

June 30, 2021

Pennsylvania SERS 457(b)



**Investment Measurement Service
Quarterly Review**

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Table of Contents

June 30, 2021

Capital Markets Review	
Capital Markets Overview	2
Active Management Overview	19
Plan Assets and Performance	24
Risk-Based Funds	
Post Retirement Date Fund	47
2025 Retirement Date Fund	50
2030 Retirement Date Fund	53
2035 Retirement Date Fund	56
2040 Retirement Date Fund	59
2045 Retirement Date Fund	62
2050 Retirement Date Fund	65
2055 Retirement Date Fund	68
2060 Retirement Date Fund	71
2065 Retirement Date Fund	73
Domestic Equity	
U.S. Large Company Stock Index Fund	75
U.S. Small/Mid Company Stock Index Fund	80
International Equity	
Global Non-U.S. Index Fund	86
Domestic Fixed Income	
Short Term Investment Fund	93
Stable Value Fund	95
U.S. Bond Index Fund	97
Definitions	
Market Indicators	102
Database Groups	103
Risk/Reward Statistics	105
Callan Research/Education	106
Disclosures	109

GDP Recovers From Pandemic Plunge

ECONOMY

2 GDP grew at a 6.5% annual rate in 2Q21 and regained the level last seen in February 2020, before the COVID pandemic spurred a global shutdown in economic activity. But other key indicators like employment have yet to regain their pre-pandemic levels.

Strong Returns and Worries Over Future

INSTITUTIONAL INVESTORS

4 All institutional investor types saw big gains over the last year, although still trailing a 60%/40% benchmark. Corporate DB plans got a shot in the arm from the American Rescue Plan Act, including lower required contributions. Public DB plans saw huge gains in funded status.

Global Markets Keep Setting New Records

EQUITY

6 The S&P 500 Index continued to hit record highs in 2Q21, just as it did in 1Q. Since March 2020, the S&P is up 96.1%, with all sectors posting gains over 45%. Government stimulus and a continued “return to normal” spurred positive sentiment in global markets.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000



Global ex-U.S. Equity
MSCI ACWI ex USA



U.S. Fixed Income
Bloomberg Barclays Agg



Global ex-U.S. Fixed Income
Bloomberg Barclays Gbl ex US



Sources: Bloomberg Barclays, FTSE Russell, MSCI

Agg Gains 1.8% and Global Bonds Rally

FIXED INCOME

8 The Bloomberg Barclays US Aggregate Bond Index added 1.8%, with spread sectors outperforming treasuries. Global fixed income ex-U.S. (hedged) gained as global economies re-opened. Emerging market debt rallied in 2Q21; EM corporates fared better than sovereigns.

Big Gains for ODCE; REITs Top Equities

REAL ESTATE/REAL ASSETS

10 The NCREIF ODCE Index turned in its best quarter in 10 years. Income for all sectors in the index, except Hotels, remained positive. Vacancy rates in Industrial and Multifamily continued to compress as demand stayed strong. REITs topped equities globally and in the U.S.

Activity Generally Rose Amid Rebound

PRIVATE EQUITY

11 Private equity fundraising and deal activity, with few exceptions, increased in 2Q21. A broad swath of new transaction records are anticipated in 2021, as “risk-on” sentiments drive frenetic M&A and IPO liquidity, and institutional investors’ zeal for private equity continues.

Demand Is Strong; Fundraising Recovers

PRIVATE CREDIT

12 Institutional investors are attracted to private credit’s yield and income-generating characteristics, fueling demand. Direct lending pricing is back to pre-COVID levels, and the liquidity injected into credit markets has muted the distressed opportunity set. Fundraising has rebounded.

Thriving Amid Surging Recovery

HEDGE FUNDS/MACs

13 The median manager in the Callan Hedge Fund-of-Funds Database Group rose 2.7%, while the Callan Institutional Hedge Fund Peer Group gained 2.1%. The median managers of the Callan Multi-Asset Class (MAC) Style Groups generated positive returns, gross of fees.

Index Posts Fourth Straight Quarterly Gain

DEFINED CONTRIBUTION

15 The Callan DC Index™ rose 3.8% in 1Q21. The Age 45 Target Date Fund posted a 4.6% gain, attributable to its higher equity allocation. Target date funds returned as the top destination for inflows. In a reversal from 4Q20, investors transferred assets out of relatively safer asset classes.

... And We're Back!

ECONOMY | Jay Kloepfer

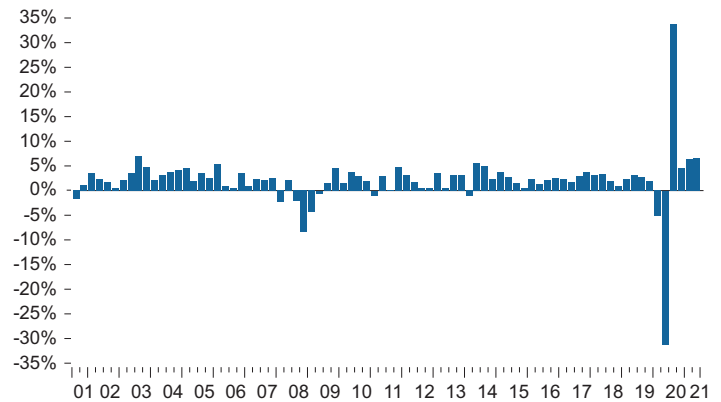
GDP grew at a 6.5% annual rate in 2Q21 and regained the level last seen in February 2020, before the COVID pandemic spurred a global shutdown in economic activity. Our focus during the pandemic has been on the *level* of economic indicators—GDP, employment, unemployment, consumer spending, imports and exports, and personal income. Traditional measures such as annualized GDP growth lost meaning around the plunge and sharp recovery that defined the shutdown and reopening experience. Reaching the previous level of real GDP is a major milestone; now, GDP growth will regain some meaning as a way to track economic progress. Other key indicators like employment have yet to regain their pre-pandemic levels. In fact, employment has been the measure that took the greatest hit and has the furthest to go before claiming full recovery. We lost over 22 million jobs in the U.S. in March and April of 2020; while we have gained 15.5 million back, that's still almost 7 million short. The lost jobs were spread across many industries, but the deepest losses and the greatest deficits left to recover are in lower-paid sectors with concentrations of hourly jobs, including hospitality and travel-related industries.

The gains in GDP in 1Q and 2Q were startling and robust, yet still a bit less than economists expected. The Federal Reserve issued a forecast of 7% growth for the year in June 2021, but the 1Q figure was revised down to 6.3%. Growth in 3Q is expected to be stronger than 2Q, but consensus expectations for the year are coming down from 7%. Restocking depleted inventories was expected to be the main driver of growth this year, along with incredibly robust spending by consumers, but supply bottlenecks led to an actual decline in private inventory investment in 2Q, particularly in retail goods. Economists now estimate that in the second half of the year, inventory building is expected to account for as much as two-thirds of GDP growth.

Supply bottlenecks are really the story of the year for many markets in the global economy, both in goods such as building materials, commodities, and auto parts (such as vital computer chips), and in labor for a number of industries, in particular

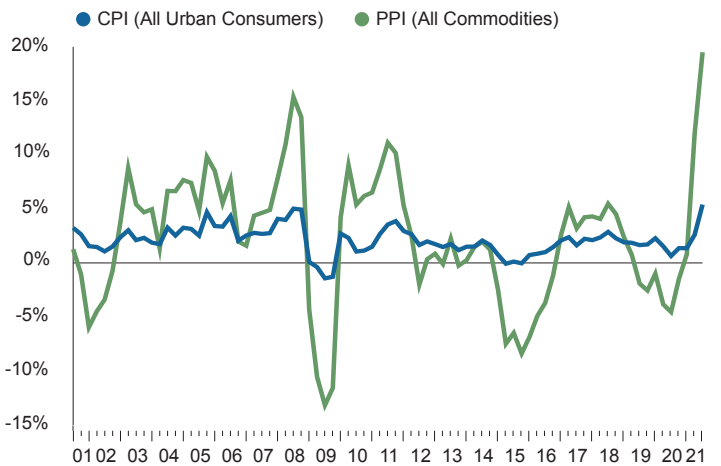
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

those originally hit hardest like hotels, restaurants, retail, and travel. The stories told by businesses unable to fill multiple open positions contrast sharply with the 7 million job deficit. So what gives? Fueling personal consumption demand has been a singular economic period where the steepest recession in terms of job losses and GDP decline in 70 years was accompanied by NO decline in total personal income. In a normal downturn, as individuals lose jobs and companies close their doors, spending sags as consumers and companies cut back. Unprecedented policy actions to support both individuals and businesses kept

incomes in aggregate from falling at all, yet shutdowns held back supply in the face of almost no decrease in demand, at least for goods like building supplies, technology, communications, and computer services.

These kinks in supply have led to a spike in headline inflation: the year-over-year Consumer Price Index came in at 5.4% in June, while the much-more-volatile Producer Price Index shot up 19.5% compared to June 2020. After complete or partial shutdowns around the globe, many industries cannot simply restart production and build supply to meet surging demand instantaneously. Producer prices had been tumbling for more than a year prior to the pandemic, and then suffered another shock with the almost-forgotten plunge in energy prices in 1Q20 as Saudi oil producers entered into a price war to establish global energy supply discipline. The price of building materials, specifically timber, became the metaphor for inflation fears, reaching the point of commentary by none other than the chairman of the Federal Reserve. As incomes were maintained and interest in home renovation soared during the pandemic, demand for lumber surged while product from lumber mills was constrained first by total shutdowns and then production processes limited by social distancing protocols. Timber prices shot up over 300% by the start of June 2021, reaching an all-time high of \$1,515 per thousand board feet. As production caught up and demand finally eased, prices have since fallen by over \$1,000 and are back at 2018 levels (but still up 200% from spring 2020). Such volatility may be extreme, but timber really may be the appropriate metaphor for transitory price increases that will work through many industries and labor markets in the U.S. and global economies throughout 2021 and into 2022.

The Long-Term View

Index	2Q21	Periods Ended 6/30/21			
		1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	8.2	44.2	17.9	14.7	9.9
S&P 500	8.5	40.8	17.6	14.8	9.8
Russell 2000	4.3	62.0	16.5	12.3	9.3
Global ex-U.S. Equity					
MSCI EAFE	5.2	32.4	10.3	5.9	5.2
MSCI ACWI ex USA	5.5	35.7	11.1	5.4	--
MSCI Emerging Markets	5.0	40.9	13.0	4.3	--
MSCI ACWI ex USA Small Cap	6.4	47.0	12.0	7.0	6.6
Fixed Income					
Bloomberg Barclays Agg	1.8	-0.3	3.0	3.4	5.1
90-Day T-Bill	0.0	0.1	1.2	0.6	2.2
Bloomberg Barclays Long G/C	6.4	-1.9	5.4	7.3	7.5
Bloomberg Barclays GI Agg ex US	0.9	4.6	1.6	1.0	3.8
Real Estate					
NCREIF Property	3.6	7.4	6.1	8.8	9.1
FTSE Nareit Equity	12.0	38.0	6.3	9.4	10.2
Alternatives					
CS Hedge Fund	3.0	16.6	5.6	4.2	7.0
Cambridge PE*	9.5	54.2	18.8	15.1	15.5
Bloomberg Commodity	13.3	45.6	2.4	-4.4	1.3
Gold Spot Price	3.3	-1.6	6.1	1.7	6.3
Inflation – CPI-U	2.6	5.4	2.4	1.9	2.2

*Data for most recent period lags by a quarter. Data as of 3/31/21.

Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

Recent Quarterly Economic Indicators

	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19	3Q19
Employment Cost–Total Compensation Growth	2.9%	2.6%	2.5%	2.4%	2.7%	2.8%	2.7%	2.8%
Nonfarm Business–Productivity Growth	5.4%	5.4%	-3.8%	4.2%	11.2%	-0.8%	1.6%	0.3%
GDP Growth	6.5%	6.4%	4.3%	33.4%	-31.4%	-5.0%	2.4%	2.6%
Manufacturing Capacity Utilization	75.1%	74.4%	74.0%	71.9%	64.3%	74.4%	75.4%	75.7%
Consumer Sentiment Index (1966=100)	85.6	80.2	79.8	75.6	74.0	96.4	97.2	93.8

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Strong Returns Over Last Year and Concerns About the Path Ahead

INSTITUTIONAL INVESTORS

- Institutional investors continued to show strong gains over the past year, with double-digit returns.
- Nonprofits were again the top performers, followed closely by public defined benefit (DB) plans and Taft-Hartley plans. Corporate DB plans, likely due to their higher fixed income allocations, lagged but still gained nearly 20%.
- All but corporate DB plans topped a 60% stocks/40% bonds benchmark.
- Over longer time periods, investor returns were generally in line with that benchmark.
- But low projected returns put downward pressure on ROA assumptions. Weaker return projections may derail their expressed desire to bring in risk, spurring further interest in alternatives exposures and total fund leverage discussions.
- There is growing interest in 30-year capital markets assumptions to justify more balanced portfolios.

Corporate DB plans

- There was an uptick in corporate plan asset/liability (A/L) studies in 2Q21, continuing a surge that began in 2020.
- The American Rescue Plan Act (ARPA), a \$1.9 trillion COVID-19 stimulus bill, also provided a shot in the arm to corporate plans: they saw lower liabilities, higher funded status, and lower required contributions.

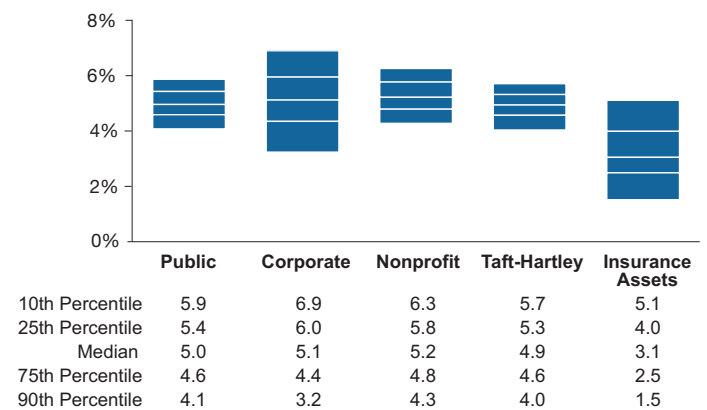
Public DB plans

- Public plans saw improvements in funded status due to strong returns at a scale not seen in decades—many experienced greater than 10% increases.

DC plans

- Defined contribution (DC) plan glidepaths are being reassessed in light of lower short-term capital markets assumptions. The long-term equilibrium did not change, but it is coming from a lower starting point.

Quarterly Returns, Callan Database Groups



Source: Callan

Callan Database Median and Index Returns* for Periods Ended 6/30/21

Database Group	Quarter	Year-to-Date	1 Year	3 Years	5 Years	10 Years
Public Database	5.0	8.6	25.8	11.0	10.7	8.6
Corporate Database	5.1	5.6	19.6	11.2	10.1	8.5
Nonprofit Database	5.2	9.1	28.1	11.6	11.2	8.5
Taft-Hartley Database	4.9	8.6	25.5	10.9	10.8	9.0
Insurance Assets Database	3.1	3.4	11.0	7.3	6.0	5.3
All Institutional Investors	5.1	8.4	25.6	11.2	10.7	8.6
Large (>\$1 billion)	5.0	8.6	25.6	11.3	10.8	8.9
Medium (\$100mm - \$1bn)	5.1	8.1	25.3	11.2	10.7	8.6
Small (<\$100 million)	5.1	8.5	25.9	11.0	10.6	8.4

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. 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.

- The Government Accountability Office (GAO) has been asked to review the target date fund market over concerns with risk and fee levels.

Nonprofits

- Subdued expectations for capital markets returns are challenging both the risk tolerance of nonprofits and the sustainability of established spending rates.
- Some are dissatisfied with private real assets, hedge funds, and the presence of any fixed income; significant portfolio reconstruction is on the table.
- But hedge funds and other absolute return strategies may gain a new appreciation when compared to dismal fixed income expectations as a way to diversify the growth risk with less of an expected return penalty.

All institutional investors

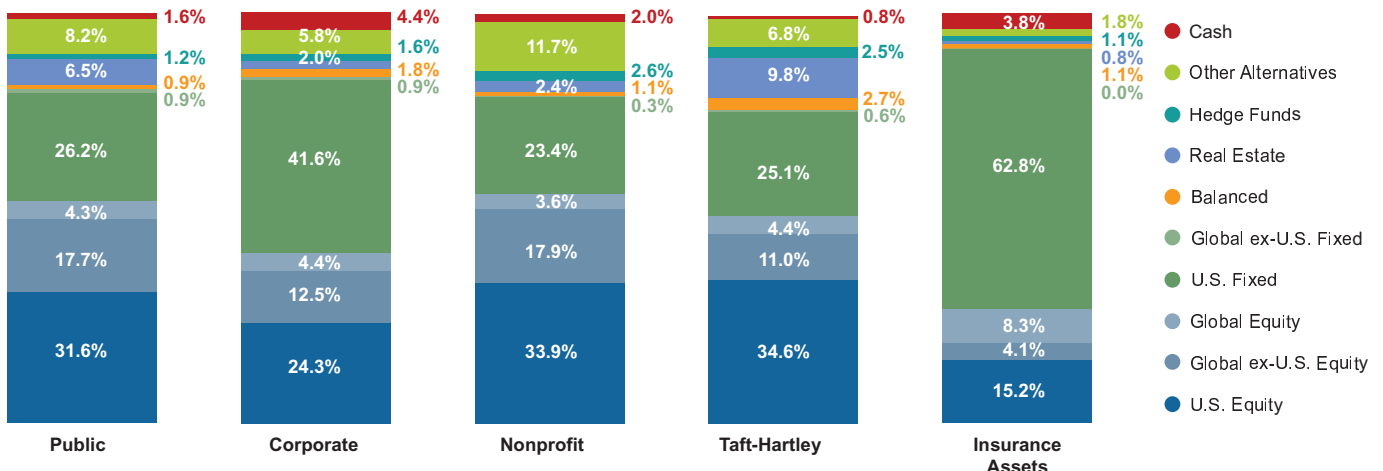
- Investors have demonstrated remarkable discipline in rebalancing between growth and value managers, and U.S. and global ex-U.S. equity.
- Fixed income structures focus on the role of the asset class—to diversify equity, to serve as a flight to quality, to provide liquidity and interest rate exposure—balanced against the desire for return in a very low-yield environment.
- Some investors are focused on creative reconstruction of “core” fixed income, away from lower-returning segments of the Bloomberg Barclays US Aggregate Bond Index.

- Real assets see renewed interest with growing concerns for inflation.
- But investors are questioning the continued inclusion of past real assets stalwarts: natural resources, energy, MLPs, and commodities.
- Will the inflation of the future come from the same sources as the global energy complex evolves? Are we hedging inflation or outperforming it?

Key issues of concern

- In addition to common concerns about low return expectations, investors have started discussions around both environmental, social, and governance (ESG) issues and diversity, equity, and inclusion (DEI).
- In a Callan poll, the majority expect to return to their offices by year-end, but a significant number are still uncertain about when that will happen.
- Other poll results:
 - **Public DB plans:** More than 50% have taken steps in regards to DEI issues.
 - **Corporate DB plans:** Many clients are evaluating how to manage improved funded status.
 - **DC plans:** A higher share of DC clients have taken ESG actions compared to any other investor type.
 - **Nonprofits:** Changes to spending policies are a notable concern in discussions with our clients.

Average Asset Allocation, Callan Database Groups



Note: charts may not sum to 100% due to rounding
Source: Callan

Equity

U.S. Equities

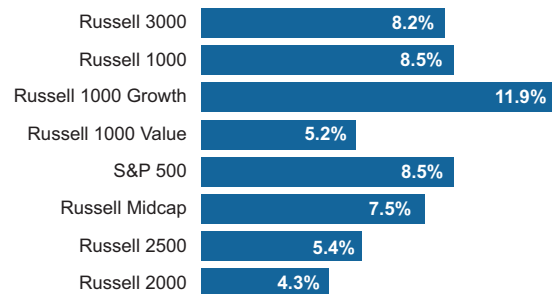
Markets keep setting all-time highs

- The S&P 500 Index continued to hit record highs in 2Q21.
- The 12-month rebound after the market low in March 2020 for the S&P 500 surpasses the 12-month GFC and Dot-Com Bubble rebounds. Since March 2020, the S&P is up 96.1%, with all sectors posting gains over 45%; Energy +140.6%.
- All sectors posted positive returns except for Utilities. 2Q21 top sectors were Technology and Energy. For the last 12 months, the two best were Financials and Industrials.

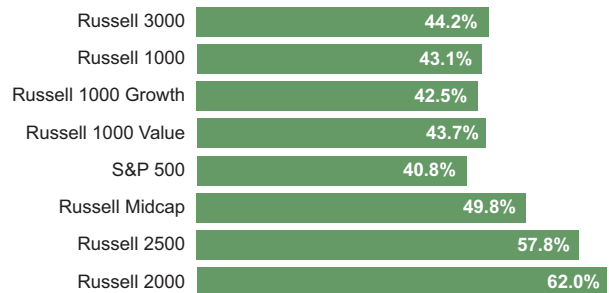
Market leadership changed in 2Q21

- Vaccine news/roll-outs provided a catalyst for market rotation into value/cyclicals in 4Q20 and 1Q21.
- In June 2021, the Fed moved up its timeline for rate hikes, prompting a shift back to growth stocks.
- Generally, growth outperformed value during the quarter as investors contemplated a “transitory” inflationary environment. The only exception was in small caps, where the Russell 2000 Growth Index underperformed the Russell 2000 Value. Continued outperformance of meme stocks helped small value.
- Larger cap stocks outperformed smaller cap stocks, reversing the recent trend of small cap outperformance.
- Starting in 2005, cumulative returns for broad large cap and small cap indices were in lock-step, until 4Q18.
- In 2Q21, Russell 1000 increased by 8.5%, ending a two-quarter streak in which small cap stocks outperformed large.

U.S. Equity: Quarterly Returns



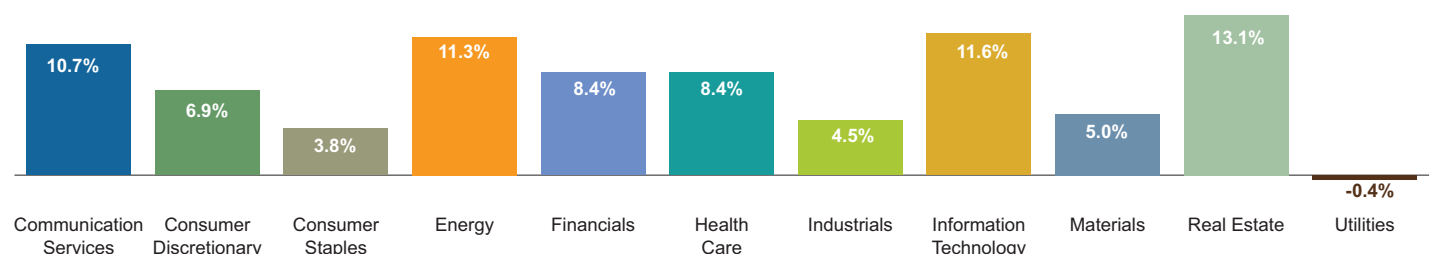
U.S. Equity: One-Year Returns



Sources: FTSE Russell and S&P Dow Jones Indices

- After cyclical stocks led the market for the prior two quarters, mega-cap Technology stocks outperformed in 2Q. This helped the Russell 1000 beat the Russell 2000.
- Historically, small cap stocks have outperformed in the first 12 months of market recoveries. They tend to underperform in the ensuing 12 months.

Quarterly Performance of Industry Sectors



Source: S&P Dow Jones Indices

Global Equity

Strong growth despite pockets of COVID-19 outbreaks

- Government stimulus and a continued “return to normal” spurred positive sentiment.
- Risk assets lost some steam amid concerns around the Delta variant.
- Small cap was largely in-line with large, except within emerging markets where smaller companies benefited from rebounds within industrials and basic materials.
- Despite return dispersions within regions, developed and emerging markets performed similarly over the quarter.

Market shifts away from cyclicals

- Expectations remain positive, but cooler than previous quarters, causing cyclical stocks to lag.
- Factor performance showed a preference for quality and growth, a divergence from last quarter.

U.S. dollar vs. other currencies

- The U.S. dollar was mixed versus other currencies and did not contribute meaningfully to global ex-U.S. results.

Growth vs. value

- Growth overturned value, except in emerging markets, where commodity-rich countries rallied.

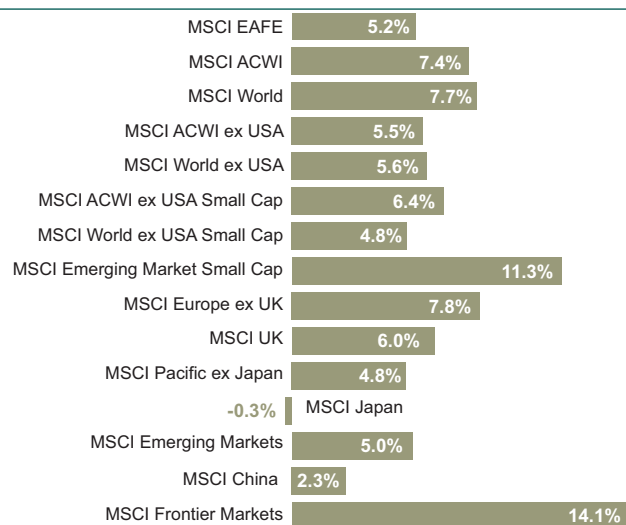
Uneven global vaccination rates

- North America and Europe are leading in vaccinations, while the rest of the world is still lagging.
- YTD equity market returns reflect higher returns from countries with high vaccination rates, and vice versa:
 - MSCI North America: +14.9%
 - MSCI Europe: +11.8%
 - MSCI EM Latam: +8.9%
 - MSCI EM Asia: +7.5%
 - MSCI China: +2.3%

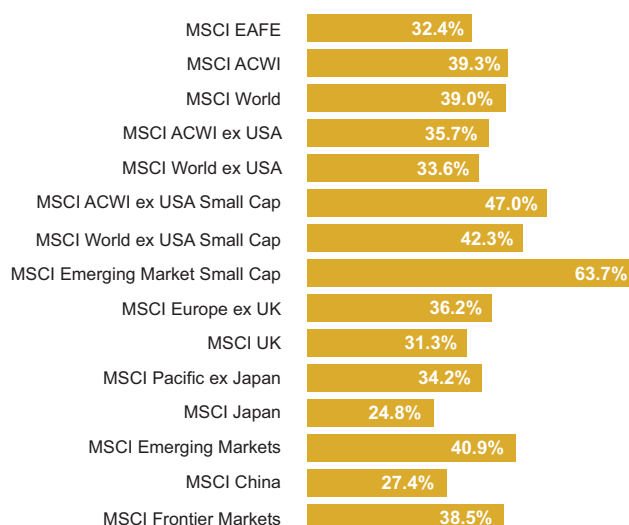
Potential for re-opening trade ex-U.S.

- Historically, small cap, value, and cyclicals thrive in recoveries as manufacturing resumes and retail sales rise.
- GDP is expected to rebound as vaccination rates increase and economies continue to re-open.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar)



Source: MSCI

Fixed Income

U.S. Fixed Income

U.S. Treasury yield curve flattens

- The 10-year U.S. Treasury yield closed 2Q21 at 1.45%, a decline of 29 bps from 1Q21.
- The short-end of the curve remained anchored, though a hawkish tone from the Fed’s June meeting rallied rates on the long end.
- TIPS outperformed nominal U.S. Treasuries given strong relative performance in April and May.

Bloomberg Barclays Aggregate rallies

- The Bloomberg Barclays US Aggregate Bond Index added 1.8% in 2Q21, with spread sectors outperforming treasuries, but is negative over the last year.
- Demand for corporate credit remained strong, with spreads tightening 11 bps over the quarter, to 80 bps.

High yield rally continues on lowered default expectations

- High yield (HY) bonds outperformed investment grade (IG) in 2Q adjusted for duration, but underperformed IG in absolute terms.
- Leveraged loans gained 1.5% for the quarter, driven by favorable supply/demand dynamics.

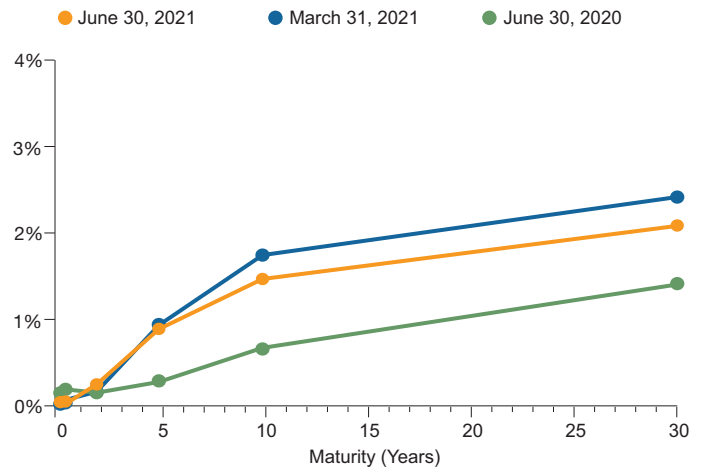
Munis outperform Treasuries as economies re-open

- Municipals topped treasuries, as municipal yields rose less than treasury yields.
- The municipal market was supported by the American Rescue Plan Act.

Tight corporate spreads and fall in default rate

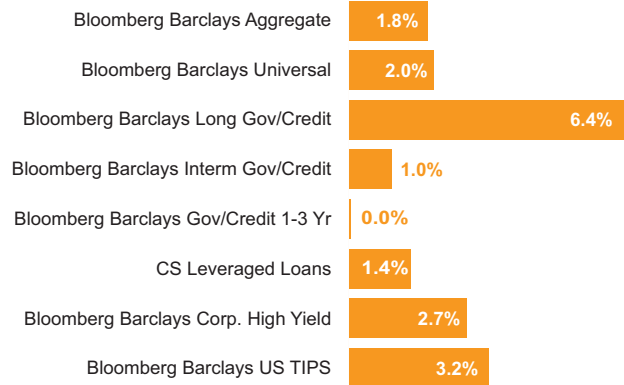
- Corporate credit spreads have not traded this tight since 1H07.
- Default rate is declining from the near-term highs reached during the pandemic. Fed’s support provided issuers the opportunity to term out their existing debt and extend maturities, while accelerating growth and better-than-expected earnings were tailwinds to debt holders.

U.S. Treasury Yield Curves



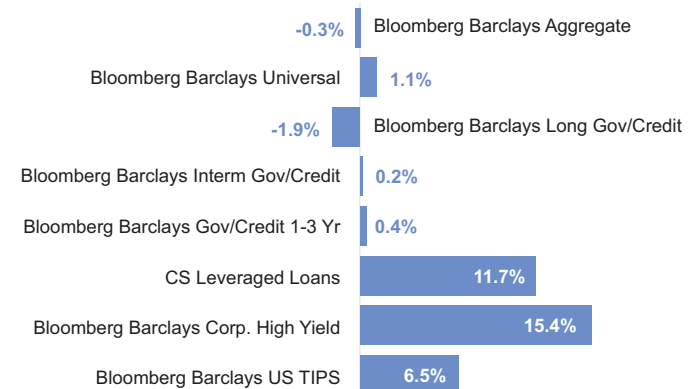
Source: Bloomberg

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

FIXED INCOME (Continued)

- 2021 marks the most modest first half of a calendar year for defaults/distressed transactions since 2011, according to JPMorgan.
- Some market participants have lowered their rolling 12-month default forecasts to a range of <1% to 2.5% for 2021.

Global Fixed Income

Global fixed income posts positive returns

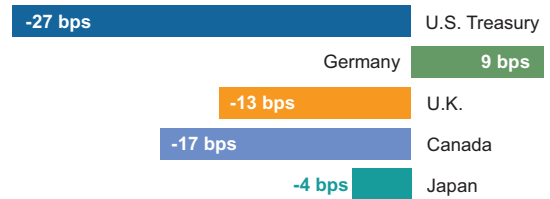
- Global fixed income ex-U.S. (hedged) gained in 2Q21 as global economies re-opened, albeit underperforming the US Aggregate.
- The U.S. dollar was mixed against developed currencies, up 0.3% versus the yen; down 1.1% vs. the euro, 1.3% vs. the Canadian dollar, and 2.0% vs. the Swiss franc.

Emerging market debt gains

- Emerging market debt rallied in 2Q21, with the JPM EMBI Global Diversified gaining 4.1% in hard currency, as falling U.S. rates spilled into emerging markets, and 3.5% in local currency. However, both remained down YTD, -0.7% and -3.4%, respectively.
- The U.S. dollar generally depreciated versus emerging currencies. Notables include -1.5% vs. Chinese yuan and -13.4% vs. Brazilian real.
- EM corporates fared better than sovereigns amid improving corporate fundamentals and global economic recovery.
- Local currency index (GBI-EM Global Diversified) slightly trailed hard currency, as real GDP growth expectations increased.

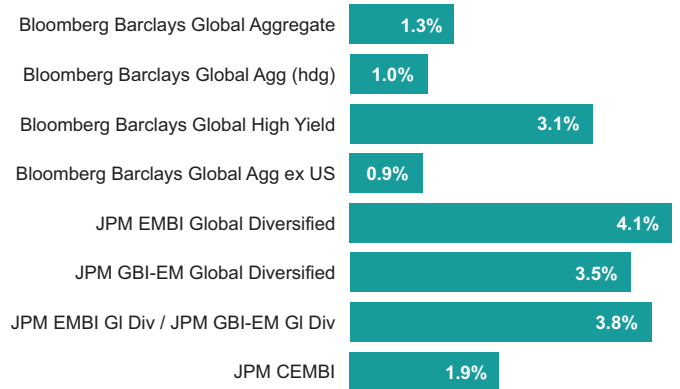
Change in 10-Year Global Government Bond Yields

1Q21 to 2Q21



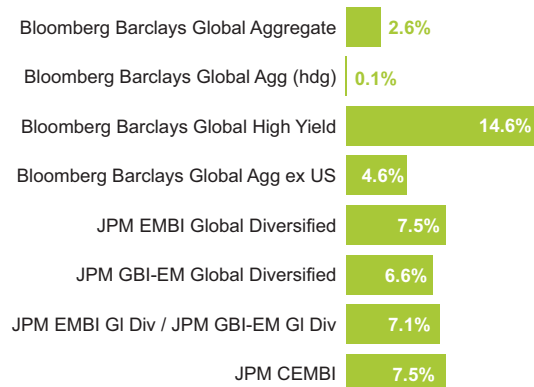
Source: Bloomberg Barclays

Global Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Global Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

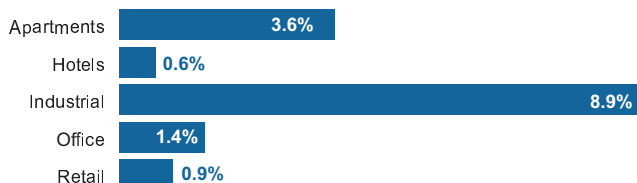
Strong Quarter for Real Estate, Both Public and Private

REAL ESTATE/REAL ASSETS | Munir Iman

Strongest return for ODCE in 10 years

- The recovery gained steam as the NCREIF ODCE Index posted its strongest quarterly return in 10 years; Industrial remains the best performer.
- Income stayed positive except in the Hotel sector.
- Niche sectors such as self-storage and life sciences continued to be accretive.
- Vacancy rates kept compressing in Industrial and Multifamily as demand stayed strong.
- Net operating income stayed negative for Office and Retail but a recovery continued.
- Tenants were poised to return to work but the Delta variant may change that.
- Pent-up demand is evident through foot traffic in retail centers.
- 2Q21 rent collections showed relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors; the Retail sector remained challenged, with regional malls impacted most heavily.
- Class A/B urban apartments were relatively strong, followed by Industrial and Office.
- Demand outpaced supply as new construction of preleased Industrial and Multifamily occurred.

Sector Quarterly Returns by Property Type



Source: NCREIF

Global REITs outpace broader equity market recovery

- Global REITs outperformed in 2Q21, gaining 9.2% compared to 7.7% for global equities (MSCI World).
- U.S. REITs rose 12.0% in 2Q21, beating the S&P 500 Index, which gained 8.5%.
- Globally, REITs are trading above NAV with the exception of those in Hong Kong, the United Kingdom, and Continental Europe.
- Ongoing volatility in REIT share prices offers opportunities to purchase mispriced securities, individual assets from REIT owners, and discounted debt.
- It also gives investors the potential to lend to companies and/or execute take-privates of public companies.

Callan Database Median and Index Returns* for Periods Ended 6/30/21

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	2.1	4.7	6.6	5.1	6.2	8.9	5.4
NFI-ODCE (value wt net)	3.7	5.7	7.1	4.6	5.6	8.6	5.3
NCREIF Property	3.6	5.4	7.4	5.5	6.1	8.8	7.0
NCREIF Farmland	0.6	1.2	2.4	3.5	4.7	9.8	10.8
NCREIF Timberland	1.7	2.5	3.1	2.1	2.7	4.7	5.1
Public Real Estate							
Global Real Estate Style	10.5	16.4	34.9	9.9	7.8	8.5	6.2
FTSE EPRA Nareit Developed	9.2	15.5	33.6	6.4	5.0	6.4	4.5
Global ex-U.S. Real Estate Style	8.3	9.5	32.1	9.0	7.8	8.3	5.8
FTSE EPRA Nareit Dev ex US	6.9	9.0	29.0	4.8	5.7	5.1	3.7
U.S. REIT Style	12.4	21.7	36.8	12.6	8.1	10.5	7.9
EPRA Nareit Equity REITs	12.0	22.0	38.0	10.1	6.3	9.4	7.1

*Returns less than one year are not annualized.

Sources: Callan, FTSE Russell, NCREIF

Record-Setting Expectations

PRIVATE EQUITY | Gary Robertson

Fundraising ► Based on preliminary data, final closes for private equity partnerships in 2Q21 totaled \$231 billion of commitments in 502 partnerships. (Unless otherwise noted, all data in this commentary come from PitchBook.) The dollar volume was flat with 1Q21, but the number of funds rose 10%. For the first half, 2021 is running 18% ahead of a year ago, with the number of funds up by 9%. We expect that the second half of 2021 will continue to be strong as general partners are rapidly deploying their current funds, and follow-on fund sizes have been increasing an average of more than 50%.

Buyouts ► New buyout transactions by count declined by 15% from 1Q21 to 2,401, but disclosed deal value increased 3% to \$127 billion. Average buyout prices rose to 13.0x EBITDA in the first half, compared to 12.7x for 2020. Average leverage multiples rose to 7.5x.

VC Investments ► New rounds of financing in venture capital companies totaled 9,353, with \$169 billion of announced value. The number of investments preliminarily fell 10% from 1Q21, but announced value rose 14%. Venture prices rose across the board during 1H21, with Series D rounds having the largest (129%) increase relative to 2020 average prices.

Funds Closed 1/1/21 to 6/30/21

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	561	108,323	24%
Growth Equity	77	44,466	10%
Buyouts	233	233,971	51%
Mezzanine Debt	8	9,496	2%
Distressed	15	18,102	4%
Energy	3	1,967	0%
Secondary and Other	49	40,311	9%
Fund-of-Funds	14	4,281	1%
Totals	960	460,917	100%

Source: PitchBook (Figures may not total due to rounding.)

Exits ► There were 520 private M&A exits of private equity-backed companies, with disclosed values totaling \$110 billion. The preliminary private sale count fell 2% and the announced dollar volume dropped 24%. There were 106 private equity-backed IPOs in 2Q21 raising an aggregate \$34 billion, up 25% and 31%, respectively, from 1Q21.

Venture-backed M&A exits totaled 601 transactions with disclosed value of \$49 billion. The number of sales declined 8% from 1Q21, but announced value rose 48%. There were 167 VC-backed IPOs in 2Q21 with a combined float of \$73 billion; the count was up 7% and the issuance grew 70%.

Private Equity Performance (%) (Pooled Horizon IRRs through 3/31/21*)

Strategy	3 Months	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	16.4	81.9	32.9	23.6	19.0	14.5	9.5	28.1
Growth Equity	8.8	63.8	25.7	21.6	16.0	14.8	13.4	14.2
All Buyouts	7.3	47.0	17.9	17.8	13.8	12.5	13.2	12.8
Mezzanine	4.3	21.1	10.1	11.6	11.5	10.8	9.8	9.6
Credit Opportunities	6.2	23.1	5.2	8.3	7.7	8.9	9.8	9.3
Control Distressed	9.3	42.4	11.3	12.3	10.7	10.2	11.2	10.1
All Private Equity	9.6	55.0	21.1	18.8	14.5	12.8	12.0	13.8
S&P 500	6.2	56.4	16.8	16.3	13.9	10.0	8.5	8.9
Russell 3000	6.4	62.5	17.1	16.6	13.8	10.1	8.9	8.8

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices

*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

Demand Stays Strong and Fundraising Ramps Up

PRIVATE CREDIT | Catherine Beard

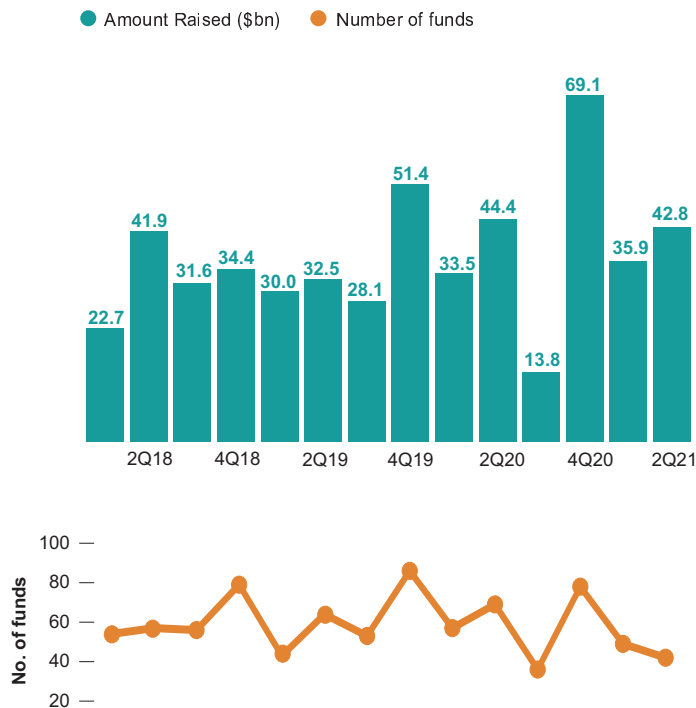
Attractive attributes

- Yield and income-generating characteristics remain compelling in a low-rate environment.
- Alpha generation can be magnified through strategies that extract a complexity premium.

Direct lending pricing back to pre-COVID levels

- Unlevered direct lending historically generated premiums of 150-200 bps over traditional high yield and leveraged loans, with downside protection.
- While pricing widened in the early stages of the COVID-19 dislocation, pricing and structures have circled back to pre-pandemic levels.
- Direct lending portfolio valuations are back to 2019 levels.

Private Credit Fundraising (\$bn)



Source: Preqin

Continued evolution of pockets of opportunity

- Areas of opportunity in private credit include those that offer diversification through differentiated collateral and/or areas of low correlation to public markets. This includes strategies such as specialty finance, asset-backed lending, and niche areas such as life science lending and AI-propelled structured credit.
- Government stimulus has driven a quick compression in leveraged loan and high yield spreads despite elevated levels of unemployment and economic uncertainty.
- While the Phase I dislocation opportunity to purchase quality paper in liquid markets has passed for the time being, longer-term Phase II and III opportunities are growing due to the deeper economic impact of the pandemic.
- An injection of significant liquidity into the credit markets has muted the corporate distressed opportunity in the U.S., but we do see managers investing in other pockets of distress that are emerging in the U.S. and abroad.

Slowdown in fundraising in late 2020 has reversed

- Private credit fundraising tapered off in 3Q20 due primarily to COVID-related market disruption.
- Fundraising significantly rebounded in 4Q20 and into the first half of 2021.
- Senior debt and mezzanine capital continue to see strong fundraising activity in 2021.
- Also seeing a ramp-up of fundraising in specialty finance, asset-backed lending, and niche areas such as venture debt
- Ares, AXA, Blackstone, Goldman Sachs, and HPS led private credit fundraising in 2020.
- Continue to see strong private credit fundraising activity from the large credit shops as well as new private credit offerings from traditional fixed income managers

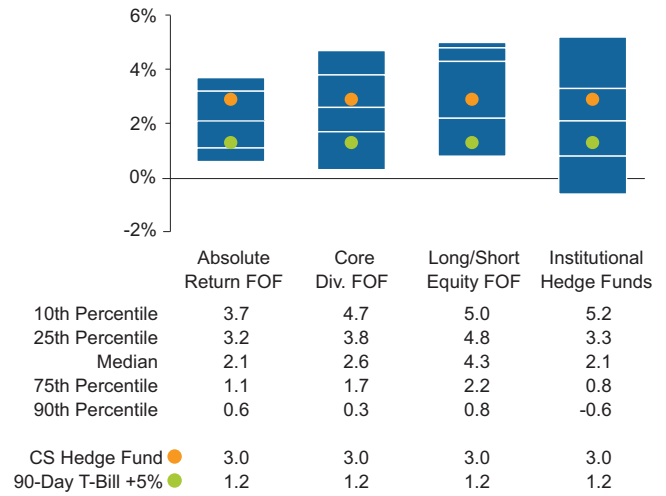
Hedge Funds Thrive Amid Surging Recovery

HEDGE FUNDS/MACs | Jim McKee

Amid the quarter's strengthening economic setting, albeit with rising inflation risks, most hedge funds benefited from healthy capital markets enabled by massive central bank liquidity. Representing a raw collection of hedge funds reporting performance without implementation costs, the Credit Suisse Hedge Fund Index (CS HFI) gained 3.0% in 2Q21. As an actual hedge fund portfolio net of all fees, the median manager in the Callan Hedge Fund-of-Funds (FOF) Peer Group advanced 2.7%.

Serving as a proxy for large, broadly diversified hedge funds with low-beta exposure to equity markets, the median Callan Institutional Hedge Fund Peer Group added 2.1%. Within this style group of 50 managers, the average Hedged Credit fund gained the most (+4.3%), benefiting from the quarter's risk-on

Hedge Fund Style Group Returns



Sources: Callan, Credit Suisse, Federal Reserve

Callan Peer Group Median and Index Returns* for Periods Ended 6/30/21

Hedge Fund Universe	Quarter	Year-to-Date	1 Year	3 Years	5 Years	10 Years
Callan Institutional Hedge Fund Peer Group	2.1	5.9	17.4	6.3	7.0	6.0
Callan Fund-of-Funds Peer Group	2.7	4.6	18.1	6.0	6.5	5.1
Callan Absolute Return FOF Style	2.1	5.9	15.4	4.5	5.1	4.6
Callan Core Diversified FOF Style	2.6	4.3	15.8	5.7	6.4	4.9
Callan Long/Short Equity FOF Style	4.3	5.9	23.7	8.9	9.6	6.5
BB GS Cross Asset Risk Premia 6% Vol Idx	1.0	1.0	1.6	1.2	1.6	4.3
Credit Suisse Hedge Fund	3.0	6.0	16.6	5.9	5.6	4.2
CS Convertible Arbitrage	1.6	4.3	14.7	6.7	5.9	4.2
CS Distressed	4.0	10.4	21.6	4.3	5.5	4.3
CS Emerging Markets	5.1	7.9	19.5	8.4	8.4	5.3
CS Equity Market Neutral	2.1	3.0	6.9	0.3	1.6	1.4
CS Event-Driven Multi	3.6	10.6	30.0	7.1	6.8	3.5
CS Fixed Income Arb	1.7	3.8	11.1	4.4	5.1	4.6
CS Global Macro	3.3	6.2	17.7	7.0	6.0	4.6
CS Long/Short Equity	2.9	5.3	16.5	6.5	7.0	5.5
CS Managed Futures	3.9	6.3	11.4	4.6	0.8	1.5
CS Multi-Strategy	2.3	4.5	13.5	4.8	5.3	5.7
CS Risk Arbitrage	3.2	5.2	21.8	8.6	6.9	4.2
HFRI Asset Wtd Composite	3.2	6.0	16.2	4.5	5.2	4.1
90-Day T-Bill + 5%	1.2	2.5	5.1	6.3	6.2	5.6

*Net of fees. Sources: Bloomberg Barclays GSAM, Callan, Credit Suisse, Hedge Fund Research

environment. As the weakest substyle performer, the average Hedged Rates fund edged ahead only 0.1% as it navigated twisting yield curves for sovereigns.

Within CS HFI, the best-performing strategy in 2Q was Emerging Markets (+5.1%), aided by its long-biased exposures to credit and equity. Ripe credit conditions, despite declining bankruptcy events, helped Distressed to advance 4.0%. Both Event-Driven Multi-Strategy (+3.6%) and Risk Arb (+3.2%) profited from the quarter's particularly strong corporate activity.

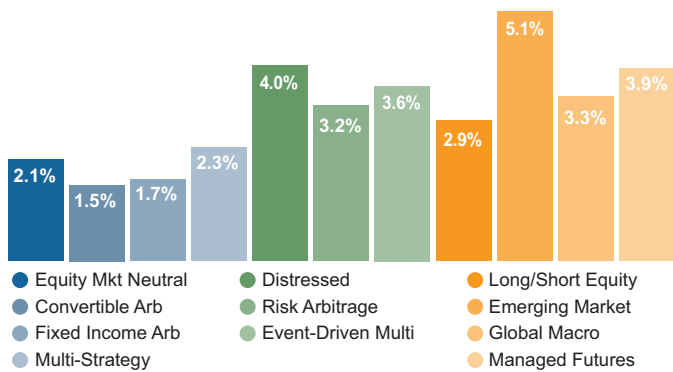
Across the Callan Hedge FOF Group, market exposures notably affected performance in 2Q. Supported by strong equity tailwinds, the median Callan Long/Short Equity FOF (+4.3%) handily beat the Callan Absolute Return FOF (+2.1%).

Measuring the quarter's performance of alternative risk premia, the Bloomberg GSAM Risk Premia Index increased 1.0% based upon a 6% volatility target. Within the underlying styles of the Index's derivative-based risk premia, Equity Trend

(+2.7%) and Commodity Trend (+1.9%) continued to profit from sustained market moves. The weakest risk premia were U.S. Equity Momentum Long/Short (-5.0%) and U.S. Equity Value Long/Short (-3.1%), reflecting the unusually challenging factor rotations within U.S. equity markets

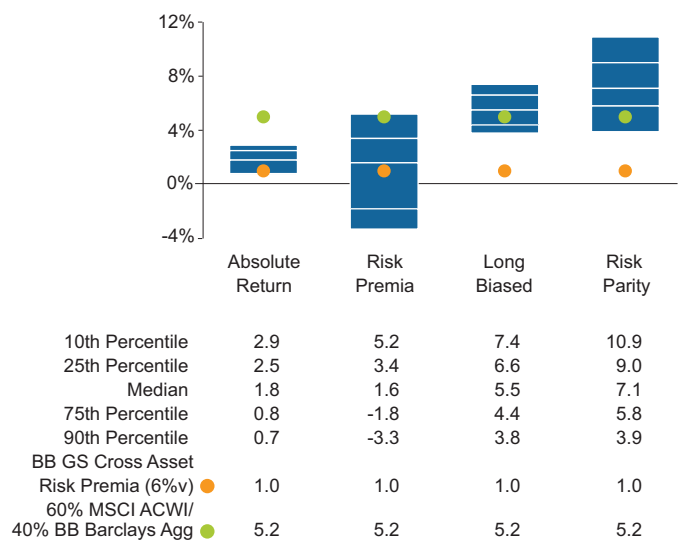
Within Callan's database of liquid alternative solutions, the median managers of the Callan Multi-Asset Class (MAC) Style Groups generated positive returns, gross of fees, consistent with their underlying risk exposures. For example, the Callan Risk Parity MAC, which typically targets an equal risk-weighted allocation to the major asset classes with leverage, jumped 7.1%. Supported by the quarter's tailwinds of positive equity, rates, and commodity markets, this MAC strategy handily beat its traditional unlevered, but equity-centric, benchmark of 60% MSCI ACWI and 40% Bloomberg Barclays US Aggregate Bond Index (+5.2%). The median Callan Risk Premia MAC rose 1.6% based on its exposures to uncorrelated style premia (such as those in the Bloomberg GSAM Index) targeting 5% to 15% portfolio volatility.

Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

MAC Style Group Returns



Sources: Bloomberg Barclays, Callan, Eurekahedge, S&P Dow Jones Indices

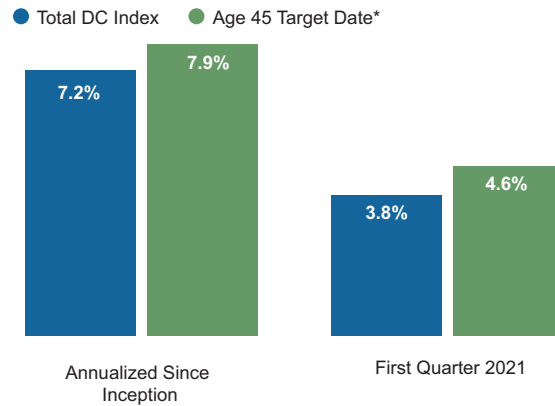
Index Posts Fourth Straight Quarterly Gain

DEFINED CONTRIBUTION | Patrick Wisdom

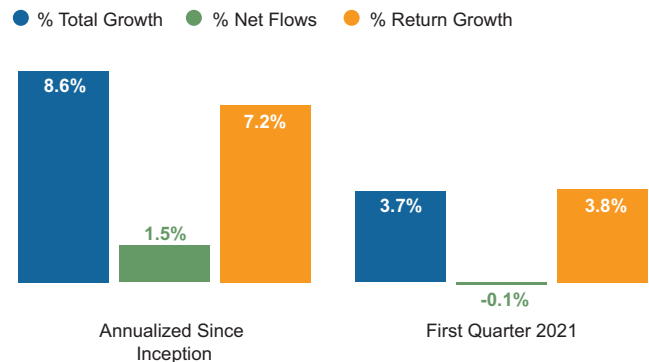
- The Callan DC Index™ rose 3.8% in 1Q21, a fourth straight quarter of gains after a 15.0% 1Q20 plunge. The increase propelled the Index's trailing one-year return to a staggering 40.7%. The Age 45 Target Date Fund (analogous to the 2040 vintage) posted a larger quarterly gain (4.6%), attributable to its higher allocation to equity.
- Balances within the DC Index rose by 3.7%, the fourth straight quarterly gain. Investment returns (3.8%) were the sole driver of the growth; quarterly net flows (-0.1%) had a small, negative effect.
- After two straight quarters in which target date funds were not the top destination for inflows, there was a return to normal in 1Q21 as the asset allocation funds received 83.0% of quarterly net inflows.
- In a reversal from 4Q20, investors transferred assets out of relatively safer asset classes. U.S. equity also saw net outflows. In contrast, global ex-U.S. equity had the second-largest net inflows.
- Turnover (i.e., net transfer activity levels within DC plans) in the DC Index increased in 1Q, rising to 0.42% from the previous quarter's 0.14%.
- The Index's allocation to equity increased to 71.1% from the previous quarter's 70.5%. The current allocation continues to sit well above the Index's historical average (68.0%).
- In a continuation from the previous quarter, U.S. large cap (26.8% total allocation) and U.S. small/mid cap (8.5%) experienced the largest percentage increases in allocation.
- Stable value (8.9% allocation) and U.S. fixed income (6.1%) saw the largest decreases in allocation.
- Despite recent headline attention about potential inflation, the prevalence of a real return/TIPS offering (35.0%) decreased by 2.1 percentage points. In contrast, the prevalence of a high yield fixed income offering (6.7%) increased by 1.5 percentage points, its highest mark since 1Q17.

The Callan DC Index is an equally weighted index tracking the cash flows and performance of over 100 plans, representing nearly \$300 billion in assets. The Index is updated quarterly and is available on Callan's website.

Investment Performance



Growth Sources



Net Cash Flow Analysis (1Q21)

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	83.01%
Global ex-U.S. Equity	11.53%
Company Stock	-21.02%
U.S. Large Cap	-25.52%
Total Turnover**	0.42%

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

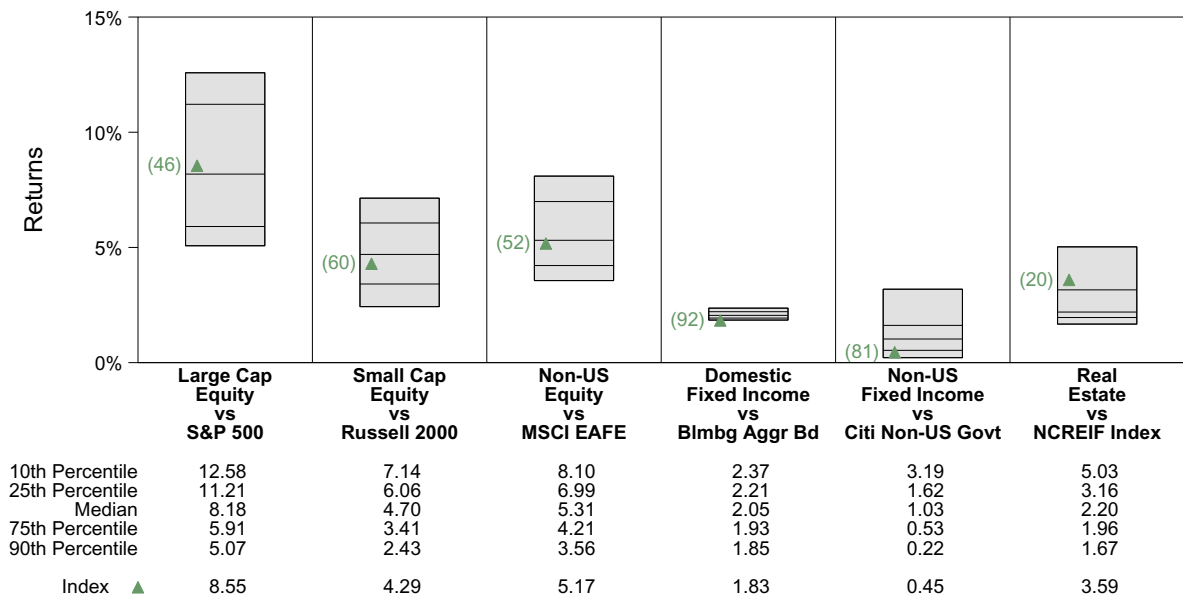
Market Overview

Active Management vs Index Returns

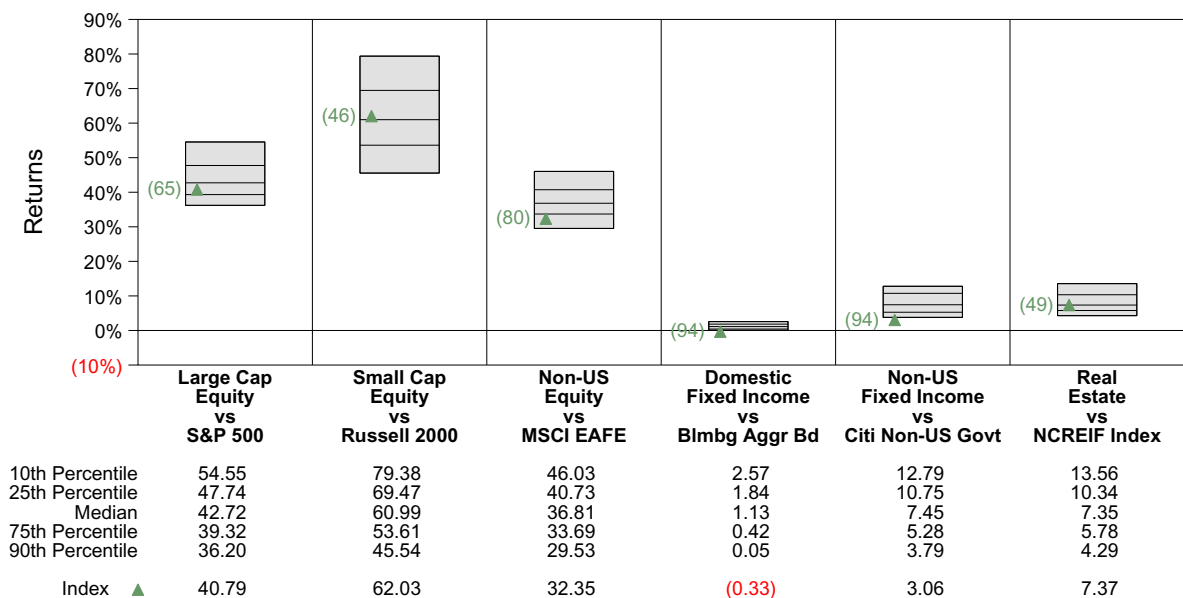
Market Overview

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class One Quarter Ended June 30, 2021



Range of Separate Account Manager Returns by Asset Class One Year Ended June 30, 2021

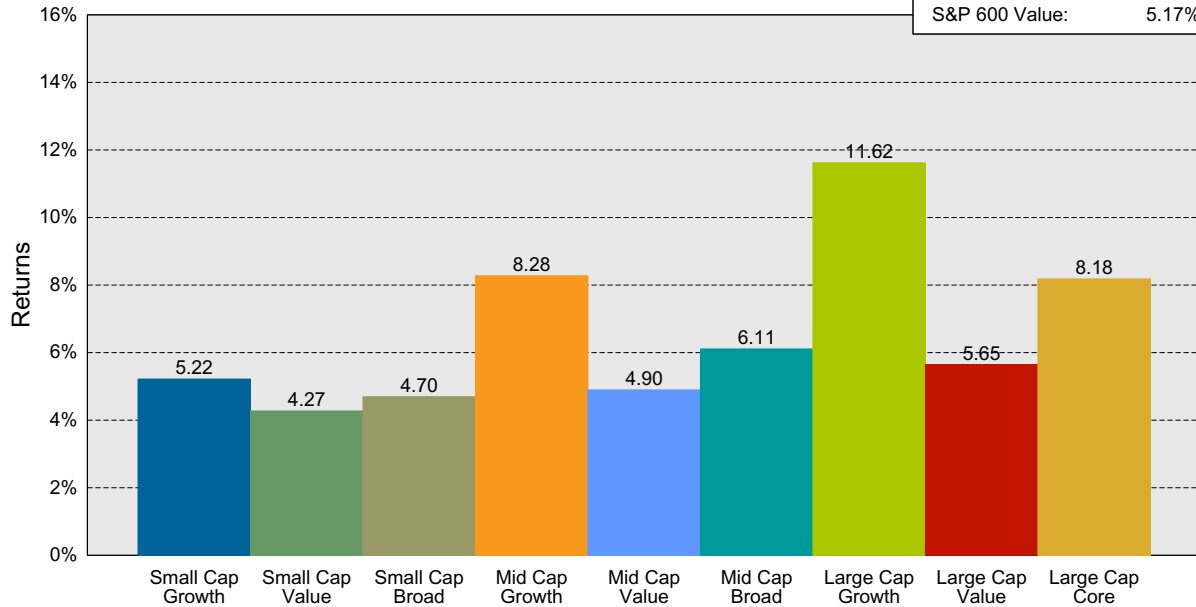


Domestic Equity Active Management Overview

The S&P 500 Index closed the quarter at a record high and registered an 8.5% gain in 2Q, bringing its YTD return to 15.3%. The Index is up 40.8% over the past year and the annualized return over the past 10 years is a healthy 14.8%. The S&P 500 Index hit 34 record highs in the first half of the year. First quarter earnings were up over 50%, according to FactSet, and second quarter earnings are projected to grow more than 60% (YOY). Real Estate was the strongest-performing sector in the S&P 500 for the quarter (+13.1%) with Technology close behind (+11.6%). The Utilities sector was the only one to post a negative result (-0.4%). Growth stocks outperformed value (R1000 Growth: + 11.9%; R1000 Value: + 5.2%) but lag for the YTD period (+13.0% vs. +17.0%). Small cap lagged large (R2000: +4.3% vs. R1000: +8.5%) but is ahead by a modest amount YTD (17.5% vs 15.0%).

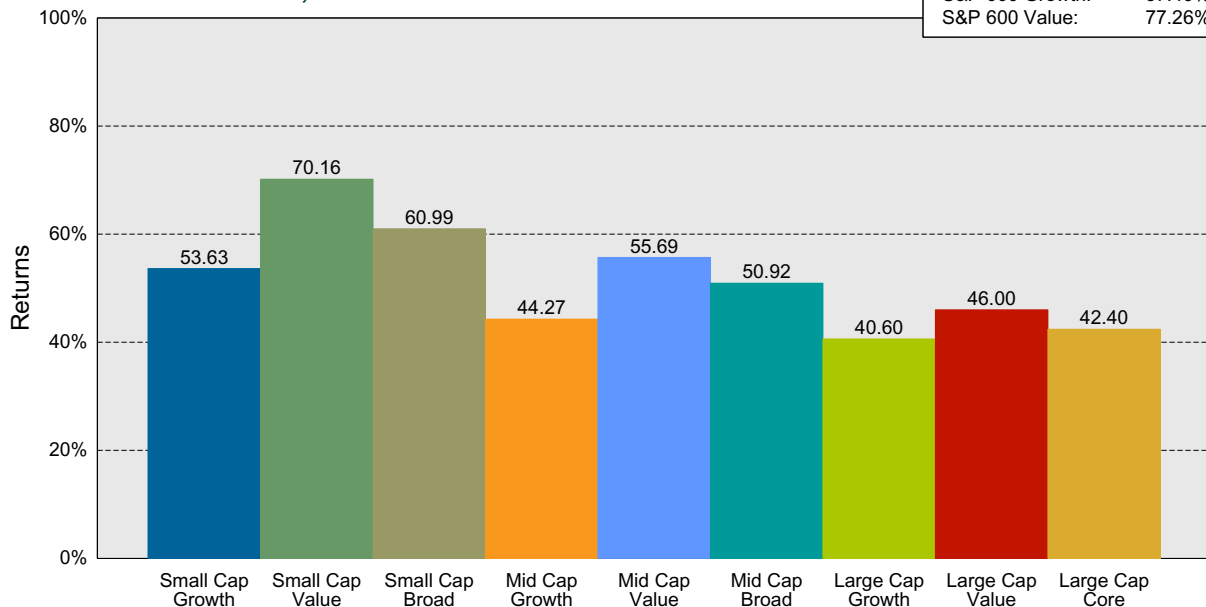
S&P 500:	8.55%
S&P 500 Growth:	11.93%
S&P 500 Value:	4.99%
S&P Mid Cap:	3.64%
S&P 600:	4.51%
S&P 600 Growth:	3.76%
S&P 600 Value:	5.17%

Separate Account Style Group Median Returns for Quarter Ended June 30, 2021



S&P 500:	40.79%
S&P 500 Growth:	41.36%
S&P 500 Value:	39.54%
S&P Mid Cap:	53.24%
S&P 600:	67.40%
S&P 600 Growth:	57.49%
S&P 600 Value:	77.26%

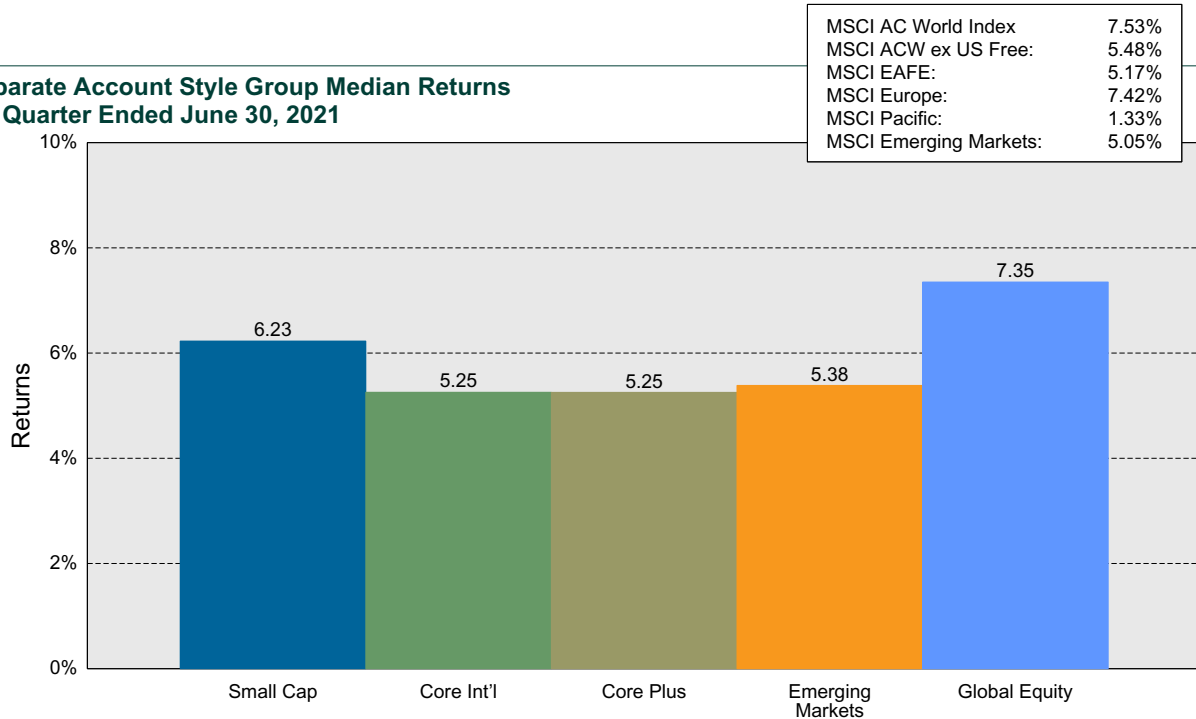
Separate Account Style Group Median Returns for One Year Ended June 30, 2021



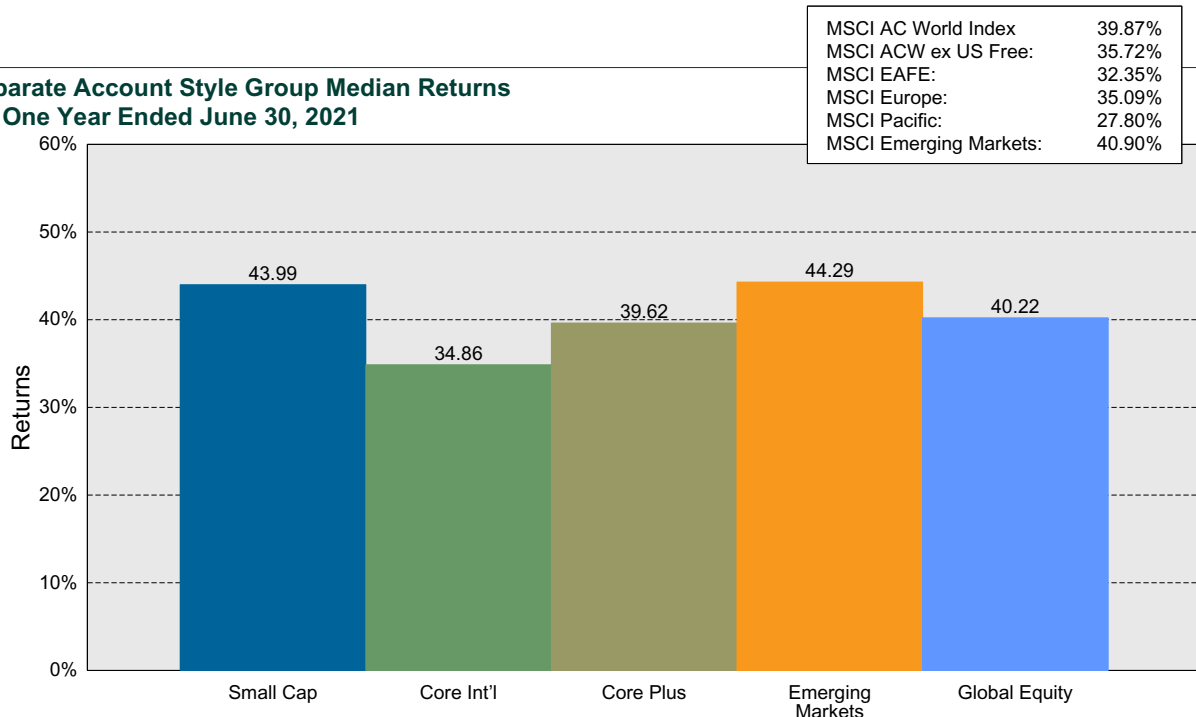
International Equity Active Management Overview

Developed ex-U.S. stocks had a strong quarter with virtually all developed market countries posting positive returns. The MSCI ACWI ex-USA Index rose 5.5% for the quarter and is up 9.2% YTD. As in the U.S., Utilities (-0.4%) was the lone sector to produce a negative return. Health Care (+9.9%) and Energy (+8.2%) were the top-performing sectors. Canada (+10.0%) was a strong performer and Japan (-0.3%) was notable as one of the few countries to deliver a negative return. The U.S. dollar was mixed against developed market currencies and thus shifts were not a major contributor to relative results. The MSCI EM Index performed in line with developed markets (MSCI EM USD: +5.0% and +7.4% YTD), but country returns were mixed. Brazil (+23%) and Russia (+14%) were top performers while Chile (-14%) was at the bottom of the pack. China was up 2% and China A-shares (+9.2%) did especially well as softer economic data in May appeared to ease investors' concerns over potential policy tightening.

Separate Account Style Group Median Returns for Quarter Ended June 30, 2021



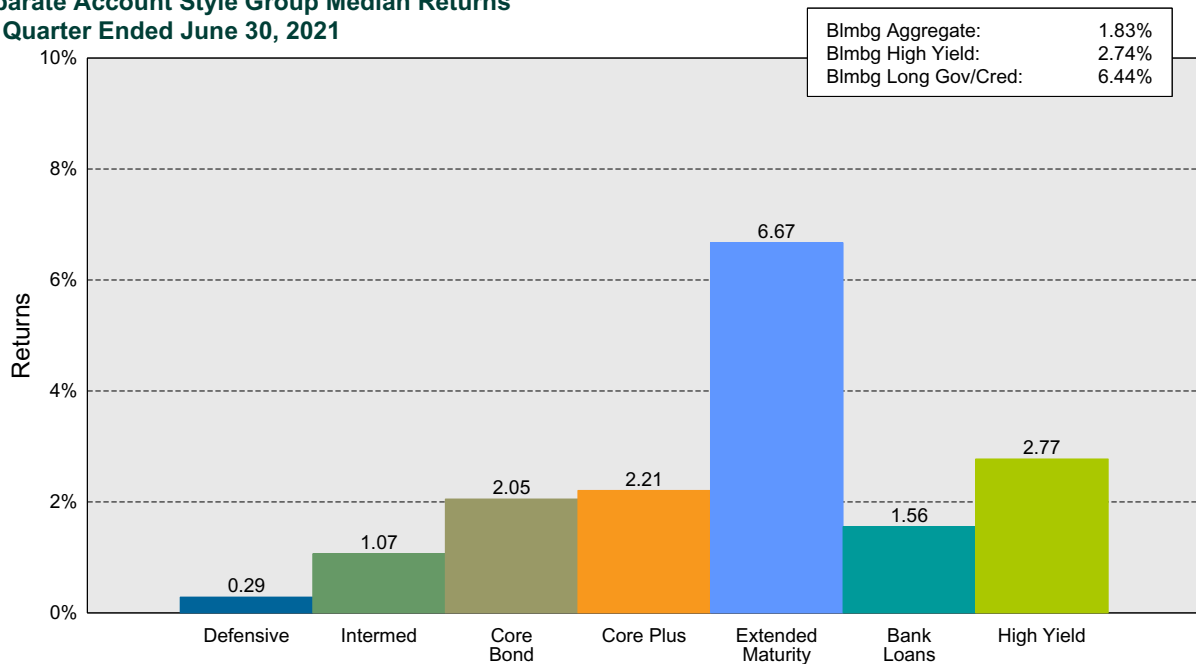
Separate Account Style Group Median Returns for One Year Ended June 30, 2021



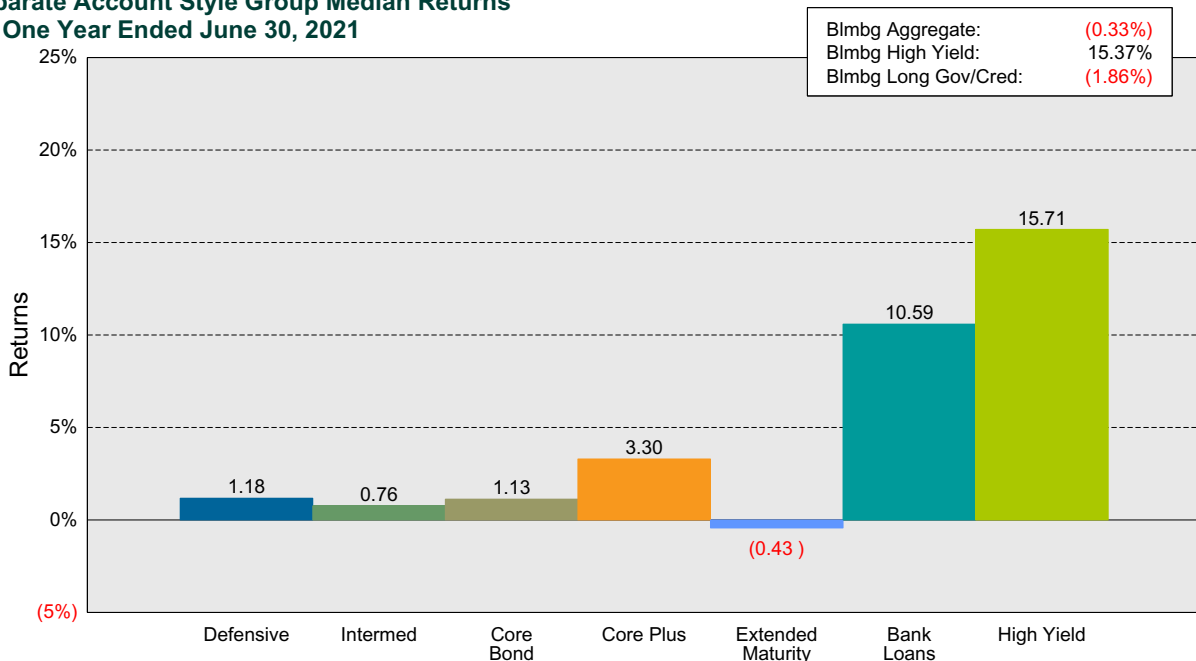
Domestic Fixed Income Active Management Overview

The 10-year U.S. Treasury yield declined steadily throughout the quarter, from 1.74% as of 3/31 to 1.45%. The Bloomberg Barclays US Aggregate Bond Index rose 1.8% but remains down 1.6% YTD. Strong equity performance and robust economic data fueled risk appetites, and lower-quality securities were the best performers again this quarter. Corporates outperformed Treasuries as investors continued to reach for yield in spite of the paltry yield advantage (the average option-adjusted spread on the Corporate Index was 80 bps as of quarter-end, the lowest since 1998). The Bloomberg Barclays High Yield Index was up 2.7%. The absolute yield-to-worst for the Index reached an all-time low of 3.75% and its option-adjusted spread hit 268 bps, the lowest since 2007.

Separate Account Style Group Median Returns for Quarter Ended June 30, 2021



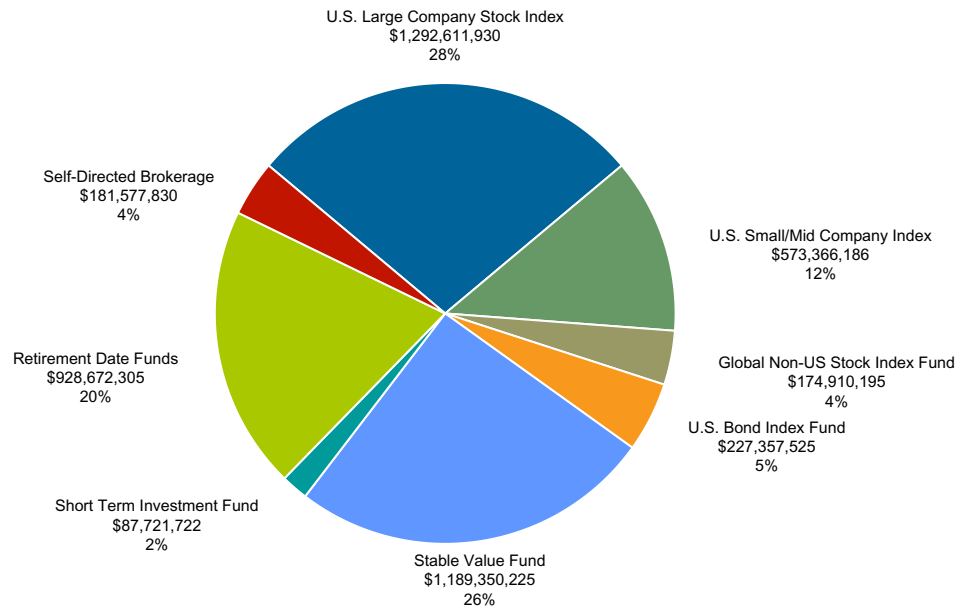
Separate Account Style Group Median Returns for One Year Ended June 30, 2021



Changes in Investment Fund Balances Period Ended June 30, 2021

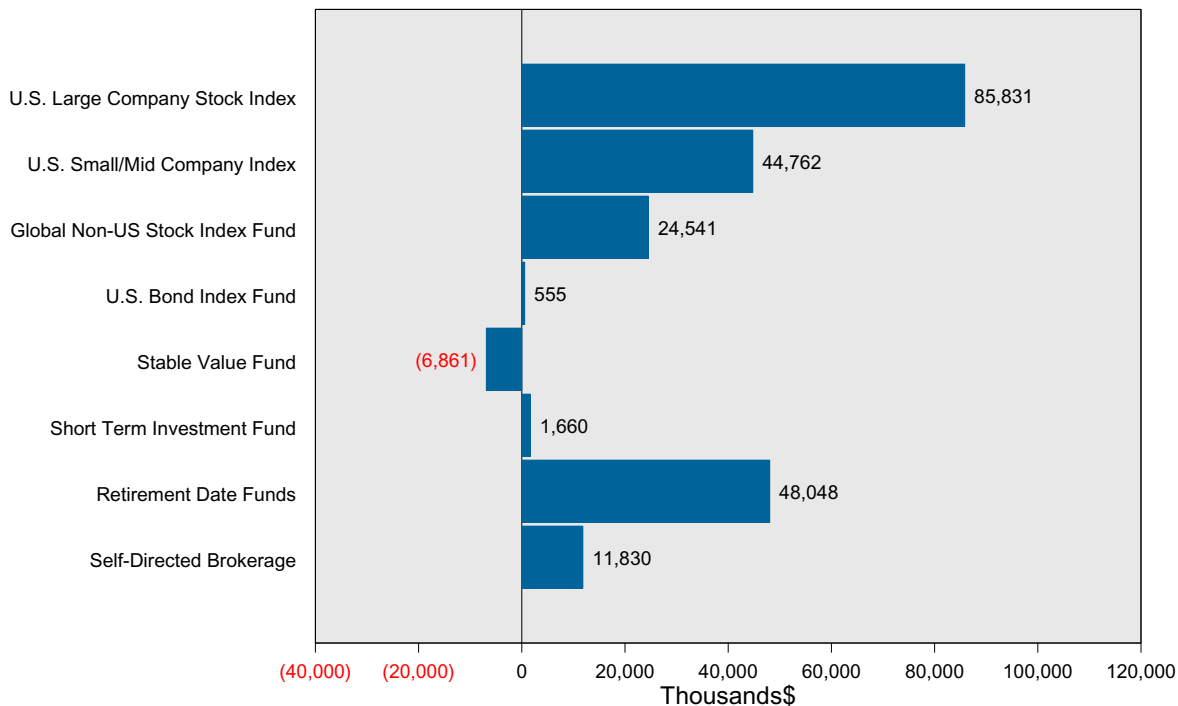
Allocation Across Investment Options

The chart below illustrates the allocation of the aggregate fund assets across the various investment options for the quarter ended June 30, 2021.



Changes in Fund Values

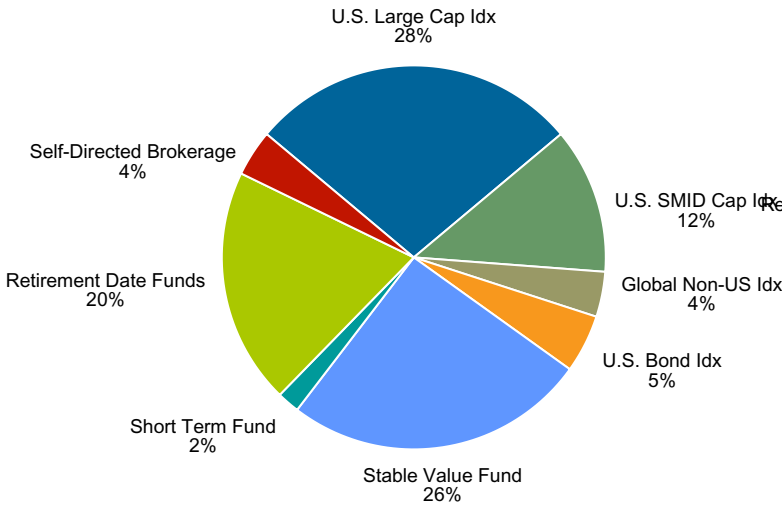
The chart below shows the net change in fund values across the various investment options for the quarter ended June 30, 2021. The change in value for each fund is the result of a combination of 3 factors: 1) market movements; 2) contributions or disbursements into or out of the funds by the participants (and any matching done by the company); and 3) transfers between funds by the participants.



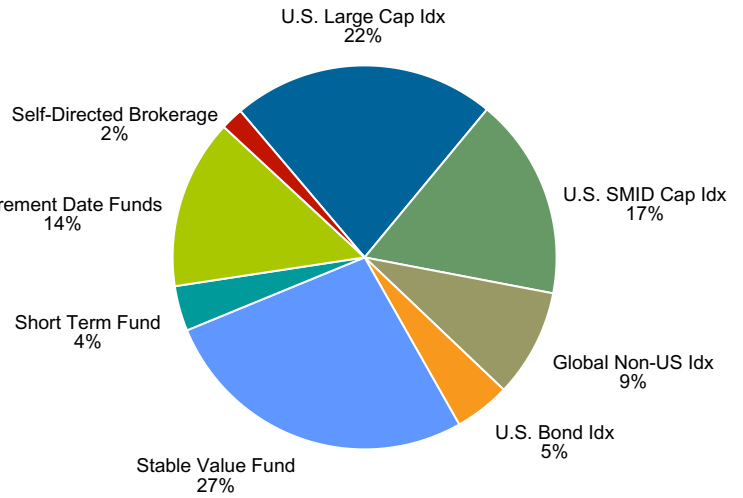
Asset Allocation

The charts below illustrate the historical asset allocation of the fund as well as the historical allocations of contributions to the fund. The pie charts on the top show the most recent allocations of both assets and contributions which include exchanges and transfers within the plan. The middle chart displays the historical allocation of fund assets. The bottom chart illustrates the historical allocation of contributions.

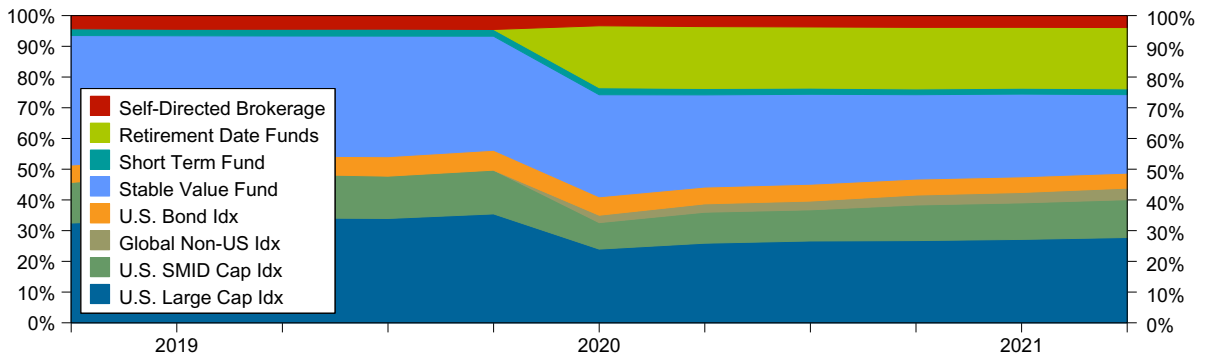
Asset Allocation



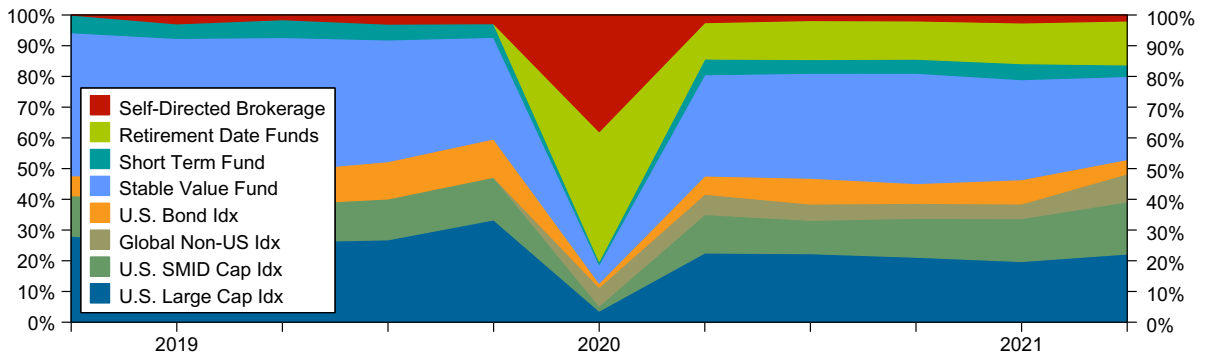
Contributions



Historical Asset Allocation



Historical Allocation of Contributions



Investment Fund Balances

The table below compares the fund's investment fund balances as of June 30, 2021 with that of March 31, 2021. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Funds

	June 30, 2021		Net New Inv. \$(000)	Inv. Return \$(000)	March 31, 2021	
	Market Value \$(000)	% of Total Weight			Market Value \$(000)	% of Total Weight
SERS Retirement Date Funds	\$928,672	19.95%	\$1,367	\$46,681	\$880,624	19.81%
SERS Post Retirement Fund	268,079	5.76%	(4,225)	10,766	261,538	5.88%
SERS 2025 Retirement Fund	165,955	3.56%	(2,011)	7,495	160,470	3.61%
SERS 2030 Retirement Fund	155,680	3.34%	2,350	7,851	145,479	3.27%
SERS 2035 Retirement Fund	132,220	2.84%	462	7,462	124,296	2.80%
SERS 2040 Retirement Fund	83,315	1.79%	1,021	5,080	77,215	1.74%
SERS 2045 Retirement Fund	64,609	1.39%	1,026	4,184	59,399	1.34%
SERS 2050 Retirement Fund	39,197	0.84%	888	2,593	35,715	0.80%
SERS 2055 Retirement Fund	12,280	0.26%	849	791	10,639	0.24%
SERS 2060 Retirement Fund	4,518	0.10%	413	286	3,820	0.09%
SERS 2065 Retirement Fund	2,819	0.06%	594	173	2,052	0.05%
SERS U.S. Equity	\$1,865,978	40.08%	\$(9,004)	\$139,598	\$1,735,384	39.04%
SERS U.S. Large Company Index	1,292,612	27.76%	(16,362)	102,194	1,206,781	27.15%
SERS U.S. SMID Company Index	573,366	12.32%	7,359	37,404	528,604	11.89%
SERS Non-U.S. Equity	\$174,910	3.76%	\$16,245	\$8,296	\$150,370	3.38%
SERS Global Non-US IdxFund	174,910	3.76%	16,245	8,296	150,370	3.38%
SERS Fixed Income	\$1,504,429	32.31%	\$(13,044)	\$8,399	\$1,509,075	33.95%
SERS Short Term Investment Fund	87,722	1.88%	1,695	(35)	86,062	1.94%
SERS Stable Value Fund	1,189,350	25.55%	(11,343)	4,483	1,196,211	26.91%
SERS U.S. Bond Index Fund	227,358	4.88%	(3,396)	3,951	226,803	5.10%
Self-Directed Brokerage						
Self-Directed Brokerage Account	181,578	3.90%	(310)	12,140	169,748	3.82%
SERS 457(b) Total Fund	\$4,655,568	100.0%	\$(4,746)	\$215,113	\$4,445,201	100.0%

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2021

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance					
Retirement Date Funds					
SERS Post Retirement Fund	4.16%	4.53%	15.80%	9.42%	7.82%
BlackRock Post Retirement Index	4.13%	4.51%	15.74%	9.36%	7.77%
Callan Tgt Date Ret Inc	3.45%	3.94%	14.03%	8.09%	6.79%
SERS 2025 Retirement Fund	4.73%	6.00%	20.20%	10.32%	9.46%
BlackRock 2025 Index	4.70%	6.00%	20.16%	10.25%	9.38%
Callan Target Date 2025	4.69%	6.75%	21.79%	10.39%	9.92%
SERS 2030 Retirement Fund	5.39%	7.69%	25.04%	11.43%	10.67%
BlackRock 2030 Index	5.37%	7.68%	25.02%	11.34%	10.57%
Callan Target Date 2030	5.26%	8.06%	25.90%	11.44%	11.12%
SERS 2035 Retirement Fund	6.02%	9.34%	29.86%	12.49%	11.85%
BlackRock 2035 Index	6.00%	9.32%	29.81%	12.39%	11.73%
Callan Target Date 2035	5.79%	9.48%	29.93%	12.34%	12.10%
SERS 2040 Retirement Fund	6.58%	10.83%	34.34%	13.41%	12.88%
BlackRock 2040 Index	6.55%	10.79%	34.23%	13.30%	12.74%
Callan Target Date 2040	6.15%	10.81%	33.62%	12.92%	12.86%
SERS 2045 Retirement Fund	7.05%	12.05%	37.96%	14.19%	13.64%
BlackRock 2045 Index	7.02%	12.00%	37.86%	14.03%	13.46%
Callan Target Date 2045	6.49%	11.79%	36.12%	13.41%	13.42%
SERS 2050 Retirement Fund	7.30%	12.71%	39.86%	14.59%	13.97%
BlackRock 2050 Index	7.27%	12.63%	39.73%	14.44%	13.81%
Callan Target Date 2050	6.55%	11.97%	37.03%	13.70%	13.62%
SERS 2055 Retirement Fund	7.34%	12.82%	40.13%	14.67%	14.01%
BlackRock 2055 Index	7.32%	12.76%	40.09%	14.54%	13.87%
Callan Target Date 2055	6.65%	12.17%	38.11%	13.87%	13.79%
SERS 2060 Retirement Fund	7.34%	12.80%	40.10%	14.66%	14.00%
BlackRock 2060 Index	7.32%	12.76%	40.09%	14.54%	13.87%
Callan Target Date 2060	6.66%	12.24%	38.24%	14.06%	13.96%
SERS 2065 Retirement Fund	7.34%	12.77%	40.02%	-	-
BlackRock 2065 Index	7.32%	12.76%	40.09%	-	-
Callan Target Date 2065	6.66%	12.08%	39.15%	14.06%	-

*Target Date funds replaced risk-based funds in 1Q20.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	Returns for Periods Ended June 30, 2021			
	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Retirement Date Funds				
SERS Post Retirement Fund	6.09%	6.32%	6.15%	-
BlackRock Post Retirement Index	6.04%	6.28%	6.12%	6.04%
Callan Tgt Date Ret Inc	5.14%	5.48%	5.38%	4.45%
SERS 2025 Retirement Fund	7.08%	7.52%	6.55%	-
BlackRock 2025 Index	7.00%	7.46%	6.48%	6.16%
Callan Target Date 2025	7.32%	7.98%	6.70%	-
SERS 2030 Retirement Fund	7.86%	8.25%	6.91%	-
BlackRock 2030 Index	7.75%	8.16%	6.85%	6.43%
Callan Target Date 2030	8.09%	8.73%	7.12%	6.56%
SERS 2035 Retirement Fund	8.60%	8.94%	7.30%	-
BlackRock 2035 Index	8.48%	8.82%	7.19%	6.67%
Callan Target Date 2035	8.69%	9.38%	7.48%	-
SERS 2040 Retirement Fund	9.25%	9.53%	7.58%	-
BlackRock 2040 Index	9.10%	9.39%	7.47%	6.84%
Callan Target Date 2040	9.26%	9.90%	7.84%	6.97%
SERS 2045 Retirement Fund	9.72%	9.98%	7.79%	-
BlackRock 2045 Index	9.55%	9.84%	7.69%	7.00%
Callan Target Date 2045	9.63%	10.13%	7.92%	-
SERS 2050 Retirement Fund	9.93%	10.24%	-	-
BlackRock 2050 Index	9.77%	10.10%	7.94%	7.41%
Callan Target Date 2050	9.78%	10.24%	7.90%	-
SERS 2055 Retirement Fund	9.93%	10.40%	-	-
BlackRock 2055 Index	9.78%	10.25%	-	-
Callan Target Date 2055	9.92%	10.56%	-	-

*Funds not listed do not have longer term history.

*Target Date funds replaced risk-based funds in 1Q20.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	12/2020- 6/2021	2020	2019	2018	2017
Net Performance					
Retirement Date Funds					
SERS Post Retirement Fund	4.53%	11.97%	15.65%	(3.47%)	10.18%
BlackRock Post Retirement Index	4.51%	11.80%	15.63%	(3.48%)	10.10%
Callan Tgt Date Ret Inc	3.94%	10.10%	13.21%	(3.04%)	8.76%
SERS 2025 Retirement Fund	6.00%	12.19%	18.60%	(4.86%)	13.91%
BlackRock 2025 Index	6.00%	12.01%	18.56%	(4.90%)	13.75%
Callan Target Date 2025	6.75%	12.58%	18.51%	(5.19%)	14.94%
SERS 2030 Retirement Fund	7.69%	12.88%	20.80%	(5.71%)	15.83%
BlackRock 2030 Index	7.68%	12.72%	20.70%	(5.76%)	15.64%
Callan Target Date 2030	8.06%	13.23%	20.43%	(6.12%)	16.77%
SERS 2035 Retirement Fund	9.34%	13.58%	22.84%	(6.50%)	17.72%
BlackRock 2035 Index	9.32%	13.44%	22.72%	(6.58%)	17.48%
Callan Target Date 2035	9.48%	14.28%	22.17%	(7.03%)	18.51%
SERS 2040 Retirement Fund	10.83%	14.14%	24.71%	(7.22%)	19.38%
BlackRock 2040 Index	10.79%	13.98%	24.62%	(7.33%)	19.09%
Callan Target Date 2040	10.81%	14.91%	23.62%	(7.89%)	19.84%
SERS 2045 Retirement Fund	12.05%	14.83%	26.05%	(7.85%)	20.47%
BlackRock 2045 Index	12.00%	14.65%	25.90%	(7.99%)	20.15%
Callan Target Date 2045	11.79%	15.52%	24.60%	(8.21%)	20.63%
SERS 2050 Retirement Fund	12.71%	15.20%	26.60%	(8.11%)	20.85%
BlackRock 2050 Index	12.63%	15.07%	26.48%	(8.26%)	20.55%
Callan Target Date 2050	11.97%	15.71%	24.89%	(8.44%)	20.72%
SERS 2055 Retirement Fund	12.82%	15.32%	26.67%	(8.13%)	20.82%
BlackRock 2055 Index	12.76%	15.18%	26.58%	(8.28%)	20.55%
Callan Target Date 2055	12.17%	15.83%	24.97%	(8.44%)	21.10%
SERS 2060 Retirement Fund	12.80%	15.31%	26.66%	(8.14%)	20.77%
BlackRock 2060 Index	12.76%	15.19%	26.58%	(8.28%)	20.55%
Callan Target Date 2060	12.24%	15.87%	25.08%	(8.35%)	21.15%
SERS 2065 Retirement Fund	12.77%	15.15%	-	-	-
BlackRock 2065 Index	12.76%	15.19%	-	-	-
Callan Target Date 2065	12.08%	16.43%	25.62%	(8.63%)	-

*Target Date funds replaced risk-based funds in 1Q20.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	Returns for Periods Ended June 30, 2021				
	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance					
Domestic Equity					
SERS U.S. Large Company Index	8.55%	15.26%	40.81%	18.69%	17.66%
S&P 500 Index	8.55%	15.25%	40.79%	18.67%	17.65%
Callan Lg Cap Broad MF	8.36%	14.79%	41.72%	18.13%	17.33%
SERS U.S. SMID Company Index	7.08%	15.61%	61.92%	18.68%	18.90%
Dow Jones US Completion	7.12%	15.41%	61.59%	18.50%	18.70%
Callan SMID Broad MFs	5.33%	14.55%	49.31%	15.09%	16.64%
International Equity					
SERS Global Non-US Index	5.54%	9.34%	35.84%	9.74%	11.27%
MSCI ACWI ex US	5.48%	9.16%	35.72%	9.38%	11.08%
Callan Non US Equity MFs	5.50%	9.16%	36.25%	8.62%	10.57%
Domestic Fixed Income					
SERS Short Term Investment Fund	0.02%	0.05%	0.17%	1.39%	1.31%
3-month Treasury Bill	(0.00%)	0.02%	0.09%	1.34%	1.17%
Callan Cash Database(1)	0.08%	0.12%	0.38%	1.66%	1.48%
SERS Stable Value Fund	0.41%	0.87%	1.95%	2.34%	2.19%
3-month Treasury Bill	(0.00%)	0.02%	0.09%	1.34%	1.17%
Callan Stable Value	0.43%	0.92%	1.96%	2.38%	2.26%
SERS U.S. Bond Index Fund	1.81%	(1.64%)	(0.42%)	5.35%	3.01%
Blmbg Aggregate	1.83%	(1.60%)	(0.33%)	5.34%	3.03%
Callan Core Bond MFs	1.99%	(1.13%)	1.19%	5.99%	3.61%

(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.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	Returns for Periods Ended June 30, 2021			
	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index	14.12%	14.86%	10.77%	8.65%
S&P 500 Index	14.10%	14.84%	10.73%	8.61%
Callan Lg Cap Broad MF	13.34%	14.20%	10.55%	8.49%
SERS U.S. SMID Company Index	13.24%	14.09%	11.35%	10.76%
Dow Jones US Completion	13.06%	13.87%	11.14%	10.57%
Callan SMID Broad MFs	12.46%	12.30%	10.47%	9.77%
International Equity				
SERS Global Non-US Index	5.58%	5.68%	-	-
MSCI ACWI ex US	5.33%	5.45%	4.85%	6.46%
Callan Non US Equity MFs	5.46%	6.32%	5.33%	6.46%
Domestic Fixed Income				
SERS Short Term Investment Fund	1.00%	0.76%	1.27%	-
3-month Treasury Bill	0.87%	0.63%	1.08%	1.37%
Callan Cash Database(1)	1.20%	0.98%	1.54%	1.78%
SERS Stable Value Fund	2.19%	2.37%	3.05%	-
3-month Treasury Bill	0.87%	0.63%	1.08%	1.37%
Callan Stable Value	2.12%	2.21%	2.67%	3.41%
SERS U.S. Bond Index Fund	3.26%	3.35%	4.38%	4.53%
Blmbg Aggregate	3.28%	3.39%	4.43%	4.56%
Callan Core Bond MFs	3.57%	3.76%	4.76%	4.77%

(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.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	12/2020- 6/2021	2020	2019	2018	2017
Net Performance					
Domestic Equity					
SERS U.S. Large Company Index	15.26%	18.43%	31.51%	(4.39%)	21.84%
S&P 500 Index	15.25%	18.40%	31.49%	(4.38%)	21.83%
Callan Lg Cap Broad MF	14.79%	18.47%	30.14%	(4.54%)	23.56%
SERS U.S. SMID Company Index	15.61%	32.03%	28.20%	(9.32%)	18.21%
Dow Jones US Completion	15.41%	32.17%	27.94%	(9.57%)	18.12%
Callan SMID Broad MFs	14.55%	24.00%	29.40%	(8.69%)	17.14%
International Equity					
SERS Global Non-US Index	9.34%	11.15%	21.77%	(13.86%)	27.63%
MSCI ACWI ex US	9.16%	10.65%	21.51%	(14.20%)	27.19%
Callan Non US Equity MFs	9.16%	11.12%	22.83%	(15.04%)	26.90%
Domestic Fixed Income					
SERS Short Term Investment Fund	0.05%	0.66%	2.31%	2.09%	1.08%
3-month Treasury Bill	0.02%	0.67%	2.28%	1.87%	0.86%
Callan Cash Database(1)	0.12%	1.09%	2.67%	2.00%	1.18%
SERS Stable Value Fund	0.87%	2.32%	2.59%	2.34%	1.85%
3-month Treasury Bill	0.02%	0.67%	2.28%	1.87%	0.86%
Callan Stable Value	0.92%	2.36%	2.56%	2.21%	1.97%
SERS U.S. Bond Index Fund	(1.64%)	7.56%	8.69%	0.02%	3.53%
Bimbg Aggregate	(1.60%)	7.51%	8.72%	0.01%	3.54%
Callan Core Bond MFs	(1.13%)	8.65%	9.17%	(0.35%)	3.71%

(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.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2021

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Gross Performance					
Retirement Date Funds					
SERS Post Retirement Fund	4.18%	4.57%	15.88%	9.49%	7.90%
BlackRock Post Retirement Index	4.13%	4.51%	15.74%	9.36%	7.77%
Callan Tgt Date Ret Inc	3.45%	3.94%	14.03%	8.09%	6.79%
SERS 2025 Retirement Fund	4.75%	6.04%	20.28%	10.39%	9.53%
BlackRock 2025 Index	4.70%	6.00%	20.16%	10.25%	9.38%
Callan Target Date 2025	4.69%	6.75%	21.79%	10.39%	9.92%
SERS 2030 Retirement Fund	5.40%	7.72%	25.13%	11.50%	10.75%
BlackRock 2030 Index	5.37%	7.68%	25.02%	11.34%	10.57%
Callan Target Date 2030	5.26%	8.06%	25.90%	11.44%	11.12%
SERS 2035 Retirement Fund	6.04%	9.38%	29.95%	12.57%	11.92%
BlackRock 2035 Index	6.00%	9.32%	29.81%	12.39%	11.73%
Callan Target Date 2035	5.79%	9.48%	29.93%	12.34%	12.10%
SERS 2040 Retirement Fund	6.60%	10.87%	34.43%	13.49%	12.96%
BlackRock 2040 Index	6.55%	10.79%	34.23%	13.30%	12.74%
Callan Target Date 2040	6.15%	10.81%	33.62%	12.92%	12.86%
SERS 2045 Retirement Fund	7.06%	12.09%	38.05%	14.26%	13.71%
BlackRock 2045 Index	7.02%	12.00%	37.86%	14.03%	13.46%
Callan Target Date 2045	6.49%	11.79%	36.12%	13.41%	13.42%
SERS 2050 Retirement Fund	7.32%	12.75%	39.95%	14.66%	14.05%
BlackRock 2050 Index	7.27%	12.63%	39.73%	14.44%	13.81%
Callan Target Date 2050	6.55%	11.97%	37.03%	13.70%	13.62%
SERS 2055 Retirement Fund	7.36%	12.85%	40.23%	14.75%	14.09%
BlackRock 2055 Index	7.32%	12.76%	40.09%	14.54%	13.87%
Callan Target Date 2055	6.65%	12.17%	38.11%	13.87%	13.79%
SERS 2060 Retirement Fund	7.35%	12.83%	40.20%	14.74%	14.07%
BlackRock 2060 Index	7.32%	12.76%	40.09%	14.54%	13.87%
Callan Target Date 2060	6.66%	12.24%	38.24%	14.06%	13.96%
SERS 2065 Retirement Fund	7.36%	12.81%	40.11%	-	-
BlackRock 2065 Index	7.32%	12.76%	40.09%	-	-
Callan Target Date 2065	6.66%	12.08%	39.15%	14.06%	-

*Target Date funds replaced risk-based funds in 1Q20.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2021

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Gross Performance				
Retirement Date Funds				
SERS Post Retirement Fund	6.16%	6.39%	6.22%	-
BlackRock Post Retirement Index	6.04%	6.28%	6.12%	6.04%
Callan Tgt Date Ret Inc	5.14%	5.48%	5.38%	4.45%
SERS 2025 Retirement Fund	7.15%	7.59%	6.62%	-
BlackRock 2025 Index	7.00%	7.46%	6.48%	6.16%
Callan Target Date 2025	7.32%	7.98%	6.70%	-
SERS 2030 Retirement Fund	7.93%	8.33%	6.99%	-
BlackRock 2030 Index	7.75%	8.16%	6.85%	6.43%
Callan Target Date 2030	8.09%	8.73%	7.12%	6.56%
SERS 2035 Retirement Fund	8.67%	9.01%	7.37%	-
BlackRock 2035 Index	8.48%	8.82%	7.19%	6.67%
Callan Target Date 2035	8.69%	9.38%	7.48%	-
SERS 2040 Retirement Fund	9.32%	9.60%	7.65%	-
BlackRock 2040 Index	9.10%	9.39%	7.47%	6.84%
Callan Target Date 2040	9.26%	9.90%	7.84%	6.97%
SERS 2045 Retirement Fund	9.79%	10.06%	7.86%	-
BlackRock 2045 Index	9.55%	9.84%	7.69%	7.00%
Callan Target Date 2045	9.63%	10.13%	7.92%	-
SERS 2050 Retirement Fund	10.00%	10.31%	-	-
BlackRock 2050 Index	9.77%	10.10%	7.94%	7.41%
Callan Target Date 2050	9.78%	10.24%	7.90%	-
SERS 2055 Retirement Fund	10.00%	10.47%	-	-
BlackRock 2055 Index	9.78%	10.25%	-	-
Callan Target Date 2055	9.92%	10.56%	-	-

*Funds not listed do not have longer term history.

*Target Date funds replaced risk-based funds in 1Q20.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	12/2020- 6/2021	2020	2019	2018	2017
Gross Performance					
Retirement Date Funds					
SERS Post Retirement Fund	4.57%	12.04%	15.72%	(3.41%)	10.25%
BlackRock Post Retirement Index	4.51%	11.80%	15.63%	(3.48%)	10.10%
Callan Tgt Date Ret Inc	3.94%	10.10%	13.21%	(3.04%)	8.76%
SERS 2025 Retirement Fund	6.04%	12.26%	18.67%	(4.80%)	13.99%
BlackRock 2025 Index	6.00%	12.01%	18.56%	(4.90%)	13.75%
Callan Target Date 2025	6.75%	12.58%	18.51%	(5.19%)	14.94%
SERS 2030 Retirement Fund	7.72%	12.96%	20.86%	(5.63%)	15.91%
BlackRock 2030 Index	7.68%	12.72%	20.70%	(5.76%)	15.64%
Callan Target Date 2030	8.06%	13.23%	20.43%	(6.12%)	16.77%
SERS 2035 Retirement Fund	9.38%	13.65%	22.93%	(6.43%)	17.77%
BlackRock 2035 Index	9.32%	13.44%	22.72%	(6.58%)	17.48%
Callan Target Date 2035	9.48%	14.28%	22.17%	(7.03%)	18.51%
SERS 2040 Retirement Fund	10.87%	14.22%	24.80%	(7.17%)	19.45%
BlackRock 2040 Index	10.79%	13.98%	24.62%	(7.33%)	19.09%
Callan Target Date 2040	10.81%	14.91%	23.62%	(7.89%)	19.84%
SERS 2045 Retirement Fund	12.09%	14.90%	26.12%	(7.78%)	20.54%
BlackRock 2045 Index	12.00%	14.65%	25.90%	(7.99%)	20.15%
Callan Target Date 2045	11.79%	15.52%	24.60%	(8.21%)	20.63%
SERS 2050 Retirement Fund	12.75%	15.27%	26.70%	(8.05%)	20.94%
BlackRock 2050 Index	12.63%	15.07%	26.48%	(8.26%)	20.55%
Callan Target Date 2050	11.97%	15.71%	24.89%	(8.44%)	20.72%
SERS 2055 Retirement Fund	12.85%	15.40%	26.75%	(8.07%)	20.90%
BlackRock 2055 Index	12.76%	15.18%	26.58%	(8.28%)	20.55%
Callan Target Date 2055	12.17%	15.83%	24.97%	(8.44%)	21.10%
SERS 2060 Retirement Fund	12.83%	15.38%	26.74%	(8.08%)	20.85%
BlackRock 2060 Index	12.76%	15.19%	26.58%	(8.28%)	20.55%
Callan Target Date 2060	12.24%	15.87%	25.08%	(8.35%)	21.15%
SERS 2065 Retirement Fund	12.81%	15.22%	-	-	-
BlackRock 2065 Index	12.76%	15.19%	-	-	-
Callan Target Date 2065	12.08%	16.43%	25.62%	(8.63%)	-

*Target Date funds replaced risk-based funds in 1Q20.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2021

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Gross Performance					
Domestic Equity					
SERS U.S. Large Company Index	8.55%	15.26%	40.82%	18.70%	17.67%
S&P 500 Index	8.55%	15.25%	40.79%	18.67%	17.65%
Callan Lg Cap Broad MF	8.36%	14.79%	41.72%	18.13%	17.33%
SERS U.S. SMID Company Index	7.08%	15.61%	61.93%	18.69%	18.90%
Dow Jones US Completion	7.12%	15.41%	61.59%	18.50%	18.70%
Callan SMID Broad MFs	5.33%	14.55%	49.31%	15.09%	16.64%
International Equity					
SERS Global Non-US Index	5.54%	9.34%	35.86%	9.76%	11.29%
MSCI ACWI ex US	5.48%	9.16%	35.72%	9.38%	11.08%
Callan Non US Equity MFs	5.50%	9.16%	36.25%	8.62%	10.57%
Domestic Fixed Income					
SERS Short Term Investment Fund	0.02%	0.05%	0.17%	1.39%	1.31%
3-month Treasury Bill	(0.00%)	0.02%	0.09%	1.34%	1.17%
Callan Cash Database(1)	0.08%	0.12%	0.38%	1.66%	1.48%
SERS Stable Value Fund	0.43%	0.95%	2.07%	2.42%	2.34%
3-month Treasury Bill	(0.00%)	0.02%	0.09%	1.34%	1.17%
Callan Stable Value	0.43%	0.92%	1.96%	2.38%	2.26%
SERS U.S. Bond Index Fund	1.81%	(1.64%)	(0.42%)	5.35%	3.01%
Bmbg Aggregate	1.83%	(1.60%)	(0.33%)	5.34%	3.03%
Callan Core Bond MFs	1.99%	(1.13%)	1.19%	5.99%	3.61%

(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.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	Returns for Periods Ended June 30, 2021			
	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Gross Performance				
Domestic Equity				
SERS U.S. Large Company Index	14.12%	14.86%	10.78%	8.66%
S&P 500 Index	14.10%	14.84%	10.73%	8.61%
Callan Lg Cap Broad MF	13.34%	14.20%	10.55%	8.49%
SERS U.S. SMID Company Index	13.25%	14.10%	11.35%	10.77%
Dow Jones US Completion	13.06%	13.87%	11.14%	10.57%
Callan SMID Broad MFs	12.46%	12.30%	10.47%	9.77%
International Equity				
SERS Global Non-US Index	5.60%	5.69%	-	-
MSCI ACWI ex US	5.33%	5.45%	4.85%	6.46%
Callan Non US Equity MFs	5.46%	6.32%	5.33%	6.46%
Domestic Fixed Income				
SERS Short Term Investment Fund	1.00%	0.76%	1.27%	-
3-month Treasury Bill	0.87%	0.63%	1.08%	1.37%
Callan Cash Database(1)	1.20%	0.98%	1.54%	1.78%
SERS Stable Value Fund	2.39%	2.61%	3.31%	-
3-month Treasury Bill	0.87%	0.63%	1.08%	1.37%
Callan Stable Value	2.12%	2.21%	2.67%	3.41%
SERS U.S. Bond Index Fund	3.26%	3.36%	4.39%	4.54%
Blmbg Aggregate	3.28%	3.39%	4.43%	4.56%
Callan Core Bond MFs	3.57%	3.76%	4.76%	4.77%

(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.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	12/2020- 6/2021	2020	2019	2018	2017
Gross Performance					
Domestic Equity					
SERS U.S. Large Company Index	15.26%	18.44%	31.51%	(4.38%)	21.85%
S&P 500 Index	15.25%	18.40%	31.49%	(4.38%)	21.83%
Callan Lg Cap Broad MF	14.79%	18.47%	30.14%	(4.54%)	23.56%
SERS U.S. SMID Company Index	15.61%	32.04%	28.21%	(9.32%)	18.21%
Dow Jones US Completion	15.41%	32.17%	27.94%	(9.57%)	18.12%
Callan SMID Broad MFs	14.55%	24.00%	29.40%	(8.69%)	17.14%
International Equity					
SERS Global Non-US Index	9.34%	11.17%	21.79%	(13.85%)	27.65%
MSCI ACWI ex US	9.16%	10.65%	21.51%	(14.20%)	27.19%
Callan Non US Equity MFs	9.16%	11.12%	22.83%	(15.04%)	26.90%
Domestic Fixed Income					
SERS Short Term Investment Fund	0.05%	0.66%	2.31%	2.09%	1.08%
3-month Treasury Bill	0.02%	0.67%	2.28%	1.87%	0.86%
Callan Cash Database(1)	0.12%	1.09%	2.67%	2.00%	1.18%
SERS Stable Value Fund	0.95%	2.38%	2.66%	2.41%	2.16%
3-month Treasury Bill	0.02%	0.67%	2.28%	1.87%	0.86%
Callan Stable Value	0.92%	2.36%	2.56%	2.21%	1.97%
SERS U.S. Bond Index Fund	(1.64%)	7.56%	8.69%	0.03%	3.53%
Bimbg Aggregate	(1.60%)	7.51%	8.72%	0.01%	3.54%
Callan Core Bond MFs	(1.13%)	8.65%	9.17%	(0.35%)	3.71%

(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.

Pennsylvania SERS 457(b)
Investment Manager Performance Monitoring Summary Report
June 30, 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									
Retirement Date Funds									
SERS Post Retirement Fund Callan Tgt Date Ret Inc	4.2 13	15.8 28	9.4 15	7.8 18	6.1 14	6.3 16			0.08 80
BlackRock Post Retirement Idx	4.1 14	15.7 29	9.4 16	7.8 19	6.0 14	6.3 17			
SERS 2025 Retirement Fund Callan Target Date 2025	4.7 47	20.2 66	10.3 55	9.5 63	7.1 59	7.5 70			0.08 79
BlackRock 2025 Index	4.7 49	20.2 67	10.2 57	9.4 64	7.0 62	7.5 72			
SERS 2030 Retirement Fund Callan Target Date 2030	5.4 35	25.0 61	11.4 51	10.7 64	7.9 59	8.3 69			0.08 78
BlackRock 2030 Index	5.4 37	25.0 61	11.3 56	10.6 67	7.8 63	8.2 72			
SERS 2035 Retirement Fund Callan Target Date 2035	6.0 30	29.9 51	12.5 42	11.9 63	8.6 57	8.9 66			0.08 79
BlackRock 2035 Index	6.0 32	29.8 53	12.4 47	11.7 66	8.5 62	8.8 72			
SERS 2040 Retirement Fund Callan Target Date 2040	6.6 19	34.3 39	13.4 35	12.9 47	9.2 52	9.5 65			0.08 78
BlackRock 2040 Index	6.6 20	34.2 41	13.3 38	12.7 57	9.1 64	9.4 69			
SERS 2045 Retirement Fund Callan Target Date 2045	7.0 8	38.0 26	14.2 30	13.6 38	9.7 41	10.0 54			0.08 79
BlackRock 2045 Index	7.0 10	37.9 28	14.0 37	13.5 47	9.6 53	9.8 63			
SERS 2050 Retirement Fund Callan Target Date 2050	7.3 6	39.9 11	14.6 26	14.0 34	9.9 42	10.2 50			0.08 78
BlackRock 2050 Index	7.3 8	39.7 14	14.4 30	13.8 44	9.8 50	10.1 59			
SERS 2055 Retirement Fund Callan Target Date 2055	7.3 7	40.1 8	14.7 22	14.0 35	9.9 48	10.4 56			0.08 82
BlackRock 2055 Index	7.3 7	40.1 9	14.5 29	13.9 46	9.8 59	10.2 60			
SERS 2060 Retirement Fund Callan Target Date 2060	7.3 9	40.1 11	14.7 24	14.0 47					0.08 80
BlackRock 2060 Index	7.3 10	40.1 11	14.5 35	13.9 60					

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

Pennsylvania SERS 457(b)
Investment Manager Performance Monitoring Summary Report
June 30, 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	7.3 2	40.0 19							0.08 34
LifePath Index 2065	7.3 2	40.1 18							
Domestic Equity									
SERS U.S. Large Company Index Callan Lg Cap Broad MF	8.5 49	40.8 57	18.7 48	17.7 48	14.1 45	14.9 43			0.02 99
S&P 500 Index	8.5 49	40.8 57	18.7 48	17.6 48	14.1 46	14.8 44			
SERS U.S. Small/Mid Company Index Callan SMID Broad MFs	7.1 23	61.9 22	18.7 29	18.9 35	13.2 38	14.1 30			0.03 100
Dow Jones US Completion	7.1 23	61.6 22	18.5 31	18.7 36	13.1 41	13.9 34			
International Equity									
SERS Global Non-U.S. Index Fund Callan Non US Equity MFs	5.5 49	35.8 52	9.7 43	11.3 42	5.6 48	5.7 65			0.06 99
MSCI ACWI ex US	5.5 50	35.7 53	9.4 44	11.1 43	5.3 52	5.4 68			
Domestic Fixed Income									
SERS Short Term Investment Fund Callan Cash Database	0.0 92	0.2 88	1.4 85	1.3 81	1.0 83	0.8 83			0.00 100
3-month Treasury Bill	-0.0 100	0.1 98	1.3 87	1.2 95	0.9 95	0.6 99			
Comments: Callan Cash Database includes STIF, enhanced cash, and money market funds.									
SERS Stable Value Fund Callan Stable Value	0.4 19	2.0 6	2.3 1	2.2 3	2.2 1	2.4 1			
3-month Treasury Bill	-0.0 99	0.1 99	1.3 96	1.2 97	0.9 100	0.6 99			
SERS U.S. Bond Index Fund Callan Core Bond MFs	1.8 73	-0.4 99	5.3 90	3.0 95	3.3 82	3.4 90			0.03 98
Blmbg Aggregate	1.8 72	-0.3 99	5.3 90	3.0 93	3.3 79	3.4 86			

Returns:
■ above median
■ third quartile
■ fourth quartile

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

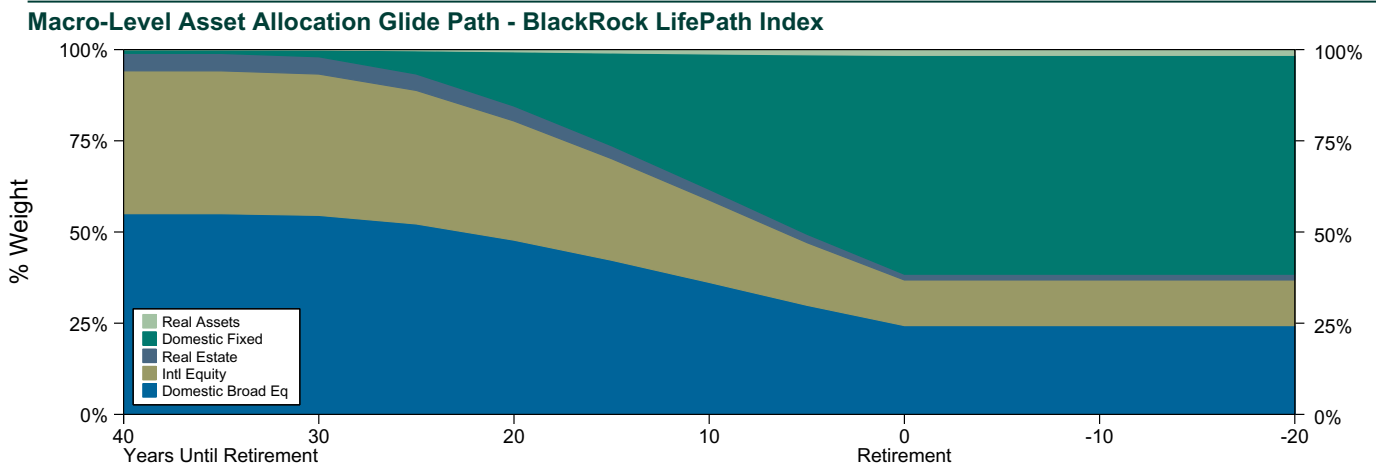
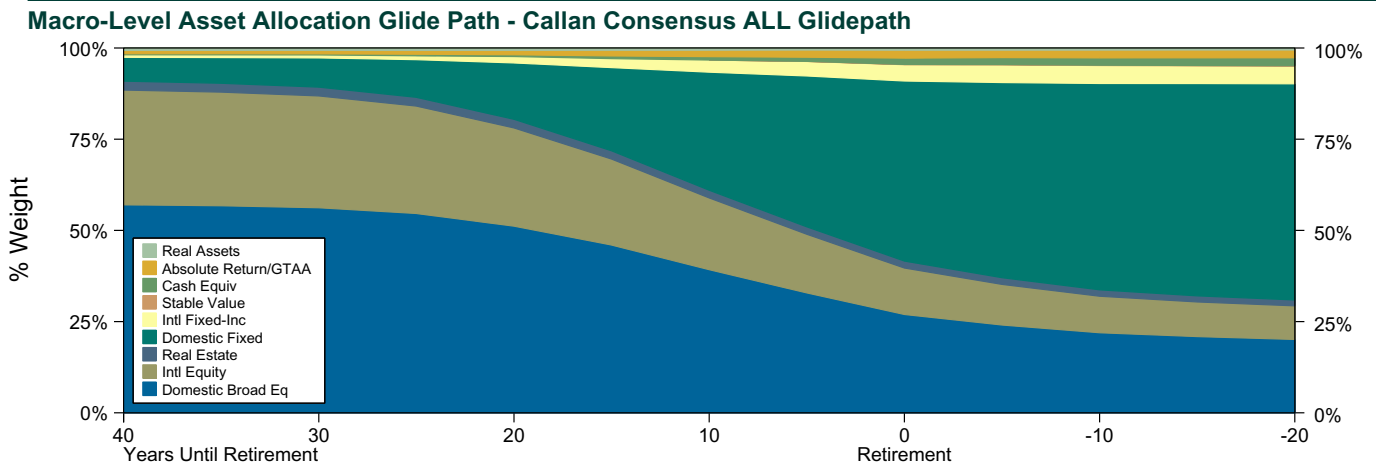
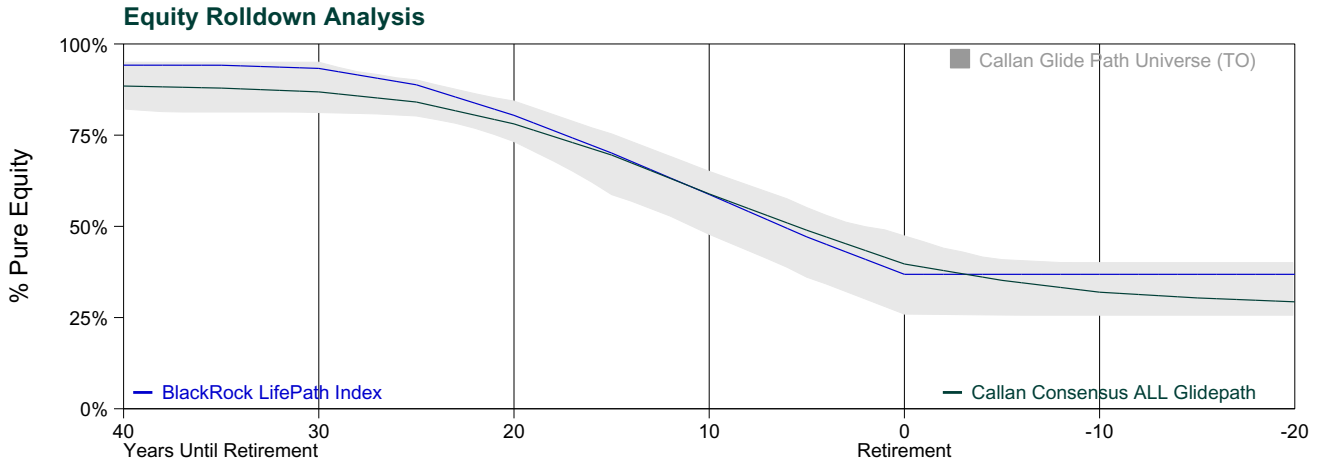
Risk Quadrant:

Return
Risk

Expense Ratio:
■ below median
■ second quartile
■ first quartile

Callan Consensus ALL Glidepath Target Date Glide Path Analysis as of June 30, 2021

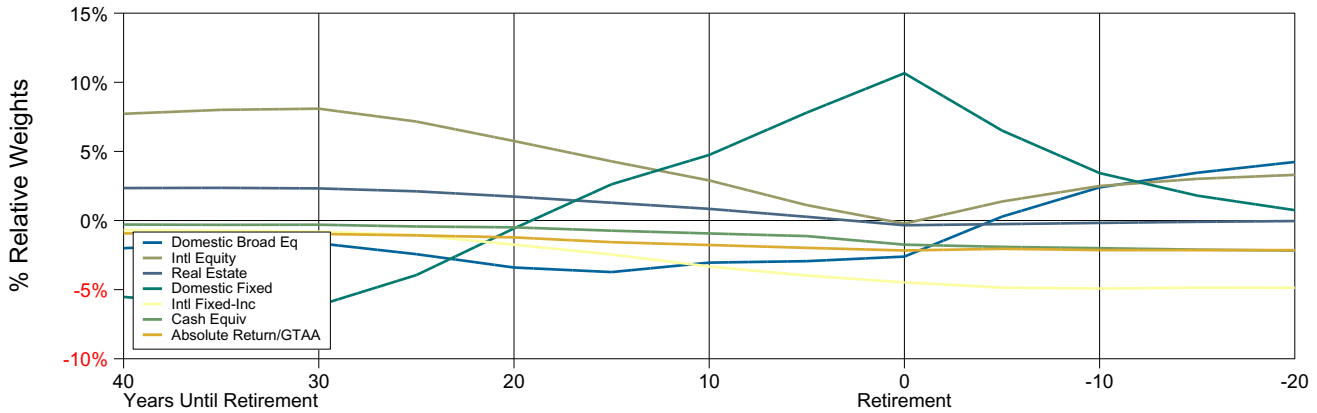
The following charts illustrate the asset allocation "glide path" underlying the relevant suite of target date funds. This analysis covers forty years of investor wealth accumulation up to retirement, as well as twenty years of wealth decumulation following retirement. The top chart shows the "pure" equity exposure (public equities excluding REITs) versus the peer group and index. The subsequent charts show more asset allocation detail at the high "macro" level.



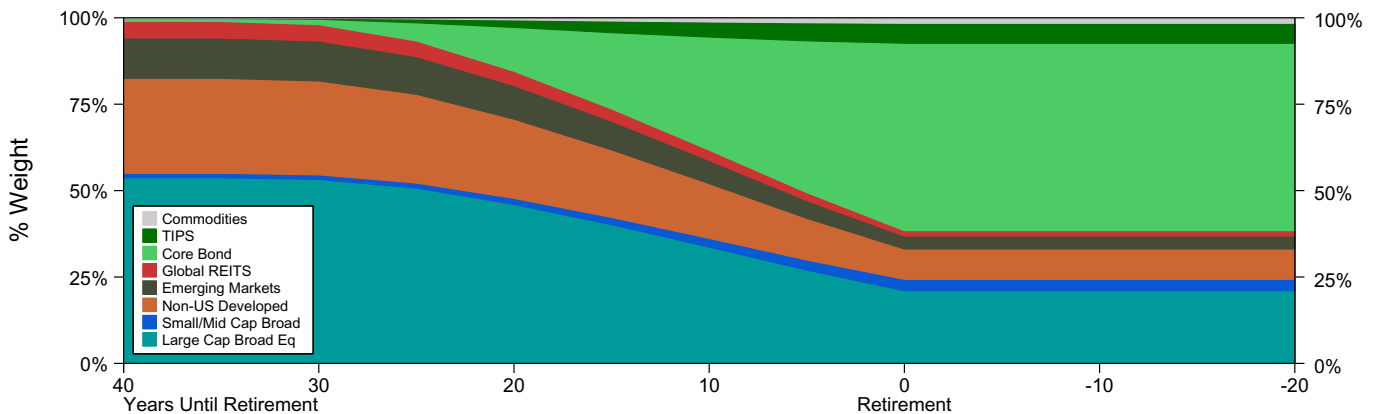
BlackRock LifePath Index Target Date Glide Path Analysis as of June 30, 2021

The following charts illustrate the asset allocation "glide path" underlying the relevant suite of target date funds. This analysis covers forty years of investor wealth accumulation up to retirement, as well as twenty years of wealth decumulation following retirement. The top chart highlights any significant "macro-level" differences between the manager's asset allocation glide path and that of the glide path index. The bottom two charts illustrate the asset allocation glide paths of both the manager and index at the more detailed "micro" level.

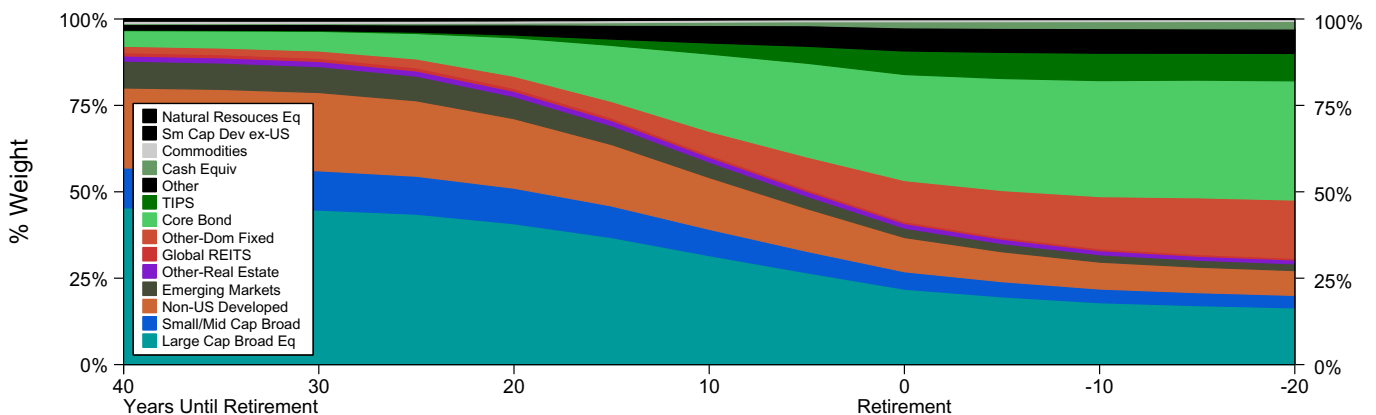
Relative Macro Asset Allocation - BlackRock LifePath Index vs. Callan Consensus ALL Glidep



Micro-Level Asset Allocation Glide Path - BlackRock LifePath Index



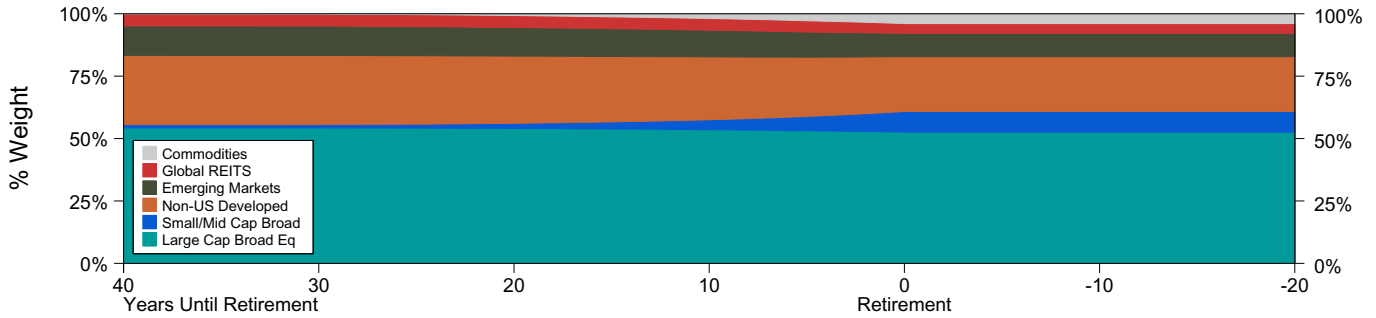
Micro-Level Asset Allocation Glide Path - Callan Consensus ALL Glidepath



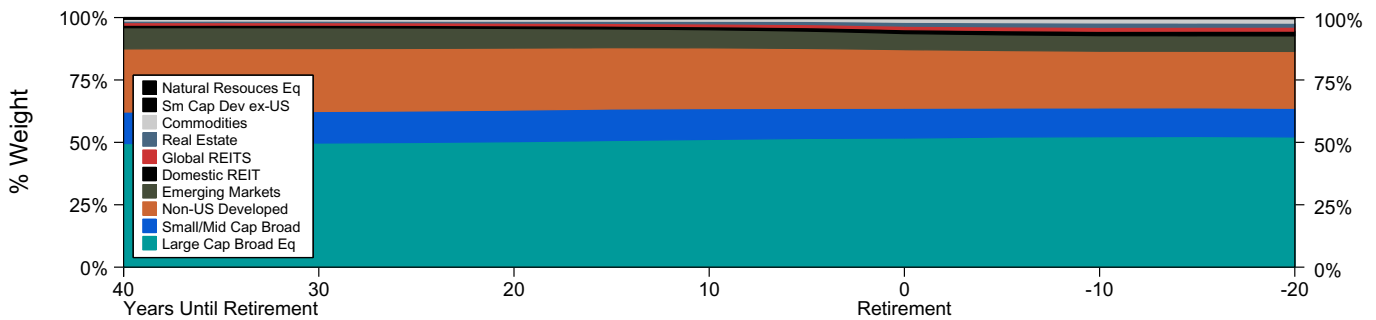
BlackRock LifePath Index Target Date Glide Path Analysis as of June 30, 2021

The first two charts below illustrate the detailed composition over time of the "risky", or "growth" portion of the glide paths for both the manager and index, defined to be all public equity and real estate asset classes. These charts highlight both the levels of diversification and aggressiveness within the wealth creation portion of the glide paths. The last two charts serve a similar purpose but focus on the composition over time of the remaining wealth preservation portion (non-equity) of the manager and index glide paths.

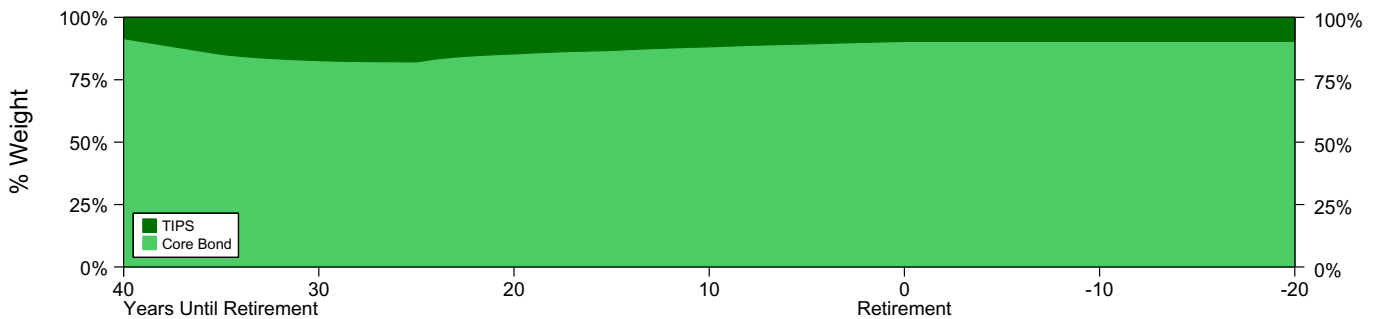
Micro-Level Equity Allocation Glide Path - BlackRock LifePath Index



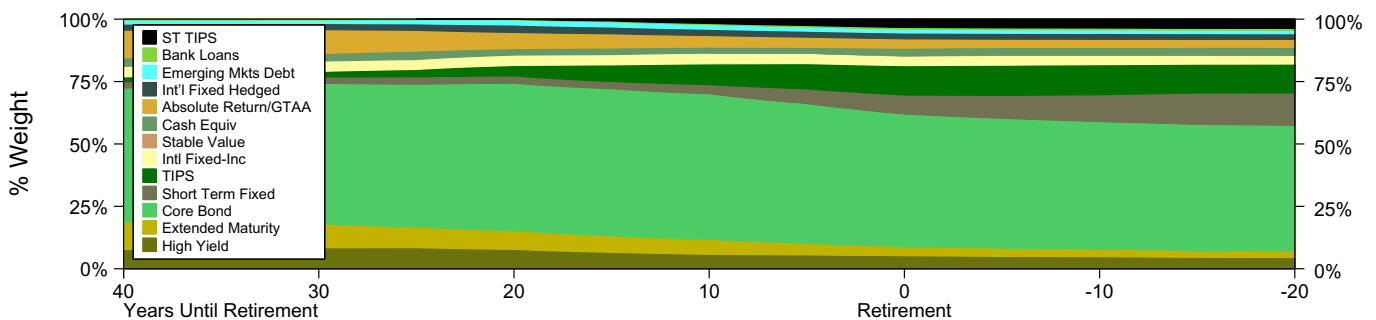
Micro-Level Equity Asset Allocation Glide Path - Callan Consensus ALL Glidepath



Micro-Level Non-Equity Allocation Glide Path - BlackRock LifePath Index



Micro-Level Non-Equity Asset Allocation Glide Path - Callan Consensus ALL Glidep



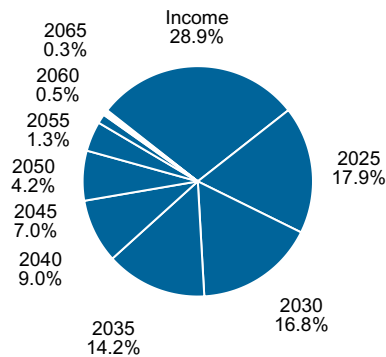
Pennsylvania SERS 457(b) - BlackRock LifePath Index Target Date Fund Family Analysis as of June 30, 2021

The following is an analysis of the client's suite of target date funds as an aggregated portfolio using actual proportions held by the client's participants. The upper-left pie chart shows the current client weights across target dates. The rest of the charts compare different attributes of the aggregated client target date portfolio to a peer group of target date fund families, as well as target date indices, by mimicking the client target date weights using these alternatives. The first two charts evaluate the aggregate client equity exposure and expense ratio via target date funds. The last two charts analyze aggregate client target date performance on both an actual return basis as well as a "glide path return" basis (simulated returns using each funds' asset allocation "glide path" weights and index returns).

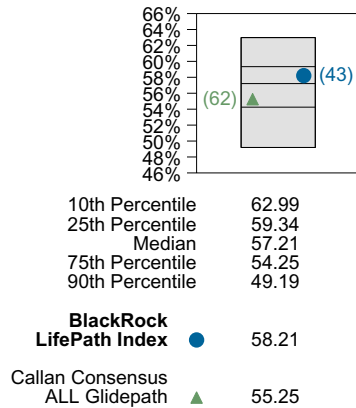
Glidepath Peer Group: ALL

Fee/Return Type: Gross

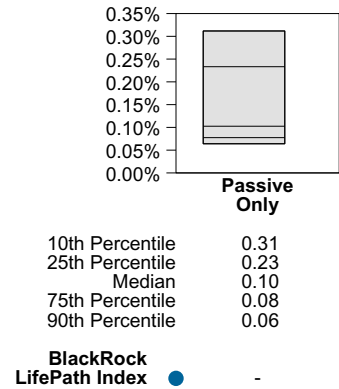
Fund Family Allocation



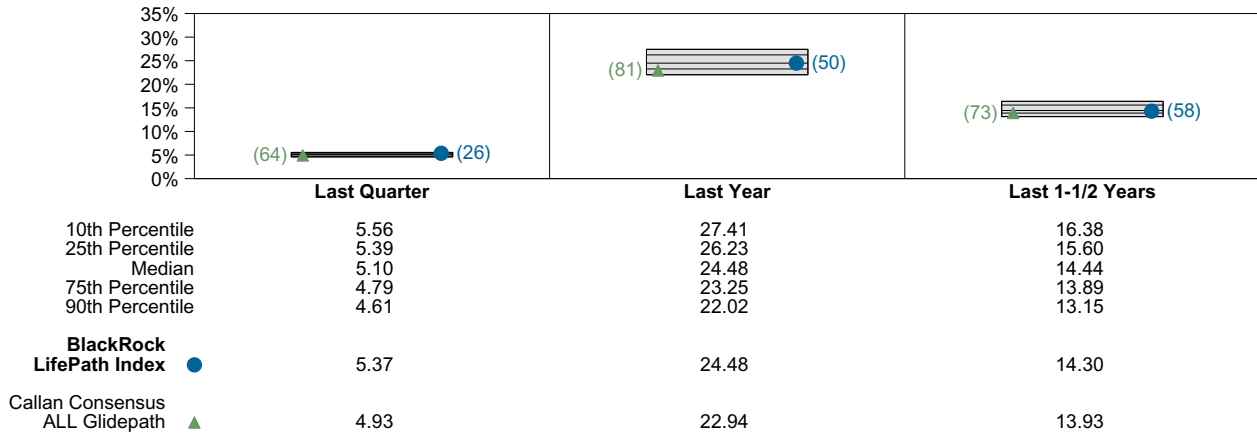
Equity Exposure



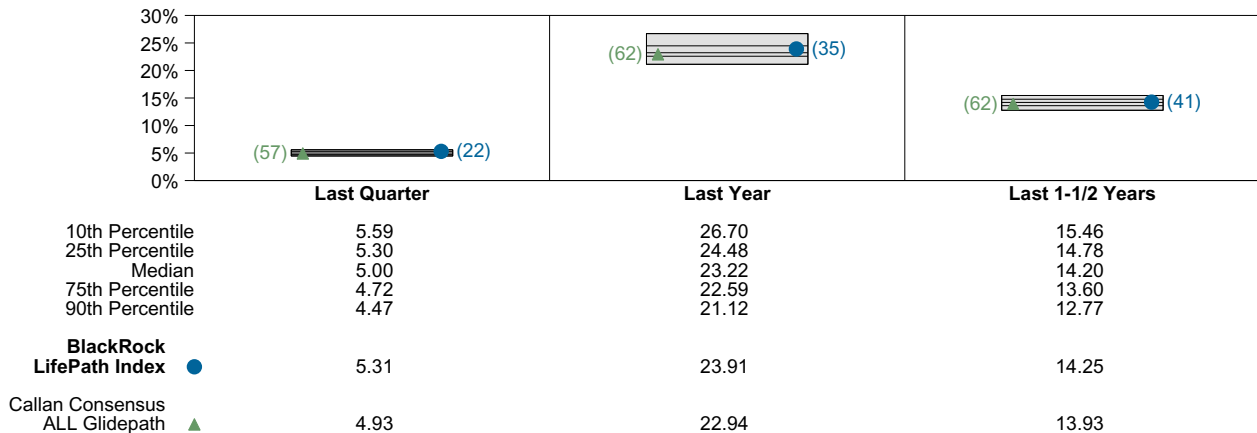
Expense Ratio



Target Date Family Performance vs Peer Families



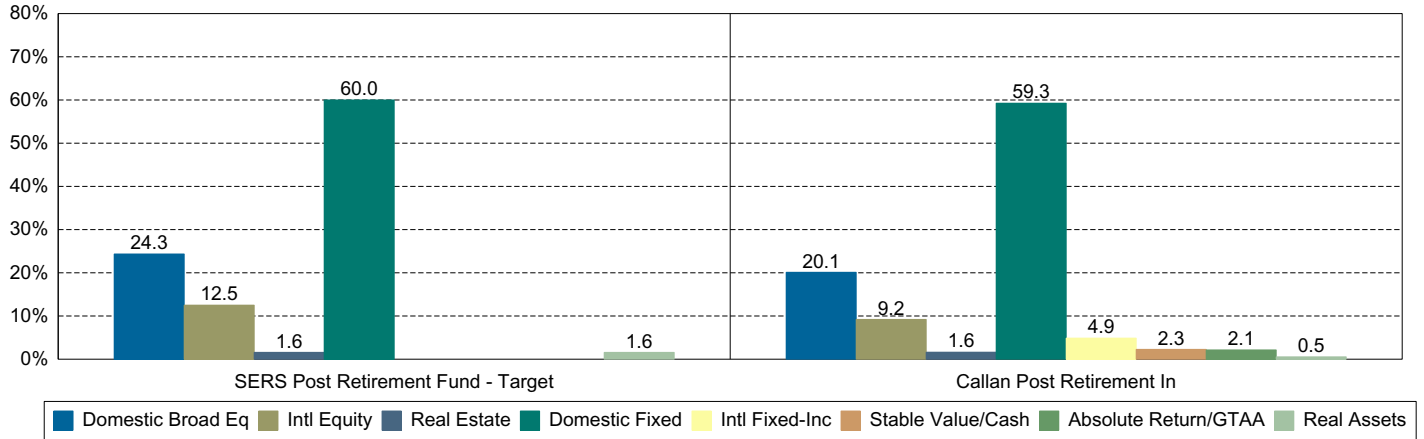
Target Date Family Glide Path Returns vs Peer Families



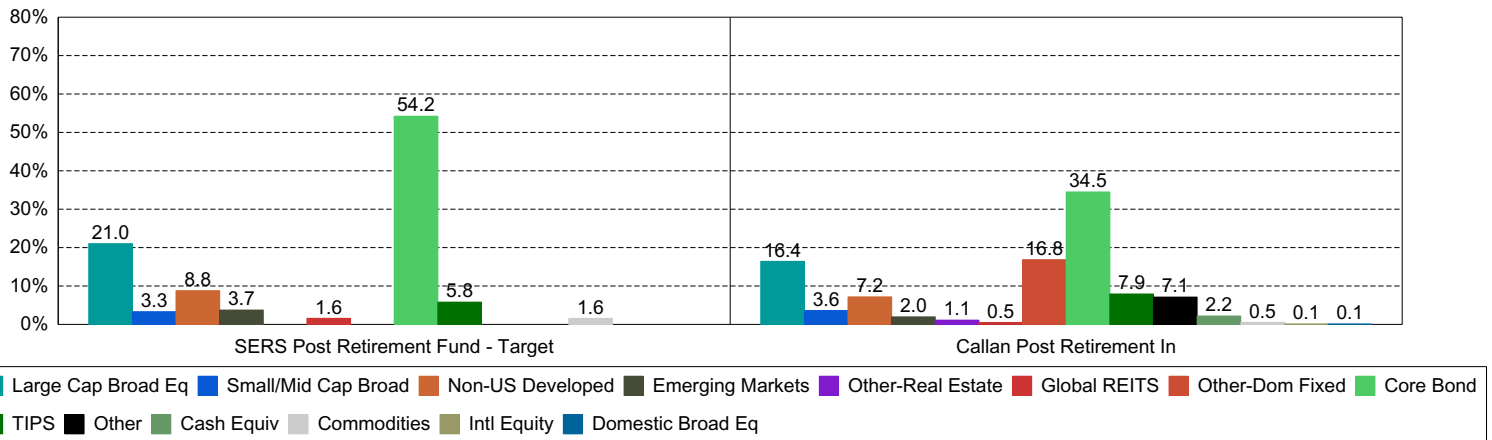
SERS Post Retirement Fund Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

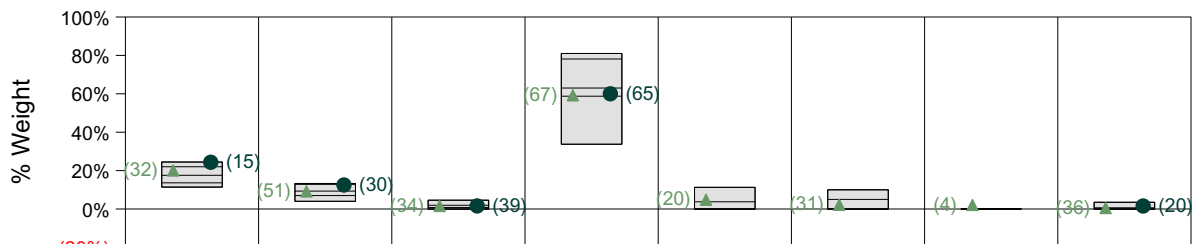
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date Retirement Income



SERS Post Retirement Fund - Target ●

Callan Post Retirement In ▲

SERS Post Retirement Fund Period Ended June 30, 2021

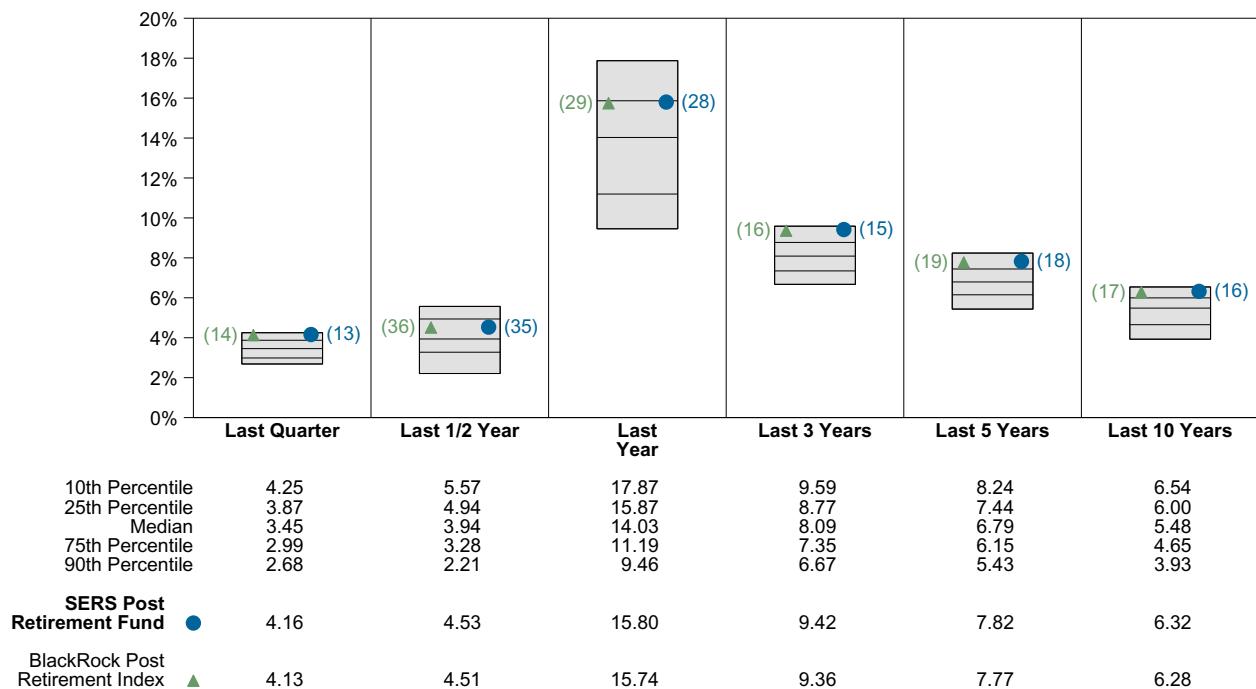
Investment Philosophy

The BlackRock LifePath(R) Index Retirement Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

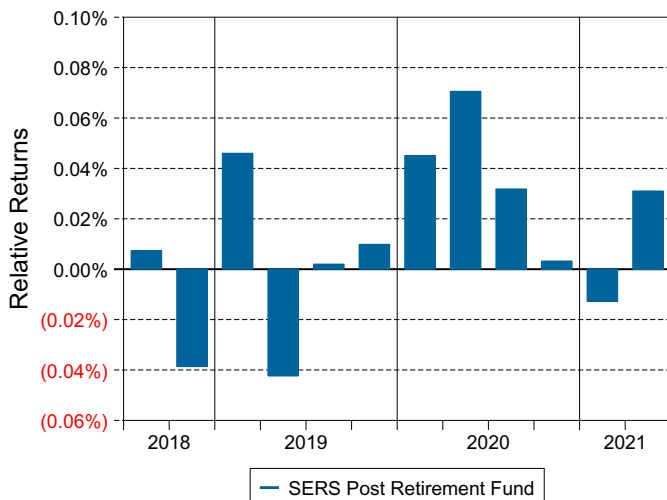
Quarterly Summary and Highlights

- SERS Post Retirement Fund's portfolio posted a 4.16% return for the quarter placing it in the 13 percentile of the Callan Target Date Retirement Income group for the quarter and in the 28 percentile for the last year.
- SERS Post Retirement Fund's portfolio outperformed the BlackRock Post Retirement Index by 0.03% for the quarter and outperformed the BlackRock Post Retirement Index for the year by 0.06%.

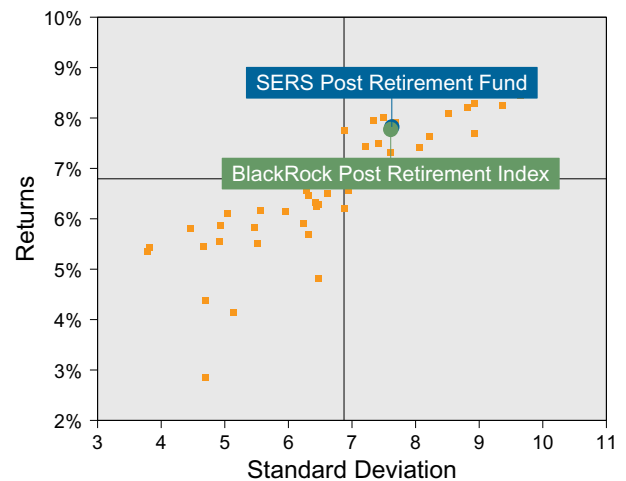
Performance vs Callan Target Date Retirement Income (Net)



Relative Returns vs BlackRock Post Retirement Index



Callan Target Date Retirement Income (Net) Annualized Five Year Risk vs Return

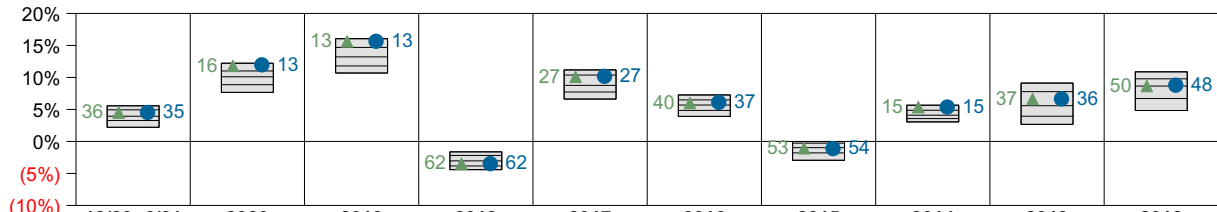


SERS Post Retirement Fund Return Analysis Summary

Return Analysis

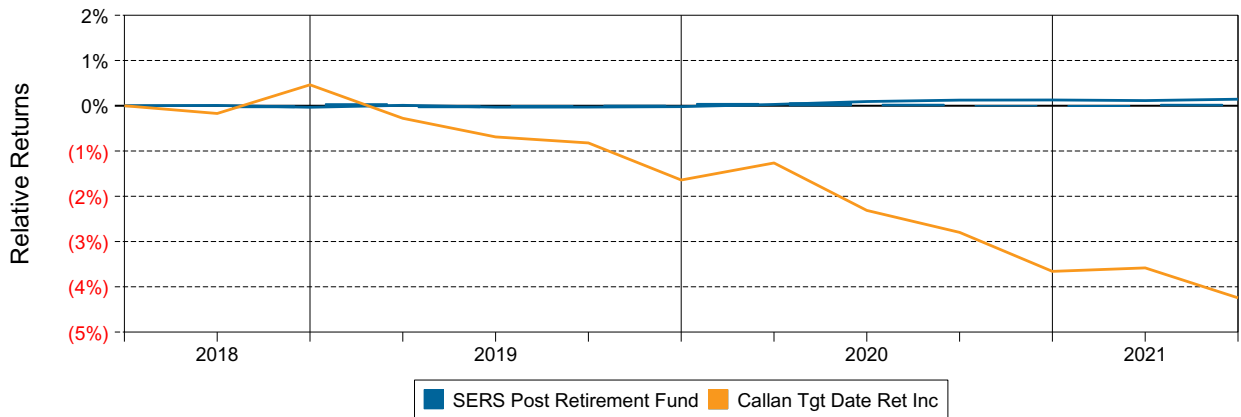
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Target Date Retirement Income (Net)

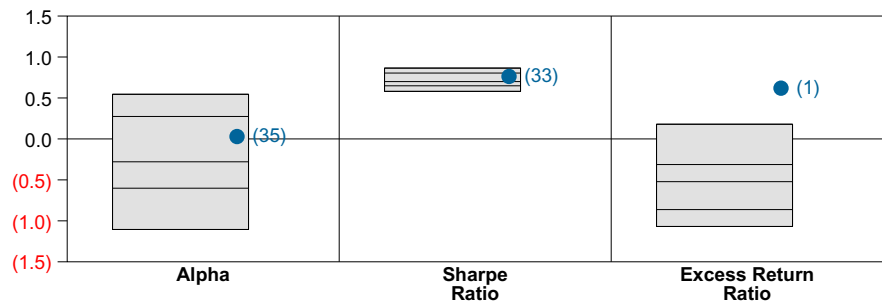


	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
10th Percentile	5.57	12.22	16.05	(1.63)	11.17	7.26	(0.02)	5.66	9.12	10.88
25th Percentile	4.94	11.01	14.69	(2.19)	10.37	6.49	(0.27)	4.87	7.78	9.78
Median	3.94	10.10	13.21	(3.04)	8.76	5.69	(0.97)	4.10	5.58	8.66
75th Percentile	3.28	8.87	11.80	(3.83)	7.72	4.85	(1.79)	3.57	3.94	6.70
90th Percentile	2.21	7.66	10.69	(4.41)	6.62	3.91	(2.95)	3.05	2.67	4.83
SERS Post Retirement Fund	4.53	11.97	15.65	(3.47)	10.18	6.10	(1.12)	5.38	6.64	8.79
BlackRock Post Retirement Index	4.51	11.80	15.63	(3.48)	10.10	6.01	(1.07)	5.36	6.63	8.65

Cumulative and Quarterly Relative Return vs BlackRock Post Retirement Index



Risk Adjusted Return Measures vs BlackRock Post Retirement Index Rankings Against Callan Target Date Retirement Income (Net) Seven Years Ended June 30, 2021

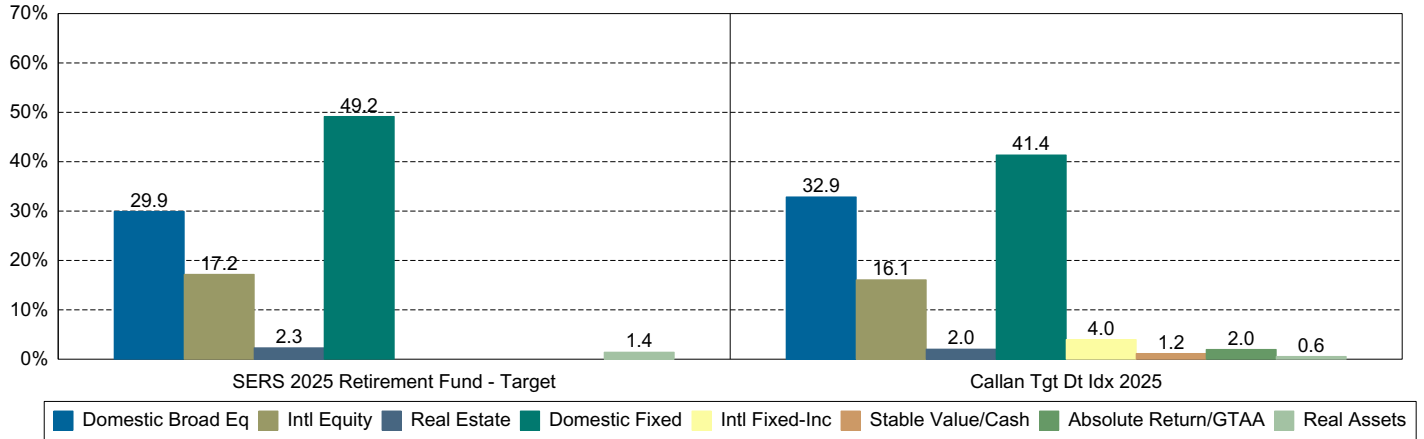


	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.54	0.86	0.18
25th Percentile	0.27	0.80	(0.31)
Median	(0.28)	0.70	(0.52)
75th Percentile	(0.60)	0.65	(0.86)
90th Percentile	(1.11)	0.58	(1.07)
SERS Post Retirement Fund	0.03	0.76	0.62

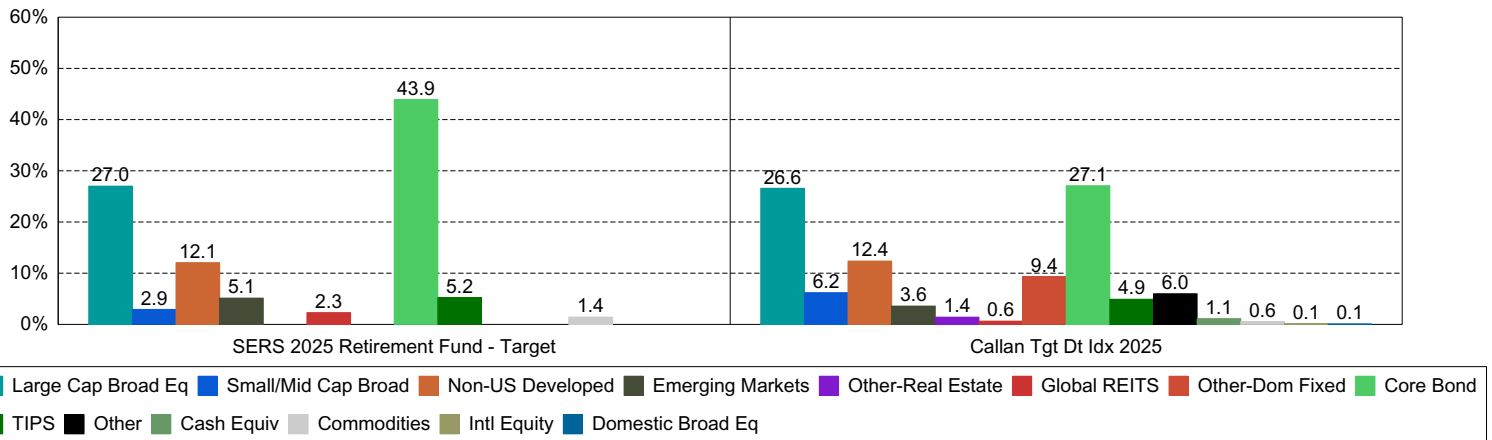
SERS 2025 Retirement Fund Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

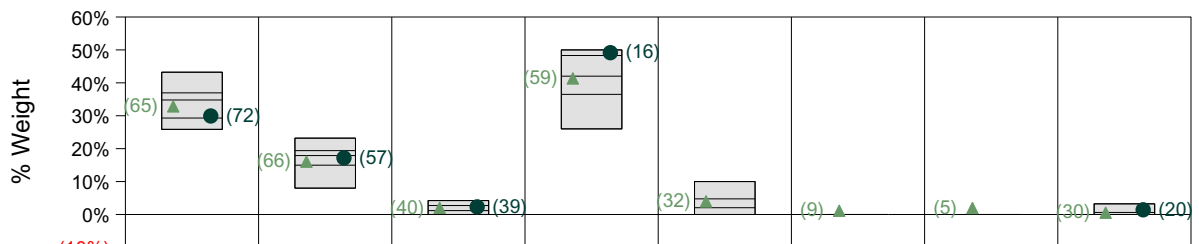
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date 2025



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	43.23	23.19	4.23	50.00	10.00	0.00	0.00	3.24
25th Percentile	36.95	19.40	2.72	48.30	4.74	0.00	0.00	0.62
Median	34.79	17.90	1.18	42.02	2.05	0.00	0.00	0.00
75th Percentile	29.30	14.98	0.00	36.50	0.00	0.00	0.00	0.00
90th Percentile	25.86	8.00	0.00	26.01	0.00	0.00	0.00	0.00

SERS 2025 Retirement Fund - Target	●	29.92	17.19	2.30	49.16	-	-	1.42
Callan Tgt Dt Idx 2025	▲	32.86	16.08	2.03	41.36	3.98	1.16	1.98

SERS 2025 Retirement Fund Period Ended June 30, 2021

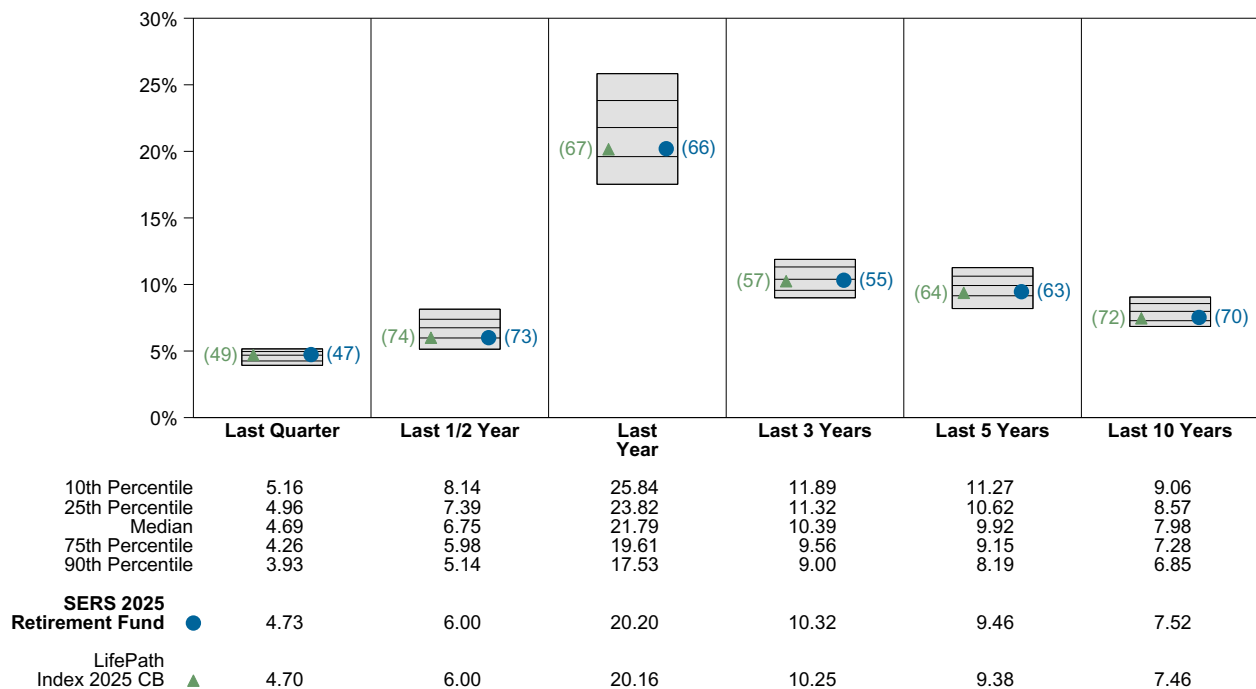
Investment Philosophy

The BlackRock LifePath(R) Index 2025 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

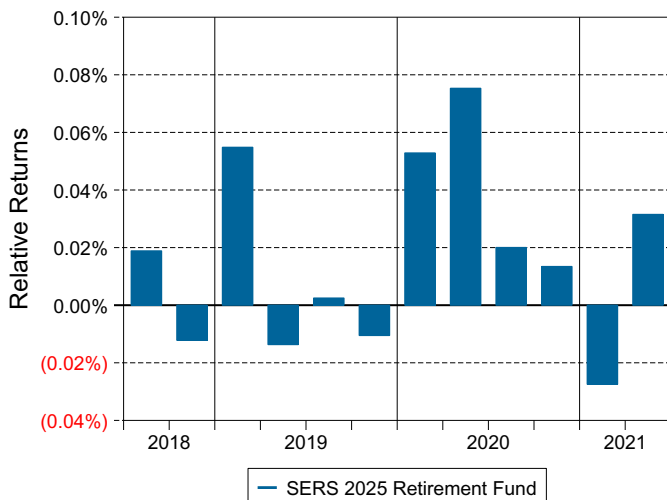
Quarterly Summary and Highlights

- SERS 2025 Retirement Fund's portfolio posted a 4.73% return for the quarter placing it in the 47 percentile of the Callan Target Date 2025 group for the quarter and in the 66 percentile for the last year.
- SERS 2025 Retirement Fund's portfolio outperformed the LifePath Index 2025 CB by 0.03% for the quarter and outperformed the LifePath Index 2025 CB for the year by 0.04%.

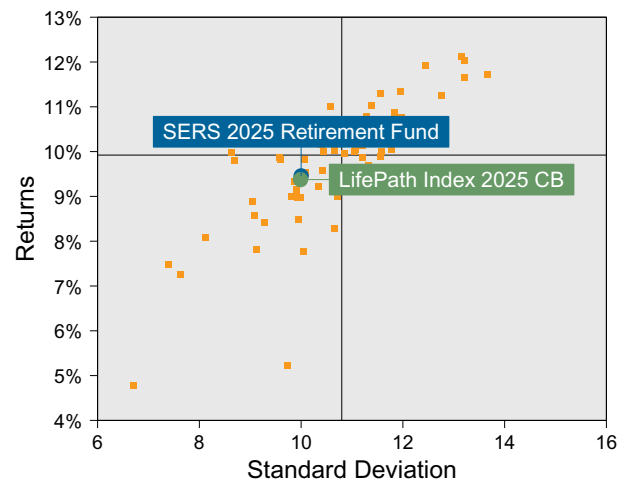
Performance vs Callan Target Date 2025 (Net)



Relative Return vs LifePath Index 2025 CB



Callan Target Date 2025 (Net) Annualized Five Year Risk vs Return

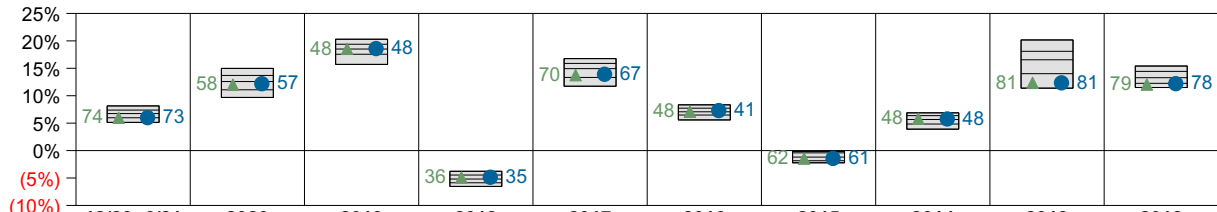


SERS 2025 Retirement Fund Return Analysis Summary

Return Analysis

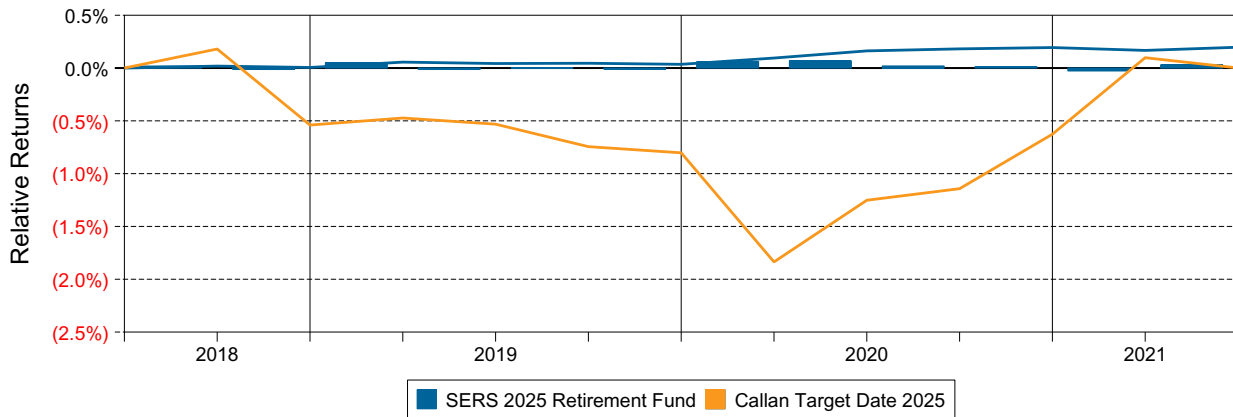
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Target Date 2025 (Net)

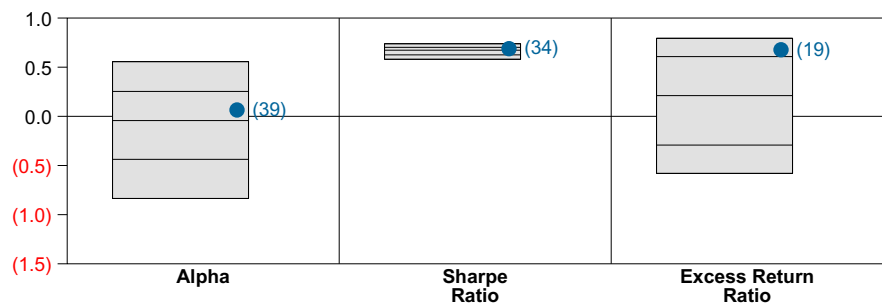


	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
10th Percentile	8.14	14.98	20.30	(3.77)	16.77	8.34	(0.13)	6.88	20.17	15.41
25th Percentile	7.39	13.70	19.39	(4.46)	15.89	7.73	(0.41)	6.37	18.10	14.44
Median	6.75	12.58	18.51	(5.19)	14.94	7.07	(1.19)	5.67	16.55	13.28
75th Percentile	5.98	11.08	17.56	(5.87)	13.33	6.48	(1.85)	4.84	14.02	12.26
90th Percentile	5.14	9.69	15.71	(6.53)	11.73	5.59	(2.23)	3.90	11.38	11.50
SERS 2025 Retirement Fund	6.00	12.19	18.60	(4.86)	13.91	7.30	(1.43)	5.77	12.34	12.20
LifePath Index 2025 CB	6.00	12.01	18.56	(4.90)	13.75	7.10	(1.45)	5.82	12.35	12.04

Cumulative and Quarterly Relative Return vs LifePath Index 2025 CB



Risk Adjusted Return Measures vs LifePath Index 2025 CB Rankings Against Callan Target Date 2025 (Net) Seven Years Ended June 30, 2021



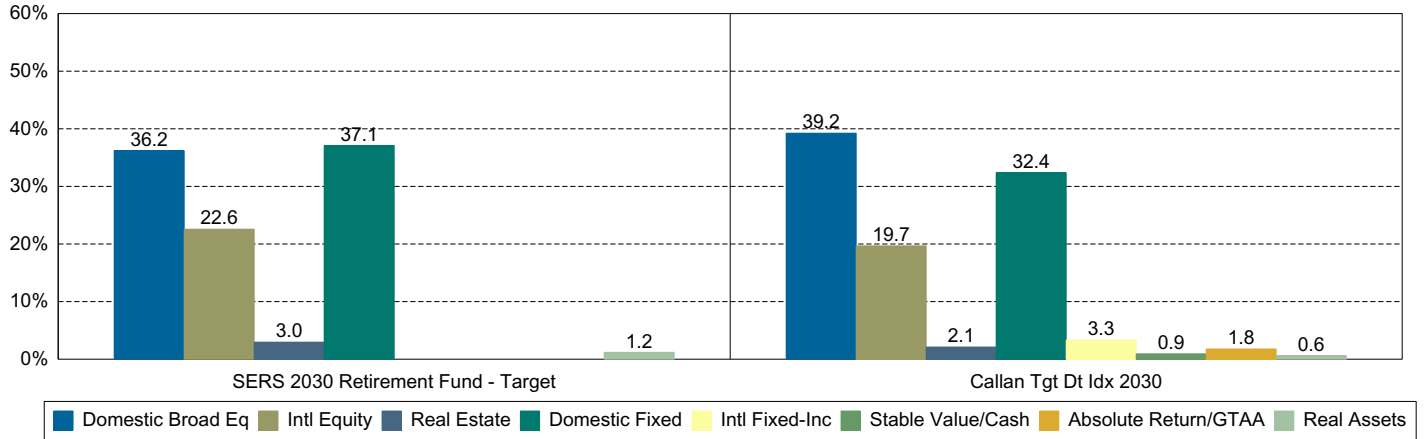
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.56	0.74	0.79
25th Percentile	0.25	0.70	0.61
Median	(0.04)	0.67	0.21
75th Percentile	(0.44)	0.63	(0.29)
90th Percentile	(0.84)	0.58	(0.58)
SERS 2025 Retirement Fund	0.06	0.69	0.68

SERS 2030 Retirement Fund

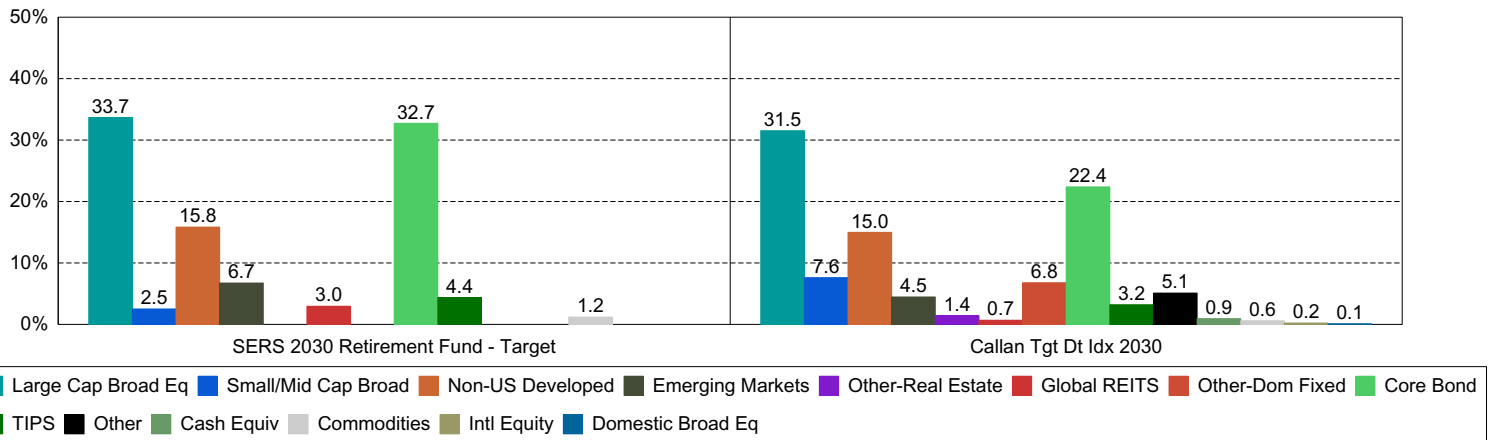
Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

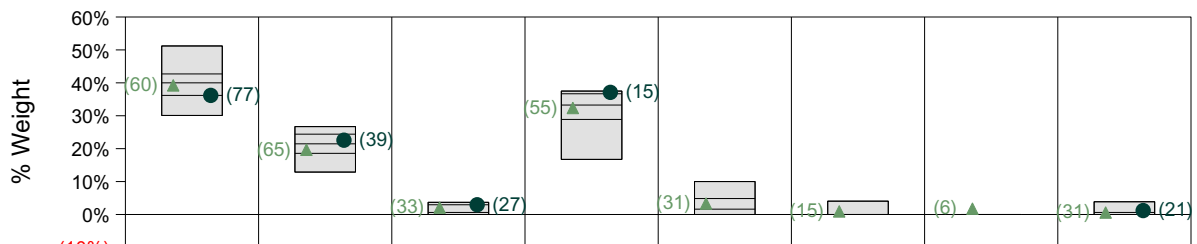
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date 2030



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	51.20	26.70	3.70	37.49	10.00	4.05	0.00	3.87
25th Percentile	42.70	24.40	2.95	36.67	4.84	0.00	0.00	0.62
Median	40.00	21.47	0.62	33.25	1.62	0.00	0.00	0.00
75th Percentile	36.18	18.57	0.00	28.88	0.00	0.00	0.00	0.00
90th Percentile	30.09	12.88	0.00	16.74	0.00	0.00	0.00	0.00

SERS 2030 Retirement Fund - Target	●	36.18	22.57	2.95	37.11	-	-	-	1.19
Callan Tgt Dt Idx 2030	▲	39.23	19.67	2.11	32.36	3.32	0.94	1.77	0.60

SERS 2030 Retirement Fund Period Ended June 30, 2021

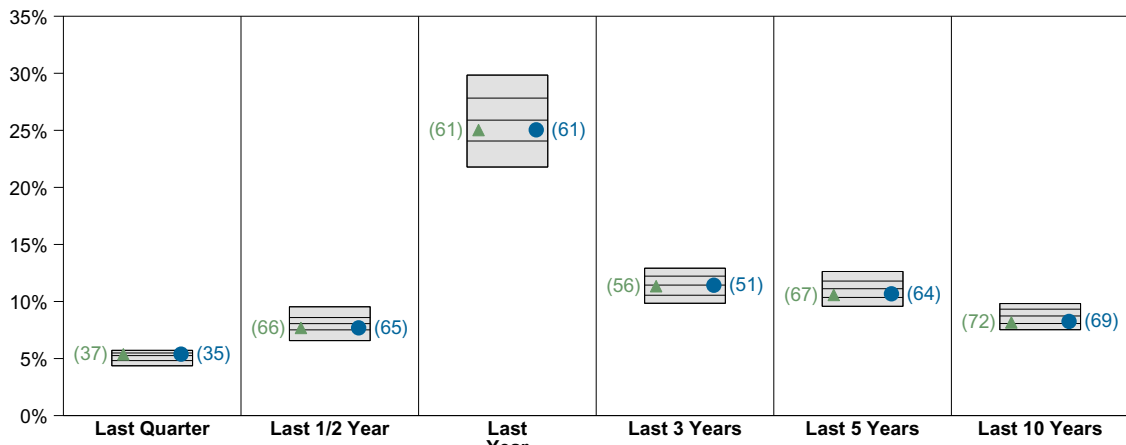
Investment Philosophy

The BlackRock LifePath(R) Index 2030 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

Quarterly Summary and Highlights

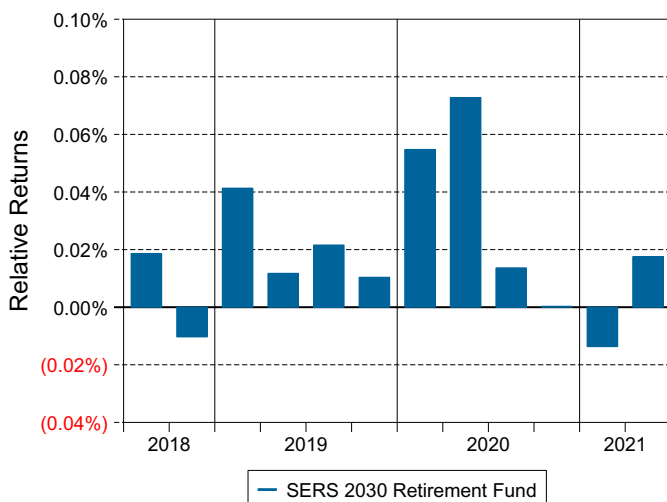
- SERS 2030 Retirement Fund's portfolio posted a 5.39% return for the quarter placing it in the 35 percentile of the Callan Target Date 2030 group for the quarter and in the 61 percentile for the last year.
- SERS 2030 Retirement Fund's portfolio outperformed the LifePath Index 2030 CB by 0.02% for the quarter and outperformed the LifePath Index 2030 CB for the year by 0.02%.

Performance vs Callan Target Date 2030 (Net)

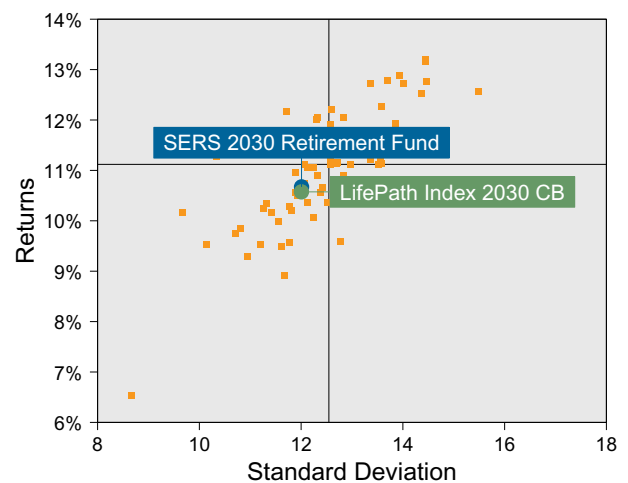


10th Percentile	5.72	9.54	29.84	12.92	12.63	9.82
25th Percentile	5.49	8.59	27.82	12.22	11.79	9.33
Median	5.26	8.06	25.90	11.44	11.12	8.73
75th Percentile	4.82	7.51	24.06	10.55	10.35	8.07
90th Percentile	4.37	6.57	21.78	9.84	9.58	7.53
SERS 2030 Retirement Fund	● 5.39	7.69	25.04	11.43	10.67	8.25
LifePath Index 2030 CB	▲ 5.37	7.68	25.02	11.34	10.57	8.16

Relative Return vs LifePath Index 2030 CB



Callan Target Date 2030 (Net) Annualized Five Year Risk vs Return

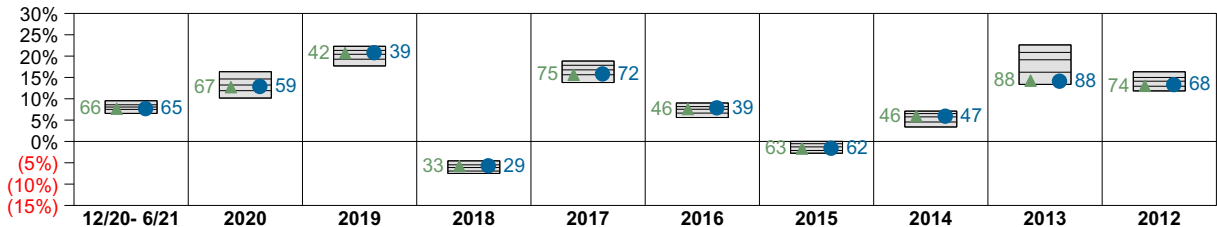


SERS 2030 Retirement Fund Return Analysis Summary

Return Analysis

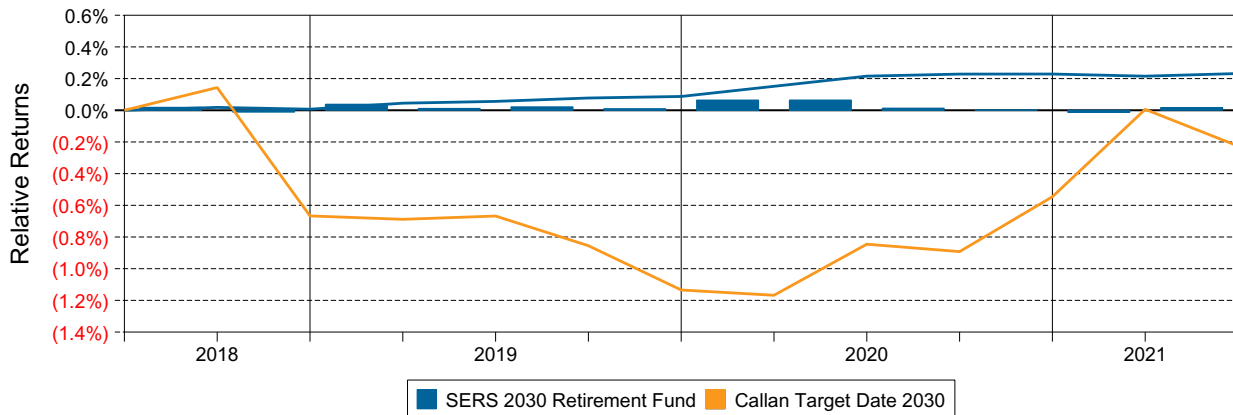
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Target Date 2030 (Net)

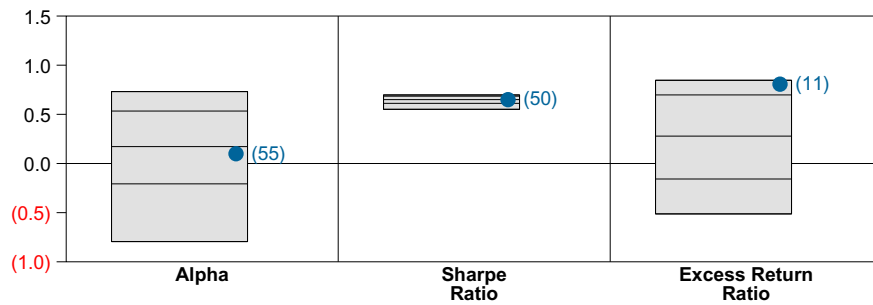


10th Percentile	9.54	16.35	22.30	(4.55)	18.85	9.01	0.01	7.11	22.62	16.33
25th Percentile	8.59	14.64	21.34	(5.48)	17.85	8.17	(0.53)	6.53	20.87	14.99
Median	8.06	13.23	20.43	(6.12)	16.77	7.54	(1.27)	5.76	19.13	14.12
75th Percentile	7.51	11.90	19.28	(6.94)	15.63	6.64	(2.12)	4.56	16.22	12.94
90th Percentile	6.57	10.16	17.70	(7.50)	13.81	5.61	(2.77)	3.39	13.37	11.84
SERS 2030 Retirement Fund	● 7.69	12.88	20.80	(5.71)	15.83	7.88	(1.60)	5.92	14.12	13.31
LifePath Index 2030 CB	▲ 7.68	12.72	20.70	(5.76)	15.64	7.61	(1.66)	5.95	14.26	13.04

Cumulative and Quarterly Relative Return vs LifePath Index 2030 CB



Risk Adjusted Return Measures vs LifePath Index 2030 CB Rankings Against Callan Target Date 2030 (Net) Seven Years Ended June 30, 2021

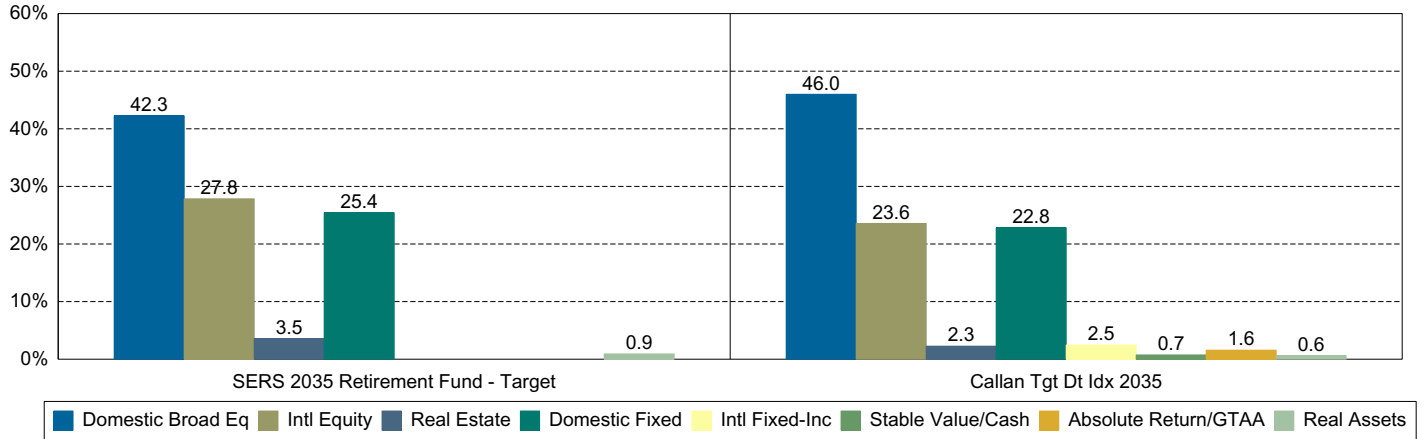


10th Percentile	0.73	0.70	0.85
25th Percentile	0.53	0.68	0.70
Median	0.17	0.65	0.28
75th Percentile	(0.21)	0.61	(0.16)
90th Percentile	(0.79)	0.55	(0.51)
SERS 2030 Retirement Fund	● 0.10	0.65	0.81

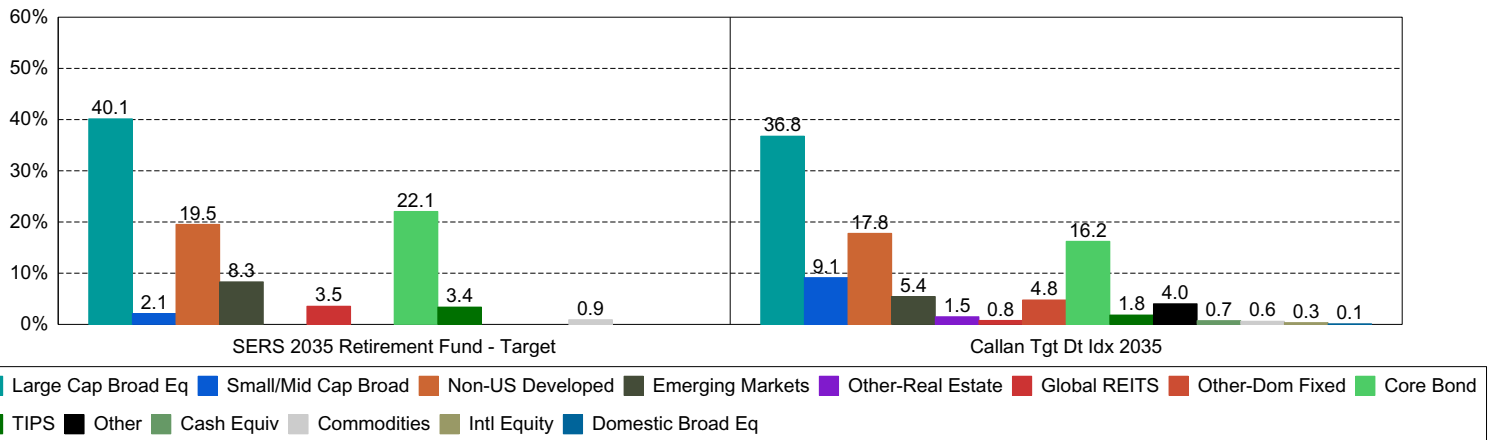
SERS 2035 Retirement Fund Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

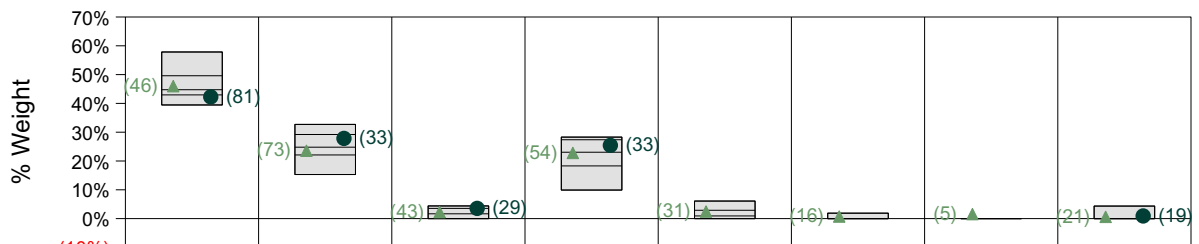
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date 2035



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	57.85	32.70	4.40	28.30	6.09	1.89	0.00	4.35
25th Percentile	49.60	29.20	3.55	27.38	2.89	0.00	0.00	0.00
Median	44.75	24.80	1.67	23.05	0.93	0.00	0.00	0.00
75th Percentile	42.96	22.10	0.00	18.30	0.00	0.00	0.00	0.00
90th Percentile	39.45	15.31	0.00	9.91	0.00	0.00	0.00	0.00

SERS 2035 Retirement Fund - Target	●	42.26	27.84	3.55	25.43	-	-	-	0.92
Callan Tgt Dt Idx 2035	▲	45.99	23.56	2.26	22.81	2.46	0.74	1.57	0.61

SERS 2035 Retirement Fund Period Ended June 30, 2021

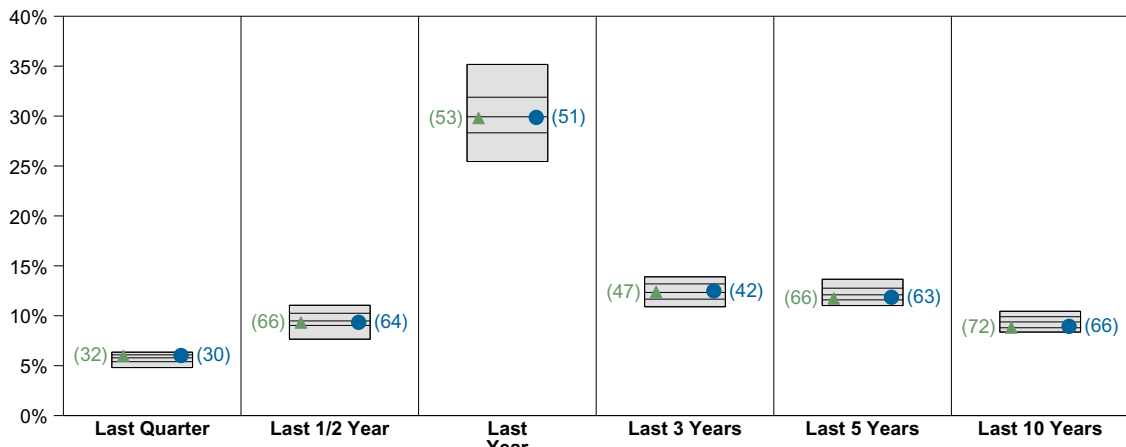
Investment Philosophy

The BlackRock LifePath(R) Index 2035 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

Quarterly Summary and Highlights

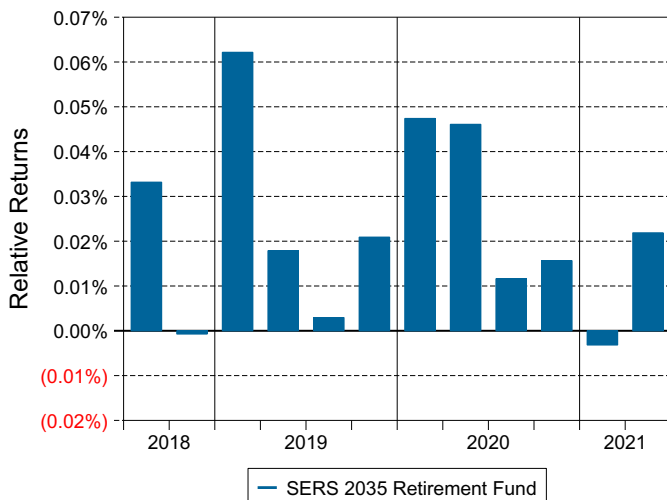
- SERS 2035 Retirement Fund's portfolio posted a 6.02% return for the quarter placing it in the 30 percentile of the Callan Target Date 2035 group for the quarter and in the 51 percentile for the last year.
- SERS 2035 Retirement Fund's portfolio outperformed the LifePath Index 2035 CB by 0.02% for the quarter and outperformed the LifePath Index 2035 CB for the year by 0.06%.

Performance vs Callan Target Date 2035 (Net)

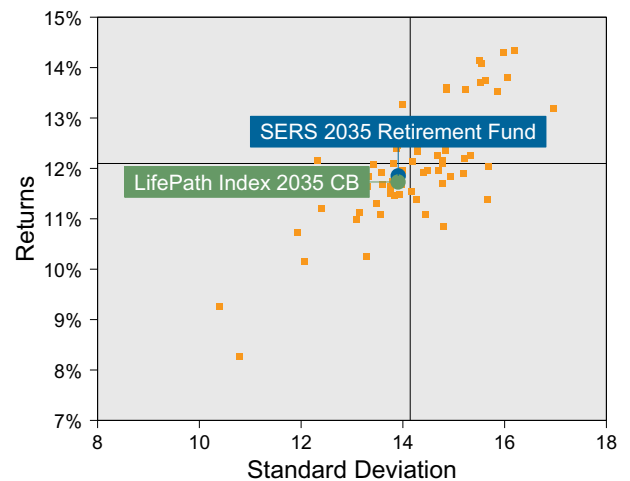


10th Percentile	6.35	11.05	35.17	13.90	13.66	10.45
25th Percentile	6.08	10.25	31.89	13.19	12.76	9.90
Median	5.79	9.48	29.93	12.34	12.10	9.38
75th Percentile	5.40	9.03	28.32	11.66	11.59	8.80
90th Percentile	4.81	7.65	25.45	10.90	11.02	8.37
SERS 2035 Retirement Fund	● 6.02	9.34	29.86	12.49	11.85	8.94
LifePath Index 2035 CB	▲ 6.00	9.32	29.81	12.39	11.73	8.82

Relative Return vs LifePath Index 2035 CB



Callan Target Date 2035 (Net) Annualized Five Year Risk vs Return

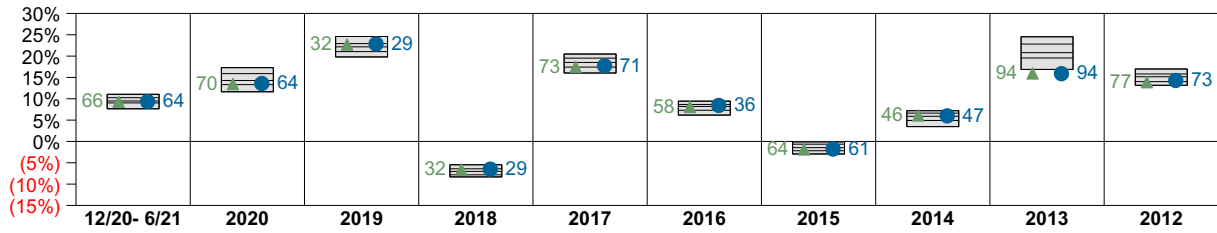


SERS 2035 Retirement Fund Return Analysis Summary

Return Analysis

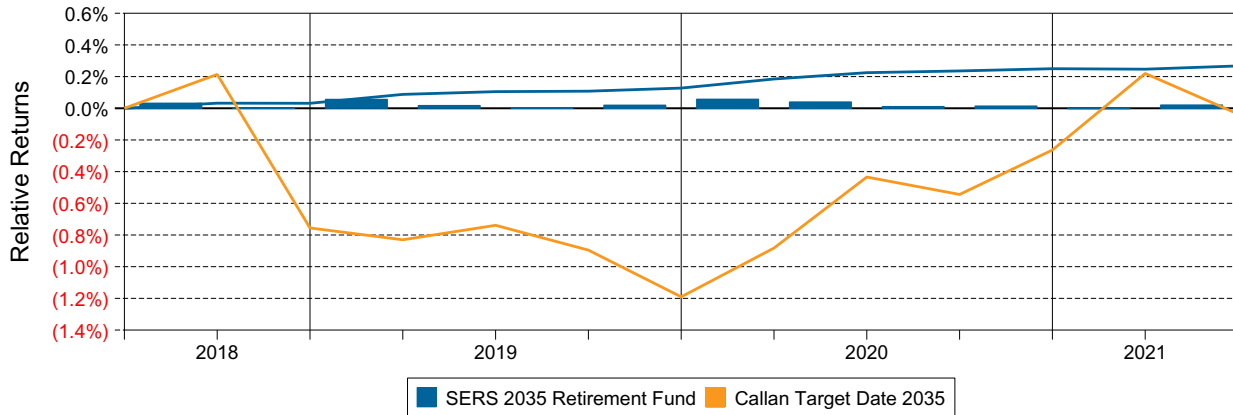
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Target Date 2035 (Net)

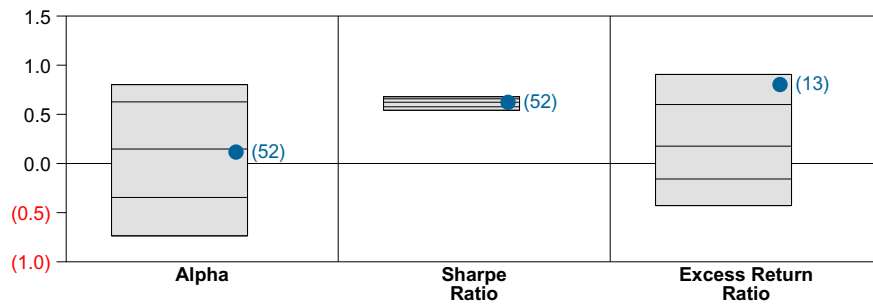


10th Percentile	11.05	17.30	24.59	(5.46)	20.49	9.45	(0.10)	7.21	24.53	16.98
25th Percentile	10.25	15.89	22.92	(6.41)	19.53	8.67	(0.64)	6.63	22.82	15.81
Median	9.48	14.28	22.17	(7.03)	18.51	8.20	(1.46)	5.89	20.81	15.16
75th Percentile	9.03	13.31	21.05	(7.82)	17.42	7.30	(2.17)	4.91	19.56	14.02
90th Percentile	7.65	11.64	19.80	(8.31)	16.04	6.17	(2.95)	3.47	16.87	13.15
SERS 2035 Retirement Fund	● 9.34	13.58	22.84	(6.50)	17.72	8.44	(1.78)	5.99	15.88	14.28
LifePath Index 2035 CB	▲ 9.32	13.44	22.72	(6.58)	17.48	8.08	(1.86)	6.11	15.96	13.90

Cumulative and Quarterly Relative Return vs LifePath Index 2035 CB



Risk Adjusted Return Measures vs LifePath Index 2035 CB Rankings Against Callan Target Date 2035 (Net) Seven Years Ended June 30, 2021



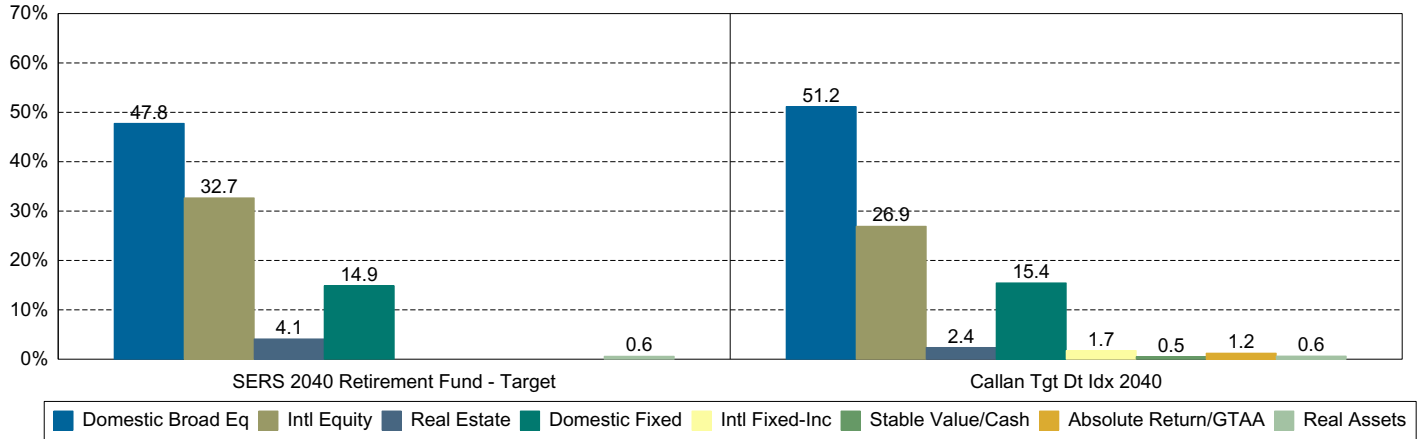
10th Percentile	0.80	0.68	0.91
25th Percentile	0.63	0.66	0.60
Median	0.15	0.62	0.18
75th Percentile	(0.35)	0.58	(0.16)
90th Percentile	(0.74)	0.54	(0.43)
SERS 2035 Retirement Fund	● 0.12	0.62	0.80

SERS 2040 Retirement Fund

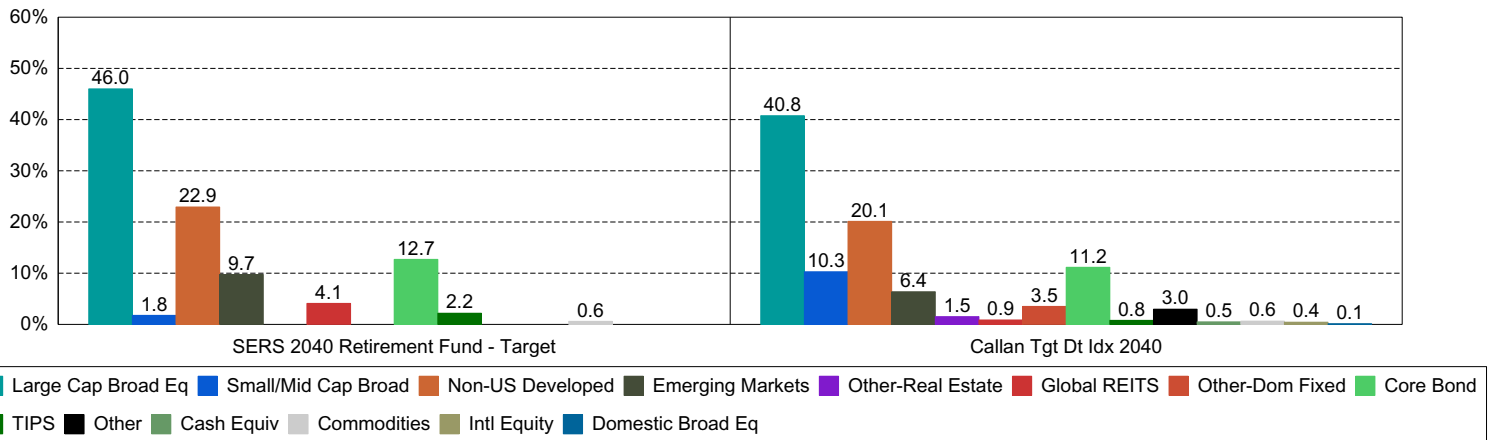
Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

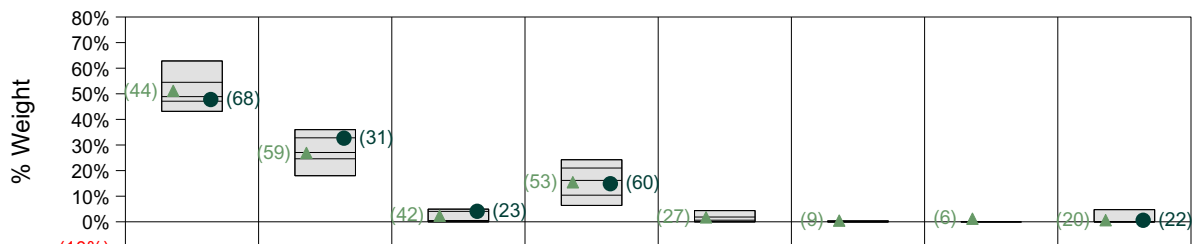
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date 2040



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	62.83	36.00	4.95	24.25	4.38	0.37	0.00	4.75
25th Percentile	54.49	32.80	4.08	21.00	1.87	0.00	0.00	0.00
Median	48.90	27.07	0.50	16.17	0.63	0.00	0.00	0.00
75th Percentile	47.10	24.61	0.00	10.40	0.00	0.00	0.00	0.00
90th Percentile	43.15	18.00	0.00	6.40	0.00	0.00	0.00	0.00

SERS 2040 Retirement Fund - Target	●	47.76	32.67	4.10	14.87	-	-	0.59
Callan Tgt Dt Idx 2040	▲	51.16	26.92	2.37	15.45	1.75	0.49	1.22

SERS 2040 Retirement Fund Period Ended June 30, 2021

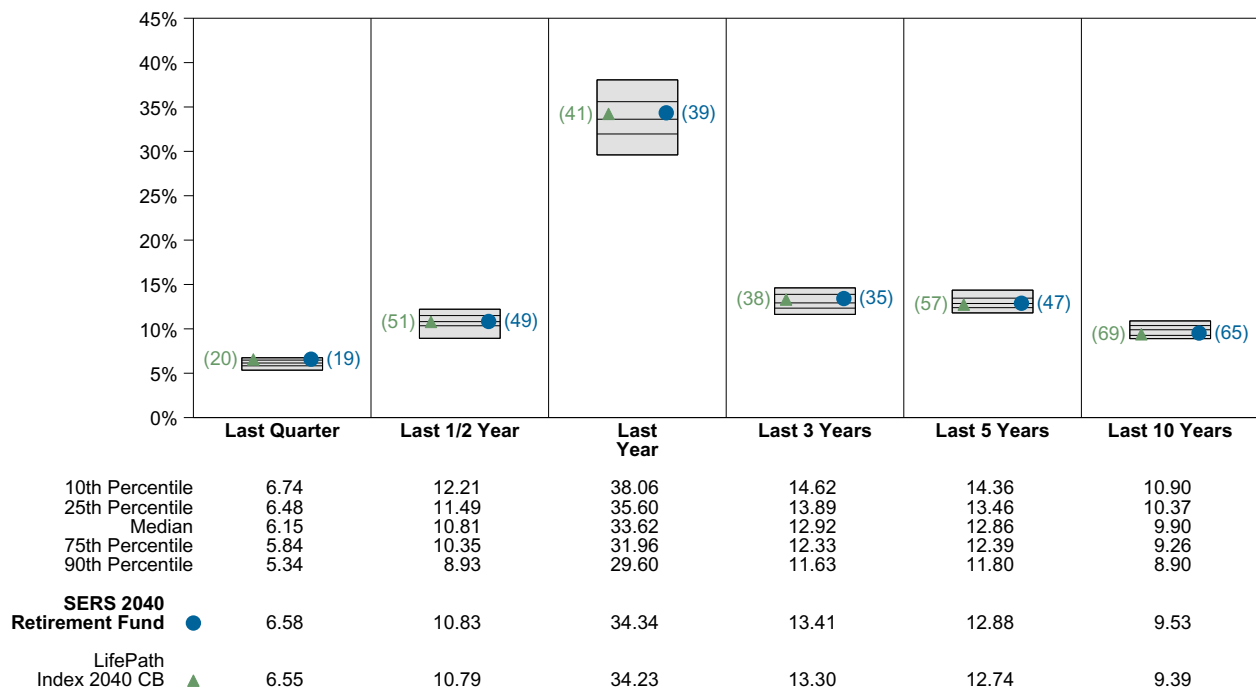
Investment Philosophy

The BlackRock LifePath(R) Index 2040 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

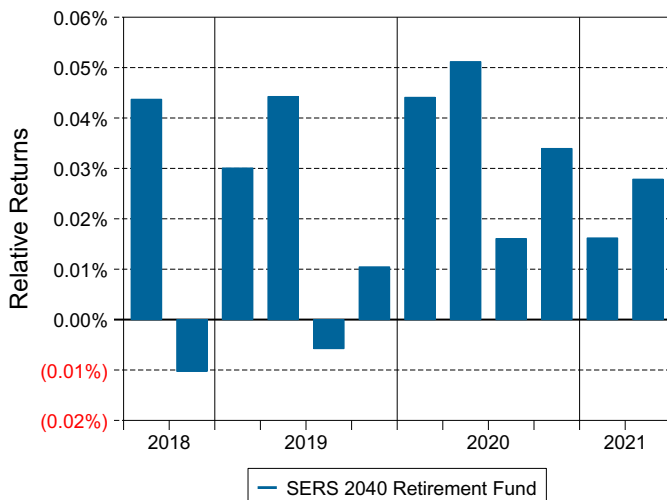
Quarterly Summary and Highlights

- SERS 2040 Retirement Fund's portfolio posted a 6.58% return for the quarter placing it in the 19 percentile of the Callan Target Date 2040 group for the quarter and in the 39 percentile for the last year.
- SERS 2040 Retirement Fund's portfolio outperformed the LifePath Index 2040 CB by 0.03% for the quarter and outperformed the LifePath Index 2040 CB for the year by 0.12%.

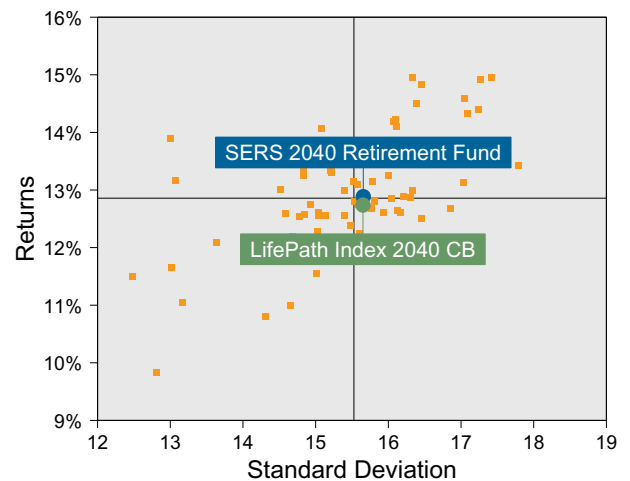
Performance vs Callan Target Date 2040 (Net)



Relative Return vs LifePath Index 2040 CB



Callan Target Date 2040 (Net) Annualized Five Year Risk vs Return

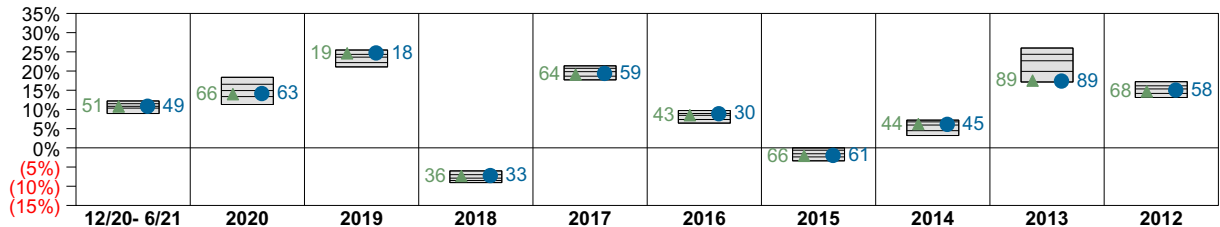


SERS 2040 Retirement Fund Return Analysis Summary

Return Analysis

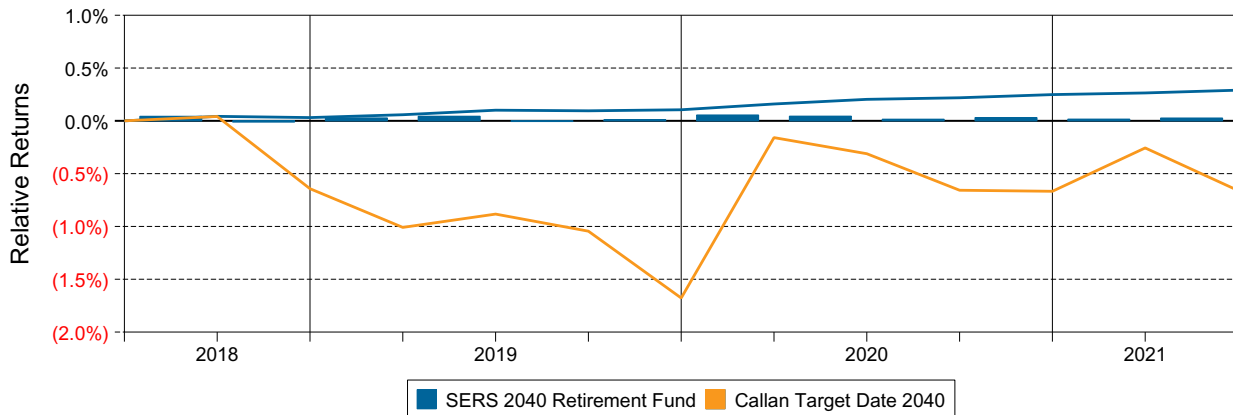
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Target Date 2040 (Net)

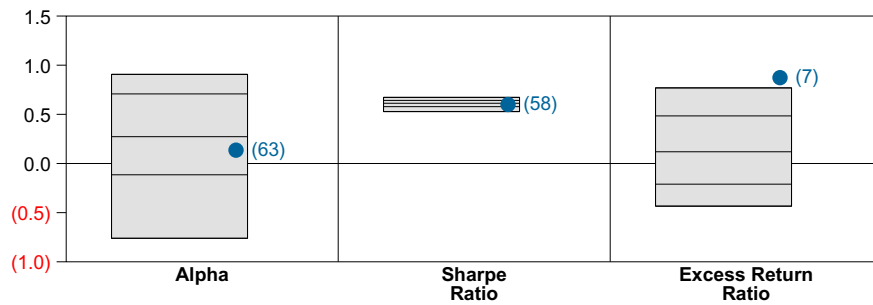


	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
SERS 2040 Retirement Fund ●	10.83	14.14	24.71	(7.22)	19.38	8.88	(1.98)	6.12	17.39	15.04
LifePath Index 2040 CB ▲	10.79	13.98	24.62	(7.33)	19.09	8.51	(2.08)	6.21	17.52	14.70

Cumulative and Quarterly Relative Return vs LifePath Index 2040 CB



Risk Adjusted Return Measures vs LifePath Index 2040 CB Rankings Against Callan Target Date 2040 (Net) Seven Years Ended June 30, 2021



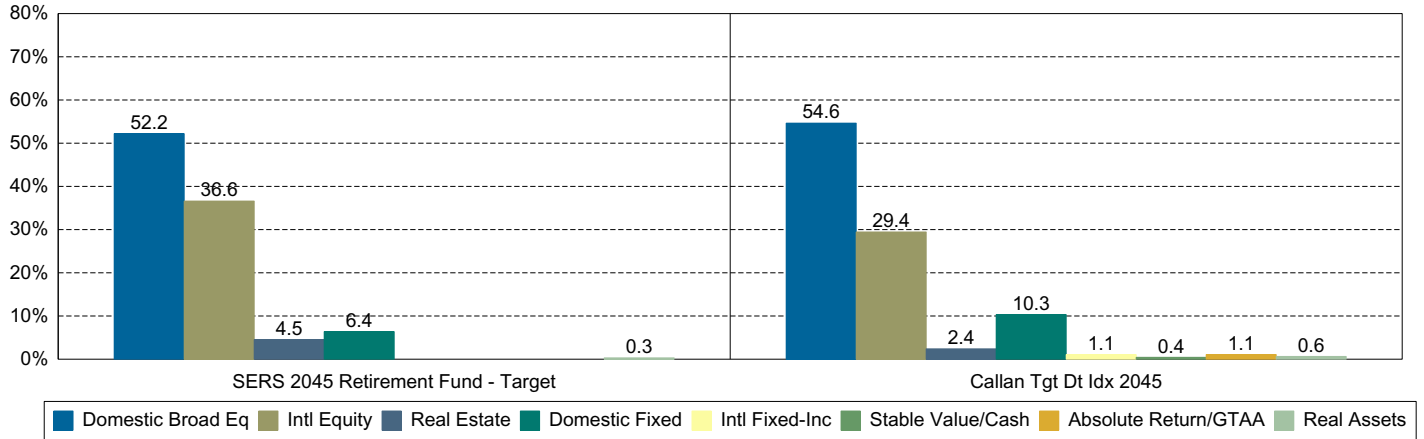
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.91	0.67	0.77
25th Percentile	0.71	0.64	0.48
Median	0.27	0.61	0.12
75th Percentile	(0.11)	0.58	(0.21)
90th Percentile	(0.76)	0.53	(0.43)
SERS 2040 Retirement Fund ●	0.14	0.60	0.87

SERS 2045 Retirement Fund

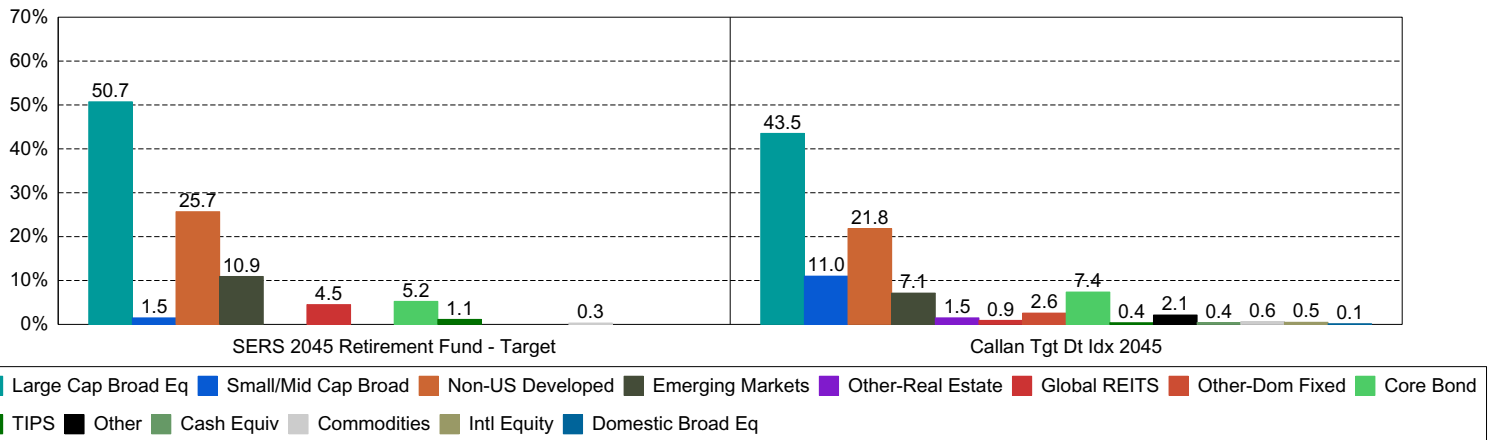
Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

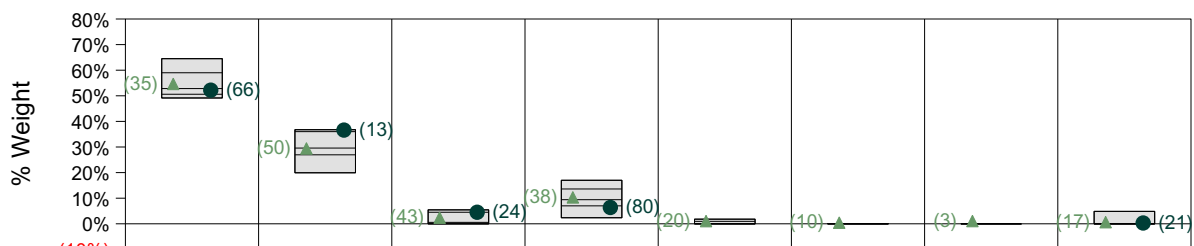
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date 2045



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	64.50	36.75	5.45	17.00	1.81	0.12	0.00	4.85
25th Percentile	59.00	36.00	4.51	13.60	0.96	0.00	0.00	0.00
Median	52.83	29.58	0.56	9.42	0.00	0.00	0.00	0.00
75th Percentile	50.60	26.95	0.00	7.01	0.00	0.00	0.00	0.00
90th Percentile	49.15	19.93	0.00	2.36	0.00	0.00	0.00	0.00

SERS 2045 Retirement Fund - Target	●	52.20	36.60	4.51	6.38	-	-	0.31
Callan Tgt Dt Idx 2045	▲	54.63	29.44	2.40	10.32	1.06	0.43	1.08

SERS 2045 Retirement Fund Period Ended June 30, 2021

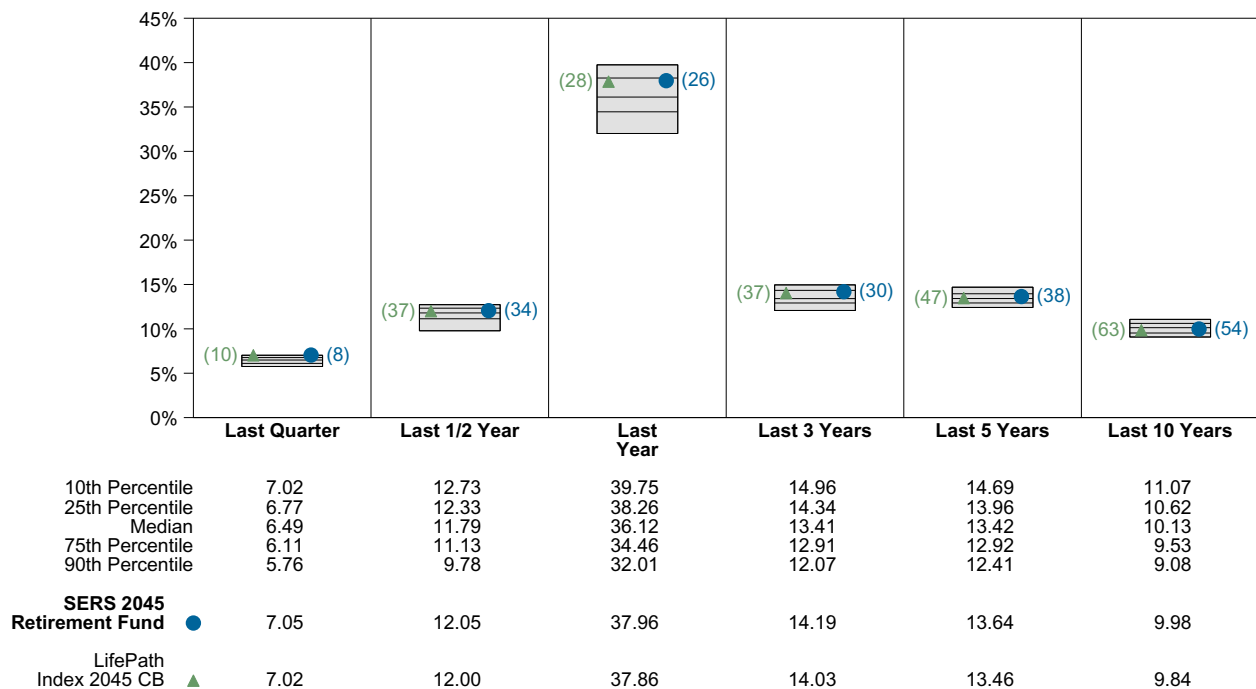
Investment Philosophy

The BlackRock LifePath(R) Index 2045 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

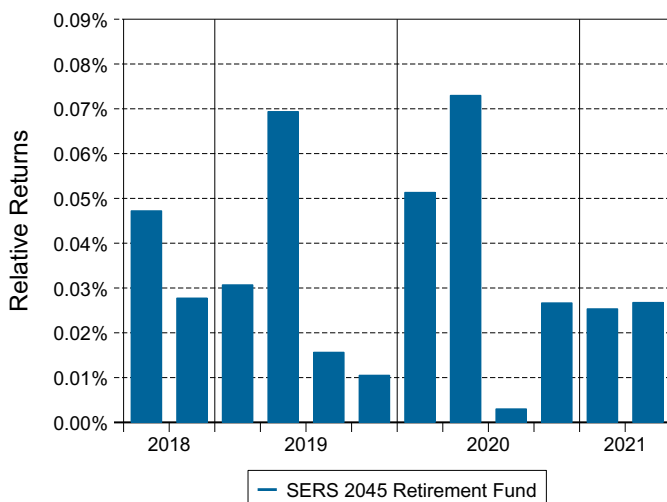
Quarterly Summary and Highlights

- SERS 2045 Retirement Fund's portfolio posted a 7.05% return for the quarter placing it in the 8 percentile of the Callan Target Date 2045 group for the quarter and in the 26 percentile for the last year.
- SERS 2045 Retirement Fund's portfolio outperformed the LifePath Index 2045 CB by 0.03% for the quarter and outperformed the LifePath Index 2045 CB for the year by 0.10%.

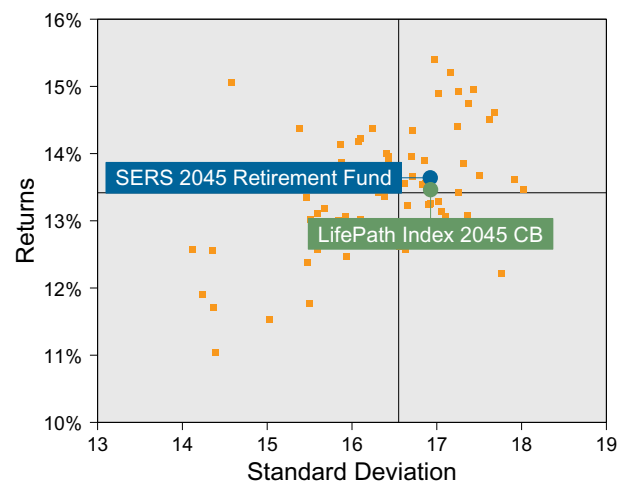
Performance vs Callan Target Date 2045 (Net)



Relative Return vs LifePath Index 2045 CB



Callan Target Date 2045 (Net) Annualized Five Year Risk vs Return

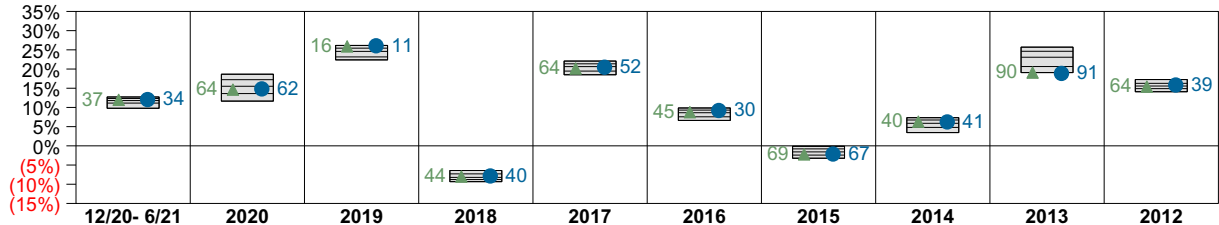


SERS 2045 Retirement Fund Return Analysis Summary

Return Analysis

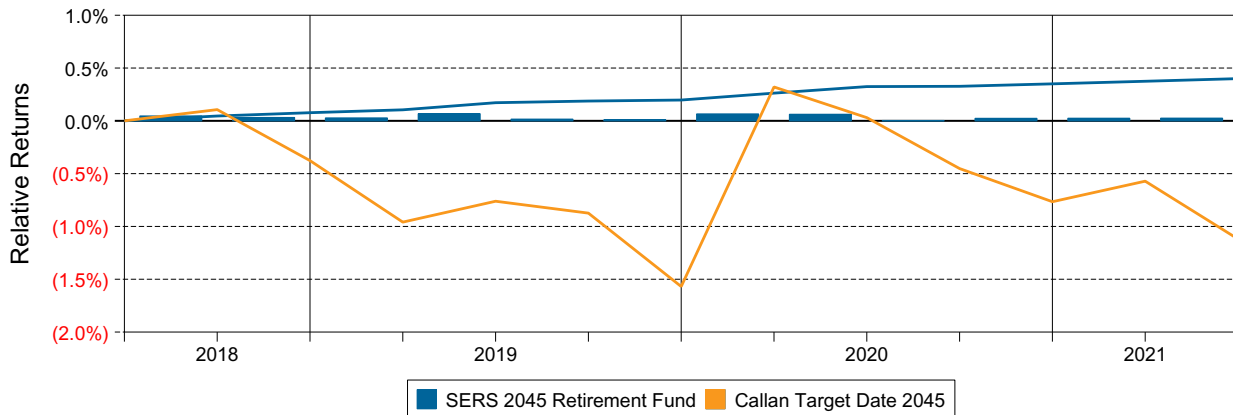
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Target Date 2045 (Net)

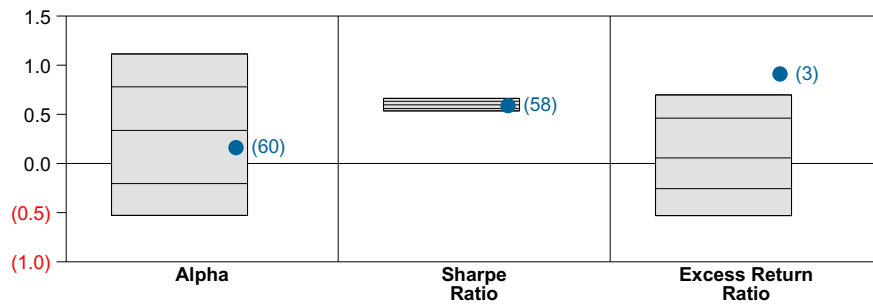


10th Percentile	12.73	18.65	26.14	(6.43)	22.08	9.86	(0.12)	7.33	25.70	17.26
25th Percentile	12.33	17.23	25.44	(7.30)	21.36	9.31	(0.79)	6.73	24.63	16.28
Median	11.79	15.52	24.60	(8.21)	20.63	8.63	(1.57)	5.87	23.08	15.58
75th Percentile	11.13	13.61	23.16	(8.78)	19.47	7.56	(2.41)	4.80	20.66	14.90
90th Percentile	9.78	11.64	22.38	(9.33)	18.51	6.62	(3.23)	3.45	19.08	14.09
SERS 2045 Retirement Fund	● 12.05	14.83	26.05	(7.85)	20.47	9.20	(2.13)	6.22	18.86	15.84
LifePath Index 2045 CB	▲ 12.00	14.65	25.90	(7.99)	20.15	8.77	(2.22)	6.31	19.09	15.43

Cumulative and Quarterly Relative Return vs LifePath Index 2045 CB



Risk Adjusted Return Measures vs LifePath Index 2045 CB Rankings Against Callan Target Date 2045 (Net) Seven Years Ended June 30, 2021

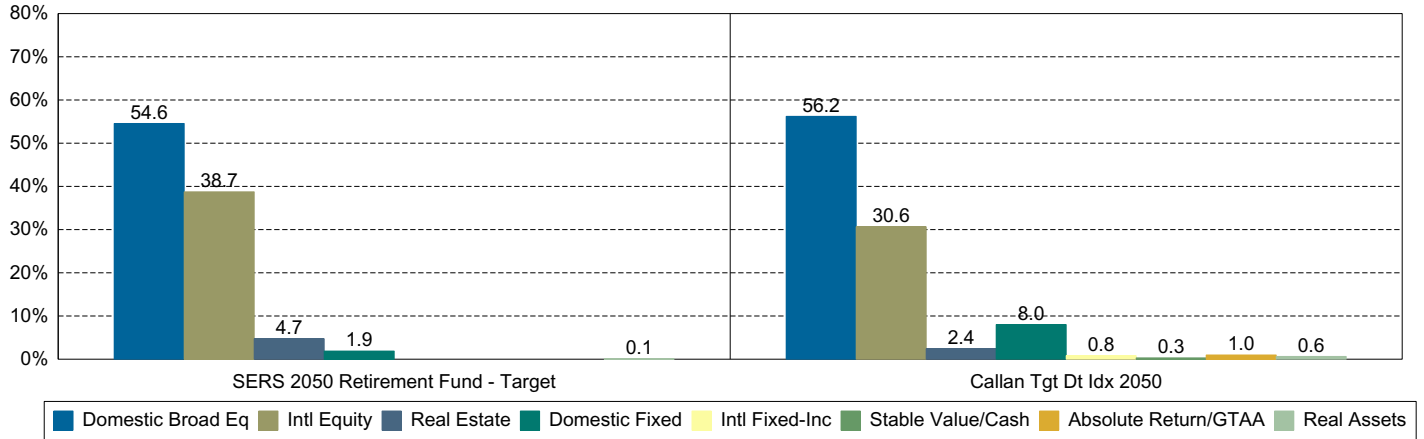


10th Percentile	1.11	0.66	0.70
25th Percentile	0.78	0.63	0.46
Median	0.34	0.60	0.06
75th Percentile	(0.20)	0.56	(0.26)
90th Percentile	(0.53)	0.54	(0.53)
SERS 2045 Retirement Fund	● 0.16	0.59	0.91

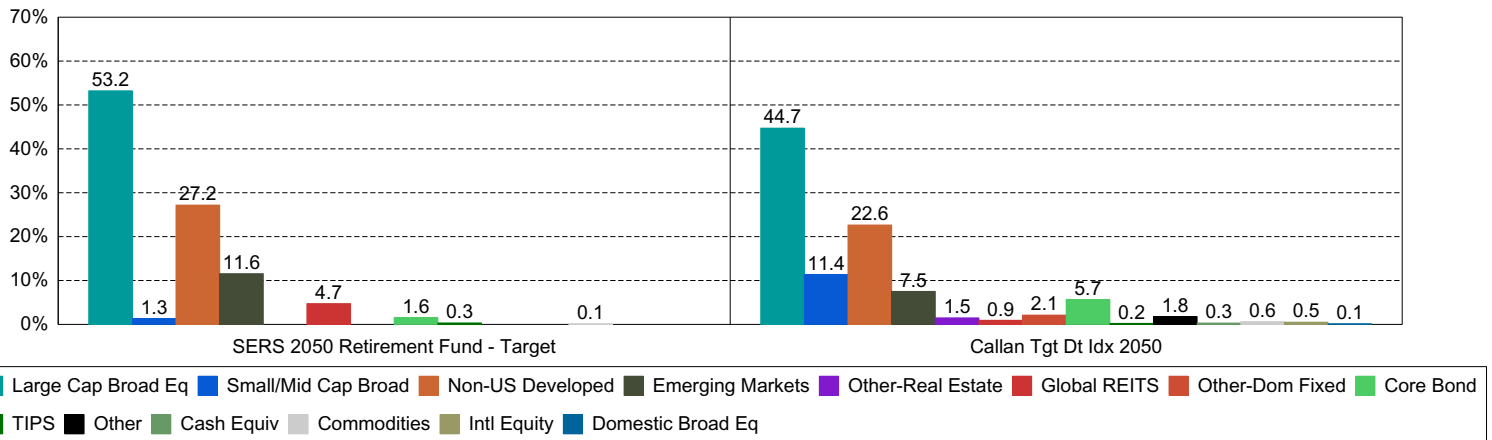
SERS 2050 Retirement Fund Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

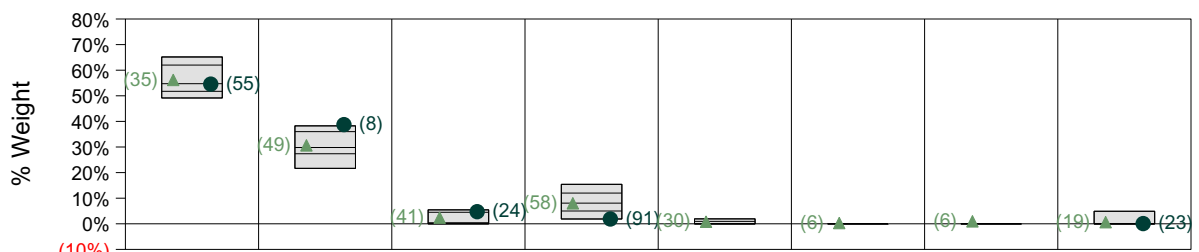
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date 2050



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	65.17	38.26	5.45	15.42	1.92	0.00	0.00	4.90
25th Percentile	62.00	36.00	4.50	12.00	0.95	0.00	0.00	0.00
Median	54.73	29.80	0.42	8.08	0.00	0.00	0.00	0.00
75th Percentile	51.75	27.36	0.00	5.00	0.00	0.00	0.00	0.00
90th Percentile	49.15	21.66	0.00	1.88	0.00	0.00	0.00	0.00
SERS 2050 Retirement Fund - Target	● 54.56	38.74	4.73	1.88	-	-	-	0.09
Callan Tgt Dt Idx 2050	▲ 56.21	30.65	2.41	8.01	0.81	0.30	0.97	0.63

SERS 2050 Retirement Fund Period Ended June 30, 2021

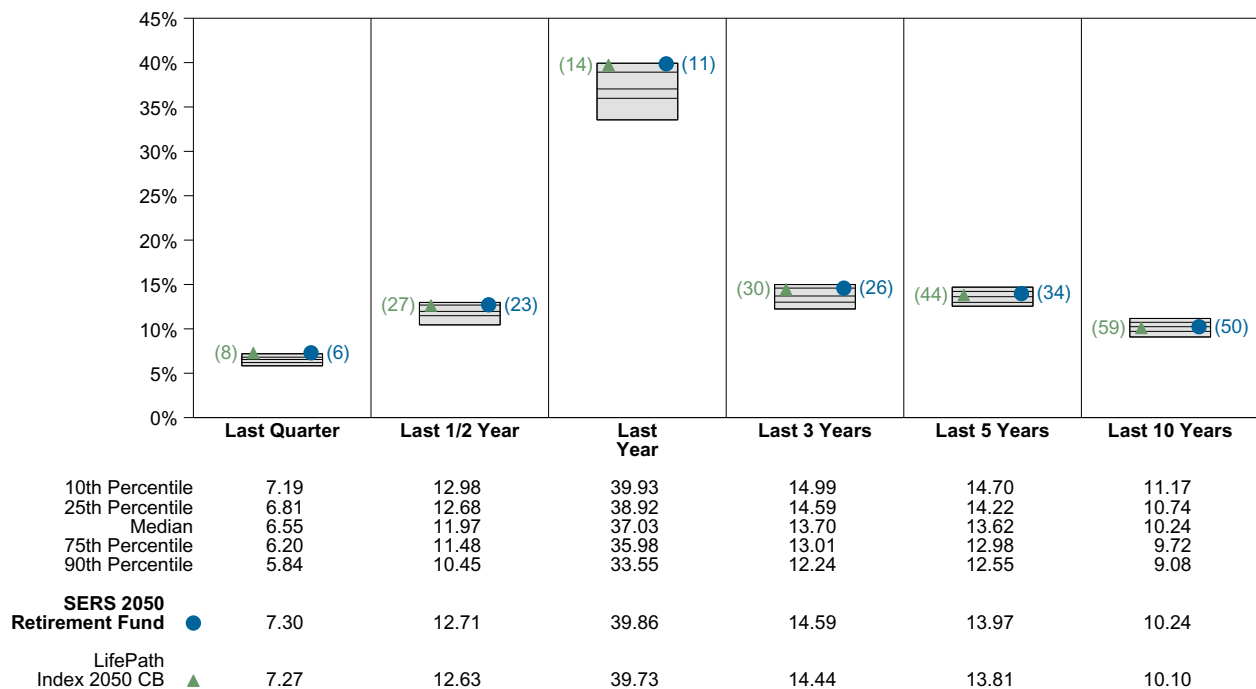
Investment Philosophy

The BlackRock LifePath(R) Index 2050 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

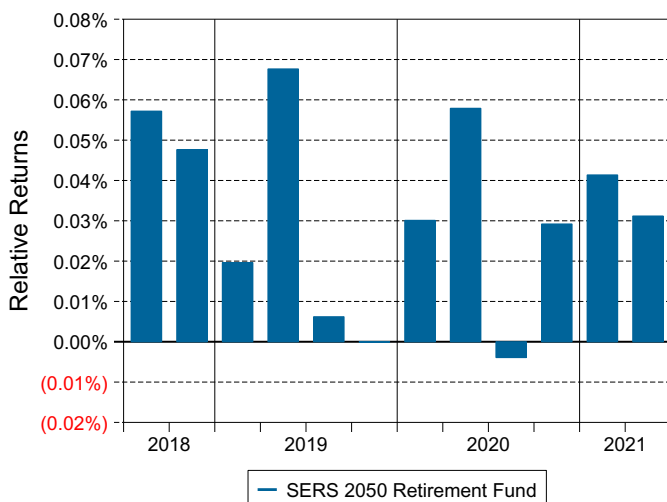
Quarterly Summary and Highlights

- SERS 2050 Retirement Fund's portfolio posted a 7.30% return for the quarter placing it in the 6 percentile of the Callan Target Date 2050 group for the quarter and in the 11 percentile for the last year.
- SERS 2050 Retirement Fund's portfolio outperformed the LifePath Index 2050 CB by 0.03% for the quarter and outperformed the LifePath Index 2050 CB for the year by 0.13%.

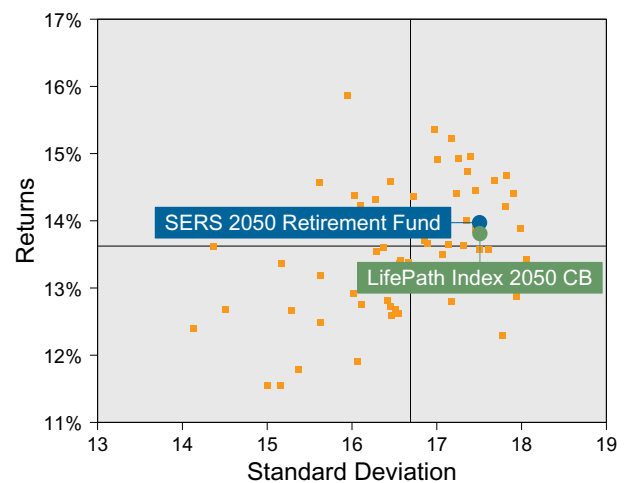
Performance vs Callan Target Date 2050 (Net)



Relative Return vs LifePath Index 2050 CB



Callan Target Date 2050 (Net) Annualized Five Year Risk vs Return

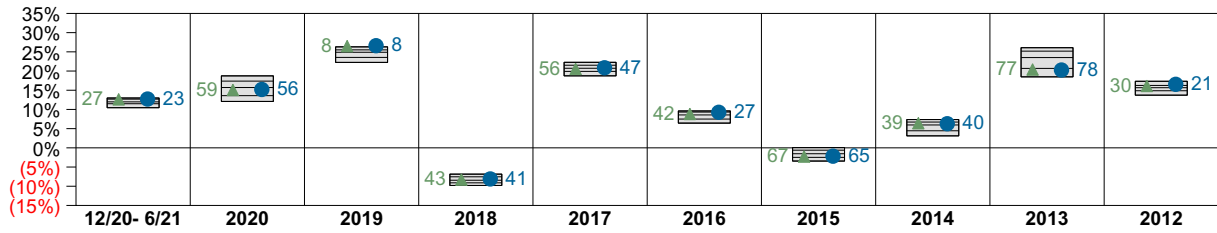


SERS 2050 Retirement Fund Return Analysis Summary

Return Analysis

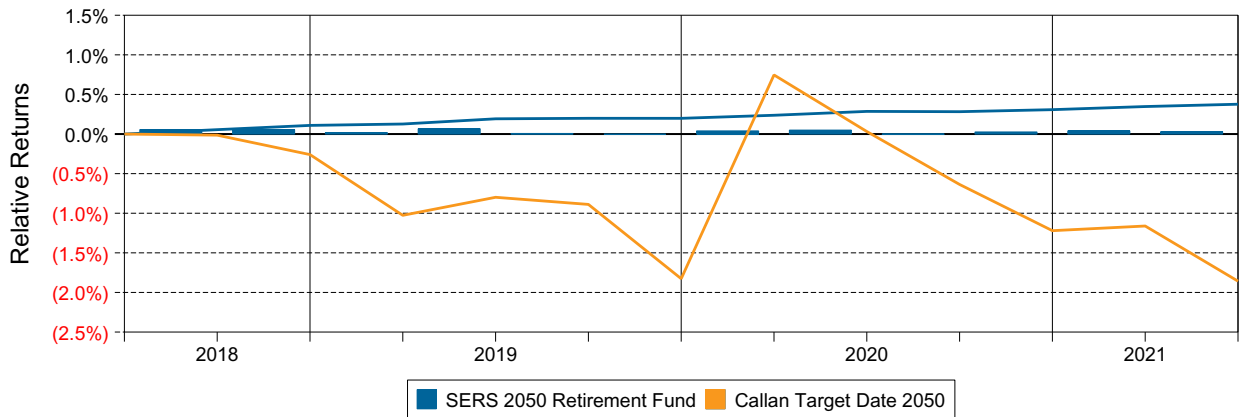
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Target Date 2050 (Net)

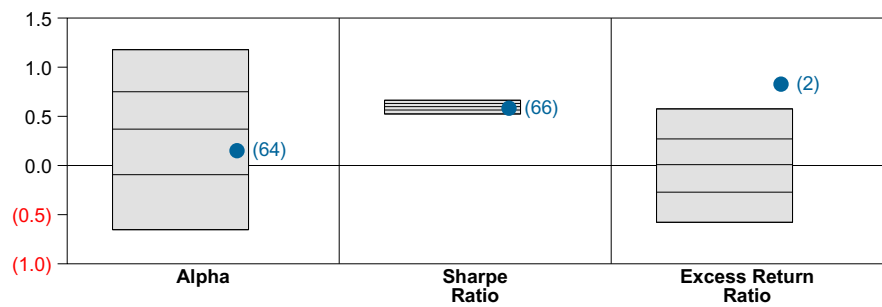


	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
10th Percentile	12.98	18.74	26.30	(6.84)	22.27	9.60	0.05	7.37	26.07	17.34
25th Percentile	12.68	17.38	25.51	(7.54)	21.51	9.32	(0.61)	6.72	25.18	16.25
Median	11.97	15.71	24.89	(8.44)	20.72	8.57	(1.54)	5.96	23.51	15.66
75th Percentile	11.48	13.59	23.55	(9.11)	19.91	7.49	(2.48)	4.45	20.69	14.87
90th Percentile	10.45	12.08	22.25	(9.80)	18.75	6.44	(3.45)	3.12	18.49	13.71
SERS 2050 Retirement Fund	● 12.71	15.20	26.60	(8.11)	20.85	9.26	(2.17)	6.28	20.26	16.54
LifePath Index 2050 CB	▲ 12.63	15.07	26.48	(8.26)	20.55	8.82	(2.26)	6.41	20.40	16.12

Cumulative and Quarterly Relative Return vs LifePath Index 2050 CB



Risk Adjusted Return Measures vs LifePath Index 2050 CB Rankings Against Callan Target Date 2050 (Net) Seven Years Ended June 30, 2021



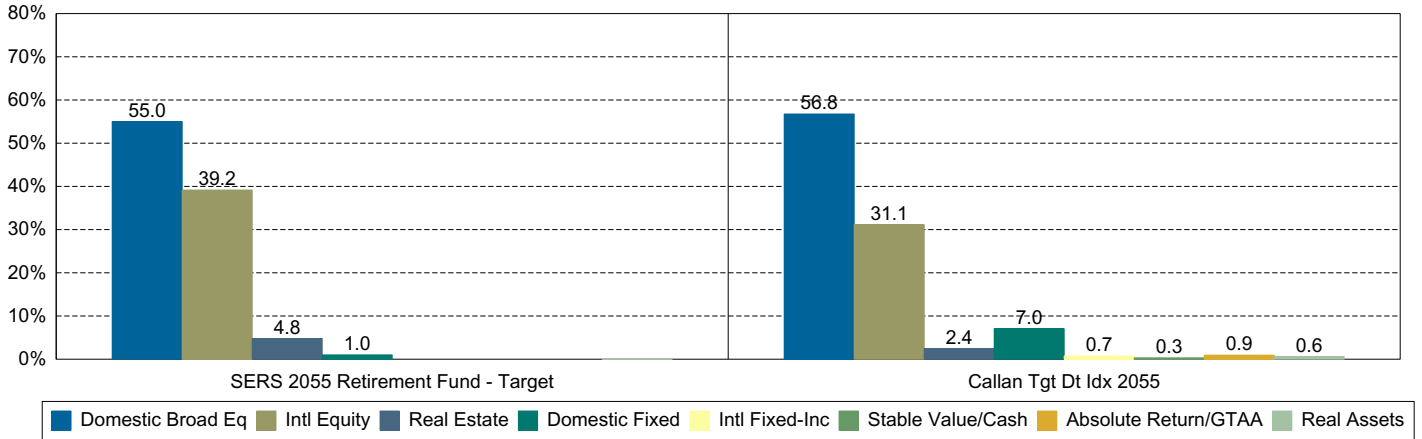
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.18	0.66	0.58
25th Percentile	0.75	0.63	0.27
Median	0.37	0.60	0.01
75th Percentile	(0.09)	0.56	(0.27)
90th Percentile	(0.65)	0.52	(0.58)
SERS 2050 Retirement Fund	● 0.15	0.58	0.83

SERS 2055 Retirement Fund

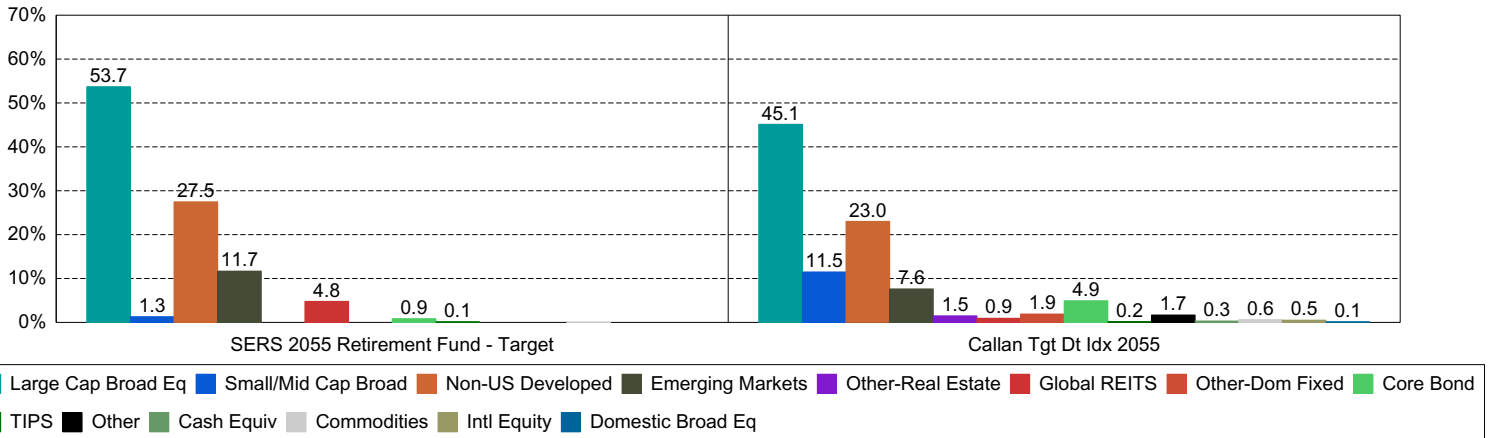
Target Date Fund Asset Allocation as of June 30, 2021

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

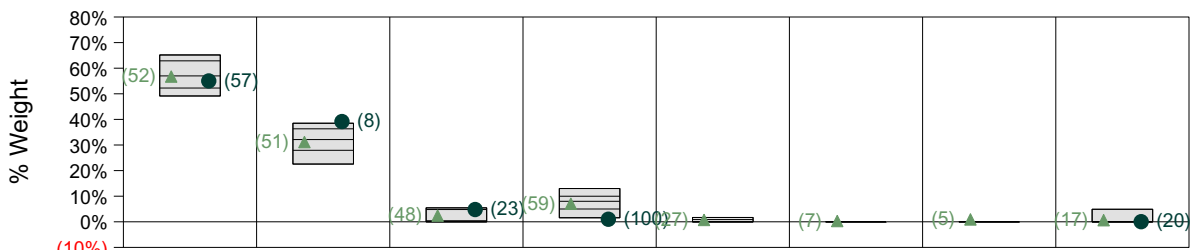
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date 2055



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	65.17	38.50	5.45	13.00	1.68	0.00	0.00	4.90
25th Percentile	62.88	36.33	4.79	9.99	0.88	0.00	0.00	0.00
Median	56.99	32.12	0.42	8.01	0.00	0.00	0.00	0.00
75th Percentile	52.25	27.93	0.00	5.00	0.00	0.00	0.00	0.00
90th Percentile	49.15	22.55	0.00	1.57	0.00	0.00	0.00	0.00

SERS 2055 Retirement Fund - Target	●	55.02	39.15	4.79	1.00	-	-	0.04
Callan Tgt Dt Idx 2055	▲	56.75	31.15	2.43	7.05	0.74	0.31	0.63

SERS 2055 Retirement Fund Period Ended June 30, 2021

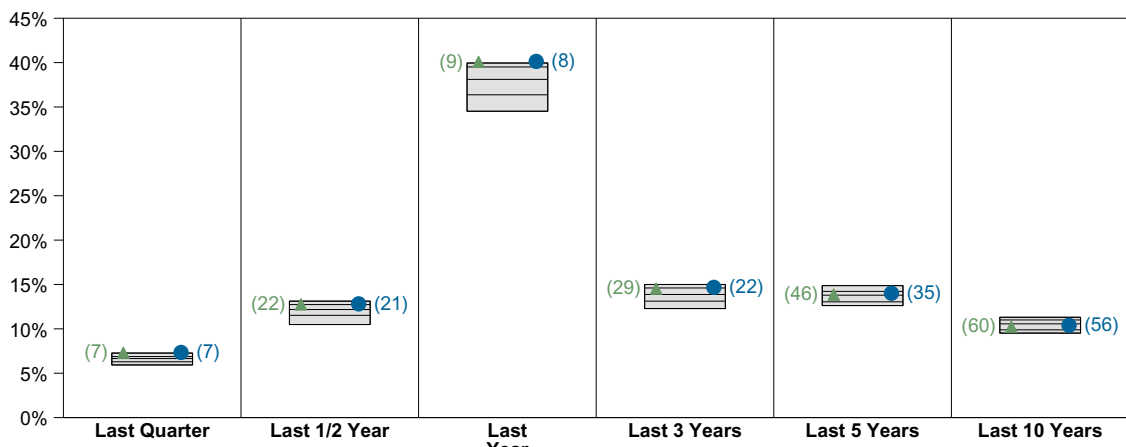
Investment Philosophy

The BlackRock LifePath(R) Index 2055 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

Quarterly Summary and Highlights

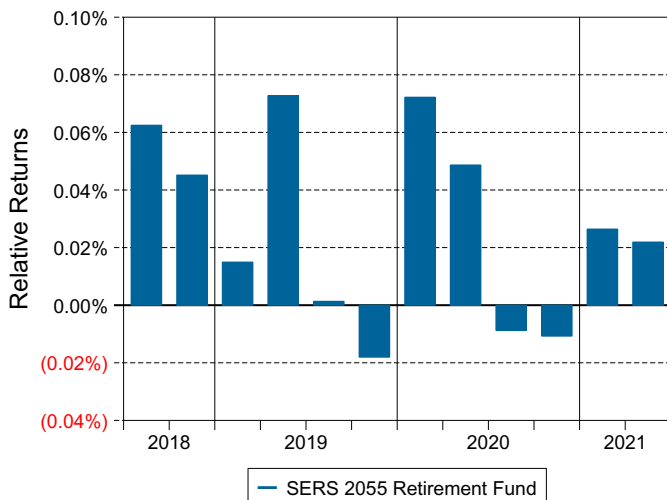
- SERS 2055 Retirement Fund's portfolio posted a 7.34% return for the quarter placing it in the 7 percentile of the Callan Target Date 2055 group for the quarter and in the 8 percentile for the last year.
- SERS 2055 Retirement Fund's portfolio outperformed the LifePath Index 2055 CB by 0.02% for the quarter and outperformed the LifePath Index 2055 CB for the year by 0.04%.

Performance vs Callan Target Date 2055 (Net)

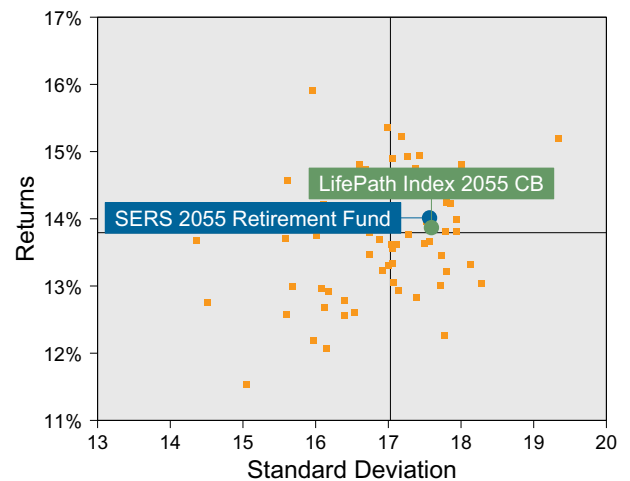


10th Percentile	7.27	13.12	39.96	15.00	14.87	11.30
25th Percentile	6.88	12.74	39.51	14.61	14.22	11.00
Median	6.65	12.17	38.11	13.87	13.79	10.56
75th Percentile	6.29	11.52	36.37	13.12	13.05	9.89
90th Percentile	5.93	10.49	34.52	12.29	12.62	9.52
SERS 2055 Retirement Fund	7.34	12.82	40.13	14.67	14.01	10.40
LifePath Index 2055 CB	7.32	12.76	40.09	14.54	13.87	10.25

Relative Return vs LifePath Index 2055 CB



Callan Target Date 2055 (Net) Annualized Five Year Risk vs Return

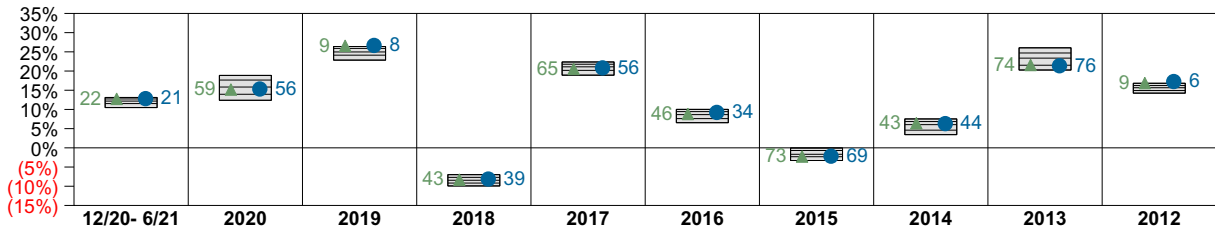


SERS 2055 Retirement Fund Return Analysis Summary

Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

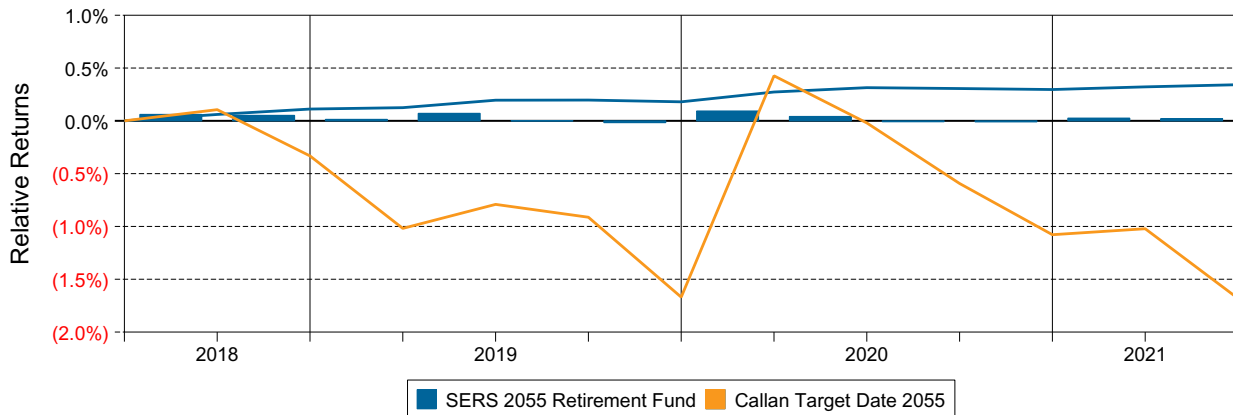
Performance vs Callan Target Date 2055 (Net)



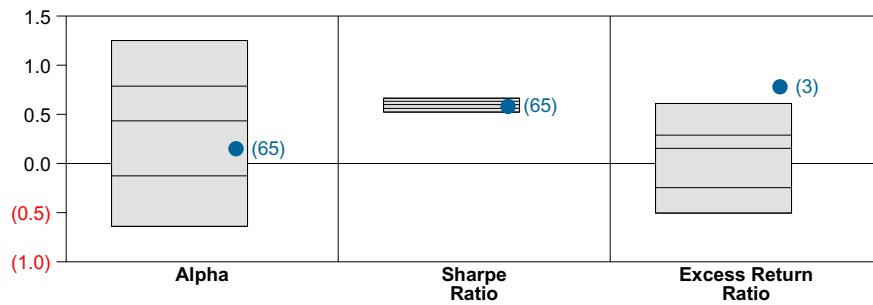
10th Percentile	13.12	18.86	26.39	(6.98)	22.36	10.01	(0.05)	7.53	26.05	16.82
25th Percentile	12.74	17.65	25.90	(7.69)	21.77	9.44	(0.69)	6.85	24.70	16.22
Median	12.17	15.83	24.97	(8.44)	21.10	8.65	(1.68)	6.04	23.36	15.65
75th Percentile	11.52	13.95	24.13	(9.18)	20.17	7.61	(2.31)	4.60	21.51	14.93
90th Percentile	10.49	12.38	22.84	(9.93)	18.92	6.55	(3.30)	3.44	20.26	14.25

	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
SERS 2055 Retirement Fund	12.82	15.32	26.67	(8.13)	20.82	9.22	(2.17)	6.31	21.37	17.27
LifePath Index 2055 CB	12.76	15.18	26.58	(8.28)	20.55	8.82	(2.26)	6.41	21.58	16.87

Cumulative and Quarterly Relative Return vs LifePath Index 2055 CB



Risk Adjusted Return Measures vs LifePath Index 2055 CB Rankings Against Callan Target Date 2055 (Net) Seven Years Ended June 30, 2021



10th Percentile	1.25	0.66	0.61
25th Percentile	0.79	0.63	0.29
Median	0.43	0.60	0.15
75th Percentile	(0.13)	0.56	(0.25)
90th Percentile	(0.64)	0.52	(0.50)

SERS 2055 Retirement Fund	0.15	0.58	0.78
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SERS 2060 Retirement Fund Period Ended June 30, 2021

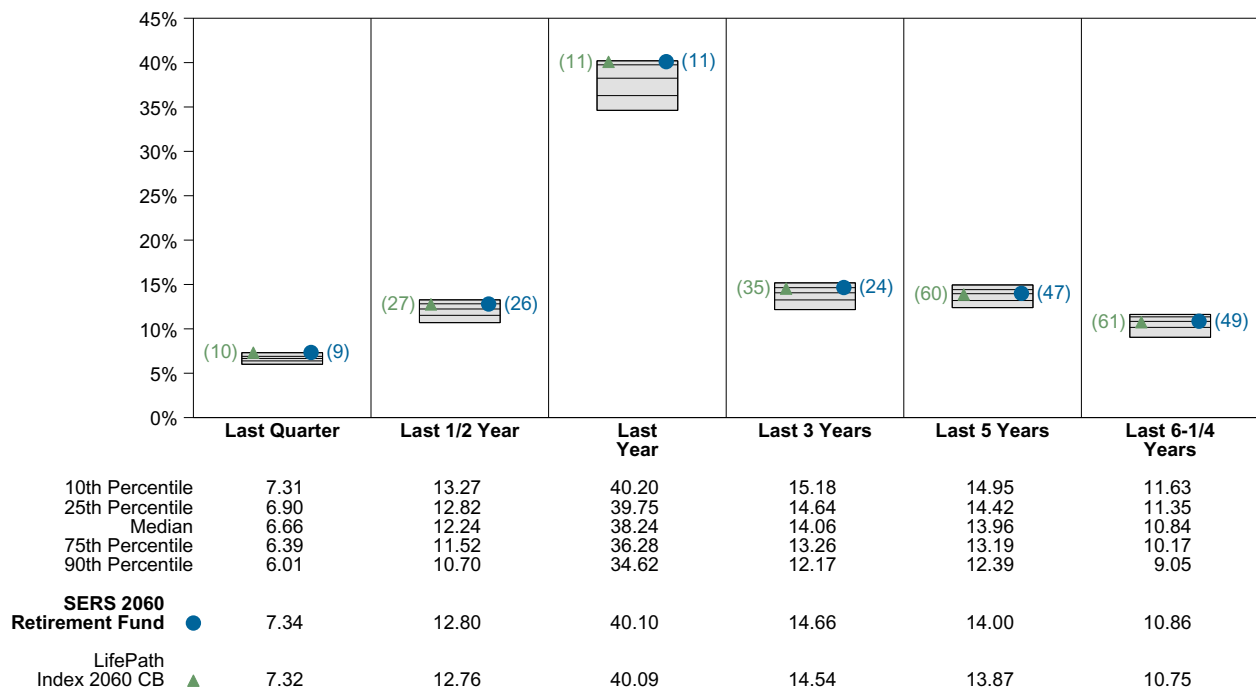
Investment Philosophy

The BlackRock LifePath(R) Index 2060 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

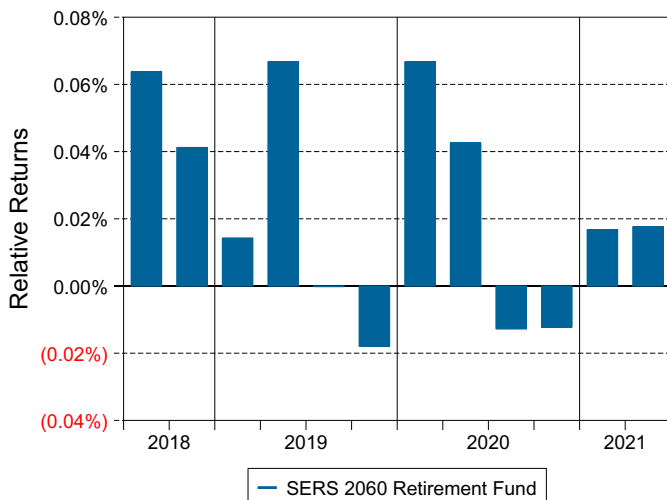
Quarterly Summary and Highlights

- SERS 2060 Retirement Fund's portfolio posted a 7.34% return for the quarter placing it in the 9 percentile of the Callan Target Date 2060 group for the quarter and in the 11 percentile for the last year.
- SERS 2060 Retirement Fund's portfolio outperformed the LifePath Index 2060 CB by 0.02% for the quarter and outperformed the LifePath Index 2060 CB for the year by 0.01%.

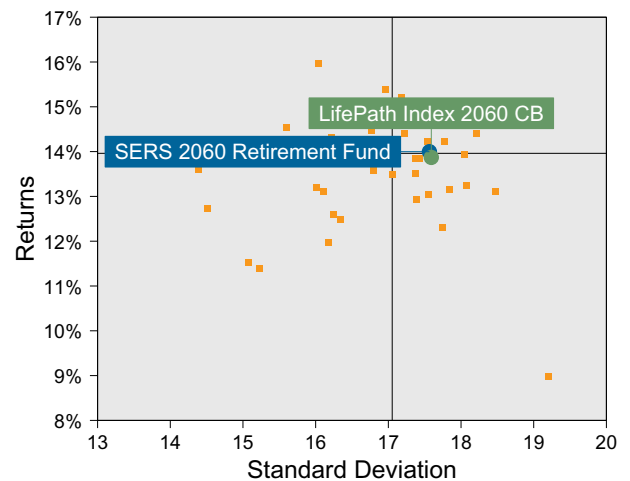
Performance vs Callan Target Date 2060 (Net)



Relative Return vs LifePath Index 2060 CB



Callan Target Date 2060 (Net) Annualized Five Year Risk vs Return

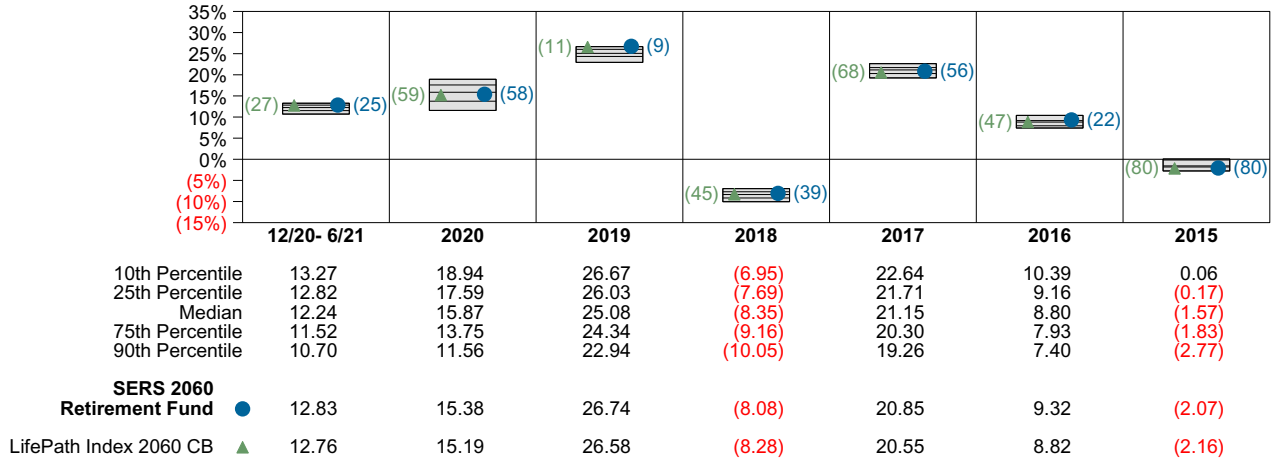


SERS 2060 Retirement Fund Return Analysis Summary

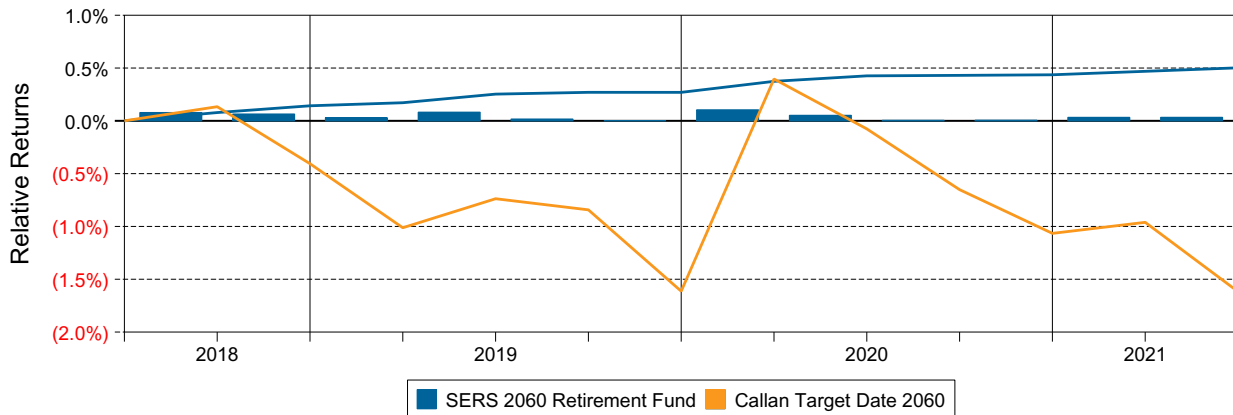
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

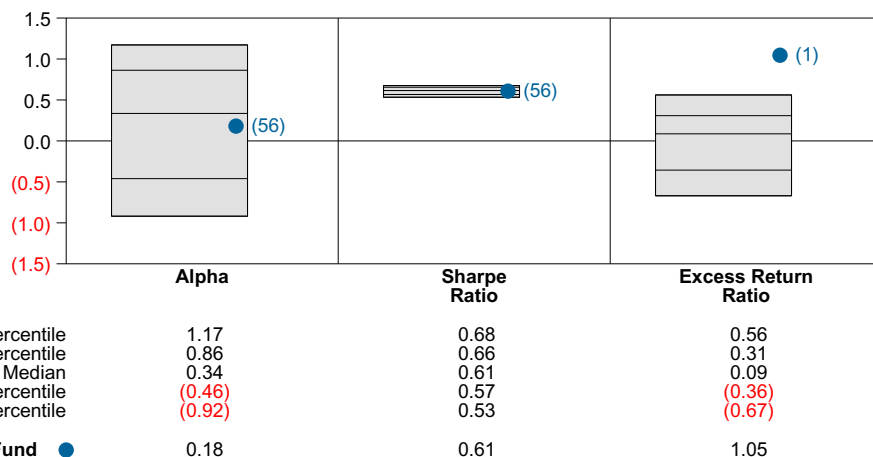
Performance vs Callan Target Date 2060 (Net)



Cumulative and Quarterly Relative Return vs LifePath Index 2060 CB



Risk Adjusted Return Measures vs LifePath Index 2060 CB Rankings Against Callan Target Date 2060 (Net) Six and One-Quarter Years Ended June 30, 2021



SERS 2065 Retirement Fund

Period Ended June 30, 2021

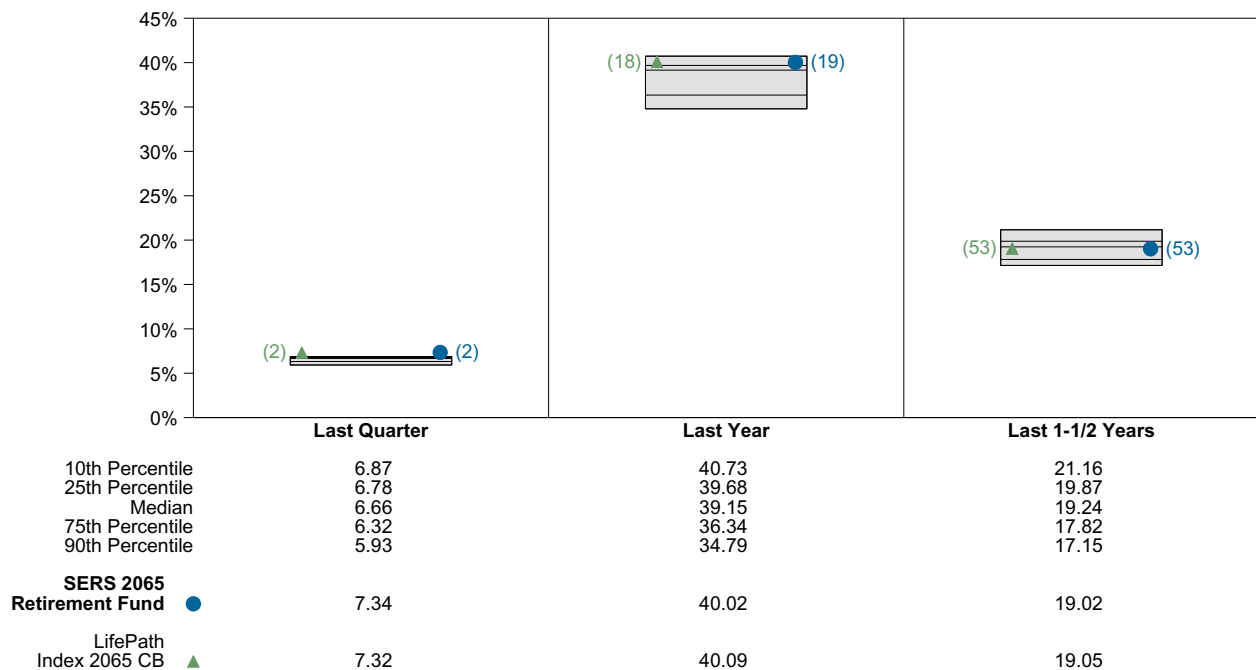
Investment Philosophy

The BlackRock LifePath(R) Index 2065 Fund (the "Fund") seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. The Fund will be diversified across global asset classes, with allocations changing over the investment horizon to become more heavily oriented toward debt and debt-like securities, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches. Target Date funds replaced risk-based funds in 1Q20.

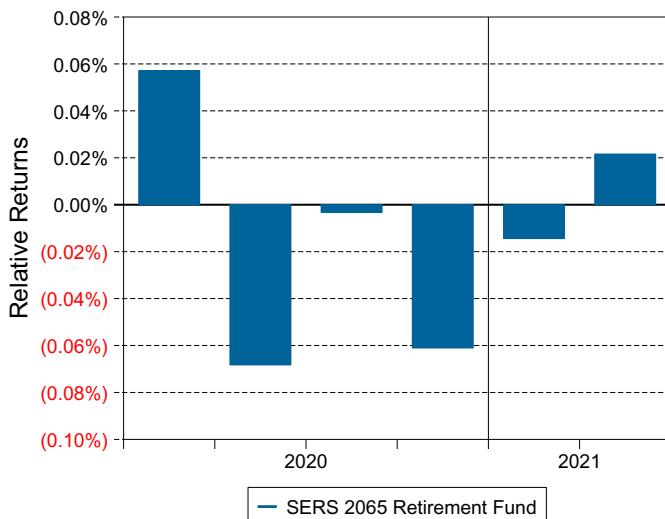
Quarterly Summary and Highlights

- SERS 2065 Retirement Fund's portfolio posted a 7.34% return for the quarter placing it in the 2 percentile of the Callan Target Date 2065 group for the quarter and in the 19 percentile for the last year.
- SERS 2065 Retirement Fund's portfolio outperformed the LifePath Index 2065 CB by 0.02% for the quarter and underperformed the LifePath Index 2065 CB for the year by 0.07%.

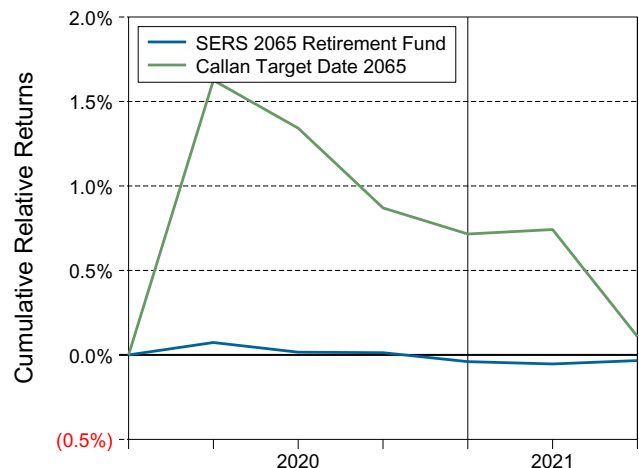
Performance vs Callan Target Date 2065 (Net)



Relative Return vs LifePath Index 2065 CB



Cumulative Returns vs LifePath Index 2065 CB



SERS U.S. Large Company Index Fund

Period Ended June 30, 2021

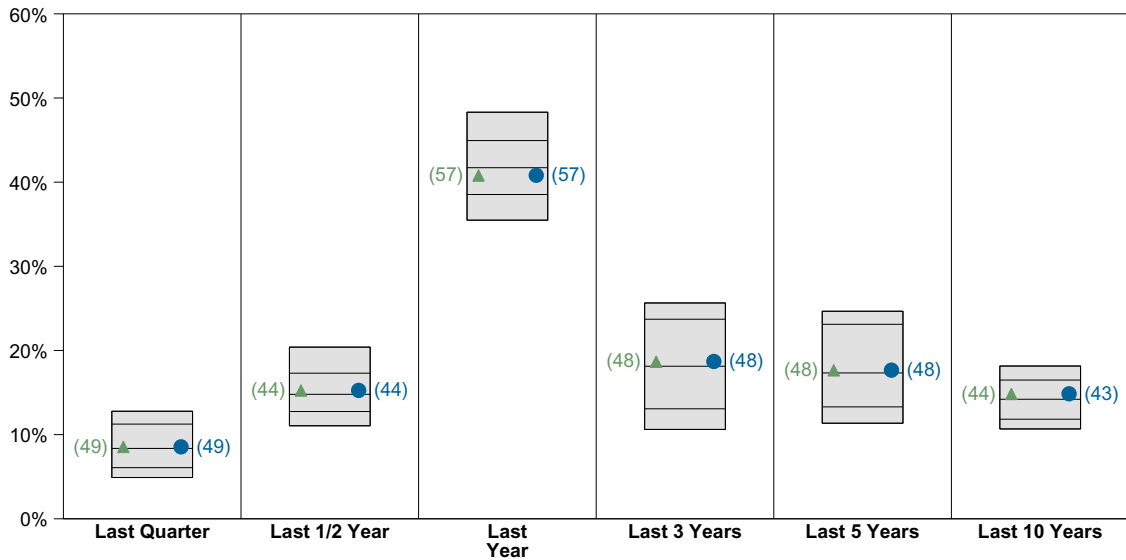
Investment Philosophy

The strategy seeks to replicate the performance and characteristics of the S&P 500 Index with minimal tracking error. Mellon Capital uses full replication to construct the portfolio, holding each security in the index in its proportionate weight. This fund is managed by Mellon Capital Management.

Quarterly Summary and Highlights

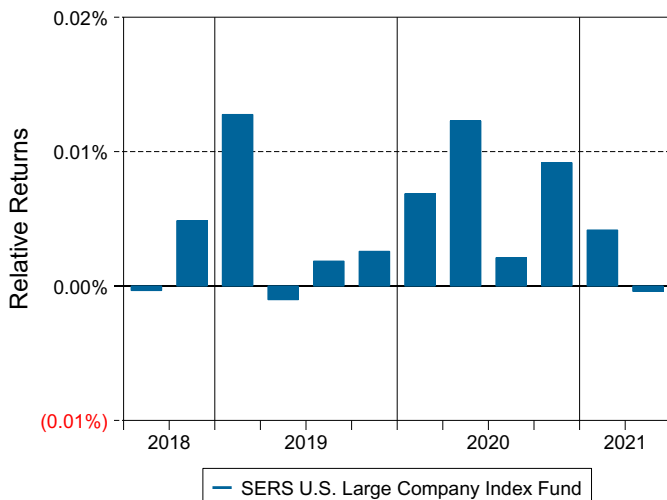
- SERS U.S. Large Company Index Fund's portfolio posted a 8.55% return for the quarter placing it in the 49 percentile of the Callan Large Cap Broad Equity Mut Funds group for the quarter and in the 57 percentile for the last year.
- SERS U.S. Large Company Index Fund's portfolio underperformed the S&P 500 Index by 0.00% for the quarter and outperformed the S&P 500 Index for the year by 0.02%.

Performance vs Callan Large Cap Broad Equity Mut Funds (Institutional Net)

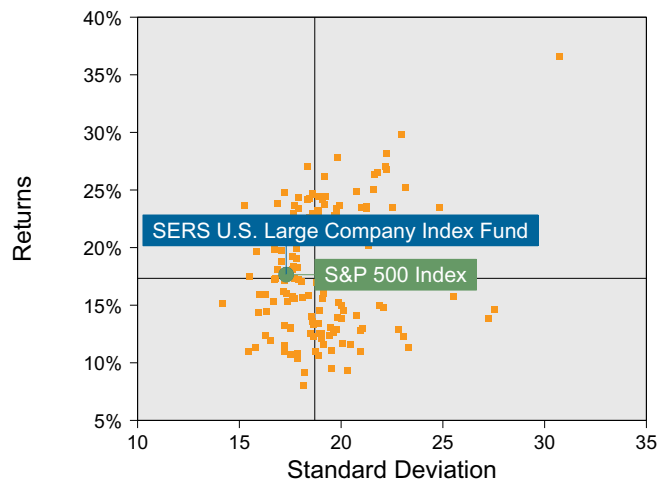


10th Percentile	12.78	20.40	48.31	25.65	24.66	18.15
25th Percentile	11.25	17.30	44.94	23.71	23.11	16.49
Median	8.36	14.79	41.72	18.13	17.33	14.20
75th Percentile	6.08	12.75	38.53	13.07	13.30	11.83
90th Percentile	4.90	11.05	35.48	10.62	11.35	10.67
SERS U.S. Large Company Index Fund ●	8.55	15.26	40.81	18.69	17.66	14.86
S&P 500 Index ▲	8.55	15.25	40.79	18.67	17.65	14.84

Relative Return vs S&P 500 Index



Callan Large Cap Broad Equity Mut Funds (Institutional Net) Annualized Five Year Risk vs Return

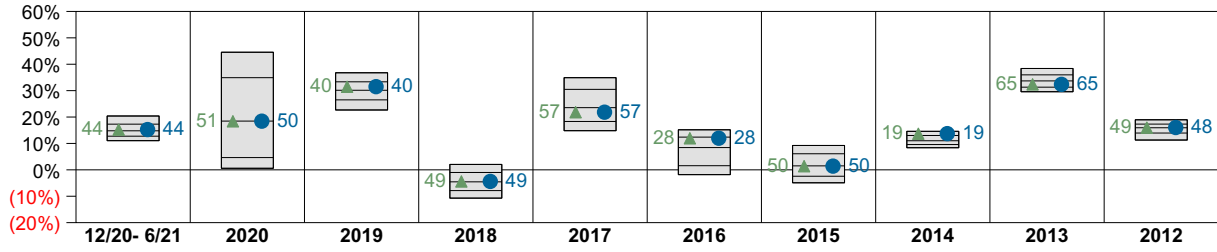


SERS U.S. Large Company Index Fund Return Analysis Summary

Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

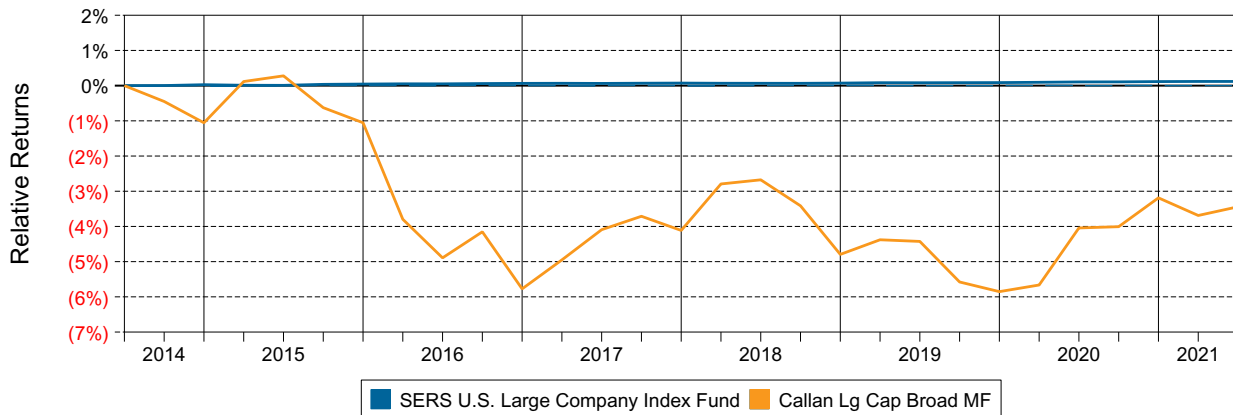
Performance vs Callan Large Cap Broad Equity Mut Funds (Institutional Net)



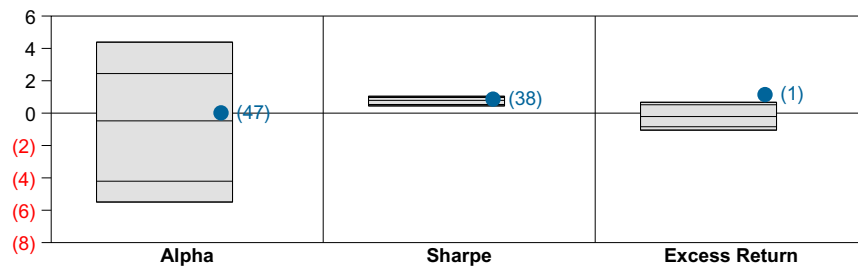
	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
10th Percentile	20.40	44.54	36.76	2.05	34.91	15.17	9.23	14.58	38.40	18.96
25th Percentile	17.30	34.90	33.34	(1.00)	30.48	12.39	6.09	13.01	35.98	17.33
Median	14.79	18.47	30.14	(4.54)	23.56	8.43	1.50	11.02	33.69	15.94
75th Percentile	12.75	4.64	26.51	(7.86)	18.33	1.56	(2.42)	9.59	31.31	13.94
90th Percentile	11.05	0.58	22.66	(10.72)	14.82	(1.82)	(4.91)	8.38	29.58	11.29

	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
SERS U.S. Large Company Index Fund	● 15.26	18.43	31.51	(4.39)	21.84	11.98	1.40	13.71	32.38	16.03
S&P 500 Index	▲ 15.25	18.40	31.49	(4.38)	21.83	11.96	1.38	13.69	32.39	16.00

Cumulative and Quarterly Relative Return vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Cap Broad Equity Mut Funds (Institutional Net) Seven Years Ended June 30, 2021



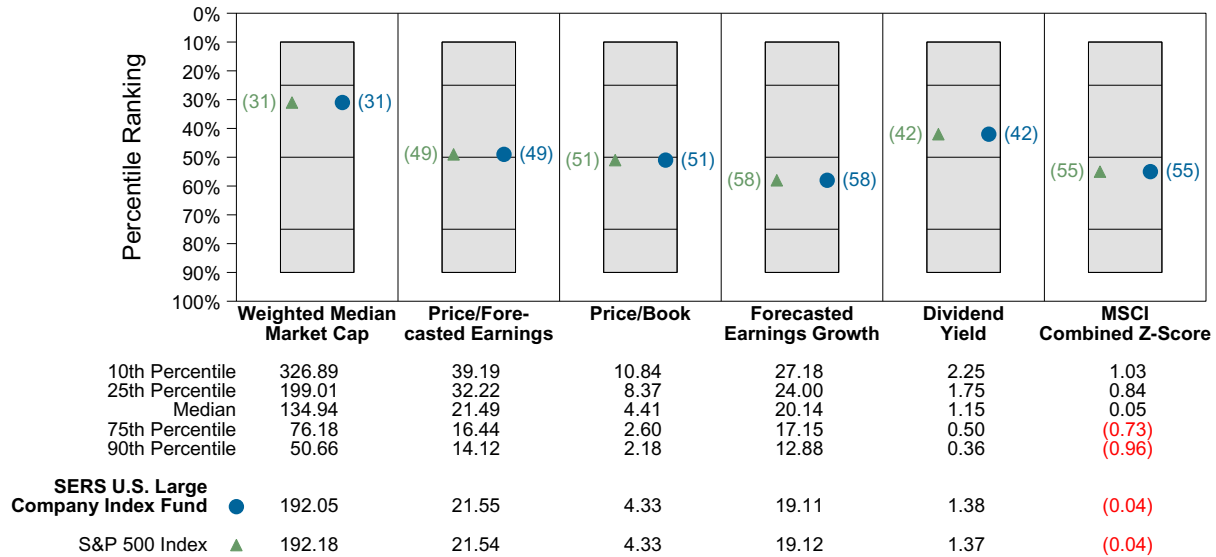
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	4.39	1.04	0.67
25th Percentile	2.45	0.97	0.52
Median	(0.48)	0.79	(0.21)
75th Percentile	(4.21)	0.53	(0.84)
90th Percentile	(5.49)	0.45	(1.05)
SERS U.S. Large Company Index Fund	● 0.02	0.87	1.14

SERS U.S. Large Company Index Fund Equity Characteristics Analysis Summary

Portfolio Characteristics

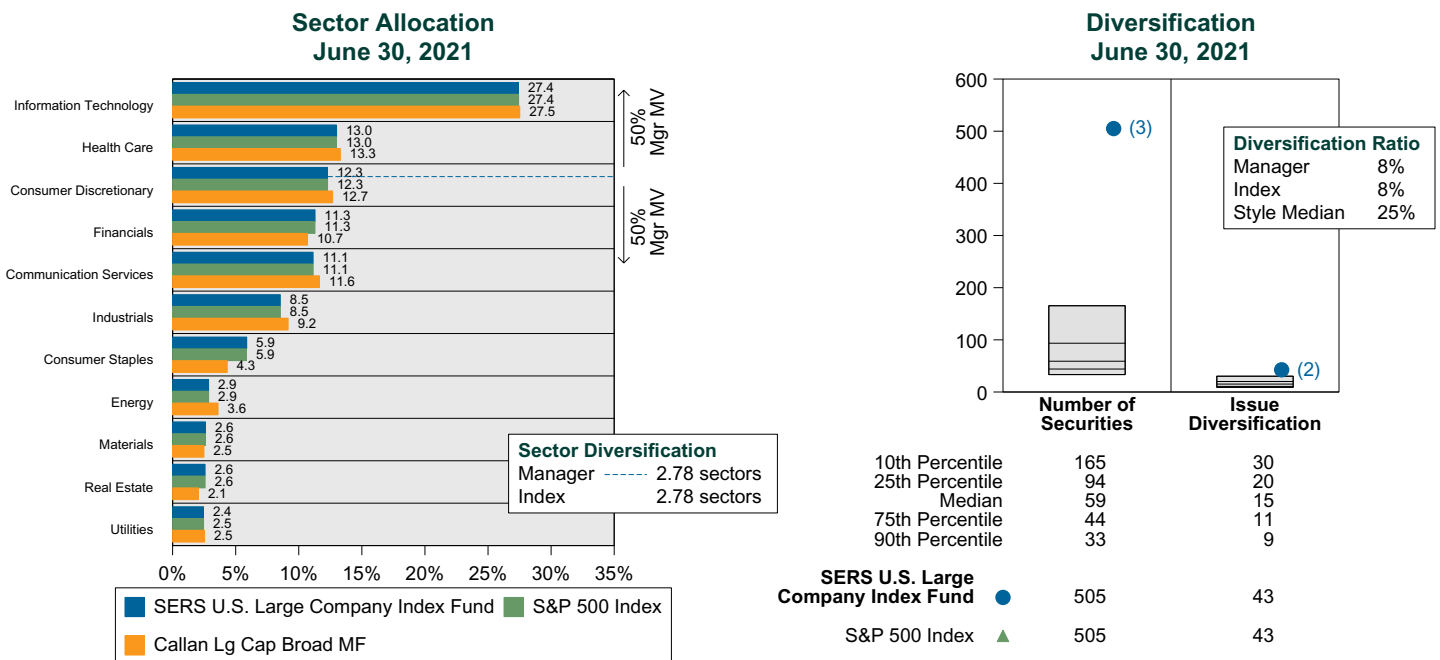
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Broad Equity Mut Funds as of June 30, 2021



Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.



SERS U.S. Large Company Index Fund Top 10 Portfolio Holdings Characteristics as of June 30, 2021

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Apple Inc	Information Technology	\$76,403,336	5.9%	12.31%	2285.54	25.77	0.64%	18.91%
Microsoft Corp	Information Technology	\$72,558,797	5.6%	15.16%	2040.30	32.35	0.83%	18.00%
Amazon.Com	Consumer Discretionary	\$52,443,939	4.1%	11.19%	1734.95	53.72	0.00%	40.10%
Facebook Inc Cl A	Communication Services	\$29,626,527	2.3%	18.06%	833.13	24.54	0.00%	23.70%
Alphabet Inc Cl A	Communication Services	\$26,113,913	2.0%	18.39%	734.36	26.81	0.00%	21.00%
Alphabet Inc Cl C	Communication Services	\$25,378,153	2.0%	21.16%	810.99	27.56	0.00%	21.00%
Berkshire Hathaway Inc Del Cl B New	Financials	\$18,730,486	1.4%	8.79%	368.68	23.65	0.00%	31.60%
Tesla Mtrs Inc	Consumer Discretionary	\$18,626,140	1.4%	1.76%	654.78	127.64	0.00%	44.66%
Nvidia Corp	Information Technology	\$17,727,757	1.4%	49.89%	498.46	48.73	0.08%	26.84%
JPMorgan Chase & Co	Financials	\$16,741,837	1.3%	2.77%	470.84	12.37	2.31%	1.28%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Nvidia Corp	Information Technology	\$17,727,757	1.4%	49.89%	498.46	48.73	0.08%	26.84%
Devon Energy Corp	Energy	\$617,720	0.0%	35.14%	19.76	10.74	3.15%	(14.64)%
Pool Corporation	Consumer Discretionary	\$655,584	0.1%	33.10%	18.41	35.74	0.70%	32.34%
Gartner Inc	Information Technology	\$738,179	0.1%	32.68%	20.85	38.29	0.00%	16.40%
Equifax	Industrials	\$1,032,395	0.1%	32.45%	29.15	31.05	0.65%	8.87%
Sealed Air Corp	Materials	\$327,251	0.0%	29.76%	9.01	16.07	1.35%	8.70%
Fortinet Inc	Information Technology	\$1,141,664	0.1%	29.16%	38.90	58.89	0.00%	15.35%
Idexx Labs Corp	Health Care	\$1,914,279	0.1%	29.07%	53.86	73.43	0.00%	16.74%
Nortonlifelock Inc	Information Technology	\$562,194	0.0%	28.60%	15.79	15.43	1.84%	14.80%
Diamondback Energy Inc	Energy	\$603,014	0.0%	28.40%	16.99	9.46	1.70%	42.20%

10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Discovery Inc Series A	Communication Services	\$177,262	0.0%	(29.41)%	5.17	10.12	0.00%	12.90%
Penn Natl Gaming Inc	Consumer Discretionary	\$404,377	0.0%	(27.04)%	11.96	26.61	0.00%	141.92%
Discovery Inc Series C	Communication Services	\$300,549	0.0%	(21.44)%	9.57	9.50	0.00%	16.45%
Citrix Sys Inc	Information Technology	\$515,737	0.0%	(16.19)%	14.56	18.64	1.26%	11.20%
Las Vegas Sands Corp	Consumer Discretionary	\$617,927	0.0%	(13.28)%	40.25	41.42	0.00%	4.25%
Dollar Tree Inc	Consumer Discretionary	\$832,709	0.1%	(13.07)%	23.08	15.70	0.00%	8.81%
Southwest Aircls Co	Industrials	\$1,118,003	0.1%	(13.05)%	31.40	61.59	0.00%	9.78%
Alaska Air Group Inc	Industrials	\$265,569	0.0%	(12.86)%	8.12	62.76	0.00%	(23.40)%
Intel Corp	Information Technology	\$8,059,047	0.6%	(11.75)%	226.69	12.21	2.48%	10.00%
American Airlines Group Inc	Industrials	\$481,803	0.0%	(11.25)%	13.60	(4.96)	0.00%	(13.49)%

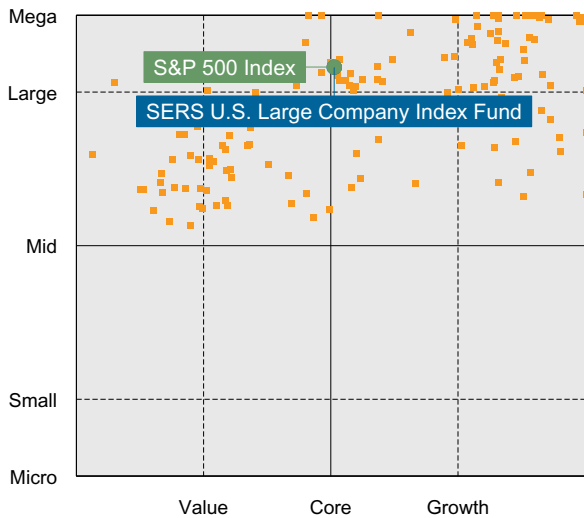
Historical Holdings Based Style Analysis

SERS U.S. Large Company Index Fund

For Three Years Ended June 30, 2021

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The next two style exposure charts illustrate the actual quarterly cap/style and style only segment exposures of the portfolio through history.

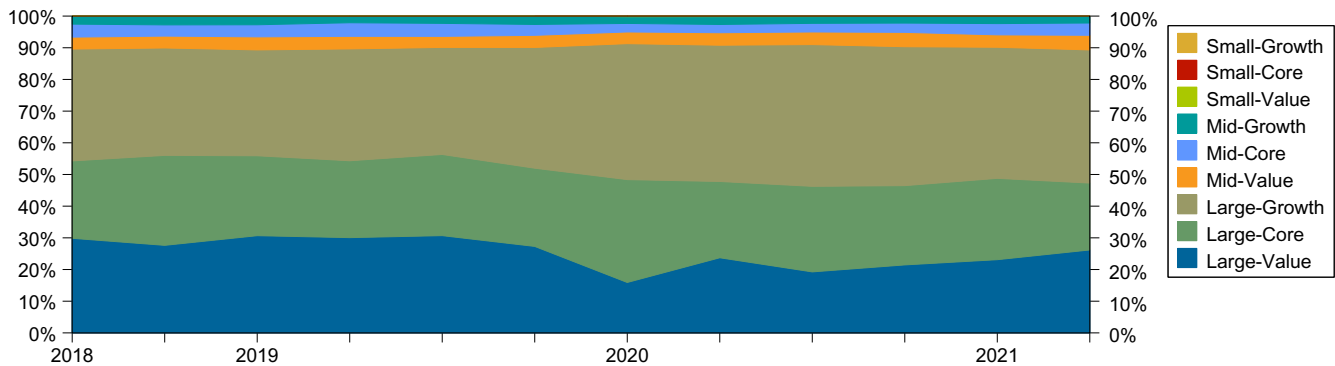
Average Style Map vs Callan Lg Cap Broad MF Holdings for Three Years Ended June 30, 2021



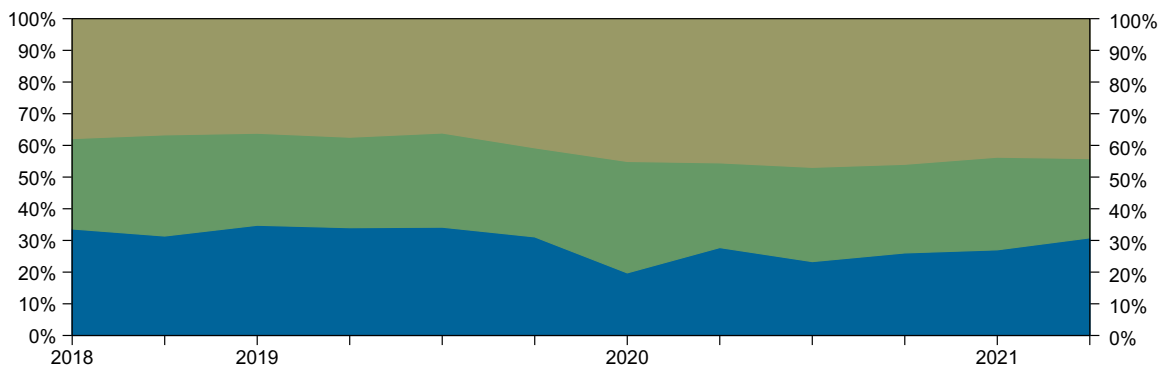
Average Style Exposure Matrix Holdings for Three Years Ended June 30, 2021

Large	25.5% (95)	25.7% (97)	39.0% (86)	90.1% (278)
	25.5% (95)	25.7% (97)	39.0% (86)	90.2% (278)
Mid	4.0% (97)	3.5% (76)	2.4% (47)	9.8% (220)
	4.0% (97)	3.4% (75)	2.4% (47)	9.7% (219)
Small	0.0% (4)	0.0% (1)	0.0% (2)	0.1% (7)
	0.0% (4)	0.0% (1)	0.0% (2)	0.1% (7)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Total	29.5% (196)	29.2% (174)	41.4% (135)	100.0% (505)
	29.5% (196)	29.1% (173)	41.4% (135)	100.0% (504)
	Value	Core	Growth	Total

SERS U.S. Large Company Index Fund Historical Cap/Style Exposures



SERS U.S. Large Company Index Fund Historical Style Only Exposures



SERS U.S. SMID Company Stock Idx Period Ended June 30, 2021

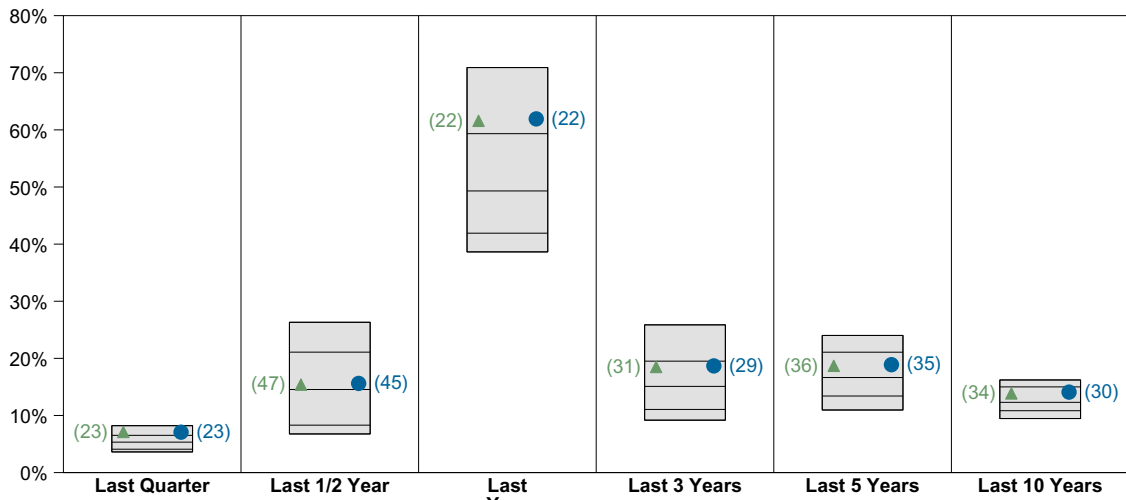
Investment Philosophy

The U.S. Small/Mid Company Stock Index Fund seeks to match the performance and overall characteristics of the Dow Jones U.S. Completion Total Stock Market Index in a risk-controlled, cost-effective manner. The Fund's approach to quality indexing aims to minimize tracking error, manage transaction costs and replicate the majority of the index and sample from the remaining smaller securities. This fund is managed by Mellon Capital Management.

Quarterly Summary and Highlights

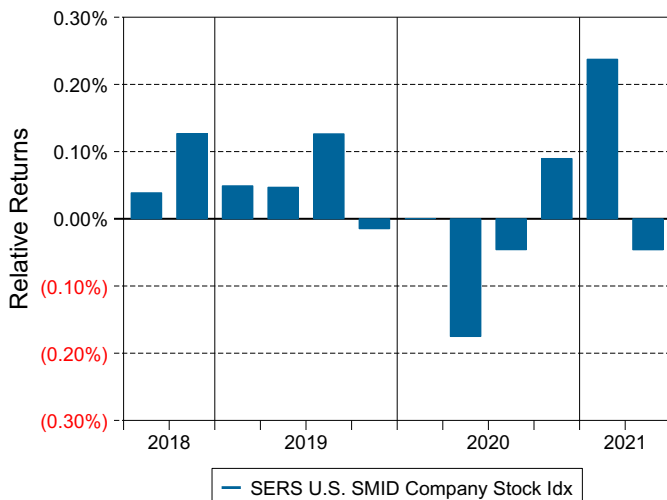
- SERS U.S. SMID Company Stock Idx's portfolio posted a 7.08% return for the quarter placing it in the 23 percentile of the Callan Small/MidCap Broad Mutual Funds group for the quarter and in the 22 percentile for the last year.
- SERS U.S. SMID Company Stock Idx's portfolio underperformed the Dow Jones US Completion by 0.05% for the quarter and outperformed the Dow Jones US Completion for the year by 0.33%.

Performance vs Callan Small/MidCap Broad Mutual Funds (Institutional Net)

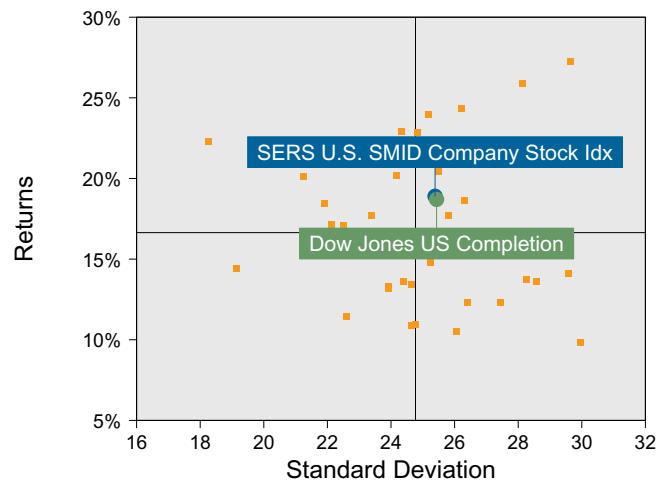


10th Percentile	8.22	26.32	70.91	25.87	24.01	16.22
25th Percentile	6.52	21.09	59.34	19.51	21.08	15.00
Median	5.33	14.55	49.31	15.09	16.64	12.30
75th Percentile	4.09	8.31	41.92	11.06	13.41	10.84
90th Percentile	3.62	6.77	38.64	9.18	10.96	9.46
SERS U.S. SMID Company Stock Idx	7.08	15.61	61.92	18.68	18.90	14.09
Dow Jones US Completion	7.12	15.41	61.59	18.50	18.70	13.87

Relative Return vs Dow Jones US Completion



Callan Small/MidCap Broad Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

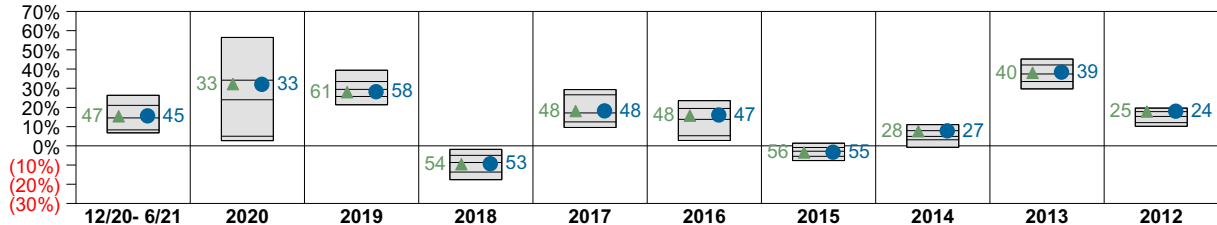


SERS U.S. SMID Company Stock Idx Return Analysis Summary

Return Analysis

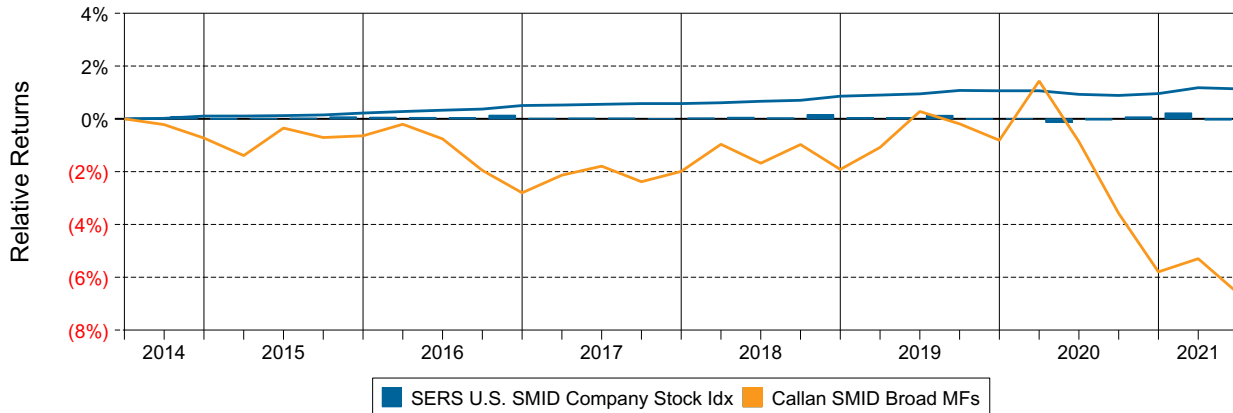
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Small/MidCap Broad Mutual Funds (Institutional Net)

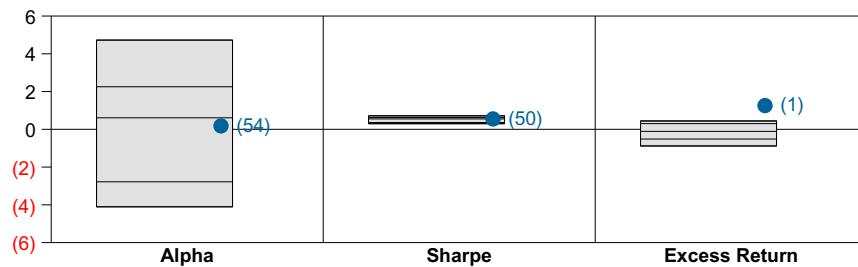


	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
SERS U.S. SMID Company Stock Idx ●	15.61	32.03	28.20	(9.32)	18.21	16.08	(3.31)	7.81	38.40	18.04
Dow Jones US Completion ▲	15.41	32.17	27.94	(9.57)	18.12	15.75	(3.42)	7.63	38.05	17.89

Cumulative and Quarterly Relative Return vs Dow Jones US Completion



Risk Adjusted Return Measures vs Dow Jones US Completion Rankings Against Callan Small/MidCap Broad Mutual Funds (Institutional Net) Seven Years Ended June 30, 2021



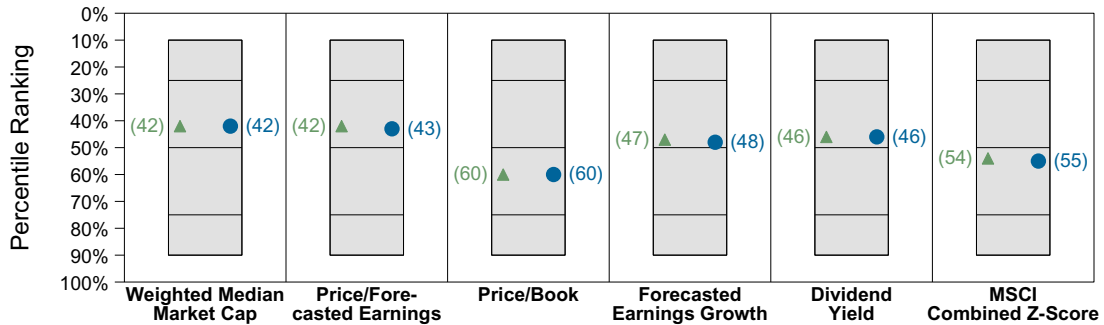
	Alpha	Sharpe Ratio	Excess Return Ratio
SERS U.S. SMID Company Stock Idx ●	0.18	0.55	1.26

SERS U.S. SMID Company Idx Fund Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Small/MidCap Broad Mutual Funds as of June 30, 2021

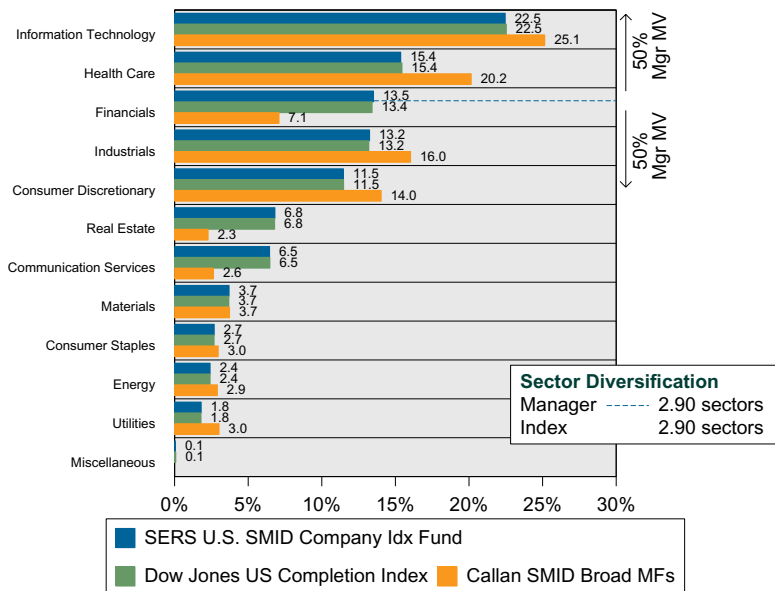


	Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	13.04	62.38	7.17	26.80	1.52	0.86
25th Percentile	9.92	40.99	5.77	24.51	1.25	0.70
Median	6.29	25.53	4.06	18.62	0.48	0.29
75th Percentile	5.25	15.96	2.19	15.50	0.27	(0.50)
90th Percentile	3.74	14.50	1.89	11.13	0.15	(0.70)
SERS U.S. SMID Company Idx Fund	7.33	29.63	3.10	19.14	0.86	0.19
Dow Jones US Completion Index	7.38	30.26	3.11	19.24	0.85	0.20

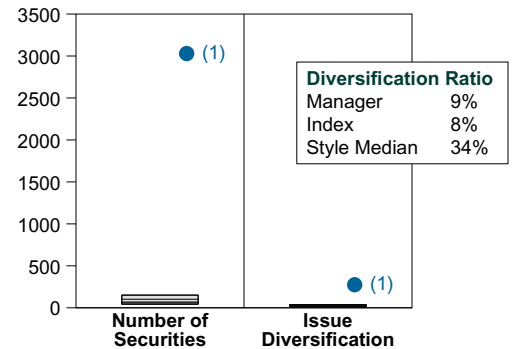
Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation June 30, 2021



Diversification June 30, 2021



	Number of Securities	Issue Diversification
10th Percentile	151	38
25th Percentile	102	33
Median	69	24
75th Percentile	58	18
90th Percentile	43	13
SERS U.S. SMID Company Idx Fund	3029	275
Dow Jones US Completion Index	3448	275

SERS U.S. SMID Company Idx Fund Top 10 Portfolio Holdings Characteristics as of June 30, 2021

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Square Inc Cl A	Information Technology	\$6,818,609	1.2%	7.38%	95.57	135.44	0.00%	57.22%
Zoom Video Communications Inc Cl A	Information Technology	\$5,854,042	1.0%	20.46%	91.64	82.66	0.00%	15.38%
Uber Technologies Inc	Industrials	\$5,287,477	0.9%	(8.05)%	93.81	(50.83)	0.00%	65.50%
Moderna Inc	Health Care	\$5,116,157	0.9%	79.44%	94.35	10.99	0.00%	-
Blackstone Group Inc Com Cl A	Financials	\$4,742,474	0.8%	31.55%	66.47	25.65	3.17%	20.13%
Snap Inc Cl A	Communication Services	\$4,565,856	0.8%	30.31%	89.65	151.76	0.00%	-
Twilio Inc Cl A	Information Technology	\$4,557,534	0.8%	15.67%	64.00	(23185.88)	0.00%	-
DocuSign Inc	Information Technology	\$3,859,738	0.7%	38.09%	54.47	147.14	0.00%	56.00%
Roku Inc Com Cl A	Communication Services	\$3,758,408	0.7%	40.97%	52.91	582.07	0.00%	-
CrowdStrike Hldgs Inc Cl A	Information Technology	\$3,541,638	0.6%	37.70%	50.07	478.69	0.00%	66.90%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Vertex Energy Inc	Energy	\$21,313	0.0%	884.45%	0.68	139.26	0.00%	-
Marin Software Inc	Information Technology	\$4,269	0.0%	505.63%	0.12	(9.64)	0.00%	-
Amc Entmt Hldgs Inc Cl A Com	Communication Services	\$2,028,831	0.4%	455.13%	28.44	(28.51)	0.00%	6.01%
Brooklyn Immunotherapeutics	Consumer Discretionary	\$21,057	0.0%	383.87%	0.80	(12.48)	0.00%	-
Laredo Petroleum Inc	Energy	\$60,731	0.0%	208.80%	1.20	4.82	0.00%	26.28%
Annovis Bio	Health Care	\$24,935	0.0%	206.74%	0.68	(71.62)	0.00%	-
Atossa Genetics Inc Com Par	Health Care	\$50,142	0.0%	204.17%	0.76	(42.99)	0.00%	-
Silverbow Res Inc	Energy	\$16,734	0.0%	198.43%	0.28	3.34	0.00%	107.27%
Urban One Inc Cl D Non Vtg	Communication Services	\$5,050	0.0%	186.99%	0.19	17.55	0.00%	(4.86)%
Pds Biotechnology Corp	Health Care	\$18,897	0.0%	175.57%	0.35	(16.53)	0.00%	-

10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Neonode Inc Com Par	Information Technology	\$1,837	0.0%	-	0.07	(17.73)	0.00%	20.00%
Microbot Med Inc	Health Care	\$664	0.0%	-	0.06	(5.53)	0.00%	-
Omega Flex Inc	Industrials	\$29,953	0.0%	(95.12)%	1.48	81.10	0.82%	3.96%
Chemocentryx Inc	Health Care	\$48,979	0.0%	(73.87)%	0.93	(7.15)	0.00%	-
Atea Pharmaceuticals Inc	Health Care	\$21,401	0.0%	(65.21)%	1.78	3.42	0.00%	-
Adverum Biotechnologies Inc	Health Care	\$21,809	0.0%	(64.52)%	0.34	(2.22)	0.00%	-
Qumu Corp	Information Technology	\$1,118	0.0%	(57.40)%	0.05	(3.84)	0.00%	15.00%
Vor Biopharma Inc Common Stock Usd.0	Health Care	\$14,076	0.0%	(56.73)%	0.69	(7.18)	0.00%	-
Aemetis Inc	Energy	\$10,474	0.0%	(54.46)%	0.35	(7.03)	0.00%	-
Bolt Biotherapeutics Inc	Health Care	\$12,791	0.0%	(53.02)%	0.56	(6.08)	0.00%	-

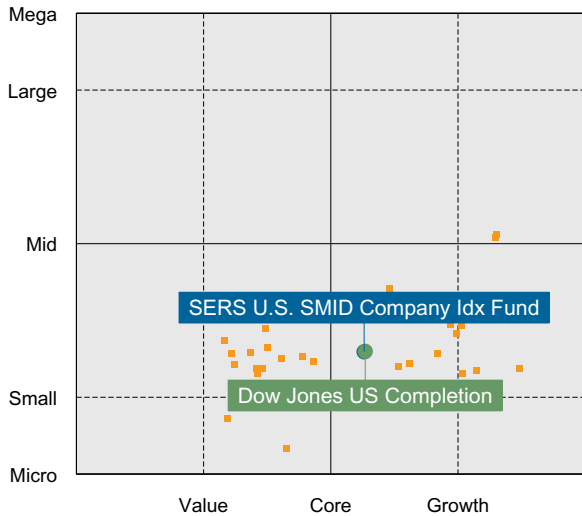
Historical Holdings Based Style Analysis

SERS U.S. SMID Company Idx Fund

For Three Years Ended June 30, 2021

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The next two style exposure charts illustrate the actual quarterly cap/style and style only segment exposures of the portfolio through history.

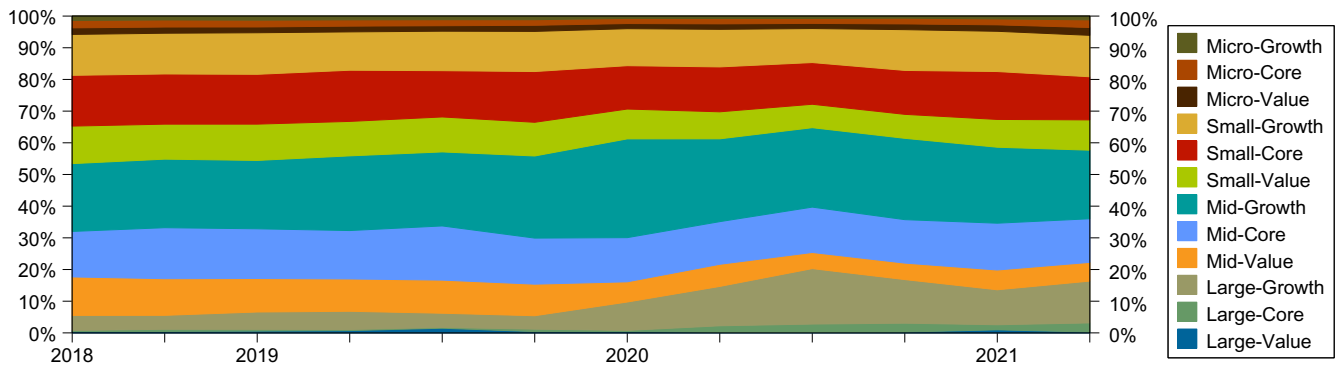
Average Style Map vs Callan SMID Broad MFs Holdings for Three Years Ended June 30, 2021



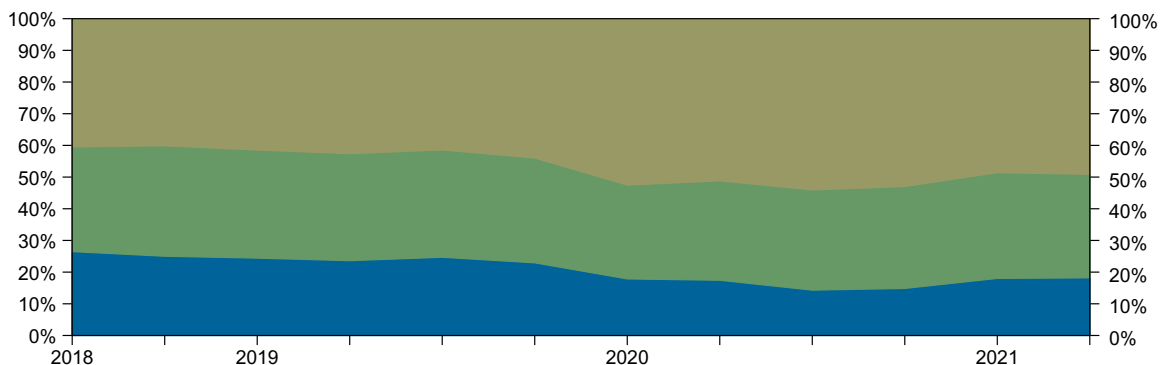
Average Style Exposure Matrix Holdings for Three Years Ended June 30, 2021

	Value	Core	Growth	Total
Large	0.5% (2)	1.3% (4)	8.8% (15)	10.6% (21)
Mid	8.4% (72)	14.8% (131)	24.3% (181)	47.4% (384)
Small	9.8% (304)	14.8% (504)	12.4% (393)	37.1% (1201)
Micro	1.9% (498)	1.9% (539)	1.0% (214)	4.9% (1251)
Total	20.6% (876)	32.8% (1178)	46.6% (803)	100.0% (2857)

SERS U.S. SMID Company Idx Fund Historical Cap/Style Exposures



SERS U.S. SMID Company Idx Fund Historical Style Only Exposures



SERS Global Non-U.S.Index Fund

Period Ended June 30, 2021

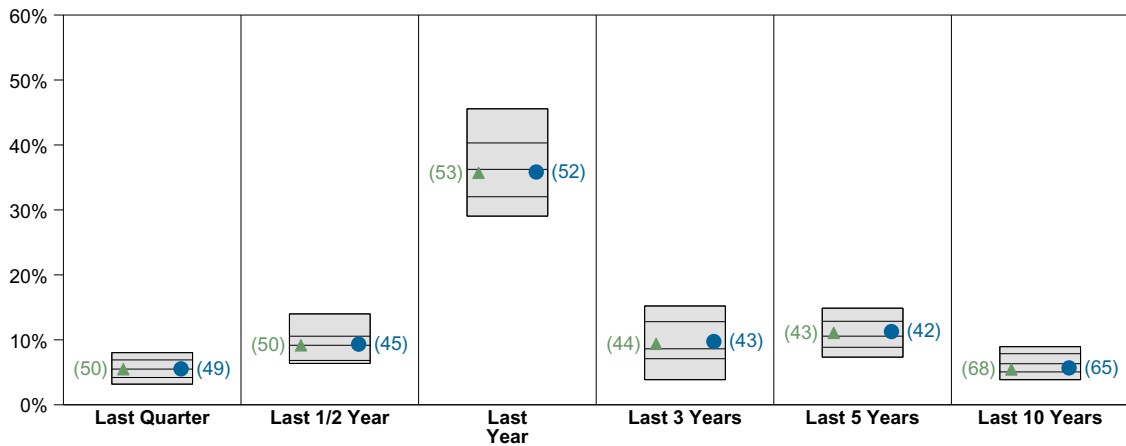
Investment Philosophy

The Global Non-U.S. Stock Index Fund seeks to track the performance of the MSCI All Country World Index (ACWI) ex-U.S. Index. In meeting this objective, the assets of the Fund may be invested in securities, and a combination of other collective funds that are designed to track the performance of such Index. The Fund will principally invest in a combination of other affiliated bank collective funds, equity securities and derivatives, including common stock of foreign companies, depository receipts, financial futures and over-the-counter derivatives that represent developed and emerging market equity securities. This fund is managed by Mellon Capital Management. The Global Non-U.S. Stock Index Fund replaced the International Company Stock Index Fund in 1Q20.

Quarterly Summary and Highlights

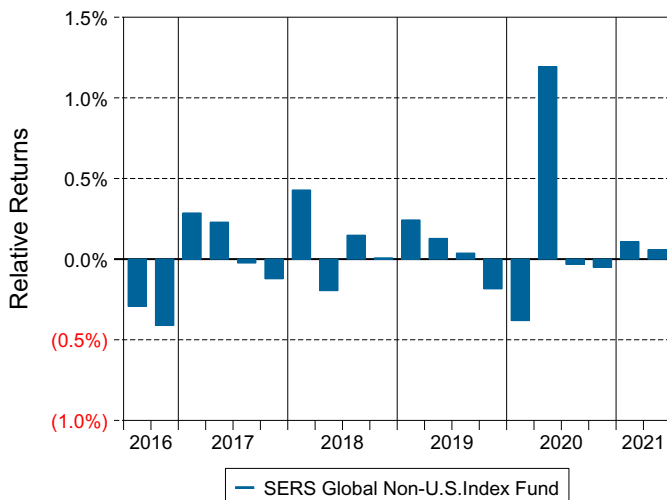
- SERS Global Non-U.S.Index Fund's portfolio posted a 5.54% return for the quarter placing it in the 49 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 52 percentile for the last year.
- SERS Global Non-U.S.Index Fund's portfolio outperformed the MSCI ACWI ex US by 0.06% for the quarter and outperformed the MSCI ACWI ex US for the year by 0.12%.

Performance vs Callan Non US Equity Mutual Funds (Institutional Net)

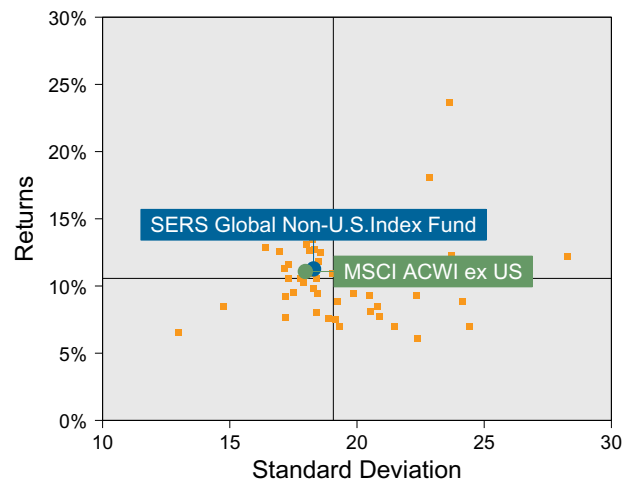


10th Percentile	8.03	13.99	45.57	15.21	14.87	8.95	
25th Percentile	6.91	10.56	40.31	12.79	12.86	7.87	
Median	5.50	9.16	36.25	8.62	10.57	6.32	
75th Percentile	4.20	6.83	32.03	7.09	8.85	5.06	
90th Percentile	3.18	6.37	29.04	3.87	7.33	3.87	
SERS Global Non-U.S.Index Fund	●	5.54	9.34	35.84	9.74	11.27	5.68
MSCI ACWI ex US	▲	5.48	9.16	35.72	9.38	11.08	5.45

Relative Return vs MSCI ACWI ex US



Callan Non US Equity Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

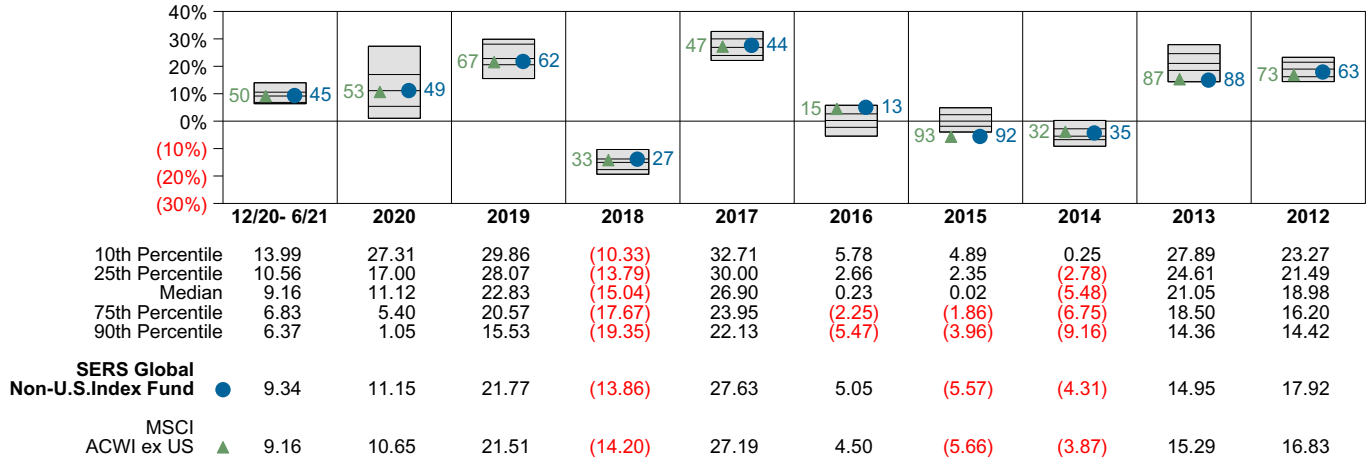


SERS Global Non-U.S.Index Fund Return Analysis Summary

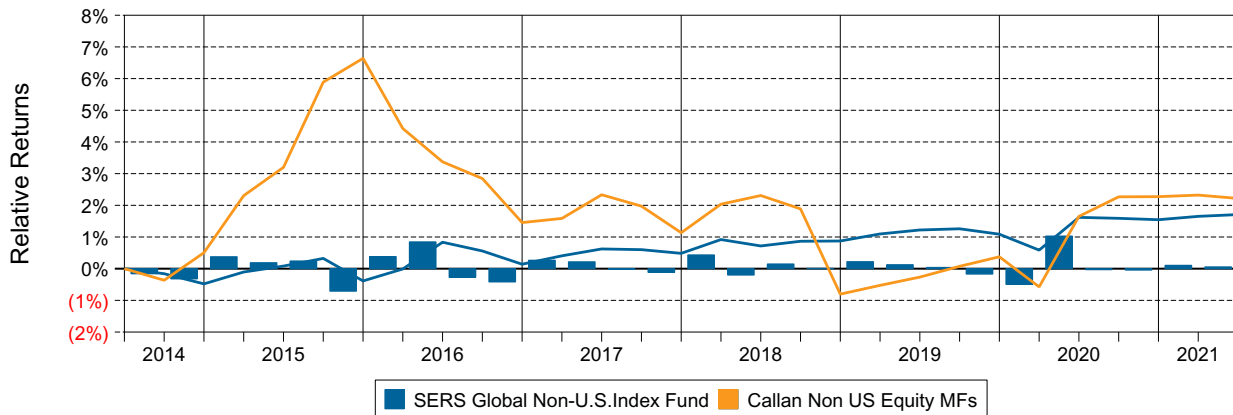
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

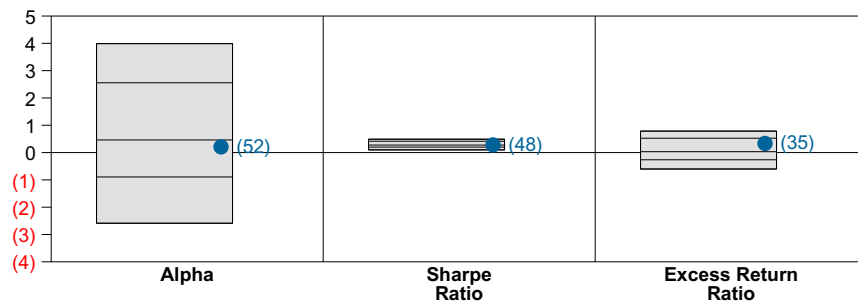
Performance vs Callan Non US Equity Mutual Funds (Institutional Net)



Cumulative and Quarterly Relative Return vs MSCI ACWI ex US



Risk Adjusted Return Measures vs MSCI ACWI ex US Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Seven Years Ended June 30, 2021



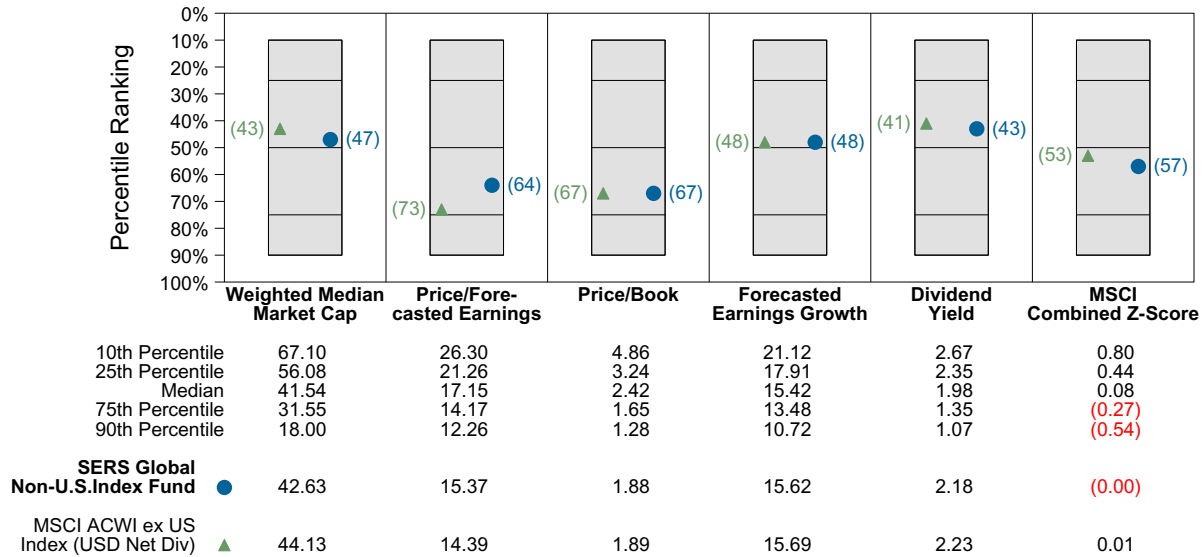
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.99	0.49	0.79
25th Percentile	2.56	0.42	0.53
Median	0.46	0.27	0.03
75th Percentile	(0.89)	0.20	(0.26)
90th Percentile	(2.59)	0.10	(0.60)
SERS Global Non-U.S.Index Fund	0.21	0.28	0.33

SERS Global Non-U.S.Index Fund Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

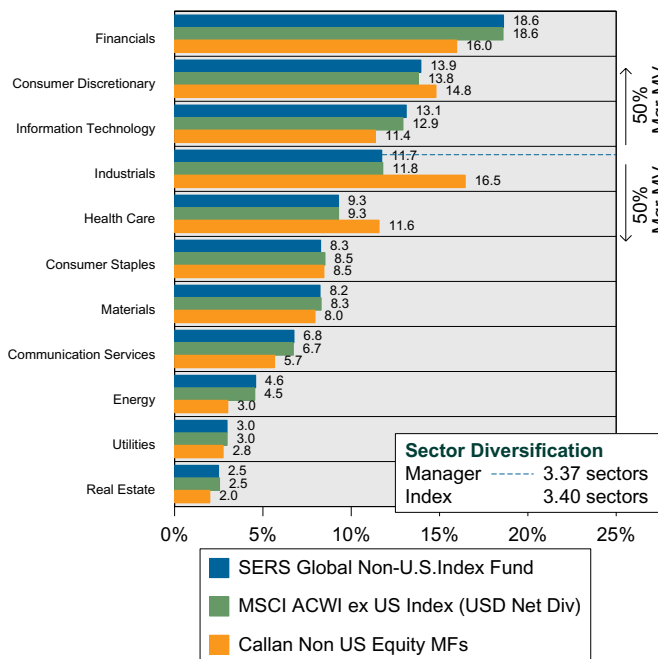
Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of June 30, 2021



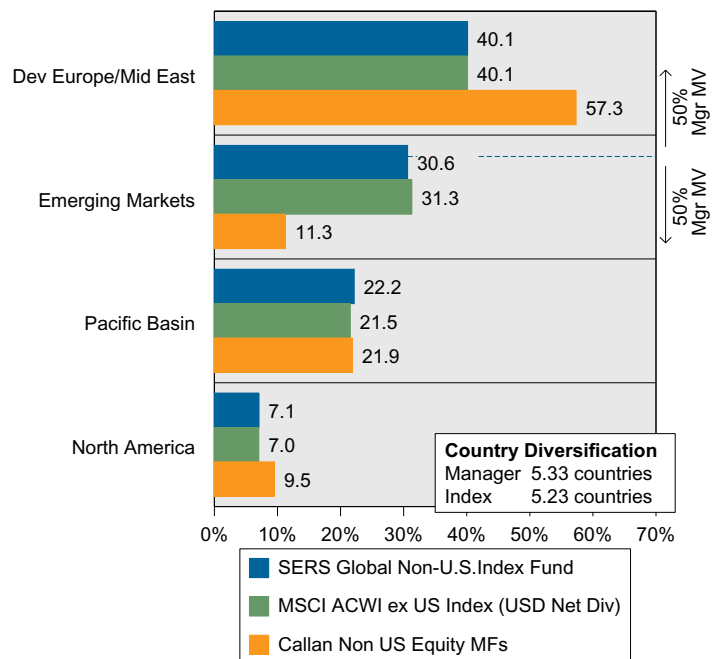
Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.

Sector Allocation June 30, 2021



Regional Allocation June 30, 2021



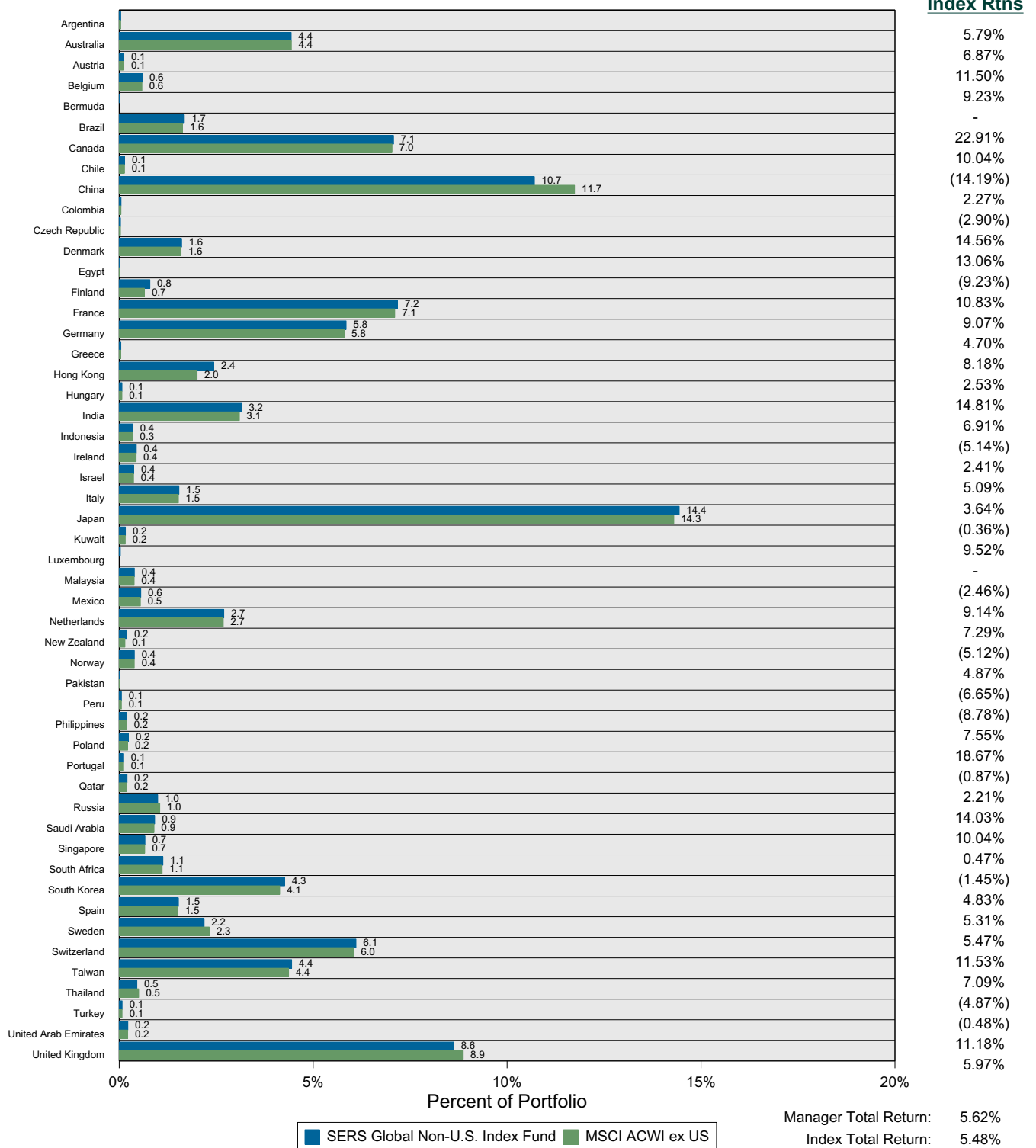
Country Allocation

SERS Global Non-U.S. Index Fund VS MSCI ACWI ex US Index (USD Net Div)

Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of June 30, 2021. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

Country Weights as of June 30, 2021



SERS Global Non-U.S. Index Fund Top 10 Portfolio Holdings Characteristics as of June 30, 2021

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Taiwan Semicond Manufac Co L Shs	Information Technology	\$3,407,342	1.9%	4.23%	553.74	24.29	1.72%	15.90%
Tencent Holdings Limited Shs Par Hkd	Communication Services	\$2,804,209	1.6%	(2.51)%	721.57	29.04	0.27%	28.11%
Alibaba Group Hldg Ltd Sponsored Ads	Consumer Discretionary	\$2,728,448	1.6%	1.58%	614.83	21.97	0.00%	19.39%
Nestle S A Shs Nom New	Consumer Staples	\$2,307,577	1.3%	14.24%	359.11	25.06	2.39%	6.20%
Samsung Electronics Co Ltd Ord	Information Technology	\$2,216,848	1.3%	0.07%	427.79	12.62	3.72%	26.38%
Asml Holding N V Asml Rev Stk Spl	Information Technology	\$1,852,219	1.1%	13.41%	288.24	42.24	0.47%	28.30%
Roche Hldgs Ag Basel Div Rts Ctf	Health Care	\$1,702,384	1.0%	16.18%	264.92	17.42	2.61%	6.00%
Lvmh Moet Hennessy Lou Vuitt Ord	Consumer Discretionary	\$1,399,105	0.8%	18.23%	395.85	35.72	0.91%	32.05%
Novartis	Health Care	\$1,301,623	0.7%	6.29%	225.05	13.89	3.56%	7.00%
Toyota Motor Corp	Consumer Discretionary	\$1,192,510	0.7%	14.01%	285.46	10.75	2.42%	11.68%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Wan Hai Lines	Industrials	\$41,574	0.0%	496.60%	25.56	30.08	0.25%	(18.44)%
Yang Ming Marine Transport Shs	Industrials	\$67,239	0.0%	395.74%	21.83	8.65	0.00%	27.84%
Evergreen Marinecorp Taiwan Shs	Industrials	\$118,846	0.1%	343.38%	37.27	10.10	0.00%	(10.40)%
Genscript Biotech	Health Care	\$31,721	0.0%	151.66%	9.11	(55.25)	0.00%	(4.52)%
Hangzhou Silan Microels.A	Information Technology	\$1,137	0.0%	136.25%	11.44	74.53	0.03%	7.44%
China Cosco Hdg.'a'	Industrials	\$4,032	0.0%	129.38%	45.75	12.13	0.00%	55.83%
Guangzhou Tinci Mats. Tech.'a'	Materials	\$2,054	0.0%	125.89%	15.72	51.69	0.11%	(17.82)%
Cosco Shipping Holding Co Lt Shs	Industrials	\$41,700	0.0%	98.64%	6.50	5.51	0.00%	10.00%
Beijing Sevenstar Eltn. 'a'	Information Technology	\$1,249	0.0%	96.24%	21.31	136.72	0.02%	46.11%
Delta Electron Thai Pub Co L Shs	Information Technology	\$36,133	0.0%	92.96%	22.50	85.86	0.57%	(10.84)%

10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Perennial Energy Holdings	Energy	\$1,123	0.0%	(88.10)%	0.38	9.48	2.04%	-
Gsx Techedu Inc	Consumer Discretionary	\$11,439	0.0%	(55.73)%	2.15	(30.02)	0.00%	-
Banco Espirito Santo E Comer Ord	Financials	\$26	0.0%	(53.64)%	0.02	-	0.00%	-
Tal Ed Group Ads Repstg Com	Consumer Discretionary	\$68,006	0.0%	(52.42)%	11.20	27.48	0.00%	40.65%
China Youzan Ltd Shares	Information Technology	\$16,998	0.0%	(40.83)%	3.29	(95.50)	0.00%	-
New Oriental Ed & Tech Grp I Spon Ad	Consumer Discretionary	\$82,125	0.0%	(40.59)%	14.04	18.53	0.00%	23.78%
Zhejiang Dingli Mch.'a'	Industrials	\$1,404	0.0%	(38.11)%	4.41	25.80	0.43%	29.57%
Mascotte Holdings	Consumer Discretionary	\$13,954	0.0%	(35.44)%	7.38	66.67	0.00%	(11.54)%
Yihai Intl.Hldg.	Consumer Staples	\$20,037	0.0%	(33.90)%	7.03	33.91	0.58%	24.64%
Douyu International Hldngs L Sponsor	Communication Services	\$4,577	0.0%	(33.27)%	2.22	72.77	0.00%	-

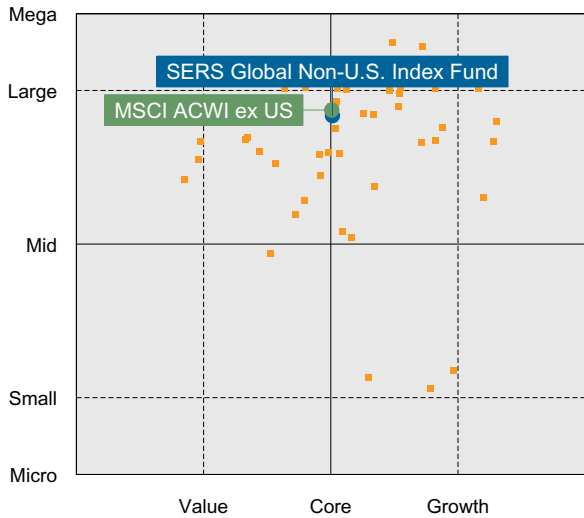
Historical Holdings Based Style Analysis

SERS Global Non-U.S. Index Fund

For Three Years Ended June 30, 2021

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

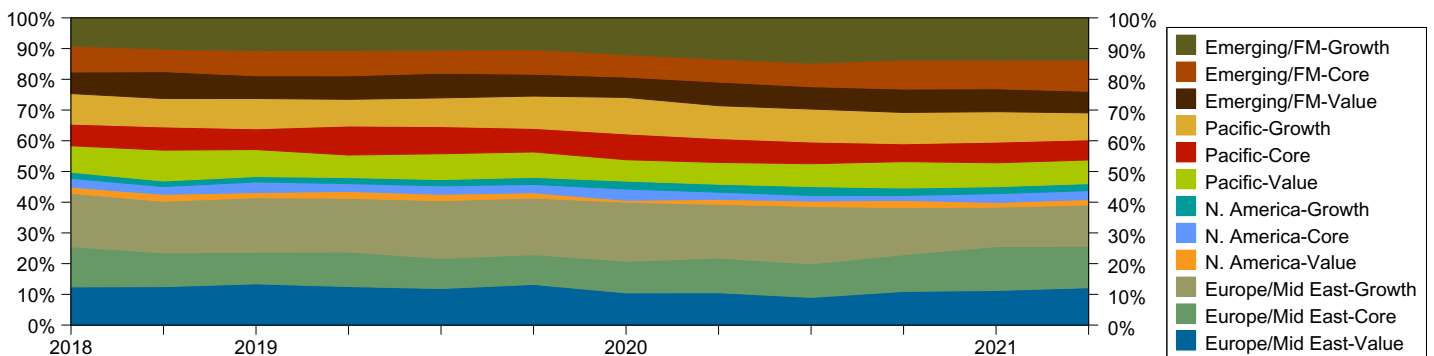
Average Style Map vs Callan Non US Equity MFs Holdings for Three Years Ended June 30, 2021



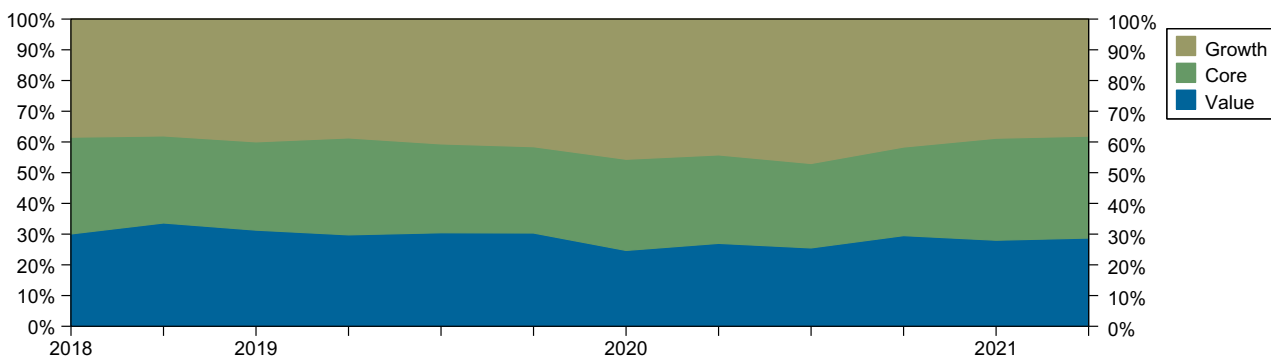
Average Style Exposure Matrix Holdings for Three Years Ended June 30, 2021

	Value	Core	Growth	Total
Europe/ Mid East	11.7% (127)	11.5% (121)	17.0% (165)	40.1% (413)
	12.1% (140)	11.3% (125)	17.1% (179)	40.5% (444)
N. America	1.8% (26)	2.7% (29)	2.2% (30)	6.7% (85)
	1.8% (28)	2.6% (31)	2.3% (33)	6.7% (92)
Pacific	8.1% (150)	7.5% (142)	10.0% (162)	25.5% (454)
	7.8% (152)	7.1% (142)	9.5% (162)	24.5% (456)
Emerging/ FM	7.5% (403)	8.3% (332)	11.9% (329)	27.6% (1064)
	7.8% (465)	8.4% (400)	12.2% (393)	28.3% (1258)
Total	29.1% (706)	29.9% (624)	41.1% (686)	100.0% (2016)
	29.5% (785)	29.5% (698)	41.0% (767)	100.0% (2250)

SERS Global Non-U.S. Index Fund Historical Region/Style Exposures



SERS Global Non-U.S. Index Fund Historical Style Only Exposures



SERS Short Term Investment Fund

Period Ended June 30, 2021

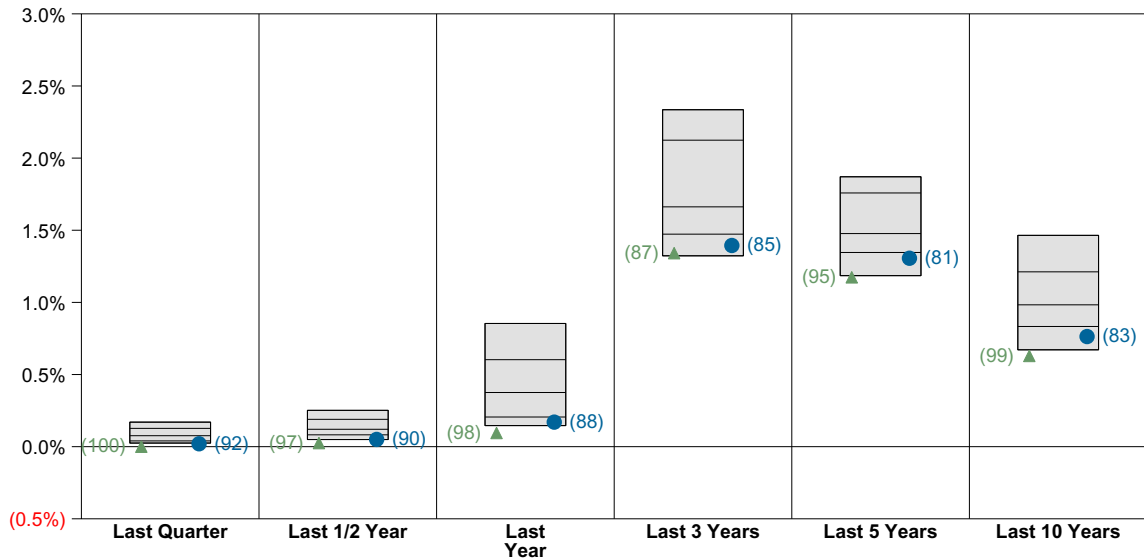
Investment Philosophy

The Short Term Investment Fund seeks to achieve the highest current income consistent with maintaining liquidity and safety of principal. This fund is managed by the Pennsylvania State Treasurer. It is compared against the Callan Cash database: a group that contains STIF, enhanced cash, and money market funds.

Quarterly Summary and Highlights

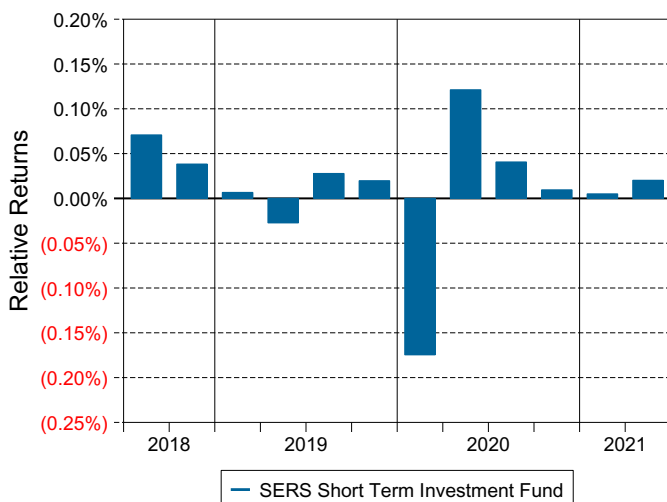
- SERS Short Term Investment Fund's portfolio posted a 0.02% return for the quarter placing it in the 92 percentile of the Callan Cash Database group for the quarter and in the 88 percentile for the last year.
- SERS Short Term Investment Fund's portfolio outperformed the 3-month Treasury Bill by 0.02% for the quarter and outperformed the 3-month Treasury Bill for the year by 0.08%.

Performance vs Callan Cash Database (Gross)

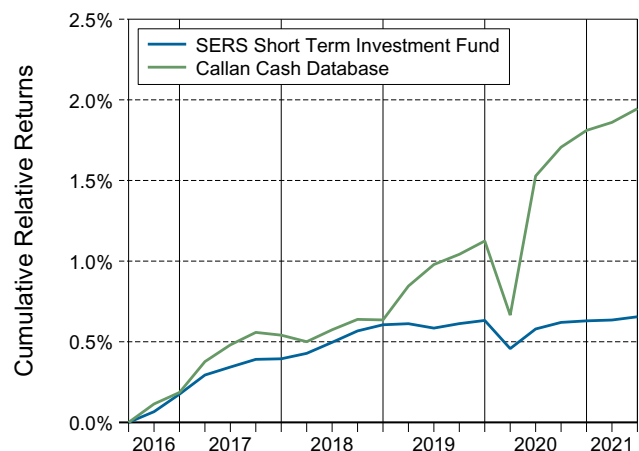


10th Percentile	0.17	0.25	0.85	2.34	1.87	1.46
25th Percentile	0.13	0.19	0.60	2.12	1.76	1.21
Median	0.08	0.12	0.38	1.66	1.48	0.98
75th Percentile	0.04	0.08	0.21	1.47	1.35	0.83
90th Percentile	0.03	0.05	0.15	1.32	1.19	0.67
SERS Short Term Investment Fund	● 0.02	0.05	0.17	1.39	1.31	0.76
3-month Treasury Bill	▲ (0.00)	0.02	0.09	1.34	1.17	0.63

Relative Return vs 3-month Treasury Bill



Cumulative Returns vs 3-month Treasury Bill

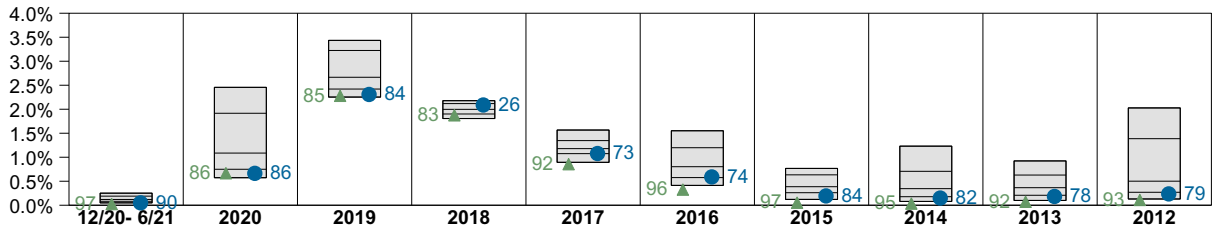


SERS Short Term Investment Fund Return Analysis Summary

Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures. The Callan Cash Database includes STIF, enhanced cash, and money market funds.

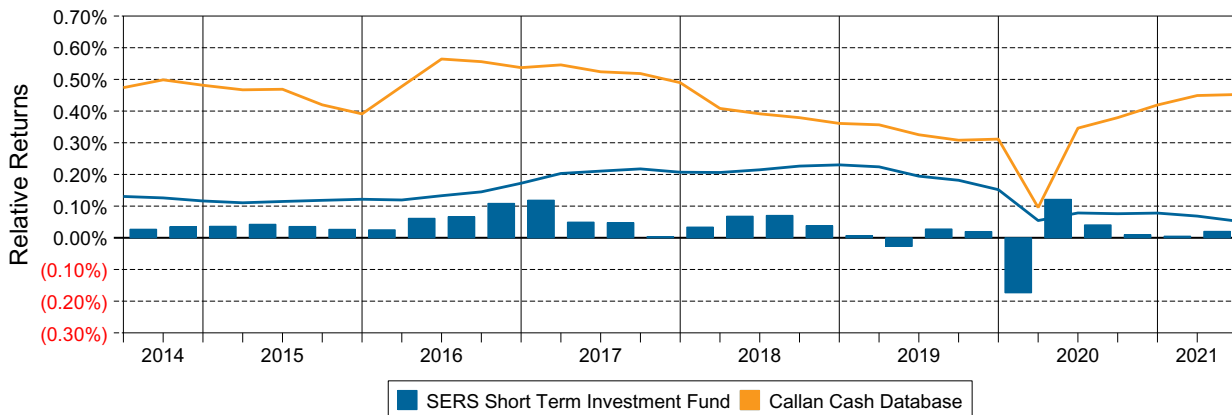
Performance vs Callan Cash Database (Gross)



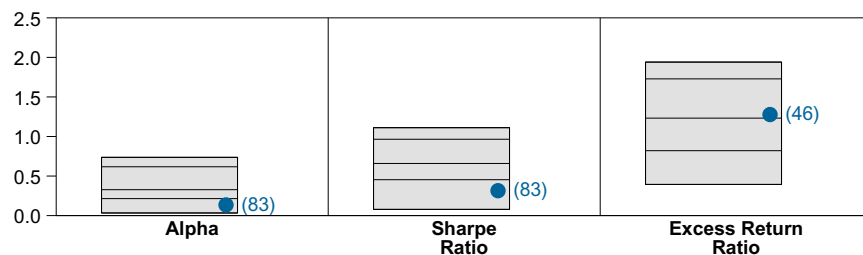
10th Percentile	0.25	2.46	3.43	2.18	1.57	1.55	0.77	1.23	0.92	2.03
25th Percentile	0.19	1.92	3.22	2.12	1.35	1.20	0.63	0.71	0.63	1.39
Median	0.12	1.09	2.67	2.00	1.18	0.80	0.39	0.35	0.37	0.50
75th Percentile	0.08	0.75	2.42	1.90	1.08	0.58	0.26	0.18	0.21	0.27
90th Percentile	0.05	0.57	2.25	1.81	0.89	0.41	0.12	0.08	0.10	0.13

SERS Short Term Investment Fund	●	0.05	0.66	2.31	2.09	1.08	0.59	0.19	0.15	0.18	0.24
3-month Treasury Bill	▲	0.02	0.67	2.28	1.87	0.86	0.33	0.05	0.03	0.07	0.11

Rolling 12 Quarter and Quarterly Relative Return vs 3-month Treasury Bill



Risk Adjusted Return Measures vs 3-month Treasury Bill Rankings Against Callan Cash Database (Gross) Seven Years Ended June 30, 2021



10th Percentile	0.74	1.11	1.94	
25th Percentile	0.62	0.97	1.73	
Median	0.33	0.66	1.23	
75th Percentile	0.21	0.45	0.82	
90th Percentile	0.03	0.08	0.39	
SERS Short Term Investment Fund	●	0.13	0.31	1.28

SERS Stable Value Fund

Period Ended June 30, 2021

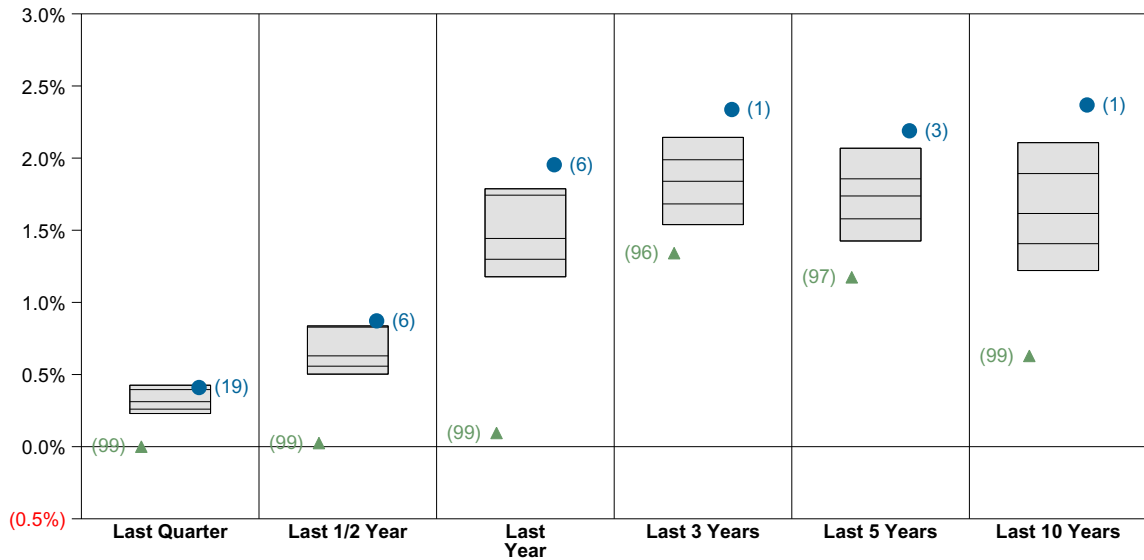
Investment Philosophy

The Stable Value Fund seeks to provide safety of principal and a stable yield consistent with that of a high-quality blend of short and intermediate fixed income securities, with the flexibility to move to cash equivalents to preserve principal. This fund is managed by Invesco.

Quarterly Summary and Highlights

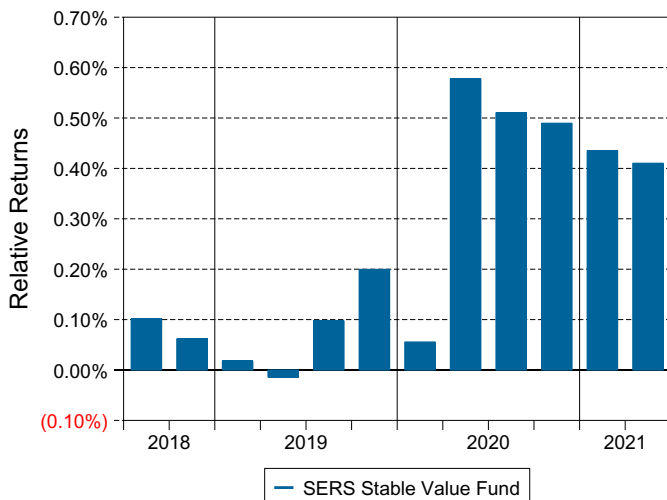
- SERS Stable Value Fund's portfolio posted a 0.41% return for the quarter placing it in the 19th percentile of the Callan Stable Value CT group for the quarter and in the 6th percentile for the last year.
- SERS Stable Value Fund's portfolio outperformed the 3-month Treasury Bill by 0.41% for the quarter and outperformed the 3-month Treasury Bill for the year by 1.86%.

Performance vs Callan Stable Value CT (Institutional Net)

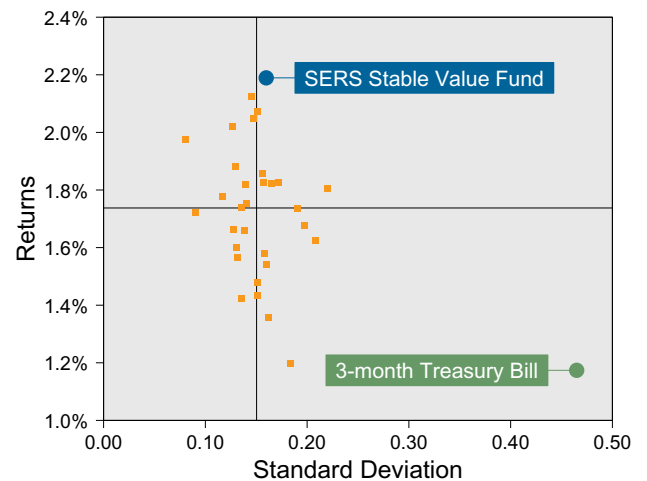


10th Percentile	0.43	0.84	1.79	2.14	2.07	2.11
25th Percentile	0.40	0.83	1.74	1.99	1.86	1.89
Median	0.31	0.63	1.44	1.84	1.74	1.62
75th Percentile	0.26	0.56	1.30	1.68	1.58	1.41
90th Percentile	0.23	0.50	1.18	1.54	1.43	1.22
SERS Stable Value Fund	● 0.41	0.87	1.95	2.34	2.19	2.37
3-month Treasury Bill	▲ (0.00)	0.02	0.09	1.34	1.17	0.63

Relative Return vs 3-month Treasury Bill



Callan Stable Value CT (Institutional Net) Annualized Five Year Risk vs Return

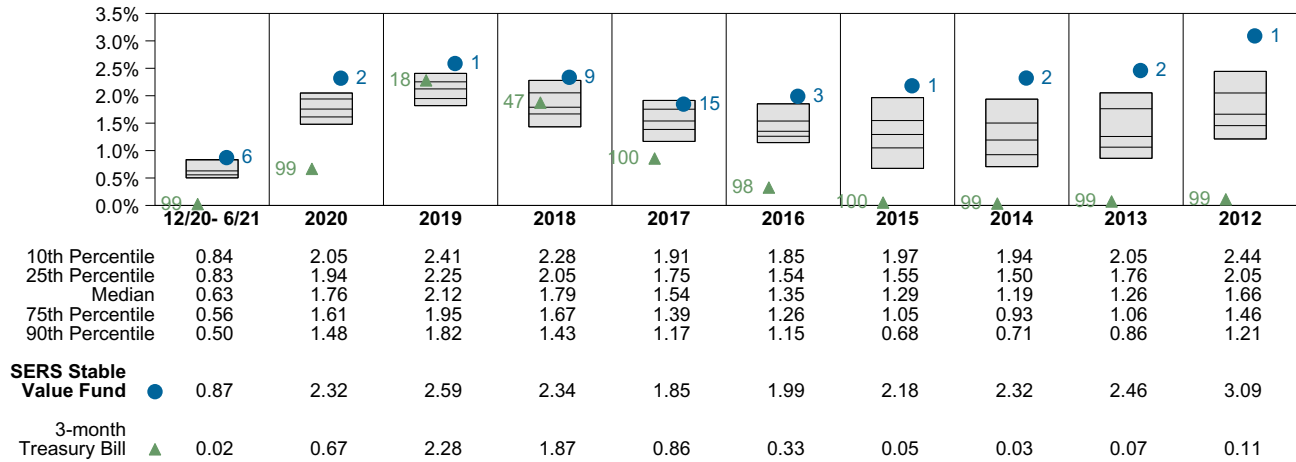


SERS Stable Value Fund Return Analysis Summary

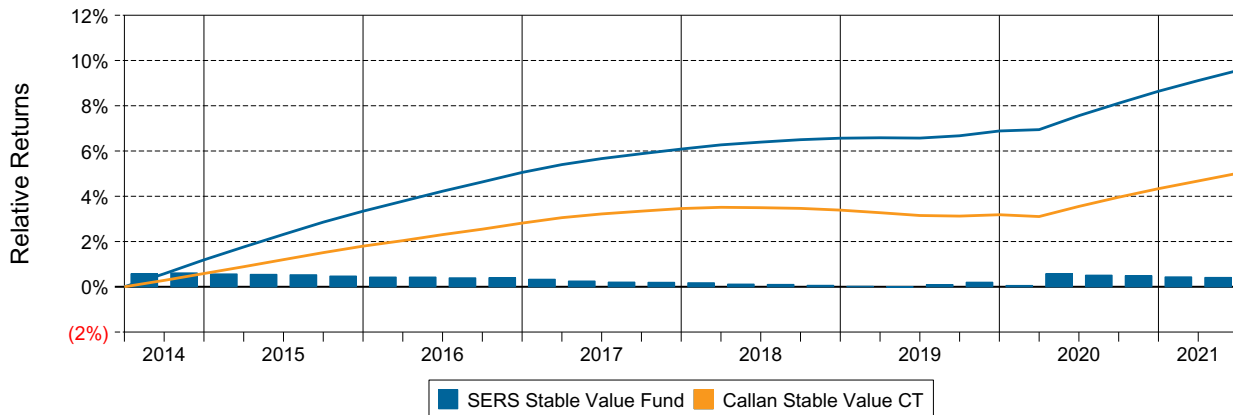
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

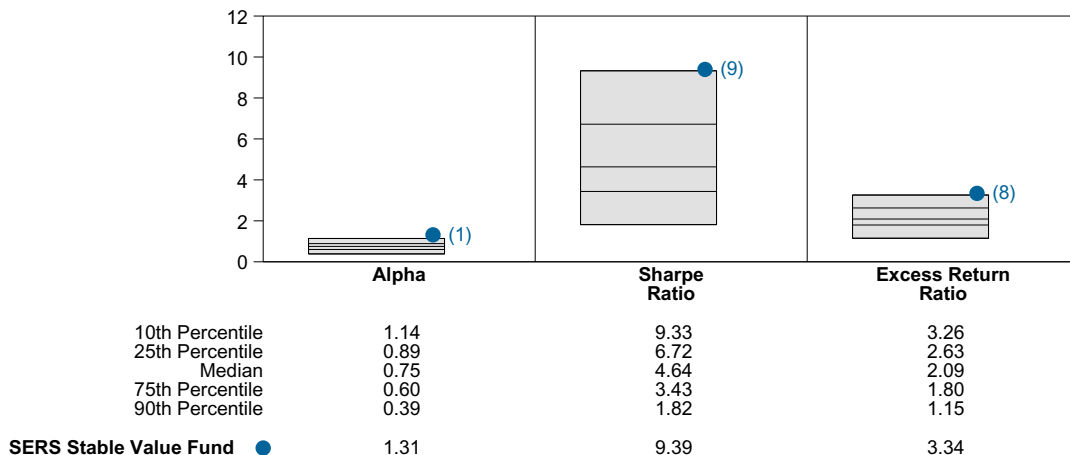
Performance vs Callan Stable Value CT (Institutional Net)



Cumulative and Quarterly Relative Return vs 3-month Treasury Bill



Risk Adjusted Return Measures vs 3-month Treasury Bill Rankings Against Callan Stable Value CT (Institutional Net) Seven Years Ended June 30, 2021



SERS U.S. Bond Index Fund

Period Ended June 30, 2021

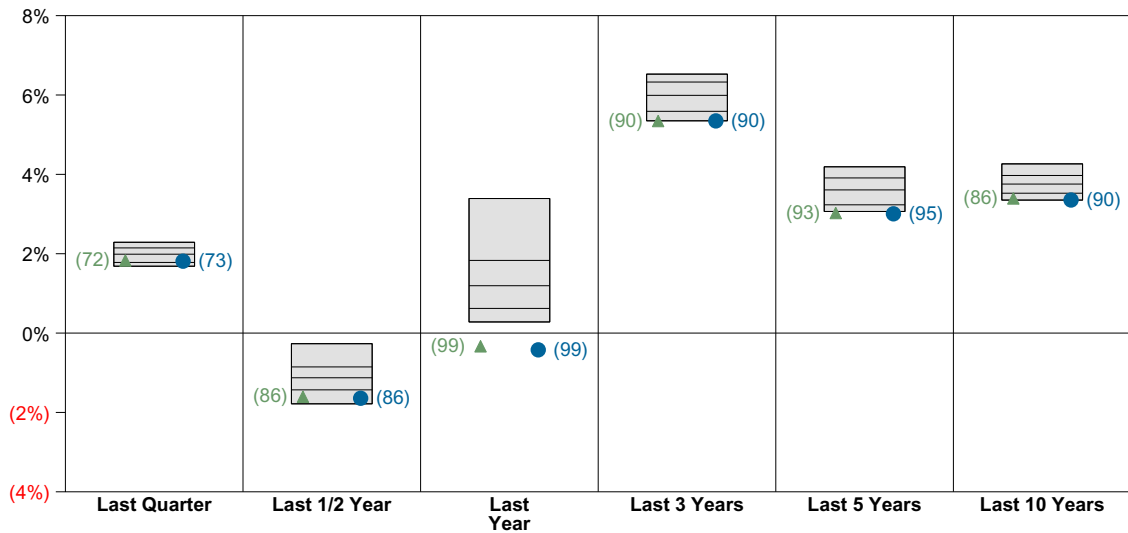
Investment Philosophy

The objective of the Fund is to track the performance of the Bloomberg US Aggregate Bond Index. In meeting this objective, the Fund may invest in securities (including those issued through private placements) and a combination of other collective funds that together are designed to track the performance of the Bloomberg US Aggregate Bond Index. This fund is managed by Mellon Capital Management.

Quarterly Summary and Highlights

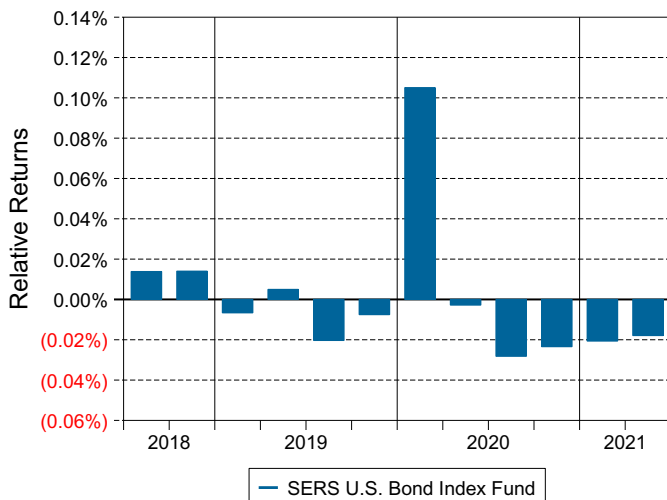
- SERS U.S. Bond Index Fund's portfolio posted a 1.81% return for the quarter placing it in the 73 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 99 percentile for the last year.
- SERS U.S. Bond Index Fund's portfolio underperformed the Blmbg Aggregate by 0.02% for the quarter and underperformed the Blmbg Aggregate for the year by 0.09%.

Performance vs Callan Core Bond Mutual Funds (Institutional Net)

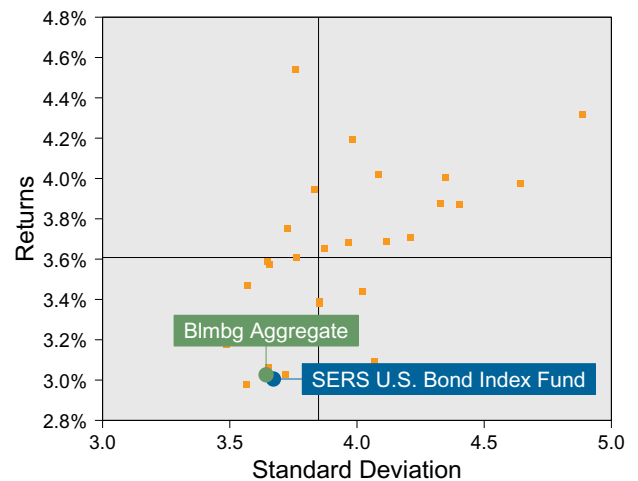


	Last Quarter	Last 1/2 Year	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
SERS U.S. Bond Index Fund ●	1.81	(1.64)	(0.42)	5.35	3.01	3.35
Blmbg Aggregate ▲	1.83	(1.60)	(0.33)	5.34	3.03	3.39

Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

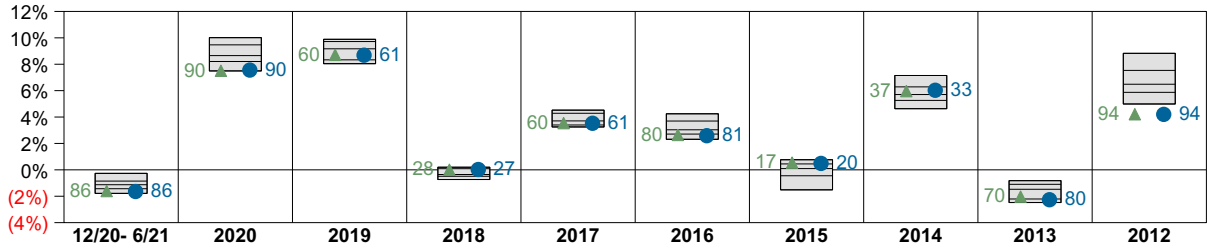


SERS U.S. Bond Index Fund Return Analysis Summary

Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

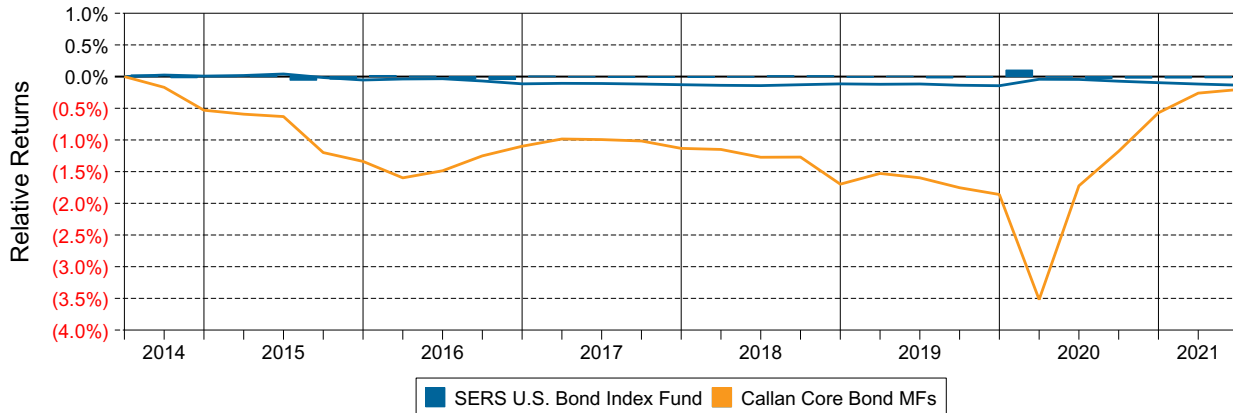
Performance vs Callan Core Bond Mutual Funds (Institutional Net)



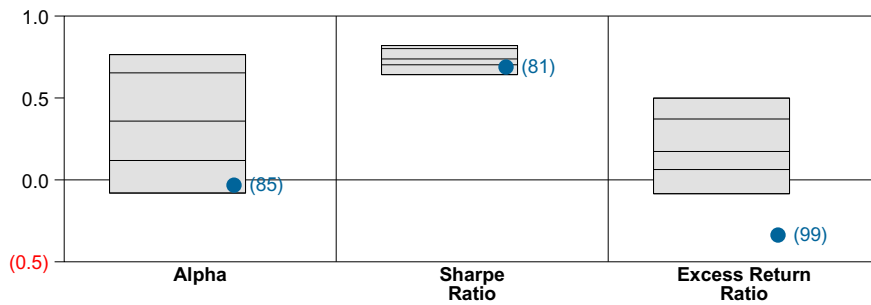
	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
10th Percentile	(0.27)	10.01	9.89	0.20	4.52	4.25	0.77	7.15	(0.82)	8.83
25th Percentile	(0.85)	9.47	9.72	0.09	4.28	3.70	0.45	6.29	(1.10)	7.53
Median	(1.13)	8.65	9.17	(0.35)	3.71	3.03	0.10	5.71	(1.47)	6.49
75th Percentile	(1.43)	8.21	8.33	(0.49)	3.40	2.71	(0.45)	5.26	(2.21)	5.87
90th Percentile	(1.78)	7.49	8.04	(0.73)	3.25	2.31	(1.52)	4.63	(2.48)	4.99

	12/20- 6/21	2020	2019	2018	2017	2016	2015	2014	2013	2012
SERS U.S. Bond Index Fund	● (1.64)	7.56	8.69	0.02	3.53	2.59	0.49	6.03	(2.26)	4.20
Blmbg Aggregate	▲ (1.60)	7.51	8.72	0.01	3.54	2.65	0.55	5.97	(2.02)	4.21

Cumulative and Quarterly Relative Return vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Callan Core Bond Mutual Funds (Institutional Net) Seven Years Ended June 30, 2021



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.76	0.82	0.50
25th Percentile	0.65	0.80	0.37
Median	0.36	0.74	0.17
75th Percentile	0.12	0.70	0.06
90th Percentile	(0.08)	0.64	(0.08)

SERS U.S. Bond Index Fund	● (0.03)	0.69	(0.34)
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SERS U.S. Bond Index Fund

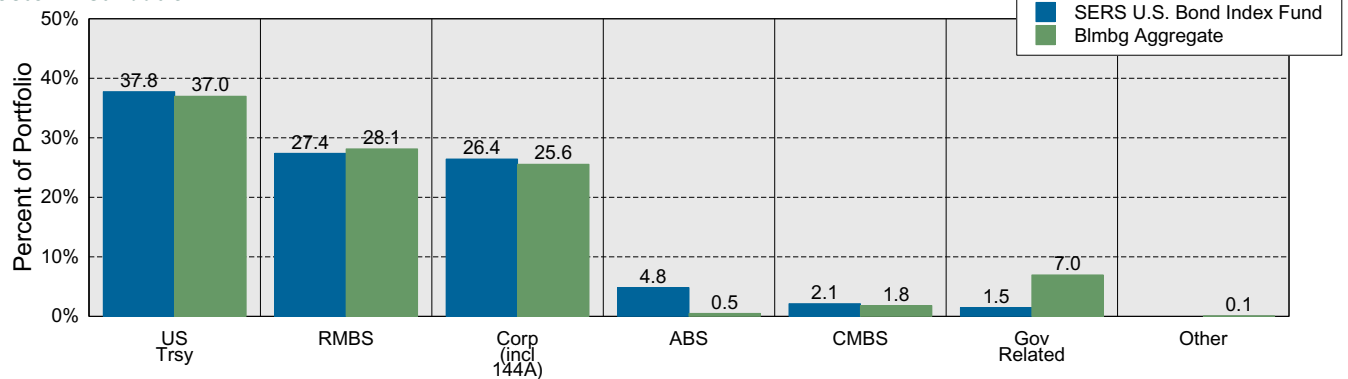
Portfolio Characteristics Summary

As of June 30, 2021

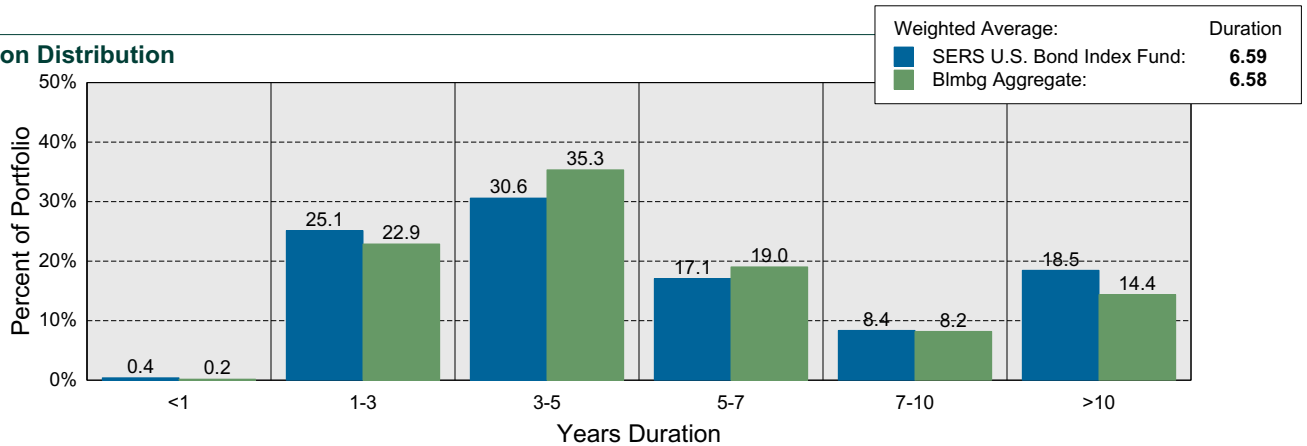
Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

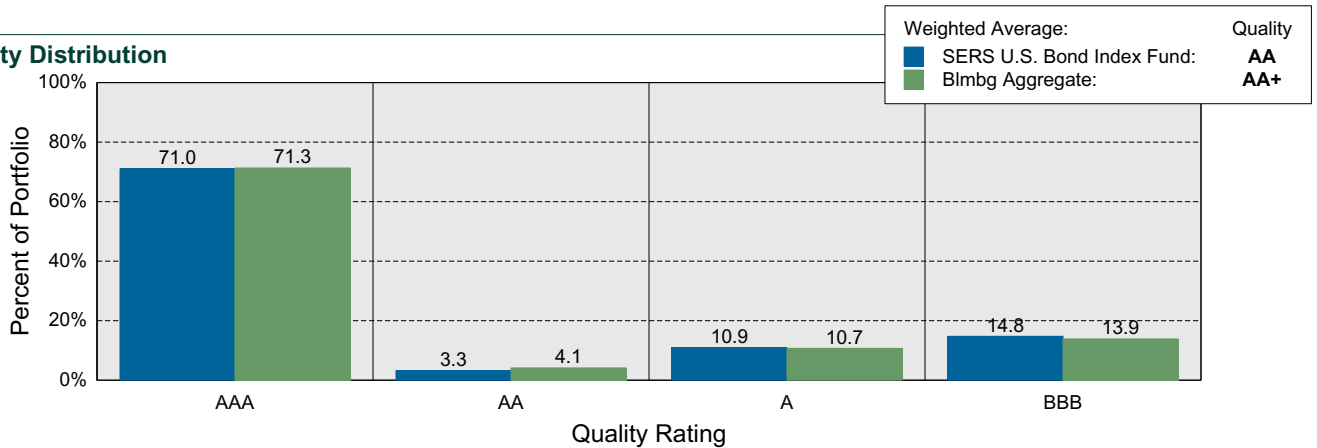
Sector Distribution



Duration Distribution



Quality Distribution



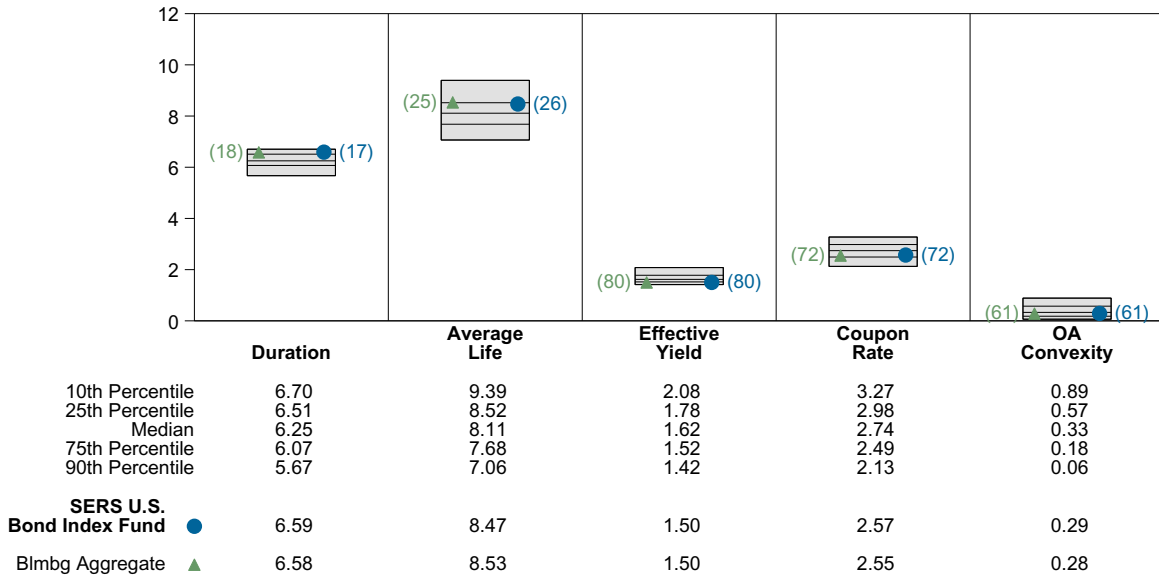
SERS U.S. Bond Index Fund

Bond Characteristics Analysis Summary

Portfolio Characteristics

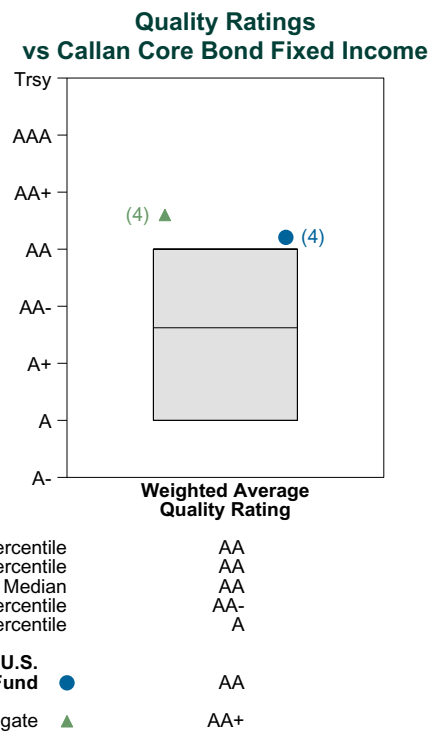
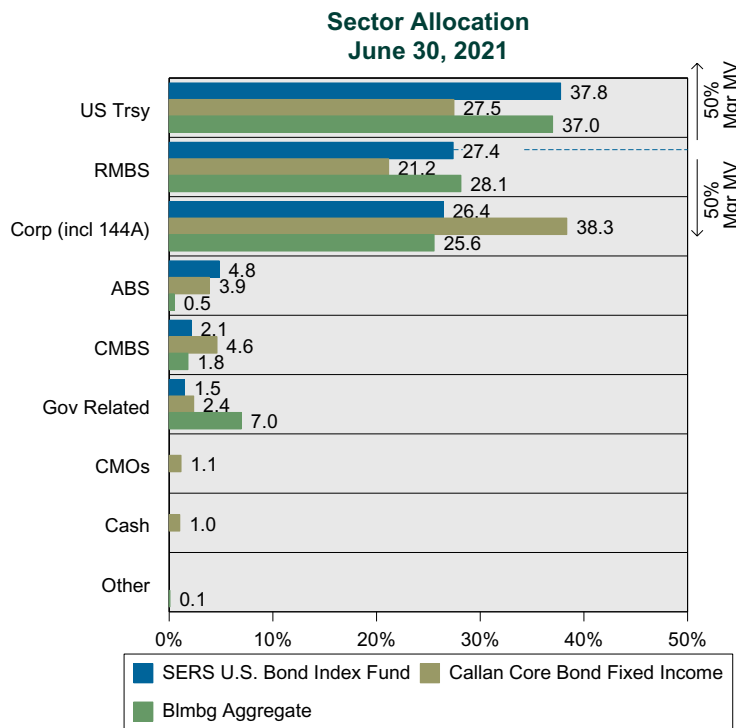
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of June 30, 2021



Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



Equity Market Indicators

The market indicators included in this report are regarded as measures of equity or fixed income performance results. The returns shown reflect both income and capital appreciation.

Standard & Poor's 500 Index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. The index is capitalization-weighted, with each stock weighted by its proportion of the total market value of all 500 issues. Thus, larger companies have a greater effect on the index.

Fixed Income Market Indicators

90-Day U.S. Treasury Bills provide a measure of riskless return. The rate of return is the average interest rate available on the beginning of each month for a Treasury Bill maturing in ninety days.

Bloomberg Aggregate is a combination of the Mortgage Backed Securities Index and the intermediate and long-term components of the Government/Credit Bond Index.

International Equity Market Indicators

Morgan Stanley Capital International (MSCI) EAFE Index is composed of approximately 1000 equity securities representing the stock exchanges of Europe, Australia, New Zealand and the Far East. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

Callan Databases

In order to provide comparative investment results for use in evaluating a fund's performance, Callan gathers rate of return data from investment managers. These data are then grouped by type of assets managed and by the type of investment manager. Except for mutual funds, the results are for tax-exempt fund assets. The databases, excluding mutual funds, represent investment managers who handle over 80% of all tax-exempt fund assets.

Equity Funds

Equity funds concentrate their investments in common stocks and convertible securities. The funds included maintain well-diversified portfolios.

Middle Capitalization - Mutual Funds who invest primarily in mid-range companies with market capitalizations between core equity companies and small capitalization companies. The average market capitalization is approximately \$7 billion. Invests in securities with greater volatility than the broader market as measured by the risk statistics Beta and Standard Deviation. The Middle Capitalization Style Group consists of the Middle Capitalization Growth Equity and the Middle Capitalization Value Equity Style Groups.

Fixed Income Funds

Fixed Income funds concentrate their investments in bonds, preferred stocks, and money market securities. The funds included maintain well-diversified portfolios.

Core Bond - Mutual Funds that construct portfolios to approximate the investment results of the Bloomberg Barclays Capital Government/Credit Bond Index or the Bloomberg Barclays Capital Aggregate Bond Index with a modest amount of variability in duration around the index. The objective is to achieve value added from sector and/or issue selection.

Balanced Funds

Balanced funds diversify their investments among common stocks, bonds, preferred stocks and money market securities. The funds included maintain well-diversified equity and fixed income portfolios.

Mutual Fund Balanced Funds - The Mutual Fund Balanced Fund Database consists of open-end mutual fund balanced products.

Risk/Reward Statistics

The risk statistics used in this report examine performance characteristics of a manager or a portfolio relative to a benchmark (market indicator) which assumes to represent overall movements in the asset class being considered. The main unit of analysis is the excess return, which is the portfolio return minus the return on a risk free asset (3 month T-Bill).

Alpha measures a portfolio's return in excess of the market return adjusted for risk. It is a measure of the manager's contribution to performance with reference to security selection. A positive alpha indicates that a portfolio was positively rewarded for the residual risk which was taken for that level of market exposure.

Beta measures the sensitivity of rates of portfolio returns to movements in the market index. A portfolio's beta measures the expected change in return per 1% change in the return on the market. If a beta of a portfolio is 1.5, a 1 percent increase in the return on the market will result, on average, in a 1.5 percent increase in the return on the portfolio. The converse would also be true.

Downside Risk stems from the desire to differentiate between "good risk" (upside volatility) and "bad risk" (downside volatility). Whereas standard deviation punishes both upside and downside volatility, downside risk measures only the standard deviation of returns below the target. Returns above the target are assigned a deviation of zero. Both the frequency and magnitude of underperformance affect the amount of downside risk.

Excess Return Ratio is a measure of risk adjusted relative return. This ratio captures the amount of active management performance (value added relative to an index) per unit of active management risk (tracking error against the index.) It is calculated by dividing the manager's annualized cumulative excess return relative to the index by the standard deviation of the individual quarterly excess returns. The Excess Return Ratio can be interpreted as the manager's active risk/reward tradeoff for diverging from the index when the index is mandated to be the "riskless" market position.

Information Ratio measures the manager's market risk-adjusted excess return per unit of residual risk relative to a benchmark. It is computed by dividing alpha by the residual risk over a given time period. Assuming all other factors being equal, managers with lower residual risk achieve higher values in the information ratio. Managers with higher information ratios will add value relative to the benchmark more reliably and consistently.

R-Squared indicates the extent to which the variability of the portfolio returns are explained by market action. It can also be thought of as measuring the diversification relative to the appropriate benchmark. An r-squared value of .75 indicates that 75% of the fluctuation in a portfolio return is explained by market action. An r-squared of 1.0 indicates that a portfolio's returns are entirely related to the market and it is not influenced by other factors. An r-squared of zero indicates that no relationship exists between the portfolio's return and the market.

Relative Standard Deviation is a simple measure of a manager's risk (volatility) relative to a benchmark. It is calculated by dividing the manager's standard deviation of returns by the benchmark's standard deviation of returns. A relative standard deviation of 1.20, for example, means the manager has exhibited 20% more risk than the benchmark over that time period. A ratio of .80 would imply 20% less risk. This ratio is especially useful when analyzing the risk of investment grade fixed-income products where actual historical durations are not available. By using this relative risk measure over rolling time periods one can illustrate the "implied" historical duration patterns of the portfolio versus the benchmark.

Residual Portfolio Risk is the unsystematic risk of a fund, the portion of the total risk unique to the fund (manager) itself and not related to the overall market. This reflects the "bets" which the manager places in that particular asset market. These bets may reflect emphasis in particular sectors, maturities (for bonds), or other issue specific factors which the manager considers a good investment opportunity. Diversification of the portfolio will reduce or eliminate the residual risk of that portfolio.

Risk/Reward Statistics

Rising Declining Periods refer to the sub-asset class cycles vis-a-vis the broader asset class. This is determined by evaluating the cumulative relative sub-asset class index performance to that of the broader asset class index. For example, to determine the Growth Style cycle, the S&P 500 Growth Index (sub-asset class) performance is compared to that of the S&P 500 Index (broader asset class).

Sharpe Ratio is a commonly used measure of risk-adjusted return. It is calculated by subtracting the "risk-free" return (usually 3 Month Treasury Bill) from the portfolio return and dividing the resulting "excess return" by the portfolio's risk level (standard deviation). The result is a measure of return gained per unit of risk taken.

Sortino Ratio is a downside risk-adjusted measure of value-added. It measures excess return over a benchmark divided by downside risk. The natural appeal is that it identifies value-added per unit of truly bad risk. The danger of interpretation, however, lies in these two areas: (1) the statistical significance of the denominator, and (2) its reliance on the persistence of skewness in return distributions.

Standard Deviation is a statistical measure of portfolio risk. It reflects the average deviation of the observations from their sample mean. Standard deviation is used as an estimate of risk since it measures how wide the range of returns typically is. The wider the typical range of returns, the higher the standard deviation of returns, and the higher the portfolio risk. If returns are normally distributed (ie. has a bell shaped curve distribution) then approximately 2/3 of the returns would occur within plus or minus one standard deviation from the sample mean.

Total Portfolio Risk is a measure of the volatility of the quarterly excess returns of an asset. Total risk is composed of two measures of risk: market (non-diversifiable or systematic) risk and residual (diversifiable or unsystematic) risk. The purpose of portfolio diversification is to reduce the residual risk of the portfolio.

Tracking Error is a statistical measure of a portfolio's risk relative to an index. It reflects the standard deviation of a portfolio's individual quarterly or monthly returns from the index's returns. Typically, the lower the Tracking Error, the more "index-like" the portfolio.

Treynor Ratio represents the portfolio's average excess return over a specified period divided by the beta relative to its benchmark over that same period. This measure reflects the reward over the risk-free rate relative to the systematic risk assumed.

Note: Alpha, Total Risk, and Residual Risk are annualized.

Quarterly Highlights

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/research-library to see all of our publications, and www.callan.com/blog to view our blog. For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

Research Cafe: Insurance | Callan's Insurance Focus Leader Sara Hakim discusses AM Best's rating methodology and current research findings with the firm's associate director Fred Eslami. They also discuss insurance assets and general insurance themes in the marketplace.

Webinar: The Fed's Not Concerned About Inflation. Should You Be? | Inflation is top of mind and the fear around it sparks the question of how to best structure a portfolio to protect it in an inflationary environment. Callan specialists Jay Kloepfer and Jim Van Heuit share their knowledge about the issue.

A Guide to Implementing a China A-Shares Allocation | Callan's Ho Hwang provides a detailed exploration on how institutional investors can implement an allocation to China A-shares, focusing on manager search issues and benchmarking.

Research Cafe: Callan Institute's ESG Interview Series | During this interview, Tom Shingler of Callan discusses with Carol Jeppesen from Principles for Responsible Investment its mission, and what it means to be a PRI signatory for asset owners, asset managers, and service providers like Callan.

Blog Highlights

Capital Markets Assumptions and the Future | The question that we often get from clients is, "How have you done in the past when predicting the future of the capital markets?" This blog post provides the answer.

A JOLT of Inflation from the Labor Market? | Recent economic reports have prompted fears that prices in the U.S. are about to take off. While increasing costs have been widespread, the greatest opportunity for sustained price increases lies in the labor market.

When the Passive Index Is an Active Decision | At first blush, the two most prominent large cap indices, the S&P 500 and Russell 1000 Indices, do not seem all that different. But it turns out they can be quite different, and choosing an index series for your passive manager to track can indeed be an active decision.

Putting Values into Action: A Practical Guide for Institutional Investors | Many institutional investors are becoming more active in emphasizing values-oriented investments. This can take several forms, but whatever the approach, it requires a deliberate and thoughtful process for successful implementation.

Quarterly Periodicals

Private Equity Trends, 1Q21 | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 1Q21 | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse Flipbook, 1Q21 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

Capital Markets Review, 1Q21 | Analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes

Hedge Fund Quarterly, 1Q21 | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Reporter, 1Q21 | A summary of market activity for real assets and private real estate during the quarter

Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: callan.com/research-library

Please mark your calendar and look forward to upcoming invitations:

Regional Workshops

November 2, 2021, in Atlanta

November 5, 2021, in San Francisco

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

50+

Unique pieces of research the Institute generates each year

525

Attendees (on average) of the Institute's annual National Conference

3,700

Total attendees of the "Callan College" since 1994

Education

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

Introduction to Investments

August 17-19, 2021 - Virtual

October 6-7, 2021 - Chicago

October 26-28, 2021 - Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. Our virtual session is held over three days with virtual modules of 2.5-3 hours, while the in-person lasts one-and-a-half days. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Virtual tuition is \$950 per person and includes instruction and digital materials. In-person tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including registration can be found at: callan.com/events-education

Alternative Investments

October 19-20, 2021 - Virtual

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In our "Callan College" on Alternatives, you will learn about the importance of allocations to alternatives, and how to consider integrating, evaluating, and monitoring them. Two morning "virtual" sessions will cover topics such as: why invest in alternatives, risk/return characteristics, designing and implementing a program, and trends and case studies.

Additional information including dates and registration can be found at: callan.com/events/oct-alts-college/



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer

