

June 3, 2022



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

First Quarter 2022

Executive Summary

Thomas H. Shingler
Senior Vice President

Bud Pellecchia
Senior Vice President

Britton M. Murdoch
Vice President

Callan

Market Environment

Down Equity and Fixed Income Markets in 1Q22

Negative returns for stocks and bonds at the same time are unusual

Global equity markets are down sharply following the invasion of Ukraine:

- Similar impact across developed markets
- Greater impact on small cap and emerging markets

Fixed income down with sharply higher inflation and interest rates:

- Blmbg Aggregate: -5.9% (and much worse since, -9.5% through April)
- CPI-U: +8.5% for the year ended 1Q22

Number of times stocks and bonds have been down together:

- 37 quarters in almost 100 years, about 10% of the quarters
- But just twice on annual basis

Inflation spiked to the highest rate reported in decades.

Economic data show growth hit “pause” in the U.S.:

- GDP fell 1.4% in 1Q22, down from almost 7% GDP growth in 4Q21
- Forecasters are revising growth estimates for 2022 down to 3% or lower.

Returns for Periods ended 3/31/22

	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	-5.28	11.92	15.40	14.28	9.53
S&P 500	-4.60	15.65	15.99	14.64	9.44
Russell 2000	-7.53	-5.79	9.74	11.04	8.88
Global ex-U.S. Equity					
MSCI World ex USA	-4.81	3.04	7.14	6.25	5.25
MSCI Emerging Markets	-6.97	-11.37	5.98	3.36	--
MSCI ACWI ex USA Small Cap	-6.52	0.03	7.89	7.28	6.70
Fixed Income					
Bloomberg Aggregate	-5.93	-4.15	2.14	2.24	4.71
90-day T-Bill	0.04	0.06	1.13	0.63	2.01
Bloomberg Long Gov/Credit	-10.95	-3.11	4.60	4.72	6.93
Bloomberg Global Agg ex-US	-6.15	-7.89	1.27	0.06	3.40
Real Estate					
NCREIF Property	5.33	21.87	8.54	9.61	9.50
FTSE Nareit Equity	-3.86	26.49	9.63	9.81	9.69
Alternatives					
CS Hedge Fund	2.13	7.47	5.48	4.71	6.61
Cambridge Private Equity*	5.01	48.84	21.29	17.11	15.64
Bloomberg Commodity	25.55	49.25	9.00	-0.70	1.90
Gold Spot Price	6.86	13.90	9.33	1.57	7.07
Inflation - CPI-U	3.12	8.54	3.35	2.28	2.37

*Cambridge PE data through 09/30/21.

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

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	1 Qtr. 2022
Emerging Markets	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
55.82%	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%	7.14%
Small Cap	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	Hedge Funds
47.25%	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%	2.13%
Non-U.S. Equity	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	Cash Equivalent
39.42%	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%	0.04%
High Yield	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	Large Cap
28.97%	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%	-4.60%
Large Cap	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	Non-U.S. Equity
28.68%	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%	-4.81%
Non-U.S. Fixed	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	High Yield
19.36%	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%	-4.84%
Hedge Funds	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	U.S. Fixed
15.44%	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%	-5.93%
Real Estate Funds	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
8.28%	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%	-6.15%
U.S. Fixed	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
4.10%	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%	-6.97%
Cash Equivalent	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
1.15%	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%	-7.53%

- 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 Topics

House passes SECURE 2.0

- Builds upon the SECURE Act of 2019 (SECURE 1.0) and is geared toward improving workers' retirement security and flexibility
- The Senate is working on its own parallel retirement reform legislation.
- The House bill eliminated the rule to allow CITs to be used in 403(b) Plans but the Senate is expected to add back in.
- **Key provisions from the House bill:** new plans required to have automatic features; amount of allowable catch-up contributions increased for individuals aged 62-64; employer “matching” contributions allowed to be made to a retirement plan, based on participant student loan repayments; and matching contributions allowed to be treated as Roth contributions

DOL weighs in on cryptocurrencies in DC plans

- DOL bulletin included stern warnings about the potential fiduciary challenges of offering digital assets investments inside a DC plan.
- The DOL has announced an intention to investigate plans offering digital assets investments, and to take appropriate actions to protect the interests of plan participants and beneficiaries.
- Historically, the DOL has not considered the brokerage window as a designated investment alternative yet the letter notes the DOL has concerns about crypto and products whose value is tied to crypto in the brokerage window. The mixed message creates confusion for plan sponsors and their fiduciary role for brokerage window investments and may require legal review.
- **Key takeaway:** Cryptocurrency is a highly speculative investment, concentrated, extremely volatile and currently there is no clear path for future regulatory and legislative acceptance. Given these factors, we are not recommending adding any such digital asset investment vehicle to a DC Plan at this time.

DOL clarifies 2020 comment letter on private equity in DC plans

- The DOL shifted its tone in a supplemental statement noting that private equity as part of a multi-asset fund is **not** prohibited, but plan sponsors will need to undertake a significant amount of due diligence and applied experience when considering.
- **Key takeaway:** The DOL did not mean for its 2020 information letter to be a blanket endorsement of private equity, and considerable care will still need to be taken when evaluating the significant challenges of liquidity, cost, access, valuation, and transparency to participants, among other things.

The Supremes' chime in on Hughes v. Northwestern

- On Jan. 24, 2022, the Supreme Court vacated the Seventh Circuit's decision in *Hughes v. Northwestern*.
- **Key takeaway:** Fiduciary conduct must be judged in a context-specific fashion based on the circumstances at the time and recognizing competing considerations faced by fiduciaries. This emphasizes the need for plan fiduciaries to follow a process and document the steps taken, decisions made, and rationale for those decisions in order to manage litigation risk.

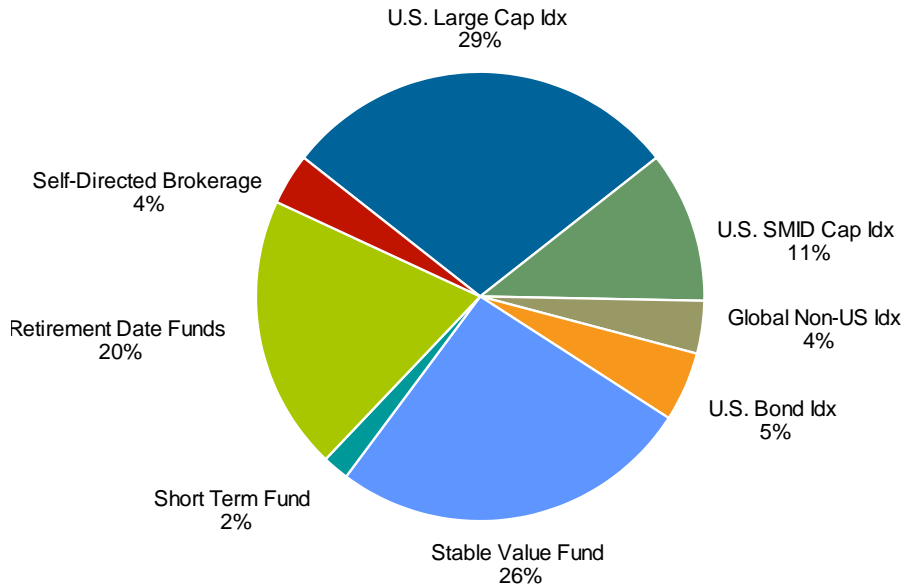
Callan

PA SERS 457(b) Plan Performance Review

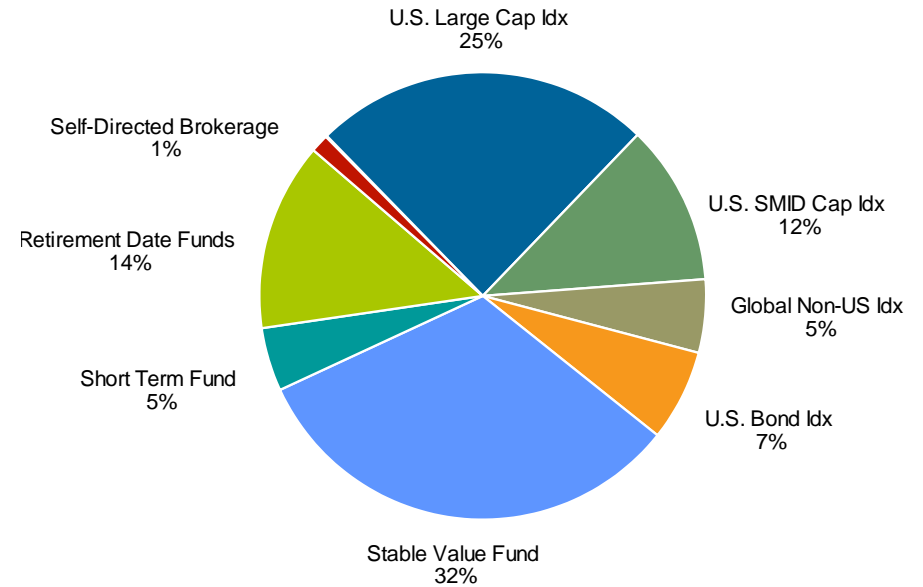
457(b) Plan Asset Allocation & Contributions

As of March 31, 2022

Asset Allocation



Contributions



Asset Allocation

As of March 31, 2022

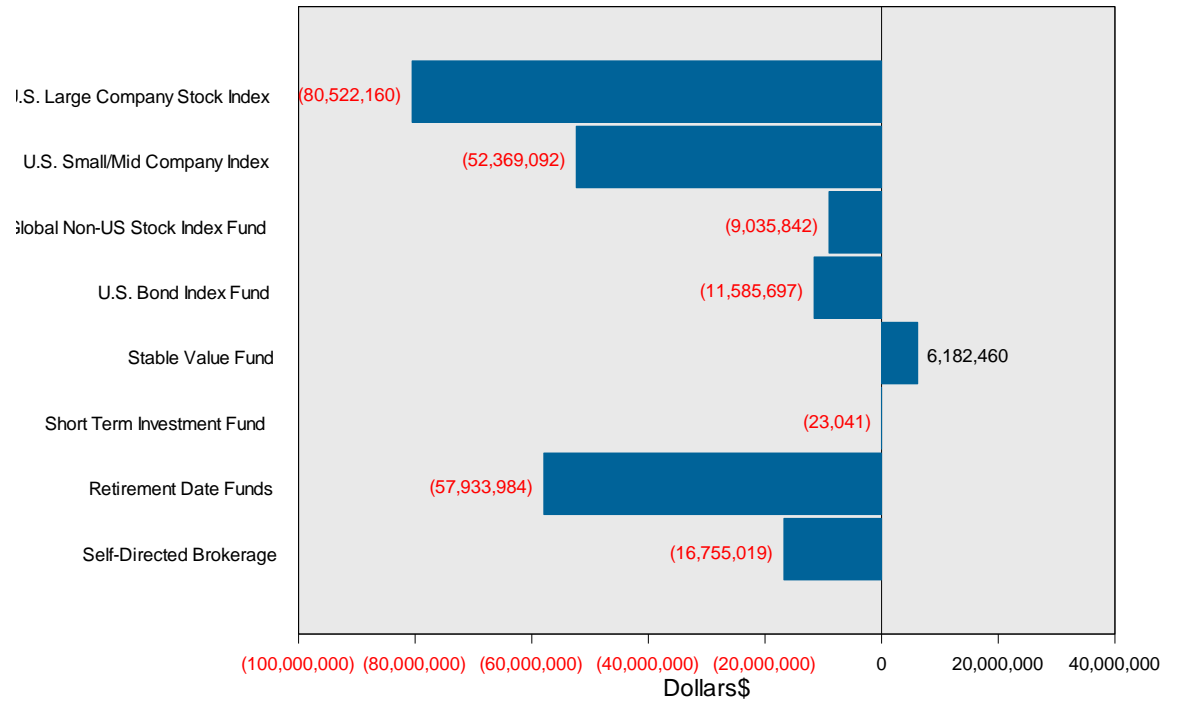
	March 31, 2022		Net New Inv.	Inv. Return	December 31, 2021	
	Market Value	% of Total			Market Value	% of Total
	\$(000)	Weight	\$(000)	\$(000)	\$(000)	Weight
SERS Retirement Date Funds	\$905,163	19.78%	\$(7,499)	\$(50,435)	\$963,097	20.07%
SERS Post Retirement Fund	250,708	5.48%	(2,246)	(13,600)	266,554	5.56%
SERS 2025 Retirement Fund	159,274	3.48%	(2,562)	(8,735)	170,572	3.56%
SERS 2030 Retirement Fund	152,315	3.33%	(2,590)	(8,497)	163,401	3.41%
SERS 2035 Retirement Fund	130,450	2.85%	(1,263)	(7,303)	139,017	2.90%
SERS 2040 Retirement Fund	81,810	1.79%	(660)	(4,702)	87,172	1.82%
SERS 2045 Retirement Fund	66,462	1.45%	1,061	(3,809)	69,210	1.44%
SERS 2050 Retirement Fund	40,808	0.89%	235	(2,414)	42,987	0.90%
SERS 2055 Retirement Fund	14,170	0.31%	497	(824)	14,497	0.30%
SERS 2060 Retirement Fund	5,188	0.11%	255	(298)	5,230	0.11%
SERS 2065 Retirement Fund	3,978	0.09%	(226)	(253)	4,457	0.09%
SERS U.S. Equity	\$1,815,367	39.67%	\$(17,009)	\$(115,882)	\$1,948,258	40.61%
SERS U.S. Large Company Index	1,317,700	28.80%	(15,387)	(65,135)	1,398,222	29.14%
SERS U.S. SMID Company Index	497,666	10.88%	(1,622)	(50,747)	550,035	11.46%
SERS Non-U.S. Equity	\$173,946	3.80%	\$1,684	\$(10,720)	\$182,982	3.81%
SERS Global Non-US IdxFund	173,946	3.80%	1,684	(10,720)	182,982	3.81%
SERS Fixed Income	\$1,510,598	33.01%	\$4,995	\$(10,422)	\$1,516,025	31.60%
SERS Short Term Investment Fund	86,897	1.90%	10	(33)	86,920	1.81%
SERS Stable Value Fund	1,193,310	26.08%	2,125	4,058	1,187,128	24.74%
SERS U.S. Bond Index Fund	230,392	5.03%	2,861	(14,446)	241,978	5.04%
Self-Directed Brokerage						
Self-Directed Brokerage Account	170,870	3.73%	(1,847)	(14,908)	187,625	3.91%
SERS 457(b) Total Fund	\$4,575,945	100.0%	\$(19,677)	\$(202,366)	\$4,797,987	100.0%

Changes in Market Values and Contributions

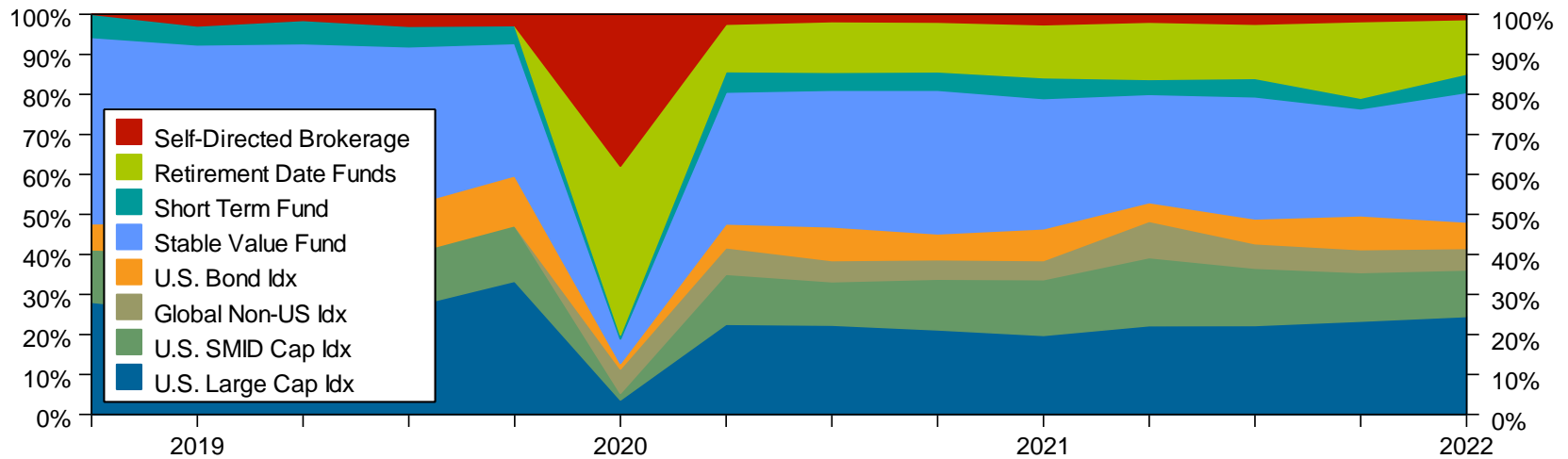
As of March 31, 2022

- The chart to the right shows the change in fund values across the various investment options for the quarter ended March 31, 2022. 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.

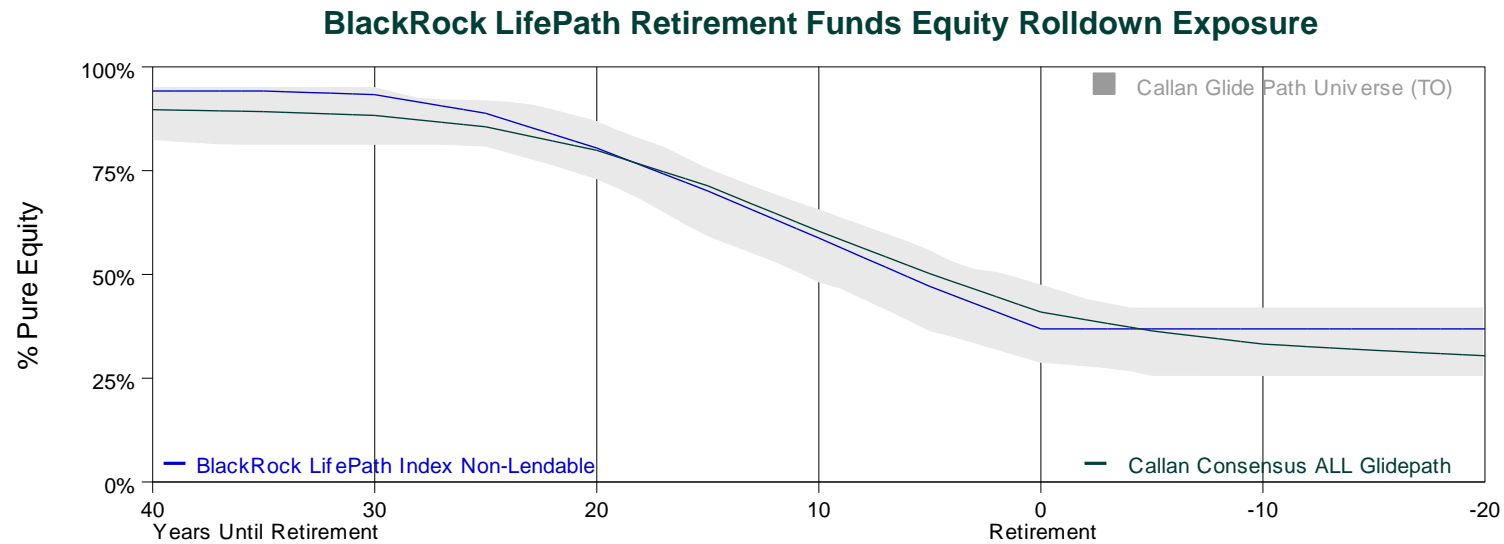
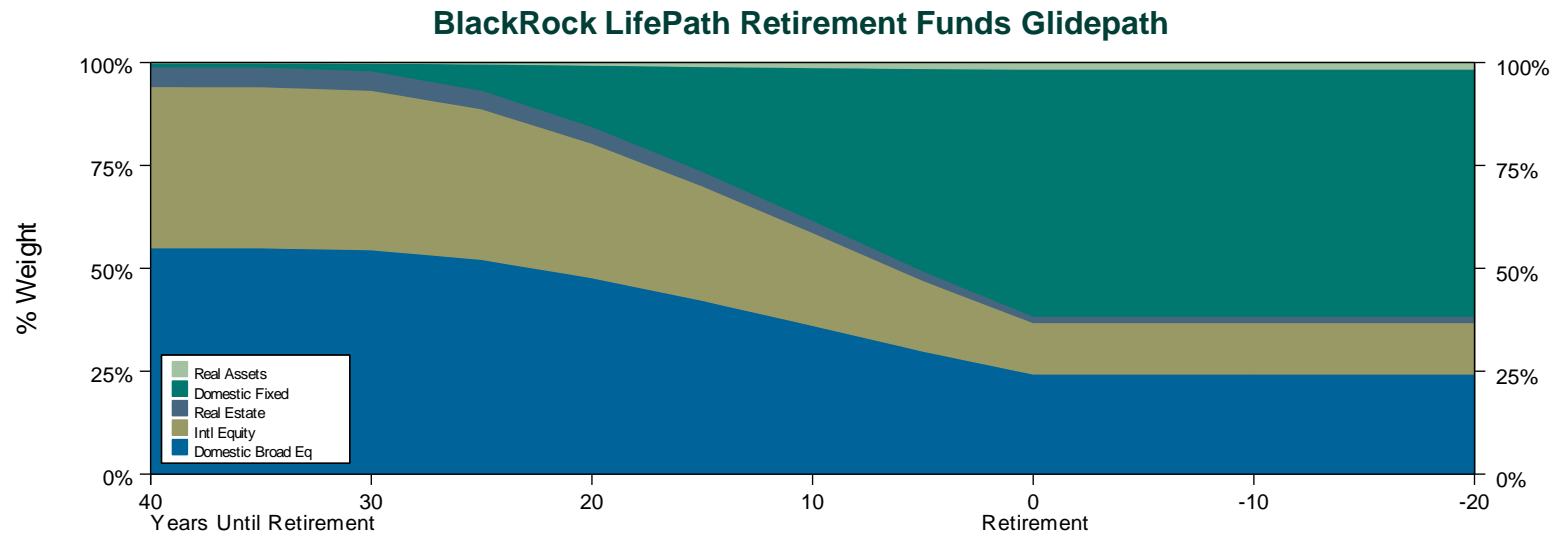


Historical Allocation of Contributions



Blackrock LifePath Retirement Funds

Glidepath and Equity Roll-down Exposure as of March 31, 2022



Cumulative Performance - Net of Fees

As of March 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Net Performance				
Retirement Date Funds				
SERS Post Retirement Fund	(5.12%)	1.12%	7.18%	6.34%
BlackRock Post Retirement NL Index	(5.08%)	1.22%	7.17%	6.32%
Callan Tgt Date Ret Inc	(4.74%)	0.57%	6.03%	5.39%
SERS 2025 Retirement Fund	(5.13%)	2.16%	8.27%	7.51%
BlackRock 2025 NL Index	(5.05%)	2.29%	8.27%	7.47%
Callan Target Date 2025	(5.30%)	1.99%	8.82%	7.82%
SERS 2030 Retirement Fund	(5.17%)	3.41%	9.58%	8.56%
BlackRock 2030 NL Index	(5.04%)	3.61%	9.59%	8.52%
Callan Target Date 2030	(5.71%)	2.67%	9.76%	8.66%
SERS 2035 Retirement Fund	(5.24%)	4.56%	10.82%	9.57%
BlackRock 2035 NL Index	(5.06%)	4.81%	10.84%	9.52%
Callan Target Date 2035	(5.86%)	3.43%	10.79%	9.47%
SERS 2040 Retirement Fund	(5.35%)	5.56%	11.91%	10.44%
BlackRock 2040 NL Index	(5.10%)	5.86%	11.94%	10.41%
Callan Target Date 2040	(5.96%)	4.16%	11.70%	10.06%
SERS 2045 Retirement Fund	(5.44%)	6.34%	12.82%	11.12%
BlackRock 2045 NL Index	(5.16%)	6.67%	12.84%	11.06%
Callan Target Date 2045	(6.11%)	4.81%	12.46%	10.53%
SERS 2050 Retirement Fund	(5.52%)	6.73%	13.27%	11.44%
BlackRock 2050 NL Index	(5.23%)	7.05%	13.30%	11.38%
Callan Target Date 2050	(6.13%)	4.96%	12.53%	10.58%
SERS 2055 Retirement Fund	(5.54%)	6.80%	13.36%	11.49%
BlackRock 2055 NL Index	(5.26%)	7.13%	13.39%	11.44%
Callan Target Date 2055	(6.17%)	4.93%	12.65%	10.85%
SERS 2060 Retirement Fund	(5.55%)	6.79%	13.35%	11.47%
BlackRock 2060 NL Index	(5.26%)	7.12%	13.39%	11.44%
Callan Target Date 2060	(6.16%)	4.91%	12.77%	10.86%
SERS 2065 Retirement Fund	(5.56%)	6.77%	-	-
BlackRock 2065 NL Index	(5.27%)	7.10%	-	-
Callan Target Date 2065	(6.28%)	3.71%	12.62%	-

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 March 31, 2022

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Retirement Date Funds				
SERS Post Retirement Fund	5.36%	5.55%	5.27%	-
BlackRock Post Retirement NL Index	5.34%	5.50%	-	-
Callan Tgt Date Ret Inc	4.46%	4.84%	4.53%	4.18%
SERS 2025 Retirement Fund	6.41%	6.93%	5.48%	-
BlackRock 2025 NL Index	6.36%	6.88%	-	-
Callan Target Date 2025	6.55%	7.50%	5.81%	-
SERS 2030 Retirement Fund	7.26%	7.75%	5.86%	-
BlackRock 2030 NL Index	7.22%	7.70%	-	-
Callan Target Date 2030	7.38%	8.28%	6.02%	6.39%
SERS 2035 Retirement Fund	8.08%	8.52%	6.22%	-
BlackRock 2035 NL Index	8.02%	8.46%	-	-
Callan Target Date 2035	8.10%	9.02%	6.48%	-
SERS 2040 Retirement Fund	8.78%	9.19%	6.52%	-
BlackRock 2040 NL Index	8.72%	9.12%	-	-
Callan Target Date 2040	8.61%	9.47%	6.83%	6.67%
SERS 2045 Retirement Fund	9.30%	9.71%	6.72%	-
BlackRock 2045 NL Index	9.22%	9.64%	-	-
Callan Target Date 2045	8.99%	9.81%	6.84%	-
SERS 2050 Retirement Fund	9.54%	10.02%	-	-
BlackRock 2050 NL Index	9.46%	9.96%	-	-
Callan Target Date 2050	9.07%	9.90%	6.85%	-
SERS 2055 Retirement Fund	9.57%	10.16%	-	-
BlackRock 2055 NL Index	9.50%	10.11%	-	-
Callan Target Date 2055	9.14%	10.06%	-	-

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 March 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index	(4.60%)	15.64%	18.94%	16.00%
S&P 500 Index	(4.60%)	15.65%	18.92%	15.99%
Callan Lg Cap Broad MF	(5.70%)	11.88%	17.33%	15.16%
SERS U.S. SMID Company Index	(9.19%)	(5.05%)	14.36%	12.20%
Dow Jones US Completion	(9.36%)	(5.47%)	14.08%	11.96%
Callan SMID Broad MFs	(8.97%)	1.14%	13.64%	11.43%
International Equity				
SERS Global Non-US Index	(5.69%)	(1.72%)	7.62%	6.98%
MSCI ACWI ex US	(5.44%)	(1.48%)	7.51%	6.76%
Callan Non US Equity MFs	(7.74%)	(2.55%)	7.26%	6.47%
Domestic Fixed Income				
SERS Short Term Investment Fund	0.02%	0.06%	0.81%	1.20%
3-month Treasury Bill	0.04%	0.06%	0.81%	1.13%
Callan Cash Database(1)	(0.07%)	(0.03%)	0.95%	1.31%
SERS Stable Value Fund	0.37%	1.55%	2.10%	2.13%
3-month Treasury Bill	0.04%	0.06%	0.81%	1.13%
Callan Stable Value	0.41%	1.69%	2.10%	2.17%
SERS U.S. Bond Index Fund	(5.84%)	(4.14%)	1.70%	2.14%
Blmbg Aggregate	(5.93%)	(4.15%)	1.69%	2.14%
Callan Core Bond MFs	(5.83%)	(4.00%)	2.22%	2.47%

(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 March 31, 2022

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index	14.03%	14.65%	10.31%	9.29%
S&P 500 Index	14.01%	14.64%	10.26%	9.25%
Callan Lg Cap Broad MF	12.69%	13.62%	9.96%	9.06%
SERS U.S. SMID Company Index	10.27%	12.38%	9.52%	10.28%
Dow Jones US Completion	10.03%	12.15%	9.27%	10.10%
Callan SMID Broad MFs	9.86%	11.61%	9.53%	9.57%
International Equity				
SERS Global Non-US Index	5.42%	5.74%	-	-
MSCI ACWI ex US	5.19%	5.55%	3.13%	6.41%
Callan Non US Equity MFs	4.84%	6.14%	3.49%	6.24%
Domestic Fixed Income				
SERS Short Term Investment Fund	0.99%	0.75%	1.02%	-
3-month Treasury Bill	0.87%	0.63%	0.83%	1.27%
Callan Cash Database(1)	1.13%	0.88%	1.21%	1.59%
SERS Stable Value Fund	2.10%	2.23%	2.88%	-
3-month Treasury Bill	0.87%	0.63%	0.83%	1.27%
Callan Stable Value	2.09%	2.06%	2.48%	2.97%
SERS U.S. Bond Index Fund	1.85%	2.21%	3.52%	3.97%
Blmbg Aggregate	1.87%	2.24%	3.56%	4.00%
Callan Core Bond MFs	2.25%	2.55%	3.88%	4.24%

(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 March 31, 2022

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	-5.1 62	1.1 36	7.2 17	6.3 14	5.4 12	5.5 19			0.08 83
BlackRock Post Retirement NL Index	-5.1 61	1.2 35	7.2 17	6.3 15	5.3 13	5.5 20			
SERS 2025 Retirement Fund Callan Target Date 2025	-5.1 39	2.2 44	8.3 63	7.5 60	6.4 60	6.9 74			0.08 78
BlackRock 2025 NL Index	-5.1 36	2.3 41	8.3 63	7.5 63	6.4 62	6.9 75			
SERS 2030 Retirement Fund Callan Target Date 2030	-5.2 24	3.4 26	9.6 58	8.6 56	7.3 56	7.8 73			0.08 79
BlackRock 2030 NL Index	-5.0 18	3.6 20	9.6 57	8.5 60	7.2 57	7.7 73			
SERS 2035 Retirement Fund Callan Target Date 2035	-5.2 18	4.6 24	10.8 49	9.6 46	8.1 51	8.5 70			0.08 81
BlackRock 2035 NL Index	-5.1 14	4.8 19	10.8 49	9.5 47	8.0 52	8.5 71			
SERS 2040 Retirement Fund Callan Target Date 2040	-5.3 21	5.6 17	11.9 40	10.4 30	8.8 38	9.2 66			0.08 76
BlackRock 2040 NL Index	-5.1 13	5.9 11	11.9 39	10.4 33	8.7 43	9.1 68			
SERS 2045 Retirement Fund Callan Target Date 2045	-5.4 22	6.3 12	12.8 27	11.1 24	9.3 31	9.7 56			0.08 78
BlackRock 2045 NL Index	-5.2 11	6.7 8	12.8 27	11.1 27	9.2 36	9.6 62			
SERS 2050 Retirement Fund Callan Target Date 2050	-5.5 27	6.7 10	13.3 17	11.4 12	9.5 22	10.0 38			0.08 76
BlackRock 2050 NL Index	-5.2 15	7.1 8	13.3 16	11.4 14	9.5 24	10.0 40			
SERS 2055 Retirement Fund Callan Target Date 2055	-5.5 20	6.8 10	13.4 16	11.5 13	9.6 20	10.2 44			0.08 81
BlackRock 2055 NL Index	-5.3 11	7.1 7	13.4 16	11.4 14	9.5 27	10.1 46			
SERS 2060 Retirement Fund Callan Target Date 2060	-5.5 23	6.8 11	13.3 19	11.5 14	9.6 35				0.08 78
BlackRock 2060 NL Index	-5.3 15	7.1 7	13.4 18	11.4 15	9.5 42				

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 March 31, 2022

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 NL Index	-5.6 ¹⁵	6.8 ⁷							0.08 ⁴⁵
Domestic Equity									
SERS U.S. Large Company Index Callan Lg Cap Broad MF S&P 500 Index	-4.6 ⁴²	15.6 ¹⁴	18.9 ³³	16.0 ⁴⁶	14.0 ⁴⁰	14.7 ³⁸			0.02 ¹⁰⁰
SERS U.S. Small/Mid Company Index Callan SMID Broad MFs Dow Jones US Completion	-9.2 ⁵³	-5.0 ⁶⁶	14.4 ⁴⁰	12.2 ⁴⁷	10.3 ⁴⁵	12.4 ³⁹			0.03 ¹⁰⁰
International Equity									
SERS Global Non-U.S. Index Fund Callan Non US Equity MFs MSCI ACWI ex US	-5.7 ²⁷	-1.7 ⁴⁴	7.6 ⁴⁶	7.0 ⁴⁴	5.4 ⁴¹	5.7 ⁶⁴			0.05 ⁹⁹
Domestic Fixed Income									
SERS Short Term Investment Fund Callan Cash Database 3-month Treasury Bill	0.0 ³⁹	0.1 ⁴²	0.8 ⁸¹	1.2 ⁷⁸	1.0 ⁷⁶	0.7 ⁷⁶			0.00 ¹⁰⁰
Comments: Callan Cash Database includes STIF, enhanced cash, and money market funds.									
SERS Stable Value Fund Callan Stable Value 3-month Treasury Bill	0.4 ¹⁵	1.5 ²¹	2.1 ⁴	2.1 ⁴	2.1 ³	2.2 ¹			
SERS U.S. Bond Index Fund Callan Core Bond MFs Blmbg Aggregate	-5.8 ⁵²	-4.1 ⁶¹	1.7 ⁸⁸	2.1 ⁹⁴	1.9 ⁹⁰	2.2 ⁹⁴			0.02 ⁹⁸

Returns:
 above median
 third quartile
 fourth quartile

Return Consistency:
 above median
 third quartile
 fourth quartile

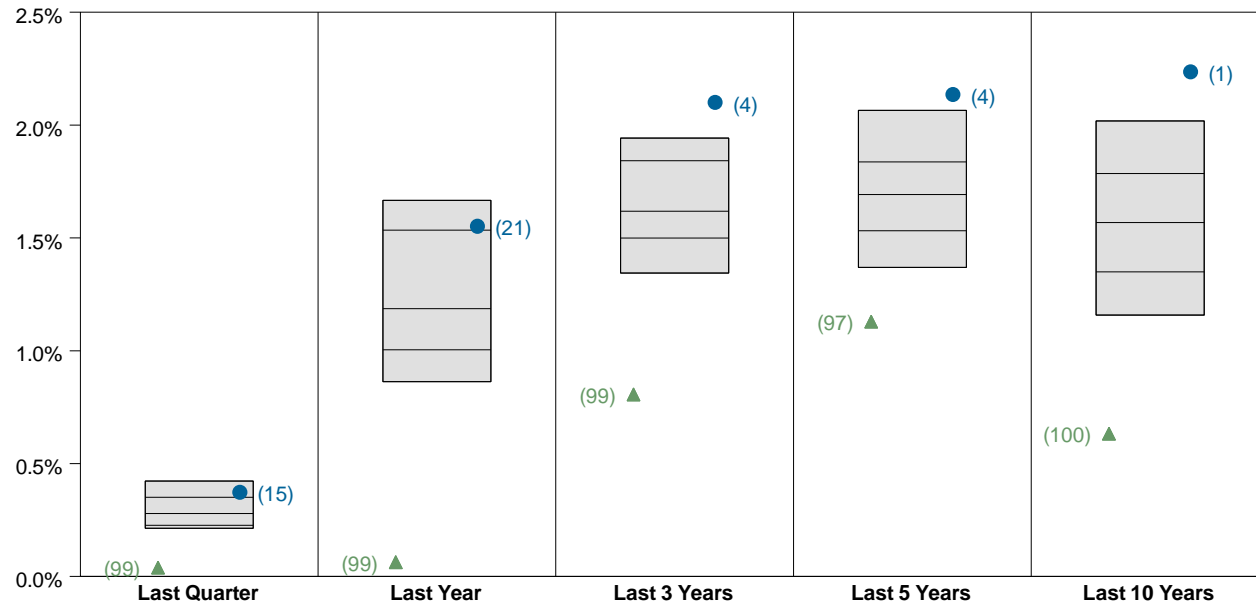
Risk Quadrant:

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 March 31, 2022

Performance vs Callan Stable Value CT (Institutional Net)



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	0.42	1.67	1.94	2.07	2.02
25th Percentile	0.35	1.53	1.84	1.84	1.79
Median	0.28	1.19	1.62	1.69	1.57
75th Percentile	0.23	1.00	1.50	1.53	1.35
90th Percentile	0.21	0.86	1.34	1.37	1.16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
SERS Stable Value Fund ●	0.37	1.55	2.10	2.13	2.23
3-month Treasury Bill ▲	0.04	0.06	0.81	1.13	0.63

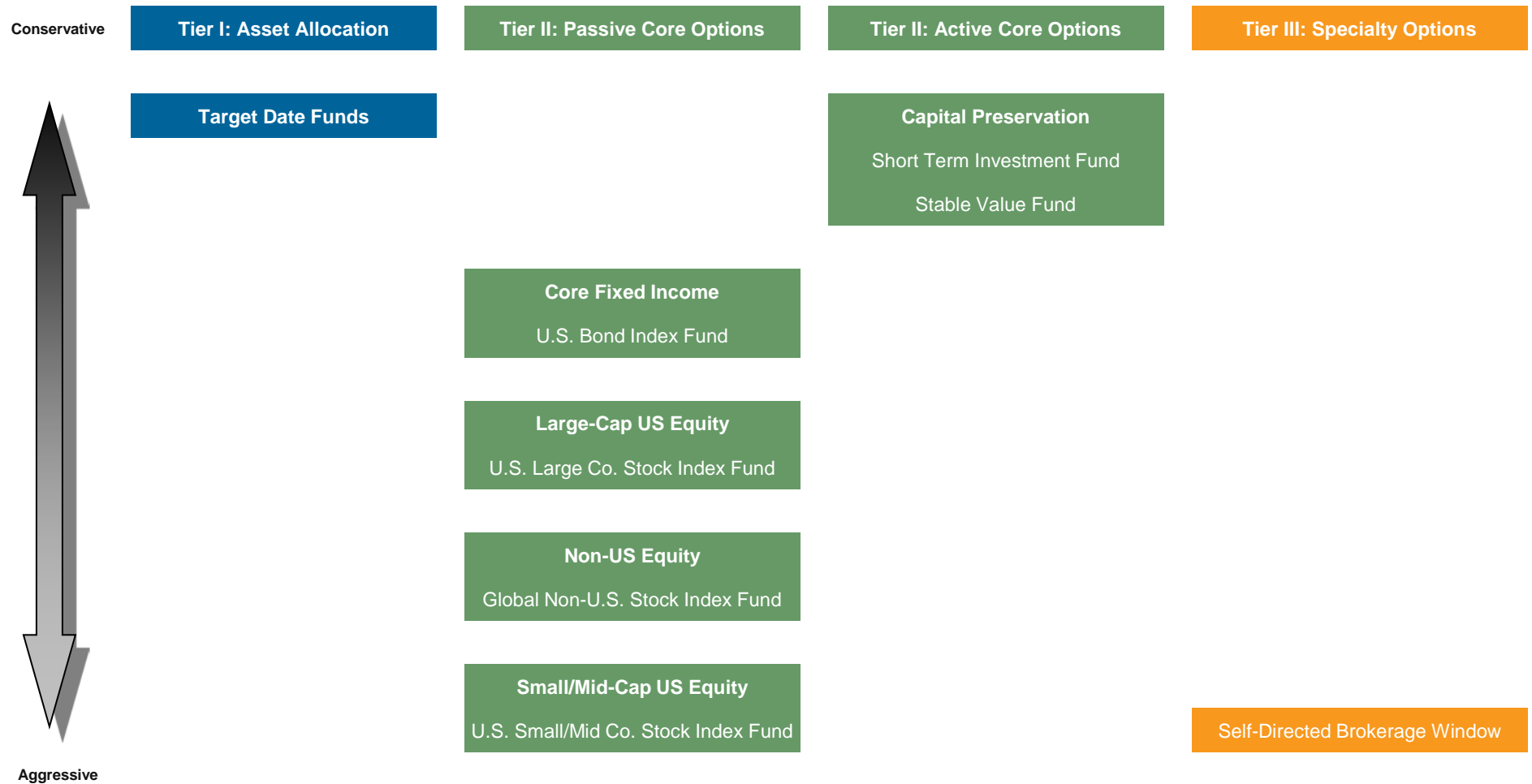
Wrap Provider Exposure*

Contract Issuer	Portfolio	Average Fee	Moody's Rating	S&P Rating	Fitch Rating
Nationwide Life Insurance	20.31%	0.15%	A1	A+	NR
Transamerica	20.21%	0.15%	A1	A+	WD
Prudential Insurance Co.	15.24%	0.15%	Aa3	AA-	AA-
RGA	15.24%	0.15%	A1	AA-	A
State Street Bank	12.73%	0.15%	Aa2	AA-	AA+
Pacific Life Insurance Co.	12.71%	0.15%	Aa3	AA-	AA-
	96.44%	0.14%			

*Source: Invesco

457(b) Plan Investment Structure

Lineup Mapped to Callan's Clean Sheet



Callan

Appendix – Callan Update

Published Research Highlights from 1Q22

Alternatives Focus, a new quarterly publication



Callan 2022-2031 Capital Markets Assumptions



2022 Defined Contribution Trends Survey



Periodic Table Collection: Year-End 2021

2017	2018	2019	2020	2021
Emerging Markets	Real Estate Funds	Large Cap	Small Cap	Large Cap
37.28%	7.36%	31.49%	19.96%	28.71%
Dev ex-U.S. Equity	Cash Equivalent	Small Cap	Large Cap	Real Estate Funds
24.21%	1.87%	25.52%	18.40%	21.02%
Large Cap	U.S. Fixed	Dev ex-U.S. Equity	Emerging Markets	Small Cap
21.83%	0.01%	22.49%	18.31%	14.82%
Small Cap	High Yield	Emerging Markets	Global ex-U.S. Fixed	Dev ex-U.S. Equity
14.65%	-2.08%	18.44%	10.11%	12.62%

Recent Blog Posts

Hedge Funds and Ukraine: A Guide for Institutional Investors

Joe McGuane

Why It Was a Tough 4Q21 for Large Cap Growth Managers

David Wang

DOL Shifts Tone on Private Equity in DC Plans

Patrick Wisdom

Additional Reading

Private Equity Trends 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.

Join our next LIVE session in San Francisco (1½-day session):
July 26–27, 2022

Join our next VIRTUAL session via Zoom (3 sessions, 2–3 hours each):
September 20–22, 2022

Mark Your Calendar

2022 June Regional Workshops

June 7, 2022 – Atlanta
June 9, 2022 – Portland

2022 October Regional Workshops

October 18, 2022 – Denver
October 20, 2022 – San Francisco

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Research Café: Private Equity Fee Study

May 11, 2022 – 9:30am (PT)

Webinar: Pension Risk Transfer

May 18, 2022 – 9:30am (PT)

Market Intelligence

July 15, 2022 – 9:30am (PT)

Callan Updates

Firm updates by the numbers, as of March 31, 2022

Total Associates: ~200

Ownership

- 100% employees
- All shareholders own less than 10% of the firm
- 67% of employees are equity owners
- 55% of shareholders identify as women or minority

Leadership Changes

- Greg Allen, CEO & Chief Research Officer, is now also Callan's Diversity, Equity & Belonging Executive Sponsor
- Lauren Mathias, SVP, non-U.S. equities consultant and head of the Callan Connects program, is now also Callan's DEB Champion

"Our focus is to build on all of the diversity work we've done over the years to bring change to our firm and our industry. Like many firms, we know we have a ways to go, and we're confident that the strategy we've developed will help us make meaningful, lasting change now and in the future."

- Lauren Mathias, senior vice president and DEB Champion, on Callan's new Diversity, Equity & Belonging program

Total General and Investment Consultants: more than 55

Total Specialty and Research Consultants: more than 60

Total CFA/CAIA/FRMs: ~55

Total Institutional Investor Clients: more than 400

AUA: more than \$3 trillion



Disclaimers

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This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.

Reference to or inclusion in this report of any product, service or entity should not be construed as a recommendation, approval, affiliation or endorsement of such product, service or entity by Callan.

Past performance is no guarantee of future results.

The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.