

February 8, 2024



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

Fourth Quarter 2023

Executive Summary

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Callan

Market Environment

Equity Markets Surge in 4Q, Following Decline in 3Q

Stocks have recovered losses of 2022, bonds still have ground to make up

S&P 500 surged 11.7% in 4Q23

- Loss through first three quarters of 2022 was 23.9%; the rebound in the following five quarters brought the index back to a positive return of 1.7% over the past two years.

Fixed income recovered in 4Q

- The Bloomberg Aggregate surged 6.8% after suffering a sharp loss of 3.2% in 3Q.
- The Aggregate was on track for another negative year through 3Q; softening Fed language on rates in 4Q turned the market around.
- CPI-U: declined in 4Q compared to 3Q but is still up 3.4% year-over-year, and the index is 10% higher than it was at the start of 2022

Economy defied recession fears

- GDP growth came in at 2.1% in 1Q, 2.2% in 2Q, 4.9% in 3Q, and a very healthy 3.3% in 4Q.

Returns for Periods ended 12/31/23

	Quarter	1 Year	2 Years	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	12.07	25.96	0.88	15.16	11.48	7.74
S&P 500	11.69	26.29	1.69	15.69	12.03	7.56
Russell 2000	14.03	16.93	-3.55	9.97	7.16	7.91
Global ex-U.S. Equity						
MSCI World ex USA	10.51	17.94	0.54	8.45	4.32	4.62
MSCI Emerging Markets	7.86	9.83	-6.32	3.69	2.66	--
MSCI ACWI ex USA Small Cap	10.12	15.66	-3.79	7.89	4.88	7.28
Fixed Income						
Bloomberg Aggregate	6.82	5.53	-4.19	1.10	1.81	3.85
90-day T-Bill	1.37	5.01	3.22	1.88	1.25	1.90
Bloomberg Long Gov/Credit	13.24	7.13	-11.62	1.12	3.22	5.21
Bloomberg Global Agg ex-US	9.21	5.72	-7.29	-1.56	-0.79	2.25
Real Estate						
NCREIF Property Index	-3.02	-7.94	-1.44	4.33	6.80	8.03
FTSE Nareit Equity	16.22	13.73	-7.25	7.39	7.65	9.27
Alternatives						
HFRI Fund Weighted	3.64	7.57	1.55	7.01	4.54	6.31
Cambridge Private Equity*	-0.42	4.17	0.19	14.59	14.27	13.87
Bloomberg Commodity	-4.63	-7.91	3.40	7.23	-1.11	2.83
Gold Spot Price	11.02	13.45	6.44	10.09	5.59	8.19
Inflation - CPI-U	-0.34	3.35	4.89	4.07	2.79	2.54

*Cambridge PE data as of 9/30/23.

Sources: Bloomberg, Callan, Cambridge, FTSE Russell, HFRI, 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	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%	26.29%
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%	17.94%
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%	16.93%
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%	13.44%
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%	9.83%
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	Hedge Funds
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%	5.83%
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	Non-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%	5.72%
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	U.S. Fixed
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%	5.53%
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	Cash Equivalent
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%	5.01%
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%	-12.73%

- 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

DC Industry Talking Points

Good time to undertake reviews of plan features, offerings

Forfeiture usage should be reviewed and confirmed

- ▶ DOL successfully sued employer in 3Q23 for misusing forfeitures. The plan sponsor used the forfeitures to reduce employer contributions, when the plan document said forfeitures were to be used to pay plan fees.
- ▶ The plan sponsor is required to restore participant balances back to 2012, including those who have left the plan since then, and pay \$57,500 in penalties to the department.
- ▶ This follows litigation brought by plan participants and also reflects a more aggressive DOL.
- ▶ IRS has provided a “holiday” in 2024 to correct past forfeiture failures.

SECURE 2.0 in 2024

- ▶ Roth contributions should now be excluded from RMD calculations, supporting participants’ ability to retain their savings in-plan.
- ▶ Plan sponsor should check with its recordkeeper to understand how this Roth provision is being implemented and communicated to participants.
- ▶ Consideration for some of the optional provisions may require a work plan with the recordkeeper to evaluate and determine their cost benefit for possible implementation.

Managed Account Reviews

- ▶ For plan sponsors offering a managed account, 2024 would be a good time to reevaluate their methodology and role within the plan.
- ▶ Additional consideration should be given to how participants engage with the service, how managed accounts are reflected in the IPS, and what outcomes the managed account is providing to participants.

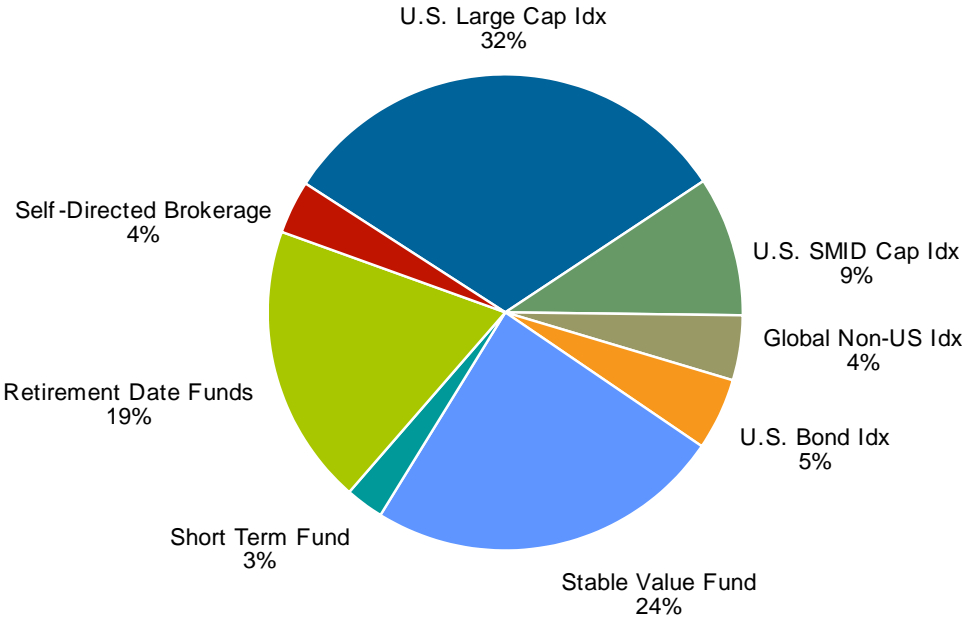
Callan

PA SERS 457(b) Plan Performance Review

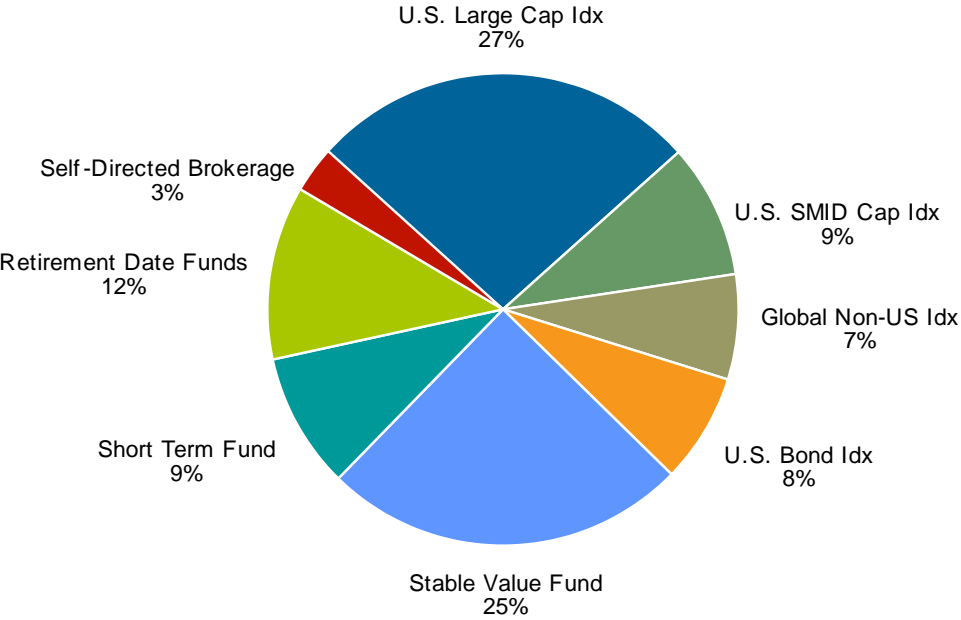
457(b) Plan Asset Allocation & Contributions

As of December 31, 2023

Asset Allocation



Contributions



Asset Allocation

As of December 31, 2023

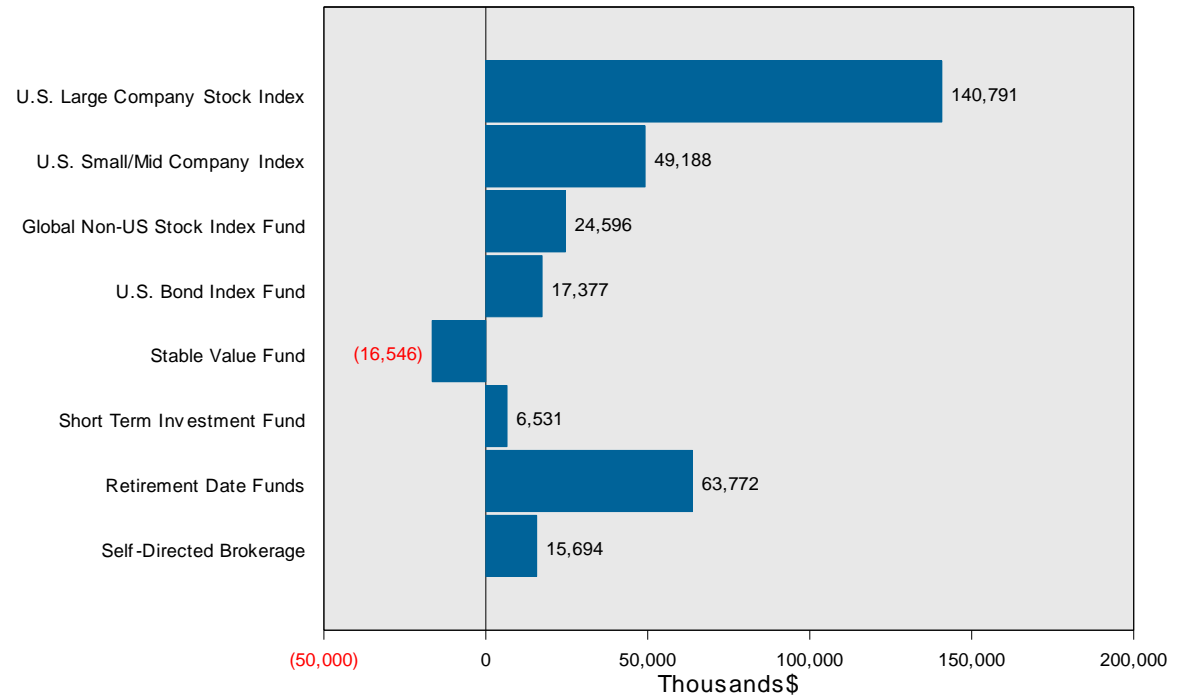
	December 31, 2023			Inv. Return	September 30, 2023	
	Market Value	Weight	Net New Inv.		Market Value	Weight
SERS Retirement Date Funds	\$867,435,193	19.08%	\$(12,094,323)	\$75,866,204	\$803,663,312	18.93%
SERS Post Retirement Fund	210,801,358	4.64%	(8,256,662)	16,216,432	202,841,589	4.78%
SERS 2025 Retirement Fund	137,104,337	3.02%	(5,098,278)	10,942,995	131,259,620	3.09%
SERS 2030 Retirement Fund	143,130,644	3.15%	(276,014)	12,308,399	131,098,258	3.09%
SERS 2035 Retirement Fund	132,192,046	2.91%	(1,066,448)	12,085,441	121,173,053	2.85%
SERS 2040 Retirement Fund	87,918,716	1.93%	403,016	8,483,872	79,031,827	1.86%
SERS 2045 Retirement Fund	73,947,572	1.63%	122,916	7,443,394	66,381,262	1.56%
SERS 2050 Retirement Fund	50,224,786	1.10%	669,449	5,140,105	44,415,231	1.05%
SERS 2055 Retirement Fund	19,104,164	0.42%	437,714	1,946,444	16,720,005	0.39%
SERS 2060 Retirement Fund	8,078,098	0.18%	489,715	816,795	6,771,589	0.16%
SERS 2065 Retirement Fund	4,933,472	0.11%	480,270	482,326	3,970,877	0.09%
SERS U.S. Equity	\$1,868,913,655	41.10%	\$(17,717,641)	\$207,696,017	\$1,678,935,279	39.54%
SERS U.S. Large Company Index Fund	1,437,650,055	31.62%	(10,079,583)	150,870,430	1,296,859,208	30.54%
SERS U.S. SMID Company Index Fund	431,263,600	9.48%	(7,638,059)	56,825,587	382,076,072	9.00%
SERS Non-U.S. Equity	\$200,320,456	4.41%	\$6,846,021	\$17,749,710	\$175,724,725	4.14%
SERS Global Non-US Index Fund	200,320,456	4.41%	6,846,021	17,749,710	175,724,725	4.14%
SERS Fixed Income	\$1,445,052,441	31.78%	\$(15,309,386)	\$22,670,441	\$1,437,691,386	33.86%
SERS Short Term Investment Fund	118,919,728	2.62%	5,078,193	1,452,392	112,389,142	2.65%
SERS Stable Value Fund	1,103,290,857	24.26%	(23,787,626)	7,241,189	1,119,837,294	26.37%
SERS U.S. Bond Index Fund	222,841,856	4.90%	3,400,047	13,976,859	205,464,949	4.84%
Self-Directed Brokerage Account	\$165,558,638	3.64%	\$401,303	\$15,293,147	\$149,864,187	3.53%
Total Fund	\$4,547,280,383	100.0%	\$(37,874,025)	\$339,275,519	\$4,245,878,889	100.0%

Changes in Market Values and Contributions

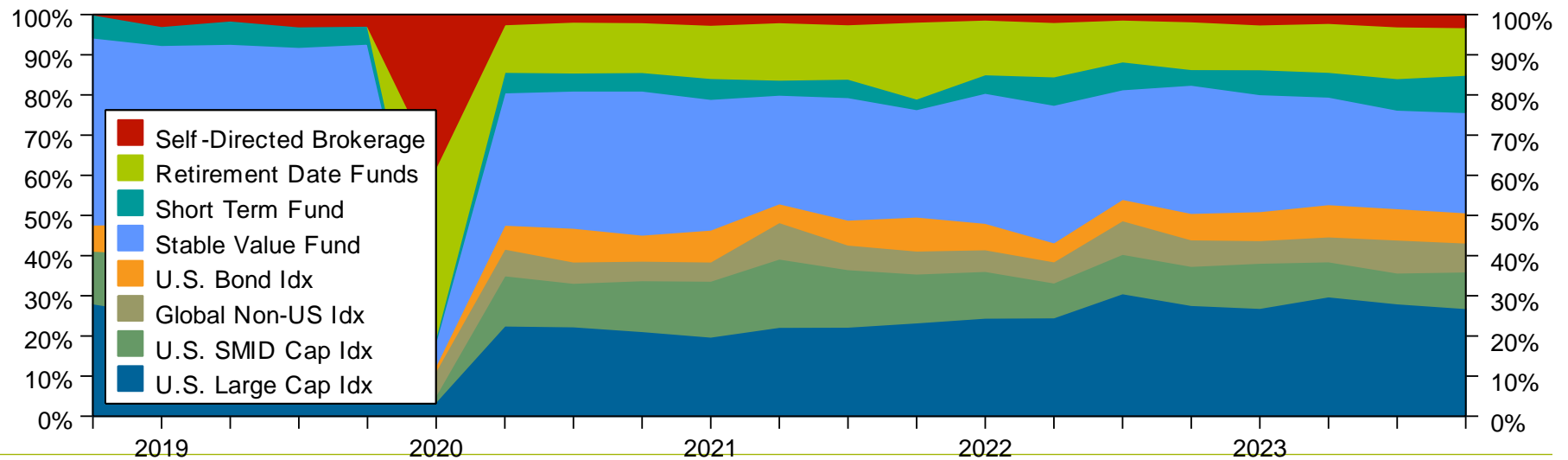
As of December 31, 2023

- The chart to the right shows the change in fund values across the various investment options for the quarter ended December 31, 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.



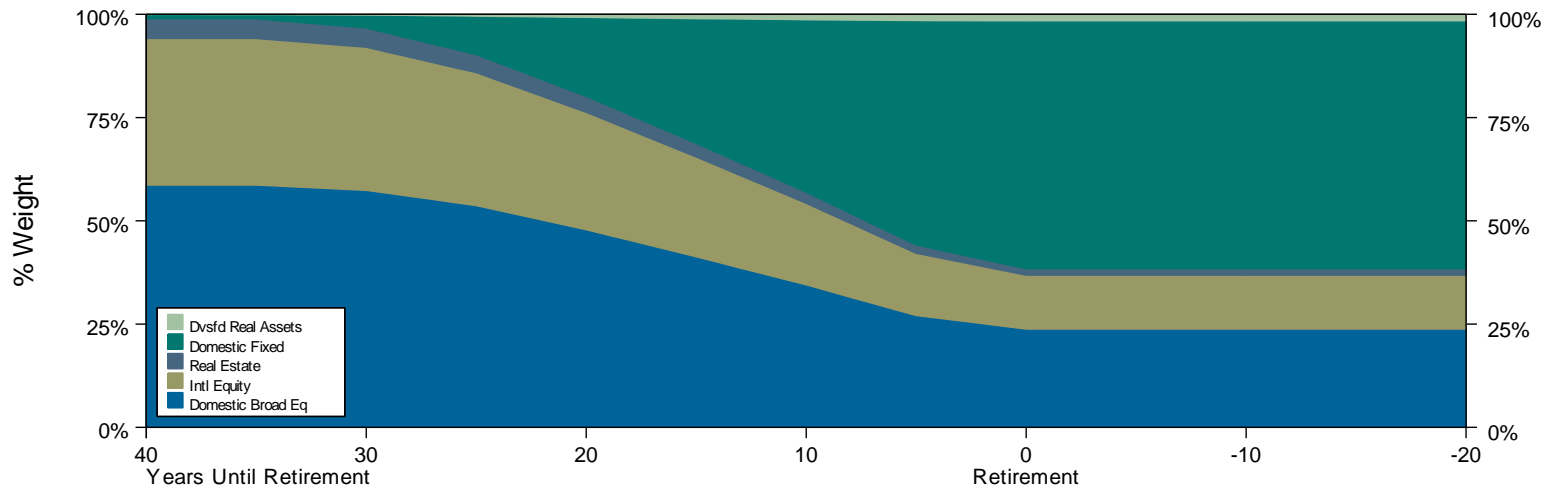
Historical Allocation of Contributions



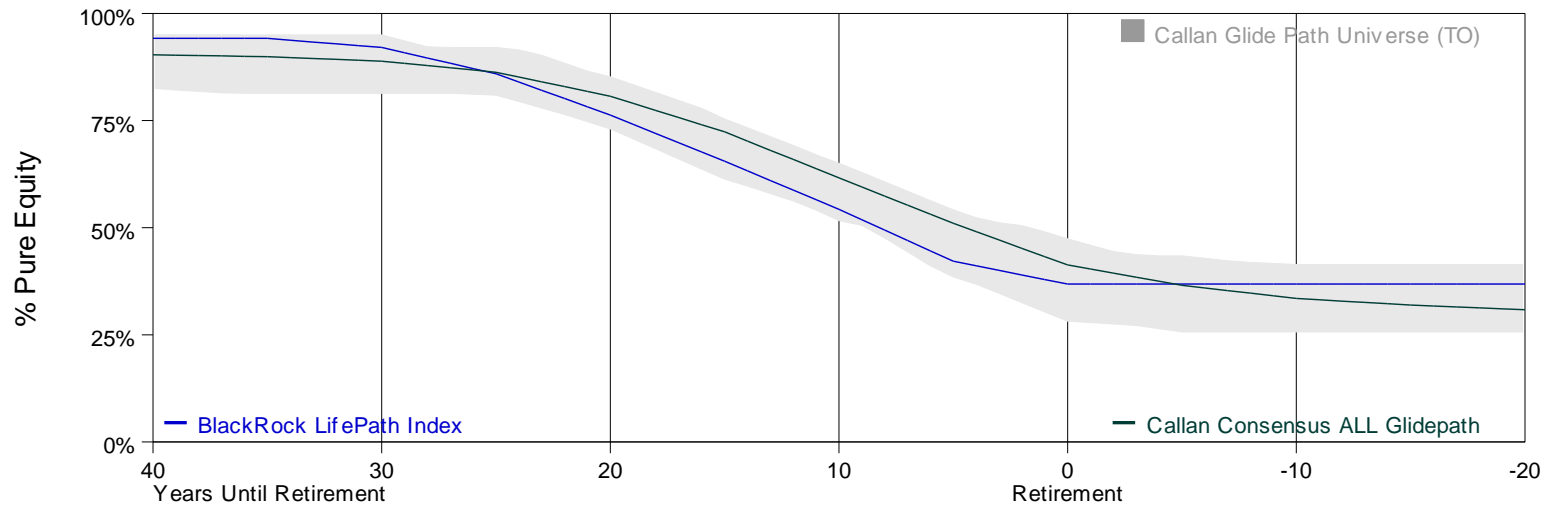
Blackrock LifePath Retirement Funds

Glidepath and Equity Roll-down Exposure as of December 31, 2023

BlackRock LifePath Retirement Funds Glidepath



BlackRock LifePath Retirement Funds Equity Roll-down Exposure



Cumulative Performance - Net of Fees

As of December 31, 2023

	Last Quarter	Last 1 Year	Last 3 Years	Last 5 Years
Net Performance				
Retirement Date Funds				
SERS Post Retirement Fund	8.31%	11.13%	0.49%	5.61%
BlackRock Post Retirement Index	8.37%	11.11%	0.54%	5.61%
Callan Tgt Date Ret Inc	7.46%	10.57%	0.58%	4.83%
SERS 2025 Retirement Fund	8.67%	12.00%	1.15%	6.60%
BlackRock 2025 Index	8.71%	11.94%	1.17%	6.58%
Callan Target Date 2025	8.60%	12.85%	1.86%	7.13%
SERS 2030 Retirement Fund	9.46%	14.24%	2.27%	7.84%
BlackRock 2030 Index	9.51%	14.23%	2.31%	7.82%
Callan Target Date 2030	9.34%	14.56%	2.54%	8.18%
SERS 2035 Retirement Fund	10.10%	16.29%	3.32%	9.00%
BlackRock 2035 Index	10.12%	16.29%	3.33%	8.96%
Callan Target Date 2035	9.93%	16.37%	3.33%	9.16%
SERS 2040 Retirement Fund	10.71%	18.30%	4.28%	10.05%
BlackRock 2040 Index	10.71%	18.29%	4.26%	9.99%
Callan Target Date 2040	10.41%	18.04%	4.23%	9.95%
SERS 2045 Retirement Fund	11.26%	20.14%	5.11%	10.94%
BlackRock 2045 Index	11.22%	20.12%	5.07%	10.86%
Callan Target Date 2045	10.80%	19.31%	4.71%	10.55%
SERS 2050 Retirement Fund	11.50%	21.25%	5.58%	11.41%
BlackRock 2050 Index	11.44%	21.23%	5.52%	11.33%
Callan Target Date 2050	10.95%	19.94%	4.87%	10.67%
SERS 2055 Retirement Fund	11.49%	21.56%	5.69%	11.51%
BlackRock 2055 Index	11.43%	21.56%	5.64%	11.44%
Callan Target Date 2055	11.03%	20.05%	4.94%	10.79%
SERS 2060 Retirement Fund	11.50%	21.57%	5.68%	11.51%
BlackRock 2060 Index	11.44%	21.57%	5.64%	11.44%
Callan Target Date 2060	11.05%	20.09%	4.98%	10.82%
SERS 2065 Retirement Fund	11.51%	21.62%	5.68%	-
BlackRock 2065 Index	11.45%	21.59%	5.63%	-
Callan Target Date 2065	11.16%	20.27%	4.81%	11.04%

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 December 31, 2023

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Retirement Date Funds				
SERS Post Retirement Fund	4.90%	4.45%	6.03%	-
BlackRock Post Retirement Index	4.88%	4.43%	6.04%	5.11%
Callan Tgt Date Ret Inc	4.27%	3.87%	5.51%	4.19%
SERS 2025 Retirement Fund	5.88%	5.26%	7.58%	-
BlackRock 2025 Index	5.84%	5.21%	7.57%	5.76%
Callan Target Date 2025	6.31%	5.56%	8.15%	6.21%
SERS 2030 Retirement Fund	6.88%	6.00%	8.35%	-
BlackRock 2030 Index	6.83%	5.94%	8.33%	6.20%
Callan Target Date 2030	7.12%	6.17%	8.93%	6.22%
SERS 2035 Retirement Fund	7.82%	6.70%	9.07%	-
BlackRock 2035 Index	7.75%	6.61%	9.03%	6.59%
Callan Target Date 2035	7.89%	6.77%	9.51%	7.00%
SERS 2040 Retirement Fund	8.65%	7.31%	9.70%	-
BlackRock 2040 Index	8.56%	7.20%	9.64%	6.91%
Callan Target Date 2040	8.52%	7.27%	9.97%	6.76%
SERS 2045 Retirement Fund	9.32%	7.79%	10.22%	-
BlackRock 2045 Index	9.20%	7.67%	10.16%	7.19%
Callan Target Date 2045	8.92%	7.59%	10.13%	-
SERS 2050 Retirement Fund	9.65%	8.03%	10.61%	-
BlackRock 2050 Index	9.53%	7.91%	10.55%	7.51%
Callan Target Date 2050	9.04%	7.64%	10.21%	-
SERS 2055 Retirement Fund	9.72%	8.08%	-	-
BlackRock 2055 Index	9.61%	7.96%	-	-
Callan Target Date 2055	9.14%	7.79%	10.96%	-
SERS 2060 Retirement Fund	9.71%	-	-	-
BlackRock 2060 Index	9.61%	-	-	-
Callan Target Date 2060	9.16%	7.97%	-	-

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 December 31, 2023

	Last Quarter	Last 1 Year	Last 3 Years	Last 5 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index	11.69%	26.29%	10.00%	15.69%
S&P 500 Index	11.69%	26.29%	10.00%	15.69%
Callan Lg Cap Broad MF	12.05%	25.85%	8.52%	14.44%
SERS U.S. SMID Company Index	15.14%	25.39%	1.50%	12.10%
Dow Jones US Completion	14.92%	24.99%	1.04%	11.77%
Callan SMID Broad MFs	11.63%	16.85%	3.90%	11.62%
International Equity				
SERS Global Non-US Index	9.92%	16.07%	1.76%	7.36%
MSCI ACWI ex US	9.75%	15.62%	1.55%	7.08%
Callan Non US Equity MFs	10.36%	17.70%	2.99%	8.27%
Domestic Fixed Income				
SERS Short Term Investment Fund	1.32%	5.00%	2.20%	1.91%
3-month Treasury Bill	1.37%	5.01%	2.15%	1.88%
Callan Cash Database(1)	1.53%	5.32%	2.25%	2.07%
SERS Stable Value Fund	0.69%	2.66%	2.01%	2.19%
3-month Treasury Bill	1.37%	5.01%	2.15%	1.88%
Callan Stable Value SA	0.71%	2.75%	2.20%	2.32%
SERS U.S. Bond Index Fund	6.82%	5.54%	(3.32%)	1.10%
Blmbg Aggregate	6.82%	5.53%	(3.31%)	1.10%
Callan Core Bond MFs	6.88%	5.98%	(3.16%)	1.47%

(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 December 31, 2023

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index	13.42%	12.04%	14.00%	9.73%
S&P 500 Index	13.42%	12.03%	13.97%	9.69%
Callan Lg Cap Broad MF	12.89%	11.13%	13.37%	9.57%
SERS U.S. SMID Company Index	9.58%	8.67%	13.18%	9.59%
Dow Jones US Completion	9.29%	8.41%	12.94%	9.35%
Callan SMID Broad MFs	8.85%	7.87%	12.76%	9.09%
International Equity				
SERS Global Non-US Index	6.64%	4.06%	-	-
MSCI ACWI ex US	6.33%	3.83%	6.74%	5.68%
Callan Non US Equity MFs	6.82%	4.14%	7.27%	6.03%
Domestic Fixed Income				
SERS Short Term Investment Fund	1.82%	1.36%	1.01%	1.60%
3-month Treasury Bill	1.73%	1.25%	0.87%	1.46%
Callan Cash Database(1)	1.95%	1.54%	1.24%	1.83%
SERS Stable Value Fund	2.16%	2.16%	2.57%	-
3-month Treasury Bill	1.73%	1.25%	0.87%	1.46%
Callan Stable Value SA	2.30%	2.22%	2.52%	3.10%
SERS U.S. Bond Index Fund	1.29%	1.80%	2.61%	3.14%
Blmbg Aggregate	1.29%	1.81%	2.68%	3.17%
Callan Core Bond MFs	1.56%	2.00%	3.39%	3.39%

(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 December 31, 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
Net of Fee Performance									
Retirement Date Funds									
SERS Post Retirement Fund Callan Tgt Date Ret Inc	8.3 16	11.1 29	0.5 56	5.6 18	4.9 16	4.4 13			0.08 73
BlackRock Post Retirement Index	8.4 15	11.1 30	0.5 53	5.6 18	4.9 16	4.4 13			
SERS 2025 Retirement Fund Callan Target Date 2025	8.7 44	12.0 66	1.1 81	6.6 73	5.9 70	5.3 68			0.08 72
BlackRock 2025 Index	8.7 42	11.9 69	1.2 78	6.6 73	5.8 71	5.2 69			
SERS 2030 Retirement Fund Callan Target Date 2030	9.5 44	14.2 62	2.3 69	7.8 66	6.9 63	6.0 66			0.08 70
BlackRock 2030 Index	9.5 41	14.2 62	2.3 67	7.8 70	6.8 71	5.9 70			
SERS 2035 Retirement Fund Callan Target Date 2035	10.1 40	16.3 53	3.3 53	9.0 57	7.8 52	6.7 55			0.08 72
BlackRock 2035 Index	10.1 39	16.3 53	3.3 50	9.0 57	7.7 57	6.6 63			
SERS 2040 Retirement Fund Callan Target Date 2040	10.7 33	18.3 41	4.3 46	10.0 43	8.7 35	7.3 48			0.08 68
BlackRock 2040 Index	10.7 34	18.3 41	4.3 48	10.0 47	8.6 43	7.2 52			
SERS 2045 Retirement Fund Callan Target Date 2045	11.3 12	20.1 20	5.1 25	10.9 26	9.3 26	7.8 32			0.08 72
BlackRock 2045 Index	11.2 15	20.1 22	5.1 27	10.9 29	9.2 32	7.7 43			
SERS 2050 Retirement Fund Callan Target Date 2050	11.5 10	21.2 10	5.6 18	11.4 12	9.7 17	8.0 26			0.08 68
BlackRock 2050 Index	11.4 16	21.2 10	5.5 20	11.3 16	9.5 24	7.9 36			
SERS 2055 Retirement Fund Callan Target Date 2055	11.5 16	21.6 8	5.7 14	11.5 10	9.7 11	8.1 27			0.08 72
BlackRock 2055 Index	11.4 26	21.6 8	5.6 16	11.4 14	9.6 23	8.0 43			
SERS 2060 Retirement Fund Callan Target Date 2060	11.5 18	21.6 10	5.7 14	11.5 18	9.7 21				0.08 75
BlackRock 2060 Index	11.4 25	21.6 10	5.6 17	11.4 20	9.6 30				

Returns:
■ above median
■ third quartile
■ fourth quartile

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

Risk Quadrant:

Return
Risk

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 December 31, 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
SERS 2065 Retirement Fund Callan Target Date 2065 BlackRock 2065 Index	11.5 25 11.5 32	21.6 13 21.6 15	5.7 20 5.6 22						0.08 47
Domestic Equity									
SERS U.S. Large Company Index Callan Lg Cap Broad MF S&P 500 Index	11.7 57 11.7 57	26.3 49 26.3 49	10.0 30 10.0 30	15.7 38 15.7 38	13.4 48 13.4 48	12.0 36 12.0 36			0.02 100
SERS U.S. Small/Mid Company Index Callan SMID Broad MFs Dow Jones US Completion	15.1 7 14.9 8	25.4 8 25.0 13	1.5 58 1.0 60	12.1 37 11.8 46	9.6 44 9.3 48	8.7 32 8.4 39			0.03 100
International Equity									
SERS Global Non-U.S. Index Fund Callan Non US Equity MFs MSCI ACWI ex US	9.9 60 9.8 61	16.1 67 15.6 75	1.8 61 1.5 63	7.4 68 7.1 72	6.6 55 6.3 61	4.1 55 3.8 61			0.05 99
Domestic Fixed Income									
SERS Short Term Investment Fund Callan Cash Database 3-month Treasury Bill	1.3 96 1.4 85	5.0 89 5.0 89	2.2 57 2.2 58	1.9 84 1.9 85	1.8 72 1.7 89	1.4 75 1.3 91			0.00 100
Comments: Callan Cash Database includes STIF, enhanced cash, and money market funds.									
SERS Stable Value Fund Callan Stable Value SA 3-month Treasury Bill	0.7 81 1.4 2	2.7 77 5.0 2	2.0 75 2.2 57	2.2 70 1.9 90	2.2 69 1.7 92	2.2 67 1.3 96			0.25 78
SERS U.S. Bond Index Fund Callan Core Bond MFs Blmbg Aggregate	6.8 57 6.8 58	5.5 86 5.5 86	-3.3 60 -3.3 60	1.1 88 1.1 88	1.3 83 1.3 83	1.8 79 1.8 78			0.02 98

Returns:
 above median
 third quartile
 fourth quartile

Return Consistency:
 above median
 third quartile
 fourth quartile

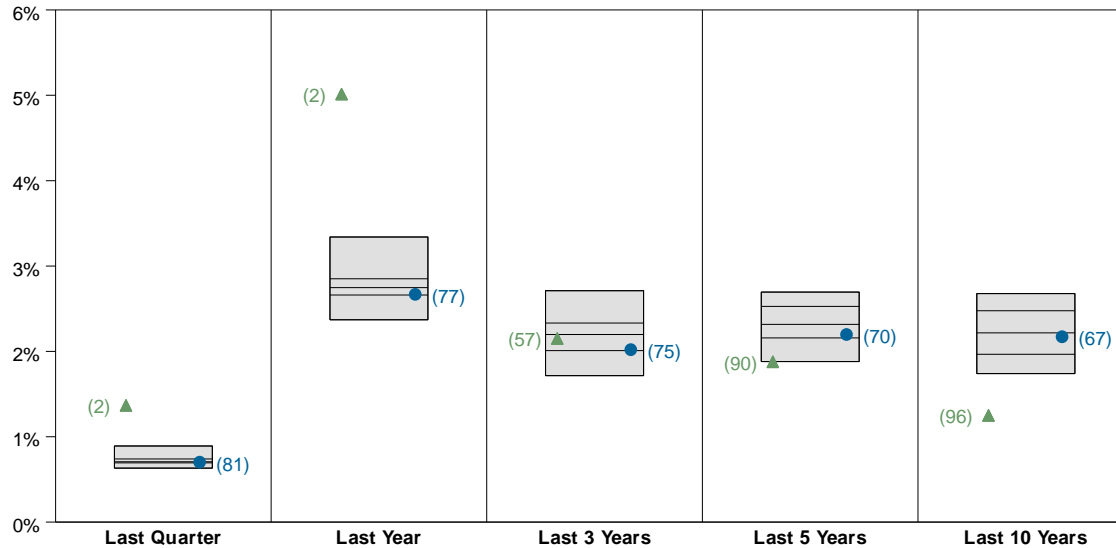
Risk Quadrant:

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 December 31, 2023

Performance vs Callan Stable Value SA (Gross)



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	0.89	3.34	2.71	2.69	2.68
25th Percentile	0.74	2.85	2.33	2.53	2.48
Median	0.71	2.75	2.20	2.32	2.22
75th Percentile	0.69	2.66	2.01	2.16	1.97
90th Percentile	0.63	2.37	1.72	1.88	1.74

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
SERS Stable Value Fund	0.69	2.66	2.01	2.19	2.16
3-month Treasury Bill	1.37	5.01	2.15	1.88	1.25

Manager Diversification*	
Manager	Portfolio
Jennison	2.7%
Dodge & Cox	4.1%
Invesco	61.2%
Loomis Sayles	9.7%
PFM	9.2%
Ramirez (DWDO Manager)	9.3%
STIF	3.9%
Total	100%

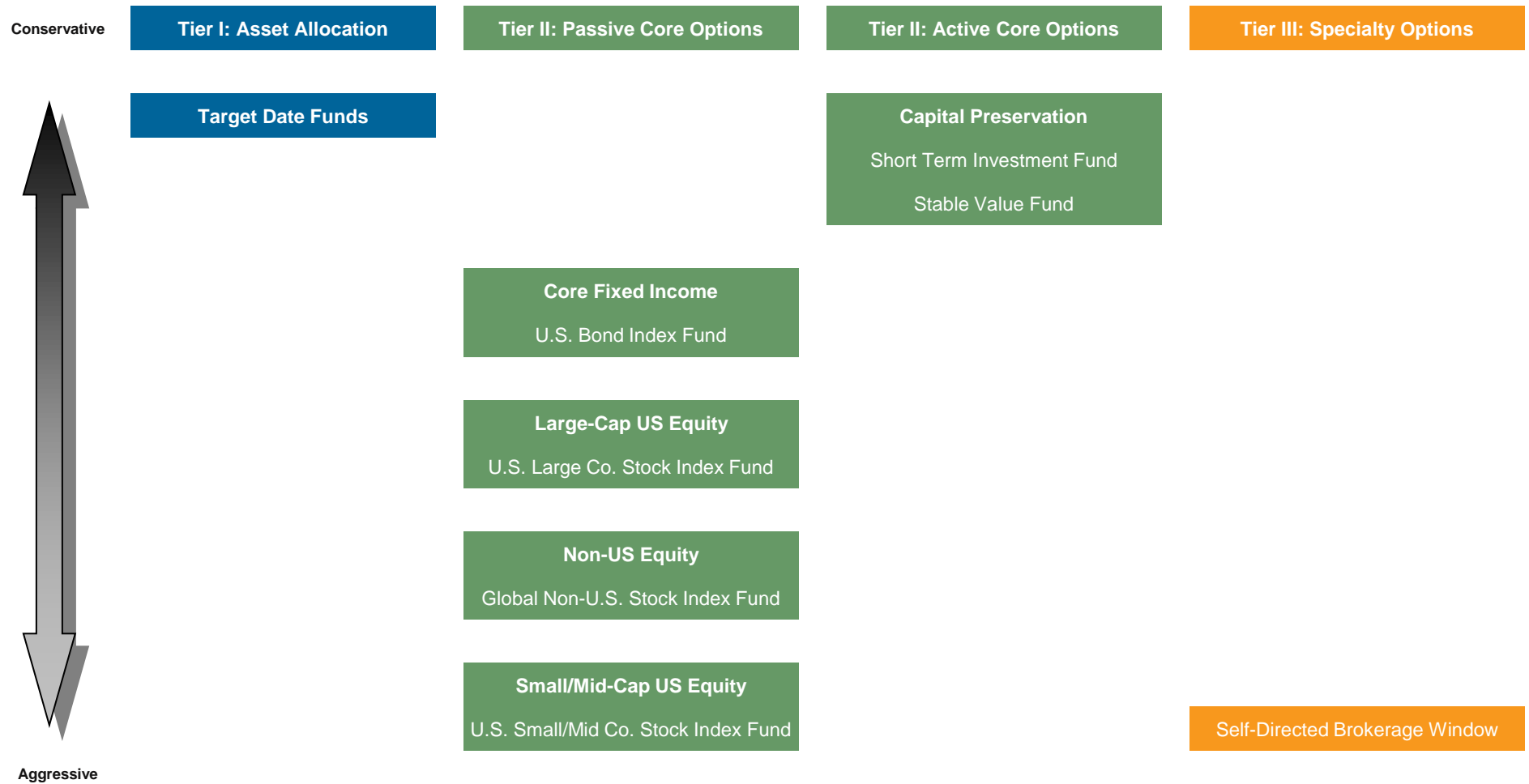
Wrap Provider Exposure*

Contract Issuer	Portfolio	Average Fee	Moody's Rating	S&P Rating	Fitch Rating
Nationwide Life Insurance	20.28%	0.15%	A1	A+	NR
Transamerica	20.20%	0.15%	A1	A+	WD
RGA	15.25%	0.15%	A1	AA-	A
Prudential Insurance Co.	15.24%	0.15%	Aa3	AA-	AA-
Pacific Life Insurance	12.73%	0.15%	Aa3	AA-	AA-
State Street Bank	12.63%	0.15%	Aa2	AA-	AA+
	96.33%	0.14%			

*Source: Invesco

457(b) Plan Investment Structure

Lineup Mapped to Callan's Clean Sheet



Callan

Appendix – Callan Update

Published Research Highlights from 4Q23

2023 Nuclear Decommissioning Funding Study



2023 Investment Management Fee Study



2023 Asset Manager ESG Study



Callan's Retirement Conundrum Webinar



Recent Blog Posts

ILS on Pace for Banner Year in 2023

Sean Lee

Carbon-Footprinting Basics for Institutional Investors

Amit Bansal

Key Issues to Know for the Proposed Fiduciary Rule

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 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.

- March 19-21, 2024 – Virtual Session via Zoom
- June 18-19, 2024 – In Person Session in Chicago

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.

- February 21–22, 2024 – Virtual Session via Zoom

Please visit our website at callan.com/events-education as we add dates to our 2024 calendar!

Mark Your Calendar

2024 National Conference

April 8–10, 2024 – San Francisco

2024 Regional Workshops

June 25, 2024 – Atlanta

June 27, 2024 – San Francisco

October 22, 2024 – Denver

October 24, 2024 – Location TBD

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Webinar: Capital Markets Assumptions

January 17, 2024 – Virtual Session via Zoom

Webinar: Market Intelligence

January 19, 2024 – Virtual Session via Zoom

Research Café: ESG Interview Series

March 12, 2024 – Virtual Session via Zoom

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