

June 8, 2021



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

First Quarter 2021

Executive Summary

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**Thomas H. Shingler**  
Senior Vice President

**Bud Pellecchia**  
Senior Vice President

**Britton M. Murdoch**  
Vice President

Callan

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**Market Environment**

# Continued Surge in Global Equity Markets in 1Q21

Small cap leads in both U.S. and global ex-U.S. markets

## Global equities continued to surge in 1Q

- Year-over-year returns from the bottom of the pandemic market crash are eye-popping:
  - S&P 500: +56%
  - MSCI World ex-USA: +46%
  - Emerging Markets: +58%
  - U.S. Small Cap: +95% (!)
- The initial recovery was concentrated in a few stocks (FAANG) and U.S. mega cap.
- Market rotation to small cap and value with the change from a “COVID trade” to a “GDP growth trade” in November, with the announcement of vaccines
- As COVID-19 infections surged in the new year, re-openings were reversed in many states and localities, but only temporarily.
- Economic recovery now looking very strong in 2021, into 2022. Fed projects GDP growth of 6.5% in 2021.
- Distribution challenges have kept widespread inoculation from being achieved until mid-year in the U.S.; it could be much later in countries around the globe.

## Returns for Periods ended 3/31/21

	1 Quarter	1 Year	5 Years	10 Years	25 Years
<b>U.S. Equity</b>					
Russell 3000	6.35	62.53	16.64	13.79	9.71
S&P 500	6.17	56.35	16.29	13.91	9.59
Russell 2000	12.70	94.85	16.35	11.68	9.36
<b>Global ex-U.S. Equity</b>					
MSCI World ex USA	4.04	45.86	8.92	5.21	5.21
MSCI Emerging Markets	2.29	58.39	12.07	3.65	--
MSCI ACWI ex USA Small Cap	5.53	69.82	10.40	6.32	6.51
<b>Fixed Income</b>					
Bloomberg Barclays Aggregate	-3.37	0.71	3.10	3.44	5.09
90-day T-Bill	0.03	0.12	1.19	0.63	2.22
Bloomberg Barclays Long Gov/Credit	-10.41	-2.05	5.47	6.98	7.22
Bloomberg Barclays Global Agg ex-US	-5.29	7.15	2.13	1.26	3.80
<b>Real Estate</b>					
NCREIF Property	1.15	2.04	5.69	8.76	9.04
FTSE Nareit Equity	8.87	37.78	5.33	8.56	9.92
<b>Alternatives</b>					
CS Hedge Fund	2.85	20.19	5.12	3.88	7.20
Cambridge Private Equity*	10.38	17.87	13.87	13.82	15.05
Bloomberg Commodity	6.92	35.04	2.31	-6.28	0.97
Gold Spot Price	-9.47	7.45	6.78	1.77	6.01
<b>Inflation - CPI-U</b>	1.69	2.62	2.15	1.71	2.15

\*Cambridge PE data through 09/30/20

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

## Market Environment: 1Q21

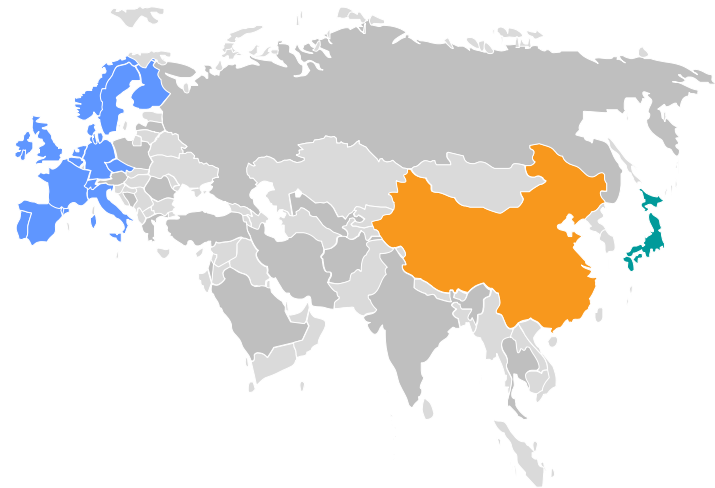
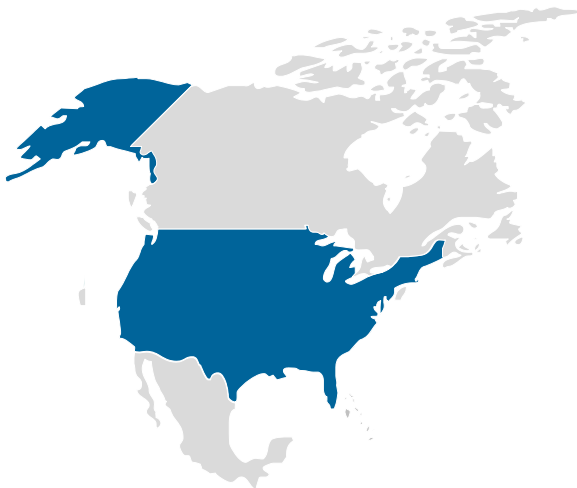
Growth worldwide with uncertainty coming from uneven vaccine rollout

### U.S.

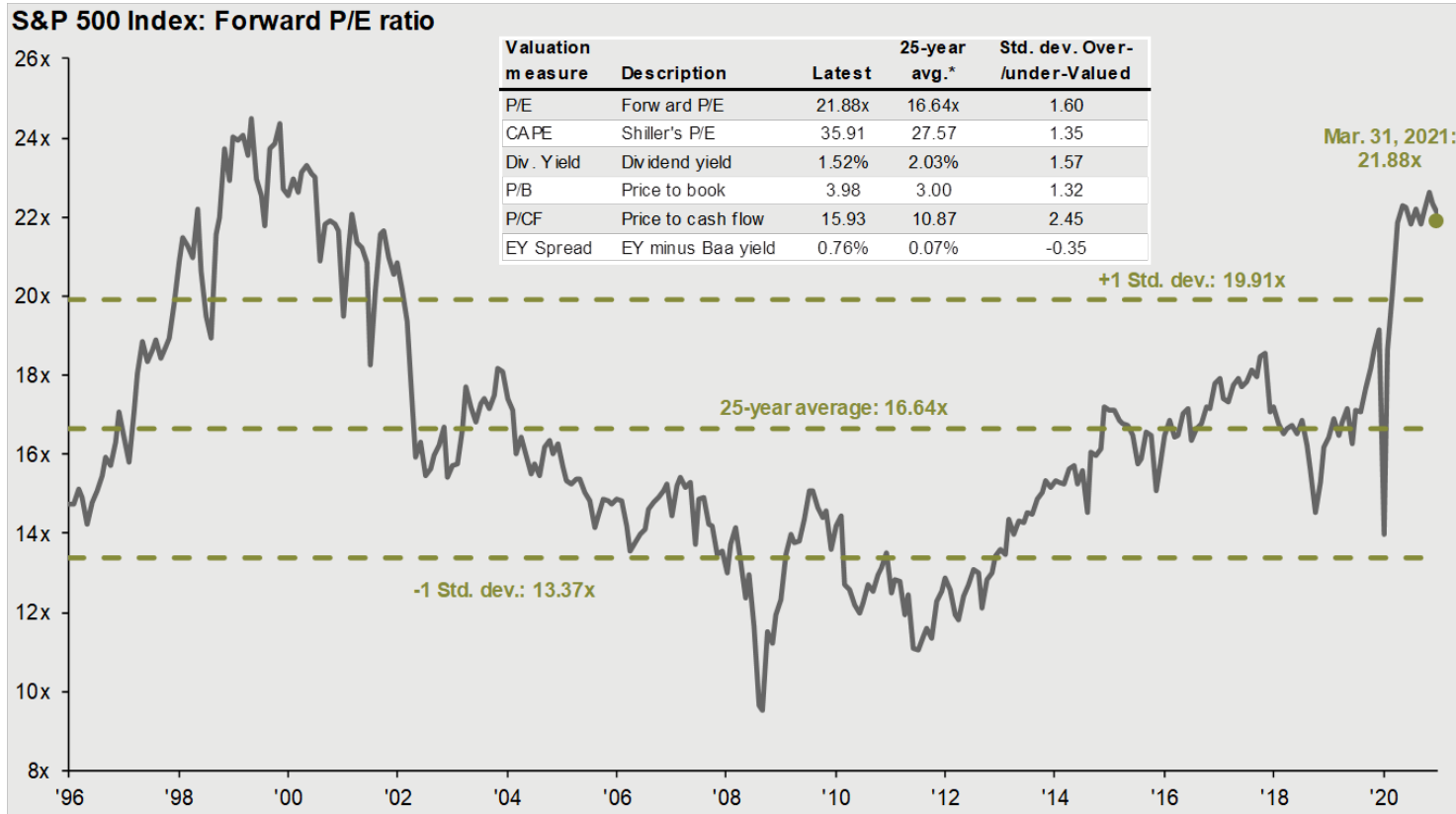
- 2020 GDP loss of 3.5% for the year is the deepest recession in 75 years. Fed expects 6.5% growth in 2021.
- Retail sales, durable goods, and personal spending rebounded late in 2020 and 1Q21 following the vaccine announcement and passage of new stimulus.
- Unemployment dropped to 6.0% in March, with an eye-popping 916,000-job gain.
  - Jobless claims decelerated to less than 1 million per week but are still elevated relative to prior recession peaks.
- Housing benefiting from relatively low mortgage rates
- Fed left rates close to 0% and expects to be on hold until 2023.

### Global

- Euro zone GDP contracted 4.9% in 2020, after shrinking by 2.4% in 2019.
- U.K. GDP sank 7.3% in 2020—most ever, struck by the double-whammy of the pandemic and Brexit.
- Japan's economy shrank 4.8% in 2020, continuing a decline that began in 4Q19.
- China's GDP grew 2.3% in 2020, one of the few countries to see positive growth. 1Q21 growth inched up just 0.6%, far below expectations.



# U.S. Equity Large Cap Valuations



Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since February 1996, and FactSet for March 31, 2021. Current next 12-months consensus earnings estimates are \$182. Average P/E and standard deviations are calculated using 25 years of IBES history. Shiller's P/E uses trailing 10 years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure.

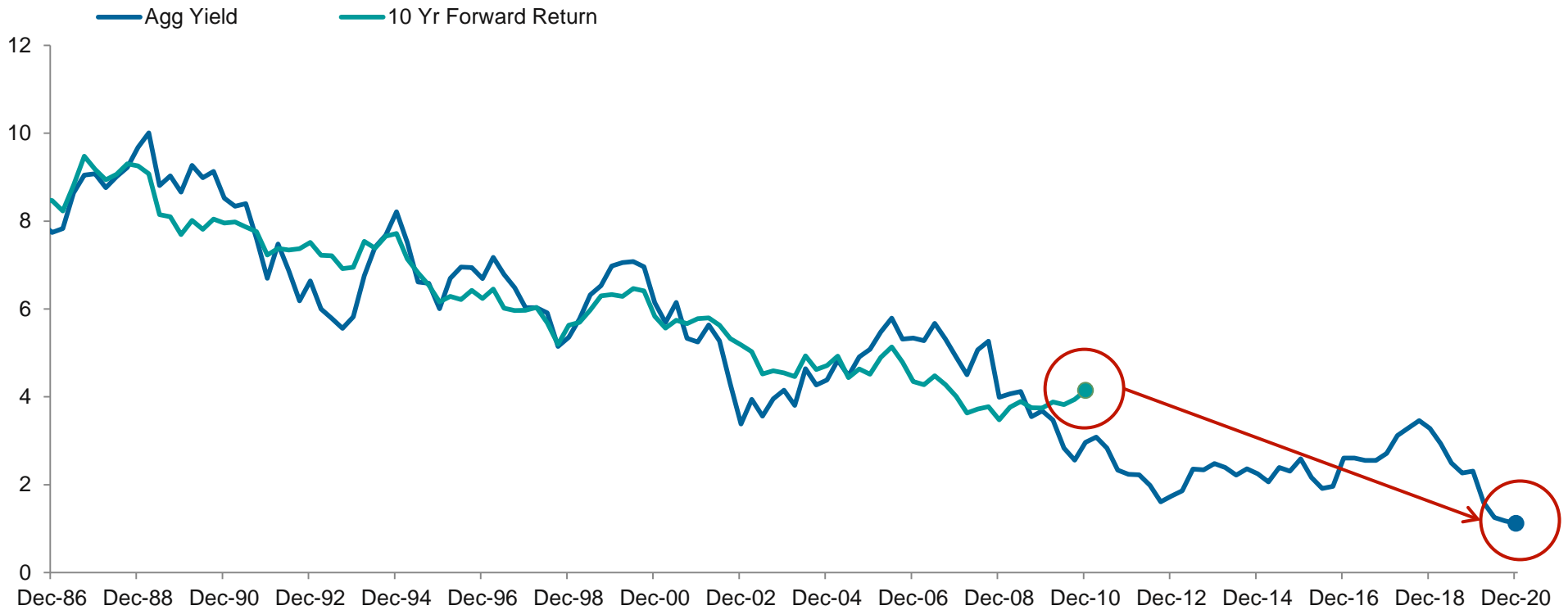
*Guide to the Markets* – U.S. Data are as of March 31, 2021.

- Valuations are 1.6 standard deviations above the 25-year average based on forecast earnings.
- Longer-term historical valuations are also elevated.
  - Shiller's cyclically adjusted price earnings (CAPE) ratio is 1.35 standard deviations above average.
- Stock prices reflect anticipated rather than historical earnings, looking well beyond a one-year timeframe.

Sources: FactSet, FRB, Robert Shiller, S&P Dow Jones Indices, Thomson Reuters, J.P. Morgan Asset Management

# Starting Yield Strongly Predicted Returns

## Bloomberg Barclays Aggregate Starting Yield vs. 10-Year Forward Return

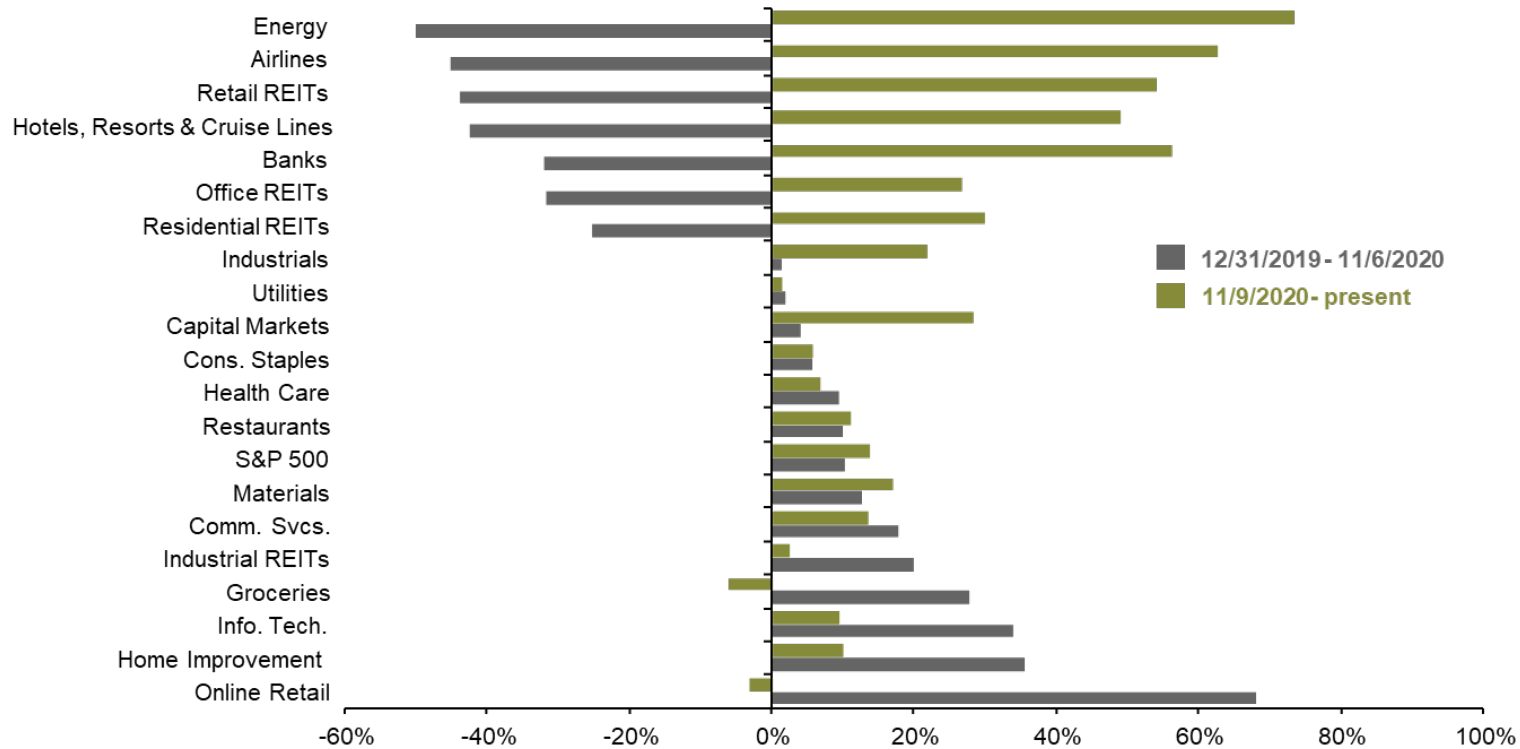


- Strong relationship between starting yields and subsequent 10-year returns

Sources: Bloomberg Barclays, St. Louis FRED

# U.S. Stock Market Sector Leadership Through the Pandemic

COVID trade flipped to a 'GDP growth trade' with the announcement of vaccines in November



- Best-performing sectors employ far fewer workers than many of the underperforming sectors (health care, capital markets, banks, hospitality, transportation, energy).

Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. Nov. 6, 2020, chosen as the last business day before vaccine candidate is revealed to have more than 90% efficacy against the COVID-19 virus in global trials.

Guide to the Markets – U.S. Data are as of March 31, 2021.

# 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	1 Qtr. 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	Small 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%	12.70%
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	Large Cap
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%	6.17%
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	Non-U.S. Equity
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%	4.04%
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	Hedge Funds
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%	2.85%
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	Emerging Markets
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%	2.29%
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	Real Estate Funds
-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%	1.89%
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	High Yield
-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%	0.85%
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	Cash Equivalent
-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%	0.02%
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	U.S. Fixed
-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%	-3.37%
		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
		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%	-5.29%

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



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# Defined Contribution Industry Developments

## Key themes

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### **In March, Marty Walsh confirmed as labor 29<sup>th</sup> U.S. Secretary of Labor**

- Walsh, the former mayor of Boston, will head the Department of Labor (DOL) and be tasked with navigating the agency through key decisions in the current economic and political environment.

### **DOL announces it won't enforce ESG, proxy-voting rules**

- On March 10, the DOL announced it will revisit both rules and will “not enforce either final rule or otherwise pursue enforcement actions against any plan fiduciary based on a failure to comply with those final rules.”
- The DOL noted that the new rules had a “chilling effect” on appropriately integrating material ESG factors into investment decisions.
- Additionally, the DOL said it is conducting stakeholder outreach to determine how to craft future rules regarding ESG and proxy voting.

### **DOL offers tips on cybersecurity best practices**

- On April 14, the DOL issued guidance around cybersecurity best practices for plan sponsors.
- There are two documents for plan sponsors. The first details the steps plan sponsors should follow in order to hire a service provider with strong cybersecurity practices. The second outlines tips for cybersecurity program best practices
- Plan sponsors would benefit by reviewing these tips to ensure that, at a minimum, these recommendations are incorporated into their vendor selection processes and internal governance, as appropriate.

### **SECURE 2.0 Passes House Ways & Means Committee:**

- Gradually increases the RMD age from 72 to 75
- Requires new 401(k) and 403(b) plans to have Auto-enrollment at 3% or higher and auto-escalation to at least 10% (All current 401(k) and 403(b) plans are grandfathered)
- 403(b) plans will be allowed to invest in CITs
- Allows for 403(b) plans to join a MEP or PEP similar to what the first SECURE Act in 2019 did for 401(k) plans.
- Expands the private letter ruling for Abbott Labs to allow participants to pay off their student debt and still receive a company match in their DC Plan.

# Callan 2021 DC Survey Key Findings

## Top Areas of Focus

- 1 Governance and process
- 2 Investment structure evaluation
- 3 Fund / manager due diligence

See page 6 for details

## Planned for 2021

- 1 Review plan fees
- 2 Complete formal fiduciary training
- 3 Implement, update, or review IPS

See page 7 for details

71% of plan sponsors are either somewhat or very likely to conduct a fee study in 2021

See page 12 for details

20% increase in total committee meetings



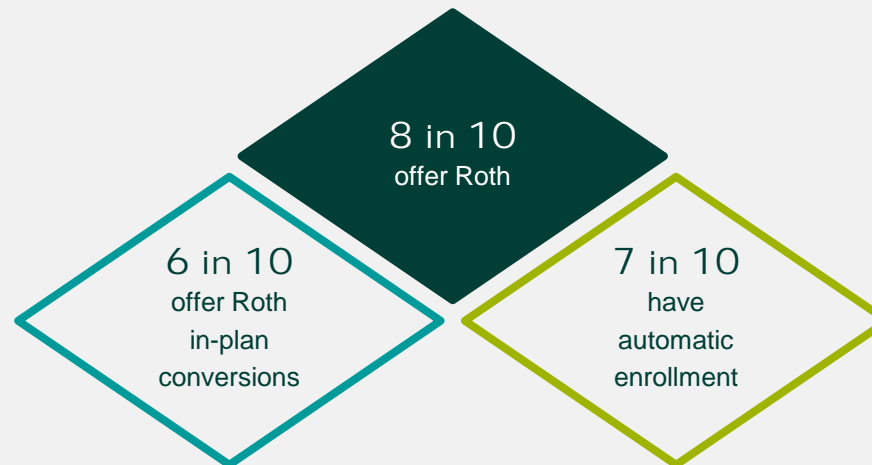
See page 13 for details

49% offer a managed account  
87% with > 50k participants

See page 17 for details



7 in 10 completed a plan design evaluation in past 3 years



See pages 16 & 18 for details

83% seek to retain assets of retirees

63% offer a retirement income solution

See pages 21 & 22 for details

2x as many plans suspended or reduced the matching contribution in 2020

86% indicated they would reinstate

See page 19 for details

91% have taken steps to prevent plan leakage

3.5 actions taken, on average, to reduce leakage

See page 20 for details

Callan

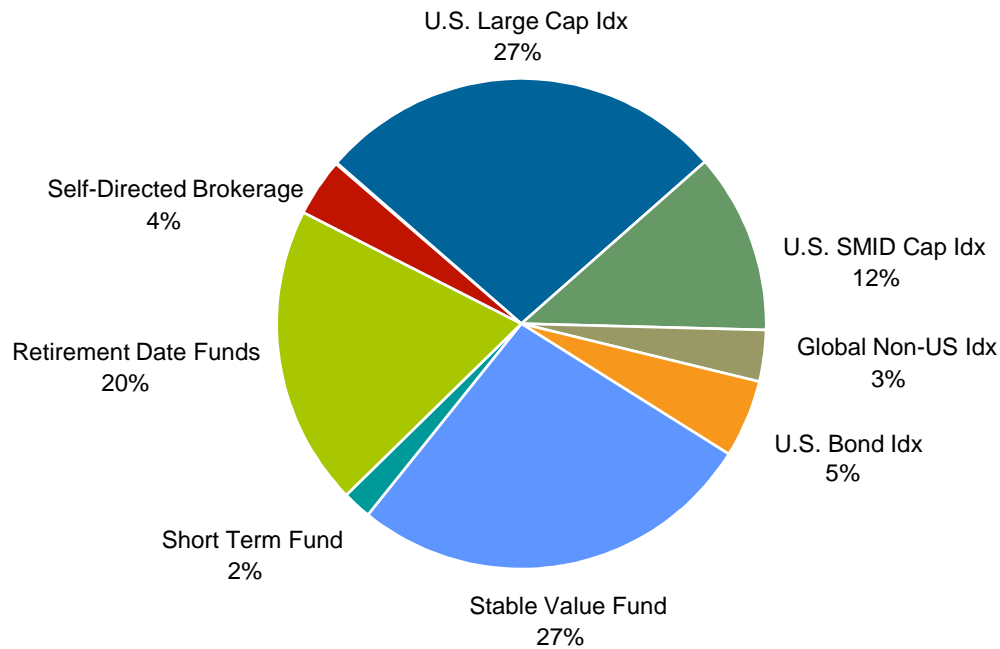
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**PA SERS 457(b) Plan Performance Review**

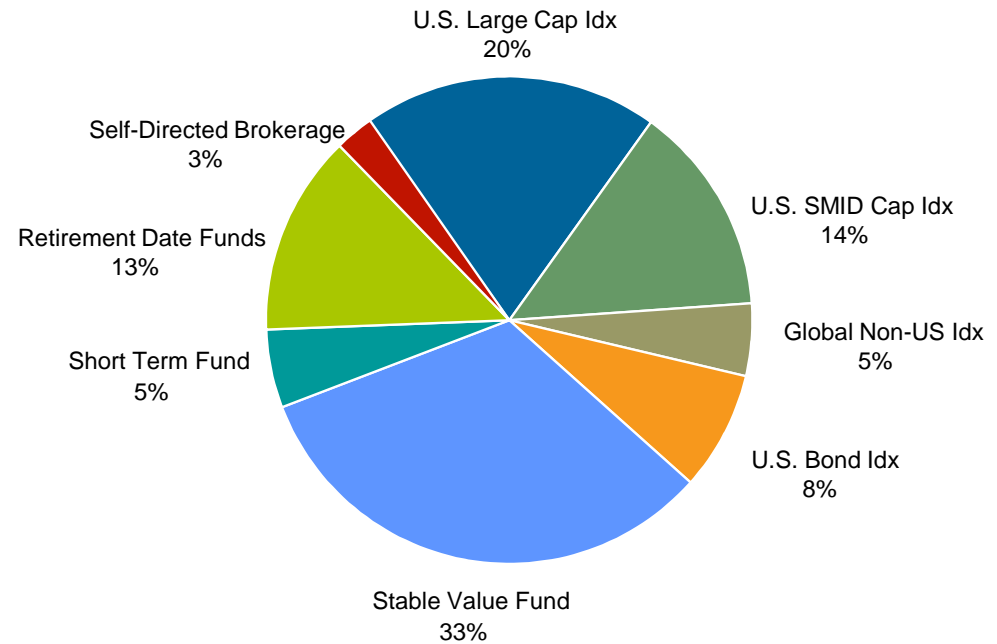
# 457(b) Plan Asset Allocation & Contributions

As of March 31, 2021

### Asset Allocation



### Contributions



# Asset Allocation

As of March 31, 2021

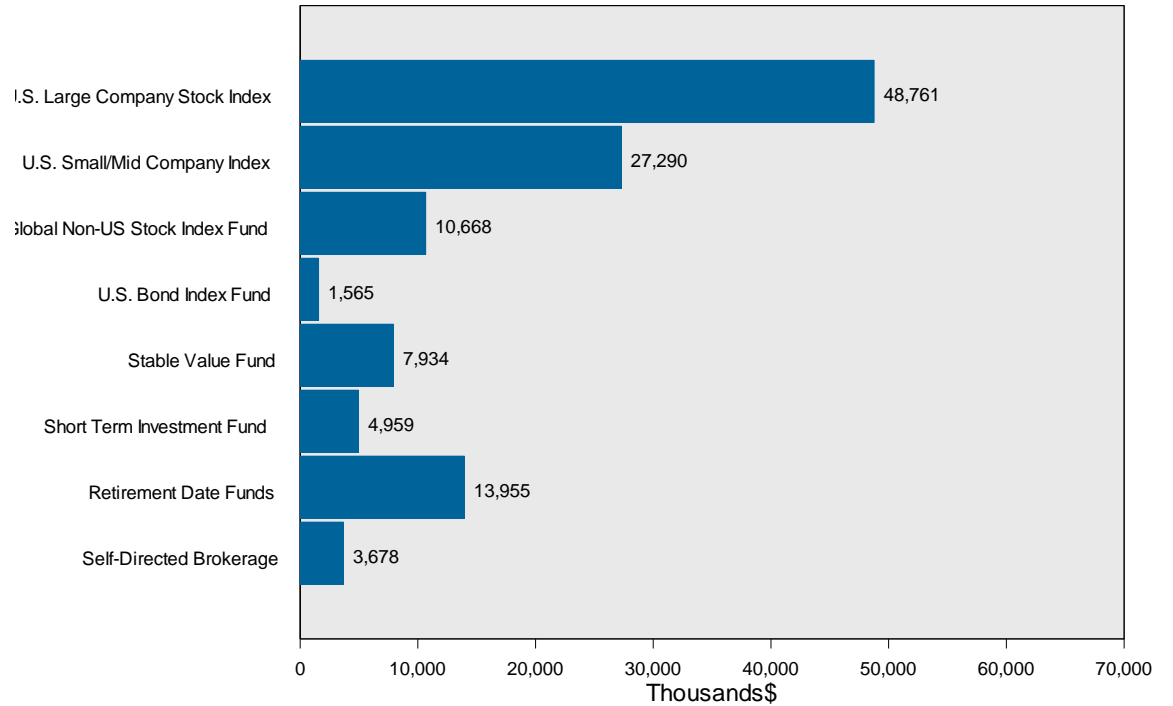
	March 31, 2021				December 31, 2020	
	Market Value \$(000)	% of Total Weight	Net New Inv. \$(000)	Inv. Return \$(000)	Market Value \$(000)	% of Total Weight
<b>SERS Retirement Date Funds</b>	<b>\$880,624</b>	<b>19.81%</b>	<b>\$(3,719)</b>	<b>\$17,673</b>	<b>\$866,669</b>	<b>20.03%</b>
SERS Post Retirement Fund	261,538	5.88%	(2,030)	914	262,654	6.07%
SERS 2025 Retirement Fund	160,470	3.61%	2,086	1,863	156,522	3.62%
SERS 2030 Retirement Fund	145,479	3.27%	(1,114)	3,086	143,506	3.32%
SERS 2035 Retirement Fund	124,296	2.80%	(2,955)	3,797	123,454	2.85%
SERS 2040 Retirement Fund	77,215	1.74%	(555)	2,941	74,828	1.73%
SERS 2045 Retirement Fund	59,399	1.34%	(53)	2,635	56,817	1.31%
SERS 2050 Retirement Fund	35,715	0.80%	87	1,680	33,948	0.78%
SERS 2055 Retirement Fund	10,639	0.24%	382	500	9,758	0.23%
SERS 2060 Retirement Fund	3,820	0.09%	98	175	3,547	0.08%
SERS 2065 Retirement Fund	2,052	0.05%	335	83	1,634	0.04%
<b>SERS U.S. Equity</b>	<b>\$1,735,384</b>	<b>39.04%</b>	<b>\$(33,738)</b>	<b>\$109,789</b>	<b>\$1,659,334</b>	<b>38.35%</b>
SERS U.S. Large Company Index	1,206,781	27.15%	(21,645)	70,405	1,158,020	26.77%
SERS U.S. SMID Company Index	528,604	11.89%	(12,094)	39,383	501,314	11.59%
<b>SERS Non-U.S. Equity</b>	<b>\$150,370</b>	<b>3.38%</b>	<b>\$5,853</b>	<b>\$4,815</b>	<b>\$139,701</b>	<b>3.23%</b>
SERS Global Non-US IdxFund	150,370	3.38%	5,853	4,815	139,701	3.23%
<b>SERS Fixed Income</b>	<b>\$1,509,075</b>	<b>33.95%</b>	<b>\$17,260</b>	<b>\$(2,801)</b>	<b>\$1,494,616</b>	<b>34.55%</b>
SERS Short Term Investment Fd	86,062	1.94%	4,978	(19)	81,103	1.87%
SERS Stable Value Fund	1,196,211	26.91%	2,737	5,197	1,188,277	27.47%
SERS U.S. Bond Index Fund	226,803	5.10%	9,545	(7,980)	225,237	5.21%
<b>Self-Directed Brokerage</b>						
Self-Directed Brokerage Account	169,748	3.82%	(181)	3,858	166,070	3.84%
<b>SERS 457(b) Total Fund</b>	<b>\$4,445,201</b>	<b>100.0%</b>	<b>\$(14,525)</b>	<b>\$133,335</b>	<b>\$4,326,390</b>	<b>100.0%</b>

# Changes in Market Values and Contributions

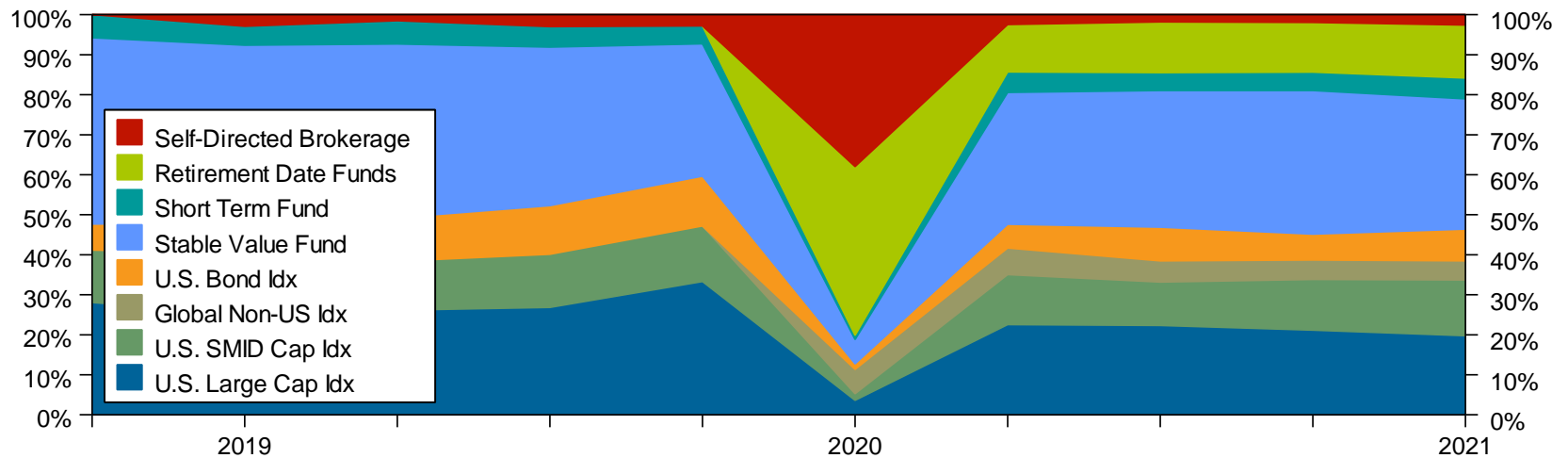
As of March 31, 2021

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.



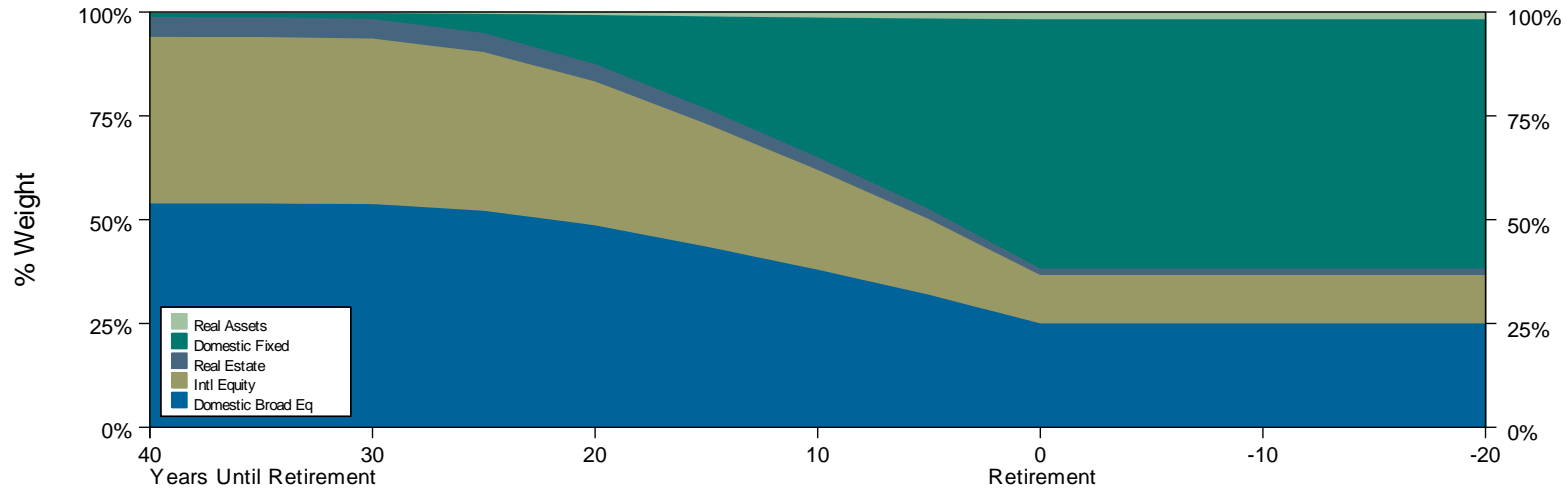
## Historical Allocation of Contributions



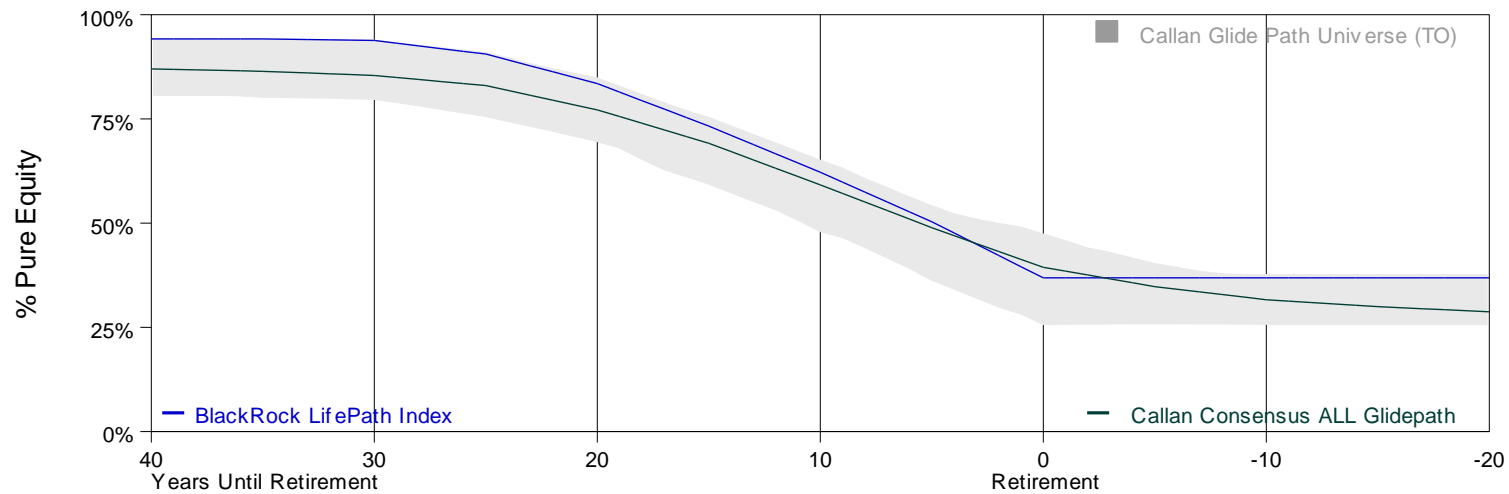
# Blackrock LifePath Retirement Funds

Glidepath and Equity Roll-down Exposure as of March 31, 2020

### BlackRock LifePath Retirement Funds Glidepath



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



# Cumulative Performance - Net of Fees

As of March 31, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
<b>Net Performance</b>				
<b>Retirement Date Funds</b>				
SERS Post Retirement Fund	0.36%	21.79%	8.21%	7.45%
BlackRock Post Retirement Index	0.37%	21.68%	8.17%	7.40%
Callan Tgt Date Ret Inc	0.50%	19.36%	7.00%	6.47%
SERS 2025 Retirement Fund	1.21%	28.04%	8.99%	8.95%
BlackRock 2025 Index	1.24%	27.95%	8.94%	8.86%
Callan Target Date 2025	1.91%	30.95%	9.16%	9.34%
SERS 2030 Retirement Fund	2.18%	34.68%	9.92%	10.01%
BlackRock 2030 Index	2.20%	34.60%	9.86%	9.91%
Callan Target Date 2030	2.74%	36.29%	9.97%	10.41%
SERS 2035 Retirement Fund	3.14%	41.32%	10.81%	11.05%
BlackRock 2035 Index	3.14%	41.24%	10.74%	10.91%
Callan Target Date 2035	3.64%	42.51%	10.71%	11.25%
SERS 2040 Retirement Fund	3.99%	47.64%	11.59%	11.95%
BlackRock 2040 Index	3.97%	47.49%	11.50%	11.79%
Callan Target Date 2040	4.48%	47.34%	11.19%	11.94%
SERS 2045 Retirement Fund	4.68%	52.70%	12.22%	12.60%
BlackRock 2045 Index	4.65%	52.53%	12.10%	12.41%
Callan Target Date 2045	4.93%	51.54%	11.54%	12.47%
SERS 2050 Retirement Fund	5.04%	55.25%	12.54%	12.88%
BlackRock 2050 Index	5.00%	55.08%	12.43%	12.70%
Callan Target Date 2050	5.13%	52.30%	11.80%	12.57%
SERS 2055 Retirement Fund	5.10%	55.61%	12.61%	12.91%
BlackRock 2055 Index	5.07%	55.54%	12.51%	12.75%
Callan Target Date 2055	5.16%	53.73%	11.87%	12.73%
SERS 2060 Retirement Fund	5.09%	55.58%	12.60%	12.89%
BlackRock 2060 Index	5.07%	55.53%	12.51%	12.75%
Callan Target Date 2060	5.25%	53.76%	12.04%	12.89%
SERS 2065 Retirement Fund	5.06%	55.34%	-	-
BlackRock 2065 Index	5.07%	55.53%	-	-
Callan Target Date 2065	5.19%	54.43%	12.07%	-

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, 2021

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
<b>Net Performance</b>				
<b>Retirement Date Funds</b>				
SERS Post Retirement Fund	5.94%	6.02%	5.84%	-
BlackRock Post Retirement Index	5.89%	5.99%	5.81%	5.90%
Callan Tgt Date Ret Inc	5.11%	5.31%	5.12%	4.42%
SERS 2025 Retirement Fund	6.94%	7.11%	-	-
BlackRock 2025 Index	6.86%	7.05%	6.09%	6.11%
Callan Target Date 2025	7.21%	7.59%	6.27%	-
SERS 2030 Retirement Fund	7.66%	7.75%	6.49%	-
BlackRock 2030 Index	7.55%	7.67%	6.42%	6.37%
Callan Target Date 2030	7.95%	8.30%	6.49%	6.52%
SERS 2035 Retirement Fund	8.34%	8.35%	-	-
BlackRock 2035 Index	8.21%	8.24%	6.71%	6.58%
Callan Target Date 2035	8.53%	8.88%	6.94%	-
SERS 2040 Retirement Fund	8.93%	8.87%	7.06%	-
BlackRock 2040 Index	8.78%	8.74%	6.95%	6.75%
Callan Target Date 2040	9.05%	9.24%	7.15%	6.92%
SERS 2045 Retirement Fund	9.36%	9.27%	-	-
BlackRock 2045 Index	9.18%	9.13%	7.12%	6.91%
Callan Target Date 2045	9.29%	9.43%	7.60%	-
SERS 2050 Retirement Fund	9.55%	9.48%	-	-
BlackRock 2050 Index	9.39%	9.35%	7.35%	7.58%
Callan Target Date 2050	9.46%	9.67%	7.26%	-
SERS 2055 Retirement Fund	9.57%	9.64%	-	-
BlackRock 2055 Index	9.42%	9.48%	-	-
Callan Target Date 2055	9.59%	9.74%	-	-

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, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
<b>Net Performance</b>				
<b>Domestic Equity</b>				
SERS U.S. Large Company Index	6.18%	56.39%	16.80%	16.31%
S&P 500 Index	6.17%	56.35%	16.78%	16.29%
Callan Lg Cap Broad MF	6.52%	58.21%	16.29%	15.88%
SERS U.S. SMID Company Index	7.97%	98.05%	18.28%	18.07%
Dow Jones US Completion	7.73%	97.82%	18.06%	17.85%
Callan SMID Broad MFs	7.76%	82.79%	15.63%	16.35%
<b>International Equity</b>				
SERS Global Non-US Index	3.60%	51.00%	6.77%	10.12%
MSCI ACWI ex US	3.49%	49.41%	6.51%	9.76%
Callan Non US Equity MFs	3.62%	53.39%	6.22%	9.24%
<b>Domestic Fixed Income</b>				
SERS Short Term Investment Fund	0.03%	0.29%	1.56%	1.33%
3-month Treasury Bill	0.02%	0.12%	1.49%	1.19%
Callan Cash Database(1)	0.05%	0.73%	1.75%	1.46%
SERS Stable Value Fund	0.46%	2.15%	2.39%	2.21%
3-month Treasury Bill	0.02%	0.12%	1.49%	1.19%
Callan Stable Value	0.48%	2.20%	2.40%	2.27%
SERS U.S. Bond Index Fund	(3.39%)	0.63%	4.66%	3.09%
Blmbg Aggregate	(3.37%)	0.71%	4.65%	3.10%
Callan Core Bond MFs	(3.07%)	3.90%	5.22%	3.69%

(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, 2021

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
<b>Net Performance</b>				
<b>Domestic Equity</b>				
SERS U.S. Large Company Index	13.61%	13.93%	10.06%	8.51%
S&P 500 Index	13.59%	13.91%	10.02%	8.47%
Callan Lg Cap Broad MF	12.68%	13.10%	9.93%	8.35%
SERS U.S. SMID Company Index	12.67%	13.23%	10.57%	11.12%
Dow Jones US Completion	12.47%	13.01%	10.36%	10.93%
Callan SMID Broad MFs	11.47%	11.77%	9.84%	10.39%
<b>International Equity</b>				
SERS Global Non-US Index	5.52%	5.19%	-	-
MSCI ACWI ex US	5.26%	4.93%	4.48%	6.16%
Callan Non US Equity MFs	5.36%	5.94%	4.86%	6.15%
<b>Domestic Fixed Income</b>				
SERS Short Term Investment Fund	1.01%	0.77%	1.34%	-
3-month Treasury Bill	0.87%	0.63%	1.16%	1.43%
Callan Cash Database(1)	1.16%	0.91%	1.55%	1.78%
SERS Stable Value Fund	2.21%	2.41%	3.10%	-
3-month Treasury Bill	0.87%	0.63%	1.16%	1.43%
Callan Stable Value	2.10%	2.17%	2.71%	3.47%
SERS U.S. Bond Index Fund	3.30%	3.40%	4.25%	4.46%
Blmbg Aggregate	3.31%	3.44%	4.29%	4.50%
Callan Core Bond MFs	3.56%	3.76%	4.60%	4.68%

(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, 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
<b>Net of Fee Performance</b>									
<b>Retirement Date Funds</b>									
<b>SERS Post Retirement Fund</b> Callan Tgt Date Ret Inc	0.4 57	21.8 32	8.2 17	7.5 17	5.9 15	6.0 16			0.08 80
BlackRock Post Retirement Idx	0.4 57	21.7 35	8.2 17	7.4 18	5.9 15	6.0 17			
<b>SERS 2025 Retirement Fund</b> Callan Target Date 2025	1.2 87	28.0 70	9.0 55	8.9 68	6.9 64	7.1 71			0.08 79
BlackRock 2025 Index	1.2 86	27.9 71	8.9 57	8.9 69	6.9 65	7.0 72			
<b>SERS 2030 Retirement Fund</b> Callan Target Date 2030	2.2 80	34.7 67	9.9 51	10.0 67	7.7 61	7.7 70			0.08 78
BlackRock 2030 Index	2.2 79	34.6 68	9.9 56	9.9 69	7.5 63	7.7 72			
<b>SERS 2035 Retirement Fund</b> Callan Target Date 2035	3.1 74	41.3 63	10.8 42	11.0 60	8.3 58	8.4 66			0.08 79
BlackRock 2035 Index	3.1 74	41.2 64	10.7 48	10.9 72	8.2 71	8.2 71			
<b>SERS 2040 Retirement Fund</b> Callan Target Date 2040	4.0 70	47.6 45	11.6 34	12.0 50	8.9 54	8.9 67			0.08 78
BlackRock 2040 Index	4.0 71	47.5 49	11.5 38	11.8 59	8.8 68	8.7 69			
<b>SERS 2045 Retirement Fund</b> Callan Target Date 2045	4.7 59	52.7 32	12.2 30	12.6 40	9.4 46	9.3 59			0.08 79
BlackRock 2045 Index	4.6 63	52.5 37	12.1 33	12.4 53	9.2 60	9.1 62			
<b>SERS 2050 Retirement Fund</b> Callan Target Date 2050	5.0 55	55.3 23	12.5 30	12.9 39	9.5 43	9.5 54			0.08 78
BlackRock 2050 Index	5.0 58	55.1 25	12.4 33	12.7 47	9.4 57	9.3 65			
<b>SERS 2055 Retirement Fund</b> Callan Target Date 2055	5.1 57	55.6 25	12.6 27	12.9 37	9.6 51	9.6 52			0.08 82
BlackRock 2055 Index	5.1 59	55.5 26	12.5 30	12.7 50	9.4 59	9.5 62			
<b>SERS 2060 Retirement Fund</b> Callan Target Date 2060	5.1 63	55.6 28	12.6 31	12.9 50					0.08 80
BlackRock 2060 Index	5.1 67	55.5 29	12.5 34	12.8 60					

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 March 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
<b>SERS 2065 Retirement Fund</b>	5.1 58	55.3 46							0.08 76
Callan Target Date 2065									
LifePath Index 2065	5.1 57	55.5 40							
<b>Domestic Equity</b>									
<b>SERS U.S. Large Company Index</b>	6.2 52	56.4 64	16.8 49	16.3 47	13.6 45	13.9 44			0.02 99
Callan Lg Cap Broad MF									
S&P 500 Index	6.2 52	56.4 64	16.8 49	16.3 47	13.6 45	13.9 44			
<b>SERS U.S. Small/Mid Company Index</b>	8.0 50	98.0 19	18.3 34	18.1 37	12.7 40	13.2 35			0.03 100
Callan SMID Broad MFs									
Dow Jones US Completion	7.7 50	97.8 19	18.1 35	17.9 38	12.5 41	13.0 39			
<b>International Equity</b>									
<b>SERS Global Non-U.S. Index Fund</b>	3.6 51	51.0 54	6.8 42	10.1 37	5.5 46	5.2 69			0.06 99
Callan Non US Equity MFs									
MSCI ACWI ex US	3.5 53	49.4 64	6.5 45	9.8 42	5.3 51	4.9 70			
<b>Domestic Fixed Income</b>									
<b>SERS Short Term Investment Fund</b>	0.0 76	0.3 78	1.6 80	1.3 76	1.0 80	0.8 81			0.00 100
Callan Cash Database									
3-month Treasury Bill	0.0 87	0.1 97	1.5 83	1.2 92	0.9 93	0.6 95			
<b>Comments:</b> Callan Cash Database includes STIF, enhanced cash, and money market funds.									
<b>SERS Stable Value Fund</b>	0.5 5	2.1 4	2.4 1	2.2 2	2.2 1	2.4 1			
Callan Stable Value									
3-month Treasury Bill	0.0 99	0.1 99	1.5 95	1.2 98	0.9 100	0.6 100			
<b>SERS U.S. Bond Index Fund</b>	-3.4 82	0.6 98	4.7 89	3.1 100	3.3 79	3.4 85			0.03 98
Callan Core Bond MFs									
Blmbg Aggregate	-3.4 81	0.7 98	4.7 90	3.1 99	3.3 75	3.4 84			

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

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

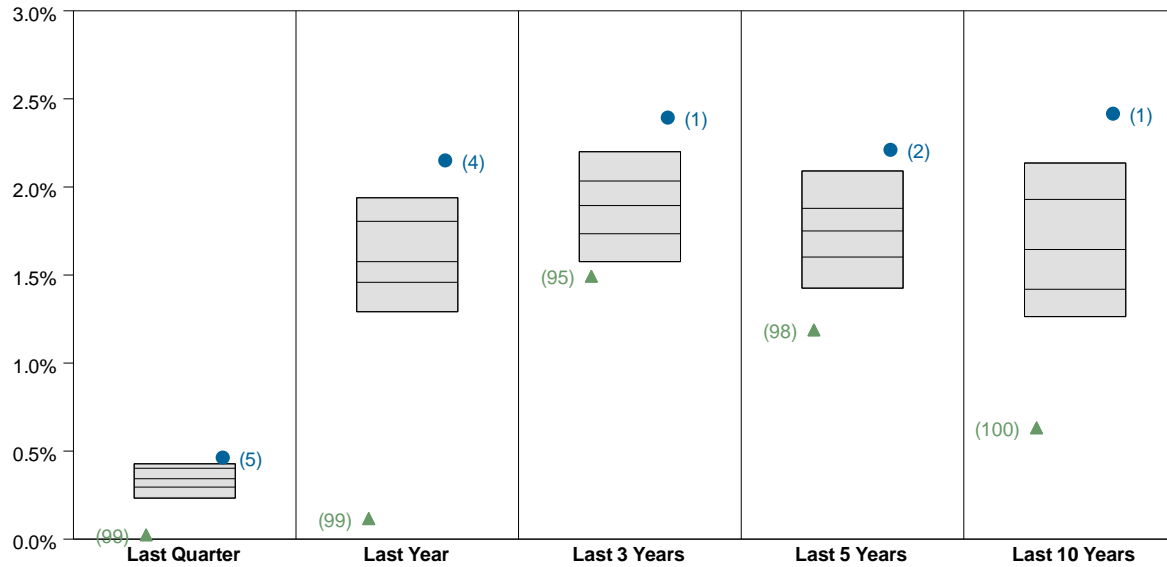
Risk Quadrant:  
  
 Return  
 Risk

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).

# Stable Value Fund as of March 31, 2021

## Performance vs Callan Stable Value CT (Institutional Net)



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	0.43	1.94	2.20	2.09	2.14
25th Percentile	0.40	1.80	2.03	1.88	1.93
Median	0.34	1.58	1.89	1.75	1.64
75th Percentile	0.30	1.46	1.73	1.60	1.42
90th Percentile	0.23	1.29	1.58	1.43	1.26
<b>SERS Stable Value Fund</b> ●	0.46	2.15	2.39	2.21	2.41
3-month Treasury Bill ▲	0.02	0.12	1.49	1.19	0.63

### Wrap Provider Exposure\*

Contract Issuer	Portfolio	Average Fee	Moody's Rating	S&P Rating	Fitch Rating
Nationwide Life Insurance	20.51%	0.16%	A1	A+	NR
Transamerica	20.38%	0.16%	A1	A+	WD
Prudential Insurance Co.	15.39%	0.16%	Aa3	AA-	AA-
RGA	15.38%	0.15%	A1	AA-	A
State Street Bank	12.84%	0.15%	Aa2	AA-	AA+
Pacific Life Insurance Co.	12.82%	0.16%	A1	AA-	AA-
	97.32%	0.15%			

\*Source: Invesco

# 457(b) Plan Investment Structure

## Lineup Mapped to Callan's Clean Sheet



Callan

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**Appendix – Callan Update**

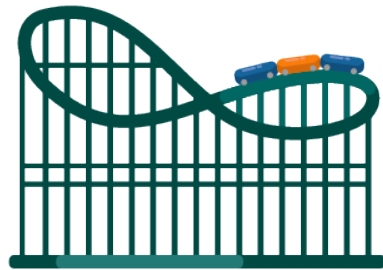


# Published Research Highlights from 1Q21

## 2021 Defined Contribution Survey



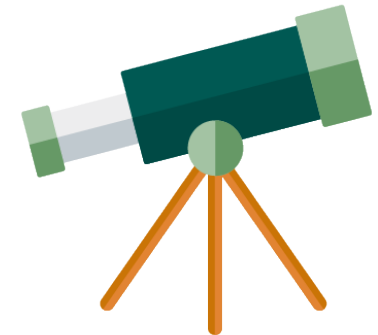
## GameStopped—Or Just Getting Started?



## Coping with COVID-19: Investment Manager Survey 3<sup>rd</sup> Edition



## Callan's 2021-2030 Capital Markets Assumptions



## Recent Blog Posts

**Relief Bill Provides Shot in the Arm to Corporate Pensions**

William Emmett & Sweta Vaidya

**Why the Yield Curve Is Really Curving**

Dario Buechi

Plus our [blog](#) contains a wide array of posts related to the pandemic

## 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

## 2021 National Conference

**July 19-21, 2021**

**Salt Lake City, UT**

We are excited to announce our confirmed speakers and workshop topics below. We will continue to update you as we finalize our lineup for this event!

### Confirmed Conference Speakers:

- Niall Ferguson
- Scott Gottlieb, M.D.

### This year's Callan-led workshops will cover the following topics:

- Callan's Fund Sponsor Cost of Doing Business Survey Results
- Defined Contribution: Are Managed Accounts Adding Value?
- How to Navigate Your Corporate DB Plan in This Low-Rate Era
- Real Estate Debt as an Alternative to Traditional Fixed Income in the Hunt for Yield

## Callan College

### Learn the Fundamentals

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

### Join our next virtual session:

**Aug. 17, 2021 – Aug. 19, 2021**

2-3 hour sessions over 3 days

### Join our next LIVE session in Chicago:

**Oct. 6, 2021 – Oct. 7, 2021**

1.5-day session held in Callan's Chicago office

## Webinars

### Research Café: Insurance Session

**May 19, 2021 – 9:30am (PT)**

### Inflation and Why Debt Matters

**May 25, 2021 – 9:30am (PT)**

## Callan Updates

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

Total Associates: 195

### Ownership

- 100% employees
- Broadly distributed across 99 shareholders

### Leadership Changes

- No changes to leadership this quarter

Total General and Fund Sponsor Consultants: more than 55

Total Specialty and Research Consultants: more than 60

Total CFA/CAIA/FRMs: more than 55

Total Fund Sponsor Clients: more than 400

AUA: more than \$3 trillion

**“Dave brings decades of institutional investment experience, depth, and perspective in private markets to Callan. His experience at a major university endowment will add tremendous value to our nonprofit clients. His experience as a private equity fund-of-funds investor will contribute to our team’s ability to source compelling funds and build lasting portfolios for all of our clients invested in private equity.**

*— Pete Keliuotis on the recent hiring of David Smith, senior vice president, to our Alternatives Consulting group.*



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## Disclaimers

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