

November 2023



**Pennsylvania State Employees'
Retirement System – 401(a) Plan**

Third Quarter 2023

Executive Summary

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Callan

Market Environment

Equity Markets Down in 3Q, Following Rebound in First Half of 2023

Stocks and bonds still have ground to make up after declines in 2022

- ▶ S&P 500 down 3.3% in 3Q23.
 - Loss through first three quarters of 2022 was 23.9%; rebound in the following three quarters reduced the loss to 2.9% by June, but decline in 3Q shows S&P is still over 7% below 1/2022 high-water mark
- ▶ Fixed income recovered in first half of 2023 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 and another 3.2% in 3Q as Fed continued to raise rates
 - CPI-U: +3.7% year-over year for 3Q, and still up 5.8% since the start of 2022
- ▶ Economic data defied expectations of recession in 2023; GDP growth came in at 2.1% in 1Q and 2.2% in 2Q, and surged to a stunning 4.9% in 3Q
 - Job market remains solid, providing support to Fed efforts to fight inflation

Returns for Periods ended 9/30/23

	Quarter	YTD	Since 1/2022	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	-3.25	12.39	-5.36	9.14	11.28	8.09
S&P 500	-3.27	13.07	-4.30	9.92	11.91	7.92
Russell 2000	-5.13	2.54	-10.98	2.40	6.65	8.00
Global ex-U.S. Equity						
MSCI World ex USA	-4.10	6.73	-4.97	3.44	3.84	4.98
MSCI Emerging Markets	-2.93	1.82	-11.12	0.56	2.07	--
MSCI ACWI ex USA Small Cap	-1.70	5.03	-9.45	2.58	4.35	7.41
Fixed Income						
Bloomberg Aggregate	-3.23	-1.21	-8.29	0.10	1.13	3.59
90-day T-Bill	1.31	3.60	2.89	1.72	1.11	1.89
Bloomberg Long Gov/Credit	-9.37	-5.40	-19.12	-1.21	1.94	4.67
Bloomberg Global Agg ex-US	-4.00	-3.20	-12.79	-3.10	-1.73	2.04
Real Estate						
NCREIF Property	-1.98	-5.66	-0.26	5.13	7.33	8.29
FTSE Nareit Equity	-7.13	-2.14	-15.80	2.77	5.96	8.49
Alternatives						
CS Hedge Fund Index	1.81	3.71	2.72	4.77	4.08	5.96
Cambridge Private Equity*	1.59	3.71	0.39	15.37	14.91	13.67
Bloomberg Commodity	4.71	-3.44	6.74	6.13	-0.75	2.45
Gold Spot Price	-3.28	2.18	1.17	9.30	3.47	7.60
Inflation - CPI-U	0.88	3.70	5.81	4.04	2.77	2.56

*Cambridge PE data as of 2Q23

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	3 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%	13.07%
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%	6.73%
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	High Yield
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%	5.86%
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	Hedge Funds
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%	3.71%
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	Cash Equivalent
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%	3.60%
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	Small Cap
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%	2.54%
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	Emerging Markets
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%	1.82%
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%	-1.21%
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%	-3.20%
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%	-8.14%

- 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

Roth Catch-Ups, DOL Advisory Opinion, & Litigation

Implementation of Roth catch-up contributions delayed

- ▶ SECURE 2.0 included a provision requiring age-50 catch-up contributions be made on a Roth basis for individuals making more than \$145,000 in the previous year.
- ▶ In August, the IRS delayed implementation of this provision from 2024 to 2026.
- ▶ Plan sponsors, recordkeepers, and payroll providers continue to engage on what and how to implement.

DOL Advisory Opinion to Citigroup

- ▶ In October, the DOL issued an Advisory Opinion stating that a program established by Citigroup that involves the payment of fees for diverse asset managers overseeing assets in the firm's retirement plans would not violate ERISA.
- ▶ The DOL said that Citigroup's payment of these fees would represent a settlor function, and the inclusion of diverse managers would not violate ERISA as long as plan fiduciaries exercised the same processes and care as with the selection and/or retention of any other asset managers.

Litigation roundup

- ▶ Litigation involving DC plans has continued apace in 2023.
- ▶ Common areas targeted by plaintiffs have included the selection and/or retention of investment options (with a recent particular focus on target date funds) and the level and competitiveness of plan fees.
- ▶ More recently, several lawsuits have challenged plan fiduciaries' use of forfeitures to offset future employer contributions rather than cover plan expenses. The cases are ongoing.
- ▶ The ongoing pace of litigation reinforces the need for plan fiduciaries to continue managing and reviewing fees, funds, and services.

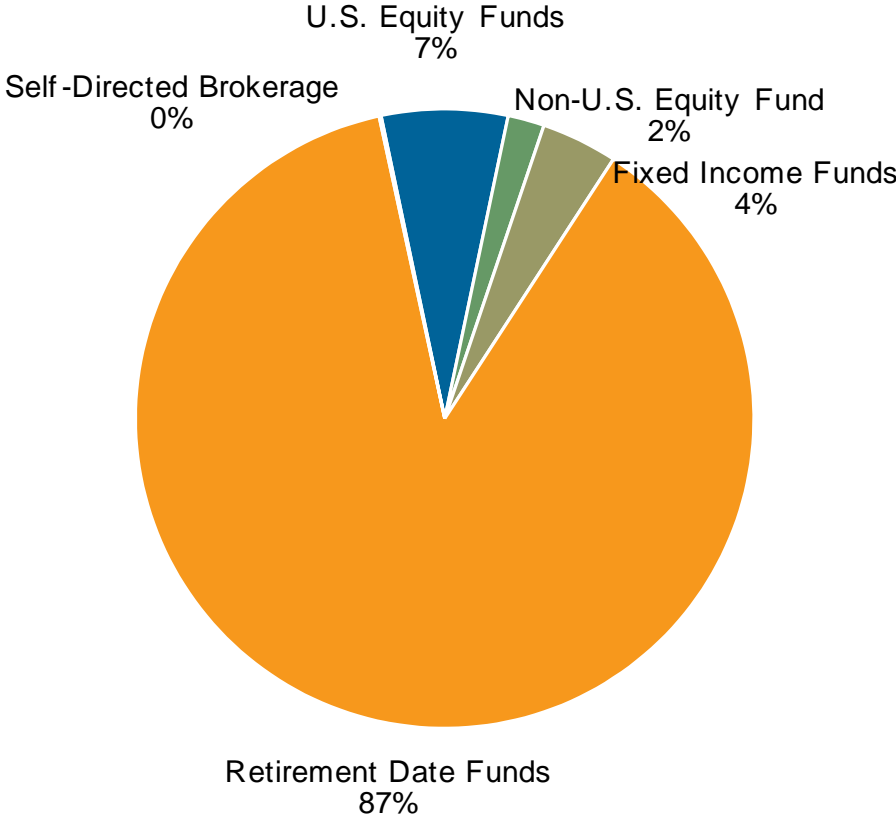
Callan

PA SERS 401(a) Plan Performance Review

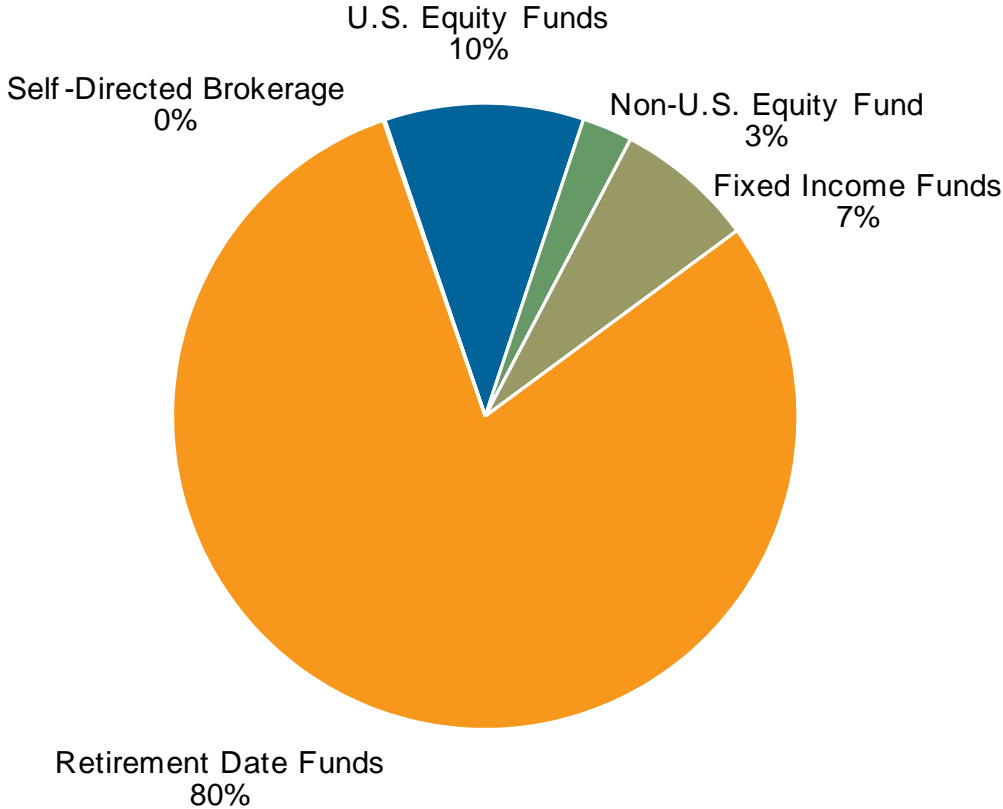
401(a) Plan Asset Allocation & Contributions

As of September 30, 2023

Asset Allocation



Contributions



Asset Allocation

As of September 30, 2023

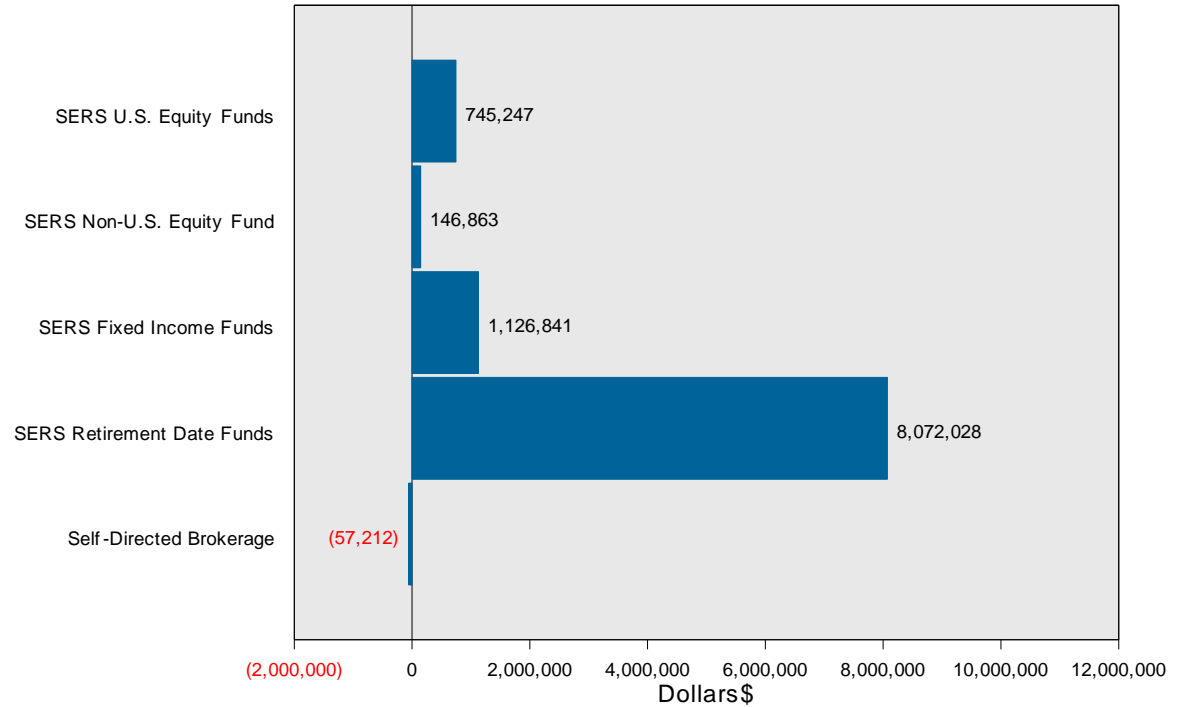
	September 30, 2023			June 30, 2023		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
SERS Retirement Date Funds	\$132,410,889	87.39%	\$13,136,029	\$(5,064,001)	\$124,338,861	87.88%
SERS Post Retirement Fund	1,987,270	1.31%	155,435	(68,120)	1,899,955	1.34%
SERS 2025 Retirement Fund	5,300,491	3.50%	301,644	(193,416)	5,192,263	3.67%
SERS 2030 Retirement Fund	12,573,140	8.30%	1,004,966	(475,129)	12,043,304	8.51%
SERS 2035 Retirement Fund	13,579,373	8.96%	1,277,409	(522,265)	12,824,228	9.06%
SERS 2040 Retirement Fund	15,647,380	10.33%	1,447,432	(609,045)	14,808,993	10.47%
SERS 2045 Retirement Fund	16,341,537	10.79%	1,614,502	(641,661)	15,368,696	10.86%
SERS 2050 Retirement Fund	17,775,964	11.73%	1,709,718	(688,687)	16,754,933	11.84%
SERS 2055 Retirement Fund	18,317,721	12.09%	1,949,525	(692,472)	17,060,668	12.06%
SERS 2060 Retirement Fund	17,052,421	11.25%	1,795,052	(645,389)	15,902,758	11.24%
SERS 2065 Retirement Fund	13,835,592	9.13%	1,880,346	(527,816)	12,483,062	8.82%
SERS U.S. Equity	\$9,976,218	6.58%	\$970,220	\$(224,973)	\$9,230,970	6.52%
SERS U.S. Large Company Index Fund	5,945,730	3.92%	162,655	(212,391)	5,995,466	4.24%
SERS U.S. All Company Index Fund	2,145,158	1.42%	(133,666)	33,927	2,244,896	1.59%
SERS U.S. SMID Company Index Fund	1,885,330	1.24%	941,231	(46,510)	990,608	0.70%
SERS Non-U.S. Equity	\$2,904,613	1.92%	\$272,883	\$(126,020)	\$2,757,750	1.95%
SERS Global Non-U.S. Index Fund	2,904,613	1.92%	272,883	(126,020)	2,757,750	1.95%
SERS Fixed Income	\$6,040,186	3.99%	\$(2,370,530)	\$3,497,371	\$4,913,344	3.47%
SERS Short Term Investment Fund	3,665,770	2.42%	(2,631,547)	3,545,570	2,751,747	1.94%
SERS U.S. Short Term Bond Index Fund	570,407	0.38%	(72,543)	4,105	638,845	0.45%
SERS U.S. TIPS Index Fund	510,969	0.34%	128,939	(11,606)	393,636	0.28%
SERS U.S. Bond Index Fund	1,293,039	0.85%	204,621	(40,698)	1,129,117	0.80%
SERS Self-Directed Brokerage	\$186,282	0.12%	\$(51,253)	\$(5,959)	\$243,493	0.17%
Total Fund	\$151,518,187	100.0%	\$11,957,349	\$(1,923,581)	\$141,484,418	100.0%

Changes in Market Values and Contributions

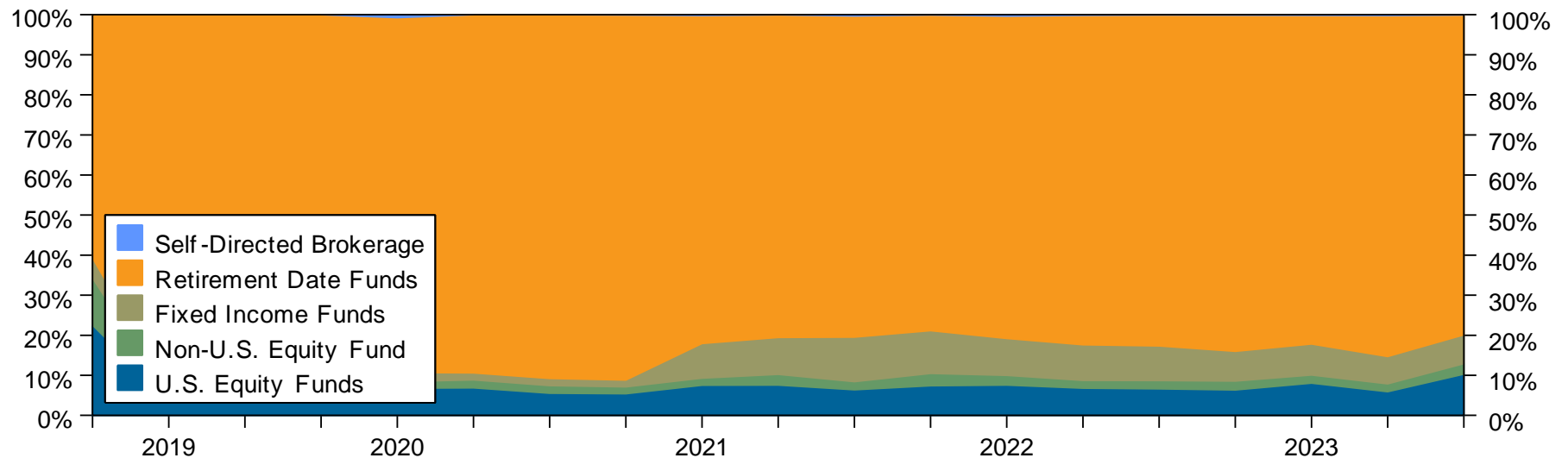
As of September 30, 2023

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



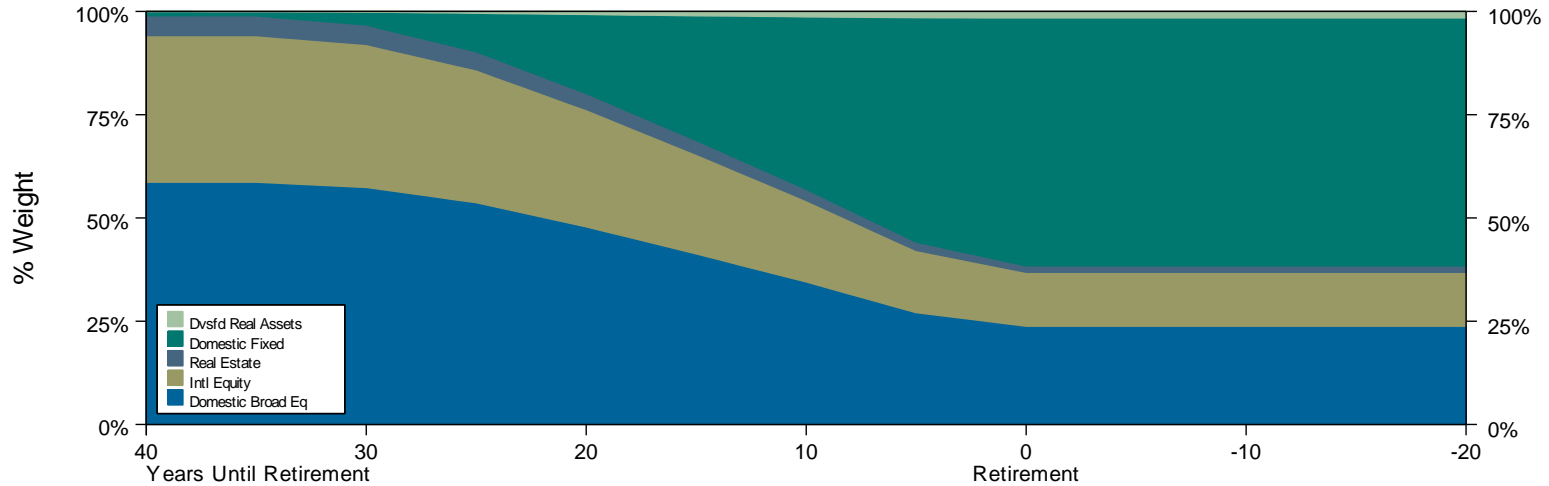
Historical Allocation of Contributions



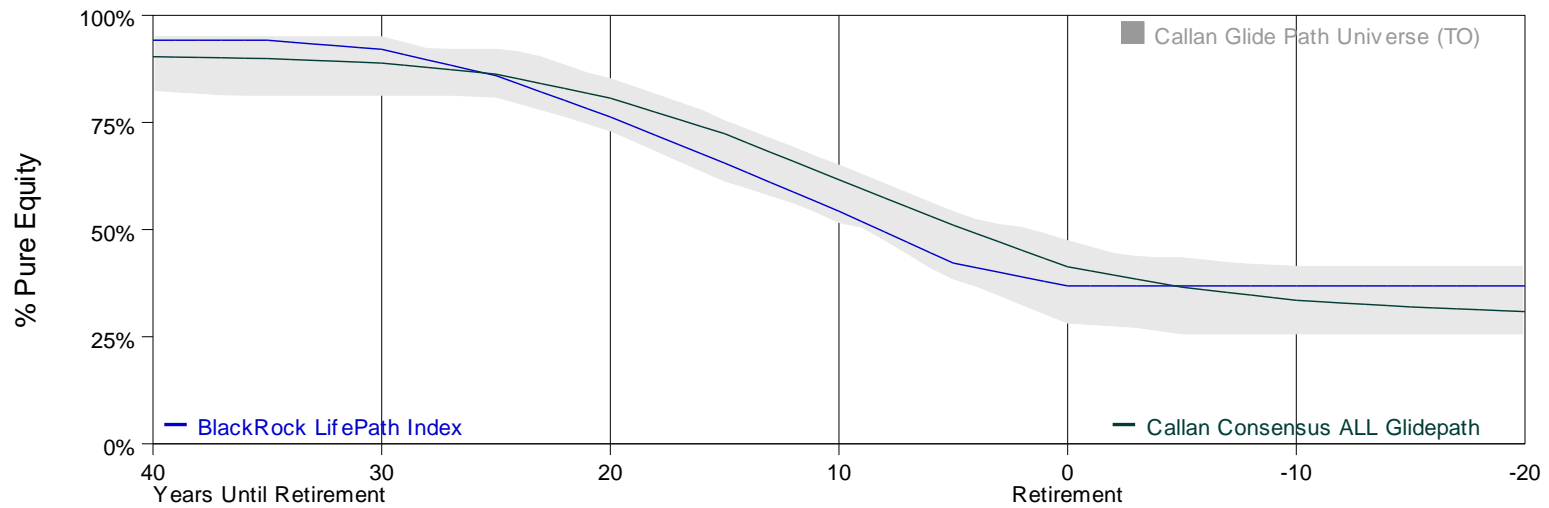
Blackrock LifePath Retirement Funds

Glidepath and Equity Rolldown Exposure as of September 30, 2023

BlackRock LifePath Retirement Funds Glidepath



BlackRock LifePath Retirement Funds Equity Rolldown Exposure



Cumulative Performance - Net of Fees

As of September 30, 2023

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance					
Target Date Funds					
SERS Post Retirement Fund	(3.37%)	2.61%	7.42%	0.01%	2.94%
BlackRock Post Retirement Index	(3.30%)	2.52%	7.39%	0.04%	2.94%
Callan Tgt Date Ret Inc	(2.72%)	2.70%	7.08%	0.09%	2.61%
SERS 2025 Retirement Fund	(3.55%)	3.07%	8.52%	1.06%	3.36%
BlackRock 2025 Index	(3.47%)	2.97%	8.43%	1.07%	3.34%
Callan Target Date 2025	(3.12%)	4.11%	10.05%	2.06%	3.68%
SERS 2030 Retirement Fund	(3.68%)	4.37%	11.09%	2.47%	4.12%
BlackRock 2030 Index	(3.57%)	4.32%	11.00%	2.49%	4.09%
Callan Target Date 2030	(3.34%)	4.99%	11.90%	2.98%	4.19%
SERS 2035 Retirement Fund	(3.74%)	5.63%	13.54%	3.83%	4.83%
BlackRock 2035 Index	(3.60%)	5.60%	13.40%	3.83%	4.79%
Callan Target Date 2035	(3.54%)	5.92%	13.94%	4.09%	4.82%
SERS 2040 Retirement Fund	(3.79%)	6.86%	15.94%	5.07%	5.46%
BlackRock 2040 Index	(3.63%)	6.85%	15.75%	5.05%	5.41%
Callan Target Date 2040	(3.62%)	6.87%	15.84%	5.07%	5.23%
SERS 2045 Retirement Fund	(3.80%)	7.98%	18.11%	6.10%	6.02%
BlackRock 2045 Index	(3.61%)	8.00%	17.91%	6.07%	5.94%
Callan Target Date 2045	(3.74%)	7.61%	17.13%	5.69%	5.58%
SERS 2050 Retirement Fund	(3.72%)	8.74%	19.45%	6.69%	6.35%
BlackRock 2050 Index	(3.51%)	8.79%	19.22%	6.64%	6.27%
Callan Target Date 2050	(3.76%)	7.92%	17.79%	5.94%	5.65%
SERS 2055 Retirement Fund	(3.65%)	9.03%	19.87%	6.83%	6.44%
BlackRock 2055 Index	(3.44%)	9.09%	19.66%	6.80%	6.37%
Callan Target Date 2055	(3.75%)	8.04%	18.03%	6.01%	5.78%
SERS 2060 Retirement Fund	(3.66%)	9.03%	19.88%	6.82%	6.43%
BlackRock 2060 Index	(3.44%)	9.09%	19.67%	6.79%	6.37%
Callan Target Date 2060	(3.76%)	8.03%	18.02%	6.10%	5.76%
SERS 2065 Retirement Fund	(3.67%)	9.06%	19.89%	6.79%	-
BlackRock 2065 Index	(3.45%)	9.09%	19.68%	6.79%	-
Callan Target Date 2065	(3.81%)	8.32%	18.30%	5.93%	5.92%

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

Cumulative Performance - Net of Fees

As of September 30, 2023

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Target Date Funds				
SERS Post Retirement Fund	3.58%	3.88%	4.95%	-
BlackRock Post Retirement Index	3.56%	3.86%	4.94%	4.94%
Callan Tgt Date Ret Inc	3.14%	3.43%	4.43%	3.55%
SERS 2025 Retirement Fund	4.61%	4.80%	5.76%	-
BlackRock 2025 Index	4.56%	4.75%	5.74%	5.79%
Callan Target Date 2025	5.06%	5.29%	6.22%	-
SERS 2030 Retirement Fund	5.53%	5.52%	6.32%	-
BlackRock 2030 Index	5.47%	5.45%	6.29%	6.23%
Callan Target Date 2030	5.83%	5.91%	6.76%	6.49%
SERS 2035 Retirement Fund	6.42%	6.19%	6.84%	-
BlackRock 2035 Index	6.34%	6.11%	6.79%	6.62%
Callan Target Date 2035	6.61%	6.44%	7.30%	-
SERS 2040 Retirement Fund	7.20%	6.79%	7.29%	-
BlackRock 2040 Index	7.10%	6.68%	7.22%	6.95%
Callan Target Date 2040	7.18%	6.83%	7.65%	7.09%
SERS 2045 Retirement Fund	7.80%	7.26%	7.65%	-
BlackRock 2045 Index	7.68%	7.13%	7.56%	7.27%
Callan Target Date 2045	7.60%	7.21%	7.73%	-
SERS 2050 Retirement Fund	8.10%	7.51%	7.94%	-
BlackRock 2050 Index	7.98%	7.39%	7.87%	7.57%
Callan Target Date 2050	7.70%	7.30%	7.79%	-
SERS 2055 Retirement Fund	8.17%	7.58%	-	-
BlackRock 2055 Index	8.06%	7.47%	-	-
Callan Target Date 2055	7.78%	7.41%	8.28%	-
SERS 2060 Retirement Fund	8.15%	-	-	-
BlackRock 2060 Index	8.06%	-	-	-
Callan Target Date 2060	7.85%	7.65%	-	-

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.

Cumulative Performance - Net of Fees

As of September 30, 2023

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance					
Domestic Equity					
SERS U.S. Large Company Index Fund	(3.27%)	13.07%	21.61%	10.15%	9.93%
S&P 500 Index	(3.27%)	13.07%	21.62%	10.15%	9.92%
Callan Lg Cap Broad MF	(3.12%)	13.10%	21.47%	8.76%	8.61%
SERS U.S. All Company Index Fund	1.31%	12.38%	20.45%	9.33%	9.10%
Russell 3000 Index	(3.25%)	12.39%	20.46%	9.38%	9.14%
Callan Multi Cap Brd MF	(3.28%)	8.75%	18.33%	8.32%	7.16%
SERS U.S. SMID Company Idx Fund	(3.36%)	8.90%	14.62%	5.01%	4.70%
Dow Jones US Completion	(3.38%)	8.76%	14.26%	4.57%	4.40%
Callan SMID Broad MFs	(5.20%)	4.26%	12.91%	6.96%	4.44%
International Equity					
SERS Global Non-U.S. Index Fund	(4.09%)	5.60%	20.89%	3.89%	2.81%
MSCI ACWI ex US	(3.77%)	5.34%	20.39%	3.74%	2.58%
Callan Non US Equity MFs	(5.13%)	6.64%	23.88%	5.25%	3.07%
Domestic Fixed Income					
SERS Short Term Investment Fund	1.28%	3.63%	4.57%	1.77%	1.77%
3-month Treasury Bill	1.31%	3.60%	4.47%	1.70%	1.72%
Callan Cash Database(1)	1.36%	3.80%	4.77%	1.80%	1.87%
SERS U.S. Short Term Bond Idx Fund	0.73%	1.85%	2.75%	(0.74%)	1.20%
Blmbg Gov/Cred 1-3 Yr	0.73%	1.87%	2.77%	(0.72%)	1.21%
Callan Short US Govt MFs	0.23%	1.31%	2.05%	(1.53%)	0.57%
SERS U.S. TIPS Index Fund	(2.59%)	(0.77%)	1.29%	(1.97%)	2.12%
Blmbg US TIPS	(2.60%)	(0.78%)	1.25%	(1.98%)	2.12%
Callan TIPS MFs	(2.57%)	(0.64%)	1.36%	(2.06%)	1.98%
SERS U.S. Bond Index Fund	(3.24%)	(1.21%)	0.66%	(5.22%)	0.10%
Blmbg Aggregate	(3.23%)	(1.21%)	0.64%	(5.21%)	0.10%
Callan Core Bond MFs	(3.05%)	(0.72%)	0.93%	(4.97%)	0.35%

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

Cumulative Performance - Net of Fees

As of September 30, 2023

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index Fund	12.25%	11.93%	11.31%	9.76%
S&P 500 Index	12.24%	11.91%	11.28%	9.72%
Callan Lg Cap Broad MF	11.48%	10.95%	10.73%	9.56%
SERS U.S. All Company Index Fund	11.60%	11.26%	-	-
Russell 3000 Index	11.64%	11.28%	11.05%	9.68%
Callan Multi Cap Brd MF	10.00%	9.21%	9.74%	8.87%
SERS U.S. SMID Company Idx Fund	8.25%	8.03%	9.85%	9.52%
Dow Jones US Completion	7.97%	7.79%	9.63%	9.28%
Callan SMID Broad MFs	8.56%	7.76%	9.55%	9.01%
International Equity				
SERS Global Non-U.S. Index Fund	4.95%	3.57%	-	-
MSCI ACWI ex US	4.74%	3.35%	4.31%	6.02%
Callan Non US Equity MFs	5.03%	3.66%	5.10%	6.22%
Domestic Fixed Income				
SERS Short Term Investment Fund	1.66%	1.23%	0.96%	1.55%
3-month Treasury Bill	1.55%	1.11%	0.80%	1.41%
Callan Cash Database(1)	1.72%	1.38%	1.19%	1.76%
Blmbg Gov/Cred 1-3 Yr	0.99%	1.02%	1.52%	1.96%
Callan Short US Govt MFs	0.42%	0.63%	1.30%	1.81%
Blmbg US TIPS	1.46%	1.74%	2.92%	3.47%
Callan TIPS MFs	1.42%	1.56%	2.76%	3.18%
SERS U.S. Bond Index Fund	(0.10%)	1.11%	2.47%	2.81%
Blmbg Aggregate	(0.09%)	1.13%	2.53%	2.85%
Callan Core Bond MFs	0.20%	1.32%	2.99%	3.05%

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

*Funds not listed do not have longer term history.

Performance Summary & Expense Ratios as of September 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
Net of Fee Performance									
Target Date Funds									
SERS Post Retirement Fund Callan Tgt Date Ret Inc	-3.4 88	7.4 36	0.0 52	2.9 28	3.6 22	3.9 19			0.08 73
BlackRock Post Retirement Index	-3.3 85	7.4 37	0.0 51	2.9 28	3.6 23	3.9 20			
SERS 2025 Retirement Fund Callan Target Date 2025	-3.5 79	8.5 83	1.1 84	3.4 68	4.6 76	4.8 74			0.08 72
BlackRock 2025 Index	-3.5 77	8.4 85	1.1 84	3.3 69	4.6 77	4.8 80			
SERS 2030 Retirement Fund Callan Target Date 2030	-3.7 74	11.1 74	2.5 76	4.1 55	5.5 74	5.5 74			0.08 70
BlackRock 2030 Index	-3.6 66	11.0 76	2.5 74	4.1 57	5.5 76	5.5 78			
SERS 2035 Retirement Fund Callan Target Date 2035	-3.7 69	13.5 63	3.8 63	4.8 49	6.4 63	6.2 72			0.08 72
BlackRock 2035 Index	-3.6 56	13.4 69	3.8 63	4.8 51	6.3 69	6.1 77			
SERS 2040 Retirement Fund Callan Target Date 2040	-3.8 69	15.9 46	5.1 50	5.5 31	7.2 49	6.8 56			0.08 68
BlackRock 2040 Index	-3.6 50	15.8 54	5.0 51	5.4 33	7.1 58	6.7 71			
SERS 2045 Retirement Fund Callan Target Date 2045	-3.8 60	18.1 22	6.1 33	6.0 23	7.8 29	7.3 45			0.08 72
BlackRock 2045 Index	-3.6 33	17.9 28	6.1 34	5.9 25	7.7 40	7.1 52			
SERS 2050 Retirement Fund Callan Target Date 2050	-3.7 46	19.4 6	6.7 16	6.3 12	8.1 21	7.5 39			0.08 68
BlackRock 2050 Index	-3.5 25	19.2 16	6.6 20	6.3 15	8.0 31	7.4 46			
SERS 2055 Retirement Fund Callan Target Date 2055	-3.7 30	19.9 6	6.8 12	6.4 9	8.2 17	7.6 42			0.08 72
BlackRock 2055 Index	-3.4 18	19.7 12	6.8 13	6.4 10	8.1 31	7.5 48			
SERS 2060 Retirement Fund Callan Target Date 2060	-3.7 35	19.9 10	6.8 13	6.4 12	8.2 26				0.08 75
BlackRock 2060 Index	-3.4 21	19.7 13	6.8 14	6.4 14	8.1 40				

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 September 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
SERS 2065 Retirement Fund Callan Target Date 2065	-3.7 35	19.9 13	6.8 19						0.08 53
BlackRock 2065 Index	-3.4 18	19.7 16	6.8 19						
Domestic Equity									
SERS U.S. Large Company Stock Index Fund Callan Lg Cap Broad MF	-3.3 57	21.6 50	10.2 39	9.9 30	12.2 43	11.9 34			0.02 100
S&P 500 Index	-3.3 57	21.6 50	10.2 39	9.9 31	12.2 43	11.9 35			
SERS U.S. All Company Index Fund Callan Multi Cap Brd MF	1.3 1	20.5 37	9.3 41	9.1 24	11.6 28	11.3 20			0.03 99
Russell 3000 Index	-3.3 49	20.5 37	9.4 41	9.1 24	11.6 27	11.3 20			
U.S. Small/Mid Company Stock Index Fund Callan SMID Broad MFs	-3.4 25	14.6 33	5.0 58	4.7 46	8.2 56	8.0 41			0.03 98
Dow Jones US Completion	-3.4 26	14.3 40	4.6 61	4.4 52	8.0 59	7.8 49			
International Equity									
SERS Global Non-U.S. Index Fund Callan Non US Equity MFs	-4.1 38	20.9 70	3.9 52	2.8 56	5.0 53	3.6 54			0.05 99
MSCI ACWI ex US	-3.8 31	20.4 70	3.7 53	2.6 65	4.7 59	3.3 68			
Domestic Fixed Income									
SERS Short Term Investment Fund Callan Cash Database	1.3 74	4.6 68	1.8 55	1.8 76	1.7 66	1.2 77			0.00 100
3-month Treasury Bill	1.3 72	4.5 69	1.7 57	1.7 83	1.5 83	1.1 91			
Comments: Callan Cash Database includes STIF, enhanced cash, and money market funds.									
SERS U.S. Short Term Bond Idx Fund Callan Short US Govt MFs	0.7 15	2.8 17	-0.7 21	1.2 11					0.02 100
Blmbg Gov/Cred 1-3 Yr	0.7 15	2.8 17	-0.7 19	1.2 11	1.0 10	1.0 12			
SERS U.S. TIPS Index Fund Callan TIPS MFs	-2.6 54	1.3 53	-2.0 40	2.1 35					0.02 99
Blmbg US TIPS	-2.6 55	1.2 56	-2.0 40	2.1 35	1.5 40	1.7 23			

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 September 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
SERS U.S. Bond Index Fund	-3.2 71	0.7 76	-5.2 70	0.1 75	-0.1 85	1.1 79			0.02 98
Callan Core Bond MFs	-3.2 71	0.6 76	-5.2 69	0.1 75	-0.1 84	1.1 79			
Blmbg Aggregate	-3.2 71	0.6 76	-5.2 69	0.1 75	-0.1 84	1.1 79			

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).

401(a) Plan Investment Structure

Lineup Mapped to Callan's Clean Sheet

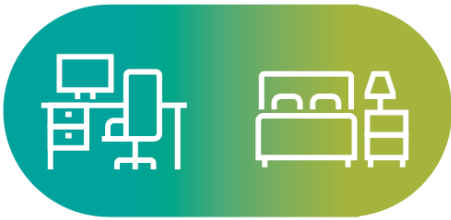


Callan

Appendix – Callan Update

Published Research Highlights from 3Q23

**Office-to-Residential
Conversions: Vast Opportunity
or Unfeasible Challenge?**



**Four-Part Series: The ESG Rule
Explained**



**Callan Discount Rate Reporter:
Regular Update on Corporate
DB Plans**



**How Your Public DB Plan's
Returns Compare: Quarterly
Update**



Recent Blog Posts

**An Investor's
Guide to the
Nasdaq-100's
Special
Rebalance**

Mark Wood

**A Deeper Dive
Into the Tradeoff
Between Return
and Risk**

Kevin Machiz

**S&P Global
Moves Away
from Numeric
ESG Credit
Indicators**

Kristin Bradbury

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.

- November 1–2, 2023 – Atlanta, Georgia
- March 5–7, 2024 – Virtual Session via Zoom

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 2023 and 2024 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

2024 Regional Workshops

- June 25, 2024 – Atlanta
- June 27, 2024 – San Francisco

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Webinar: ESG Study

- November 7, 2023 – Virtual Session via Zoom

Webinar: The Retirement Conundrum

- November 15, 2023 – Virtual Session via Zoom

Research Café: Conversion of Commercial Real Estate

- December 6, 2023 – Virtual Session via Zoom

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