

February 25, 2022



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

Fourth Quarter 2021

Executive Summary

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Market Environment

Resurgent U.S. Equity Market in 4Q21

Strong performance across both growth and value strategies during 2021

U.S. equity 2021 returns are eye-popping:

- S&P 500: +28.7%
- Russell 2000: +14.8%

Global ex-U.S. markets lagged in 2021:

- MSCI World ex USA: +12.6%
- MSCI Emerging Markets: -2.5%
- Economic data recovered in 4Q after softening in 3Q. Tight labor market and mismatch between jobs and job seekers is vexing employers.
- Inflation spiked and recorded 7% for the first time in decades.
- 4Q GDP hit a robust 6.9%, after dropping in 3Q. Growth for the year was 5.7%. The recovery is still solid. Supply chain issues and sentiment surrounding the end of fiscal stimulus, the Omicron variant, and the Fed taper vex investors as we head into 2022.

Returns for Periods ended 12/31/21

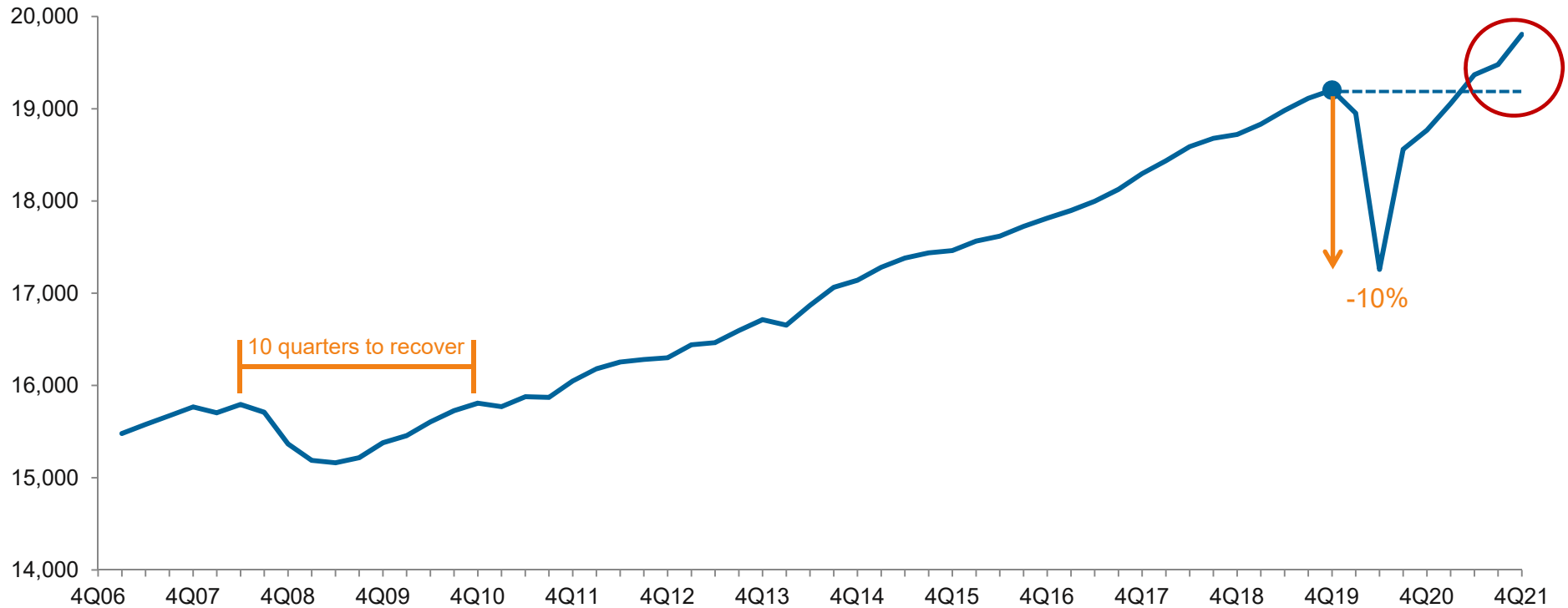
	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	9.28	25.66	17.97	16.30	9.81
S&P 500	11.03	28.71	18.47	16.55	9.76
Russell 2000	2.14	14.82	12.02	13.23	8.99
Global ex-U.S. Equity					
MSCI World ex USA	3.14	12.62	9.63	7.84	5.39
MSCI Emerging Markets	-1.31	-2.54	9.88	5.49	--
MSCI ACWI ex USA Small Cap	0.62	12.93	11.21	9.46	6.93
Fixed Income					
Bloomberg Aggregate	0.01	-1.54	3.57	2.90	4.94
90-day T-Bill	0.01	0.05	1.14	0.63	2.06
Bloomberg Long Gov/Credit	2.15	-2.52	7.39	5.72	7.31
Bloomberg Global Agg ex-US	-1.18	-7.05	3.07	0.82	3.40
Real Estate					
NCREIF Property	6.15	17.70	7.75	9.32	9.38
FTSE Nareit Equity	16.31	43.24	10.75	11.38	9.89
Alternatives					
CS Hedge Fund	0.94	8.23	5.47	4.90	6.74
Cambridge Private Equity*	5.01	48.82	21.29	17.11	15.64
Bloomberg Commodity	-1.56	27.11	3.66	-2.85	1.13
Gold Spot Price	4.08	-3.51	9.69	1.56	6.61
Inflation - CPI-U	1.64	7.04	2.92	2.14	2.28

*Cambridge PE data through 09/30/21.

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

GDP Recovered Pre-Pandemic Level in 2Q21 After Deepest Drop in 75 Years

Seasonally Adjusted Real GDP in Billions of Dollars



- After the Global Financial Crisis, it took 2½ years before real GDP reclaimed its pre-recession highs.
 - GFC peak to trough down 4%
- 2Q20 real GDP level was down over 10% from 4Q19.
 - Pre-pandemic peak level of GDP reached in 2Q21: \$19.368T vs. \$19.202T for 4Q19
- 2021 GDP showed annual growth of 5.7%, with consensus estimates just north of 4.0% for 2022, followed by return to trend.

Source: Federal Reserve Bank of St. Louis

Inflation in the U.S.

Powell pivot: Inflation at the peak?

Inflation sets a 40-year high

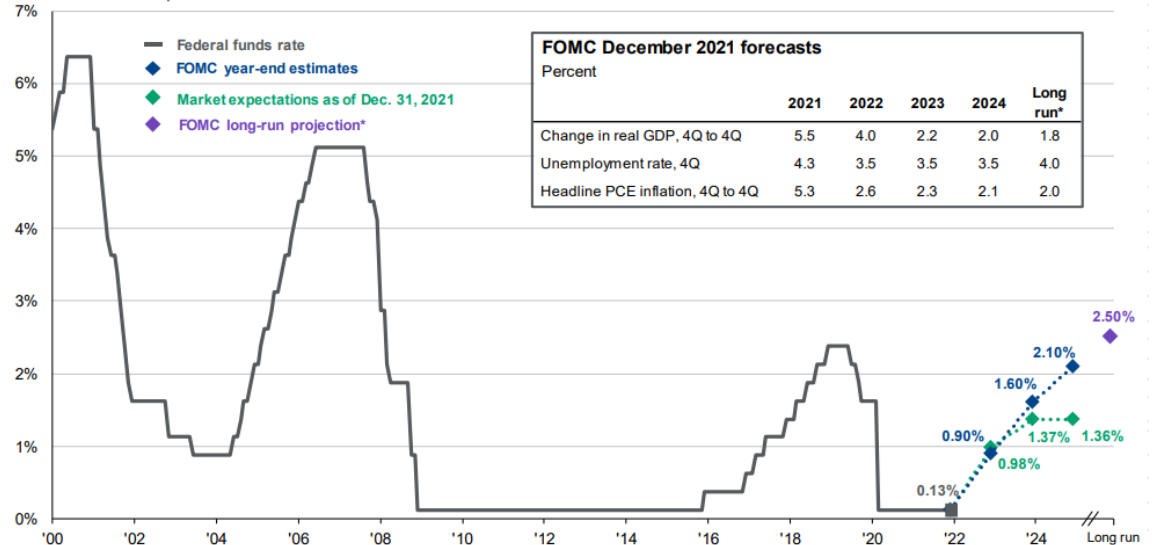
- Annual CPI jumped again to 7.0% in December—its eighth consecutive reading above 5% and the largest 12-month increase since the period ending June 1982.
- Increases for shelter and for used cars/trucks were the largest contributors to the seasonally adjusted all-items increase.
- Even service inflation, which had declined initially, has since recovered and is on an upward trend.

Fed more hawkish than expected

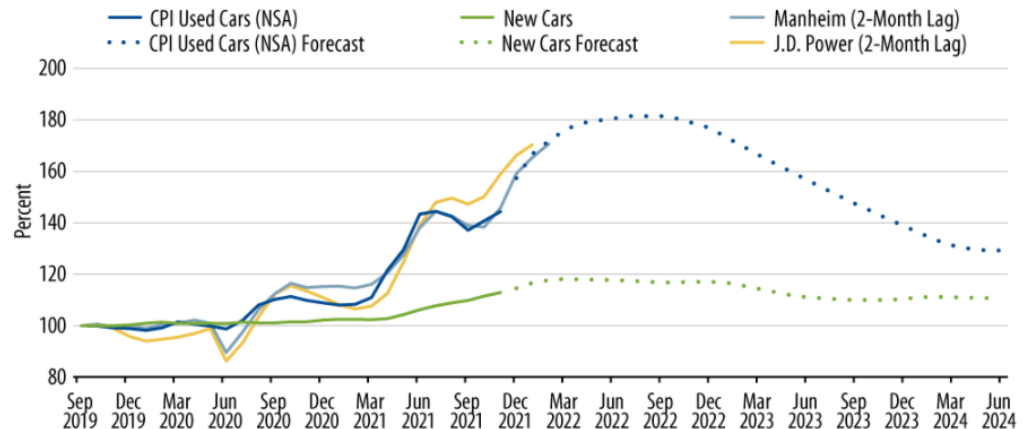
- Fed announced a doubling of the pace of tapering and an upward revision to the anticipated path of rate hikes.
- FOMC participants now expect three rate hikes in 2022 to bring the targeted range to 0.75%-1.0% by year-end.

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



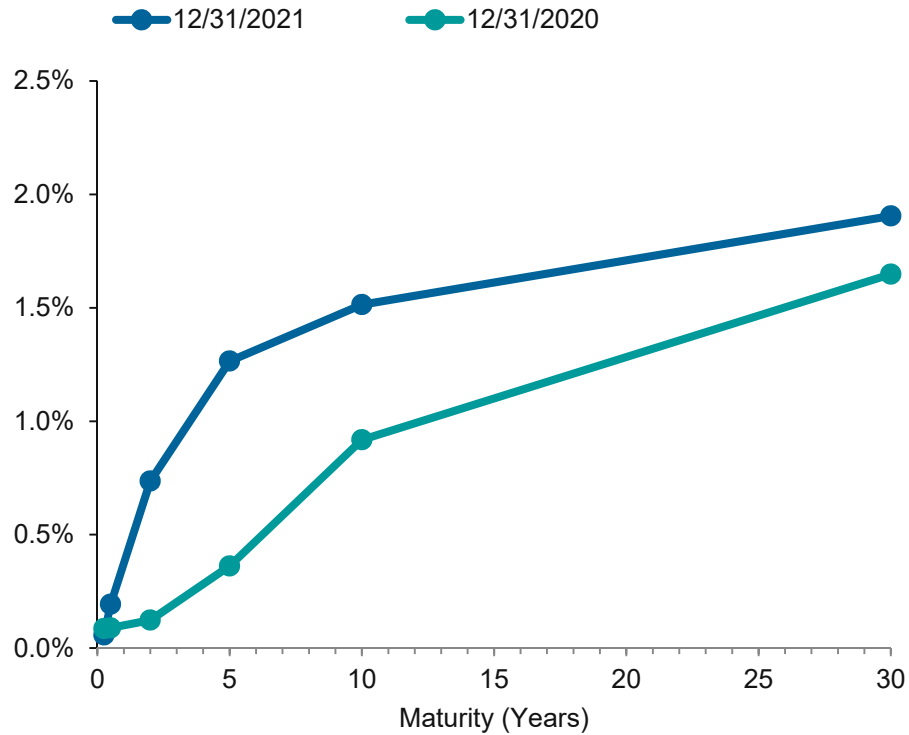
Used Car Indexes (NSA) – Rebased to 100 Pre-Covid



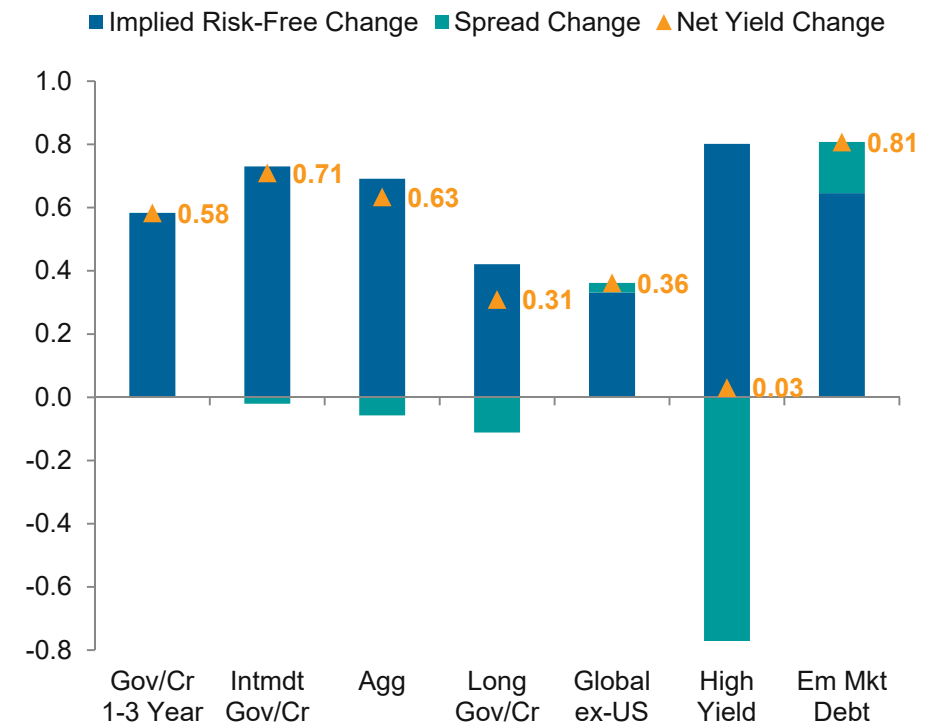
Sources: (top-right) Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management, (bottom-left) Western Asset, U.S. Bureau of Labor Statistics, J.D. Power, Manheim.

Rate Movement in the Last Year

U.S. Treasury Yield Curve Change



Net Yield Changes After Spread Tightening (12/31/2021)



The Treasury yield curve rose meaningfully in the last year.

- However, spreads also tightened and absorbed some of the rise in rates.
- In the case of high yield, spreads tightened so much the overall yield on the sector dropped by over 1.7%.

Sources: Bloomberg, Federal Reserve

Diversification Remains Key Risk Control

Periodic Table of Investment Returns

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Non-U.S. Fixed	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
22.37%	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%
U.S. Fixed	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
10.26%	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%
Real Estate Funds	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
4.57%	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%
Hedge Funds	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
3.04%	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%
Cash Equivalent	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
1.78%	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%
High Yield	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
-1.37%	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%
Emerging Markets	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
-6.16%	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%
Non-U.S. Equity	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
-15.80%	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%
Small Cap	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
-20.48%	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%
Large Cap	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
-22.10%	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%

- 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 Updates and Observations

DOL proposes new ESG and proxy voting rule

- Covers both ESG integration and proxy voting, 60-day comment period ended in December; expected to be finalized this summer
- **Key takeaway:** Allows for a prudent fiduciary to consider any factor that is deemed material to risk/return analysis and explicitly makes material ESG factors possible to consider

DOL clarifies 2020 comment letter on private equity in DC plans

- The DOL shifted its tone in a supplemental statement stating 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.

IRS announces updated retirement plan limits for 2022

- Annual contribution limit will increase from \$19,500 to \$20,500, with no change to the age 50 annual catch-up at \$6,500.
- The Section 415(c) limit will increase from \$58,000 to \$61,000.

Still waiting on Congress

- SECURE 2.0 still has bipartisan support but no word yet on safe passage.
- Build Back Better Act didn't pass but contained potential changes to mega-Roth and in-plan Roth conversions that may be seen in future legislation.

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.

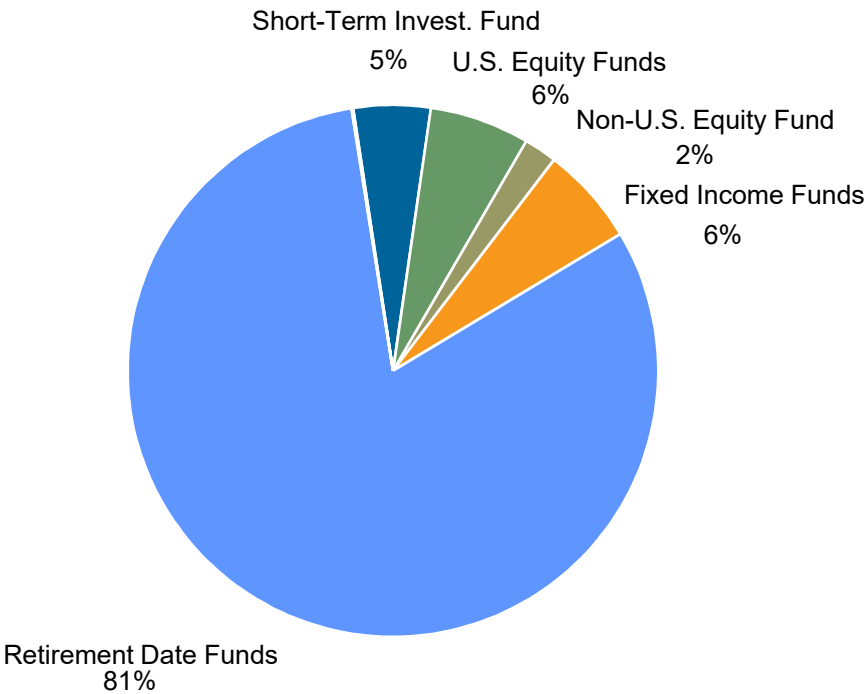
Callan

PA SERS 401(a) Plan Performance Review

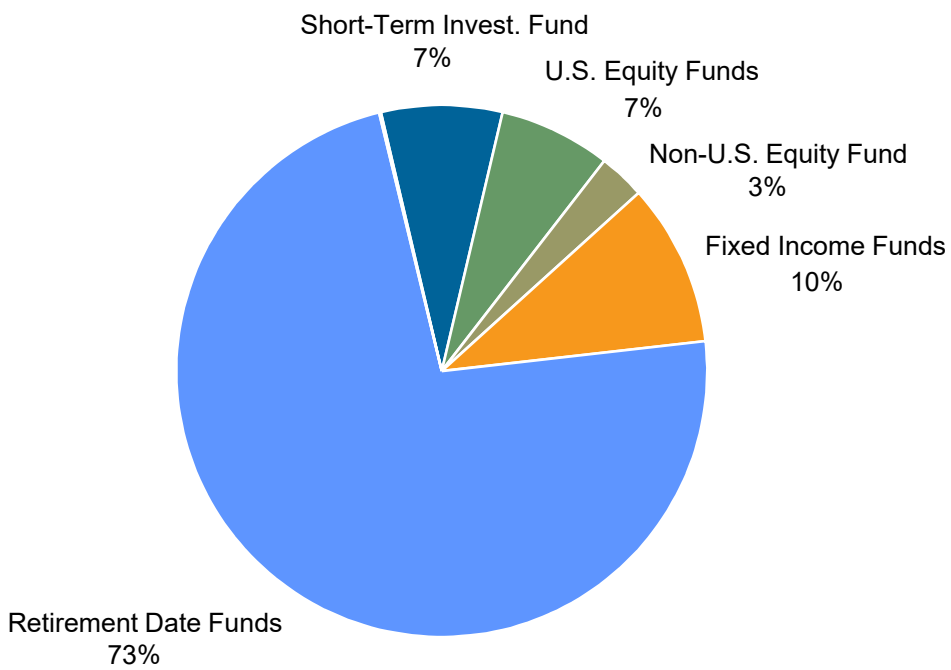
401(a) Plan Asset Allocation & Contributions

As of December 31, 2021

Asset Allocation



Contributions



Asset Allocation

As of December 31, 2021

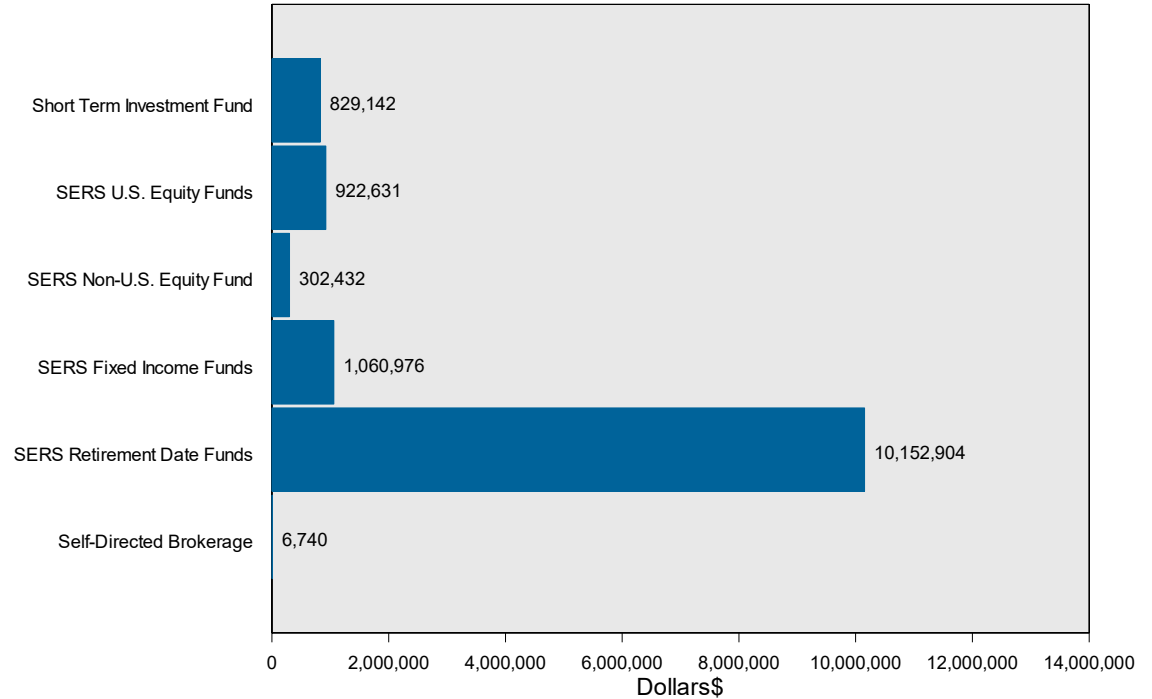
	December 31, 2021			September 30, 2021		
	Market Value	% of Total	Net New Inv.	Inv. Return	Market Value	% of Total
SERS Retirement Date Funds	\$63,914,277	85.11%	\$7,040,223	\$3,112,682	\$53,761,372	85.81%
SERS Post Retirement Fund	1,059,063	1.41%	101,412	24,303	933,348	1.49%
SERS 2025 Retirement Fund	3,077,116	4.10%	412,794	83,994	2,580,328	4.12%
SERS 2030 Retirement Fund	5,866,372	7.81%	567,740	207,384	5,091,249	8.13%
SERS 2035 Retirement Fund	7,758,015	10.33%	725,670	325,765	6,706,579	10.70%
SERS 2040 Retirement Fund	7,046,524	9.38%	1,050,699	332,803	5,663,022	9.04%
SERS 2045 Retirement Fund	7,799,267	10.39%	813,417	406,976	6,578,874	10.50%
SERS 2050 Retirement Fund	8,788,739	11.70%	852,765	487,015	7,448,959	11.89%
SERS 2055 Retirement Fund	8,819,763	11.74%	996,949	486,873	7,335,942	11.71%
SERS 2060 Retirement Fund	8,458,562	11.26%	800,697	473,999	7,183,866	11.47%
SERS 2065 Retirement Fund	5,240,856	6.98%	718,081	283,570	4,239,205	6.77%
SERS U.S. Equity	\$4,802,813	6.40%	\$562,249	\$360,382	\$3,880,182	6.19%
SERS U.S. Large Company Idx Fund	2,968,439	3.95%	488,429	258,645	2,221,366	3.55%
SERS U.S. All Company Idx Fund	1,165,275	1.55%	22,225	98,310	1,044,740	1.67%
SERS U.S. SMID Company Idx Fund	669,099	0.89%	51,596	3,427	614,077	0.98%
SERS Non-U.S. Equity						
SERS Global Non-U.S. Index Fund	1,580,504	2.10%	274,075	28,357	1,278,072	2.04%
SERS Fixed Income	\$4,709,049	6.27%	\$1,057,931	\$3,046	\$3,648,073	5.82%
SERS Short Term Investment Fund	3,709,654	4.94%	828,744	398	2,880,512	4.60%
SERS U.S. Short Term Bond Idx Fund	26,665	0.04%	(16,469)	(262)	43,396	0.07%
SERS U.S. TIPS Index Fund	210,120	0.28%	56,567	3,843	149,710	0.24%
SERS U.S. Bond Index Fund	762,610	1.02%	189,089	(934)	574,455	0.92%
Self-Directed Brokerage						
SERS Self-Directed Brokerage	88,112	0.12%	6,850	(111)	81,372	0.13%
Total Fund	\$75,094,755	100.0%	\$8,941,328	\$3,504,356	\$62,649,071	100.0%

Changes in Market Values and Contributions

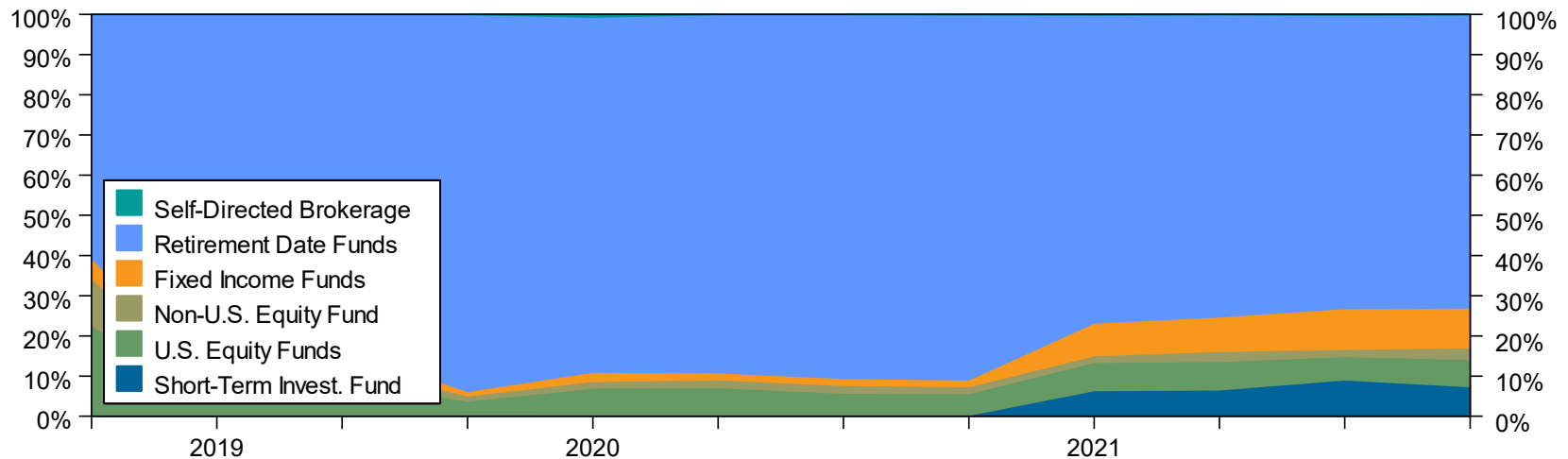
As of December 31, 2021

The chart to the right shows the net change in fund values across the various investment options for the quarter. The change in value for each fund is the result of:

1. Investment returns;
2. Participant contributions, employer match, distributions, withdrawals; and
3. Transfers between funds by participants.



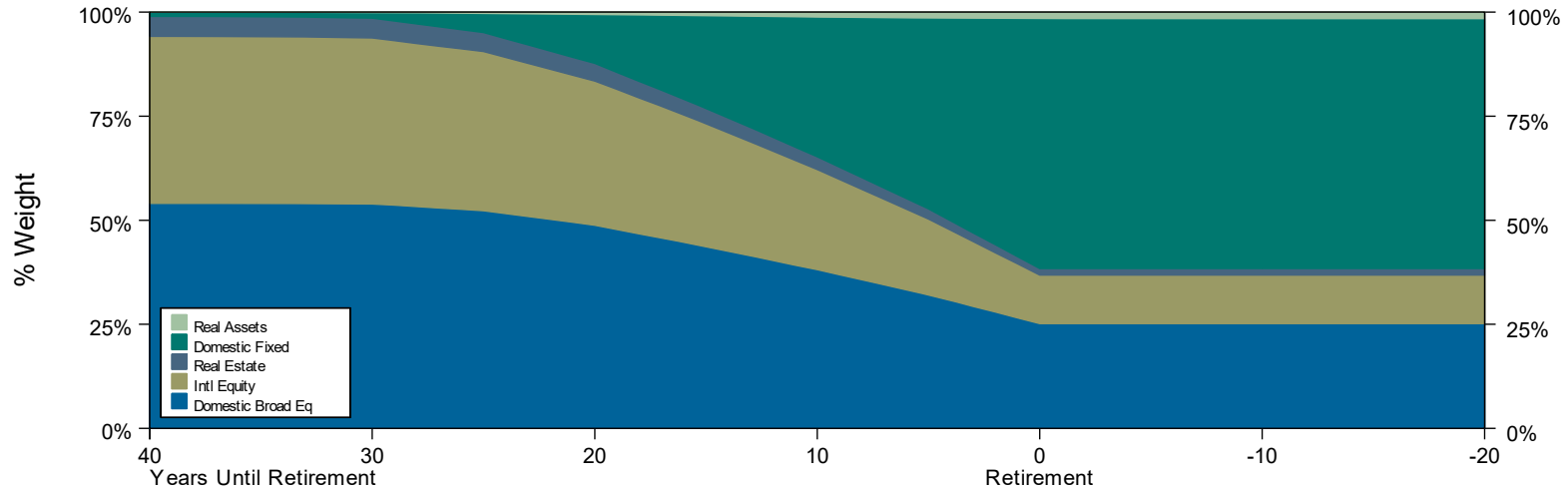
Historical Allocation of Contributions



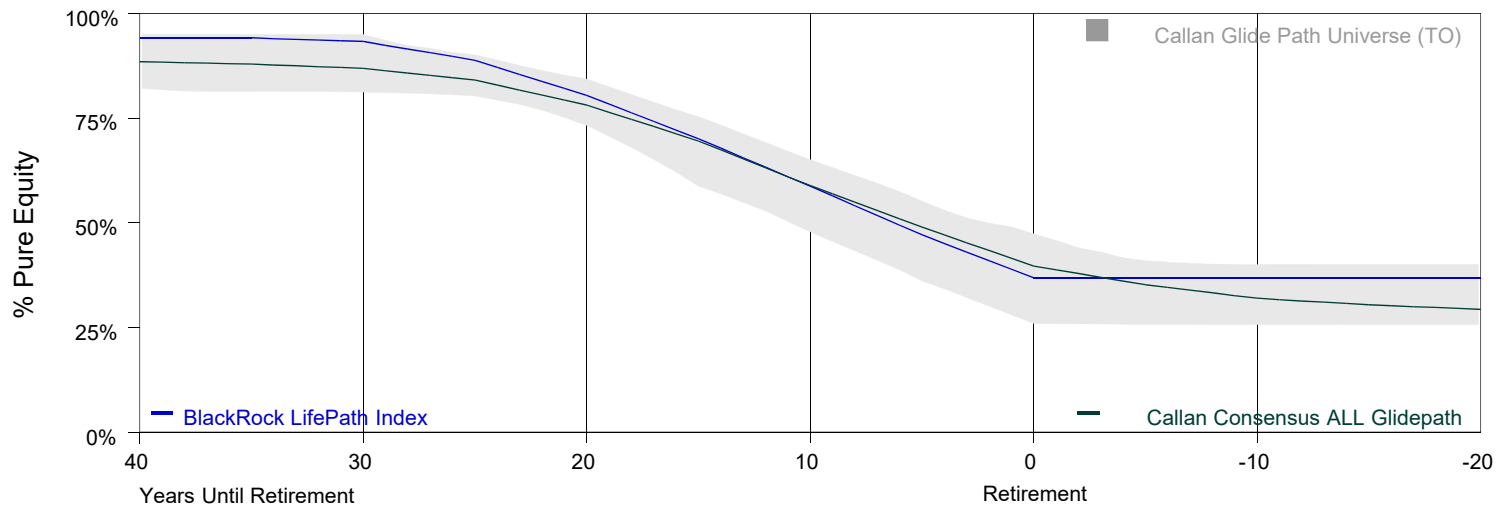
Blackrock LifePath Retirement Funds

Glidepath and Equity Roll-down Exposure as of December 31, 2021

BlackRock LifePath Retirement Funds Glidepath



BlackRock LifePath Retirement Funds Equity Roll-down Exposure



Cumulative Performance - Net of Fees

As of December 31, 2021

	Last Quarter	1 Year	Last 3 Years	Last 5 Years
Net Performance				
Target Date Funds				
SERS Post Retirement Fund	2.52%	6.95%	11.47%	8.05%
BlackRock Post Retirement Index	2.59%	7.02%	11.43%	8.02%
Callan Tgt Date 2000-2010	2.73%	8.05%	11.54%	8.23%
SERS 2025 Retirement Fund	3.12%	8.99%	13.19%	9.46%
BlackRock 2025 Index	3.19%	9.07%	13.14%	9.40%
Callan Target Date 2025	3.58%	10.07%	13.75%	9.88%
SERS 2030 Retirement Fund	3.94%	11.43%	14.96%	10.66%
BlackRock 2030 Index	4.00%	11.50%	14.90%	10.58%
Callan Target Date 2030	4.20%	11.65%	15.40%	10.91%
SERS 2035 Retirement Fund	4.71%	13.80%	16.66%	11.81%
BlackRock 2035 Index	4.76%	13.85%	16.59%	11.71%
Callan Target Date 2035	4.75%	13.93%	16.76%	11.85%
SERS 2040 Retirement Fund	5.42%	15.96%	18.18%	12.83%
BlackRock 2040 Index	5.46%	15.97%	18.10%	12.70%
Callan Target Date 2040	5.36%	15.76%	18.00%	12.66%
SERS 2045 Retirement Fund	5.99%	17.72%	19.44%	13.60%
BlackRock 2045 Index	6.01%	17.70%	19.33%	13.44%
Callan Target Date 2045	5.68%	16.85%	18.97%	13.21%
SERS 2050 Retirement Fund	6.31%	18.67%	20.06%	13.96%
BlackRock 2050 Index	6.32%	18.62%	19.96%	13.81%
Callan Target Date 2050	5.84%	17.19%	19.19%	13.29%
SERS 2055 Retirement Fund	6.38%	18.83%	20.18%	14.01%
BlackRock 2055 Index	6.39%	18.81%	20.10%	13.88%
Callan Target Date 2055	5.81%	17.27%	19.37%	13.53%
SERS 2060 Retirement Fund	6.38%	18.82%	20.17%	14.00%
BlackRock 2060 Index	6.39%	18.81%	20.10%	13.88%
Callan Target Date 2060	5.92%	17.44%	19.62%	13.63%
SERS 2065 Retirement Fund	6.36%	18.77%	-	-
BlackRock 2065 Index	6.39%	18.80%	-	-
Callan Target Date 2065	5.68%	17.01%	19.22%	-

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 December 31, 2021

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Target Date Funds				
SERS Post Retirement Fund	6.41%	6.57%	5.78%	-
BlackRock Post Retirement Index	6.38%	6.53%	5.76%	6.03%
Callan Tgt Date 2000-2010	6.62%	7.49%	5.59%	5.68%
SERS 2025 Retirement Fund	7.53%	8.28%	5.99%	-
BlackRock 2025 Index	7.45%	8.22%	5.94%	6.48%
Callan Target Date 2025	7.83%	9.05%	6.19%	-
SERS 2030 Retirement Fund	8.42%	9.21%	6.38%	-
BlackRock 2030 Index	8.32%	9.12%	6.32%	6.84%
Callan Target Date 2030	8.63%	9.92%	6.62%	6.80%
SERS 2035 Retirement Fund	9.28%	10.08%	6.75%	-
BlackRock 2035 Index	9.15%	9.97%	6.67%	7.14%
Callan Target Date 2035	9.32%	10.81%	7.03%	-
SERS 2040 Retirement Fund	10.02%	10.83%	7.05%	-
BlackRock 2040 Index	9.86%	10.71%	6.95%	7.40%
Callan Target Date 2040	9.96%	11.31%	7.41%	7.12%
SERS 2045 Retirement Fund	10.58%	11.45%	7.26%	-
BlackRock 2045 Index	10.39%	11.31%	7.16%	7.58%
Callan Target Date 2045	10.41%	11.57%	7.39%	-
SERS 2050 Retirement Fund	10.83%	11.83%	-	-
BlackRock 2050 Index	10.65%	11.69%	7.44%	7.97%
Callan Target Date 2050	10.45%	11.70%	7.40%	-
SERS 2055 Retirement Fund	10.87%	12.03%	-	-
BlackRock 2055 Index	10.70%	11.91%	-	-
Callan Target Date 2055	10.61%	11.87%	-	-

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 December 31, 2021

	Last Quarter	1 Year	Last 3 Years	Last 5 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index Fund	11.03%	28.70%	26.09%	18.49%
S&P 500 Index	11.03%	28.71%	26.07%	18.47%
Callan Lg Cap Broad MF	8.34%	25.50%	25.48%	17.66%
SERS U.S. All Company Index Fund	9.27%	25.61%	25.72%	17.91%
Russell 3000 Index	9.28%	25.66%	25.79%	17.97%
Callan Multi Cap Brd MF	7.74%	24.17%	23.58%	15.93%
SERS U.S. SMID Company Idx Fund	0.84%	12.89%	24.09%	15.42%
Dow Jones US Completion	0.66%	12.36%	23.85%	15.21%
Callan SMID Broad MFs	5.37%	19.56%	22.40%	15.84%
International Equity				
SERS Global Non-U.S. Index Fund	2.14%	7.97%	13.48%	9.95%
MSCI ACWI ex US	1.82%	7.82%	13.18%	9.61%
Callan Non US Equity MFs	2.45%	9.47%	14.48%	10.12%
Domestic Fixed Income				
SERS Short Term Investment Fund	0.01%	0.07%	1.01%	1.24%
3-month Treasury Bill	0.01%	0.05%	0.99%	1.14%
Callan Cash Database(1)	(0.00%)	0.13%	1.21%	1.39%
SERS U.S. Short Term Bond Idx Fund	(0.58%)	(0.52%)	2.27%	-
Blmbg Gov/Cred 1-3 Yr	(0.56%)	(0.47%)	2.28%	1.85%
Callan Short US Govt MFs	(0.65%)	(1.14%)	1.99%	1.56%
SERS U.S. TIPS Index Fund	2.30%	5.87%	8.40%	-
Blmbg US TIPS	2.36%	5.96%	8.44%	5.34%
Callan TIPS MFs	2.02%	5.55%	8.03%	5.06%
SERS U.S. Bond Index Fund	(0.06%)	(1.65%)	4.76%	3.55%
Blmbg Aggregate	0.01%	(1.54%)	4.79%	3.57%
Callan Core Bond MFs	(0.10%)	(1.18%)	5.49%	3.96%

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

Cumulative Performance - Net of Fees

As of December 31, 2021

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index Fund	14.95%	16.57%	10.70%	9.56%
S&P 500 Index	14.93%	16.55%	10.66%	9.52%
Callan Lg Cap Broad MF	13.83%	15.77%	10.37%	9.36%
SERS U.S. All Company Index Fund	14.50%	16.28%	-	-
Russell 3000 Index	14.55%	16.30%	10.59%	9.72%
Callan Multi Cap Brd MF	12.30%	14.64%	9.51%	9.26%
SERS U.S. SMID Company Idx Fund	12.63%	15.01%	10.52%	10.93%
Dow Jones US Completion	12.41%	14.79%	10.29%	10.74%
Callan SMID Broad MFs	12.40%	14.00%	10.68%	10.19%
International Equity				
SERS Global Non-U.S. Index Fund	6.88%	7.53%	-	-
MSCI ACWI ex US	6.56%	7.28%	3.77%	6.80%
Callan Non US Equity MFs	6.95%	8.43%	4.33%	6.69%
Domestic Fixed Income				
SERS Short Term Investment Fund	1.00%	0.75%	1.10%	-
3-month Treasury Bill	0.87%	0.63%	0.91%	1.29%
Callan Cash Database(1)	1.16%	0.97%	1.41%	1.62%
Blmbg Gov/Cred 1-3 Yr	1.60%	1.39%	2.25%	2.50%
Callan Short US Govt MFs	1.31%	1.13%	2.17%	2.48%
Blmbg US TIPS	4.25%	3.09%	4.69%	5.31%
Callan TIPS MFs	3.97%	2.85%	4.32%	5.01%
SERS U.S. Bond Index Fund	2.97%	2.86%	4.04%	4.28%
Blmbg Aggregate	3.00%	2.90%	4.09%	4.33%
Callan Core Bond MFs	3.33%	3.33%	4.41%	4.55%

(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 December 31, 2021

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	2.5 35	7.0 36	11.5 17	8.1 16	6.4 16	6.6 19			0.08 81
BlackRock Post Retirement Index	2.6 31	7.0 32	11.4 19	8.0 16	6.4 17	6.5 20			
SERS 2025 Retirement Fund Callan Target Date 2025	3.1 73	9.0 77	13.2 62	9.5 61	7.5 63	8.3 75			0.08 80
BlackRock 2025 Index	3.2 71	9.1 75	13.1 63	9.4 65	7.5 66	8.2 75			
SERS 2030 Retirement Fund Callan Target Date 2030	3.9 65	11.4 61	15.0 60	10.7 63	8.4 59	9.2 74			0.08 79
BlackRock 2030 Index	4.0 64	11.5 56	14.9 61	10.6 64	8.3 64	9.1 75			
SERS 2035 Retirement Fund Callan Target Date 2035	4.7 52	13.8 53	16.7 53	11.8 53	9.3 54	10.1 74			0.08 80
BlackRock 2035 Index	4.8 50	13.9 52	16.6 61	11.7 61	9.1 63	10.0 78			
SERS 2040 Retirement Fund Callan Target Date 2040	5.4 45	16.0 41	18.2 43	12.8 42	10.0 47	10.8 69			0.08 79
BlackRock 2040 Index	5.5 43	16.0 39	18.1 46	12.7 47	9.9 52	10.7 70			
SERS 2045 Retirement Fund Callan Target Date 2045	6.0 31	17.7 21	19.4 32	13.6 31	10.6 37	11.4 59			0.08 80
BlackRock 2045 Index	6.0 30	17.7 22	19.3 36	13.4 41	10.4 50	11.3 66			
SERS 2050 Retirement Fund Callan Target Date 2050	6.3 26	18.7 13	20.1 17	14.0 18	10.8 30	11.8 39			0.08 79
BlackRock 2050 Index	6.3 25	18.6 13	20.0 21	13.8 24	10.7 38	11.7 50			
SERS 2055 Retirement Fund Callan Target Date 2055	6.4 24	18.8 14	20.2 18	14.0 22	10.9 30	12.0 43			0.08 83
BlackRock 2055 Index	6.4 23	18.8 14	20.1 20	13.9 25	10.7 40	11.9 49			
SERS 2060 Retirement Fund Callan Target Date 2060	6.4 26	18.8 16	20.2 24	14.0 23	10.9 42				0.08 81
BlackRock 2060 Index	6.4 25	18.8 16	20.1 26	13.9 31	10.7 52				

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, 2021

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	6.4 23	18.8 16							0.08 53
BlackRock 2065 Index	6.4 22	18.8 15							
Domestic Equity									
SERS U.S. Large Company Stock Index Fund Callan Lg Cap Broad MF	11.0 13	28.7 21	26.1 48	18.5 48	14.9 45	16.6 44			0.02 99
S&P 500 Index	11.0 13	28.7 21	26.1 48	18.5 48	14.9 45	16.6 44			
SERS U.S. All Company Index Fund Callan Multi Cap Brd MF	9.3 30	25.6 41	25.7 38	17.9 38	14.5 31	16.3 28			0.03 99
Russell 3000 Index	9.3 30	25.7 41	25.8 38	18.0 37	14.5 31	16.3 27			
U.S. Small/Mid Company Stock Index Fund Callan SMID Broad MFs	0.8 83	12.9 65	24.1 38	15.4 53	12.6 49	15.0 39			0.03 100
Dow Jones US Completion	0.7 84	12.4 66	23.9 39	15.2 54	12.4 50	14.8 42			
International Equity									
SERS Global Non-U.S. Index Fund Callan Non US Equity MFs	2.1 55	8.0 68	13.5 60	9.9 54	6.9 51	7.5 65			0.06 99
MSCI ACWI ex US	1.8 57	7.8 69	13.2 63	9.6 56	6.6 54	7.3 72			
Domestic Fixed Income									
SERS Short Term Investment Fund Callan Cash Database	0.0 37	0.1 76	1.0 83	1.2 79	1.0 76	0.8 77			0.00 100
3-month Treasury Bill	0.0 37	0.0 81	1.0 85	1.1 89	0.9 92	0.6 95			
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	-0.6 36	-0.5 17	2.3 26						0.03 99
Blmbg Gov/Cred 1-3 Yr	-0.6 34	-0.5 17	2.3 25	1.9 18	1.6 13	1.4 19			
SERS U.S. TIPS Index Fund Callan TIPS MFs	2.3 21	5.9 36	8.4 35						0.03 99
Blmbg US TIPS	2.4 18	6.0 30	8.4 33	5.3 33	4.2 29	3.1 30			

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 December 31, 2021

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	-0.1 29	-1.6 81	4.8 95	3.6 92	3.0 87	2.9 95			0.03 98
Callan Core Bond MFs									
Bimbg Aggregate	0.0 14	-1.5 78	4.8 95	3.6 91	3.0 84	2.9 93			

Returns:
 above median
 third quartile
 fourth quartile

Return Consistency:
 above median
 third quartile
 fourth quartile

Risk Quadrant:
 above median
 third quartile
 fourth quartile

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 4Q21

A Guide to Reinsurance for Institutional Investors



2021 ESG Survey



2021 Cost of Doing Business Survey



2021 Investment Management Fee Study



Recent Blog Posts

Understanding Return Forecasts for Public DB Plans

Brady O'Connell and John Pirone

Rising Rates! Why the Heck Do We Own Bonds?

Alex Browning and Adam Lozinski

How Investors Should Respond to China's Regulatory Crackdown

Fanglue Zhou

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

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 VIRTUAL session via Zoom (3 sessions, 2-3 hours each):
March 1-3, 2022

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

Introductory Workshop for DC Plan Fiduciaries

This one-day workshop centers on the fundamentals of administering a defined contribution (DC) plan. Designed primarily for ERISA fiduciaries and supporting staff members, attendees will gain a better understanding of the key responsibilities of an ERISA fiduciary and best practices for executing those responsibilities.

Join our LIVE session in San Francisco:
March 23, 2022

Mark Your Calendar

2022 National Conference

April 25-27, 2022 – San Francisco
Palace Hotel
2 New Montgomery St., San Francisco, CA 94105

2022 June Regional Workshops

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

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Webinar: DC Survey Results

February 23, 2022 – 9:30am (PT)

Research Café: ESG Interview Series

April 6, 2022 – 9:30am (PT)

Market Intelligence

April 14, 2022 – 9:30am (PT)

Callan Updates

Firm updates by the numbers, as of December 31, 2021

Total Associates: ~200

Ownership

- 100% employees
- 22 new shareholders in 2021—a firm record
- 67% of employees are equity owners
- 55% of shareholders identify as women or minority

Leadership Changes

- Annoesjka West has been promoted to lead the New Jersey investment consulting team
- Jen Gallo has been promoted to chief compliance officer in addition to her role as general counsel
- Tom Shingler has been named ESG team practice leader

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

“I’m excited about this new opportunity to lead the New Jersey team and continue the success of our office. The last 20 years at Callan have been a tremendous experience for me, and I have no doubt that will continue in my new role.”

- Annoesjka West, senior vice president, on being named manager of Callan’s New Jersey investment consulting team



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.

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