	8.95%	-2.52%	7.67%	0.07%	0.04%	-4.41%	2.65%	7.12%	-4.38%	8.72%	7.11%	0.05%	-18.11%	2.09%
Hedge Funds	High Yield	Non-U.S. Fixed	Cash Equivalent	Large Cap	U.S. Fixed	U.S. Fixed	Small Cap	U.S. Fixed	U.S. Fixed	Emerging Markets	High Yield	Non-U.S. Fixed	Real Estate Funds	Small Cap	Non-U.S. Fixed	Hedge Funds	U.S. Fixed	Non-U.S. Fixed	Hedge Funds
9.64%	2.74%	8.16%	5.00%	-37.00%	5.93%	6.54%	-4.18%	4.21%	-2.02%	-2.19%	-4.47%	1.49%	6.66%	-11.01%	5.09%	6.36%	-1.54%	-18.70%	1.87%
U.S. Fixed	U.S. Fixed	Cash Equivalent	High Yield	Non-U.S. Equity	Cash Equivalent	Non-U.S. Fixed	Non-U.S. Equity	Non-U.S. Fixed	Emerging Markets	Non-U.S. Fixed	Non-U.S. Fixed	Hedge Funds	U.S. Fixed	Non-U.S. Equity	Real Estate Funds	Cash Equivalent	Emerging Markets	Emerging Markets	Non-U.S. Fixed
4.34%	2.43%	4.86%	1.87%	-43.56%	0.21%	4.95%	-12.21%	4.09%	-2.60%	-3.09%	-6.02%	1.25%	3.54%	-14.09%	4.39%	0.67%	-2.54%	-20.09%	0.83%
Cash Equivalent	Non-U.S. Fixed	U.S. Fixed	Small Cap	Emerging Markets	Real Estate Funds	Cash Equivalent	Emerging Markets	Cash Equivalent	Non-U.S. Fixed	Non-U.S. Equity	Emerging Markets	Cash Equivalent	Cash Equivalent	Emerging Markets	Cash Equivalent	Real Estate Funds	Non-U.S. Fixed	Small Cap	Real Estate Funds
1.33%	-8.65%	4.33%	-1.57%	-53.33%	-30.40%	0.13%	-18.42%	0.11%	-3.08%	-4.32%	-14.92%	0.33%	0.86%	-14.57%	2.28%	0.34%	-7.05%	-20.44%	-6.16%

- Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US ● Bloomberg Barclays US Aggregate
- Credit Suisse Hedge Fund ● ICE BofAML US 3-Month Treasury Bill ● MSCI Emerging Markets ● MSCI World ex USA
- NFI-ODCE (value-weighted net) ● Russell 2000 ● S&P 500

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# DC Industry - SECURE 2.0 key updates

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## Overview

- SECURE 2.0 was signed into law in December 2022.
- Plan sponsors, recordkeepers, and payroll providers are actively engaging on what and how to implement.

## Catch-up Provision Section 603

- This has become the most challenging provision to implement given the 1/1/24 effective date.
- An age 50 catch-up contribution must be **Roth** for those that earned more than \$145,000 the previous year.
  - To comply, plans that don't offer Roth will need to add Roth as a plan feature; OR
  - To comply, plans that are not able to track earnings the previous year, and feed to the recordkeeper, will need to eliminate all age 50 catch-up contributions for 2024.
- Congress, Treasury, and the IRS are working to resolve but there is no clear path on when or how.

## CIT Availability for 403(b) Plans?

- SECURE 2.0 paved the way for 403(b) plans to use CITs but...
- Securities law also needed to change; jurisdictional and ideological issue for Congress and the SEC.
- The House Financial Services Committee approved a bill in May to be taken up with Congress later this year.

## Other optional provisions available in 2024

- Emergency withdrawals or withdrawals for victims of domestic abuse
- Matching contributions based on student loan repayments
- Increased small-dollar cash-out threshold

Callan

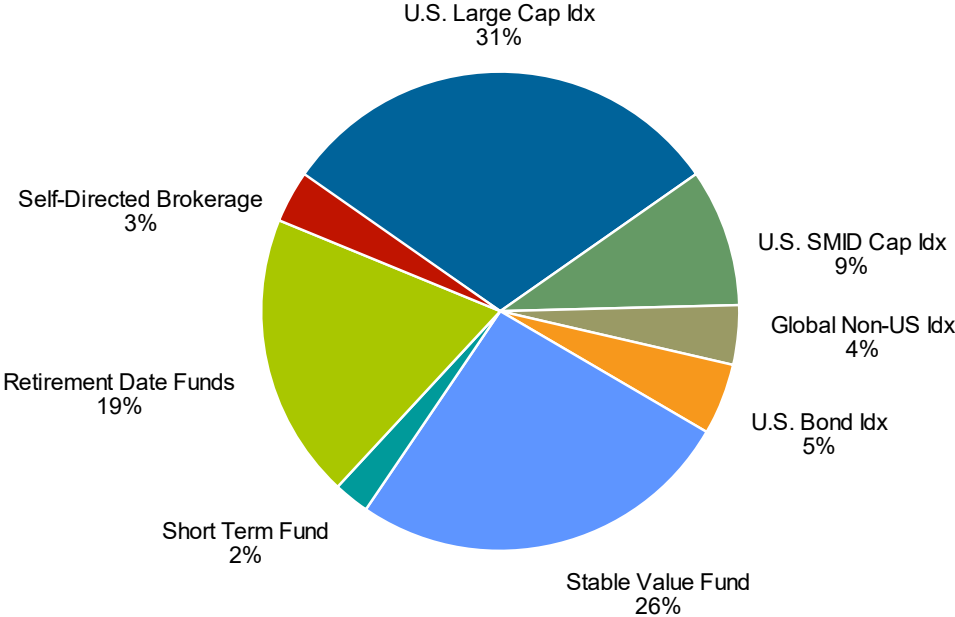
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**PA SERS 457(b) Plan Performance Review**

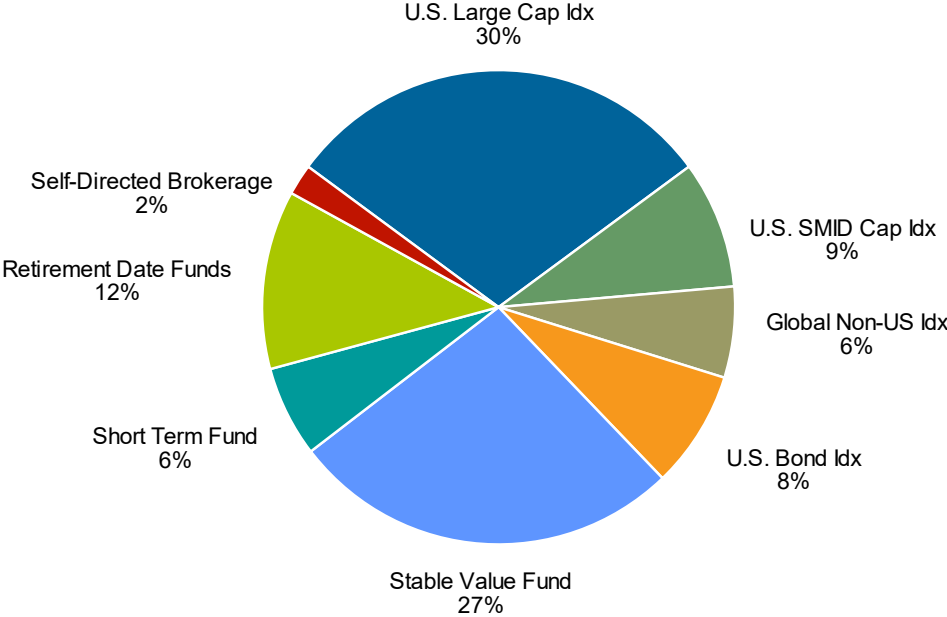
# 457(b) Plan Asset Allocation & Contributions

As of June 30, 2023

### Asset Allocation



### Contributions



# Asset Allocation

As of June 30, 2023

	June 30, 2023			March 31, 2023		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
<b>SERS Retirement Date Funds</b>	<b>\$844,700,301</b>	<b>19.29%</b>	<b>\$(978,298)</b>	<b>\$25,675,090</b>	<b>\$820,003,509</b>	<b>19.35%</b>
SERS Post Retirement Fund	217,103,830	4.96%	(2,523,220)	3,597,464	216,029,586	5.10%
SERS 2025 Retirement Fund	139,852,190	3.19%	(1,795,370)	2,778,405	138,869,155	3.28%
SERS 2030 Retirement Fund	139,205,662	3.18%	(97,765)	3,938,424	135,365,004	3.19%
SERS 2035 Retirement Fund	125,655,495	2.87%	628,454	4,519,762	120,507,279	2.84%
SERS 2040 Retirement Fund	81,834,925	1.87%	804,413	3,527,484	77,503,027	1.83%
SERS 2045 Retirement Fund	68,377,634	1.56%	494,674	3,394,474	64,488,486	1.52%
SERS 2050 Retirement Fund	45,140,260	1.03%	1,034,386	2,410,071	41,695,803	0.98%
SERS 2055 Retirement Fund	16,682,418	0.38%	518,273	910,357	15,253,787	0.36%
SERS 2060 Retirement Fund	6,720,384	0.15%	344,352	362,143	6,013,889	0.14%
SERS 2065 Retirement Fund	4,127,503	0.09%	(386,496)	236,506	4,277,493	0.10%
<b>SERS U.S. Equity</b>	<b>\$1,748,306,656</b>	<b>39.92%</b>	<b>\$(8,243,000)</b>	<b>\$131,413,902</b>	<b>\$1,625,135,754</b>	<b>38.35%</b>
SERS U.S. Large Company Index Fund	1,343,036,196	30.67%	4,549,182	107,129,428	1,231,357,586	29.05%
SERS U.S. SMID Company Index Fund	405,270,460	9.25%	(12,792,182)	24,284,474	393,778,168	9.29%
<b>SERS Non-U.S. Equity</b>	<b>\$175,919,747</b>	<b>4.02%</b>	<b>\$(695,070)</b>	<b>\$4,154,102</b>	<b>\$172,460,715</b>	<b>4.07%</b>
SERS Global Non-US Index Fund	175,919,747	4.02%	(695,070)	4,154,102	172,460,715	4.07%
<b>SERS Fixed Income</b>	<b>\$1,457,143,228</b>	<b>33.28%</b>	<b>\$(19,768,252)</b>	<b>\$6,179,663</b>	<b>\$1,470,731,818</b>	<b>34.70%</b>
SERS Short Term Investment Fund	105,425,901	2.41%	3,399,123	1,190,187	100,836,592	2.38%
SERS Stable Value Fund	1,141,426,742	26.07%	(28,162,701)	6,949,117	1,162,640,326	27.43%
SERS U.S. Bond Index Fund	210,290,585	4.80%	4,995,326	(1,959,641)	207,254,900	4.89%
<b>Self-Directed Brokerage Account</b>	<b>\$152,915,377</b>	<b>3.49%</b>	<b>\$(3,626,405)</b>	<b>\$6,809,674</b>	<b>\$149,732,108</b>	<b>3.53%</b>
<b>Total Fund</b>	<b>\$4,378,985,310</b>	<b>100.0%</b>	<b>\$(33,311,025)</b>	<b>\$174,232,430</b>	<b>\$4,238,063,905</b>	<b>100.0%</b>

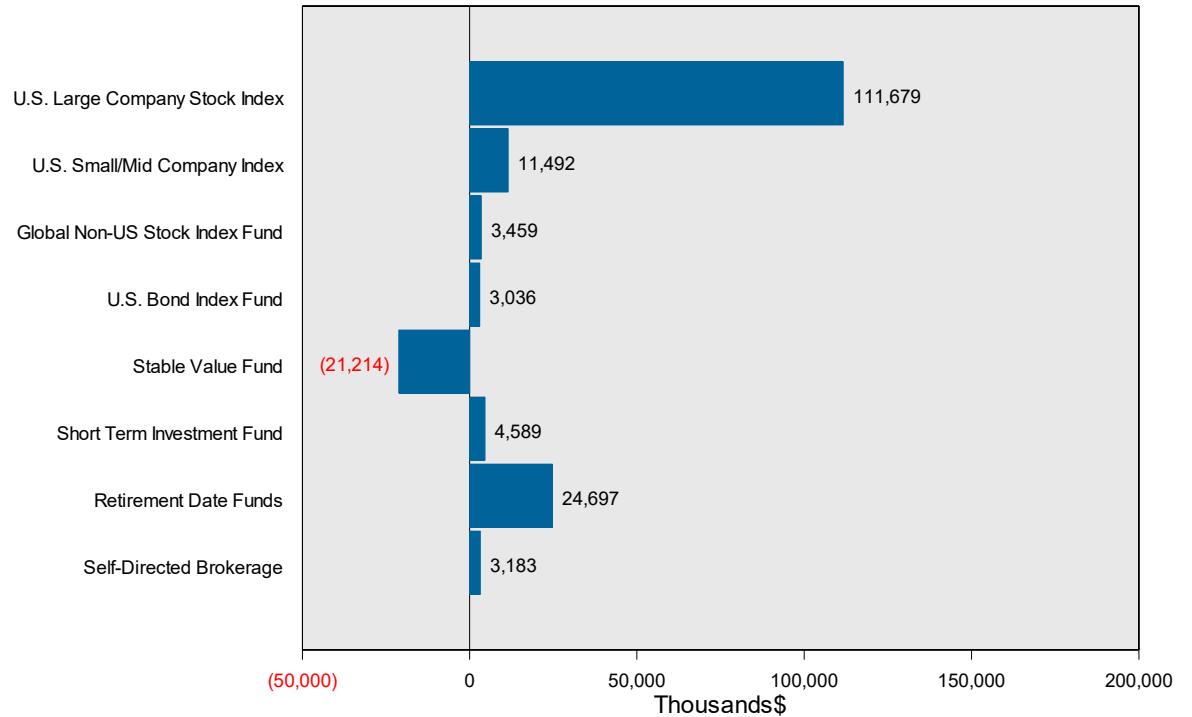


# Changes in Market Values and Contributions

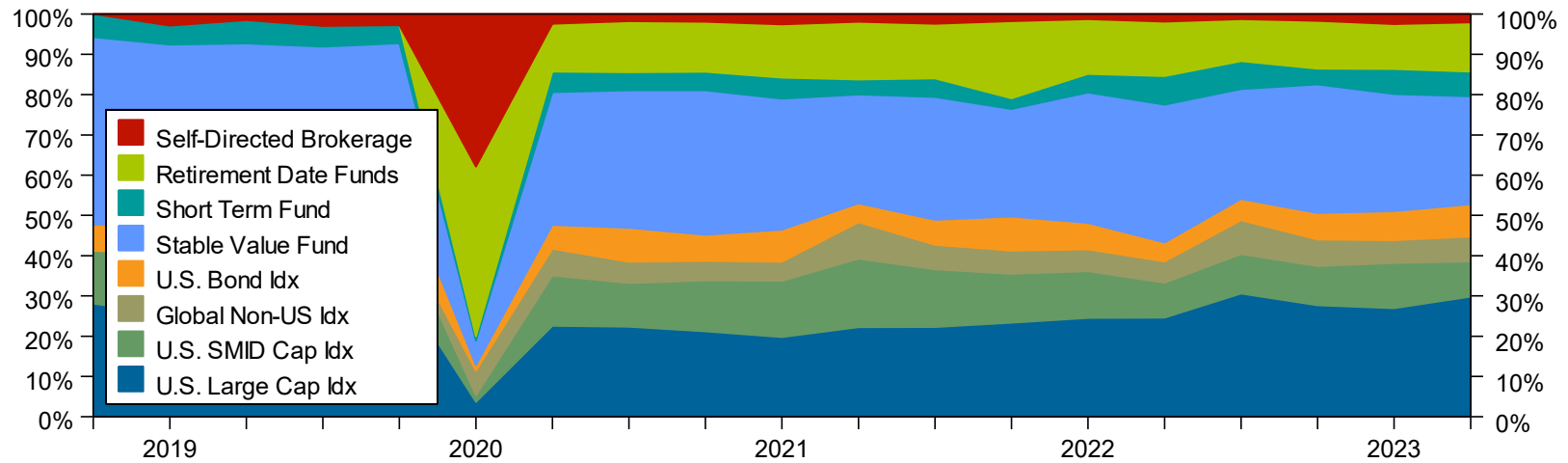
As of June 30, 2023

- The chart to the right shows the change in fund values across the various investment options for the quarter ended June 30, 2023. The change in value for each fund is the result of a combination of 3 factors.

1. Market movements
2. Contributions or disbursements into or out of the fund by the participants (and any matching done by the company)
3. Transfers between funds by the participants.



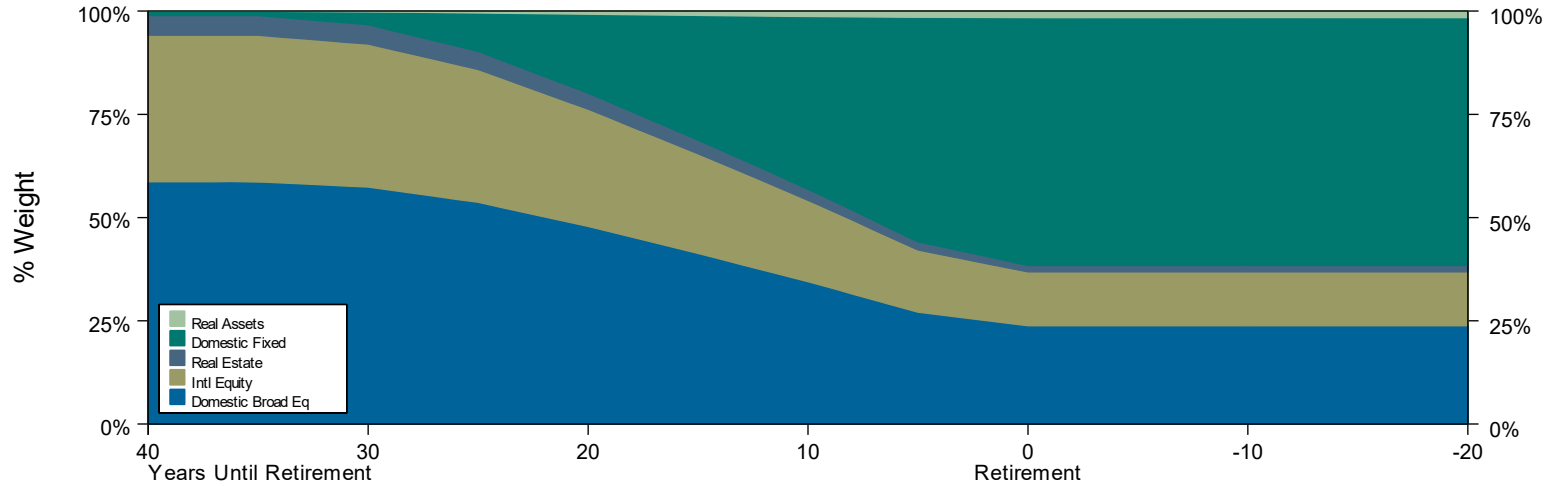
## Historical Allocation of Contributions



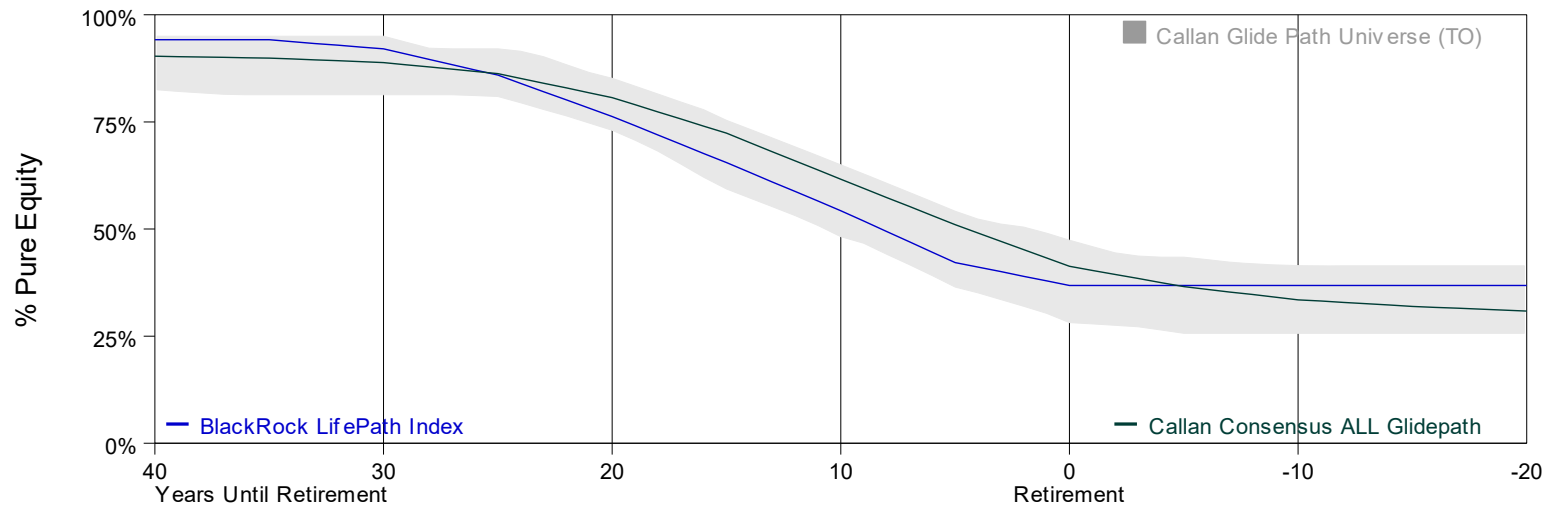
# Blackrock LifePath Retirement Funds

Glidepath and Equity Roll-down Exposure as of June 30, 2023

### BlackRock LifePath Retirement Funds Glidepath



### BlackRock LifePath Retirement Funds Equity Roll-down Exposure



# Cumulative Performance - Net of Fees

As of June 30, 2023

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>Net Performance</b>					
<b>Retirement Date Funds</b>					
SERS Post Retirement Fund	1.70%	6.19%	5.03%	2.41%	3.97%
BlackRock Post Retirement Index	1.68%	6.03%	5.06%	2.41%	3.95%
Callan Tgt Date Ret Inc	1.55%	5.72%	4.80%	2.30%	3.49%
SERS 2025 Retirement Fund	2.05%	6.86%	5.95%	3.83%	4.57%
BlackRock 2025 Index	2.02%	6.67%	5.94%	3.81%	4.52%
Callan Target Date 2025	2.45%	7.27%	7.63%	4.79%	4.92%
SERS 2030 Retirement Fund	2.95%	8.36%	8.15%	5.62%	5.44%
BlackRock 2030 Index	2.90%	8.18%	8.15%	5.60%	5.39%
Callan Target Date 2030	3.20%	8.60%	9.22%	6.08%	5.55%
SERS 2035 Retirement Fund	3.77%	9.73%	10.20%	7.32%	6.26%
BlackRock 2035 Index	3.71%	9.55%	10.18%	7.26%	6.18%
Callan Target Date 2035	3.98%	9.82%	11.22%	7.48%	6.21%
SERS 2040 Retirement Fund	4.57%	11.06%	12.22%	8.87%	6.98%
BlackRock 2040 Index	4.50%	10.87%	12.16%	8.77%	6.88%
Callan Target Date 2040	4.63%	10.95%	12.66%	8.72%	6.77%
SERS 2045 Retirement Fund	5.29%	12.24%	14.05%	10.13%	7.59%
BlackRock 2045 Index	5.21%	12.05%	13.99%	10.02%	7.45%
Callan Target Date 2045	5.12%	11.80%	13.91%	9.59%	7.16%
SERS 2050 Retirement Fund	5.75%	12.95%	15.20%	10.80%	7.91%
BlackRock 2050 Index	5.67%	12.75%	15.11%	10.67%	7.77%
Callan Target Date 2050	5.30%	12.16%	14.54%	9.78%	7.28%
SERS 2055 Retirement Fund	5.91%	13.16%	15.53%	10.93%	8.00%
BlackRock 2055 Index	5.83%	12.97%	15.46%	10.82%	7.86%
Callan Target Date 2055	5.36%	12.40%	14.70%	9.94%	7.35%
SERS 2060 Retirement Fund	5.91%	13.18%	15.54%	10.93%	7.99%
BlackRock 2065 Index	5.83%	12.98%	15.47%	10.82%	7.86%
Callan Target Date 2060	5.33%	12.40%	14.66%	9.92%	7.35%
SERS 2065 Retirement Fund	5.92%	13.22%	15.57%	10.90%	-
BlackRock 2065 Index	5.84%	12.99%	15.48%	10.82%	-
Callan Target Date 2065	5.45%	12.60%	14.83%	9.86%	7.60%

Note: SERS Funds are the top fund in each grouping followed by each fund's respective benchmark and median peer.  
\*Target Date funds replaced risk-based funds in 1Q20.

## Cumulative Performance - Net of Fees

As of June 30, 2023

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
<b>Net Performance</b>				
<b>Retirement Date Funds</b>				
SERS Post Retirement Fund	4.40%	4.54%	4.80%	-
BlackRock Post Retirement Index	4.37%	4.52%	4.77%	5.20%
Callan Tgt Date Ret Inc	3.78%	3.94%	4.27%	4.28%
SERS 2025 Retirement Fund	5.59%	5.63%	5.34%	-
BlackRock 2025 Index	5.53%	5.57%	5.29%	6.14%
Callan Target Date 2025	6.09%	6.09%	5.74%	-
SERS 2030 Retirement Fund	6.60%	6.42%	5.85%	-
BlackRock 2030 Index	6.53%	6.33%	5.78%	6.61%
Callan Target Date 2030	6.94%	6.86%	6.18%	6.91%
SERS 2035 Retirement Fund	7.57%	7.14%	6.31%	-
BlackRock 2035 Index	7.47%	7.04%	6.22%	7.01%
Callan Target Date 2035	7.75%	7.47%	6.76%	-
SERS 2040 Retirement Fund	8.42%	7.78%	6.71%	-
BlackRock 2040 Index	8.29%	7.66%	6.59%	7.37%
Callan Target Date 2040	8.41%	7.98%	7.09%	7.60%
SERS 2045 Retirement Fund	9.06%	8.29%	7.01%	-
BlackRock 2045 Index	8.90%	8.14%	6.88%	7.69%
Callan Target Date 2045	8.84%	8.27%	7.11%	-
SERS 2050 Retirement Fund	9.36%	8.56%	7.25%	-
BlackRock 2050 Index	9.21%	8.42%	7.13%	8.01%
Callan Target Date 2050	8.99%	8.35%	7.27%	-
SERS 2055 Retirement Fund	9.41%	8.66%	-	-
BlackRock 2055 Index	9.27%	8.52%	-	-
Callan Target Date 2055	9.04%	8.47%	8.03%	-
SERS 2060 Retirement Fund	9.40%	-	-	-
BlackRock 2060 Index	9.27%	-	-	-
Callan Target Date 2060	9.20%	8.79%	-	-

Note: SERS Funds are the top fund in each grouping followed by each fund's respective benchmark and median peer.

\*Funds not listed do not have longer term history.

\*\*Target Date funds replaced risk-based funds in 1Q20.

# Cumulative Performance - Net of Fees

As of June 30, 2023

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>Net Performance</b>					
<b>Domestic Equity</b>					
SERS U.S. Large Company Index	8.74%	16.89%	19.59%	14.60%	12.31%
S&P 500 Index	8.74%	16.89%	19.59%	14.60%	12.31%
Callan Lg Cap Broad MF	8.50%	16.48%	19.19%	13.07%	10.98%
SERS U.S. SMID Company Index	6.46%	12.68%	15.36%	9.59%	6.32%
Dow Jones US Completion	6.38%	12.57%	14.96%	9.16%	6.01%
Callan SMID Broad MFs	4.58%	10.15%	15.92%	11.63%	6.69%
<b>International Equity</b>					
SERS Global Non-US Index	2.54%	10.10%	13.10%	7.48%	3.85%
MSCI ACWI ex US	2.44%	9.47%	12.72%	7.22%	3.52%
Callan Non US Equity MFs	3.05%	12.71%	18.05%	8.42%	4.16%
<b>Domestic Fixed Income</b>					
SERS Short Term Investment Fund	1.21%	2.32%	3.76%	1.36%	1.62%
3-month Treasury Bill	1.17%	2.25%	3.59%	1.27%	1.55%
Callan Cash Database(1)	1.26%	2.44%	3.88%	1.41%	1.73%
SERS Stable Value Fund	0.64%	1.25%	2.24%	1.90%	2.15%
3-month Treasury Bill	1.17%	2.25%	3.59%	1.27%	1.55%
Callan Stable Value SA	0.68%	1.33%	2.45%	2.08%	2.28%
SERS U.S. Bond Index Fund	(0.85%)	2.10%	(0.90%)	(3.99%)	0.77%
Bimbg Aggregate	(0.84%)	2.09%	(0.94%)	(3.96%)	0.77%
Callan Core Bond MFs	(0.77%)	2.45%	(0.69%)	(3.65%)	1.04%

(1) Callan Cash Database includes STIF, enhanced cash, and money market funds.

\*The Global Non-U.S. Stock Index Fund replaced the International Company Stock Index Fund in 1Q20.

# Cumulative Performance - Net of Fees

As of June 30, 2023

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
<b>Net Performance</b>				
<b>Domestic Equity</b>				
SERS U.S. Large Company Index	13.39%	12.87%	10.91%	10.08%
S&P 500 Index	13.38%	12.86%	10.88%	10.04%
Callan Lg Cap Broad MF	12.69%	11.96%	10.14%	9.87%
SERS U.S. SMID Company Index	9.86%	9.44%	9.36%	10.10%
Dow Jones US Completion	9.58%	9.19%	9.11%	9.88%
Callan SMID Broad MFs	9.93%	9.21%	9.21%	9.75%
<b>International Equity</b>				
SERS Global Non-US Index	6.55%	5.02%	-	-
MSCI ACWI ex US	6.32%	4.75%	2.87%	6.67%
Callan Non US Equity MFs	6.78%	5.35%	3.93%	6.89%
<b>Domestic Fixed Income</b>				
SERS Short Term Investment Fund	1.49%	1.11%	0.91%	-
3-month Treasury Bill	1.37%	0.98%	0.75%	1.35%
Callan Cash Database(1)	1.56%	1.27%	1.21%	1.73%
SERS Stable Value Fund	2.10%	2.14%	2.64%	-
3-month Treasury Bill	1.37%	0.98%	0.75%	1.35%
Callan Stable Value SA	2.25%	2.17%	2.57%	3.13%
SERS U.S. Bond Index Fund	0.43%	1.50%	2.67%	2.98%
Blmbg Aggregate	0.44%	1.52%	2.73%	3.01%
Callan Core Bond MFs	0.70%	1.66%	3.07%	3.19%

(1) Callan Cash Database includes STIF, enhanced cash, and money market funds.

\*Funds not listed do not have longer term history.

\*The Global Non-U.S. Stock Index Fund replaced the International Company Stock Index Fund in 1Q20.

# Performance Summary & Expense Ratios as of June 30, 2023

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return	5 Year Return Consistency	5 Year Risk Quadrant	Expense Ratio
<b>Net of Fee Performance</b>									
<b>Retirement Date Funds</b>									
<b>SERS Post Retirement Fund</b> Callan Tgt Date Ret Inc BlackRock Post Retirement Index	1.7 39	5.0 45	2.4 43	4.0 20	4.4 17	4.5 20			0.08 73
<b>SERS 2025 Retirement Fund</b> Callan Target Date 2025 BlackRock 2025 Index	2.1 73	5.9 83	3.8 80	4.6 64	5.6 73	5.6 73			0.08 72
<b>SERS 2030 Retirement Fund</b> Callan Target Date 2030 BlackRock 2030 Index	2.9 71	8.2 81	5.6 71	5.4 55	6.6 72	6.4 77			0.08 70
<b>SERS 2035 Retirement Fund</b> Callan Target Date 2035 BlackRock 2035 Index	3.8 67	10.2 77	7.3 58	6.3 44	7.6 61	7.1 72			0.08 72
<b>SERS 2040 Retirement Fund</b> Callan Target Date 2040 BlackRock 2040 Index	4.6 53	12.2 65	8.9 41	7.0 32	8.4 49	7.8 65			0.08 68
<b>SERS 2045 Retirement Fund</b> Callan Target Date 2045 BlackRock 2045 Index	5.3 31	14.1 41	10.1 27	7.6 24	9.1 29	8.3 47			0.08 72
<b>SERS 2050 Retirement Fund</b> Callan Target Date 2050 BlackRock 2050 Index	5.8 21	15.2 23	10.8 9	7.9 14	9.4 21	8.6 39			0.08 68
<b>SERS 2055 Retirement Fund</b> Callan Target Date 2055 BlackRock 2055 Index	5.9 16	15.5 20	10.9 6	8.0 12	9.4 20	8.7 38			0.08 76
<b>SERS 2060 Retirement Fund</b> Callan Target Date 2060 BlackRock 2060 Index	5.9 17	15.5 22	10.9 10	8.0 13	9.4 32				0.08 75

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

Return Consistency:  
■ above median  
■ third quartile  
■ fourth quartile

Risk Quadrant:  


Expense Ratio:  
■ below median  
■ second quartile  
■ first quartile

Note: For returns, each SERS Fund and corresponding benchmark return are shown with their respective peer group rankings. For returns, lower peer group rankings are more desirable (e.g. 25th percentile equates to top quartile performance). Expense Ratio: Higher peer group rankings are more desirable (e.g. 75th percentile equates to bottom quartile/cheapest fees).

# Performance Summary & Expense Ratios as of June 30, 2023

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return	5 Year Return Consistency	5 Year Risk Quadrant	Expense Ratio
<b>SERS 2065 Retirement Fund</b> Callan Target Date 2065 BlackRock 2065 Index	5.9 <sup>23</sup> 5.8 <sup>35</sup>	15.6 <sup>24</sup> 15.5 <sup>33</sup>	10.9 <sup>20</sup> 10.8 <sup>22</sup>						0.08 <sup>53</sup>
<b>Domestic Equity</b>									
<b>SERS U.S. Large Company Index</b> Callan Lg Cap Broad MF S&P 500 Index	8.7 <sup>49</sup> 8.7 <sup>49</sup>	19.6 <sup>49</sup> 19.6 <sup>49</sup>	14.6 <sup>32</sup> 14.6 <sup>32</sup>	12.3 <sup>31</sup> 12.3 <sup>32</sup>	13.4 <sup>45</sup> 13.4 <sup>45</sup>	12.9 <sup>39</sup> 12.9 <sup>39</sup>			0.02 <sup>100</sup>
<b>SERS U.S. Small/Mid Company Index</b> Callan SMID Broad MFs Dow Jones US Completion	6.5 <sup>15</sup> 6.4 <sup>16</sup>	15.4 <sup>52</sup> 15.0 <sup>55</sup>	9.6 <sup>55</sup> 9.2 <sup>56</sup>	6.3 <sup>61</sup> 6.0 <sup>67</sup>	9.9 <sup>51</sup> 9.6 <sup>62</sup>	9.4 <sup>47</sup> 9.2 <sup>51</sup>			0.03 <sup>98</sup>
<b>International Equity</b>									
<b>SERS Global Non-U.S. Index Fund</b> Callan Non US Equity MFs MSCI ACWI ex US	2.5 <sup>69</sup> 2.4 <sup>75</sup>	13.1 <sup>92</sup> 12.7 <sup>92</sup>	7.5 <sup>59</sup> 7.2 <sup>62</sup>	3.9 <sup>60</sup> 3.5 <sup>69</sup>	6.6 <sup>52</sup> 6.3 <sup>55</sup>	5.0 <sup>62</sup> 4.7 <sup>72</sup>			0.05 <sup>99</sup>
<b>Domestic Fixed Income</b>									
<b>SERS Short Term Investment Fund</b> Callan Cash Database 3-month Treasury Bill	1.2 <sup>63</sup> 1.2 <sup>66</sup>	3.8 <sup>62</sup> 3.6 <sup>64</sup>	1.4 <sup>60</sup> 1.3 <sup>64</sup>	1.6 <sup>74</sup> 1.6 <sup>90</sup>	1.5 <sup>70</sup> 1.4 <sup>93</sup>	1.1 <sup>84</sup> 1.0 <sup>96</sup>			0.00 <sup>100</sup>
<b>Comments:</b> Callan Cash Database includes STIF, enhanced cash, and money market funds.									
<b>SERS Stable Value Fund</b> Callan Stable Value SA 3-month Treasury Bill	0.6 <sup>84</sup> 1.2 <sup>1</sup>	2.2 <sup>80</sup> 3.6 <sup>3</sup>	1.9 <sup>75</sup> 1.3 <sup>94</sup>	2.2 <sup>67</sup> 1.6 <sup>94</sup>	2.1 <sup>65</sup> 1.4 <sup>95</sup>	2.1 <sup>61</sup> 1.0 <sup>97</sup>			0.29 <sup>38</sup>
<b>SERS U.S. Bond Index Fund</b> Callan Core Bond MFs Blmbg Aggregate	-0.9 <sup>60</sup> -0.8 <sup>60</sup>	-0.9 <sup>68</sup> -0.9 <sup>69</sup>	-4.0 <sup>90</sup> -4.0 <sup>85</sup>	0.8 <sup>71</sup> 0.8 <sup>72</sup>	0.4 <sup>87</sup> 0.4 <sup>86</sup>	1.5 <sup>81</sup> 1.5 <sup>74</sup>			0.02 <sup>98</sup>

Returns:  
 above median  
 third quartile  
 fourth quartile

Return Consistency:  
 above median  
 third quartile  
 fourth quartile

Risk Quadrant:

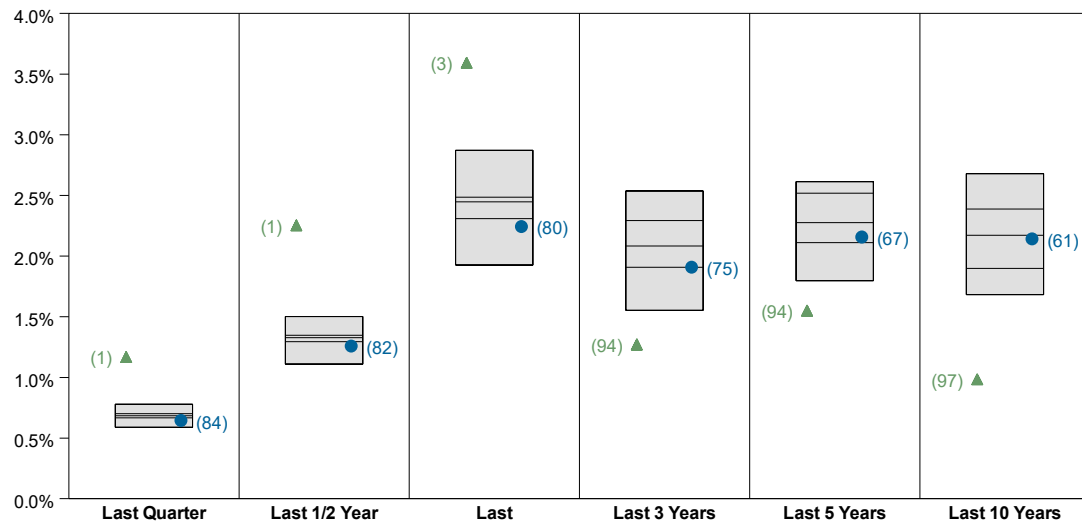
Expense Ratio:  
 below median  
 second quartile  
 first quartile

Note: For returns, each SERS Fund and corresponding benchmark return are shown with their respective peer group rankings. For returns, lower peer group rankings are more desirable (e.g. 25th percentile equates to top quartile performance). Expense Ratio: Higher peer group rankings are more desirable (e.g. 75th percentile equates to bottom quartile/cheapest fees).



# Stable Value Fund as of June 30, 2023

## Performance vs Callan Stable Value SA (Gross)



10th Percentile  
25th Percentile  
Median  
75th Percentile  
90th Percentile

SERS Stable Value Fund ●

3-month Treasury Bill ▲

0.78	1.50	2.87	2.54	2.61	2.68
0.70	1.35	2.49	2.29	2.52	2.39
0.68	1.33	2.45	2.08	2.28	2.17
0.67	1.29	2.31	1.91	2.11	1.90
0.59	1.11	1.93	1.55	1.80	1.68
0.64	1.25	2.24	1.90	2.15	2.14
1.17	2.25	3.59	1.27	1.55	0.98

## Manager Diversification\*

Manager	Portfolio
Barksdale (DWDO Manager)	9.2%
Dodge & Cox	4.1%
Invesco	60.9%
Loomis Sayles	4.0%
PFM	9.1%
Ramirez (DWDO Manager)	9.2%
STIF	3.4%
<b>Total</b>	<b>100%</b>

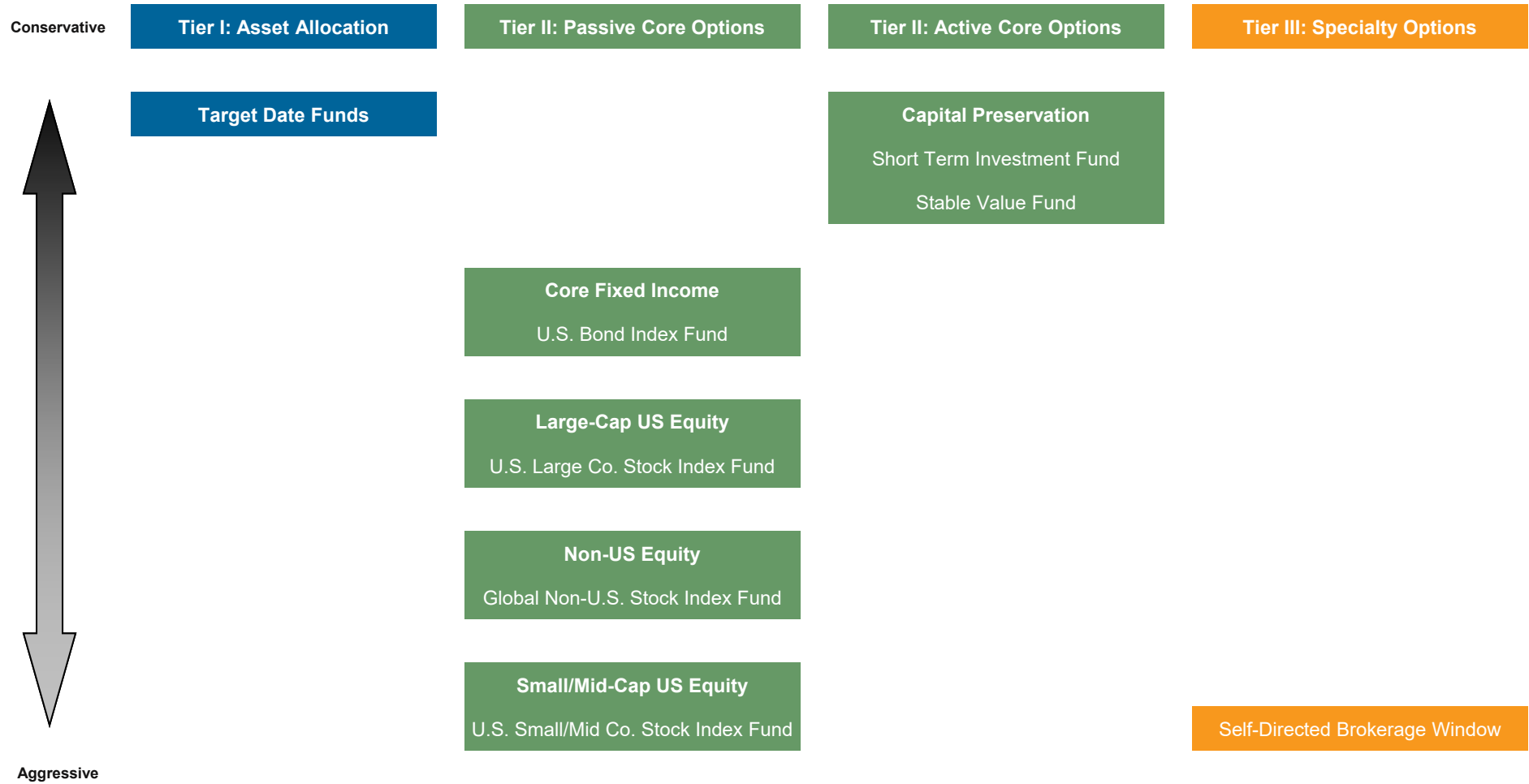
## Wrap Provider Exposure\*

Contract Issuer	Portfolio	Average Fee	Moody's Rating	S&P Rating	Fitch Rating
Nationwide Life Insurance	20.39%	0.15%	A1	A+	NR
Transamerica	20.28%	0.15%	A1	A+	WD
RGA	15.32%	0.15%	A1	AA-	A
Prudential Insurance Co.	15.31%	0.15%	Aa3	AA-	AA-
State Street Bank	12.73%	0.15%	Aa2	AA-	AA+
Pacific Life Insurance Co.	12.79%	0.15%	Aa3	AA-	AA-
	97.35%	0.15%			

\*Source: Invesco

# 457(b) Plan Investment Structure

## Lineup Mapped to Callan's Clean Sheet



Callan

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**Appendix – Callan Update**

# Published Research Highlights from 2Q23

2023 Private Credit Fees and Terms Study



The Critical Underlying Technology Behind Digital Assets: A Primer for Institutional Investors



Understanding the DNA of the U.S. Life Sciences Sector



Research Café: ESG Interview Series Session



## Recent Blog Posts

**Biodiversity: A Relatively New Theme for ESG-focused Investors**

Kristin Bradbury

**How Your Public DB Plan's Returns Compare**

Public DB Plan Focus Group

**How to Improve DC Plans with DEI**

Jana Steele

## Additional Reading

*Alternatives Focus* quarterly newsletter

Active vs. Passive quarterly charts

*Capital Markets Review* quarterly newsletter

Monthly Updates to the Periodic Table

*Market Pulse Flipbook* quarterly markets update

*Real Estate Indicators* market outlook

# Callan Institute Events

Upcoming conferences, workshops, and webinars

## Callan College

### Intro to Alternatives

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with alternative investments like private equity, hedge funds, and real estate and how they can play a key role in any portfolio. You will learn about the importance of allocations to alternatives and how to consider integrating, evaluating, and monitoring them.

– August 23-24, 2023 – Virtual Session via Zoom

### Intro to Investments—Learn the Fundamentals

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with basic investment theory, terminology, and practices.

– September 26–28, 2023 – Virtual Session via Zoom

– November 1–2, 2023 – Atlanta, Georgia

Please visit our website at [callan.com/events-education](https://callan.com/events-education) as we add dates to our 2023 calendar!

## Mark Your Calendar

### 2023 Regional Workshops

October 24, 2023 – New York

October 26, 2023 – Chicago

### 2024 National Conference

April 8 –10, 2024 – San Francisco

*Watch your email for further details and an invitation.*

## Webinars & Research Café Sessions

### Webinar:

### The End of the Low-Yield Environment

August 9, 2023 – 9:30am (PT)

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