

June 30, 2024

Pennsylvania SERS 401(a)



**Investment Measurement Service
Quarterly Review**

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June 30, 2024

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Will the Fed Be Able to Stick the Landing?

ECONOMY

2 Here we are, on the verge of something that's never been done before: a soft landing for the U.S. economy, where inflation is brought down while growth gradually subsides, but we avoid a recession. After the devastation of the pandemic, it would be a remarkable achievement.

Slight Gain for Bonds; Markets Await Fed

FIXED INCOME

8 The Bloomberg US and Global Aggregate indices both rose 0.1%. Treasury yields were up modestly, to 4.36%. Municipal yields climbed higher than U.S. Treasury yields. Major currencies' weakness against the dollar hurt unhedged returns.

Gains Continue to Top Leveraged Loans

PRIVATE CREDIT

12 Private credit has shown a net IRR of 8.0% over the last 10 years, easily topping a leveraged loan benchmark. Sub-investment grade corporate yields rose sharply at the start of 2022 and peaked in September. Yields continued to drop in 1Q24 and spreads contracted.

Solid Gains Over Trailing One Year

INSTITUTIONAL INVESTORS

4 Continued strong U.S. equity gains helped institutional investors show strong gains over the trailing one year ended 6/30/24, but a lagging bond market and lower global ex-U.S. equity performance held them back from matching a 60% stocks/40% bonds index.

Income Positive but Appreciation Falls

REAL ESTATE/REAL ASSETS

10 NPI income returns were positive across sectors and regions but all appreciation returns declined, except for hotels. REITs underperformed equities in the U.S. and globally. ODCE redemption queues have exceeded the levels hit during the Global Financial Crisis.

Managers Capitalizing on Volatility in 2Q24

HEDGE FUNDS/MACs

13 The median Callan Institutional Hedge Fund Peer Group manager rose 1.6%. Within the HFRI Indices, the best-performing strategy was relative value, which was up 1.4%. Equity hedge ended the quarter up 1.0%. Macro strategies ended the quarter slightly negative.

Strong Start to Year in U.S. but Not Globally

EQUITY

6 The U.S. equity markets had an exceptional start with the S&P 500 hitting 31 record highs over the first six months of 2024 and gaining 15.3%. Developed non-U.S. markets struggled with growing uncertainty on future economic growth. Emerging markets rebounded.

Signs of Rebound; Challenges Remain

PRIVATE EQUITY

11 The number of funds raised in 1Q24 dropped 42% vs. 1Q23, but the dollar amount was flat. This year also saw improving buyout conditions. Valuations rose amid mixed signs of recovery for venture capital and growth equity. Short-term returns lag public equity.

DC Index Starts Year with a Big Gain

DEFINED CONTRIBUTION

15 The Callan DC Index™ gained 6.6% in 1Q24. Balances rose by 6.6% after a 9.0% increase in 4Q23, driven exclusively by investment gains. Stable value saw large outflows for the sixth straight quarter. U.S. large cap equity saw large percentage increases in allocation.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000



3.2%

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



1.0%

U.S. Fixed Income
Bloomberg Agg



0.1%

Global ex-U.S. Fixed Income
Bloomberg Global Agg ex US



-2.1%

Sources: Bloomberg, FTSE Russell, MSCI

Can the Fed Stick the Landing?

ECONOMY | Jay Kloepfer

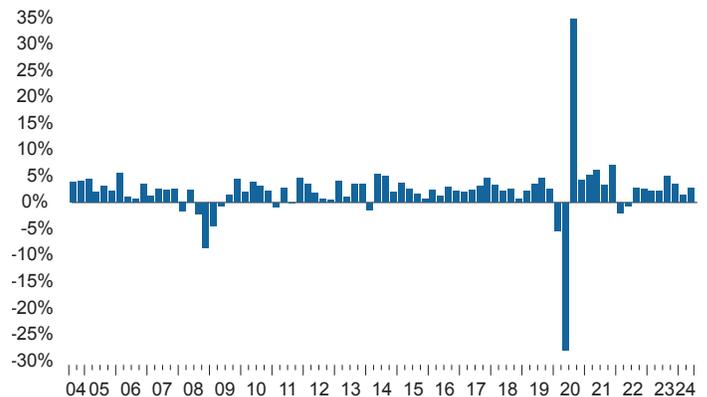
The hunt for signs of the much-anticipated slowdown in the U.S. economy continues to be thwarted. Every data release is scrutinized: Is this the one that is finally the sign of a crack in growth? The economy is clearly set to slow compared to the surprise robust growth in the second half of 2023, but key measures like stubborn inflation, a job market that has yet to sag, and persistent growth in consumption spending have kept surprising to the upside. Inflation eased from the worrisome rise in 1Q24, but still sits at 3.0% compared to a year ago, well above the Fed's target. The job market looked like it finally cracked in April, creating just 108,000 jobs after adding 800,000 in the first three months of the year. Then job growth rebounded to 218,000 in May and 206,000 in June, clearly softer than the average monthly rate of 250,000 in 2023 and the surge in 1Q, but still solid. The unemployment rate remains low at 4.1%, although initial unemployment claims have been rising gradually since the recent low set in January. The labor market is indeed softening, which should reduce pressure on wage inflation at some point.

A softer labor market will likely dampen consumer demand, and therefore provide more relief to inflation pressures. Consumer spending slowed from a robust 3% growth rate in the second half of 2023 to 1.5% in 1Q, another potential crack in the façade. Then spending rebounded to a 2.3% gain in 2Q and drove a surprising 2Q GDP growth rate of 2.8%, about double the rate expected for the quarter. In addition to consumer spending, GDP growth was driven by private inventory investment and business fixed investment, particularly in equipment and intellectual property. 1Q GDP growth came in at just 1.4%, the first sure sign of the anticipated slowdown—or so it seemed.

Interest rates have been higher for a longer period than many expected, including the Fed. There are surprisingly few signs that these higher rates have taken the expected toll on the economy. The economy does appear to be gradually slowing, current contradictory indicators like the strong GDP report aside. The cost of borrowing is sharply higher, and delinquencies in auto loans

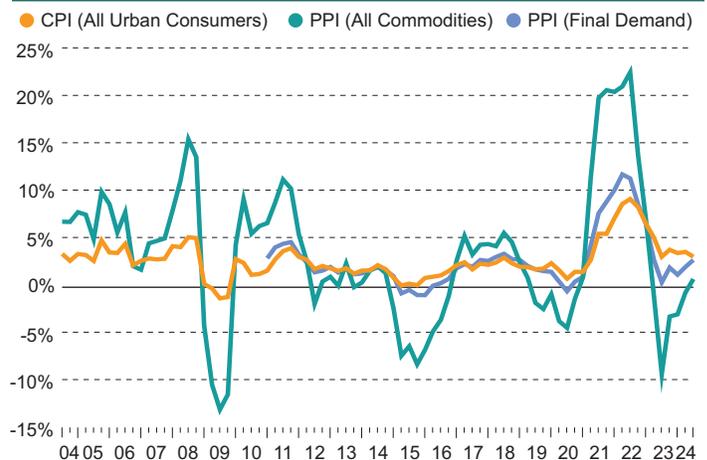
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

and credit cards are rising. The real estate market is grappling with much higher mortgage rates, although the market is showing a few unexpected features. The sale of existing homes in 2023 fell by one-third from the peak set in 2021, and the rate of sales in 2024 is holding steady at the 2023 rate. However, home prices are rising around the country. As interest rates rose, homeowners were supposedly reluctant to sell and buy again with much higher mortgage rates. However, the supply of homes for sale is rising, alongside higher prices and high mortgage rates compared to 2021, a puzzling market dynamic.

Inflation cooled in May and June after throwing a scare into both the Fed and the capital markets during the first four months of 2024. CPI had inched up to an annual rate of 3.5% in March from 3.1% in January. Then gasoline prices fell 3.6% in May and 3.8% in June, enough to bring the monthly change in the CPI to zero in May and slightly negative in June. The annual rate eased to 3.0% in June. Broad inflation may now be headed in the right direction for the Fed to act on rates. However, under the hood, inflation weighs heavily on basic items for lower- and middle-income households: shelter, food, motor vehicle insurance, and medical care. The shelter index rose 5.2% from June 2023 to June 2024 and accounted for over 60% of the increase in headline CPI this past year. While the spike in inflation may be past, the impact of prices now “permanently” higher on household budgets is likely to dampen the consumer spending that has driven the economy.

So what to make of all this contrasting economic data? Putting it in context, four years ago U.S. GDP dropped an incredible 28% in one quarter. While it quickly rebounded, the country suffered a pandemic of stunning cost, both economically and, more importantly, in terms of lost lives, severed social connections, missed education, and worsening mental health. And yet here we are, on the verge of something that’s never been done before: a soft landing for the U.S. economy, where inflation is brought down while growth gradually subsides, but we avoid a recession. It would be a remarkable achievement.

The Long-Term View

Index	2Q24	Periods Ended 6/30/24			
		1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	3.2	23.1	14.1	12.1	7.8
S&P 500	4.3	24.6	15.0	12.9	7.7
Russell 2000	-3.3	10.1	6.9	7.0	7.6
Global ex-U.S. Equity					
MSCI EAFE	-0.4	11.5	6.5	4.3	4.5
MSCI ACWI ex USA	1.0	11.6	5.5	3.8	--
MSCI Emerging Markets	5.0	12.5	3.1	2.8	--
MSCI ACWI ex USA Small Cap	0.7	11.3	6.1	4.4	6.7
Fixed Income					
Bloomberg Agg	0.1	2.6	-0.2	1.3	3.9
90-Day T-Bill	1.3	5.4	2.2	1.5	1.9
Bloomberg Long G/C	-1.7	-1.6	-2.2	1.6	5.3
Bloomberg GI Agg ex US	-2.1	-0.7	-3.6	-1.9	2.5
Real Estate					
NCREIF Property	-0.3	-5.5	3.4	6.1	7.8
FTSE Nareit Equity	0.1	7.8	3.9	5.9	9.1
Alternatives					
Cambridge PE*	1.2	5.2	14.6	13.5	13.4
Cambridge Senior Debt*	4.2	10.0	6.9	6.9	4.2
HFRI Fund Weighted	0.5	9.8	6.7	4.8	6.0
Bloomberg Commodity	2.9	5.0	7.2	-1.3	2.7
Inflation – CPI-U	0.6	3.0	4.2	2.8	2.6

*Data for most recent period lags. Data as of 1Q24.
Sources: Bloomberg, Bureau of Economic Analysis, FTSE Russell, Hedge Fund Research, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

Recent Quarterly Economic Indicators

	2Q24	1Q24	4Q23	3Q23	2Q23	1Q23
Employment Cost: Total Compensation Growth	4.1%	4.2%	4.2%	4.3%	4.5%	4.8%
Nonfarm Business: Productivity Growth	2.3%	0.4%	3.5%	4.6%	3.3%	-0.3%
GDP Growth	2.8%	1.4%	3.4%	4.9%	2.1%	2.2%
Manufacturing Capacity Utilization	77.5%	77.1%	77.6%	78.1%	78.4%	78.7%
Consumer Sentiment Index (1966=100)	71.1	78.4	64.9	69.6	62.3	64.6

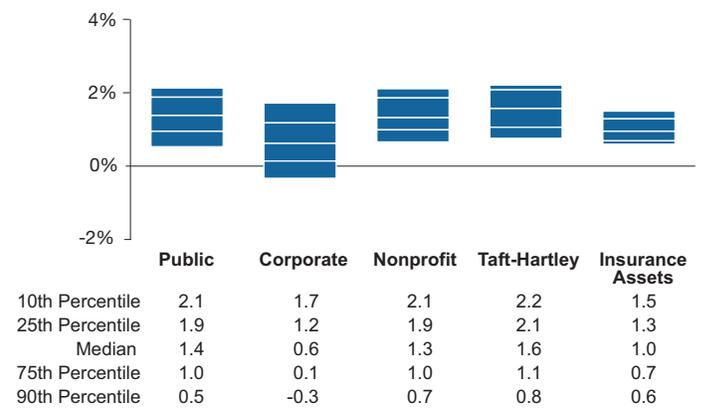
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Investors Show Gains but Still Lag Benchmark

INSTITUTIONAL INVESTORS

- Continued strong U.S. equity gains helped institutional investors show robust gains over the trailing one year ended 6/30/24, but a lagging bond market and lower global ex-U.S. equity performance held them back from matching a 60% stocks/40% bonds benchmark.
- Still, most investor types showed double-digit gains.
- Corporate plans, with their typically bond-heavy portfolios, were the exception.
- Even over longer periods, the gap between institutional investor returns and the 60%/40% benchmark continued.
- Institutional investors are focused on a handful of major macroeconomic issues:
 - Interest rates and inflation
 - The U.S. election
 - Geopolitics
- Public DB plans have reviewed their allocations to fixed income and generally either confirmed the amount or made an increase.
- Plans are starting to review their fixed income structures, specifically the need for risk in a higher-rate environment.
- Plans are also starting to evaluate their exposure to risk assets, with some wondering why invest in anything besides U.S. large cap stocks and others debating whether to take risk off the table.

Quarterly Returns, Callan Database Groups (6/30/24)



Source: Callan

Public defined benefit (DB) plans

- The median discount rate, according to the most recent NASRA survey, is 7.00%.
- A 7.00% return expectation can be achieved with 50% in core fixed income.

Callan Database Median and Index Returns* for Periods Ended 6/30/24

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	1.4	11.1	3.2	7.7	7.0	7.1
Corporate Database	0.6	7.5	-0.7	4.6	5.3	6.5
Nonprofit Database	1.3	11.9	3.1	7.6	6.5	7.0
Taft-Hartley Database	1.6	11.0	3.4	7.5	6.9	6.9
Insurance Assets Database	1.0	7.8	1.0	3.5	3.7	4.5
All Institutional Investors	1.2	10.8	2.8	7.2	6.5	6.9
Large (>\$1 billion)	1.1	9.8	2.9	7.5	6.8	7.1
Medium (\$100mm - \$1bn)	1.2	10.9	2.9	7.3	6.6	7.0
Small (<\$100 million)	1.3	11.6	2.6	7.0	6.2	6.7
60% S&P 500/40% Bloomberg Agg	2.6	15.5	4.8	9.2	8.4	7.7

*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.

Corporate DB plans

- Interest rate hedging continues to work.
- Funded status continues to be a major, if not the major, issue. Funded ratios for some corporate DB plans improved as the equity market increased.
- As closed plans' liabilities shorten, intermediate fixed income will continue to attract interest.
- As credit spreads have tightened, it is important to manage or reduce any overweight to credit.

Nonprofits

- Nonprofits indicated that they had noticeable uncertainty about allocations to private markets in general.
- For plans that had increased the risk in their fixed income sleeves to gain a higher yield (in the lower-rate environment), they too are reviewing the need for risk in a higher-rate environment.
- Others are worried about concentration in their growth portfolios.

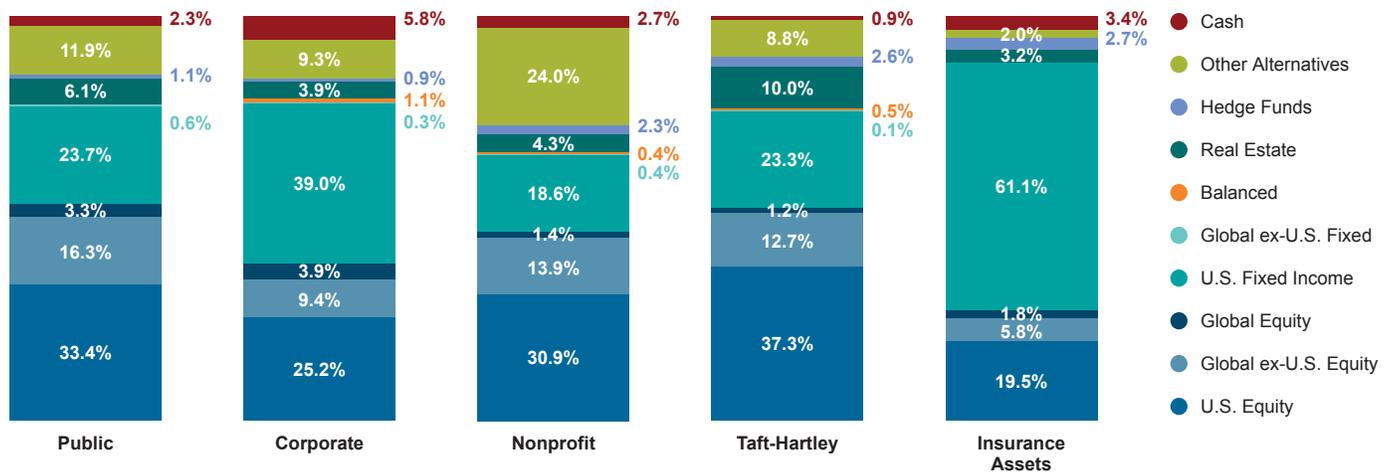
Insurance asset pools

- They are still benefiting from higher yields on short-term fixed income.
- Claims costs are higher from experienced inflation.
- Risk-based capital charges must be considered when investing in alternative investments.

Defined contribution (DC) plans

- The Callan DC Index™ gained 6.6% in 1Q24 due to the strong equity market.
- Turnover (i.e., net transfer activity) increased slightly to 0.44% from the prior quarter's 0.24%. The index's historical average remained at 0.55% and is a good reminder that participants tend to set their allocation and not make many changes.
- Automatic features typically result in target date funds (TDFs) receiving the largest net inflows in the index, as they did in 1Q24, garnering 80% of quarterly net flows. Stable value, money market, and company stock saw the largest outflows during the quarter.
- The gap in returns between money market and stable value funds continues to concern DC plans.
- Discussions are ongoing around how or whether to help participants with retirement income.

Average Asset Allocation, Callan Database Groups



Note: Charts may not sum to 100% due to rounding. Other alternatives include but is not limited to: diversified multi-asset, private credit, private equity, and real assets. Source: Callan

Equity

U.S. Equities

Broad indices exhibit strong start to 2024

- The U.S. equity markets had an exceptional start with the S&P 500 hitting 31 record highs over the first six months of 2024 and gaining 15.3%.
- Index returns continue to be driven by a handful of stocks, especially the “Magnificent Seven,” which comprised 33% of the S&P 500 as of quarter-end. As a group, the cohort gained 33% in the first six months of the year, far exceeding the S&P 493 gain of only 5%.

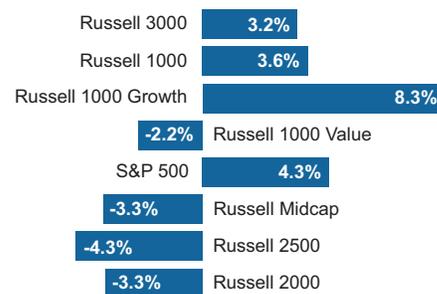
Performance underlying indices is uneven

- 2Q returns for the broad index were modest at 4.3%, but sector performance was quite mixed, ranging from -4.5% (Materials) to +13.8% (Technology), with 6 of the 11 S&P 500 sectors posting negative returns during the period.
- During 2Q, value (R1000V: -2.2%) continued to underperform growth (R1000G: +8.3%) and small cap (R2000: -3.3%) continued to underperform large cap (R1000: +3.6%).
- The “Magnificent Seven” stocks pushed large cap indices to record highs while the rest of the market traded sideways.
- Magnificent Seven stocks accounted for 116% of S&P 500 total return in 2Q24.
- YTD 2024, the bucket of Magnificent Seven stocks handily outperformed the equal weight S&P 500 Index and small cap Russell 2000 Index returns.
- Magnificent Seven returns over the trailing 3½ years (dating back to 2021) drove a large contribution of total index returns relative to the remaining ~493 stocks in the S&P 500.

- Market concentration has hit its highest level since 1972. The top 10 stocks have broken away from stocks #11-#50 to an even greater degree than in the tech bubble in 2000-01.
- The largest and most successful stocks were generating more earnings, earnings growth, and cash relative to the smaller stocks in the index. Price appreciation for the largest stocks is supported by strong earnings growth and robust economic profits.

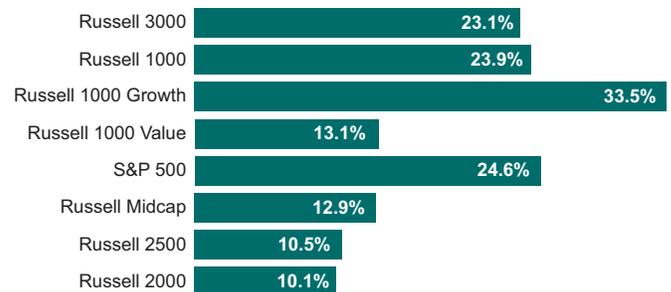
U.S. Equity: Quarterly Returns

(6/30/24)



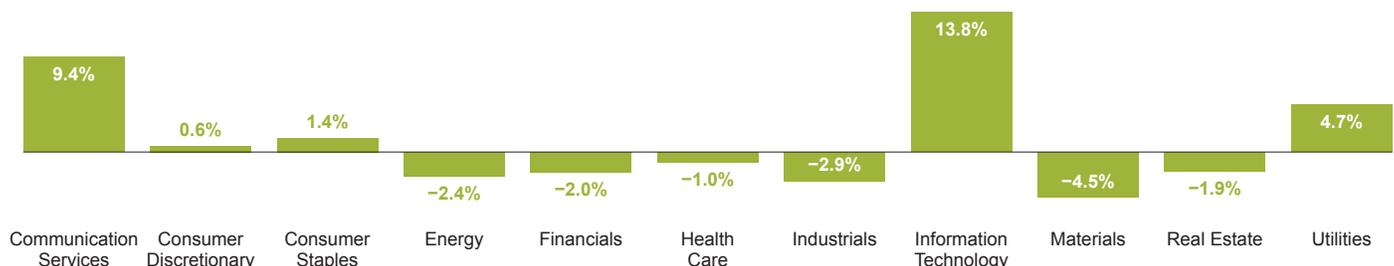
U.S. Equity: One-Year Returns

(6/30/24)



Sources: FTSE Russell and S&P Dow Jones Indices

Quarterly Performance of Industry Sectors (6/30/24)



Source: S&P Dow Jones Indices

Global Equities

Broad market

- The U.S. continued its lead over developed non-U.S. markets resulting in a positive ACWI return.
- Developed non-U.S. markets struggled with growing uncertainty on future economic growth, political instability, and divergent central bank policies.
- Small caps once again trailed large caps in a higher interest rate environment and amid exchange rate volatility.

Emerging markets

- Emerging markets rebounded, snapping a two-quarter losing streak relative to developed markets as both China and India produced strong returns.
- China's GDP growth exceeded expectations with a rebound in industrial production, manufacturing, and exports. Further, the Chinese government implemented several measures to support capital markets.

Growth vs. value

- Growth and value saw little difference, as much of the caution was driven around macro concerns about future growth and a growing risk of a recession.

U.S. dollar strength

- The U.S. Dollar Index (DXY), was relatively flat in 2Q due to a balancing act of increased global uncertainty but a more likely 2024 U.S. central bank rate cut.

China experiences significant decline

- Mainland China's allocation within the MSCI EM Index and active EM equity strategies has steadily declined since peaking in 2020. Sluggish growth with weak home sales and deflationary pressures combined with heightened geopolitical risks have been contributors.

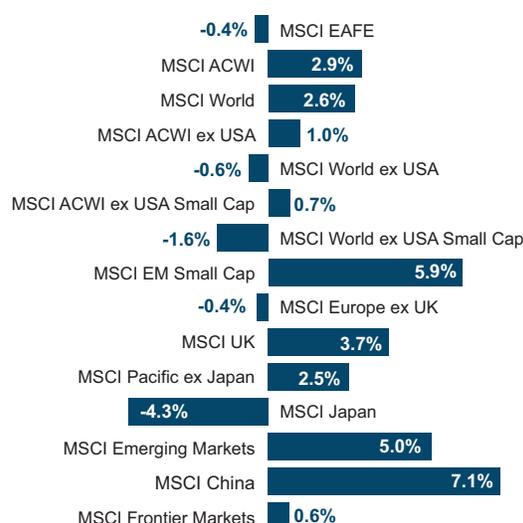
Taiwan increases with Taiwan Semiconductor strength

- Despite Taiwan's related geopolitical concerns to mainland China, Taiwan has seen increasing allocations in the index and across managers. The largest stock in the MSCI Taiwan Index, Taiwan Semiconductor, which accounts for ~50% of the index, continues to exhibit robust growth as the global leader in semiconductor manufacturing.

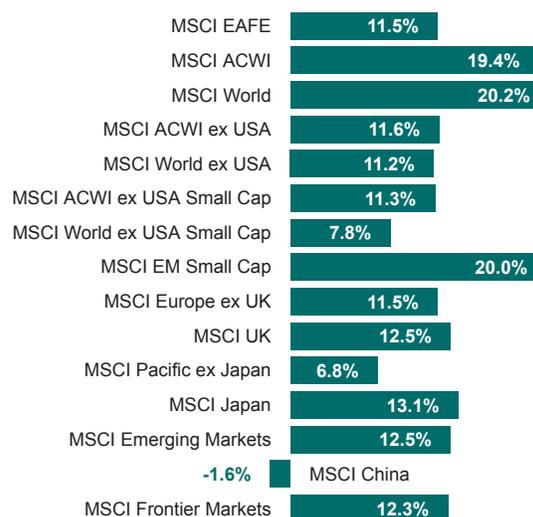
India continues rapid growth

- Benefiting from positive demographics with a large growing working population, India has experienced one of the highest real GDP growth rates globally in recent years when compared to other major countries/regions.
- India's growth within the MSCI EM Index and manager allocations has been nearly the mirror image to China's allocations since 2020.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 6/30/24)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 6/30/24)



Source: MSCI

Fixed Income

U.S. Fixed Income

Macro environment

- Fed on hold awaiting more evidence that inflation is under control as economy remained resilient
- 10-year U.S. Treasury yield up modestly from 4.21% to 4.36%
- Curve remained inverted

Performance and drivers

- The Bloomberg US Aggregate Index rose 0.1% amid higher rates.
- Corporates and most securitized sectors were roughly flat vs. U.S. Treasuries on a duration-adjusted basis.
- Lower quality outperformed, with high yield corporates and leveraged loans posting the best returns.
- Longer maturity underperformed short and intermediate strategies as curve steepened from 5 years out to 30.

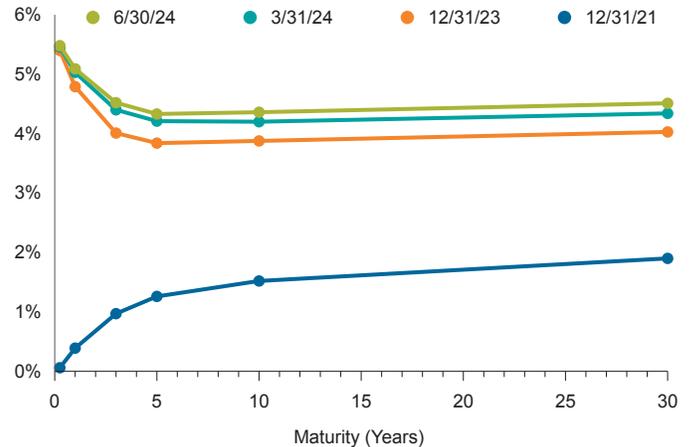
Valuations

- Corporate credit remains rich with spreads near historical tight.
- Default rates fell to just 1.2% for HY and 1.1% for bank loans.
- Corporate bond issuance remained robust
- IG corporate new issuance slowed from record highs in 1Q but remained robust with \$349 billion in new debt, bringing YTD total to \$886 billion.
- HY new issuance in 2Q nearly matched 1Q with \$83 billion, bringing YTD total to \$172 billion.
- Both were met with strong investor demand.

Rate cut expectations

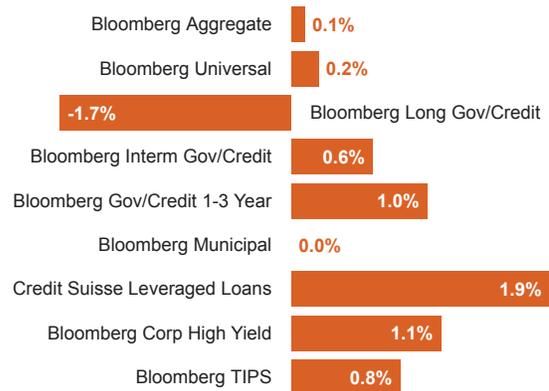
- Strong April jobs reports and sticky inflation readings initially drove intermediate- and long-term rates higher, sending the 10-year Treasury 50 bps higher and reducing the 2s10s inversion to just -24 bps.
- Markets reacted with reduced expectations for Fed rate cuts. Entering 2024, Fed Funds futures priced in at least six cuts for the year; that declined to around one as of April.
- However, subsequent data, including easing inflation, brought rates back close to where they started, with the 10-year Treasury ending the quarter 16 bps higher.

U.S. Treasury Yield Curves

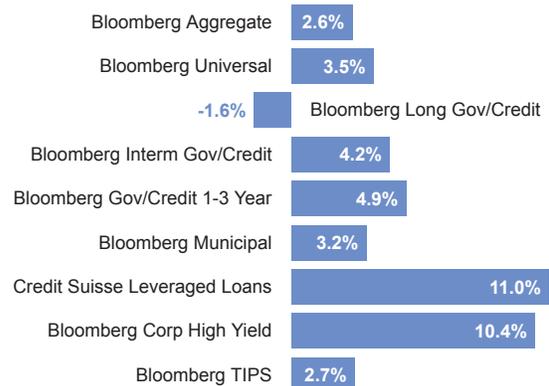


Source: Bloomberg

U.S. Fixed Income: Quarterly Returns (6/30/24)



U.S. Fixed Income: One-Year Returns (6/30/24)



Sources: Bloomberg and Credit Suisse

Municipal Bonds

Higher quality municipal bonds post flat returns in 2Q

- Muni bond yields climbed more than U.S. Treasury yields.
- 10-year AAA municipal bond yield rose 33 bps to 2.84%.
- 10-year U.S. Treasury yield ended 2Q at 4.36% from 4.21%.
- YTD issuance (\$235 billion, up 37% YOY) has been met by strong demand with \$11.4 billion in positive flows to municipal bond funds.

BBB performs best for the quarter and year

- AAA: -0.28%
- AA: -0.11%
- A: +0.22%
- BBB: +0.68%

Muni valuations vs. U.S. Treasuries remain rich

- 10-year AAA Muni/10-year U.S. Treasury yield ratio increased to 65%, but remains below the 10-year median
- Fundamentals for state and local governments remain sound as upgrades continue to surpass downgrades.
- The need for increased infrastructure spending could benefit municipal bond issuance in years to come.

Global Fixed Income

Macro environment

- Developed market rates rose further in 2Q.
- In June, the Bank of Canada lowered its overnight rate, and the European Central bank cut rates for the first time in five years as growth and inflation moderated.
- Japan's 10-year government bond yield rose above 1% for the first time since 2013.

U.S. dollar continues to strengthen

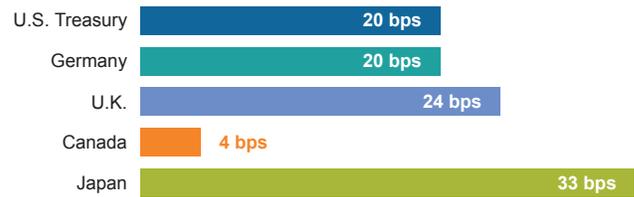
- Major currencies generally continued to weaken relative to the U.S. dollar, albeit at a slower pace from 2Q, detracting from unhedged returns.
- Hedged investors were flat for the quarter following the increase in yields.

Emerging market debt is similarly lackluster

- India was added to the JPM GBI-EM suite of indices in June.

Change in 10-Year Global Government Bond Yields

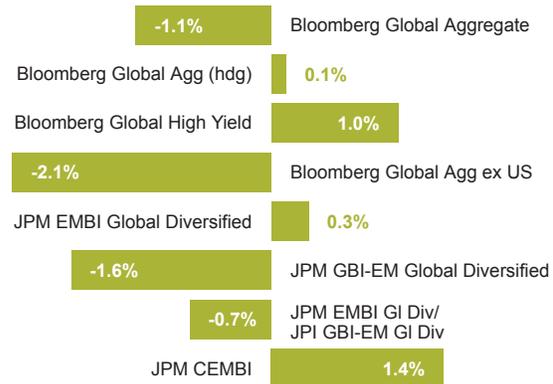
1Q24 to 2Q24



Source: Bloomberg

Global Fixed Income: Quarterly Returns

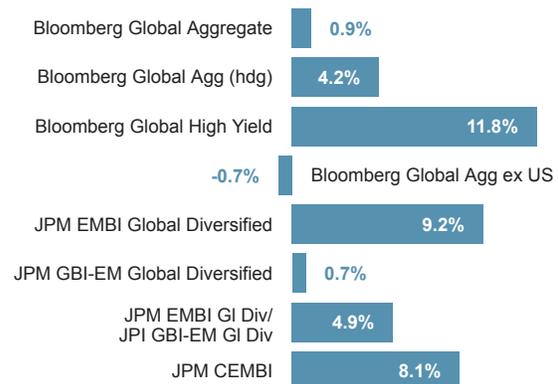
(6/30/24)



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns

(6/30/24)



Sources: Bloomberg and JPMorgan Chase

- EM hard currency rose 0.3% while the local currency JPM EMBI Global Diversified Index declined 1.6% as the U.S. dollar generally if modestly strengthened relative to local currencies.

Income Positive but Appreciation Falls

REAL ESTATE/REAL ASSETS | Munir Iman

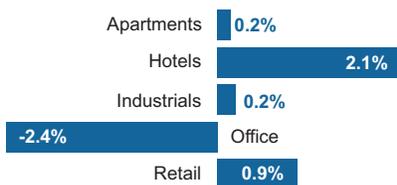
Valuations reflect higher interest rates

- NCREIF Property Index income returns were positive across sectors and regions.
- All property sectors and regions experienced negative appreciation, except for hotels.
- Valuations are reflective of higher interest rates, which have put upward pressure on capitalization rate and discount rate assumptions.
- Both the NPI and the NCREIF ODCE Index fell in the quarter and have produced negative returns over the last year.

Observations

- Global REITs underperformed in 2Q24, declining 2.4% compared to a 2.6% increase for global equities (MSCI World).
- U.S. REITs gained 0.1% in 2Q24, in contrast with the S&P 500 Index, which rose 4.3%.

Sector Quarterly Returns by Property Type (6/30/24)



Source: NCREIF

Callan Database Median and Index Returns* for Periods Ended 6/30/24

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	20 Years
Real Estate ODCE Style	-0.4	-2.8	-9.6	1.6	2.8	6.0	5.4
NFI-ODCE (value-weighted, net)	-0.7	-3.2	-10.0	1.0	2.3	5.5	5.8
NCREIF Property	-0.3	-1.2	-5.5	2.3	3.4	6.1	7.3
NCREIF Farmland	-0.2	0.5	2.5	6.8	5.8	6.9	12.1
NCREIF Timberland	1.7	3.9	9.8	11.0	7.2	5.9	7.1
Public Real Estate							
Global Real Estate Style	-1.7	-2.1	6.6	-3.1	2.0	4.5	7.1
FTSE EPRA Nareit Developed	0.5	1.2	2.7	1.8	2.6	4.7	--
Global ex-U.S. Real Estate Style	-3.3	-4.9	6.4	-7.5	-0.2	3.0	--
FTSE EPRA Nareit Dev ex US	-5.6	-7.6	3.1	-9.6	-4.4	-0.5	--
U.S. REIT Style	-0.2	-0.6	7.1	-0.1	4.9	6.6	8.6
FTSE EPRA Nareit Equity REITs	0.1	-0.1	7.8	0.3	3.9	5.9	7.7

*Returns less than one year are not annualized. Sources: Callan, FTSE Russell, NCREIF

- REITs continue to trade at a discount to NAV (-4.2%) and offer some relative value given this spread.
- Historically, global REITs have traded at a -4.0% discount to NAV.

Redemption queues

- Current ODCE redemption queues are approximately 17.3% of net asset value, with a median queue of 13.9%. This compares to the GFC when queues peaked at approximately 15% of NAV.
- Outstanding redemption requests for most large ODCE funds are approximately 11% to 20% of net asset value.
- For a large proportion of funds, these redemptions are partial redemptions, due to portfolio rebalancing and liquidity needs. For a smaller underperforming subset, redemption requests are full redemptions indicative of manager termination.

Transaction activity

- Transaction volume has flattened on a rolling four-quarter basis and remains well below five-year averages.
- In 2Q24, transaction volume increased slightly on a quarter-over-quarter basis. Transaction volume remains significantly lower compared to 2022.
- The volatile rise in interest rates is the driving force behind the slowdown in transactions.

Some Early Signs of a Rebound, but Challenges Remain

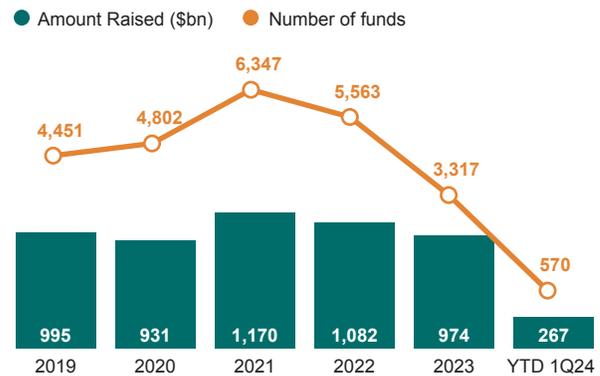
PRIVATE EQUITY | Ashley Kahn

Fundraising ► The 2023 vintage year experienced the full impact of the denominator effect, with sharp declines in fundraising for the year. The number of funds raised dropped by ~50% from the highs of 2021–22. Heading into 2024, fundraising continues to fall. The number of funds raised in 1Q24 was down by 42% compared to 1Q23, although the dollar amount raised is consistent.

Buyouts ► 2023 represented the trough in buyout dealmaking, with early 2024 seeing improved liquidity conditions and higher public markets comps. Buyout activity was up by 7% in 1Q24 compared to 4Q23. Lower valuations, reflecting higher interest rates and a narrowing of the bid-ask spread, have led to greater activity.

Venture Capital and Growth Equity ► Venture capital and growth equity have shown mixed signs of recovery but no large snapback, yet. 1Q24 deal activity was down by 9% from 4Q23. While venture capital activity was steady, there was a significant slowdown in growth equity, with no large growth equity deals during the quarter. 1Q24 exhibited a notable recovery in late-stage valuations. Similarly, early-stage valuations in 2024 also increased by 21% from the prior year.

Annual Fundraising (3/31/24)



Source: Pitchbook

Exits ► In 2023, private equity exits declined dramatically by over 50% compared to their all-time record in 2021. Exit activity is up so far in 2024, by 15% compared to early 2023. IPO activity remains depressed, and the public offerings that do occur tend to be smaller in scale.

Returns ► Public equity's exceptional start to 2024 (led by the "Magnificent Seven" technology stocks) has left private equity in its wake. Over the long-term, private equity has outperformed public equity by 1%-3%.

Private Equity Performance (%) (Pooled Horizon IRRs through 3/31/24*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
All Venture	1.4	-1.5	0.6	16.1	15.3	12.5
Growth Equity	1.0	3.9	3.5	14.2	13.3	13.4
All Buyouts	1.1	7.6	10.8	15.4	13.8	14.1
Mezzanine	1.8	10.4	11.1	11.5	10.9	11.3
Credit Opportunities	1.9	8.2	8.8	8.4	7.3	9.2
Control Distressed	0.8	4.5	12.9	13.8	11.0	11.3
All Private Equity	1.2	5.1	7.3	14.7	13.4	13.2

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

*Most recent data available at time of publication

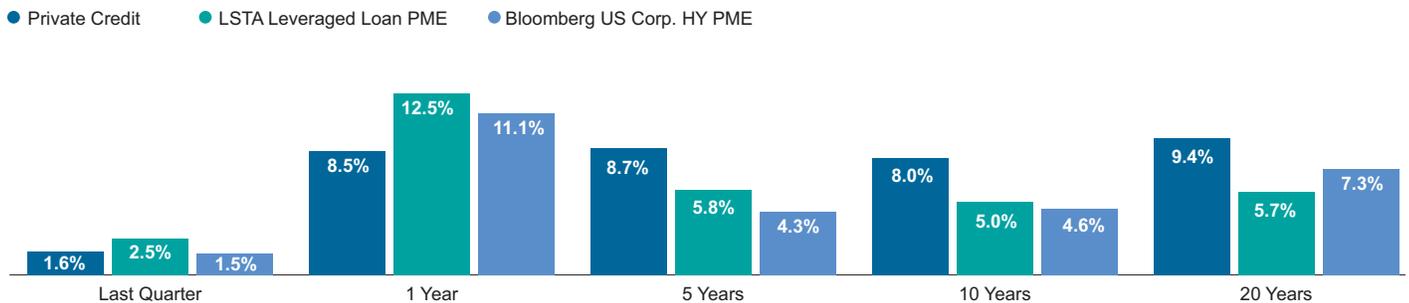
Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

Gains Outpace Leveraged Loans Over Time; Spreads Contract

PRIVATE CREDIT | Cos Braswell and Daniel Brown

- Over the past 10 years private credit has generated a net IRR of 8.0%, outperforming leveraged loans as of 1Q24.
- Higher-risk strategies have performed better than lower-risk strategies.
- U.S. sub-investment grade corporate yields rose dramatically at the beginning of 2022 with yields peaking in September. This was a combination of higher interest rates due to tighter Fed policy and a widening of high yield spreads. Effective yields continued to drop in 1Q24.
- Spreads contracted during 1Q24, a continuation from late 2023, due to stronger credit conditions as the U.S. economic outlook improved.
- Default rates for U.S. corporate bonds and loans in 2024 continued to slightly rise but remained in the historical average of 3% – 4%.
- The Corporate Bond Market Distress Index (CMDI) rose rapidly during 2022, especially for investment grade bonds, but has fallen since then. In 2024, both the investment grade distress and high yield bond indicator continued to fall, a trend that has proceeded since last year.
- Private credit assets under management (AUM) stood at over \$1.5 trillion at the end of 2023, with Preqin forecasting the asset class will grow to over \$2.5 trillion by 2028 at a 11.13% compound annual growth rate from 2023 to 2028.
- Direct lending is expected to grow steadily through 2028 as investors increase their private credit allocations. Distressed exposure should grow a bit more slowly with other strategies such as opportunistic, special situations, and other niche diversifiers growing more quickly.

Private Credit Performance (%) (Pooled Horizon IRRs through 3/31/24*)



Private Credit Performance (%) (Pooled Horizon IRRs by Strategy through 3/31/24*)

Strategy	Quarter	1 Year	5 Years	10 Years	20 Years
Senior Debt	0.7	7.7	7.0	7.0	7.2
Mezzanine	1.8	10.4	11.6	10.9	11.3
Credit Opportunities	1.9	8.2	8.4	7.3	9.2
Total Private Credit	1.6	8.5	8.7	8.0	9.4

Source: LSEG/Cambridge

*Most recent data available at time of publication

Hedge Funds Gain, Capitalizing on Volatility

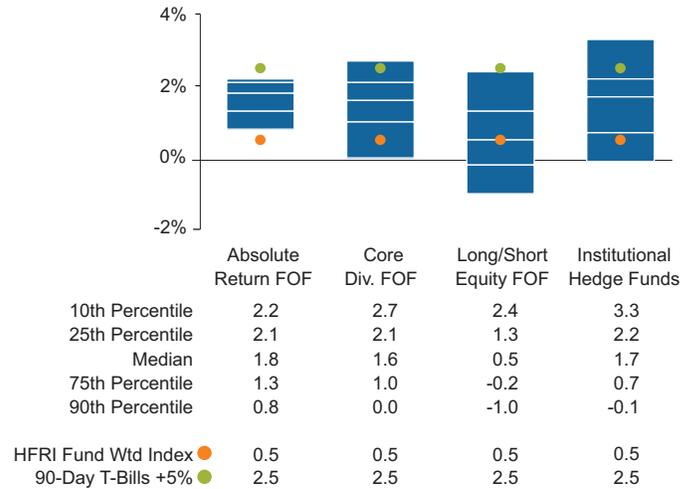
HEDGE FUNDS/MACs | Sean Lee and Joe McGuane

U.S. equity markets moved higher during 2Q24, driven by a few large technology and AI-related companies along with generally healthy corporate earnings. Interest rates were volatile during the quarter, as signs of sticky inflation drove bond yields sharply higher, but as the quarter wore on, softer macroeconomic data points and lower inflation readings reversed much of the move. The 10-year U.S. Treasury rose from 4.21% to 4.36%, and the 30-year from 4.34% to 4.51%, as Fed minutes indicate an eagerness to cut rates in September, driven primarily by concerns about the employment outlook despite reasonably good current data.

The S&P 500 rose 4.3% during 2Q, as Technology, Communication Services, and Utilities were the best sectors. Materials, Energy, and Real Estate were down on concerns of higher rates for longer and the slowing economy. Highlighting the AI theme during 2Q, the top six technology stocks in the S&P 500 rose 17% on average primarily due to EPS revisions and multiple expansion, while the remaining 494 S&P 500 stocks saw a slight upward earnings-per-share revision and larger multiple compression driving a 1% decline on average.

Hedge Fund Style Group Returns

(6/30/24)



Sources: Callan, Credit Suisse, Federal Reserve

Hedge funds ended 2Q higher, as strategies with a higher correlation and a material beta to equities were successfully able to capitalize on volatility in markets. Equity hedge funds again saw positive performance, as managers that focused on technology saw the biggest gains. Managers with more

Callan Peer Group Median and Index Returns* for Periods Ended 6/30/24

Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	1.7	10.1	5.7	7.3	6.3	7.4
Callan Fund-of-Funds Peer Group	1.3	9.8	3.8	5.7	4.4	5.4
Callan Absolute Return FOF Style	1.8	8.8	5.1	5.4	4.0	5.1
Callan Core Diversified FOF Style	1.6	10.0	4.2	5.9	4.5	5.6
Callan Long/Short Equity FOF Style	0.5	11.1	0.8	5.6	5.3	5.6
HFRI Fund Weighted Index	0.5	9.8	2.9	6.7	4.8	5.3
HFRI Fixed Convertible Arbitrage	1.2	7.5	4.1	6.6	5.0	6.5
HFRI Distressed/Restructuring	2.1	10.5	2.9	6.5	4.1	6.4
HFRI Emerging Markets	1.8	8.6	-1.3	4.1	3.3	4.2
HFRI Equity Market Neutral	2.0	11.2	5.1	4.2	3.4	3.1
HFRI Event-Driven	0.2	10.5	2.7	6.2	4.5	6.1
HFRI Relative Value	1.4	8.4	3.7	4.6	3.9	5.6
HFRI Macro	-0.8	5.9	4.4	5.7	3.5	2.8
HFRI Equity Hedge	1.0	11.8	1.9	7.8	5.6	6.2
HFRI Multi-Strategy	1.1	11.0	-0.3	5.0	2.9	4.5
HFRI Merger Arbitrage	0.0	8.3	3.4	5.5	4.5	4.4
90-Day T-Bill + 5%	2.5	10.4	8.0	7.2	6.5	6.0

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

directional equity exposure and those with more of a market-neutral focus also had a solid quarter. Relative value strategies also gained, as credit relative value and merger arbitrage strategies added to that performance. Macro strategies ended the quarter lower, as long positioning in developed market front-end rates detracted from performance, along with shorts in U.S. equities and long Japanese yen exposure.

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 rose 1.7%. Within this style group of 50 peers, the average hedged credit manager gained 1.6%, driven by interest rate volatility. Meanwhile, the average hedged equity manager added 2.4%, as those focused on the Technology, Energy, and Health Care sectors drove performance. The median Callan Institutional hedged rates manager rose 1.6%, largely driven by relative value fixed income trades.

Within the HFRI Indices, the best-performing strategy was relative value, which was up 1.4%, as managers were positioned to profit off interest rate volatility during the quarter. Equity hedge gained 1.0%, as managers that were focused on tech, media, and telecom drove performance. Macro strategies ended the quarter slightly negative, as rates trading and long U.S. equities drove performance lower.

Across the Callan Hedge FOF database, the median Callan Long-Short Equity FOF ended 0.5% higher, as managers with a focus on the Technology sector drove performance. Meanwhile, the median Callan Core Diversified FOF rose 1.6%, driven by equity and event-driven strategies. The Callan Absolute Return FOF ended up 1.8%; equity beta strategies were behind this move.

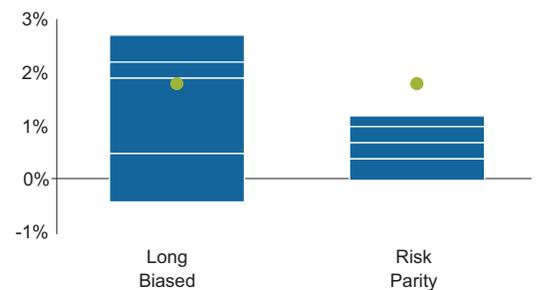
Since the Global Financial Crisis, liquid alternatives to hedge funds have become popular among investors for their attractive risk-adjusted returns that are similarly uncorrelated with traditional stock and bond investments but offered at a lower cost. Much of that interest is focused on rules-based, long-short strategies that isolate known risk premia such as value, momentum, and carry found across the various capital markets. These alternative risk

premia are often embedded, to varying degrees, in hedge funds as well as other actively managed investment products.

Within Callan's database of liquid alternative solutions, the median Callan MAC Long Biased manager rose 1.9%, as the strong equity rally pushed performance higher. The Callan MAC Risk Parity peer group rose 0.7%, as equities and fixed income drove the gains.

MAC Style Group Returns

(6/30/24)



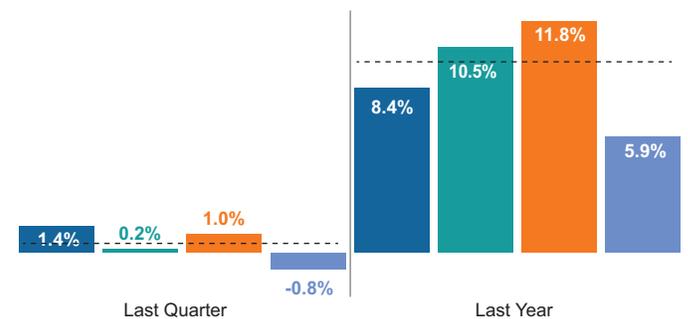
60% ACWI / 40% Bloomberg Agg	1.7	1.7
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Sources: Bloomberg, Callan, Eurekahedge, S&P Dow Jones Indices

HFRI Hedge Fund-Weighted Strategy Returns

(6/30/24)

● Relative Value ● Event-Driven ● Equity Hedge ● Macro
 --- HFRI Fund Weighted Index



Source: HFRI

DC Index Starts Year with a Big Gain

DEFINED CONTRIBUTION | [Scotty Lee](#)

Performance: Index kicks off 2024 with a gain

- The Callan DC Index™ gained 6.6% in 1Q24, which brought the Index’s trailing one-year gain to 18.8%.

Growth Sources: Investment gains lead to rise in balances

- Balances within the DC Index rose by 6.6% after a 9.0% increase in the previous quarter.
- Investment gains (6.6%) were the sole driver of the gain, while net flows (0.03%) had a negligible effect.

Turnover: Net transfers increase

- Turnover (i.e., net transfer activity levels within DC plans) in the DC Index increased to 0.44% from the previous quarter’s measure of 0.24%.

Net cash flow analysis: Stable value declines sharply

- Automatic features and their appeal to “do-it-for-me” investors typically result in target date funds (TDFs) receiving the largest net inflows in the DC Index, which was the case in 1Q24 as the asset allocation funds garnered 79.5% of quarterly net flows.
- Within equities, investors withdrew assets from U.S. small/mid-cap equity (-12.7%) and company stock (-15.6%).
- Notably, stable value (-50.9%) saw relatively large outflows for the sixth consecutive quarter.

Equity allocation: Exposure rises

- The Index’s overall allocation to equity (73.5%) rose slightly from the previous quarter’s level (72.5%). The current equity allocation continues to sit above the Index’s historical average (68.6%).

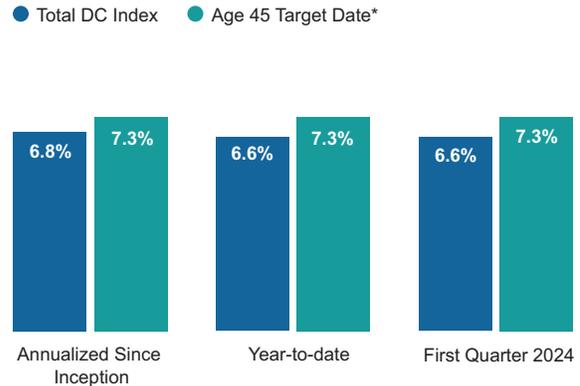
Asset allocation: Fixed income exposure falls

- U.S. large cap equity (27.8%) and target date funds (35.3%) were among the asset classes with the largest percentage increases in allocation.
- Stable value (6.6%) had the largest decrease in allocation from the previous quarter due to net outflows.

Underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately \$400 billion in assets are tracked in the Callan DC Index.

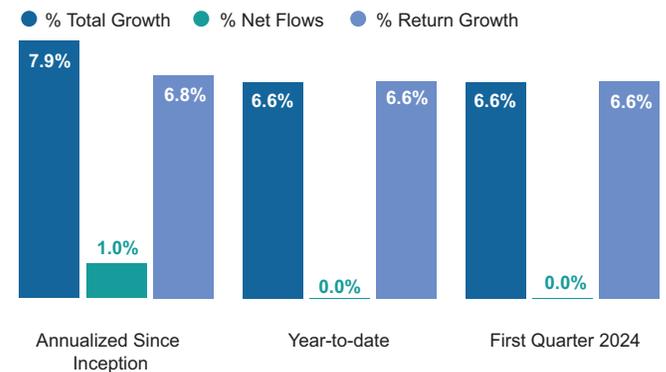
Investment Performance

(3/31/24)



Growth Sources

(3/31/24)



Net Cash Flow Analysis 1Q24

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	79.5%
U.S. Large Cap	10.5%
Company Stock	-15.6%
Stable Value	-50.9%
Total Turnover**	0.4%

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.

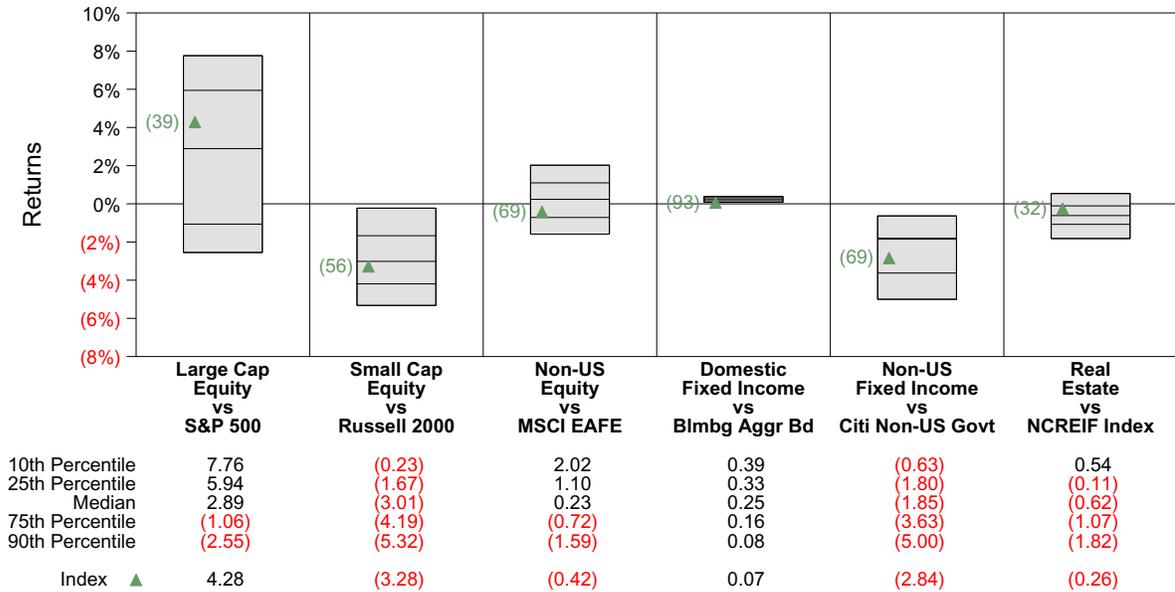
Market Overview

Active Management vs Index Returns

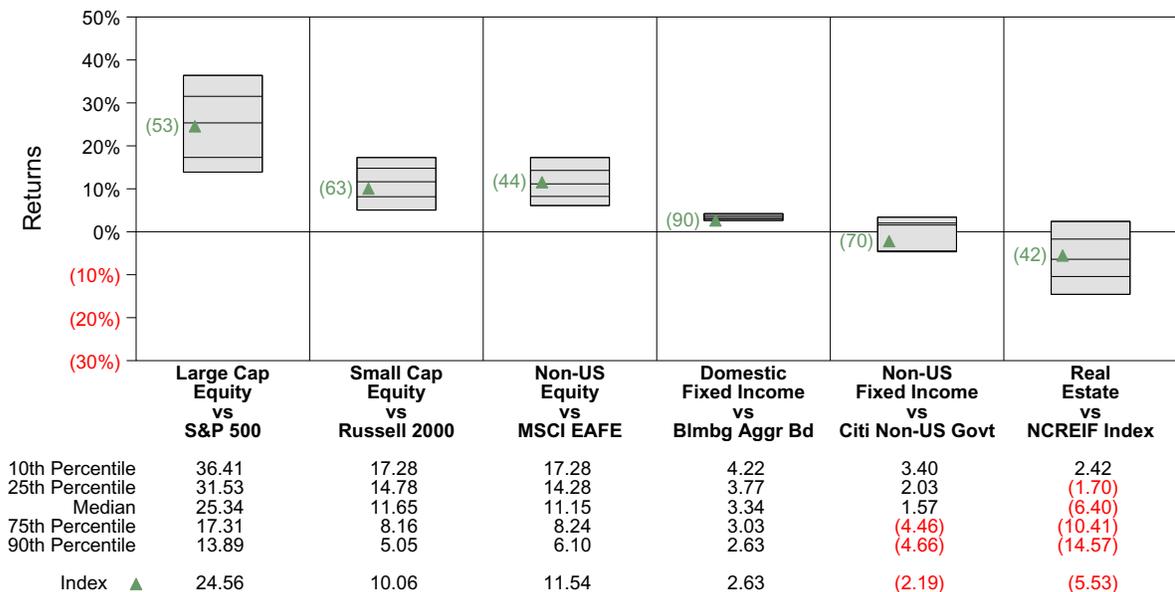
Market Overview

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, 2024



Range of Separate Account Manager Returns by Asset Class One Year Ended June 30, 2024

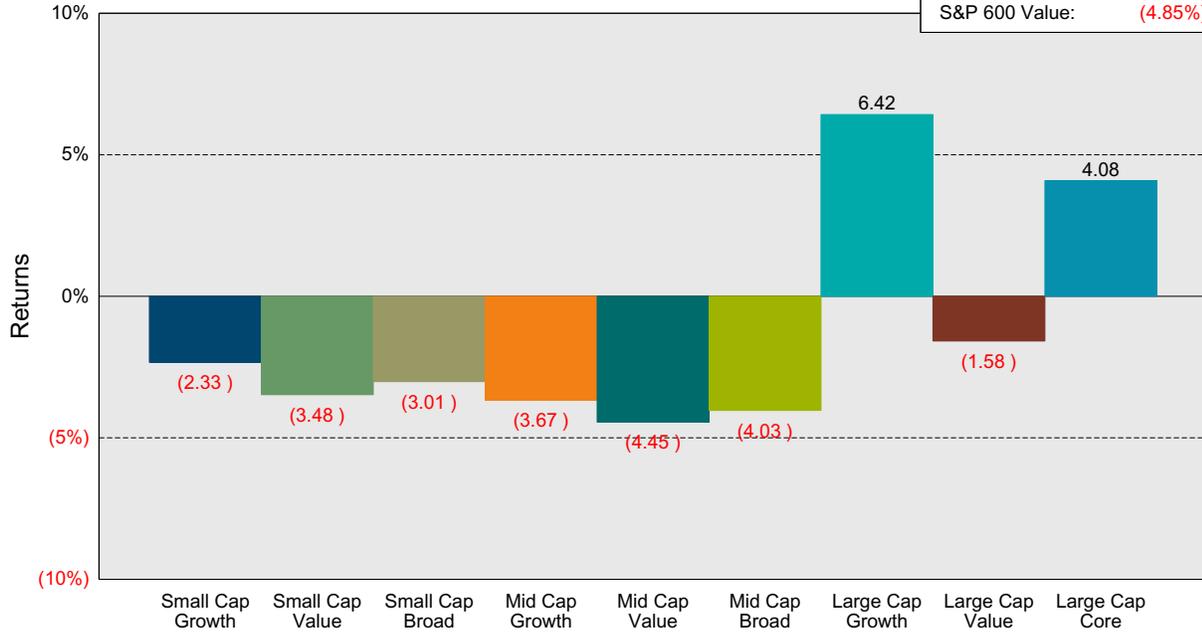


Domestic Equity Active Management Overview

The S&P 500 Index returned 4.3% in 2Q but dispersion was significant. Sector performance ranged from -4.5% (Materials) to +13.8% (Technology) with 6 of the 11 S&P 500 sectors posting negative 2Q returns. Index returns were driven by a handful of stocks; the 10 largest stocks in the index returned 14% while the equal-weighted S&P 500 fell 2.6% for the quarter. Value (R1000V: -2.2%) sharply underperformed Growth (R1000G:+8.3%) and small cap (R2000: -3.3%) underperformed large (R1000: +3.6%). The Magnificent Seven comprised 33% of the S&P 500 as of quarter-end and, as a group, they climbed 33% in the first six months of the year, far exceeding the S&P 500 ex-Mag Seven return of 5%.

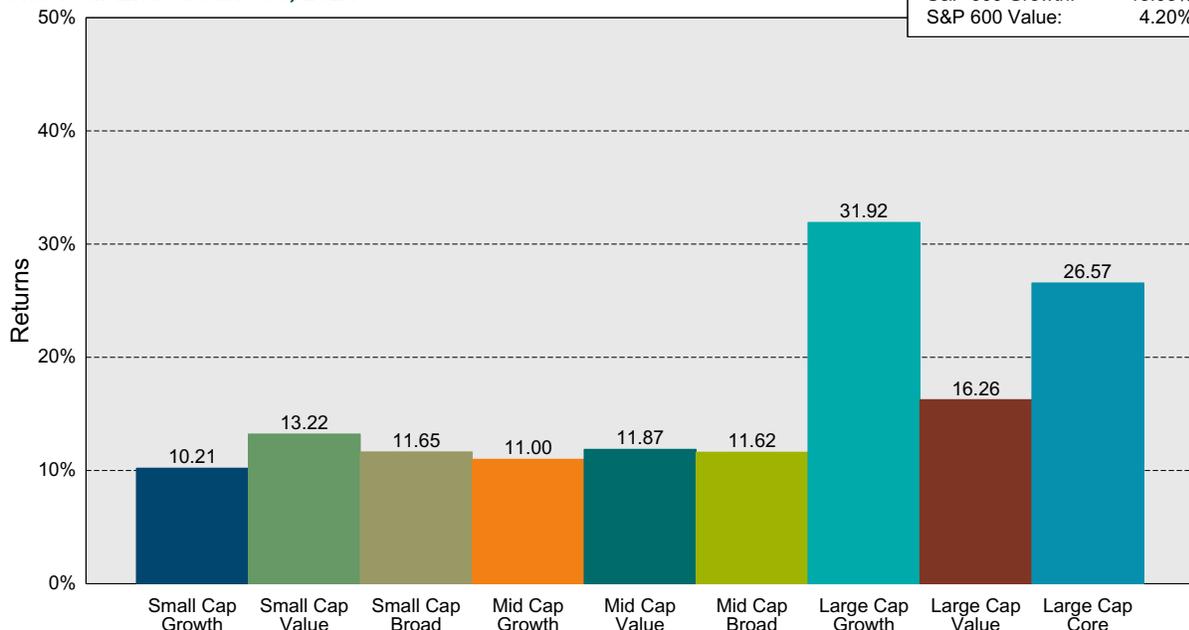
S&P 500:	4.28%
S&P 500 Growth:	9.59%
S&P 500 Value:	(2.10%)
S&P Mid Cap:	(3.45%)
S&P 600:	(3.11%)
S&P 600 Growth:	(1.40%)
S&P 600 Value:	(4.85%)

Separate Account Style Group Median Returns for Quarter Ended June 30, 2024



S&P 500:	24.56%
S&P 500 Growth:	32.52%
S&P 500 Value:	15.29%
S&P Mid Cap:	13.57%
S&P 600:	8.66%
S&P 600 Growth:	13.03%
S&P 600 Value:	4.20%

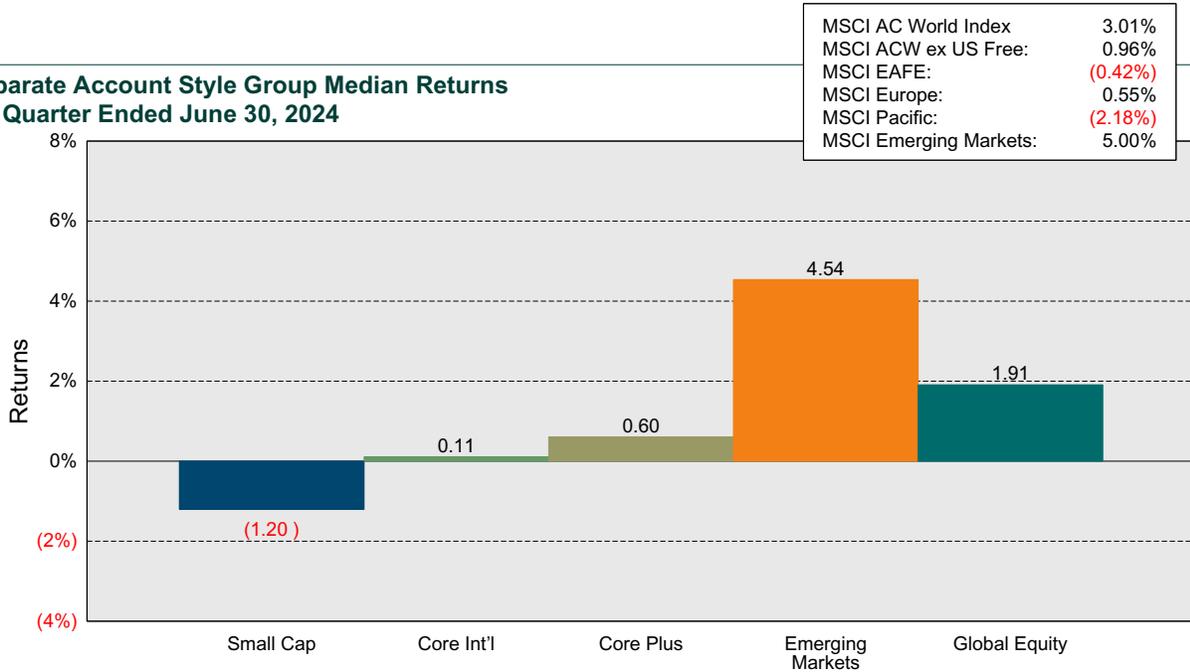
Separate Account Style Group Median Returns for One Year Ended June 30, 2024



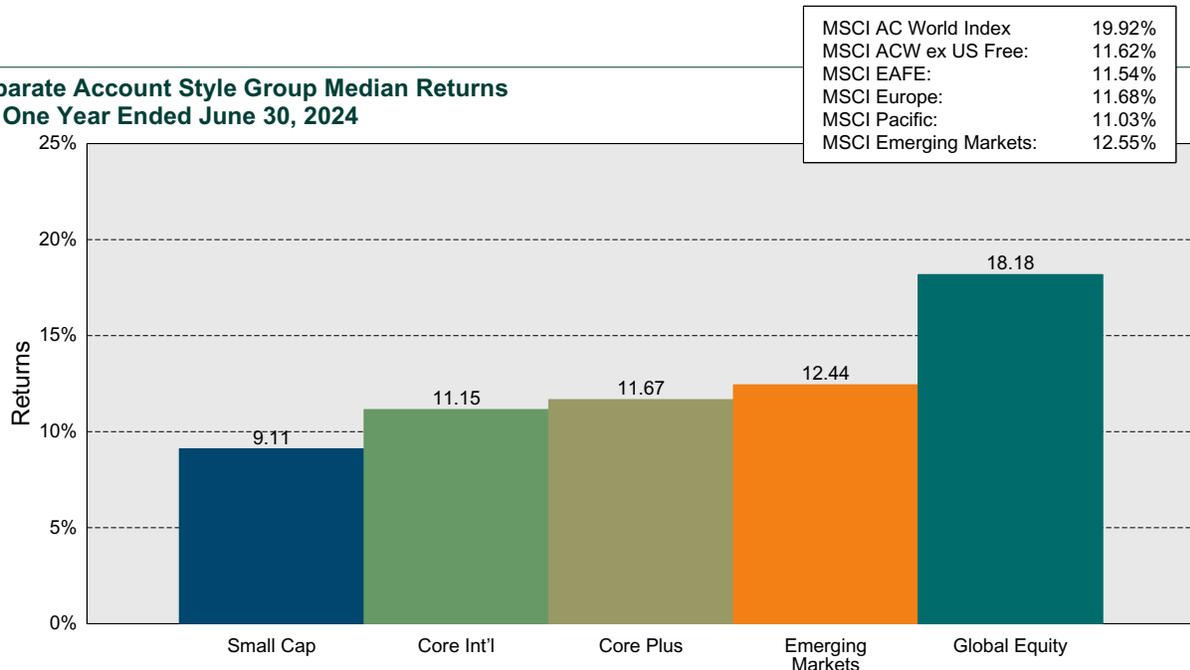
International Equity Active Management Overview

The MSCI ACWI ex USA trailed most U.S. stock indices, posting a modest gain of +1.0% (Local: +2.3%). The U.S. dollar strengthened against most currencies, notably the Japanese yen. Similar to the U.S., Information Technology (+3.8%) was the best-performing sector. Financials (+2.6%), the largest sector in the index, also bolstered results. The UK posted a 3.7% gain. Europe ex-UK (-0.4%) was hurt by weak performance in France (-7.5%) due to concerns over the far right's advancement and its implications for spending and an already high deficit. Japan (-4.3%) was a notable underperformer but in local terms the country was up 1.8%. The yen fell about 6% in 2Q to its weakest level since 1986. The currency is down 12.4% YTD. Emerging markets (MSCI EM: +5.0%; Local: +6.2%) saw mixed results. Information Technology and Energy were the best-performing sectors. Stocks related to the artificial intelligence (AI) theme continued to perform strongly, with TSMC contributing more than a quarter of broad index gains. Latin America (-12.2%) fared the worst driven by poor returns in Brazil (-12.2%) and Mexico (-16.1%). Meanwhile, Emerging Asia (+7.4%) benefited from strong performance in China (+7.1%) and Taiwan (+15.1%). India (+10.2%) was also up sharply for the quarter in spite of a short-lived sell-off after the presidential election.

Separate Account Style Group Median Returns for Quarter Ended June 30, 2024



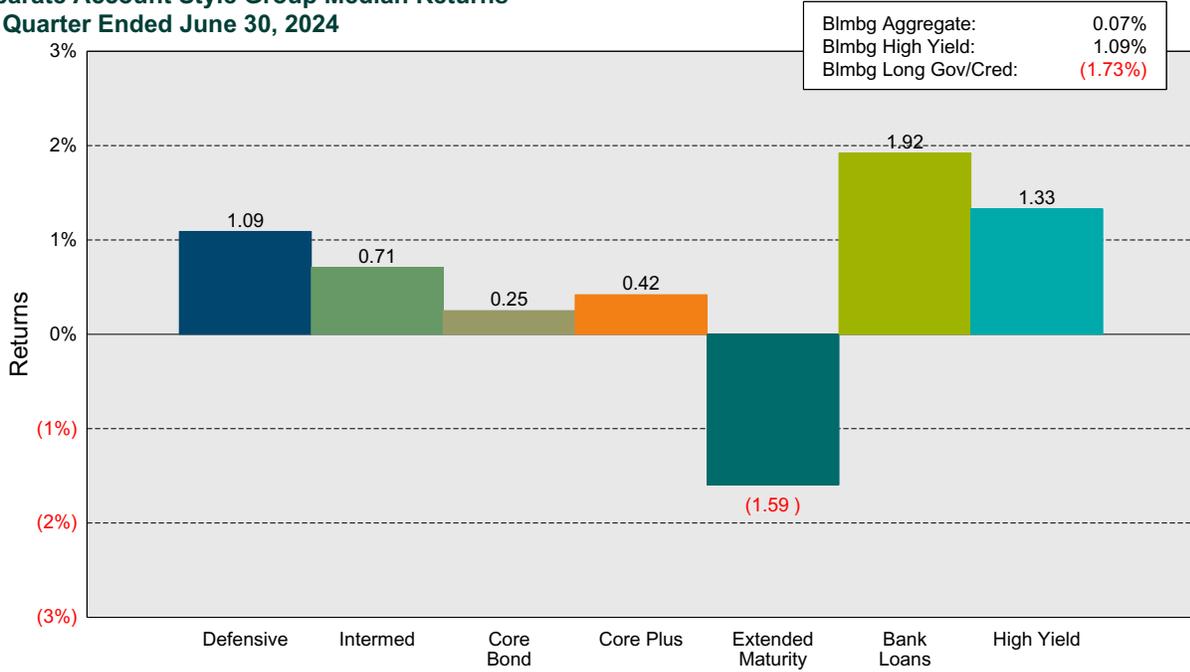
Separate Account Style Group Median Returns for One Year Ended June 30, 2024



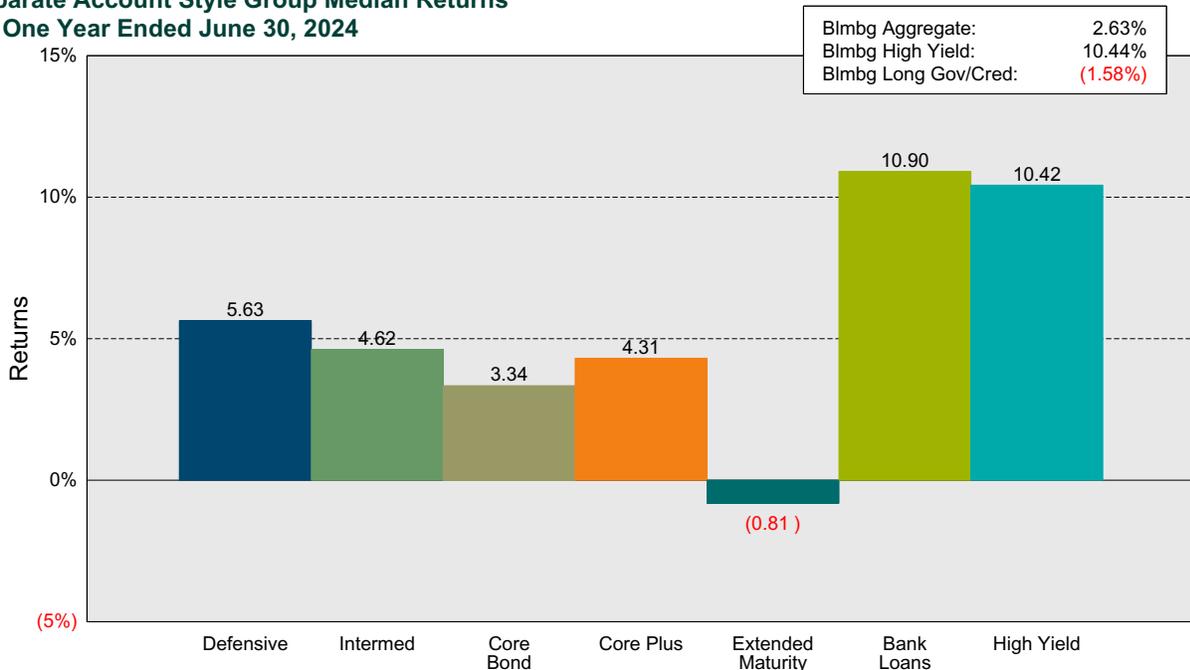
Domestic Fixed Income Active Management Overview

The Bloomberg US Aggregate Bond Index (+0.1%) was flat in 2Q, bringing its YTD return to -0.7%. The yield on the 10-year U.S. Treasury climbed from 4.20% to 4.36% over the quarter. The yield curve steepened slightly but remained inverted at the front-end. As a result, intermediate and long-term maturities underperformed. High yield (Bloomberg High Yield: +1.1%) and bank loans (Morningstar Leveraged Loan: +1.9%) performed well. Valuations across the credit spectrum, as measured by spreads, remained rich from a historical perspective. Supply for investment grade and high yield issuers was robust but met with strong demand.

Separate Account Style Group Median Returns for Quarter Ended June 30, 2024



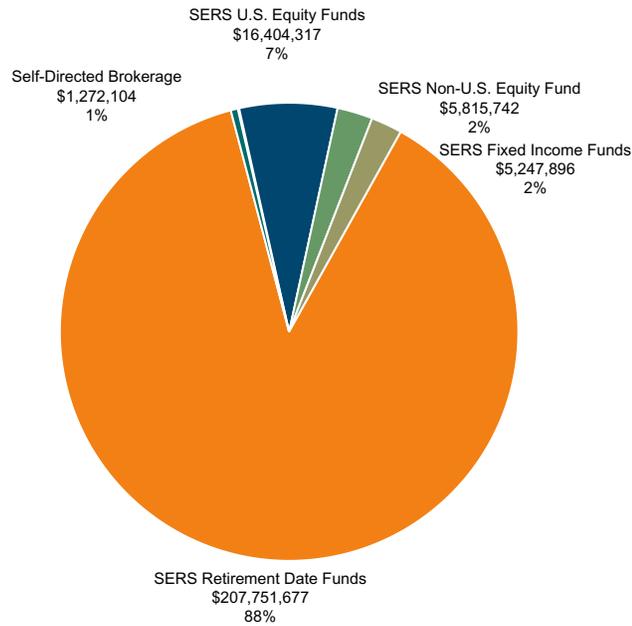
Separate Account Style Group Median Returns for One Year Ended June 30, 2024



Changes in Investment Fund Balances Period Ended June 30, 2024

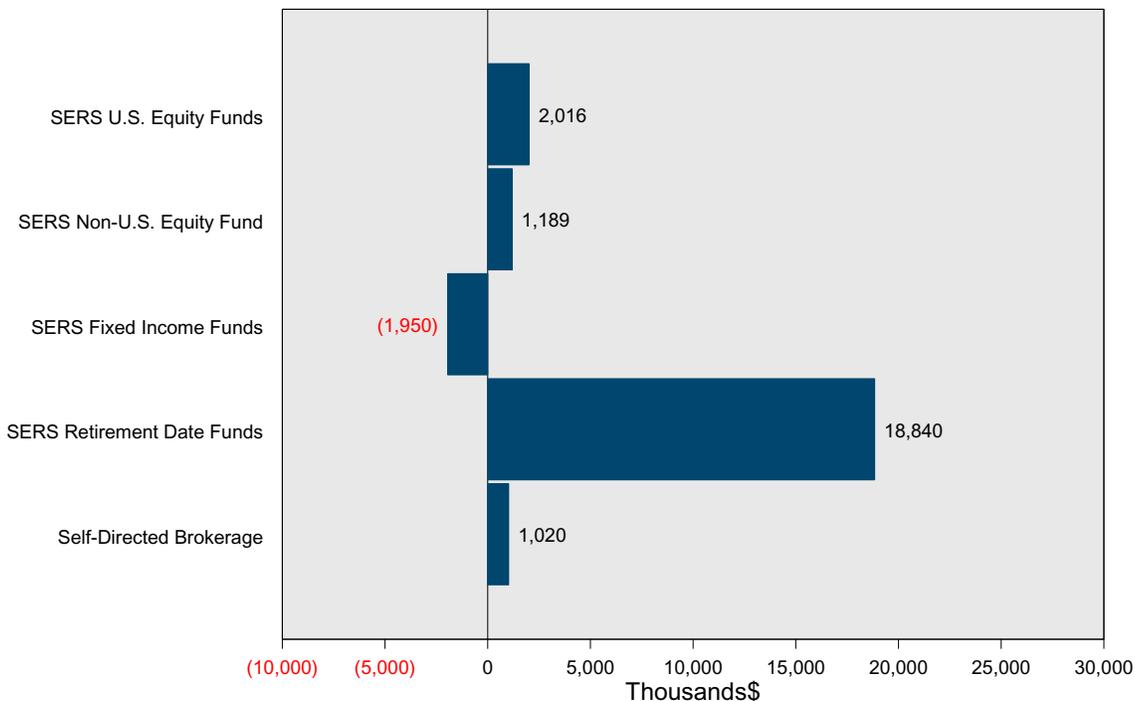
Allocation Across Investment Options

The chart below illustrates the allocation of the aggregate fund assets across the various investment options for the quarter ended June 30, 2024.



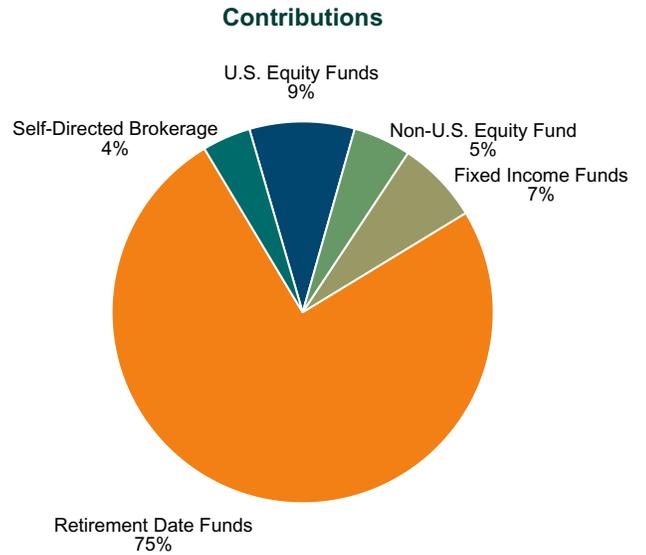
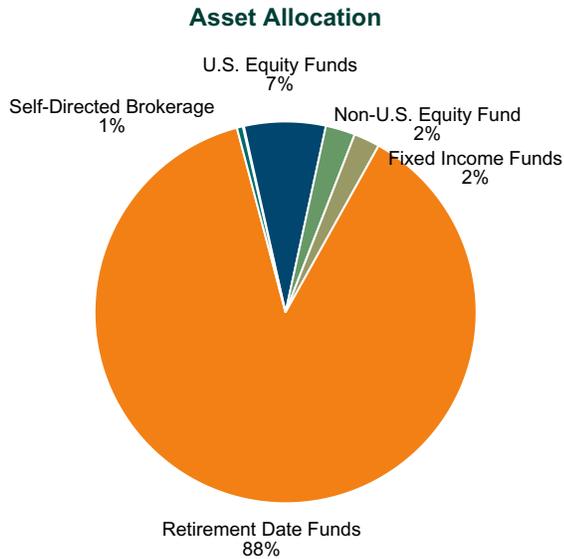
Changes in Fund Values

The chart below shows the net change in fund values across the various investment options for the quarter ended June 30, 2024. 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.

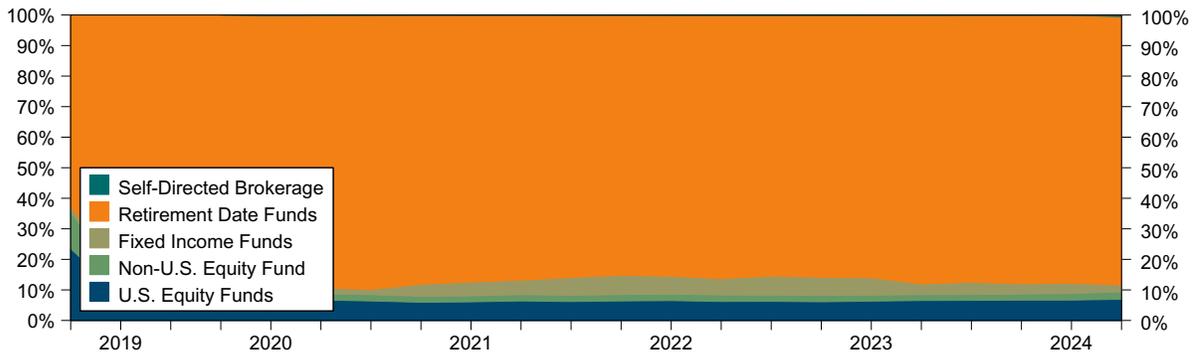


Asset Allocation

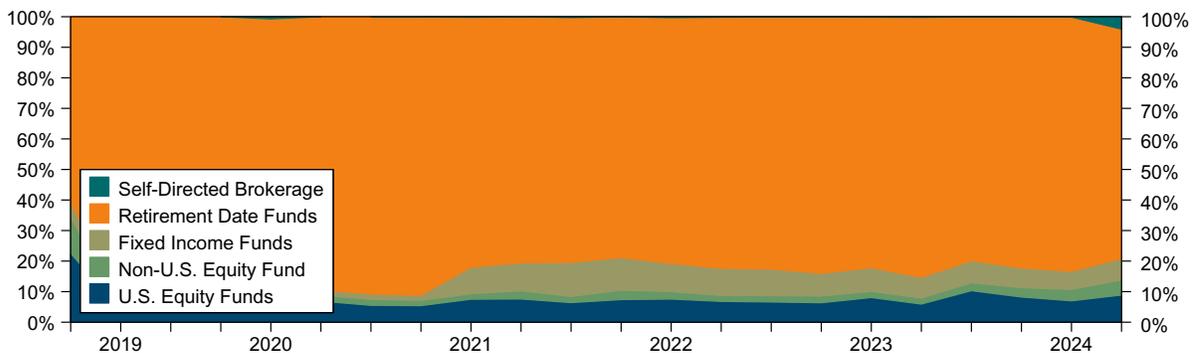
The charts below illustrate the historical asset allocation of the fund as well as the historical allocations of contributions to the fund. The pie charts on the top show the most recent allocations of both assets and contributions which include exchanges and transfers within the plan. The middle chart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



Historical Asset Allocation



Historical Allocation of Contributions



Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2024, with the distribution as of March 31, 2024. 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 Managers

	June 30, 2024		Net New Inv.	Inv. Return	March 31, 2024	
	Market Value	Weight			Market Value	Weight
SERS Retirement Date Funds	\$207,751,677	87.85%	\$14,960,381	\$3,879,421	\$188,911,876	87.71%
SERS Post Retirement Fund	2,741,365	1.16%	144,698	27,151	2,569,515	1.19%
SERS 2025 Retirement Fund	7,529,886	3.18%	457,094	79,066	6,993,726	3.25%
SERS 2030 Retirement Fund	17,361,488	7.34%	101,751	236,689	17,023,047	7.90%
SERS 2035 Retirement Fund	20,655,271	8.73%	1,612,418	306,177	18,736,677	8.70%
SERS 2040 Retirement Fund	24,384,921	10.31%	1,967,382	414,253	22,003,287	10.22%
SERS 2045 Retirement Fund	26,221,550	11.09%	2,115,942	495,188	23,610,421	10.96%
SERS 2050 Retirement Fund	27,724,981	11.72%	1,838,727	570,644	25,315,610	11.75%
SERS 2055 Retirement Fund	29,132,858	12.32%	2,202,115	623,615	26,307,128	12.21%
SERS 2060 Retirement Fund	27,371,384	11.57%	1,996,929	591,890	24,782,566	11.51%
SERS 2065 Retirement Fund	24,627,972	10.41%	2,523,325	534,748	21,569,899	10.01%
SERS U.S. Equity	\$16,404,317	6.94%	\$1,600,175	\$415,492	\$14,388,649	6.68%
SERS U.S. Large Company Index Fund	10,058,814	4.25%	911,089	414,800	8,732,925	4.05%
SERS U.S. All Company Index Fund	3,158,955	1.34%	316,872	97,869	2,744,214	1.27%
SERS U.S. SMID Company Index Fund	3,186,547	1.35%	372,214	(97,177)	2,911,510	1.35%
SERS Non-U.S. Equity	\$5,815,742	2.46%	\$1,126,407	\$62,383	\$4,626,952	2.15%
SERS Global Non-U.S. Index Fund	5,815,742	2.46%	1,126,407	62,383	4,626,952	2.15%
SERS Fixed Income	\$5,247,896	2.22%	\$(2,006,641)	\$56,658	\$7,197,879	3.34%
SERS Short Term Investment Fund	2,256,212	0.95%	(1,887,386)	49,103	4,094,496	1.90%
SERS U.S. Short Term Bond Index Fund	615,163	0.26%	(62,511)	5,106	672,568	0.31%
SERS U.S. TIPS Index Fund	583,642	0.25%	(106,199)	2,681	687,160	0.32%
SERS U.S. Bond Index Fund	1,792,879	0.76%	49,455	(232)	1,743,655	0.81%
SERS Self-Directed Brokerage	\$1,272,104	0.54%	\$1,022,532	\$(2,713)	\$252,285	0.12%
Total Fund	\$236,491,736	100.0%	\$16,702,854	\$4,411,241	\$215,377,641	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, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance					
Target Date Funds					
SERS Post Retirement Fund	1.01%	3.53%	8.35%	0.17%	4.32%
BlackRock Post Retirement Index	0.98%	3.48%	8.44%	0.21%	4.31%
Callan Tgt Date Ret Inc	0.96%	3.53%	8.27%	0.63%	3.87%
SERS 2025 Retirement Fund	1.03%	3.76%	8.76%	0.43%	5.01%
BlackRock 2025 Index	1.01%	3.73%	8.85%	0.45%	4.99%
Callan Target Date 2025	1.06%	4.78%	10.37%	1.26%	5.70%
SERS 2030 Retirement Fund	1.23%	5.00%	10.70%	1.41%	6.26%
BlackRock 2030 Index	1.20%	4.96%	10.83%	1.44%	6.24%
Callan Target Date 2030	1.22%	5.93%	11.81%	1.85%	6.68%
SERS 2035 Retirement Fund	1.46%	6.24%	12.59%	2.33%	7.45%
BlackRock 2035 Index	1.43%	6.20%	12.74%	2.34%	7.42%
Callan Target Date 2035	1.37%	6.98%	13.29%	2.53%	7.66%
SERS 2040 Retirement Fund	1.68%	7.44%	14.45%	3.20%	8.55%
BlackRock 2040 Index	1.65%	7.41%	14.59%	3.19%	8.50%
Callan Target Date 2040	1.55%	7.99%	14.90%	3.28%	8.55%
SERS 2045 Retirement Fund	1.89%	8.57%	16.21%	4.01%	9.52%
BlackRock 2045 Index	1.86%	8.53%	16.35%	3.97%	9.45%
Callan Target Date 2045	1.64%	8.72%	16.02%	3.83%	9.26%
SERS 2050 Retirement Fund	2.06%	9.42%	17.46%	4.54%	10.09%
BlackRock 2050 Index	2.04%	9.38%	17.61%	4.49%	10.02%
Callan Target Date 2050	1.66%	9.24%	16.64%	4.00%	9.46%
SERS 2055 Retirement Fund	2.16%	9.83%	17.97%	4.75%	10.27%
BlackRock 2055 Index	2.14%	9.79%	18.14%	4.70%	10.21%
Callan Target Date 2055	1.79%	9.49%	16.90%	4.07%	9.63%
SERS 2060 Retirement Fund	2.17%	9.84%	17.99%	4.75%	10.27%
BlackRock 2060 Index	2.15%	9.80%	18.16%	4.70%	10.21%
Callan Target Date 2060	1.78%	9.51%	16.95%	4.09%	9.68%
SERS 2065 Retirement Fund	2.17%	9.85%	18.00%	4.76%	-
BlackRock 2065 Index	2.15%	9.80%	18.16%	4.70%	-
Callan Target Date 2065	1.64%	9.63%	17.05%	3.89%	9.69%

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Target Date Funds				
SERS Post Retirement Fund	4.71%	4.28%	5.95%	-
BlackRock Post Retirement Index	4.70%	4.26%	5.93%	5.21%
Callan Tgt Date Ret Inc	4.16%	3.79%	5.35%	4.28%
SERS 2025 Retirement Fund	5.48%	5.04%	7.41%	-
BlackRock 2025 Index	5.45%	4.99%	7.37%	5.81%
Callan Target Date 2025	5.90%	5.49%	8.11%	6.42%
SERS 2030 Retirement Fund	6.54%	5.89%	8.25%	-
BlackRock 2030 Index	6.50%	5.82%	8.19%	6.30%
Callan Target Date 2030	6.77%	6.27%	8.91%	6.29%
SERS 2035 Retirement Fund	7.53%	6.68%	9.02%	-
BlackRock 2035 Index	7.48%	6.60%	8.95%	6.73%
Callan Target Date 2035	7.59%	6.86%	9.60%	7.20%
SERS 2040 Retirement Fund	8.44%	7.40%	9.73%	-
BlackRock 2040 Index	8.37%	7.29%	9.63%	7.11%
Callan Target Date 2040	8.29%	7.45%	10.09%	6.94%
SERS 2045 Retirement Fund	9.20%	7.98%	10.31%	-
BlackRock 2045 Index	9.11%	7.85%	10.21%	7.43%
Callan Target Date 2045	8.84%	7.85%	10.20%	-
SERS 2050 Retirement Fund	9.64%	8.28%	10.71%	-
BlackRock 2050 Index	9.54%	8.16%	10.61%	7.76%
Callan Target Date 2050	8.97%	8.04%	10.40%	-
SERS 2055 Retirement Fund	9.76%	8.35%	-	-
BlackRock 2055 Index	9.67%	8.23%	-	-
Callan Target Date 2055	9.15%	8.12%	10.38%	-
SERS 2060 Retirement Fund	9.75%	-	-	-
BlackRock 2060 Index	9.68%	-	-	-
Callan Target Date 2060	9.21%	8.23%	-	-

*Funds not shown do not have longer term historical performance.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance					
Domestic Equity					
SERS U.S. Large Company Index Fund	4.28%	15.28%	24.55%	10.01%	15.05%
S&P 500 Index	4.28%	15.29%	24.56%	10.01%	15.05%
Callan Lg Cap Broad MF	3.65%	15.35%	25.28%	7.78%	14.14%
SERS U.S. All Company Index Fund	3.12%	13.35%	28.72%	7.98%	14.06%
Russell 3000 Index	3.22%	13.56%	23.13%	8.05%	14.14%
Callan Multi Cap Brd MF	0.34%	9.91%	18.63%	6.03%	11.34%
SERS U.S. SMID Company Idx Fund	(3.40%)	3.45%	15.11%	(2.19%)	8.89%
Dow Jones US Completion	(3.44%)	3.27%	14.67%	(2.64%)	8.55%
Callan SMID Broad MFs	(3.79%)	3.45%	9.96%	0.43%	8.59%
International Equity					
SERS Global Non-U.S. Index Fund	1.08%	5.80%	11.54%	0.65%	5.77%
MSCI ACWI ex US	0.96%	5.69%	11.62%	0.46%	5.55%
Callan Non US Equity MFs	(0.04%)	4.87%	9.93%	1.70%	6.23%
Domestic Fixed Income					
SERS Short Term Investment Fund	1.31%	2.62%	5.30%	3.07%	2.19%
3-month Treasury Bill	1.32%	2.63%	5.40%	3.03%	2.16%
Callan Cash Database(1)	1.35%	2.71%	5.65%	3.13%	2.31%
SERS U.S. Short Term Bond Idx Fund	0.96%	1.38%	4.86%	0.54%	1.24%
Blmbg Gov/Cred 1-3 Yr	0.95%	1.38%	4.87%	0.55%	1.25%
Callan Short US Govt MFs	0.91%	1.46%	4.54%	(0.03%)	0.79%
SERS U.S. TIPS Index Fund	0.78%	0.70%	2.72%	(1.31%)	2.07%
Blmbg US TIPS	0.79%	0.70%	2.71%	(1.33%)	2.07%
Callan TIPS MFs	0.86%	0.88%	2.66%	(1.48%)	1.97%
SERS U.S. Bond Index Fund	0.07%	(0.71%)	2.63%	(3.02%)	(0.23%)
Blmbg Aggregate	0.07%	(0.71%)	2.63%	(3.02%)	(0.23%)
Callan Core Bond MFs	0.28%	(0.19%)	3.36%	(2.98%)	0.13%

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

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Net Performance				
Domestic Equity				
SERS U.S. Large Company Index Fund	14.28%	12.87%	14.83%	10.33%
S&P 500 Index	14.28%	12.86%	14.82%	10.29%
Callan Lg Cap Broad MF	13.63%	12.01%	14.29%	10.19%
SERS U.S. All Company Index Fund	13.41%	12.11%	-	-
Russell 3000 Index	13.48%	12.15%	14.49%	10.17%
Callan Multi Cap Brd MF	11.13%	9.77%	12.70%	9.19%
SERS U.S. SMID Company Idx Fund	9.00%	8.37%	12.77%	9.45%
Dow Jones US Completion	8.69%	8.10%	12.50%	9.21%
Callan SMID Broad MFs	9.03%	7.72%	12.36%	9.20%
International Equity				
SERS Global Non-U.S. Index Fund	5.42%	4.08%	6.40%	-
MSCI ACWI ex US	5.17%	3.84%	6.21%	5.78%
Callan Non US Equity MFs	5.52%	4.19%	6.90%	6.12%
Domestic Fixed Income				
SERS Short Term Investment Fund	2.13%	1.62%	1.15%	1.70%
3-month Treasury Bill	2.07%	1.51%	1.04%	1.57%
Callan Cash Database(1)	2.25%	1.77%	1.31%	1.92%
Blmbg Gov/Cred 1-3 Yr	1.52%	1.35%	1.48%	2.15%
Callan Short US Govt MFs	1.17%	1.01%	1.21%	2.01%
Blmbg US TIPS	2.47%	1.91%	3.11%	3.57%
Callan TIPS MFs	2.32%	1.75%	2.97%	3.37%
SERS U.S. Bond Index Fund	0.86%	1.33%	2.46%	3.09%
Blmbg Aggregate	0.86%	1.35%	2.50%	3.12%
Callan Core Bond MFs	1.14%	1.54%	3.05%	3.36%

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

*Funds not shown do not have longer term historical performance.

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.

	12/2023- 6/2024	2023	2022	2021	2020
Net Performance					
Target Date Funds					
SERS Post Retirement Fund	3.53%	11.13%	(14.63%)	6.95%	11.97%
BlackRock Post Retirement Index	3.48%	11.11%	(14.54%)	7.02%	11.80%
Callan Tgt Date Ret Inc	3.53%	10.56%	(12.88%)	6.31%	10.02%
SERS 2025 Retirement Fund	3.76%	12.00%	(15.23%)	8.99%	12.19%
BlackRock 2025 Index	3.73%	11.94%	(15.17%)	9.07%	12.01%
Callan Target Date 2025	4.78%	12.87%	(15.14%)	10.04%	12.58%
SERS 2030 Retirement Fund	5.00%	14.24%	(15.97%)	11.43%	12.88%
BlackRock 2030 Index	4.96%	14.23%	(15.92%)	11.50%	12.72%
Callan Target Date 2030	5.93%	14.51%	(16.04%)	11.63%	13.23%
SERS 2035 Retirement Fund	6.24%	16.29%	(16.67%)	13.80%	13.58%
BlackRock 2035 Index	6.20%	16.29%	(16.67%)	13.85%	13.44%
Callan Target Date 2035	6.98%	16.38%	(16.79%)	13.92%	14.28%
SERS 2040 Retirement Fund	7.44%	18.30%	(17.35%)	15.96%	14.14%
BlackRock 2040 Index	7.41%	18.29%	(17.38%)	15.97%	13.98%
Callan Target Date 2040	7.99%	17.99%	(17.40%)	15.85%	14.91%
SERS 2045 Retirement Fund	8.57%	20.14%	(17.89%)	17.72%	14.83%
BlackRock 2045 Index	8.53%	20.12%	(17.96%)	17.70%	14.65%
Callan Target Date 2045	8.72%	19.22%	(17.94%)	16.83%	15.52%
SERS 2050 Retirement Fund	9.42%	21.25%	(18.20%)	18.67%	15.20%
BlackRock 2050 Index	9.38%	21.23%	(18.30%)	18.62%	15.07%
Callan Target Date 2050	9.24%	19.89%	(18.09%)	17.17%	15.73%
SERS 2055 Retirement Fund	9.83%	21.56%	(18.27%)	18.83%	15.32%
BlackRock 2055 Index	9.79%	21.56%	(18.38%)	18.81%	15.18%
Callan Target Date 2055	9.49%	20.01%	(18.21%)	17.27%	15.83%
SERS 2060 Retirement Fund	9.84%	21.57%	(18.28%)	18.82%	15.31%
BlackRock 2060 Index	9.80%	21.57%	(18.39%)	18.81%	15.19%
Callan Target Date 2060	9.51%	19.94%	(18.27%)	17.41%	15.90%
SERS 2065 Retirement Fund	9.85%	21.62%	(18.30%)	18.77%	15.15%
BlackRock 2065 Index	9.80%	21.59%	(18.40%)	18.80%	15.19%
Callan Target Date 2065	9.63%	20.24%	(18.61%)	17.54%	16.47%

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.

	12/2023- 6/2024	2023	2022	2021	2020
Net Performance					
Domestic Equity					
SERS U.S. Large Company Index Fund	15.28%	26.29%	(18.12%)	28.70%	18.43%
S&P 500 Index	15.29%	26.29%	(18.11%)	28.71%	18.40%
Callan Lg Cap Broad MF	15.35%	25.85%	(18.55%)	25.50%	18.47%
SERS U.S. All Company Index Fund	13.35%	25.96%	(19.23%)	25.61%	21.20%
Russell 3000 Index	13.56%	25.96%	(19.21%)	25.66%	20.89%
Callan Multi Cap Brd MF	9.91%	22.01%	(18.29%)	24.17%	17.19%
SERS U.S. SMID Company Idx Fund	3.45%	25.39%	(26.13%)	12.89%	32.03%
Dow Jones US Completion	3.27%	24.99%	(26.56%)	12.36%	32.17%
Callan SMID Broad MFs	3.45%	16.85%	(20.87%)	19.19%	22.70%
International Equity					
SERS Global Non-U.S. Index Fund	5.80%	16.07%	(15.92%)	7.97%	11.15%
MSCI ACWI ex US	5.69%	15.62%	(16.00%)	7.82%	10.65%
Callan Non US Equity MFs	4.87%	17.70%	(15.77%)	9.47%	11.12%
Domestic Fixed Income					
SERS Short Term Investment Fund	2.62%	5.00%	1.59%	0.07%	0.67%
3-month Treasury Bill	2.63%	5.01%	1.46%	0.05%	0.67%
Callan Cash Database(1)	2.71%	5.31%	1.16%	0.13%	1.06%
SERS U.S. Short Term Bond Idx Fund	1.38%	4.59%	(3.69%)	(0.52%)	3.36%
Blmbg Gov/Cred 1-3 Yr	1.38%	4.61%	(3.69%)	(0.47%)	3.33%
Callan Short US Govt MFs	1.46%	4.17%	(5.07%)	(1.07%)	3.57%
SERS U.S. TIPS Index Fund	0.70%	3.90%	(11.76%)	5.87%	11.00%
Blmbg US TIPS	0.70%	3.90%	(11.85%)	5.96%	10.99%
Callan TIPS MFs	0.88%	3.75%	(11.89%)	5.50%	10.84%
SERS U.S. Bond Index Fund	(0.71%)	5.54%	(12.94%)	(1.65%)	7.56%
Blmbg Aggregate	(0.71%)	5.53%	(13.01%)	(1.54%)	7.51%
Callan Core Bond MFs	(0.19%)	5.98%	(13.48%)	(1.17%)	8.65%

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

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Gross Performance					
Target Date Funds					
SERS Post Retirement Fund	1.02%	3.56%	8.42%	0.24%	4.39%
BlackRock Post Retirement Index	0.98%	3.48%	8.44%	0.21%	4.31%
Callan Tgt Date Ret Inc	0.96%	3.53%	8.27%	0.63%	3.87%
SERS 2025 Retirement Fund	1.04%	3.80%	8.83%	0.50%	5.08%
BlackRock 2025 Index	1.01%	3.73%	8.85%	0.45%	4.99%
Callan Target Date 2025	1.06%	4.78%	10.37%	1.26%	5.70%
SERS 2030 Retirement Fund	1.25%	5.04%	10.77%	1.48%	6.33%
BlackRock 2030 Index	1.20%	4.96%	10.83%	1.44%	6.24%
Callan Target Date 2030	1.22%	5.93%	11.81%	1.85%	6.68%
SERS 2035 Retirement Fund	1.48%	6.28%	12.67%	2.40%	7.52%
BlackRock 2035 Index	1.43%	6.20%	12.74%	2.34%	7.42%
Callan Target Date 2035	1.37%	6.98%	13.29%	2.53%	7.66%
SERS 2040 Retirement Fund	1.70%	7.48%	14.52%	3.27%	8.62%
BlackRock 2040 Index	1.65%	7.41%	14.59%	3.19%	8.50%
Callan Target Date 2040	1.55%	7.99%	14.90%	3.28%	8.55%
SERS 2045 Retirement Fund	1.90%	8.61%	16.29%	4.08%	9.59%
BlackRock 2045 Index	1.86%	8.53%	16.35%	3.97%	9.45%
Callan Target Date 2045	1.64%	8.72%	16.02%	3.83%	9.26%
SERS 2050 Retirement Fund	2.08%	9.46%	17.54%	4.61%	10.17%
BlackRock 2050 Index	2.04%	9.38%	17.61%	4.49%	10.02%
Callan Target Date 2050	1.66%	9.24%	16.64%	4.00%	9.46%
SERS 2055 Retirement Fund	2.18%	9.87%	18.05%	4.82%	10.35%
BlackRock 2055 Index	2.14%	9.79%	18.14%	4.70%	10.21%
Callan Target Date 2055	1.79%	9.49%	16.90%	4.07%	9.63%
SERS 2060 Retirement Fund	2.19%	9.88%	18.07%	4.82%	10.34%
BlackRock 2060 Index	2.15%	9.80%	18.16%	4.70%	10.21%
Callan Target Date 2060	1.78%	9.51%	16.95%	4.09%	9.68%
SERS 2065 Retirement Fund	2.19%	9.89%	18.08%	4.83%	-
BlackRock 2065 Index	2.15%	9.80%	18.16%	4.70%	-
Callan Target Date 2065	1.64%	9.63%	17.05%	3.89%	9.69%

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Gross Performance				
Target Date Funds				
SERS Post Retirement Fund	4.78%	4.35%	6.02%	-
BlackRock Post Retirement Index	4.70%	4.26%	5.93%	5.21%
Callan Tgt Date Ret Inc	4.16%	3.79%	5.35%	4.28%
SERS 2025 Retirement Fund	5.55%	5.11%	7.48%	-
BlackRock 2025 Index	5.45%	4.99%	7.37%	5.81%
Callan Target Date 2025	5.90%	5.49%	8.11%	6.42%
SERS 2030 Retirement Fund	6.61%	5.96%	8.32%	-
BlackRock 2030 Index	6.50%	5.82%	8.19%	6.30%
Callan Target Date 2030	6.77%	6.27%	8.91%	6.29%
SERS 2035 Retirement Fund	7.61%	6.75%	9.10%	-
BlackRock 2035 Index	7.48%	6.60%	8.95%	6.73%
Callan Target Date 2035	7.59%	6.86%	9.60%	7.20%
SERS 2040 Retirement Fund	8.51%	7.47%	9.80%	-
BlackRock 2040 Index	8.37%	7.29%	9.63%	7.11%
Callan Target Date 2040	8.29%	7.45%	10.09%	6.94%
SERS 2045 Retirement Fund	9.28%	8.05%	10.39%	-
BlackRock 2045 Index	9.11%	7.85%	10.21%	7.43%
Callan Target Date 2045	8.84%	7.85%	10.20%	-
SERS 2050 Retirement Fund	9.71%	8.35%	10.78%	-
BlackRock 2050 Index	9.54%	8.16%	10.61%	7.76%
Callan Target Date 2050	8.97%	8.04%	10.40%	-
SERS 2055 Retirement Fund	9.84%	8.42%	-	-
BlackRock 2055 Index	9.67%	8.23%	-	-
Callan Target Date 2055	9.15%	8.12%	10.38%	-
SERS 2060 Retirement Fund	9.83%	-	-	-
BlackRock 2060 Index	9.68%	-	-	-
Callan Target Date 2060	9.21%	8.23%	-	-

*Funds not shown do not have longer term historical performance.

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Gross Performance					
Domestic Equity					
SERS U.S. Large Company Index Fund	4.28%	15.28%	24.55%	10.01%	15.05%
S&P 500 Index	4.28%	15.29%	24.56%	10.01%	15.05%
Callan Lg Cap Broad MF	3.65%	15.35%	25.28%	7.78%	14.14%
SERS U.S. All Company Index Fund	3.12%	13.35%	28.72%	7.98%	14.06%
Russell 3000 Index	3.22%	13.56%	23.13%	8.05%	14.14%
Callan Multi Cap Brd MF	0.34%	9.91%	18.63%	6.03%	11.34%
SERS U.S. SMID Company Idx Fund	(3.40%)	3.45%	15.12%	(2.19%)	8.90%
Dow Jones US Completion	(3.44%)	3.27%	14.67%	(2.64%)	8.55%
Callan SMID Broad MFs	(3.79%)	3.45%	9.96%	0.43%	8.59%
International Equity					
SERS Global Non-U.S. Index Fund	1.09%	5.80%	11.56%	0.66%	5.78%
MSCI ACWI ex US	0.96%	5.69%	11.62%	0.46%	5.55%
Callan Non US Equity MFs	(0.04%)	4.87%	9.93%	1.70%	6.23%
Domestic Fixed Income					
SERS Short Term Investment Fund	1.31%	2.62%	5.30%	3.07%	2.19%
3-month Treasury Bill	1.32%	2.63%	5.40%	3.03%	2.16%
Callan Cash Database(1)	1.35%	2.71%	5.65%	3.13%	2.31%
SERS U.S. Short Term Bond Idx Fund	0.96%	1.38%	4.87%	0.54%	1.25%
Blmbg Gov/Cred 1-3 Yr	0.95%	1.38%	4.87%	0.55%	1.25%
Callan Short US Govt MFs	0.91%	1.46%	4.54%	(0.03%)	0.79%
SERS U.S. TIPS Index Fund	0.79%	0.71%	2.73%	(1.31%)	2.08%
Blmbg US TIPS	0.79%	0.70%	2.71%	(1.33%)	2.07%
Callan TIPS MFs	0.86%	0.88%	2.66%	(1.48%)	1.97%
SERS U.S. Bond Index Fund	0.08%	(0.71%)	2.64%	(3.01%)	(0.23%)
Blmbg Aggregate	0.07%	(0.71%)	2.63%	(3.02%)	(0.23%)
Callan Core Bond MFs	0.28%	(0.19%)	3.36%	(2.98%)	0.13%

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

Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2024

	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
Gross Performance				
Domestic Equity				
SERS U.S. Large Company Index Fund	14.29%	12.87%	14.84%	10.33%
S&P 500 Index	14.28%	12.86%	14.82%	10.29%
Callan Lg Cap Broad MF	13.63%	12.01%	14.29%	10.19%
SERS U.S. All Company Index Fund	13.41%	12.11%	-	-
Russell 3000 Index	13.48%	12.15%	14.49%	10.17%
Callan Multi Cap Brd MF	11.13%	9.77%	12.70%	9.19%
SERS U.S. SMID Company Idx Fund	9.00%	8.38%	12.77%	9.46%
Dow Jones US Completion	8.69%	8.10%	12.50%	9.21%
Callan SMID Broad MFs	9.03%	7.72%	12.36%	9.20%
International Equity				
SERS Global Non-U.S. Index Fund	5.43%	4.09%	6.41%	-
MSCI ACWI ex US	5.17%	3.84%	6.21%	5.78%
Callan Non US Equity MFs	5.52%	4.19%	6.90%	6.12%
Domestic Fixed Income				
SERS Short Term Investment Fund	2.13%	1.62%	1.15%	1.70%
3-month Treasury Bill	2.07%	1.51%	1.04%	1.57%
Callan Cash Database(1)	2.25%	1.77%	1.31%	1.92%
Blmbg Gov/Cred 1-3 Yr	1.52%	1.35%	1.48%	2.15%
Callan Short US Govt MFs	1.17%	1.01%	1.21%	2.01%
Blmbg US TIPS	2.47%	1.91%	3.11%	3.57%
Callan TIPS MFs	2.32%	1.75%	2.97%	3.37%
SERS U.S. Bond Index Fund	0.87%	1.34%	2.47%	3.10%
Blmbg Aggregate	0.86%	1.35%	2.50%	3.12%
Callan Core Bond MFs	1.14%	1.54%	3.05%	3.36%

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

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.

	12/2023- 6/2024	2023	2022	2021	2020
Gross Performance					
Target Date Funds					
SERS Post Retirement Fund	3.56%	11.21%	(14.57%)	7.03%	12.04%
BlackRock Post Retirement Index	3.48%	11.11%	(14.54%)	7.02%	11.80%
Callan Tgt Date Ret Inc	3.53%	10.56%	(12.88%)	6.31%	10.02%
SERS 2025 Retirement Fund	3.80%	12.08%	(15.17%)	9.06%	12.26%
BlackRock 2025 Index	3.73%	11.94%	(15.17%)	9.07%	12.01%
Callan Target Date 2025	4.78%	12.87%	(15.14%)	10.04%	12.58%
SERS 2030 Retirement Fund	5.04%	14.32%	(15.91%)	11.50%	12.96%
BlackRock 2030 Index	4.96%	14.23%	(15.92%)	11.50%	12.72%
Callan Target Date 2030	5.93%	14.51%	(16.04%)	11.63%	13.23%
SERS 2035 Retirement Fund	6.28%	16.37%	(16.61%)	13.88%	13.65%
BlackRock 2035 Index	6.20%	16.29%	(16.67%)	13.85%	13.44%
Callan Target Date 2035	6.98%	16.38%	(16.79%)	13.92%	14.28%
SERS 2040 Retirement Fund	7.48%	18.38%	(17.29%)	16.04%	14.22%
BlackRock 2040 Index	7.41%	18.29%	(17.38%)	15.97%	13.98%
Callan Target Date 2040	7.99%	17.99%	(17.40%)	15.85%	14.91%
SERS 2045 Retirement Fund	8.61%	20.22%	(17.84%)	17.79%	14.90%
BlackRock 2045 Index	8.53%	20.12%	(17.96%)	17.70%	14.65%
Callan Target Date 2045	8.72%	19.22%	(17.94%)	16.83%	15.52%
SERS 2050 Retirement Fund	9.46%	21.33%	(18.15%)	18.75%	15.27%
BlackRock 2050 Index	9.38%	21.23%	(18.30%)	18.62%	15.07%
Callan Target Date 2050	9.24%	19.89%	(18.09%)	17.17%	15.73%
SERS 2055 Retirement Fund	9.87%	21.64%	(18.22%)	18.91%	15.40%
BlackRock 2055 Index	9.79%	21.56%	(18.38%)	18.81%	15.18%
Callan Target Date 2055	9.49%	20.01%	(18.21%)	17.27%	15.83%
SERS 2060 Retirement Fund	9.88%	21.65%	(18.23%)	18.90%	15.38%
BlackRock 2060 Index	9.80%	21.57%	(18.39%)	18.81%	15.19%
Callan Target Date 2060	9.51%	19.94%	(18.27%)	17.41%	15.90%
SERS 2065 Retirement Fund	9.89%	21.70%	(18.25%)	18.85%	15.22%
BlackRock 2065 Index	9.80%	21.59%	(18.40%)	18.80%	15.19%
Callan Target Date 2065	9.63%	20.24%	(18.61%)	17.54%	16.47%

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.

	12/2023- 6/2024	2023	2022	2021	2020
Gross Performance					
Domestic Equity					
SERS U.S. Large Company Index Fund	15.28%	26.29%	(18.11%)	28.71%	18.44%
S&P 500 Index	15.29%	26.29%	(18.11%)	28.71%	18.40%
Callan Lg Cap Broad MF	15.35%	25.85%	(18.55%)	25.50%	18.47%
SERS U.S. All Company Index Fund	13.35%	25.96%	(19.23%)	25.62%	21.20%
Russell 3000 Index	13.56%	25.96%	(19.21%)	25.66%	20.89%
Callan Multi Cap Brd MF	9.91%	22.01%	(18.29%)	24.17%	17.19%
SERS U.S. SMID Company Idx Fund	3.45%	25.40%	(26.12%)	12.90%	32.04%
Dow Jones US Completion	3.27%	24.99%	(26.56%)	12.36%	32.17%
Callan SMID Broad MFs	3.45%	16.85%	(20.87%)	19.19%	22.70%
International Equity					
SERS Global Non-U.S. Index Fund	5.80%	16.09%	(15.91%)	7.98%	11.17%
MSCI ACWI ex US	5.69%	15.62%	(16.00%)	7.82%	10.65%
Callan Non US Equity MFs	4.87%	17.70%	(15.77%)	9.47%	11.12%
Domestic Fixed Income					
SERS Short Term Investment Fund	2.62%	5.00%	1.59%	0.07%	0.67%
3-month Treasury Bill	2.63%	5.01%	1.46%	0.05%	0.67%
Callan Cash Database(1)	2.71%	5.31%	1.16%	0.13%	1.06%
SERS U.S. Short Term Bond Idx Fund	1.38%	4.60%	(3.68%)	(0.51%)	3.37%
Blmbg Gov/Cred 1-3 Yr	1.38%	4.61%	(3.69%)	(0.47%)	3.33%
Callan Short US Govt MFs	1.46%	4.17%	(5.07%)	(1.07%)	3.57%
SERS U.S. TIPS Index Fund	0.71%	3.91%	(11.76%)	5.88%	11.00%
Blmbg US TIPS	0.70%	3.90%	(11.85%)	5.96%	10.99%
Callan TIPS MFs	0.88%	3.75%	(11.89%)	5.50%	10.84%
SERS U.S. Bond Index Fund	(0.71%)	5.54%	(12.93%)	(1.64%)	7.56%
Blmbg Aggregate	(0.71%)	5.53%	(13.01%)	(1.54%)	7.51%
Callan Core Bond MFs	(0.19%)	5.98%	(13.48%)	(1.17%)	8.65%

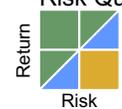
(1) Callan Cash Database includes STIF, enhanced cash, and money market funds.

Pennsylvania SERS 401(a)
Investment Manager Performance Monitoring Summary Report
June 30, 2024

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return	5 Year Return Consistency	5 Year Risk Quadrant	Expense Ratio
Net of Fee Performance									
Target Date Funds									
SERS Post Retirement Fund Callan Tgt Date Ret Inc	1.0 42	8.3 45	0.2 61	4.3 30	4.7 17	4.3 18			0.07 77
BlackRock Post Retirement Index	1.0 47	8.4 43	0.2 61	4.3 31	4.7 17	4.3 19			
SERS 2025 Retirement Fund Callan Target Date 2025	1.0 55	8.8 83	0.4 83	5.0 74	5.5 74	5.0 77			0.07 76
BlackRock 2025 Index	1.0 57	8.8 82	0.4 83	5.0 77	5.5 75	5.0 78			
SERS 2030 Retirement Fund Callan Target Date 2030	1.2 47	10.7 79	1.4 72	6.3 71	6.5 66	5.9 71			0.07 70
BlackRock 2030 Index	1.2 55	10.8 74	1.4 69	6.2 71	6.5 68	5.8 77			
SERS 2035 Retirement Fund Callan Target Date 2035	1.5 38	12.6 66	2.3 62	7.5 66	7.5 55	6.7 71			0.07 76
BlackRock 2035 Index	1.4 43	12.7 62	2.3 62	7.4 66	7.5 58	6.6 74			
SERS 2040 Retirement Fund Callan Target Date 2040	1.7 41	14.4 60	3.2 57	8.5 51	8.4 39	7.4 54			0.07 73
BlackRock 2040 Index	1.7 43	14.6 58	3.2 57	8.5 55	8.4 47	7.3 62			
SERS 2045 Retirement Fund Callan Target Date 2045	1.9 33	16.2 43	4.0 34	9.5 31	9.2 30	8.0 39			0.07 76
BlackRock 2045 Index	1.9 38	16.4 40	4.0 36	9.4 37	9.1 34	7.8 50			
SERS 2050 Retirement Fund Callan Target Date 2050	2.1 23	17.5 26	4.5 19	10.1 16	9.6 13	8.3 27			0.07 73
BlackRock 2050 Index	2.0 27	17.6 21	4.5 23	10.0 19	9.5 19	8.2 39			
SERS 2055 Retirement Fund Callan Target Date 2055	2.2 17	18.0 17	4.7 13	10.3 10	9.8 11	8.3 31			0.07 76
BlackRock 2055 Index	2.1 18	18.1 13	4.7 14	10.2 12	9.7 14	8.2 40			
SERS 2060 Retirement Fund Callan Target Date 2060	2.2 16	18.0 17	4.8 13	10.3 17	9.8 14				0.07 75
BlackRock 2060 Index	2.2 17	18.2 14	4.7 16	10.2 21	9.7 17				

Returns:
■ above median
■ third quartile
■ fourth quartile

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

Risk Quadrant:


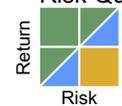
Expense Ratio:
■ below median
■ second quartile
■ first quartile

Pennsylvania SERS 401(a)
Investment Manager Performance Monitoring Summary Report
June 30, 2024

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return	5 Year Return Consistency	5 Year Risk Quadrant	Expense Ratio
SERS 2065 Retirement Fund Callan Target Date 2065 BlackRock 2065 Index	2.2 15	18.0 22	4.8 15						0.07 68
Domestic Equity									
SERS U.S. Large Company Stock Index Fund Callan Lg Cap Broad MF S&P 500 Index	4.3 40	24.5 51	10.0 23	15.0 39	14.3 44	12.9 42			0.02 100
SERS U.S. All Company Index Fund Callan Multi Cap Brd MF Russell 3000 Index	3.1 30	28.7 18	8.0 30	14.1 28	13.4 29	12.1 23			0.03 99
U.S. Small/Mid Company Stock Index Fund Callan SMID Broad MFs Dow Jones US Completion	-3.4 39	15.1 14	-2.2 68	8.9 47	9.0 51	8.4 48			0.03 100
International Equity									
SERS Global Non-U.S. Index Fund Callan Non US Equity MFs MSCI ACWI ex US	1.1 20	11.5 32	0.6 65	5.8 63	5.4 53	4.1 55			0.05 99
Domestic Fixed Income									
SERS Short Term Investment Fund Callan Cash Database 3-month Treasury Bill	1.3 65	5.3 87	3.1 55	2.2 78	2.1 76	1.6 77			0.00 100
Comments: Callan Cash Database includes STIF, enhanced cash, and money market funds.									
SERS U.S. Short Term Bond Idx Fund Callan Short US Govt MFs Blmbg Gov/Cred 1-3 Yr	1.0 39	4.9 31	0.5 28	1.2 19					0.02 100
SERS U.S. TIPS Index Fund Callan TIPS MFs Blmbg US TIPS	0.8 72	2.7 45	-1.3 33	2.1 42					0.02 98

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

Pennsylvania SERS 401(a)
Investment Manager Performance Monitoring Summary Report
June 30, 2024

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return	5 Year Return Consistency	5 Year Risk Quadrant	Expense Ratio
SERS U.S. Bond Index Fund	0.1 91	2.6 80	-3.0 56	-0.2 91	0.9 85	1.3 82			0.02 100
Callan Core Bond MFs									
Blmbg Aggregate	0.1 92	2.6 80	-3.0 57	-0.2 91	0.9 85	1.3 80			

Returns:
 above median
 third quartile
 fourth quartile

Return Consistency:
 above median
 third quartile
 fourth quartile

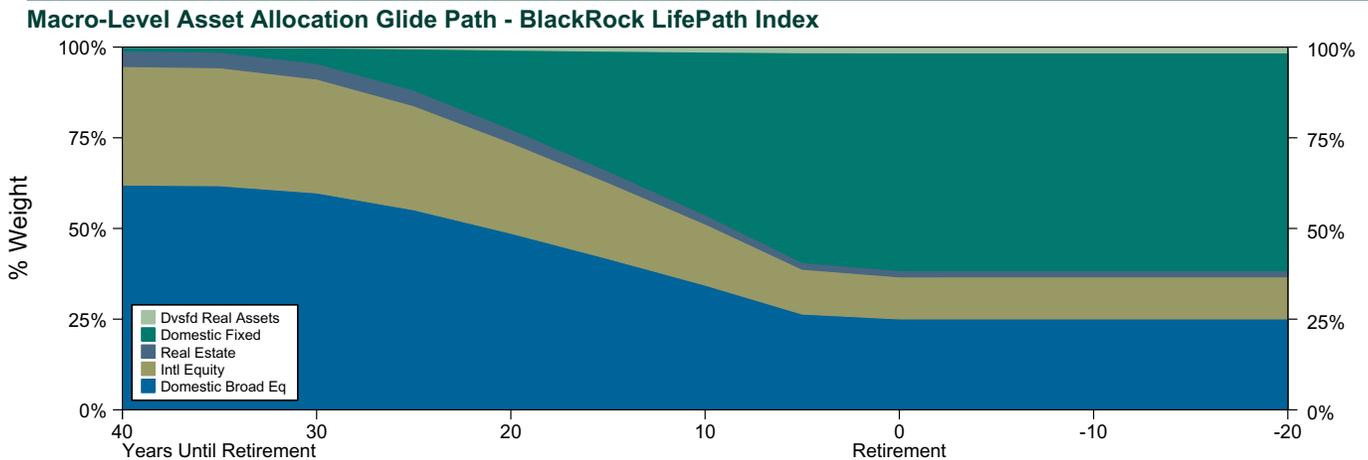
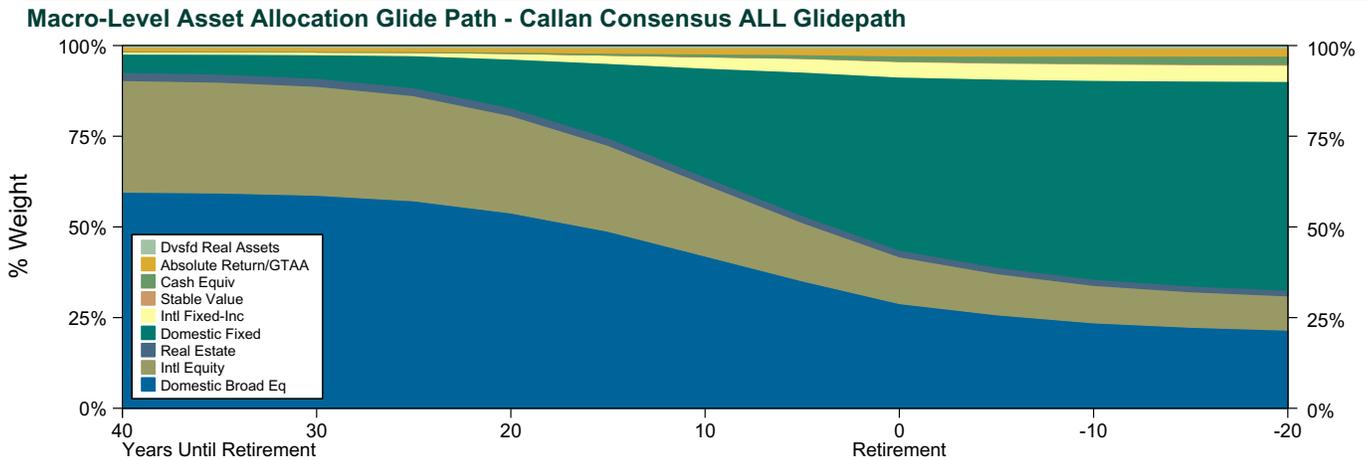
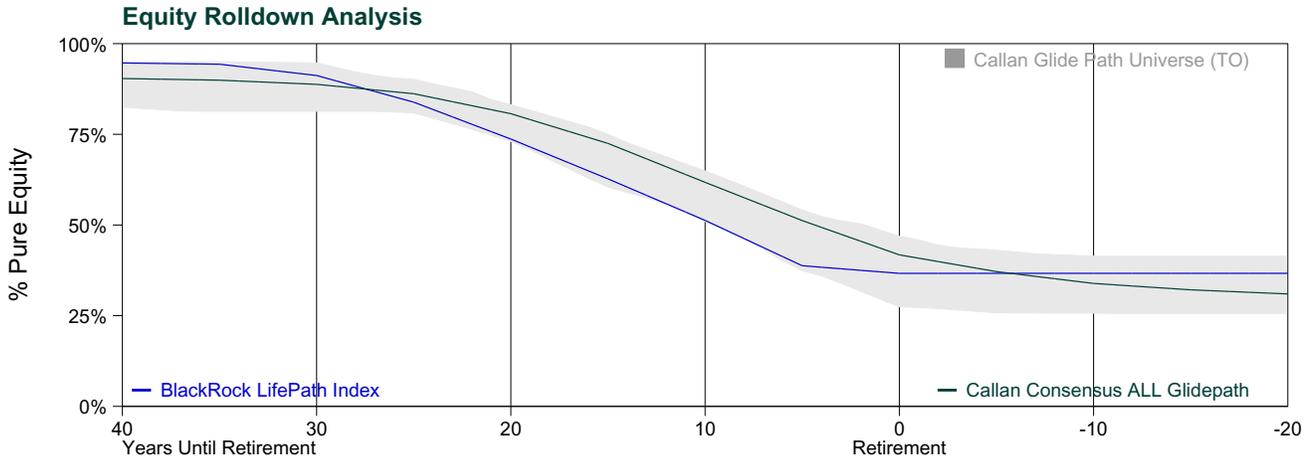
Risk Quadrant:

Return
Risk

Expense Ratio:
 below median
 second quartile
 first quartile

Callan Consensus ALL Glidepath Target Date Glide Path Analysis as of June 30, 2024

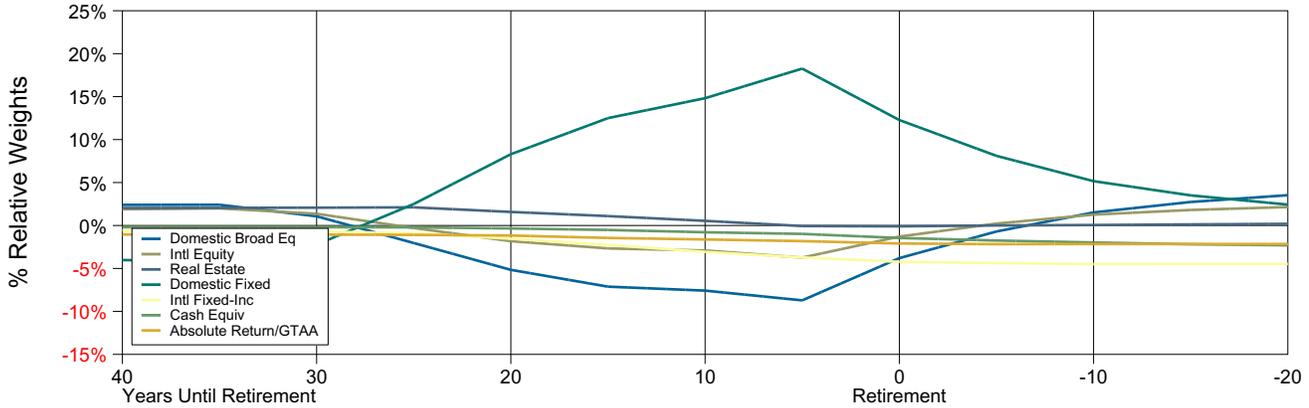
The following charts illustrate the asset allocation "glide path" underlying the relevant suite of target date funds. This analysis covers forty years of investor wealth accumulation up to retirement, as well as twenty years of wealth decumulation following retirement. The top chart shows the "pure" 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.



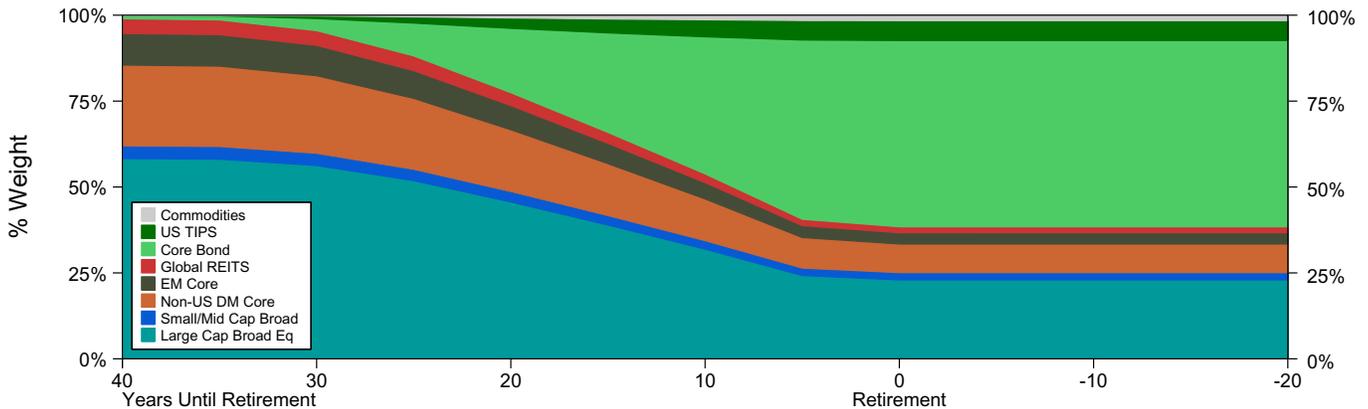
BlackRock LifePath Index Target Date Glide Path Analysis as of June 30, 2024

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.

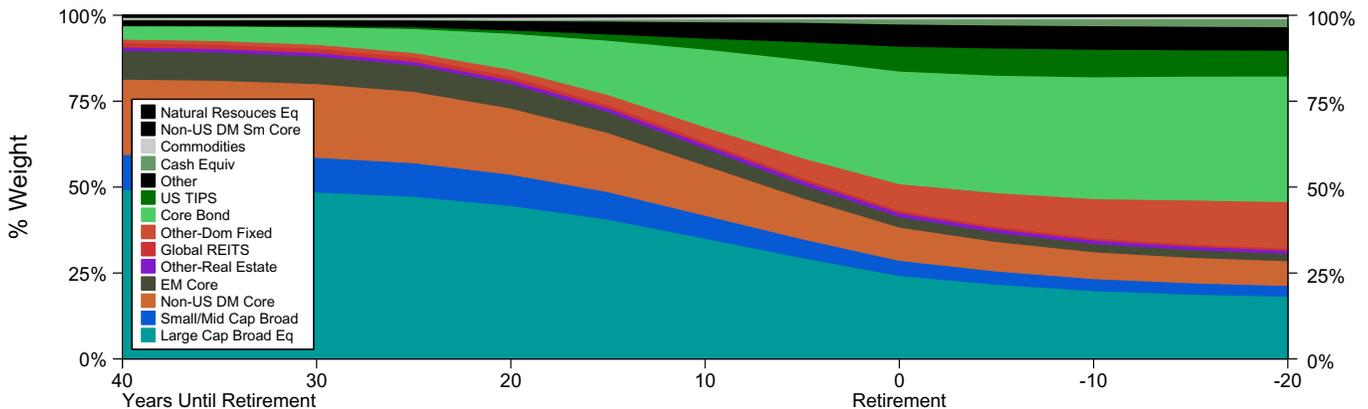
Relative Macro Asset Allocation - BlackRock LifePath Index vs. Callan Consensus ALL Glidep



Micro-Level Asset Allocation Glide Path - BlackRock LifePath Index



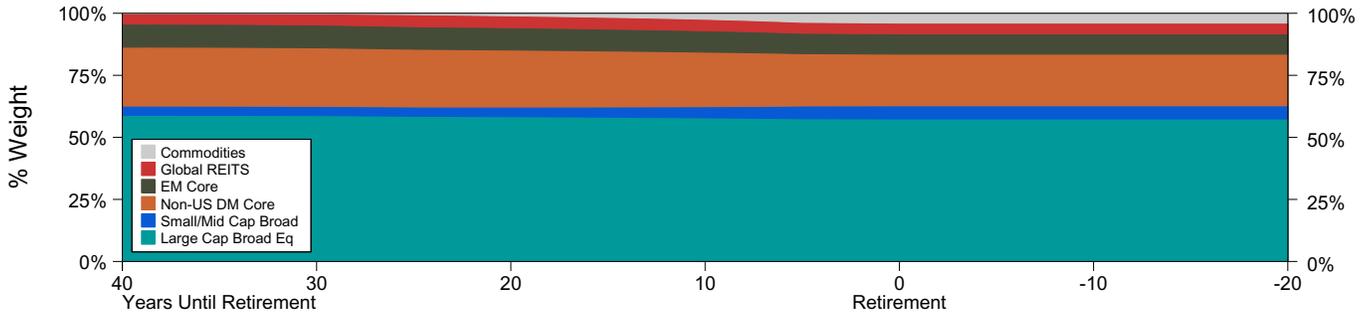
Micro-Level Asset Allocation Glide Path - Callan Consensus ALL Glidepath



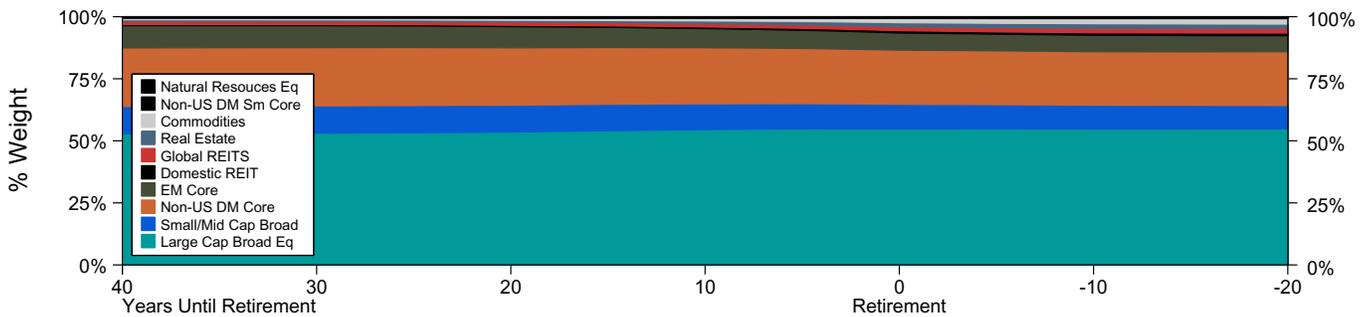
BlackRock LifePath Index Target Date Glide Path Analysis as of June 30, 2024

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.

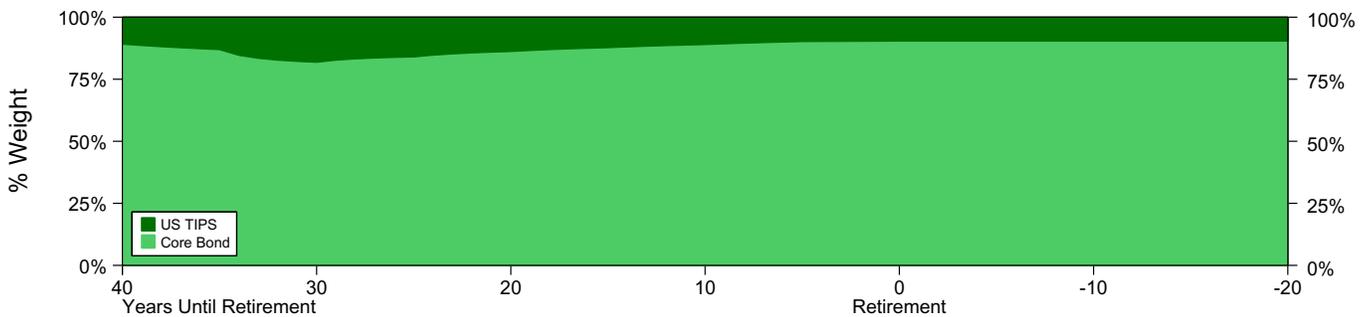
Micro-Level Equity Allocation Glide Path - BlackRock LifePath Index



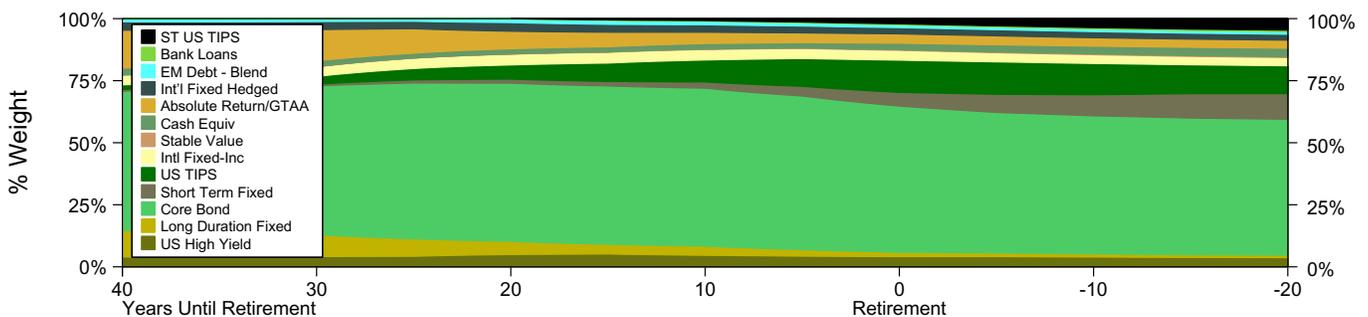
Micro-Level Equity Asset Allocation Glide Path - Callan Consensus ALL Glidepath



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



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



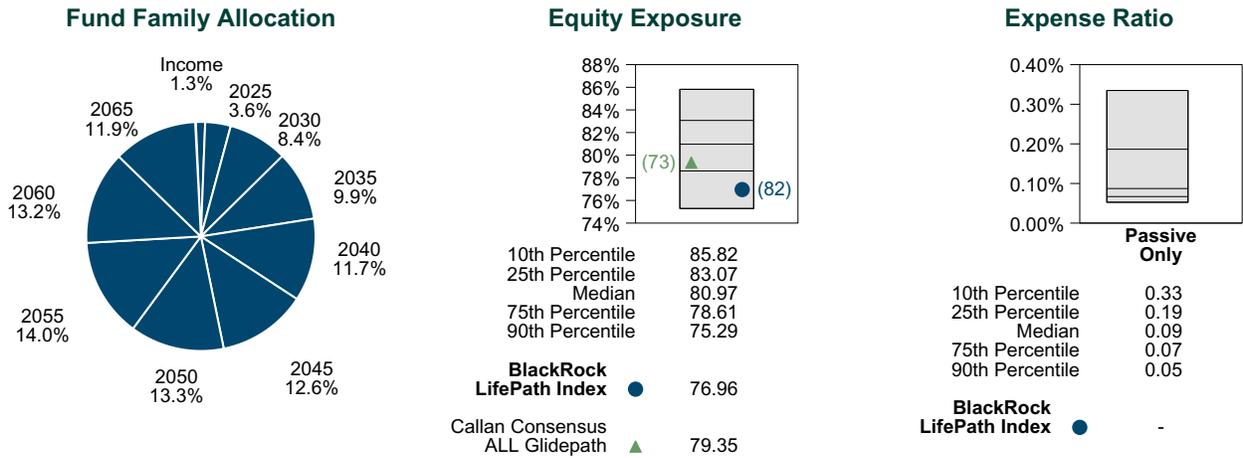
Pennsylvania SERS 401(a) - BlackRock LifePath Index Target Date Fund Family Analysis as of June 30, 2024

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).

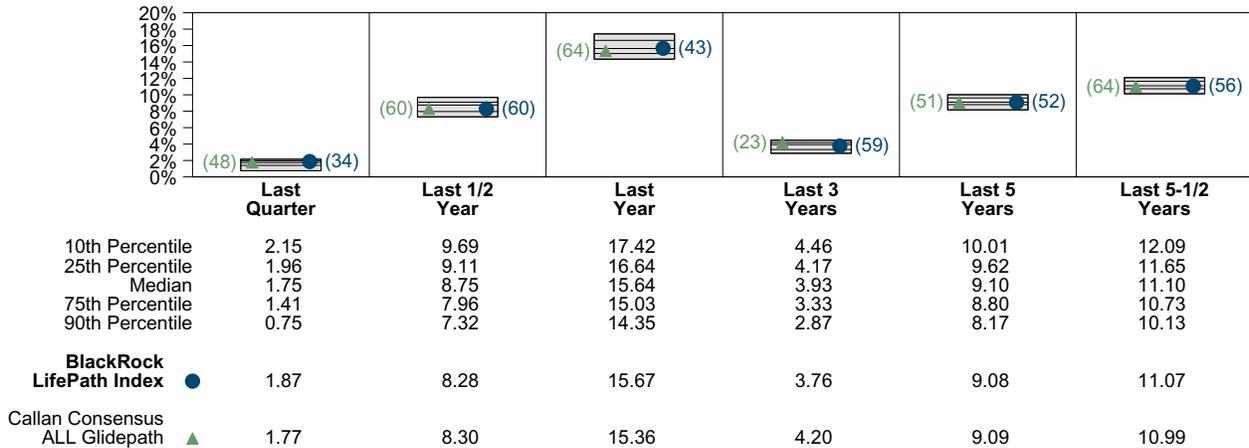
Glidepath Peer Group: ALL

Passive and Non-Passive

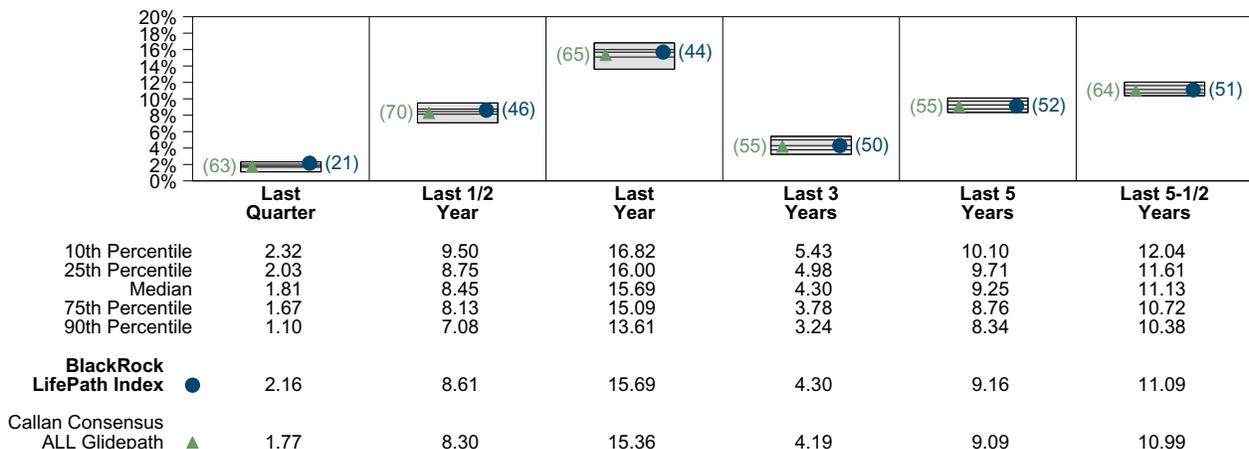
Fee/Return Type: Gross



Target Date Family Performance vs Peer Families



Target Date Family Glide Path Returns vs Peer Families

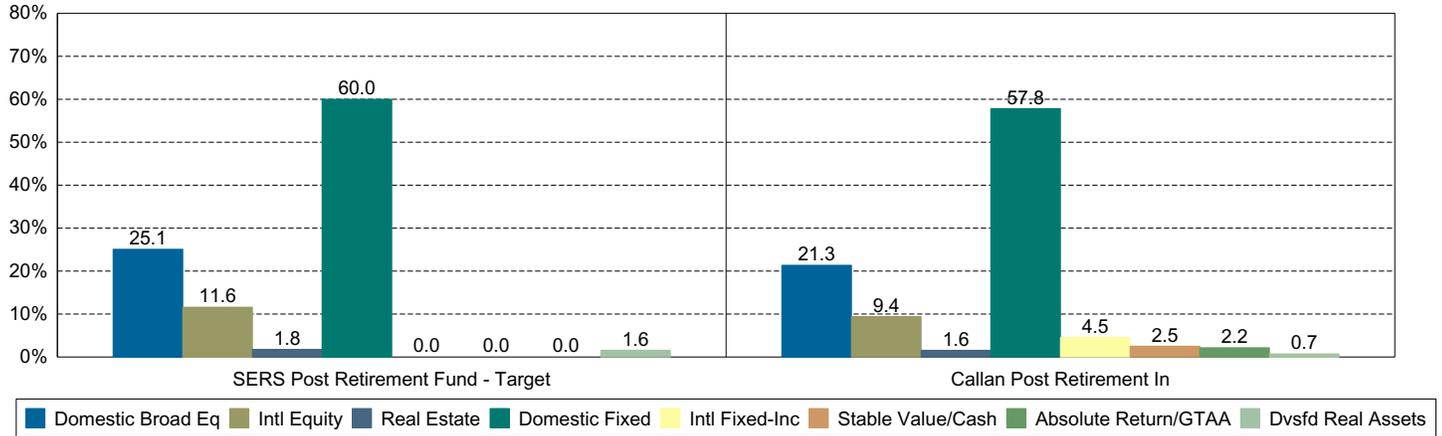


SERS Post Retirement Fund

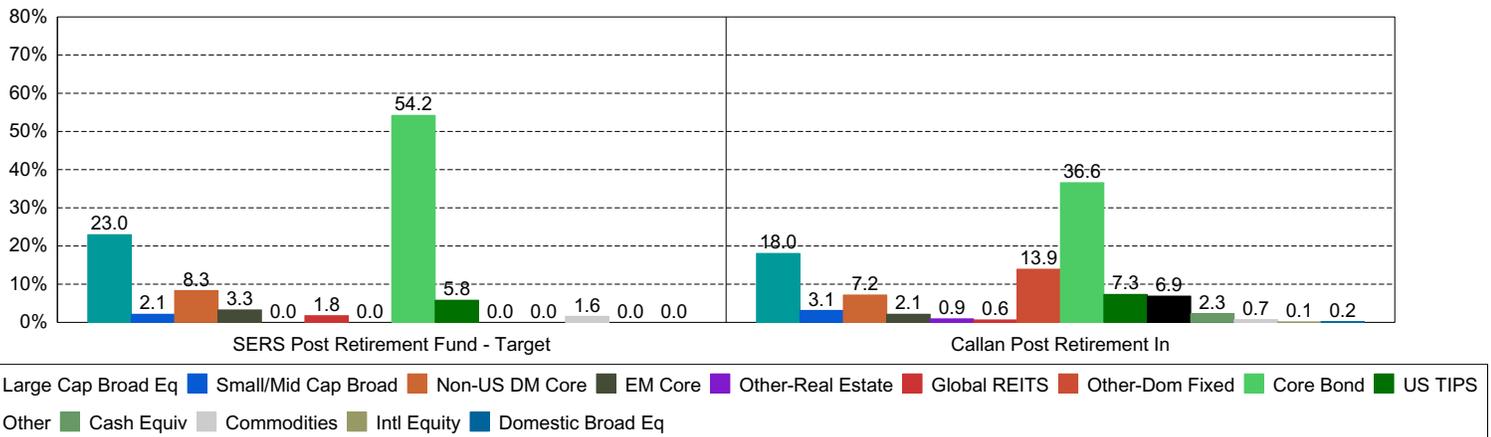
Target Date Fund Asset Allocation as of June 30, 2024

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.

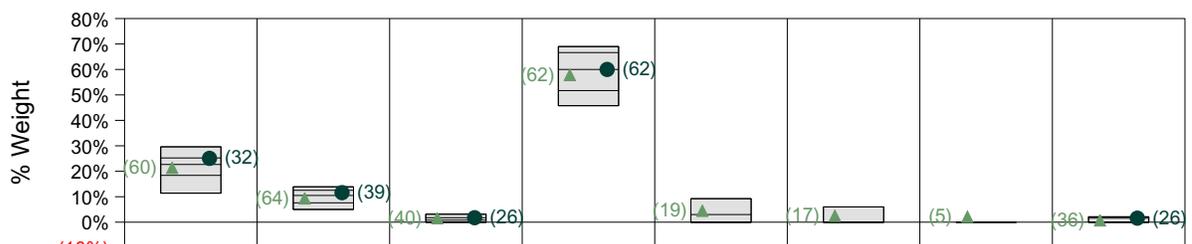
Macro-Level Asset Allocation



Micro-Level Asset Allocation



Macro Asset Allocation Rankings vs. Callan Target Date Retirement Income



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Dvsfd Real Assets
10th Percentile	29.61	13.90	3.15	69.00	9.24	6.00	0.00	2.13
25th Percentile	25.23	12.53	1.75	66.62	3.00	0.00	0.00	1.58
Median	22.67	10.50	0.80	60.00	0.00	0.00	0.00	0.00
75th Percentile	18.40	7.60	0.00	51.70	0.00	0.00	0.00	0.00
90th Percentile	11.40	5.00	0.00	45.76	0.00	0.00	0.00	0.00

SERS Post Retirement Fund - Target	●	25.08	11.59	1.75	60.00	-	-	1.58
Callan Post Retirement In	▲	21.35	9.37	1.56	57.83	4.49	2.16	0.72

SERS Post Retirement Fund Period Ended June 30, 2024

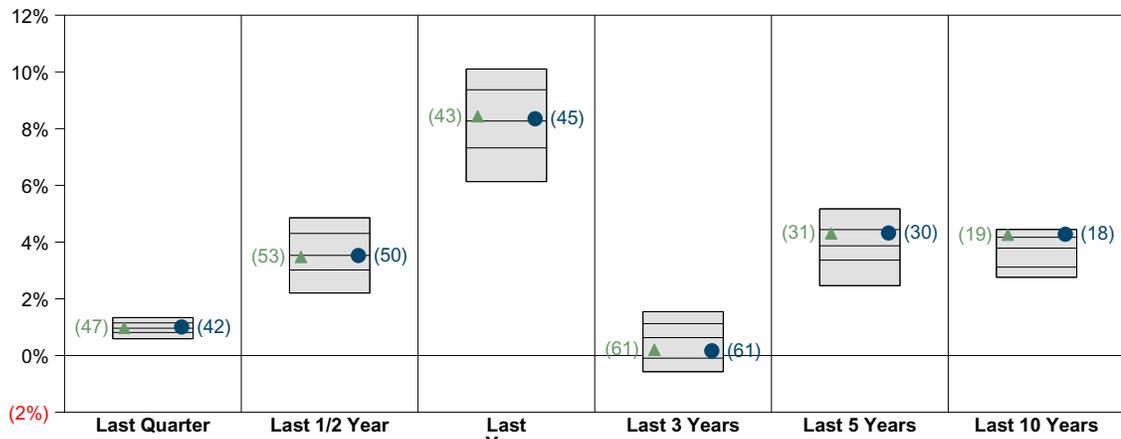
Investment Philosophy

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.

Quarterly Summary and Highlights

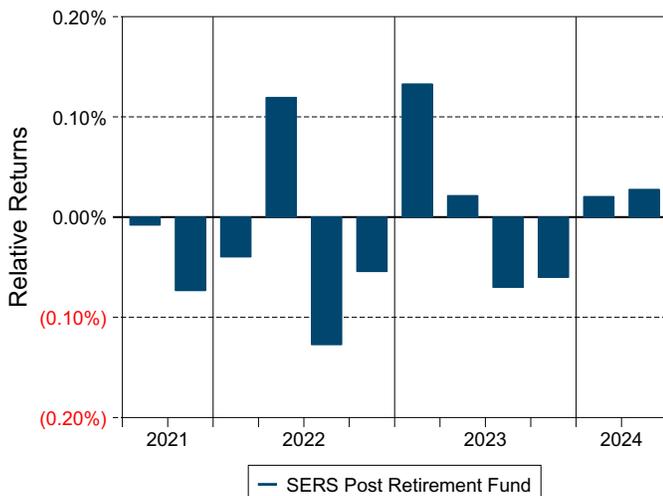
- SERS Post Retirement Fund's portfolio posted a 1.01% return for the quarter placing it in the 42 percentile of the Callan Target Date Retirement Income group for the quarter and in the 45 percentile for the last year.
- SERS Post Retirement Fund's portfolio outperformed the BlackRock Post Retirement Index by 0.03% for the quarter and underperformed the BlackRock Post Retirement Index for the year by 0.09%.

Performance vs Callan Target Date Retirement Income (Net)

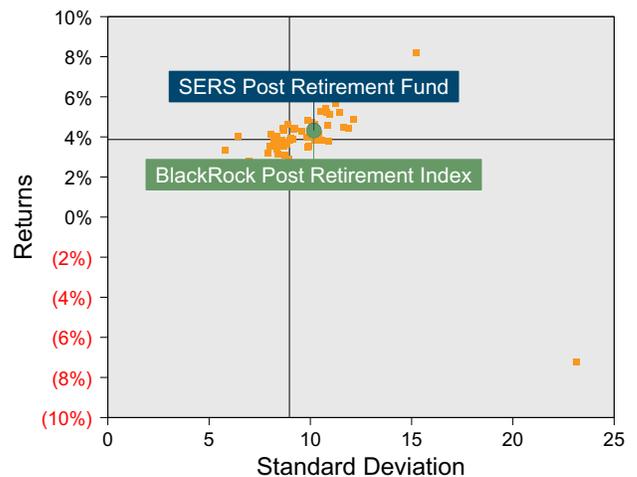


10th Percentile	1.34	4.86	10.10	1.55	5.17	4.45	
25th Percentile	1.15	4.30	9.37	1.13	4.44	4.17	
Median	0.96	3.53	8.27	0.63	3.87	3.79	
75th Percentile	0.81	3.02	7.32	(0.09)	3.36	3.12	
90th Percentile	0.59	2.21	6.13	(0.57)	2.46	2.76	
SERS Post Retirement Fund	●	1.01	3.53	8.35	0.17	4.32	4.28
BlackRock Post Retirement Index	▲	0.98	3.48	8.44	0.21	4.31	4.26

Relative Returns vs BlackRock Post Retirement Index



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

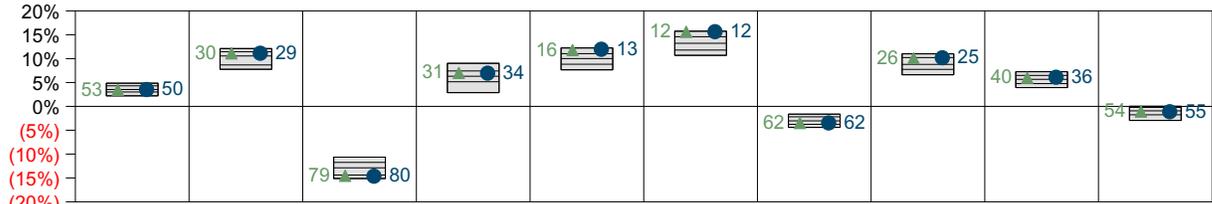


SERS Post Retirement Fund Return Analysis Summary

Return Analysis

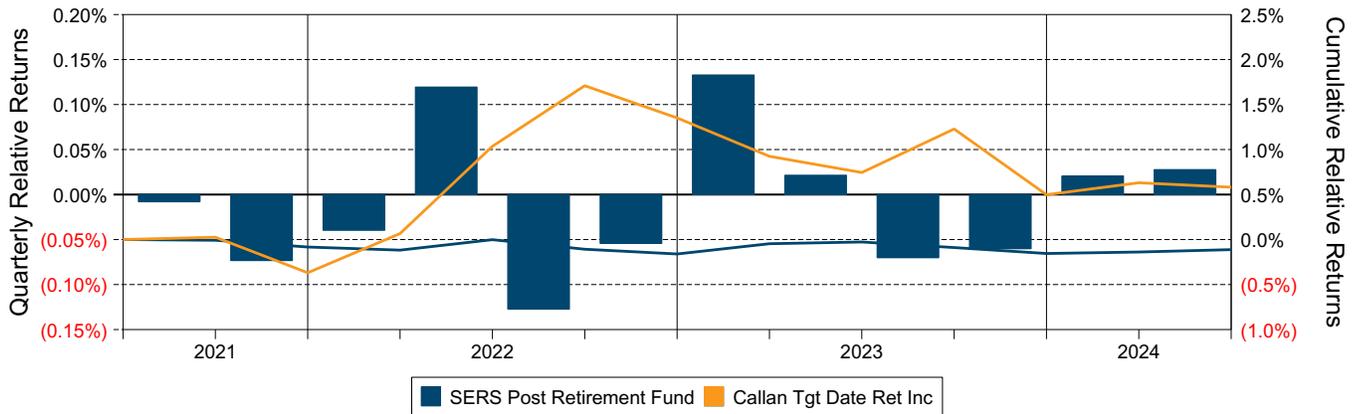
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

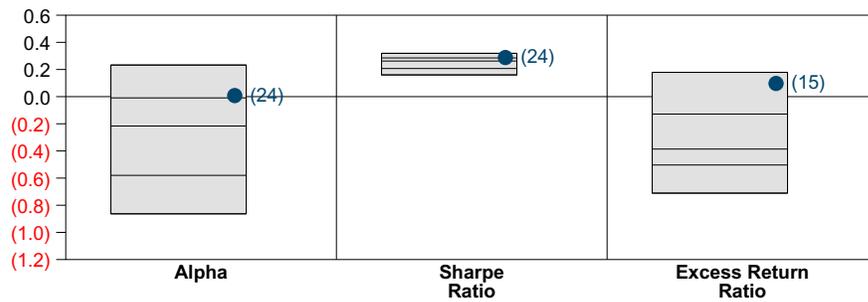


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
10th Percentile	4.86	12.11	(10.64)	9.02	12.24	15.75	(1.63)	11.01	7.26	0.02
25th Percentile	4.30	11.46	(11.74)	7.42	11.04	14.59	(2.19)	10.22	6.48	(0.22)
Median	3.53	10.56	(12.88)	6.31	10.02	13.21	(3.04)	8.80	5.67	(0.94)
75th Percentile	3.02	8.68	(14.39)	5.16	8.83	11.79	(3.77)	7.75	4.77	(1.77)
90th Percentile	2.21	7.77	(15.12)	2.88	7.66	10.69	(4.41)	6.62	3.93	(2.94)
SERS Post Retirement Fund	● 3.53	11.13	(14.63)	6.95	11.97	15.65	(3.47)	10.18	6.10	(1.12)
BlackRock Post Retirement Index	▲ 3.48	11.11	(14.54)	7.02	11.80	15.63	(3.48)	10.10	6.01	(1.07)

Cumulative and Quarterly Relative Returns 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, 2024

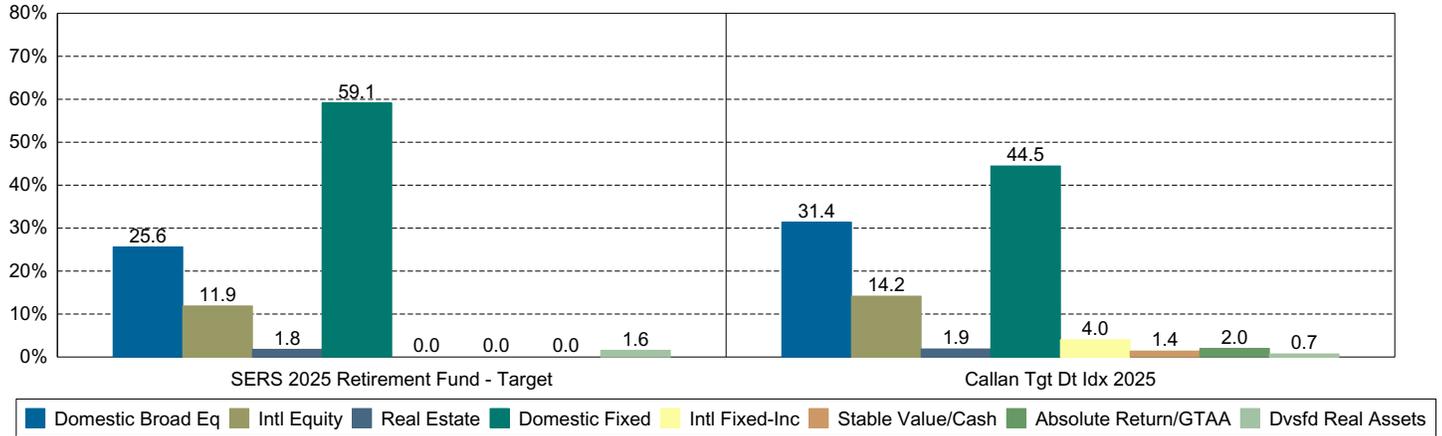


	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.23	0.32	0.18
25th Percentile	(0.01)	0.29	(0.13)
Median	(0.22)	0.26	(0.39)
75th Percentile	(0.58)	0.21	(0.50)
90th Percentile	(0.86)	0.16	(0.71)
SERS Post Retirement Fund	● 0.01	0.29	0.10

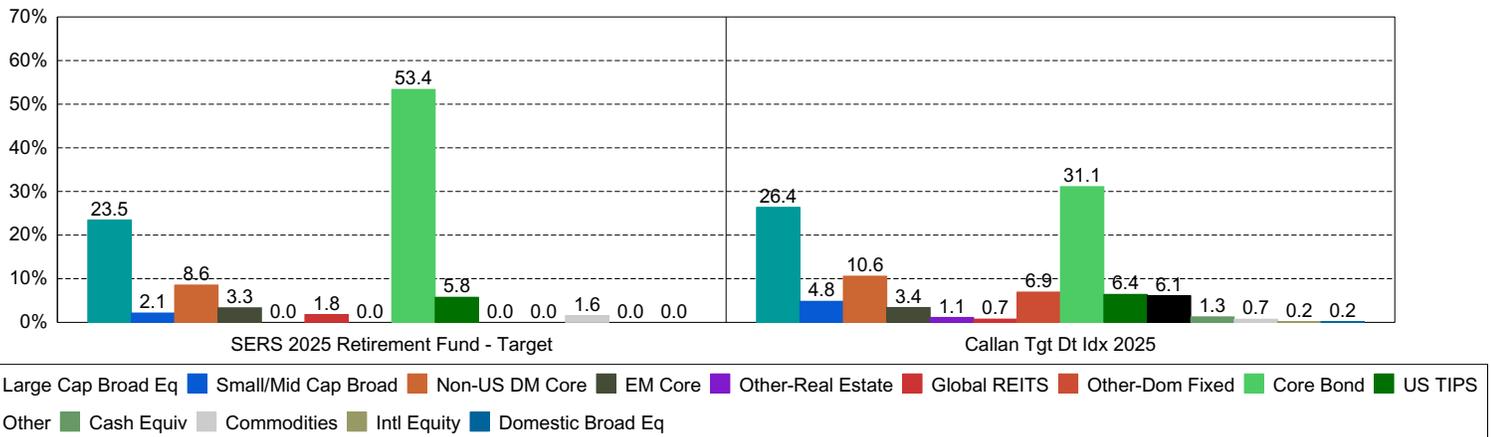
SERS 2025 Retirement Fund Target Date Fund Asset Allocation as of June 30, 2024

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.

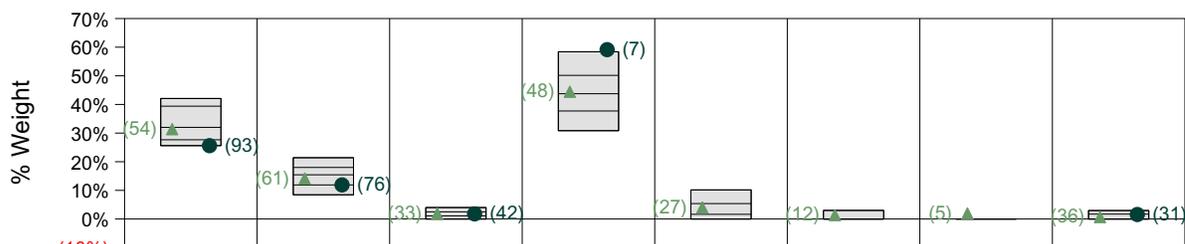
Macro-Level Asset Allocation



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	Dvsfd Real Assets
10th Percentile	42.08	21.40	4.00	58.40	10.16	3.00	0.00	2.95
25th Percentile	39.40	18.00	2.50	50.16	5.38	0.00	0.00	1.70
Median	32.00	15.43	1.09	43.75	1.64	0.00	0.00	0.00
75th Percentile	27.67	11.90	0.00	37.72	0.00	0.00	0.00	0.00
90th Percentile	25.61	8.44	0.00	30.84	0.00	0.00	0.00	0.00

SERS 2025 Retirement Fund - Target	●	25.61	11.90	1.79	59.14	-	-	-	1.56
Callan Tgt Dt Idx 2025	▲	31.38	14.17	1.87	44.47	4.03	1.39	1.98	0.72

SERS 2025 Retirement Fund Period Ended June 30, 2024

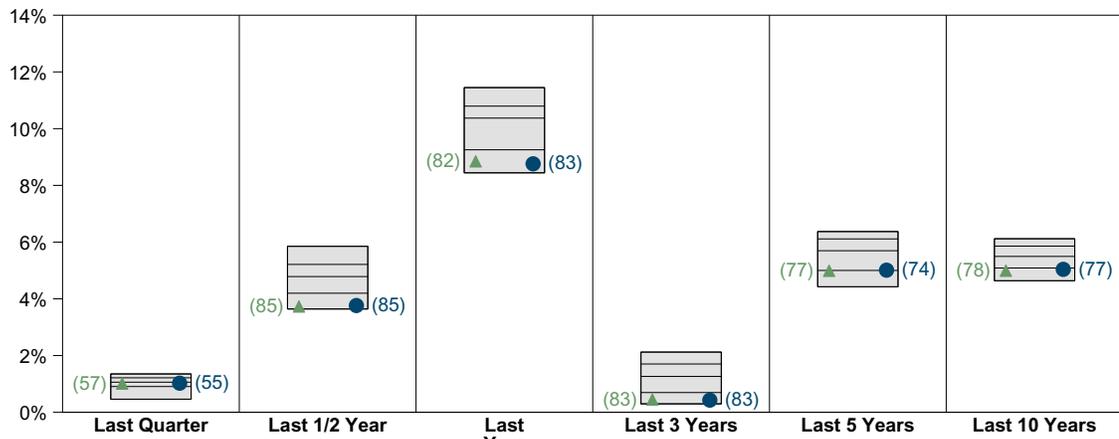
Investment Philosophy

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.

Quarterly Summary and Highlights

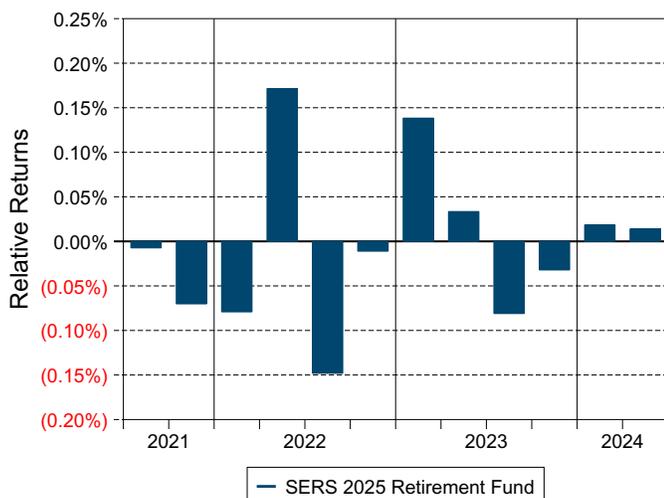
- SERS 2025 Retirement Fund's portfolio posted a 1.03% return for the quarter placing it in the 55 percentile of the Callan Target Date 2025 group for the quarter and in the 83 percentile for the last year.
- SERS 2025 Retirement Fund's portfolio outperformed the LifePath Index 2025 CB by 0.01% for the quarter and underperformed the LifePath Index 2025 CB for the year by 0.09%.

Performance vs Callan Target Date 2025 (Net)

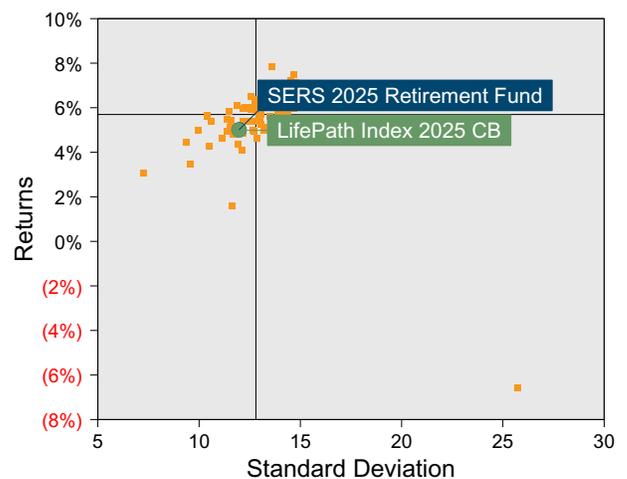


10th Percentile	1.35	5.85	11.45	2.12	6.37	6.12
25th Percentile	1.22	5.21	10.79	1.70	6.11	5.86
Median	1.06	4.78	10.37	1.26	5.70	5.49
75th Percentile	0.91	4.20	9.25	0.70	5.00	5.09
90th Percentile	0.46	3.64	8.44	0.30	4.42	4.64
SERS 2025 Retirement Fund	● 1.03	3.76	8.76	0.43	5.01	5.04
LifePath Index 2025 CB	▲ 1.01	3.73	8.85	0.45	4.99	4.99

Relative Return vs LifePath Index 2025 CB



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

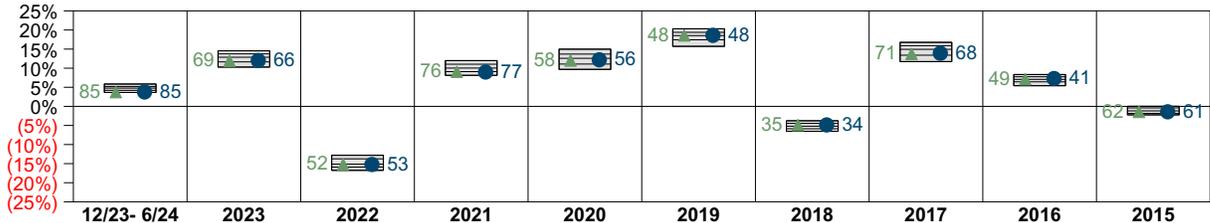


SERS 2025 Retirement Fund Return Analysis Summary

Return Analysis

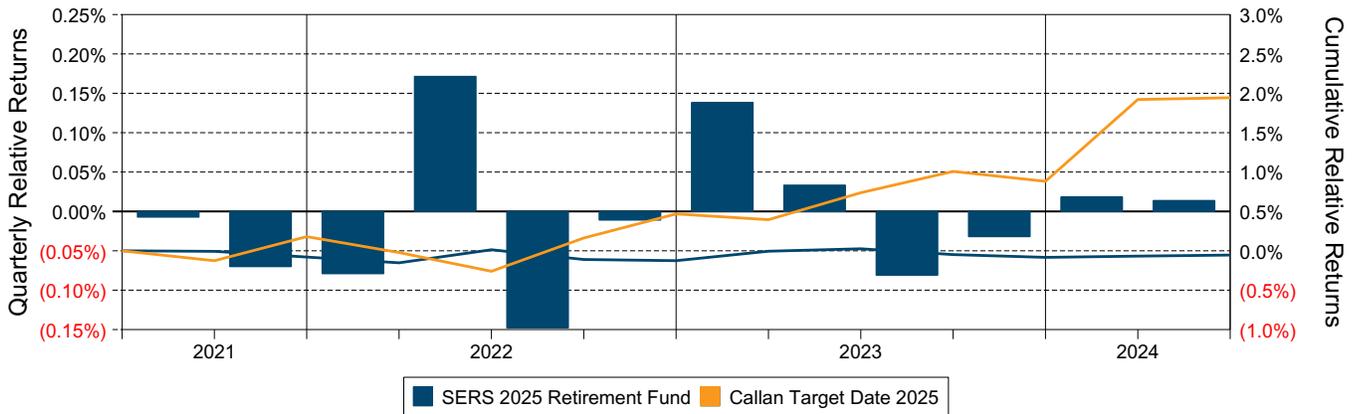
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

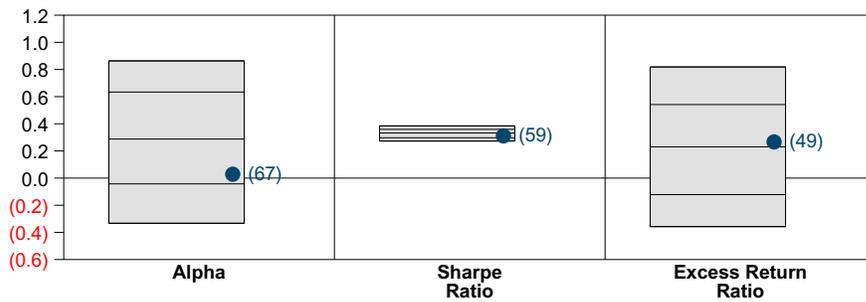


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
SERS 2025 Retirement Fund ●	3.76	12.00	(15.23)	8.99	12.19	18.60	(4.86)	13.91	7.30	(1.43)
LifePath Index 2025 CB ▲	3.73	11.94	(15.17)	9.07	12.01	18.56	(4.90)	13.75	7.10	(1.45)

Cumulative and Quarterly Relative Returns 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, 2024



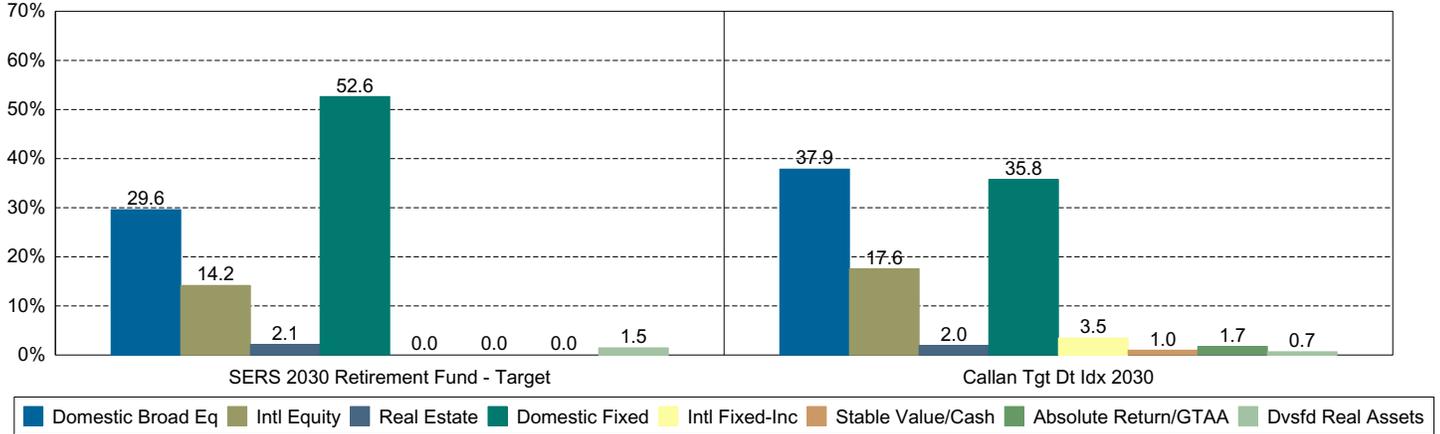
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.86	0.38	0.82
25th Percentile	0.63	0.36	0.54
Median	0.29	0.33	0.23
75th Percentile	(0.04)	0.30	(0.12)
90th Percentile	(0.33)	0.27	(0.36)

SERS 2025 Retirement Fund ●	0.03	0.31	0.27
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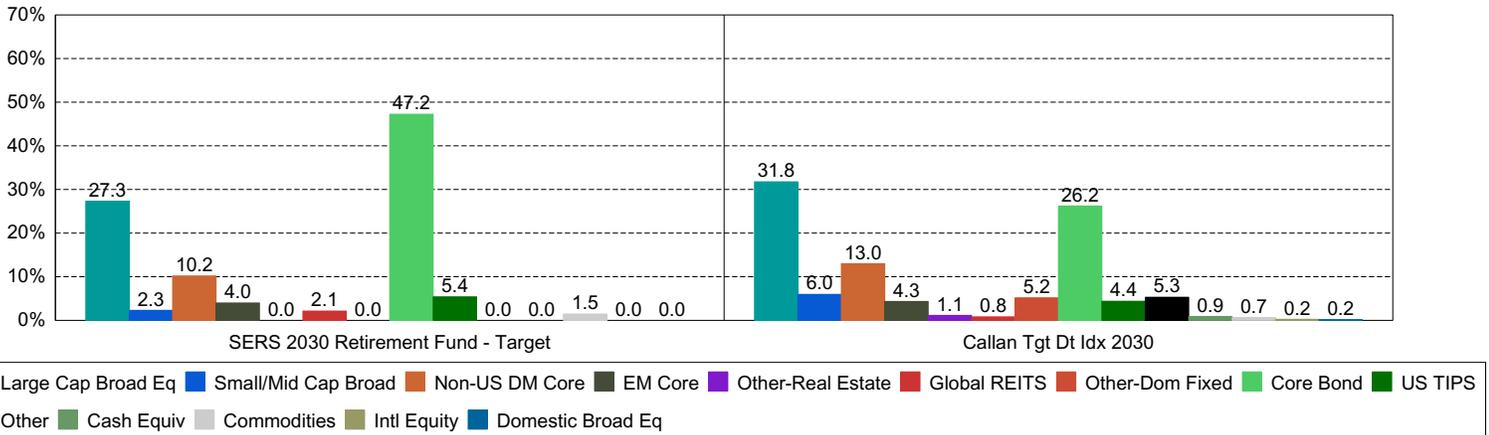
SERS 2030 Retirement Fund Target Date Fund Asset Allocation as of June 30, 2024

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.

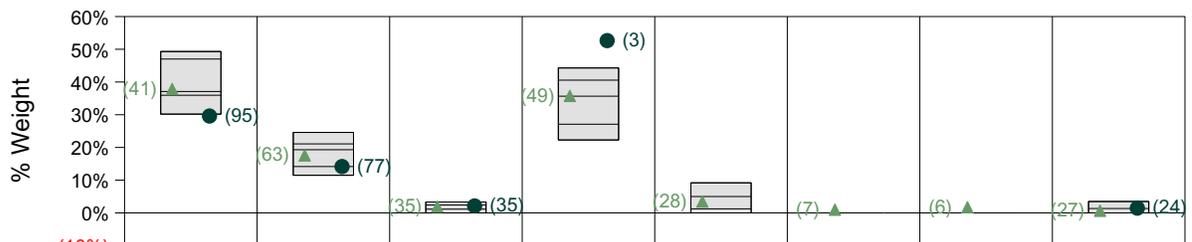
Macro-Level Asset Allocation



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	Dvsfd Real Assets
10th Percentile	49.31	24.59	3.33	44.30	9.19	0.00	0.00	3.49
25th Percentile	47.01	21.09	2.40	40.56	5.01	0.00	0.00	1.34
Median	37.10	19.31	1.15	35.66	1.24	0.00	0.00	0.00
75th Percentile	35.95	14.17	0.00	27.10	0.00	0.00	0.00	0.00
90th Percentile	30.18	11.50	0.00	22.28	0.00	0.00	0.00	0.00

SERS 2030 Retirement Fund - Target	●	29.60	14.17	2.13	52.64	-	-	-	1.46
Callan Tgt Dt Idx 2030	▲	37.86	17.57	1.95	35.76	3.46	0.99	1.74	0.66

SERS 2030 Retirement Fund Period Ended June 30, 2024

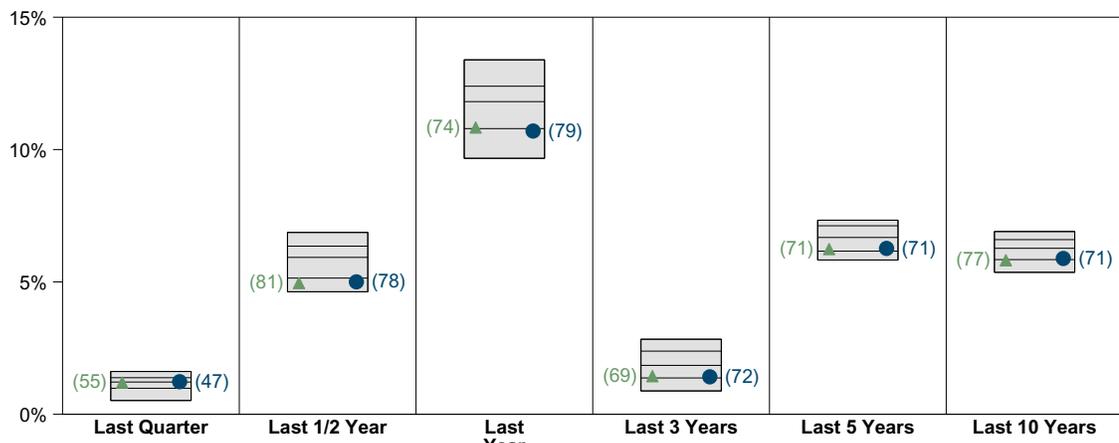
Investment Philosophy

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.

Quarterly Summary and Highlights

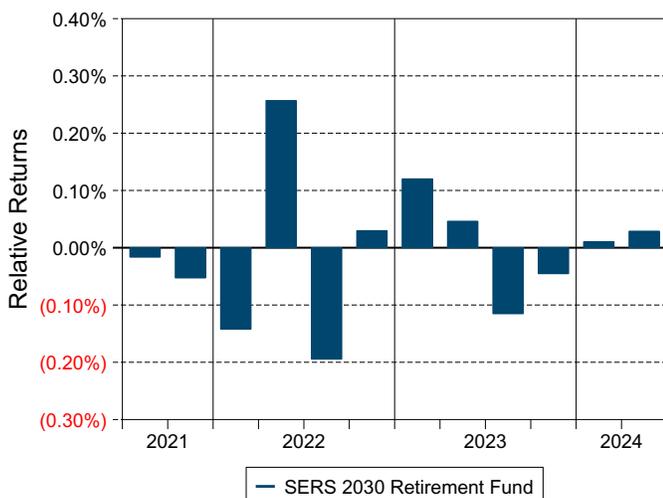
- SERS 2030 Retirement Fund's portfolio posted a 1.23% return for the quarter placing it in the 47 percentile of the Callan Target Date 2030 group for the quarter and in the 79 percentile for the last year.
- SERS 2030 Retirement Fund's portfolio outperformed the LifePath Index 2030 CB by 0.03% for the quarter and underperformed the LifePath Index 2030 CB for the year by 0.13%.

Performance vs Callan Target Date 2030 (Net)

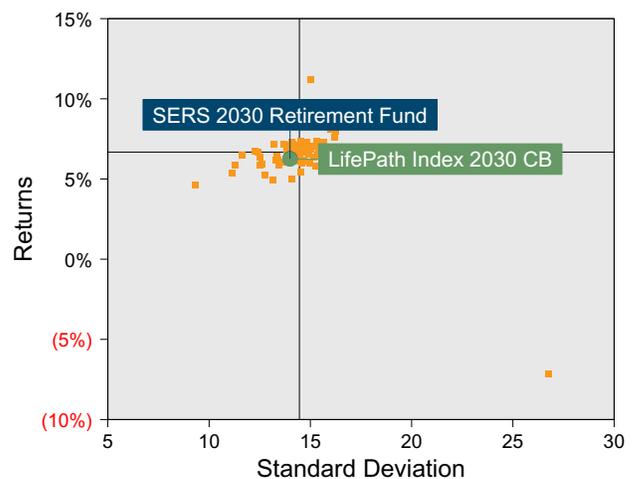


10th Percentile	1.62	6.87	13.39	2.83	7.33	6.90	
25th Percentile	1.38	6.35	12.39	2.38	7.12	6.60	
Median	1.22	5.93	11.81	1.85	6.68	6.27	
75th Percentile	0.98	5.14	10.79	1.37	6.16	5.84	
90th Percentile	0.52	4.63	9.67	0.88	5.83	5.36	
SERS 2030 Retirement Fund	●	1.23	5.00	10.70	1.41	6.26	5.89
LifePath Index 2030 CB	▲	1.20	4.96	10.83	1.44	6.24	5.82

Relative Return vs LifePath Index 2030 CB



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

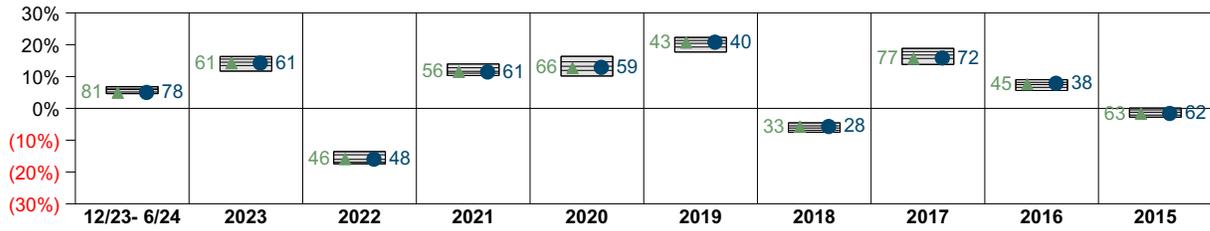


SERS 2030 Retirement Fund Return Analysis Summary

Return Analysis

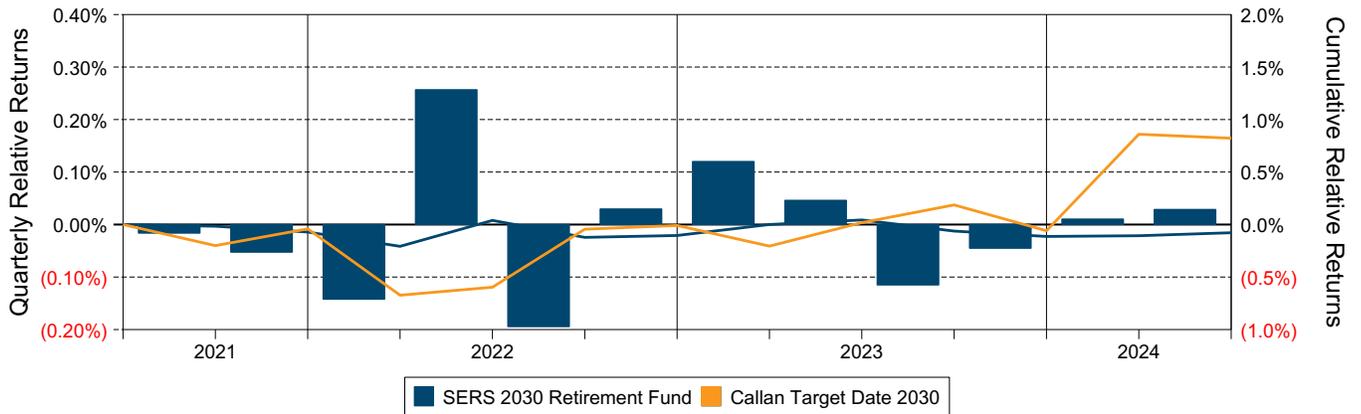
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

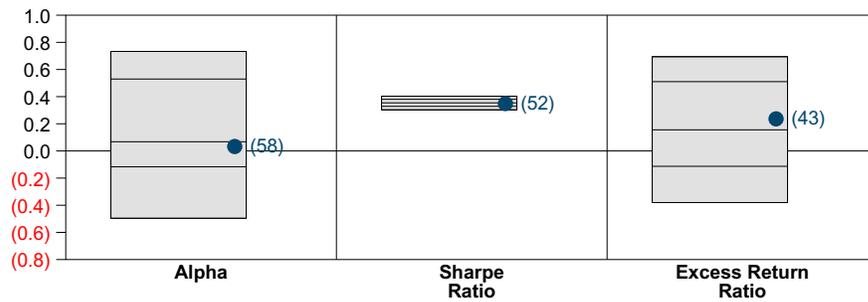


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
10th Percentile	6.87	16.31	(13.59)	13.94	16.35	22.30	(4.55)	18.85	9.02	0.09
25th Percentile	6.35	15.48	(14.60)	12.77	14.64	21.34	(5.48)	17.85	8.17	(0.48)
Median	5.93	14.51	(16.04)	11.63	13.23	20.43	(6.17)	16.77	7.49	(1.22)
75th Percentile	5.14	13.46	(16.94)	11.05	11.92	19.28	(6.93)	15.68	6.60	(2.12)
90th Percentile	4.63	11.70	(17.42)	10.31	10.16	17.70	(7.50)	13.81	5.61	(2.77)
SERS 2030 Retirement Fund	● 5.00	14.24	(15.97)	11.43	12.88	20.80	(5.71)	15.83	7.88	(1.60)
LifePath Index 2030 CB	▲ 4.96	14.23	(15.92)	11.50	12.72	20.70	(5.76)	15.64	7.61	(1.66)

Cumulative and Quarterly Relative Returns 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, 2024



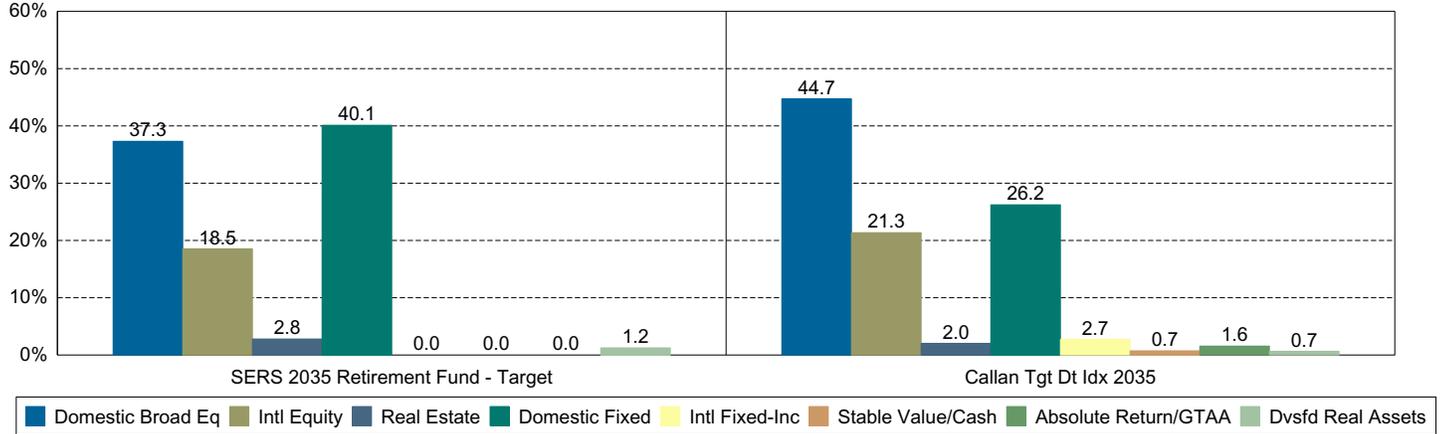
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.73	0.40	0.69
25th Percentile	0.53	0.38	0.51
Median	0.07	0.35	0.16
75th Percentile	(0.12)	0.33	(0.11)
90th Percentile	(0.50)	0.30	(0.38)
SERS 2030 Retirement Fund	● 0.03	0.35	0.24

SERS 2035 Retirement Fund

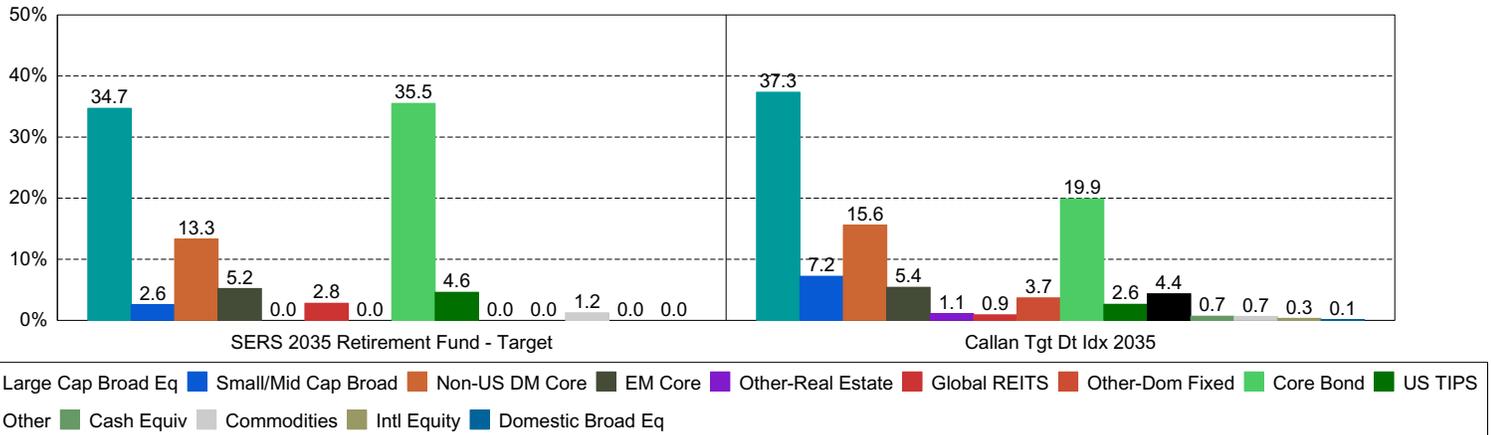
Target Date Fund Asset Allocation as of June 30, 2024

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.

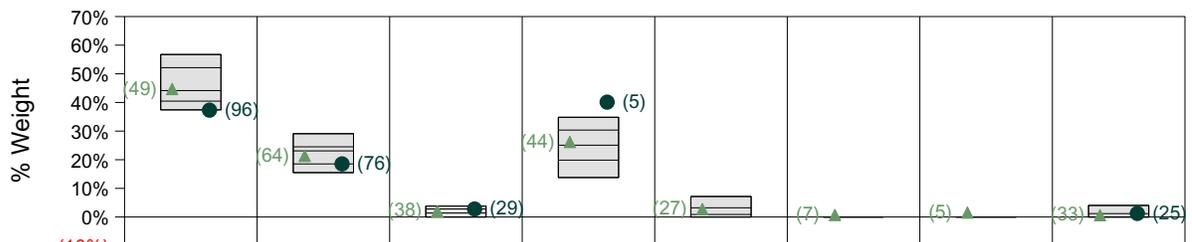
Macro-Level Asset Allocation



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	Dvsfd Real Assets
10th Percentile	56.75	29.08	3.83	34.83	7.16	0.00	0.00	4.05
25th Percentile	52.14	24.51	2.80	30.35	3.21	0.00	0.00	1.19
Median	44.15	23.08	1.40	25.07	0.88	0.00	0.00	0.00
75th Percentile	40.46	18.54	0.00	19.86	0.00	0.00	0.00	0.00
90th Percentile	37.41	15.49	0.00	13.78	0.00	0.00	0.00	0.00

SERS 2035 Retirement Fund - Target	●	37.31	18.54	2.80	40.11	-	-	-	1.24
Callan Tgt Dt Idx 2035	▲	44.70	21.35	2.04	26.22	2.75	0.73	1.55	0.65

SERS 2035 Retirement Fund Period Ended June 30, 2024

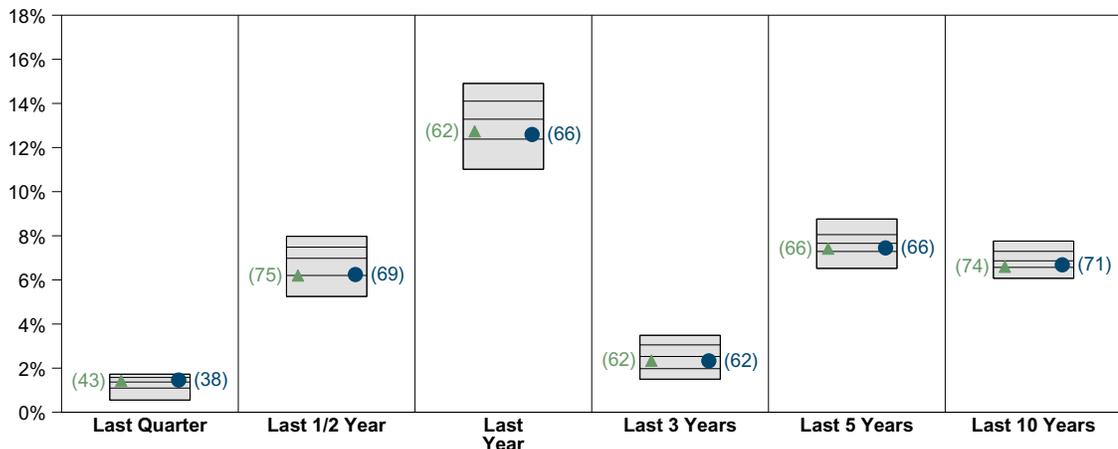
Investment Philosophy

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.

Quarterly Summary and Highlights

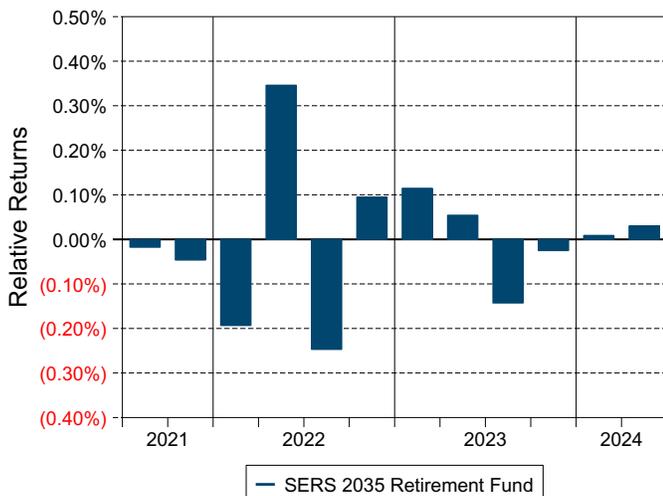
- SERS 2035 Retirement Fund's portfolio posted a 1.46% return for the quarter placing it in the 38 percentile of the Callan Target Date 2035 group for the quarter and in the 66 percentile for the last year.
- SERS 2035 Retirement Fund's portfolio outperformed the LifePath Index 2035 CB by 0.03% for the quarter and underperformed the LifePath Index 2035 CB for the year by 0.15%.

Performance vs Callan Target Date 2035 (Net)

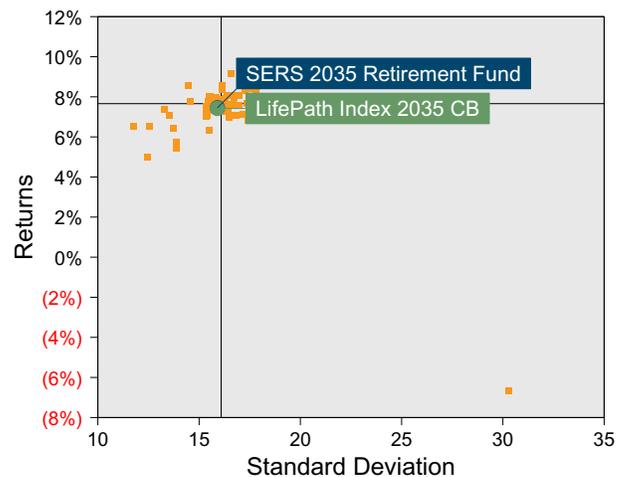


10th Percentile	1.73	7.98	14.91	3.49	8.76	7.76	
25th Percentile	1.58	7.48	14.10	3.05	8.05	7.30	
Median	1.37	6.98	13.29	2.53	7.66	6.86	
75th Percentile	1.10	6.20	12.38	1.98	7.29	6.57	
90th Percentile	0.55	5.25	11.02	1.50	6.52	6.07	
SERS 2035 Retirement Fund	●	1.46	6.24	12.59	2.33	7.45	6.68
LifePath Index 2035 CB	▲	1.43	6.20	12.74	2.34	7.42	6.60

Relative Return vs LifePath Index 2035 CB



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

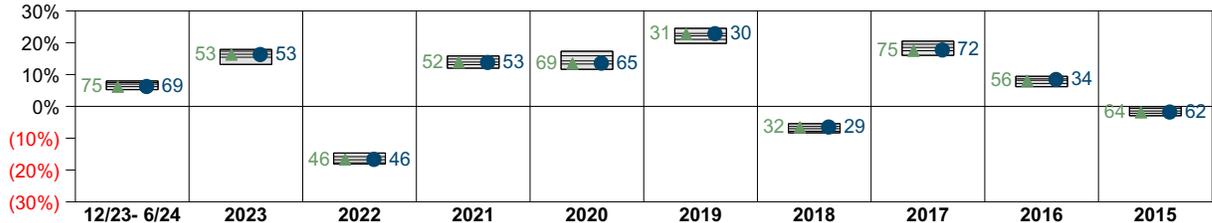


SERS 2035 Retirement Fund Return Analysis Summary

Return Analysis

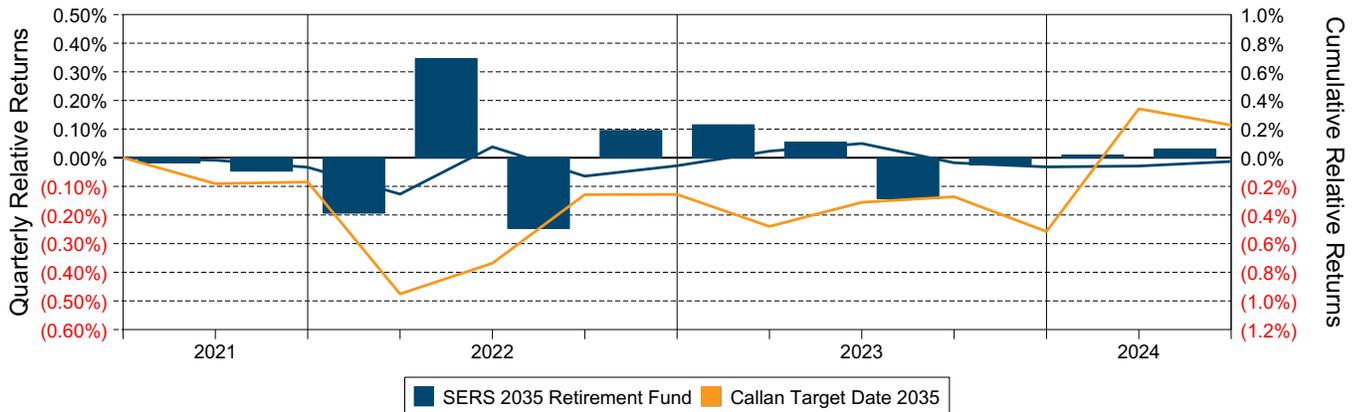
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

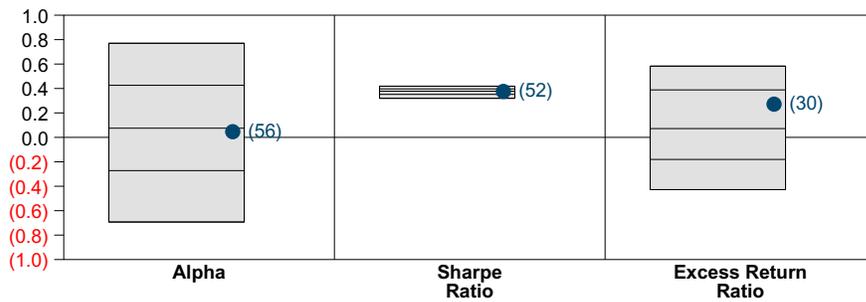


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
10th Percentile	7.98	17.89	(14.66)	15.82	17.32	24.52	(5.46)	20.49	9.45	(0.09)
25th Percentile	7.48	17.33	(15.82)	14.88	15.89	22.92	(6.32)	19.53	8.65	(0.61)
Median	6.98	16.38	(16.79)	13.92	14.28	22.16	(7.03)	18.51	8.19	(1.46)
75th Percentile	6.20	15.45	(17.71)	13.11	13.31	21.05	(7.82)	17.48	7.20	(2.17)
90th Percentile	5.25	13.18	(18.13)	12.00	11.64	19.80	(8.31)	16.04	6.17	(2.95)
SERS 2035 Retirement Fund	6.24	16.29	(16.67)	13.80	13.58	22.84	(6.50)	17.72	8.44	(1.78)
LifePath Index 2035 CB	6.20	16.29	(16.67)	13.85	13.44	22.72	(6.58)	17.48	8.08	(1.86)

Cumulative and Quarterly Relative Returns 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, 2024



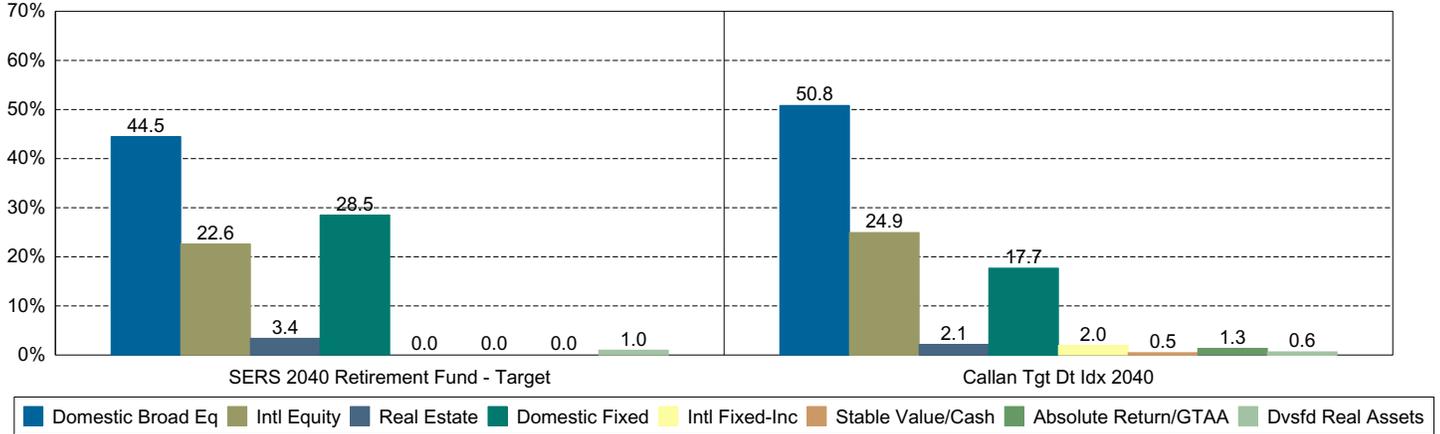
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.77	0.42	0.58
25th Percentile	0.43	0.40	0.39
Median	0.08	0.38	0.07
75th Percentile	(0.27)	0.35	(0.18)
90th Percentile	(0.69)	0.32	(0.43)
SERS 2035 Retirement Fund	0.05	0.38	0.27

SERS 2040 Retirement Fund

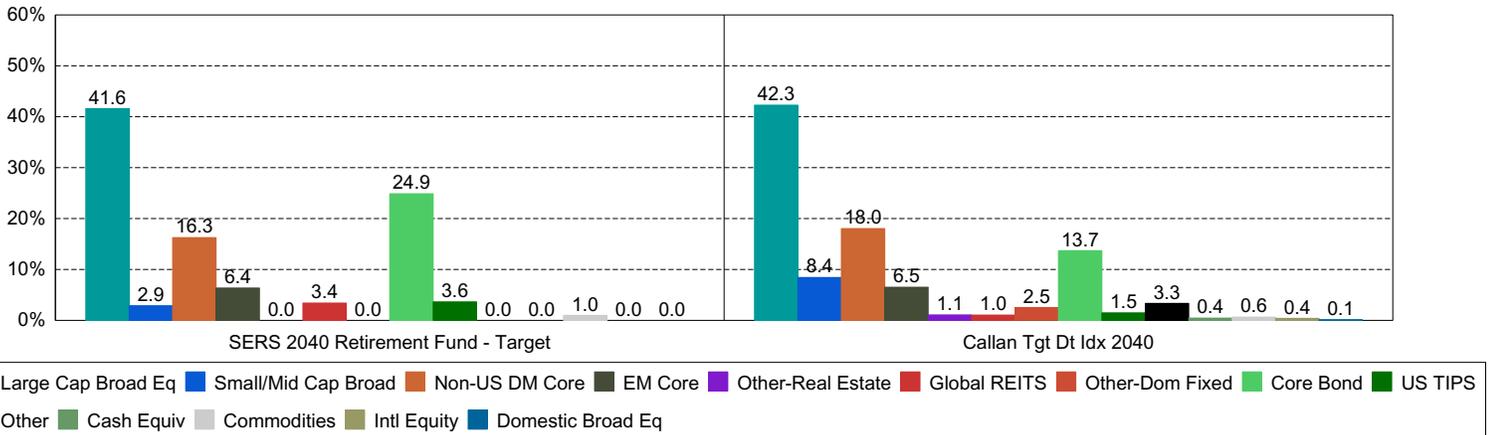
Target Date Fund Asset Allocation as of June 30, 2024

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.

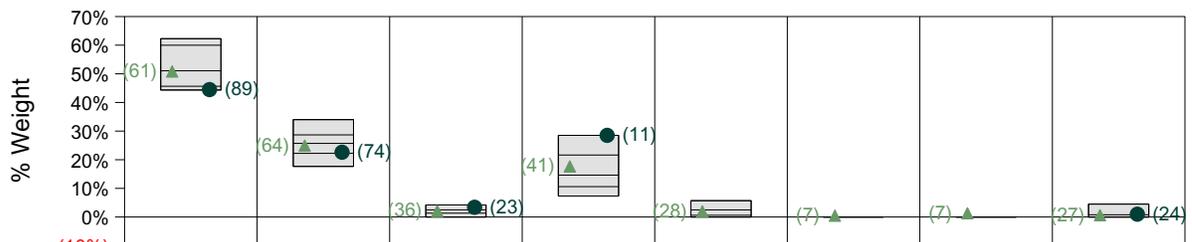
Macro-Level Asset Allocation



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	Dvsfd Real Assets
10th Percentile	62.27	34.00	4.20	28.51	5.70	0.00	0.00	4.51
25th Percentile	59.98	28.68	2.50	21.64	2.48	0.00	0.00	0.78
Median	51.06	25.71	1.34	14.63	0.60	0.00	0.00	0.00
75th Percentile	45.65	22.23	0.00	10.60	0.00	0.00	0.00	0.00
90th Percentile	44.34	17.66	0.00	7.32	0.00	0.00	0.00	0.00

SERS 2040 Retirement Fund - Target	●	44.49	22.61	3.40	28.51	-	-	0.98
Callan Tgt Dt Idx 2040	▲	50.82	24.94	2.11	17.69	1.97	0.48	1.34

SERS 2040 Retirement Fund Period Ended June 30, 2024

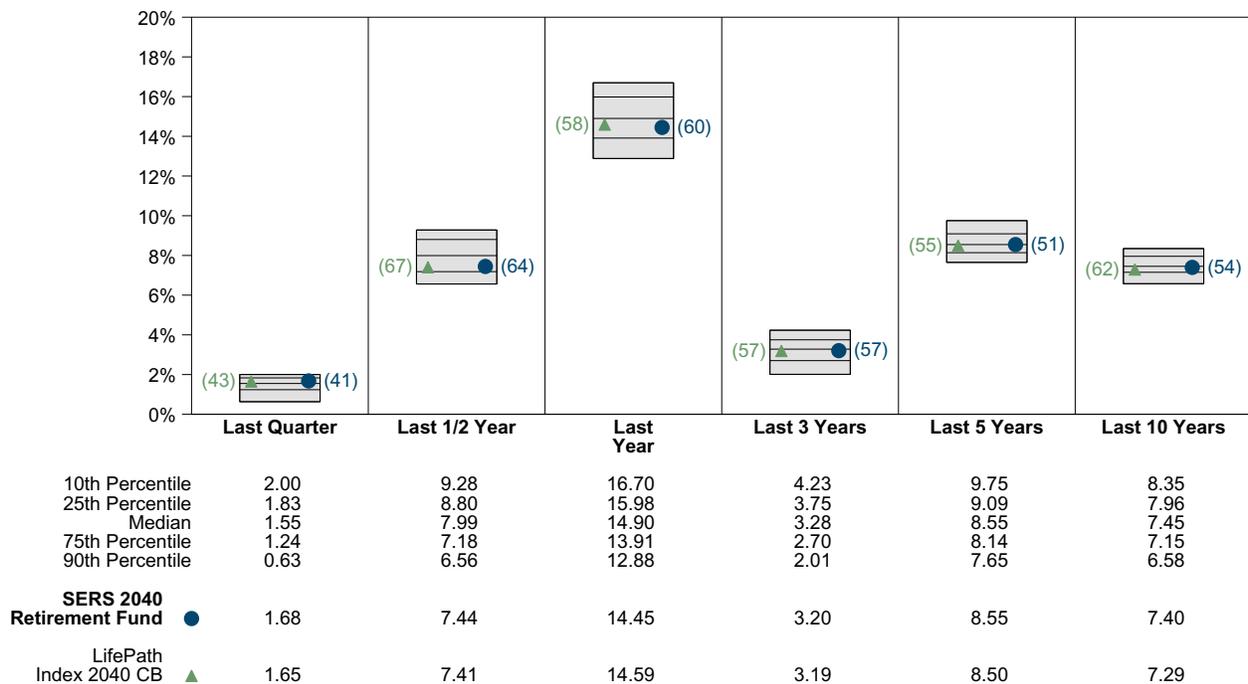
Investment Philosophy

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.

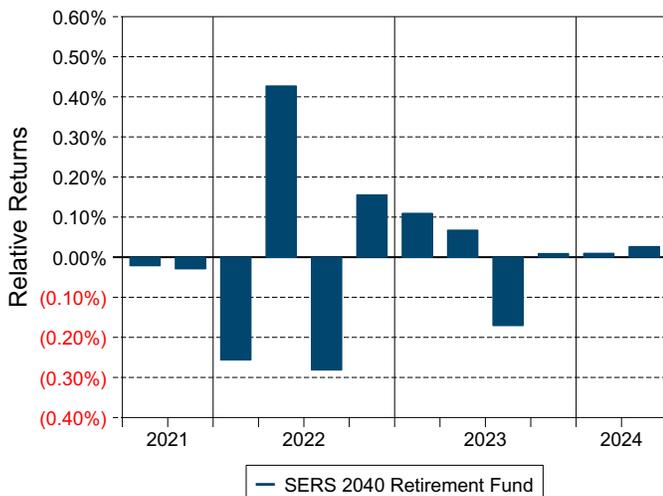
Quarterly Summary and Highlights

- SERS 2040 Retirement Fund's portfolio posted a 1.68% return for the quarter placing it in the 41 percentile of the Callan Target Date 2040 group for the quarter and in the 60 percentile for the last year.
- SERS 2040 Retirement Fund's portfolio outperformed the LifePath Index 2040 CB by 0.03% for the quarter and underperformed the LifePath Index 2040 CB for the year by 0.14%.

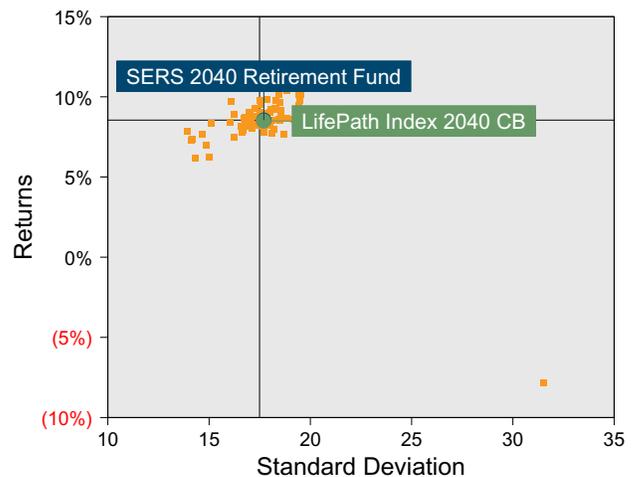
Performance vs Callan Target Date 2040 (Net)



Relative Return vs LifePath Index 2040 CB



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

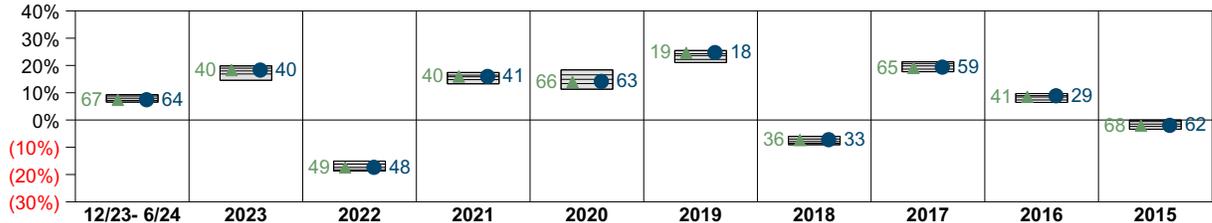


SERS 2040 Retirement Fund Return Analysis Summary

Return Analysis

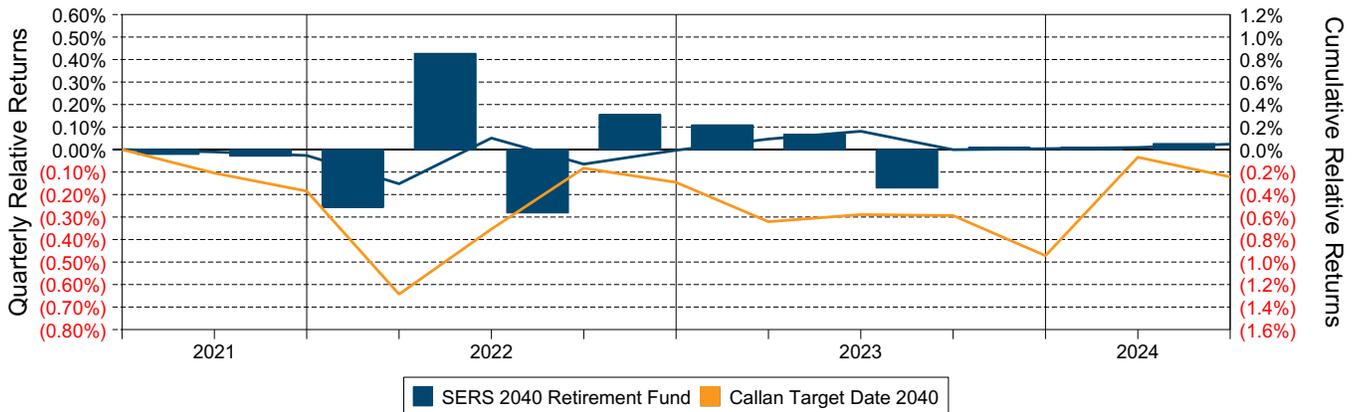
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

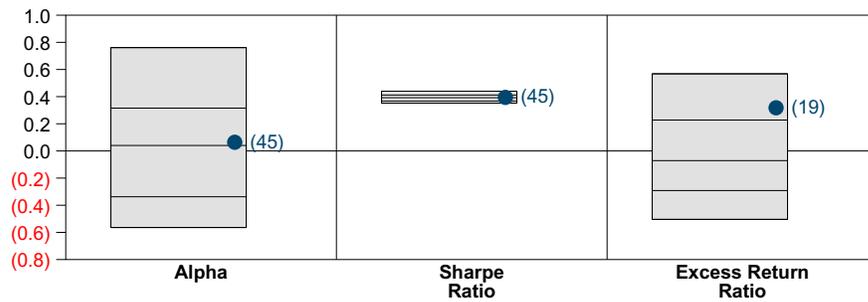


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
10th Percentile	9.28	19.84	(15.07)	17.43	18.37	25.47	(6.01)	21.35	9.71	(0.03)
25th Percentile	8.80	18.99	(16.16)	16.42	16.56	24.33	(6.99)	20.71	8.93	(0.55)
Median	7.99	17.99	(17.40)	15.85	14.91	23.62	(7.87)	19.84	8.44	(1.51)
75th Percentile	7.18	16.88	(18.28)	14.80	13.35	22.20	(8.52)	18.66	7.35	(2.36)
90th Percentile	6.56	14.56	(18.72)	13.27	11.29	21.07	(9.05)	17.70	6.44	(3.38)
SERS 2040 Retirement Fund	7.44	18.30	(17.35)	15.96	14.14	24.71	(7.22)	19.38	8.88	(1.98)
LifePath Index 2040 CB	7.41	18.29	(17.38)	15.97	13.98	24.62	(7.33)	19.09	8.51	(2.08)

Cumulative and Quarterly Relative Returns 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, 2024



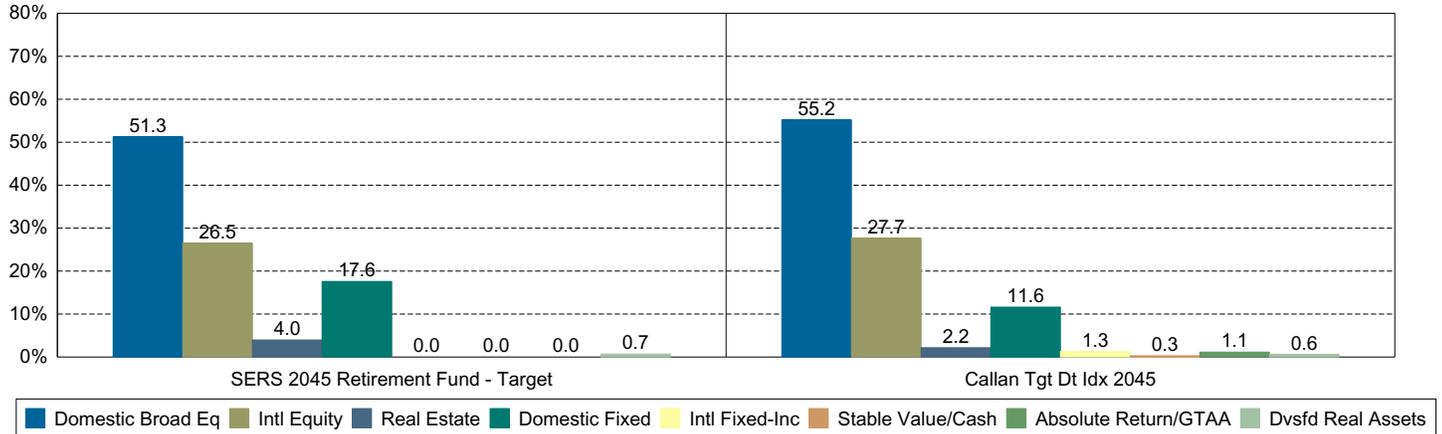
Measure	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.76	0.44	0.57
25th Percentile	0.32	0.41	0.23
Median	0.04	0.39	(0.07)
75th Percentile	(0.34)	0.37	(0.29)
90th Percentile	(0.56)	0.35	(0.50)
SERS 2040 Retirement Fund	0.06	0.39	0.32

SERS 2045 Retirement Fund

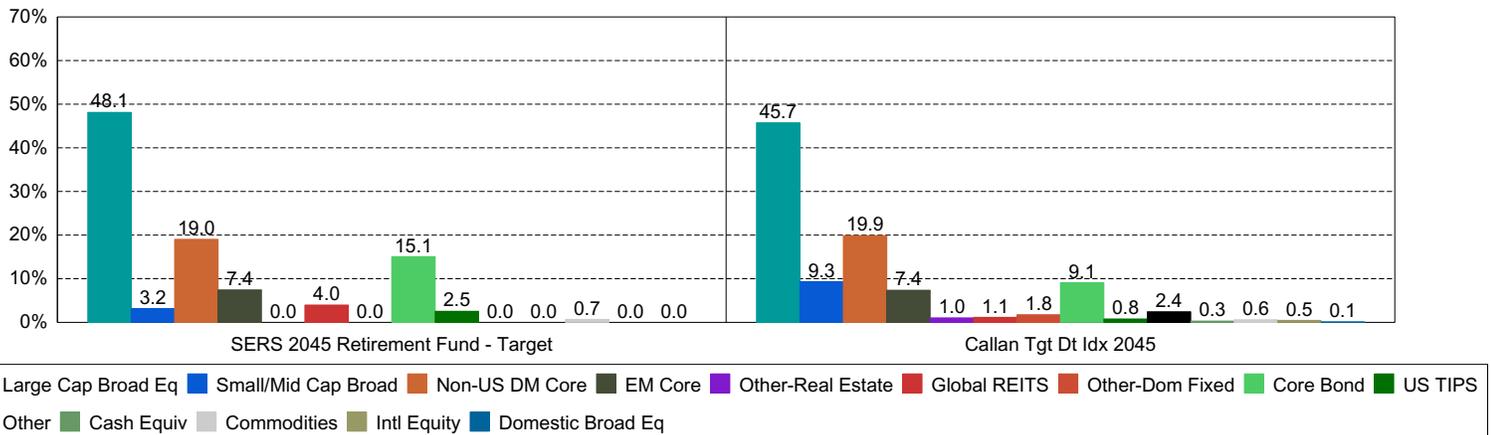
Target Date Fund Asset Allocation as of June 30, 2024

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.

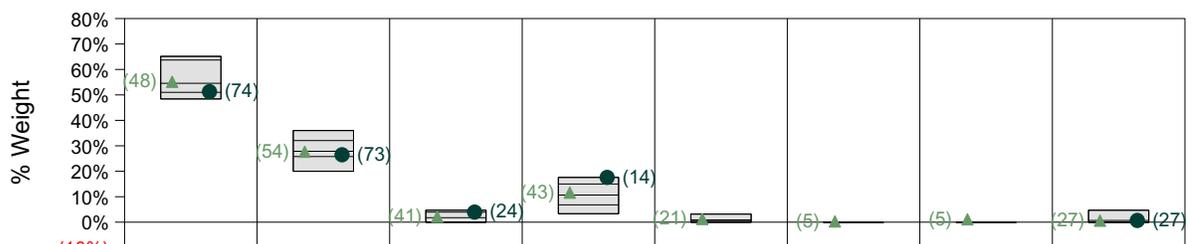
Macro-Level Asset Allocation



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	Dvsfd Real Assets
10th Percentile	65.15	36.00	4.70	17.59	3.18	0.00	0.00	4.70
25th Percentile	63.71	32.06	3.95	15.00	0.88	0.00	0.00	0.68
Median	54.56	27.85	1.76	10.66	0.37	0.00	0.00	0.00
75th Percentile	51.01	25.78	0.00	6.80	0.00	0.00	0.00	0.00
90th Percentile	48.42	20.00	0.00	3.32	0.00	0.00	0.00	0.00

SERS 2045 Retirement Fund - Target	●	51.28	26.48	3.97	17.59	-	-	0.68
Callan Tgt Dt Idx 2045	▲	55.19	27.69	2.17	11.61	1.28	0.30	1.14

SERS 2045 Retirement Fund Period Ended June 30, 2024

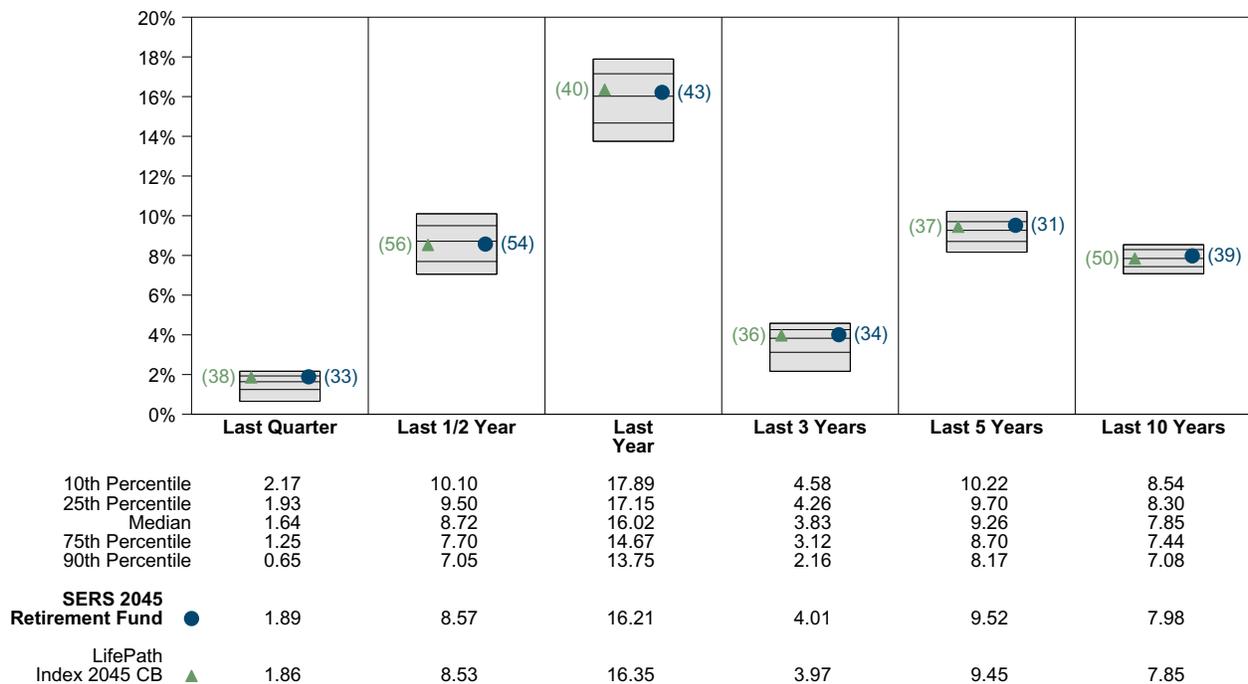
Investment Philosophy

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.

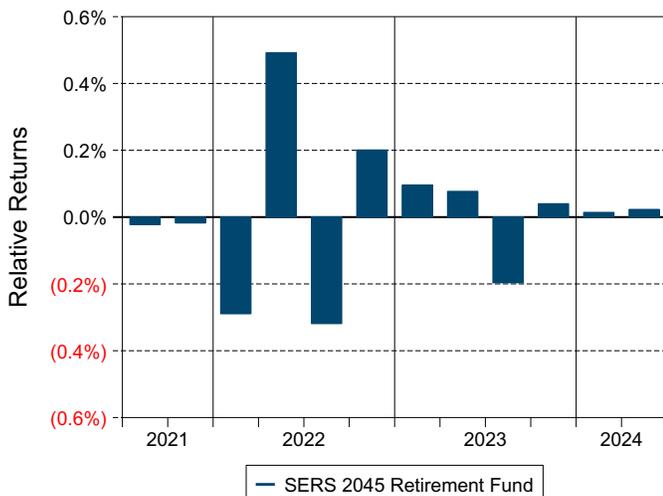
Quarterly Summary and Highlights

- SERS 2045 Retirement Fund's portfolio posted a 1.89% return for the quarter placing it in the 33 percentile of the Callan Target Date 2045 group for the quarter and in the 43 percentile for the last year.
- SERS 2045 Retirement Fund's portfolio outperformed the LifePath Index 2045 CB by 0.02% for the quarter and underperformed the LifePath Index 2045 CB for the year by 0.14%.

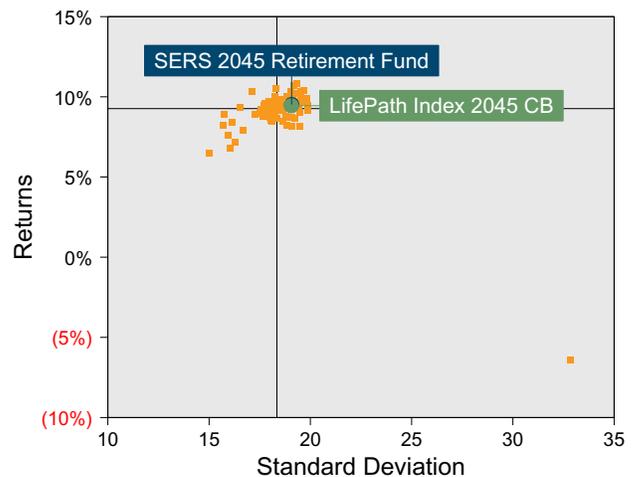
Performance vs Callan Target Date 2045 (Net)



Relative Return vs LifePath Index 2045 CB



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

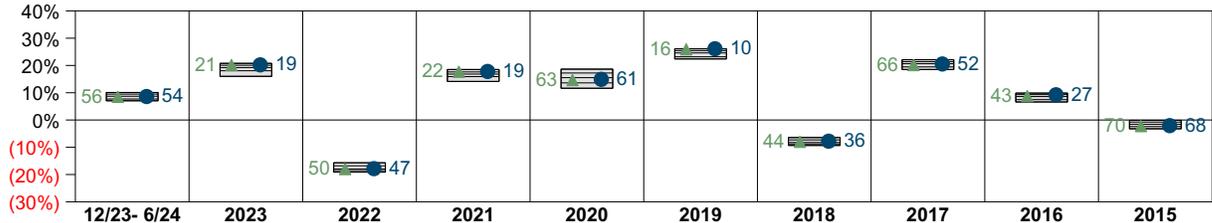


SERS 2045 Retirement Fund Return Analysis Summary

Return Analysis

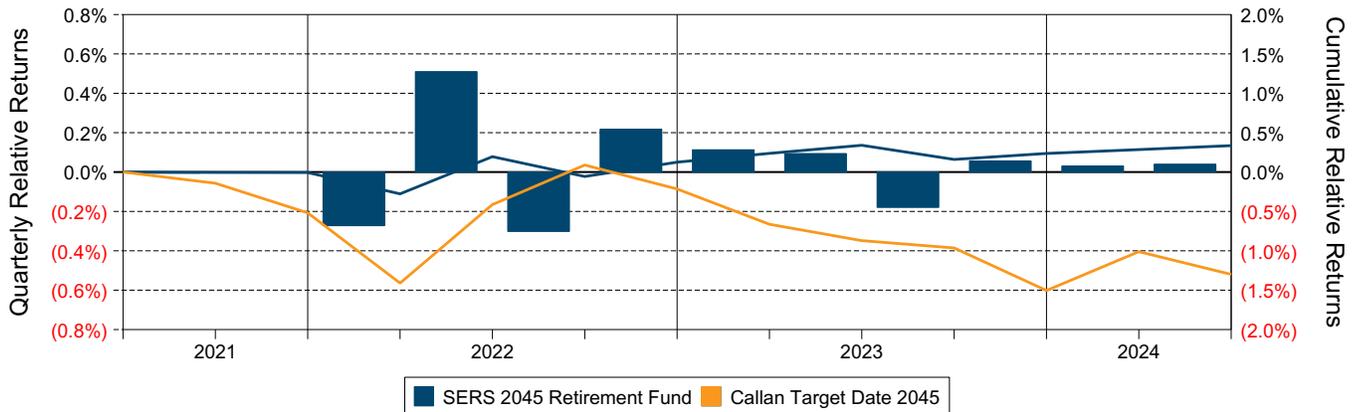
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

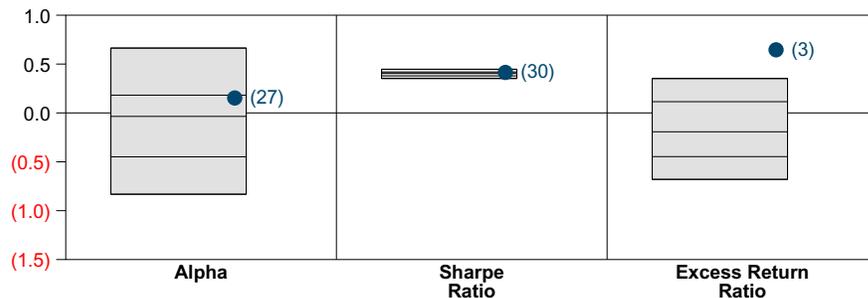


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
SERS 2045 Retirement Fund	8.61	20.22	(17.84)	17.79	14.90	26.12	(7.78)	20.54	9.25	(2.07)
LifePath Index 2045 CB	8.53	20.12	(17.96)	17.70	14.65	25.90	(7.99)	20.15	8.77	(2.22)

Cumulative and Quarterly Relative Returns 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, 2024



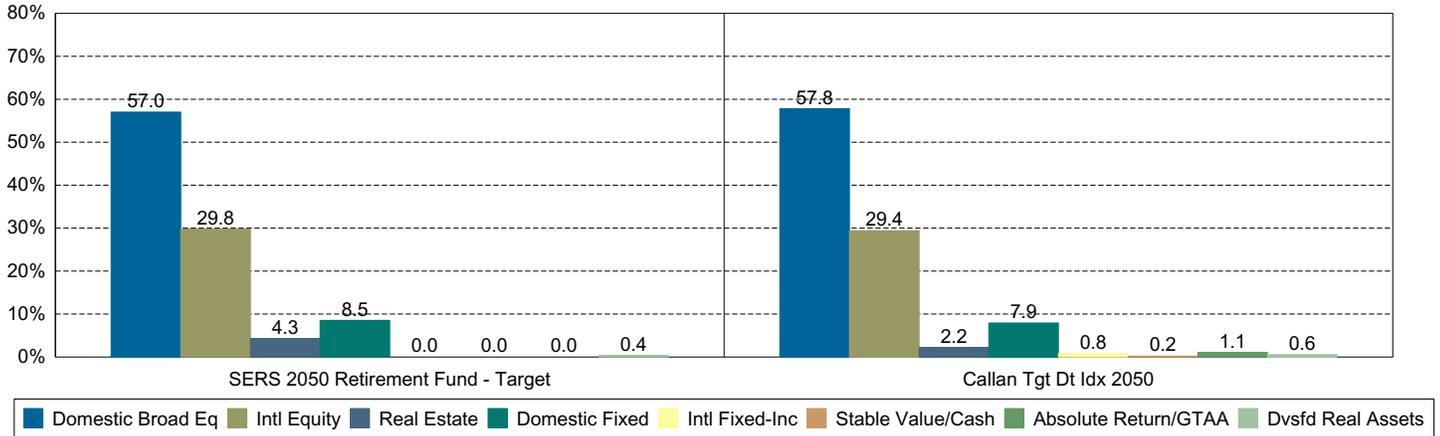
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.66	0.45	0.35
25th Percentile	0.18	0.42	0.12
Median	(0.04)	0.40	(0.19)
75th Percentile	(0.45)	0.38	(0.45)
90th Percentile	(0.83)	0.35	(0.68)
SERS 2045 Retirement Fund	0.15	0.41	0.65

SERS 2050 Retirement Fund

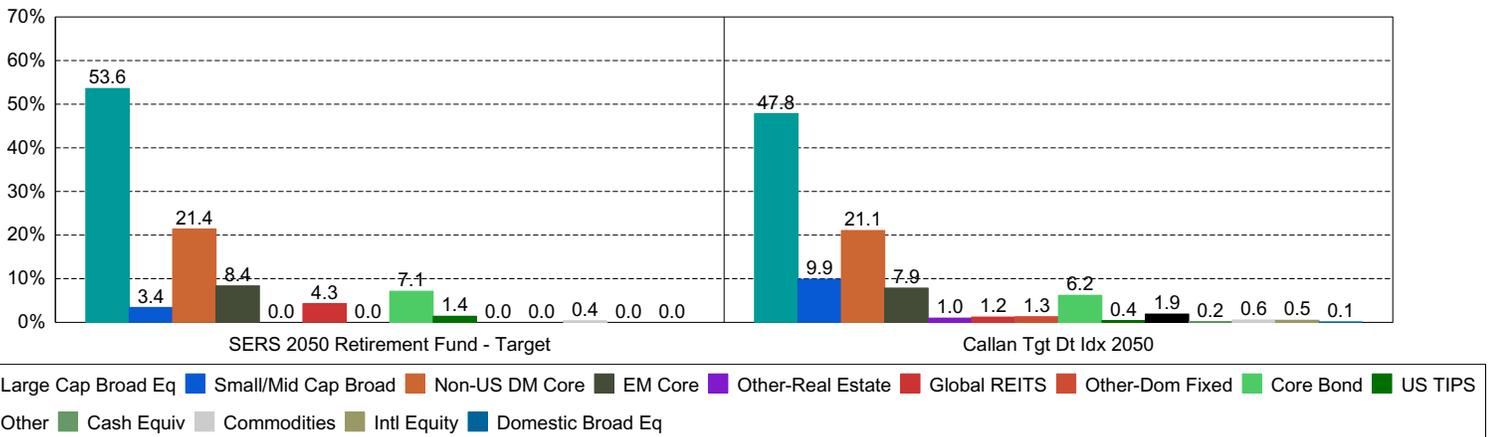
Target Date Fund Asset Allocation as of June 30, 2024

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.

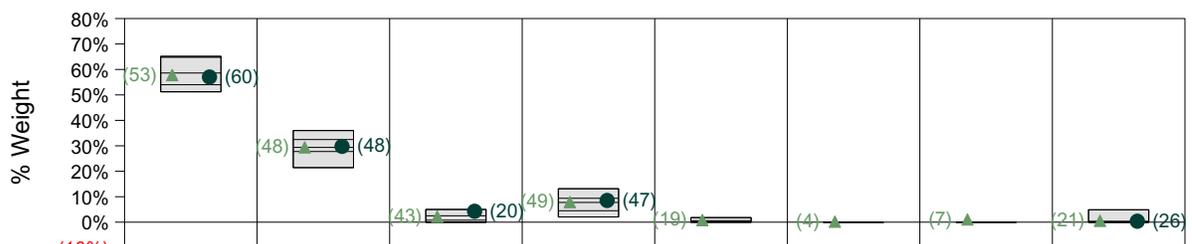
Macro-Level Asset Allocation



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	Dvsfd Real Assets
10th Percentile	65.15	36.00	5.00	13.15	1.80	0.00	0.00	4.87
25th Percentile	64.77	32.47	2.51	9.40	0.60	0.00	0.00	0.38
Median	58.60	29.38	0.77	7.75	0.25	0.00	0.00	0.00
75th Percentile	54.00	27.76	0.00	4.50	0.00	0.00	0.00	0.00
90th Percentile	51.22	21.43	0.00	2.05	0.00	0.00	0.00	0.00

SERS 2050 Retirement Fund - Target	●	57.02	29.78	4.29	8.53	-	-	0.38
Callan Tgt Dt Idx 2050	▲	57.81	29.41	2.19	7.92	0.82	1.08	0.55

SERS 2050 Retirement Fund Period Ended June 30, 2024

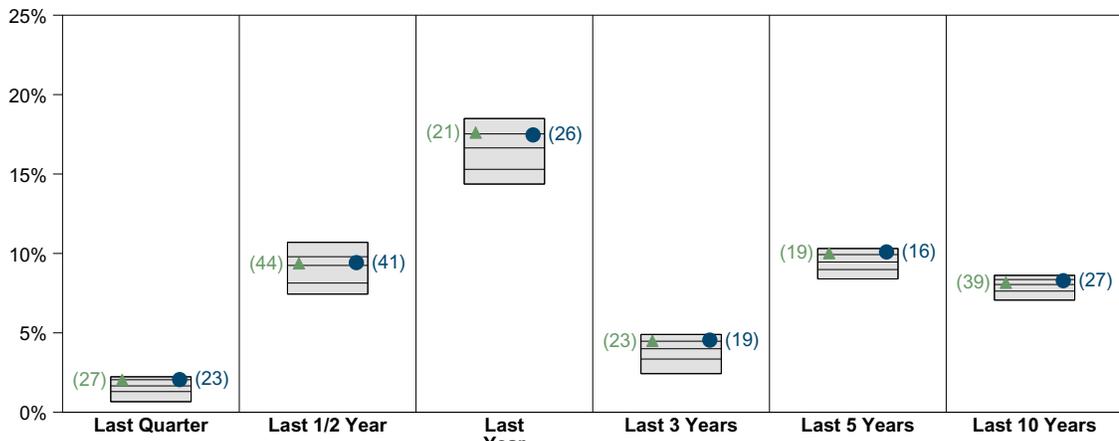
Investment Philosophy

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.

Quarterly Summary and Highlights

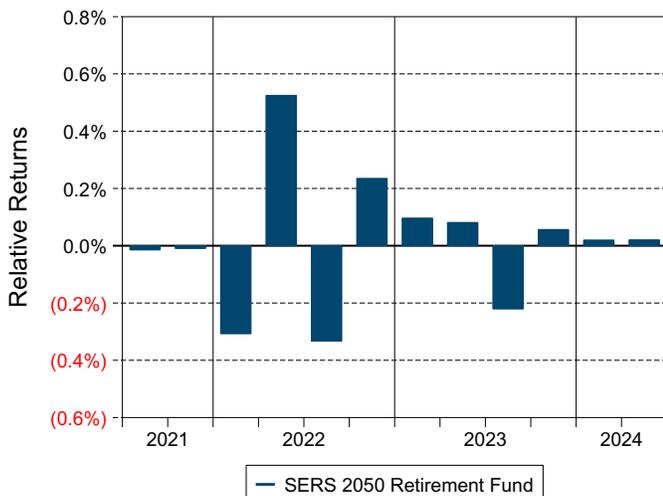
- SERS 2050 Retirement Fund's portfolio posted a 2.06% return for the quarter placing it in the 23 percentile of the Callan Target Date 2050 group for the quarter and in the 26 percentile for the last year.
- SERS 2050 Retirement Fund's portfolio outperformed the LifePath Index 2050 CB by 0.02% for the quarter and underperformed the LifePath Index 2050 CB for the year by 0.15%.

Performance vs Callan Target Date 2050 (Net)

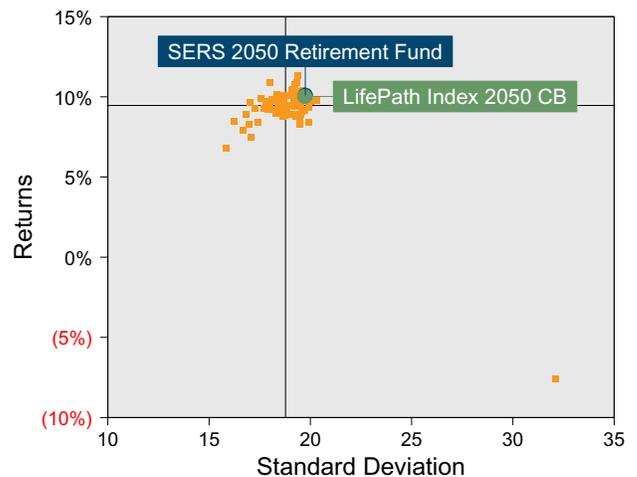


10th Percentile	2.23	10.70	18.49	4.90	10.31	8.62
25th Percentile	2.05	9.79	17.53	4.47	9.93	8.36
Median	1.66	9.24	16.64	4.00	9.46	8.04
75th Percentile	1.30	8.13	15.30	3.35	8.99	7.63
90th Percentile	0.67	7.44	14.37	2.43	8.40	7.06
SERS 2050 Retirement Fund	● 2.06	9.42	17.46	4.54	10.09	8.28
LifePath Index 2050 CB	▲ 2.04	9.38	17.61	4.49	10.02	8.16

Relative Return vs LifePath Index 2050 CB



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

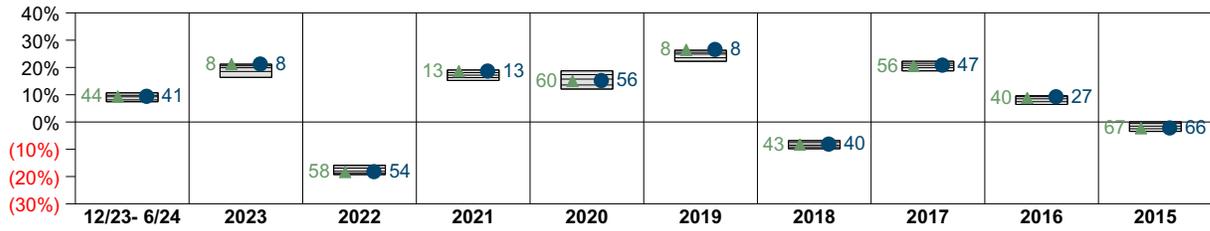


SERS 2050 Retirement Fund Return Analysis Summary

Return Analysis

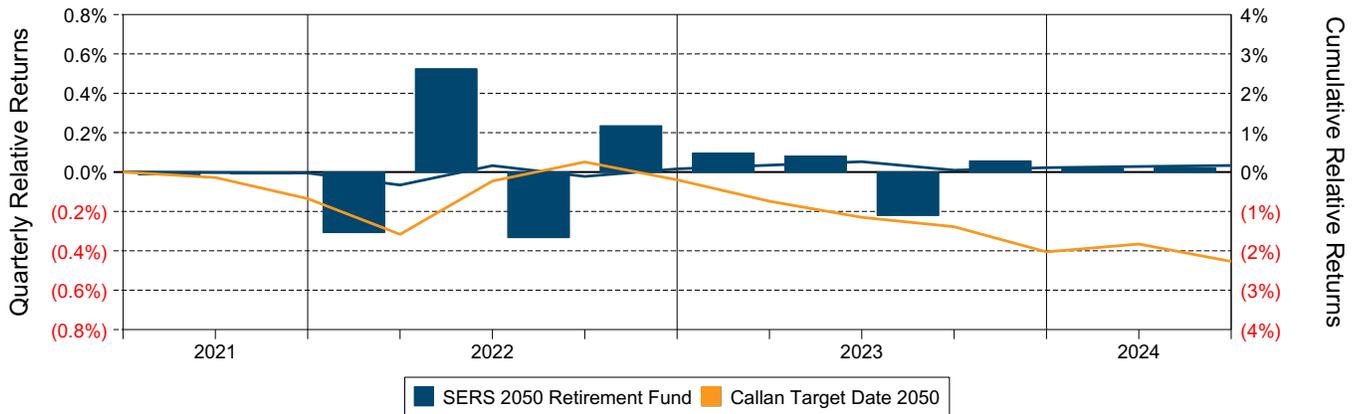
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

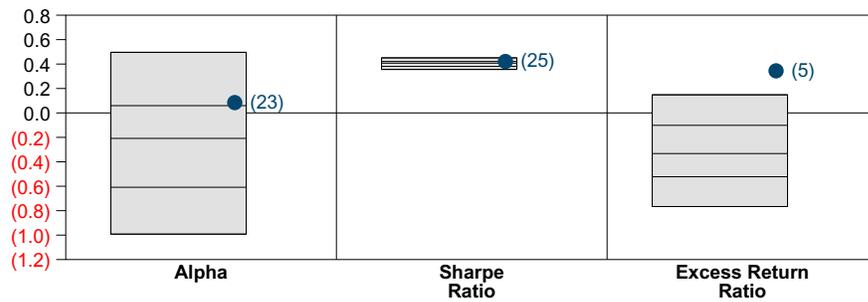


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
10th Percentile	10.70	21.18	(15.90)	19.07	18.76	26.30	(6.84)	22.27	9.60	0.05
25th Percentile	9.79	20.59	(16.89)	18.10	17.38	25.51	(7.53)	21.51	9.29	(0.54)
Median	9.24	19.89	(18.09)	17.17	15.73	24.89	(8.48)	20.74	8.51	(1.53)
75th Percentile	8.13	18.52	(18.80)	16.27	13.59	23.55	(9.11)	19.91	7.45	(2.48)
90th Percentile	7.44	16.36	(19.28)	15.23	12.08	22.26	(9.80)	18.75	6.44	(3.45)
SERS 2050 Retirement Fund	● 9.42	21.25	(18.20)	18.67	15.20	26.60	(8.11)	20.85	9.26	(2.17)
LifePath Index 2050 CB	▲ 9.38	21.23	(18.30)	18.62	15.07	26.48	(8.26)	20.55	8.82	(2.26)

Cumulative and Quarterly Relative Returns 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, 2024



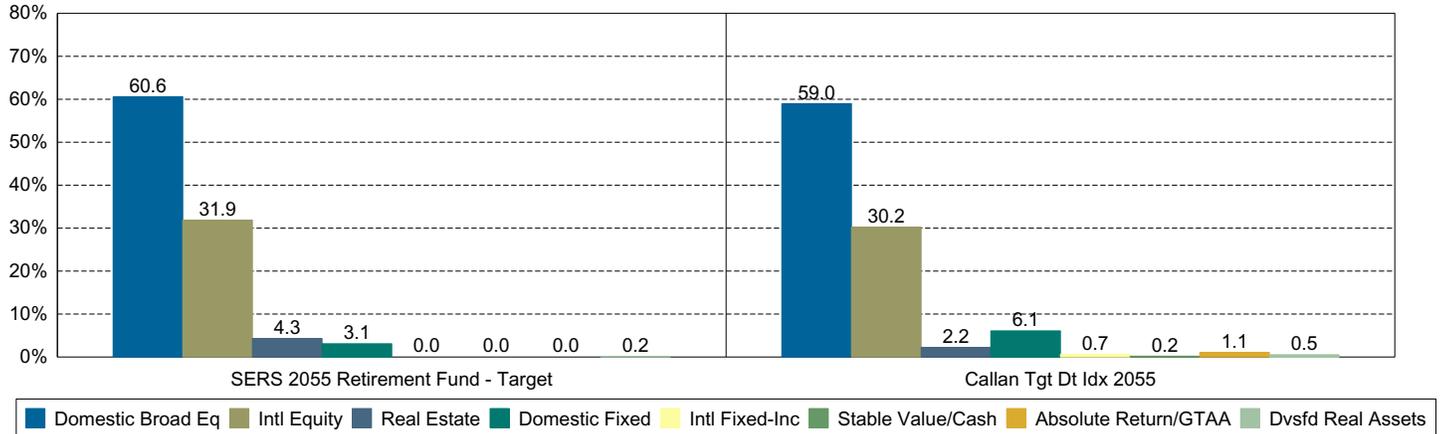
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.50	0.45	0.15
25th Percentile	0.06	0.42	(0.10)
Median	(0.21)	0.41	(0.33)
75th Percentile	(0.61)	0.38	(0.52)
90th Percentile	(0.99)	0.36	(0.77)
SERS 2050 Retirement Fund	● 0.08	0.42	0.34

SERS 2055 Retirement Fund

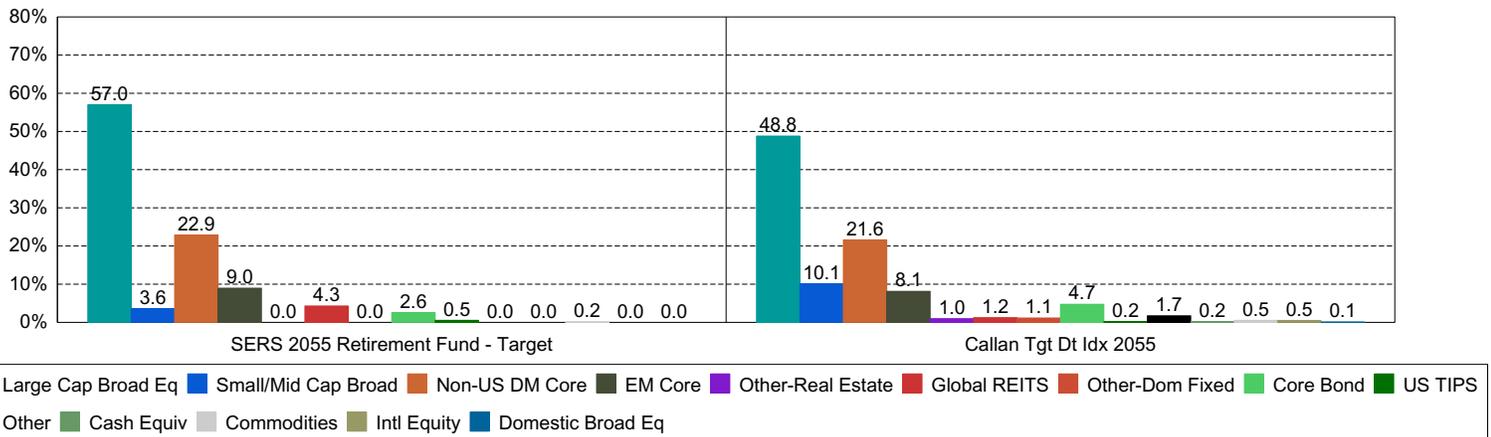
Target Date Fund Asset Allocation as of June 30, 2024

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.

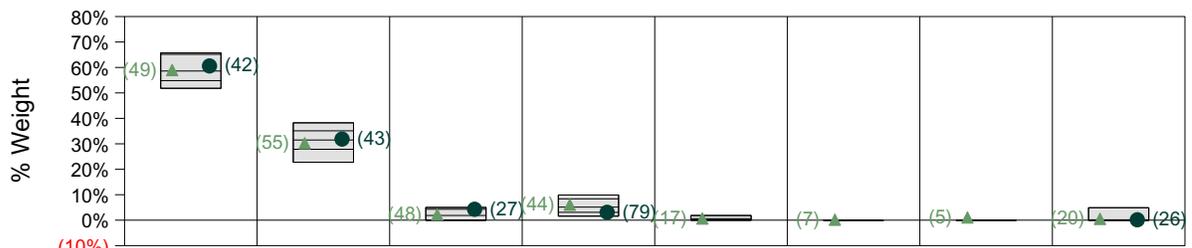
Macro-Level Asset Allocation



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	Dvsfd Real Assets
10th Percentile	65.70	38.25	5.00	9.88	1.84	0.00	0.00	4.90
25th Percentile	65.15	35.10	4.29	8.39	0.60	0.00	0.00	0.16
Median	58.60	31.49	1.85	5.14	0.25	0.00	0.00	0.00
75th Percentile	54.82	27.85	0.00	3.09	0.00	0.00	0.00	0.00
90th Percentile	51.80	22.76	0.00	1.58	0.00	0.00	0.00	0.00
SERS 2055 Retirement Fund - Target	● 60.60	31.86	4.29	3.09	-	-	-	0.16
Callan Tgt Dt Idx 2055	▲ 58.99	30.24	2.22	6.09	0.66	0.20	1.06	0.53

SERS 2055 Retirement Fund Period Ended June 30, 2024

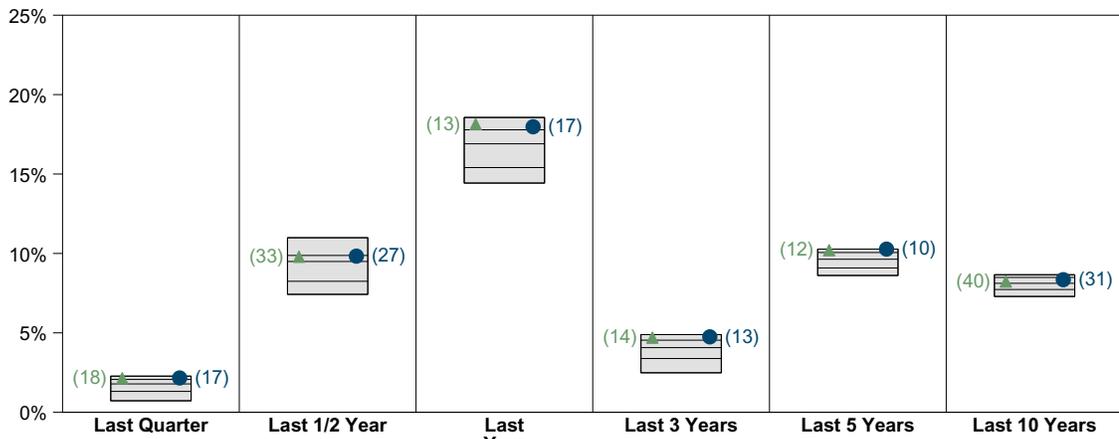
Investment Philosophy

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.

Quarterly Summary and Highlights

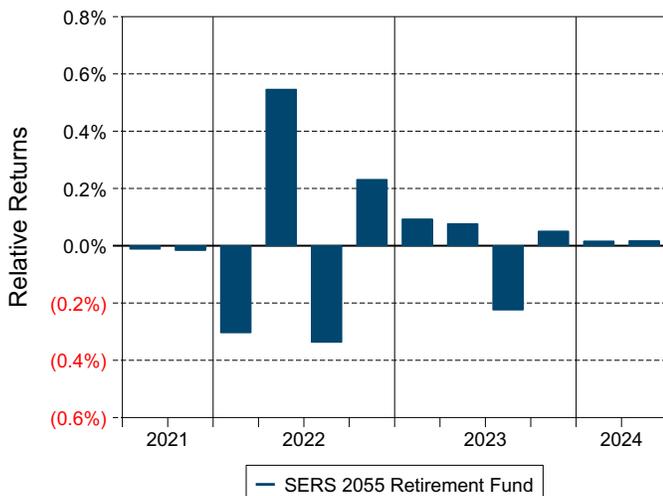
- SERS 2055 Retirement Fund's portfolio posted a 2.16% return for the quarter placing it in the 17 percentile of the Callan Target Date 2055 group for the quarter and in the 17 percentile for the last year.
- SERS 2055 Retirement Fund's portfolio outperformed the LifePath Index 2055 CB by 0.02% for the quarter and underperformed the LifePath Index 2055 CB for the year by 0.17%.

Performance vs Callan Target Date 2055 (Net)

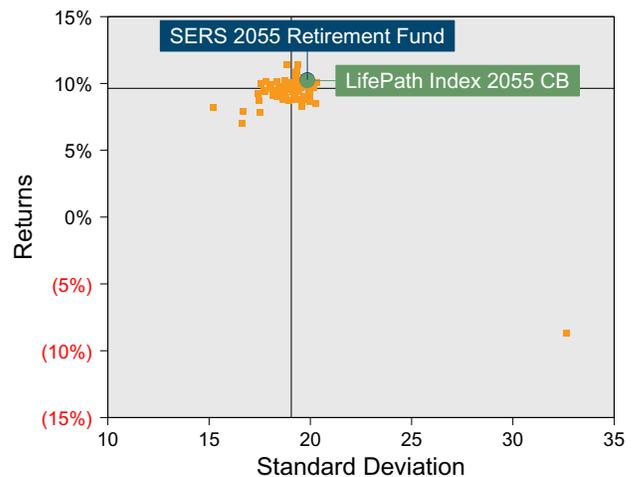


10th Percentile	2.28	10.99	18.56	4.89	10.27	8.66
25th Percentile	2.07	9.87	17.78	4.54	10.06	8.49
Median	1.79	9.49	16.90	4.07	9.63	8.12
75th Percentile	1.32	8.25	15.41	3.38	9.09	7.73
90th Percentile	0.72	7.42	14.43	2.49	8.61	7.29
SERS 2055 Retirement Fund	● 2.16	9.83	17.97	4.75	10.27	8.35
LifePath Index 2055 CB	▲ 2.14	9.79	18.14	4.70	10.21	8.23

Relative Return vs LifePath Index 2055 CB



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

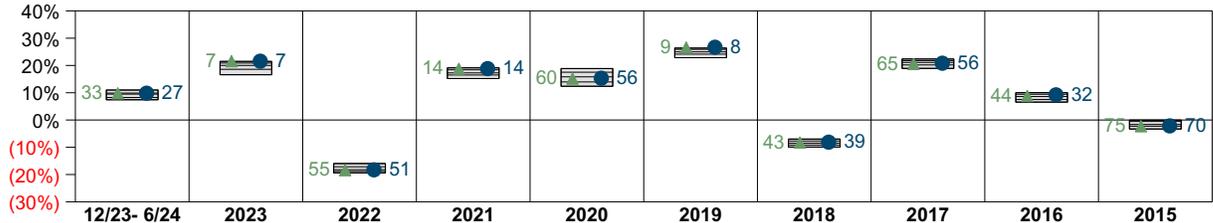


SERS 2055 Retirement Fund Return Analysis Summary

Return Analysis

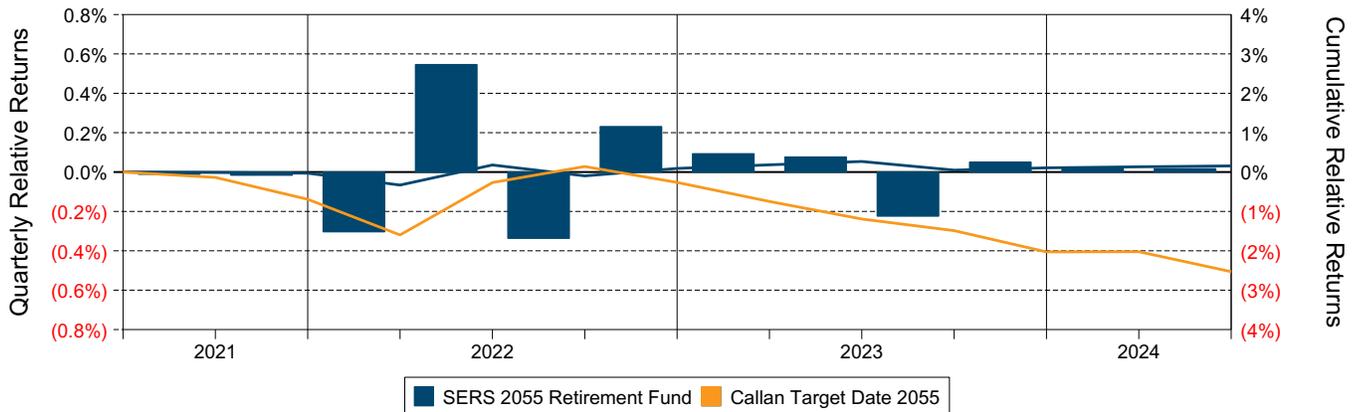
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

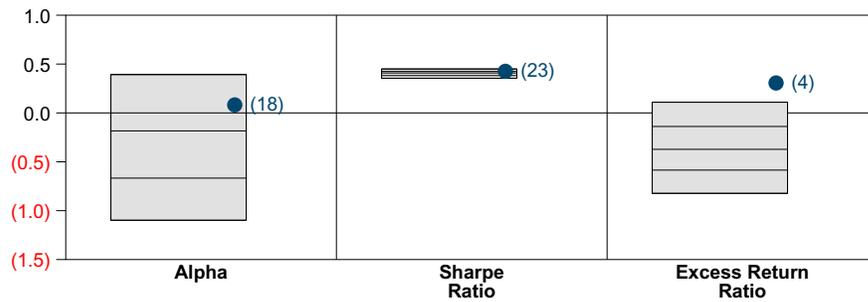


10th Percentile	10.99	21.48	(15.97)	19.12	18.86	26.37	(6.99)	22.36	10.01	(0.05)
25th Percentile	9.87	20.87	(17.15)	18.40	17.52	25.90	(7.69)	21.77	9.44	(0.53)
Median	9.49	20.01	(18.21)	17.27	15.83	24.97	(8.47)	21.10	8.60	(1.64)
75th Percentile	8.25	18.60	(18.85)	16.50	13.95	24.15	(9.18)	20.20	7.51	(2.26)
90th Percentile	7.42	16.60	(19.38)	15.20	12.37	22.84	(9.93)	18.92	6.55	(3.30)
SERS 2055 Retirement Fund	● 9.83	21.56	(18.27)	18.83	15.32	26.67	(8.13)	20.82	9.22	(2.17)
LifePath Index 2055 CB	▲ 9.79	21.56	(18.38)	18.81	15.18	26.58	(8.28)	20.55	8.82	(2.26)

Cumulative and Quarterly Relative Returns 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, 2024



10th Percentile	0.39	0.45	0.11
25th Percentile	0.00	0.42	(0.14)
Median	(0.18)	0.41	(0.37)
75th Percentile	(0.67)	0.38	(0.59)
90th Percentile	(1.10)	0.35	(0.82)
SERS 2055 Retirement Fund	● 0.08	0.43	0.31

SERS 2060 Retirement Fund Period Ended June 30, 2024

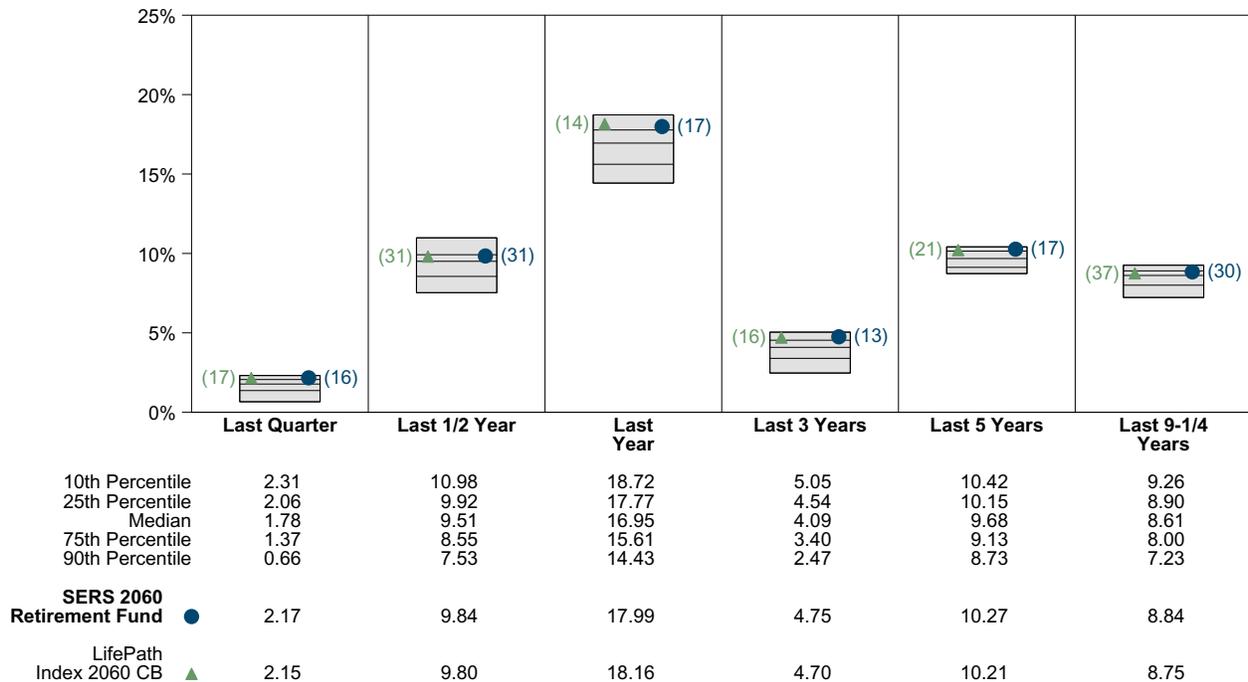
Investment Philosophy

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.

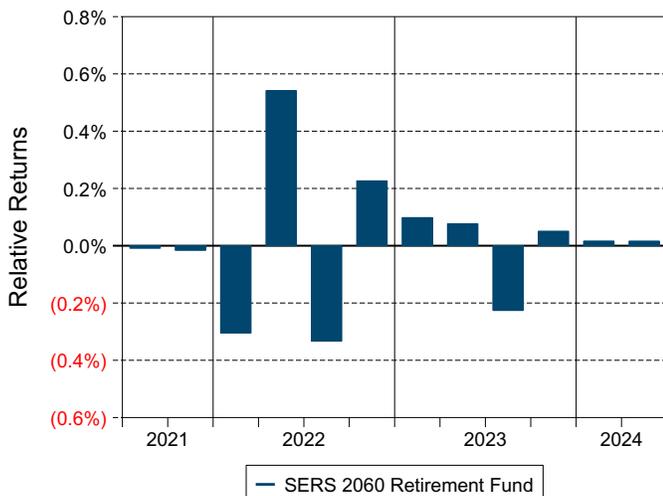
Quarterly Summary and Highlights

- SERS 2060 Retirement Fund's portfolio posted a 2.17% return for the quarter placing it in the 16 percentile of the Callan Target Date 2060 group for the quarter and in the 17 percentile for the last year.
- SERS 2060 Retirement Fund's portfolio outperformed the LifePath Index 2060 CB by 0.02% for the quarter and underperformed the LifePath Index 2060 CB for the year by 0.17%.

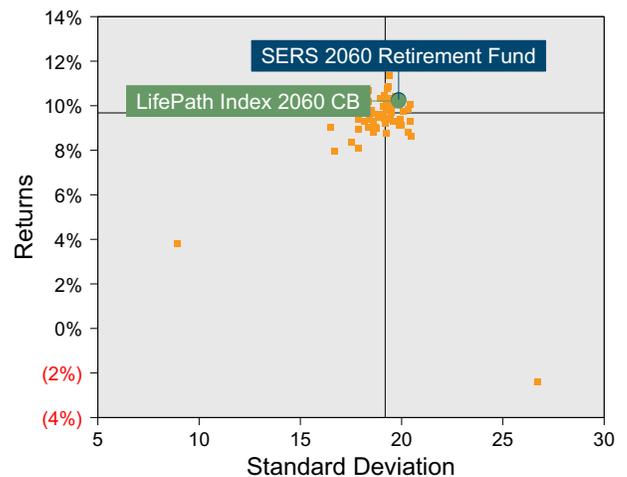
Performance vs Callan Target Date 2060 (Net)



Relative Return vs LifePath Index 2060 CB



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

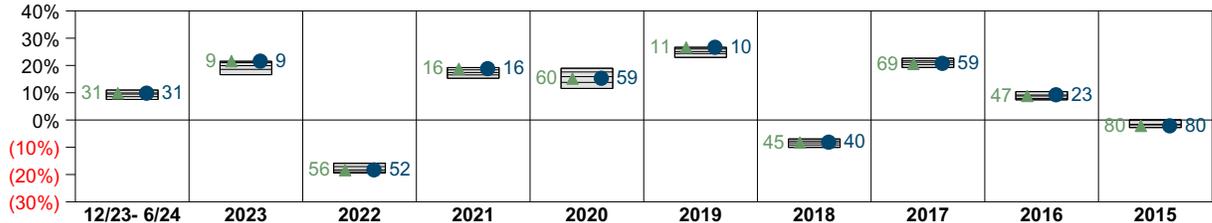


SERS 2060 Retirement Fund Return Analysis Summary

Return Analysis

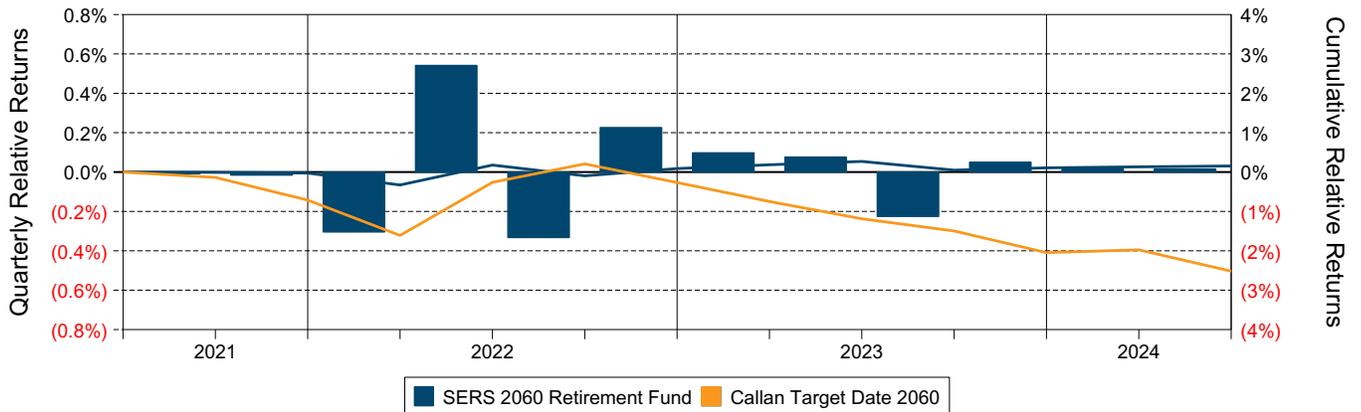
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

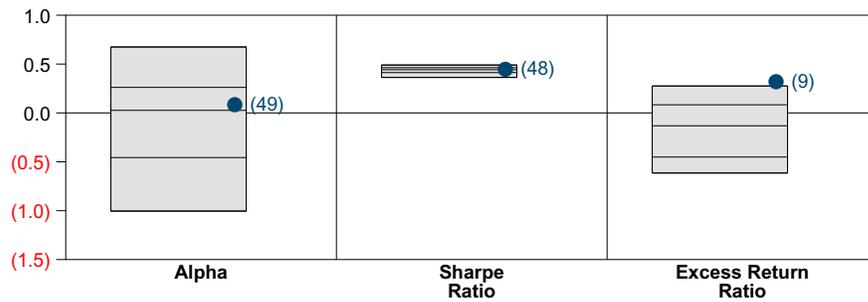


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
SERS 2060 Retirement Fund	9.84	21.57	(18.28)	18.82	15.31	26.66	(8.14)	20.77	9.25	(2.14)
LifePath Index 2060 CB	9.80	21.57	(18.39)	18.81	15.19	26.58	(8.28)	20.55	8.82	(2.16)

Cumulative and Quarterly Relative Returns vs LifePath Index 2060 CB



Risk Adjusted Return Measures vs LifePath Index 2060 CB Rankings Against Callan Target Date 2060 (Net) Nine and One-Quarter Years Ended June 30, 2024



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.67	0.49	0.28
25th Percentile	0.26	0.46	0.08
Median	0.03	0.44	(0.13)
75th Percentile	(0.46)	0.41	(0.45)
90th Percentile	(1.00)	0.36	(0.61)
SERS 2060 Retirement Fund	0.08	0.45	0.32

SERS 2065 Retirement Fund Period Ended June 30, 2024

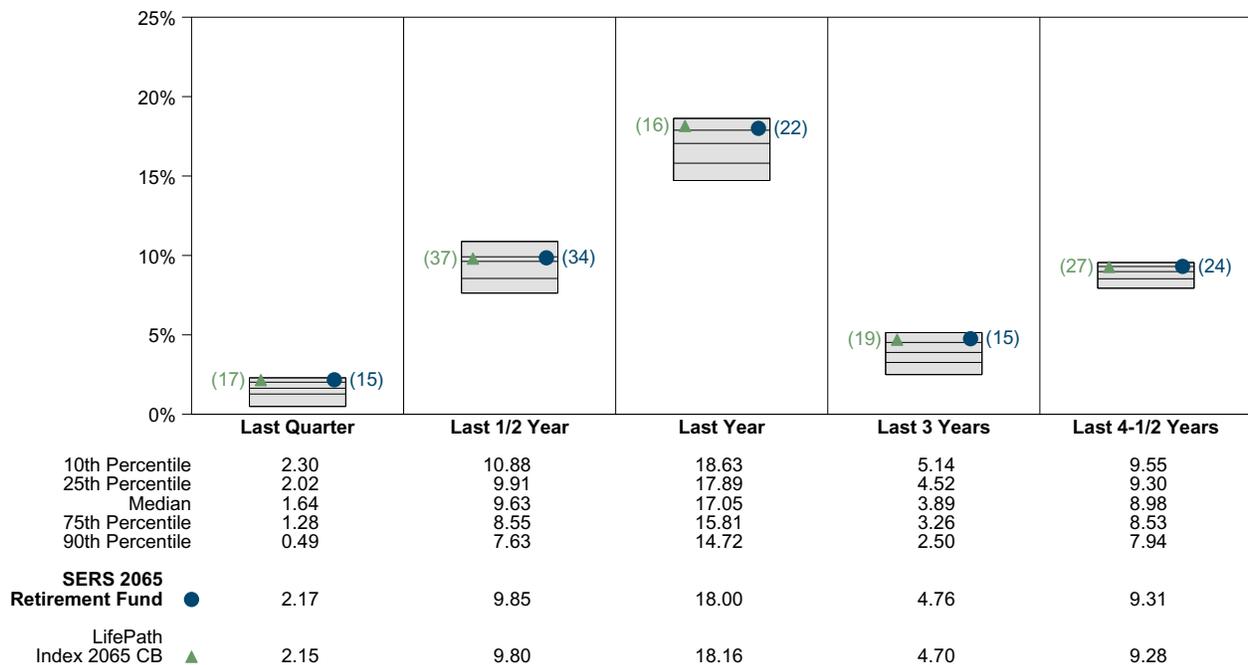
Investment Philosophy

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.

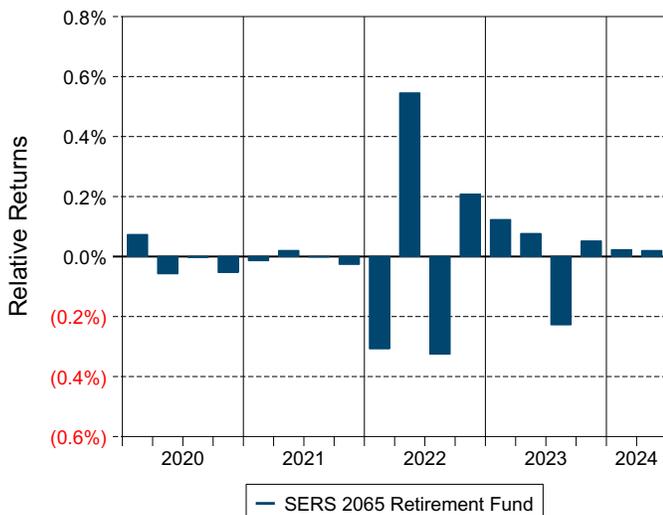
Quarterly Summary and Highlights

- SERS 2065 Retirement Fund's portfolio posted a 2.17% return for the quarter placing it in the 15 percentile of the Callan Target Date 2065 group for the quarter and in the 22 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 0.16%.

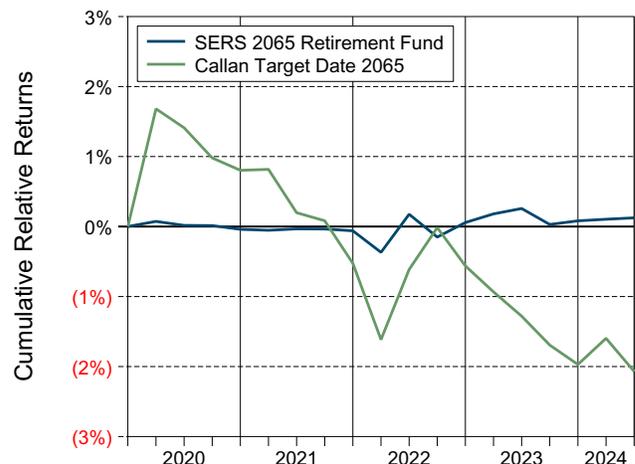
Performance vs Callan Target Date 2065 (Net)



Relative Return vs LifePath Index 2065 CB



Cumulative Returns vs LifePath Index 2065 CB



SERS U.S. Large Company Index Period Ended June 30, 2024

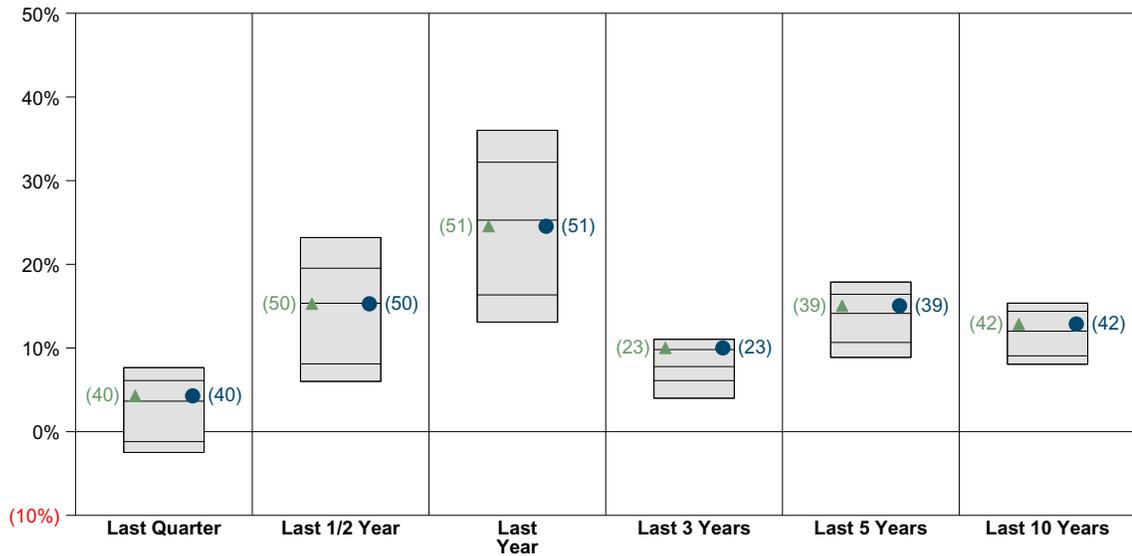
Investment Philosophy

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

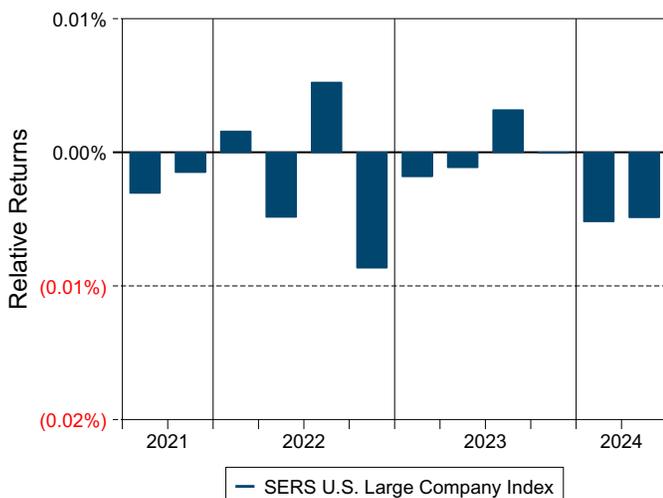
- SERS U.S. Large Company Index's portfolio posted a 4.28% return for the quarter placing it in the 40 percentile of the Callan Large Cap Broad Equity Mut Funds group for the quarter and in the 51 percentile for the last year.
- SERS U.S. Large Company Index's portfolio underperformed the S&P 500 Index by 0.01% for the quarter and underperformed the S&P 500 Index for the year by 0.01%.

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

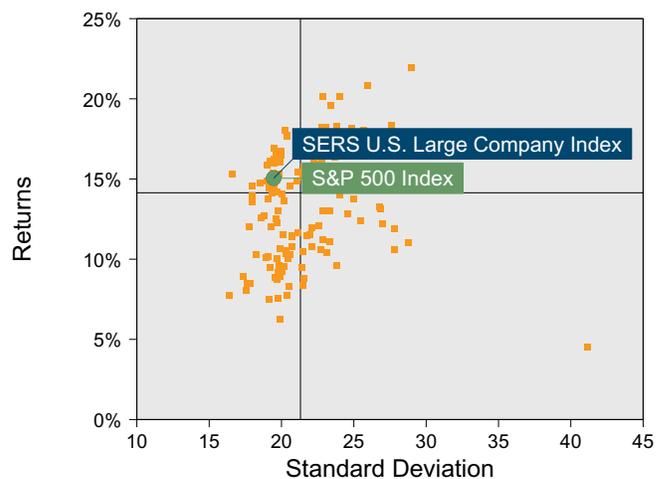


10th Percentile	7.65	23.20	36.01	11.04	17.88	15.36
25th Percentile	6.11	19.53	32.20	9.81	16.42	14.39
Median	3.65	15.35	25.28	7.78	14.14	12.01
75th Percentile	(1.19)	8.11	16.35	6.10	10.66	9.06
90th Percentile	(2.48)	6.01	13.10	4.00	8.87	8.06
SERS U.S. Large Company Index	● 4.28	15.28	24.55	10.01	15.05	12.87
S&P 500 Index	▲ 4.28	15.29	24.56	10.01	15.05	12.86

Relative Return vs S&P 500 Index



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

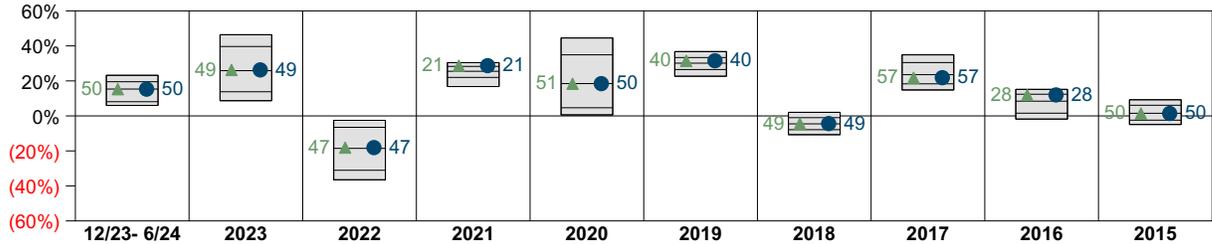


SERS U.S. Large Company Index Return Analysis Summary

Return Analysis

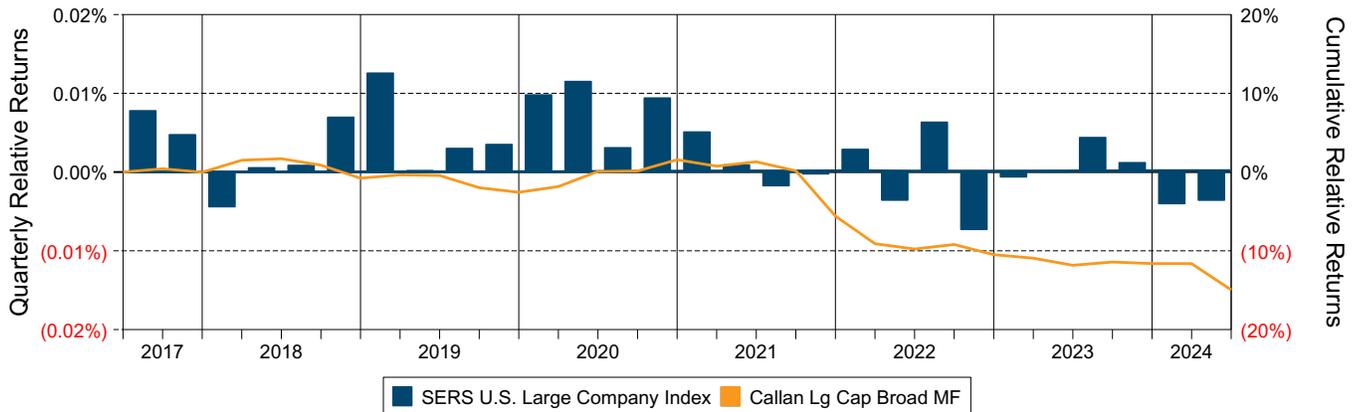
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

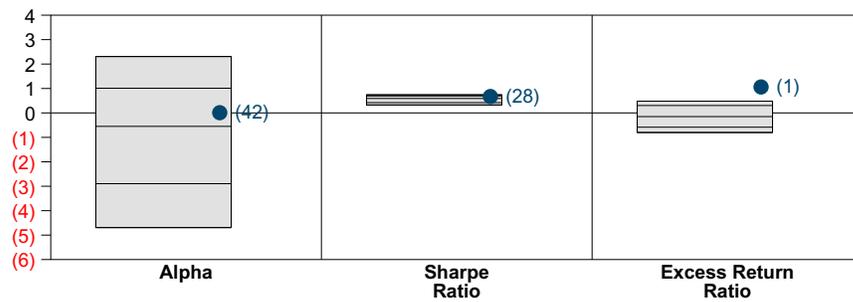


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
10th Percentile	23.20	46.39	(2.53)	30.44	44.54	36.76	2.05	34.91	15.17	9.23
25th Percentile	19.53	39.67	(6.52)	28.29	34.90	33.34	(1.00)	30.48	12.39	6.09
Median	15.35	25.85	(18.55)	25.50	18.47	30.14	(4.54)	23.56	8.43	1.50
75th Percentile	8.11	13.80	(31.06)	22.00	4.64	26.51	(7.86)	18.33	1.56	(2.42)
90th Percentile	6.01	8.68	(36.52)	16.77	0.58	22.66	(10.72)	14.82	(1.82)	(4.91)
SERS U.S. Large Company Index	● 15.28	26.29	(18.11)	28.71	18.44	31.51	(4.38)	21.85	11.99	1.41
S&P 500 Index	▲ 15.29	26.29	(18.11)	28.71	18.40	31.49	(4.38)	21.83	11.96	1.38

Cumulative and Quarterly Relative Returns 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, 2024



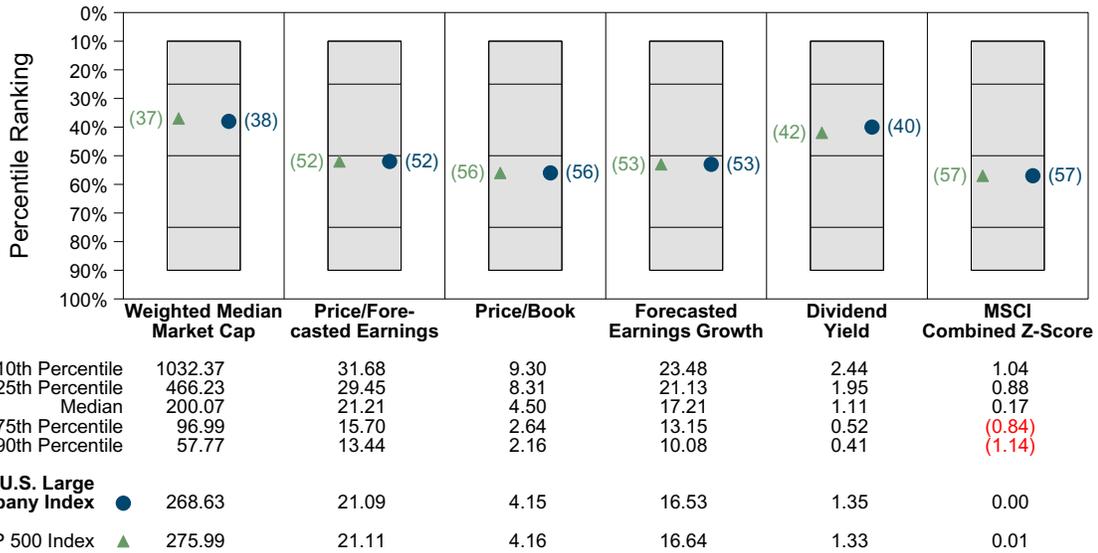
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	2.31	0.74	0.48
25th Percentile	1.01	0.69	0.30
Median	(0.55)	0.59	(0.15)
75th Percentile	(2.90)	0.42	(0.58)
90th Percentile	(4.69)	0.32	(0.80)
SERS U.S. Large Company Index	● 0.01	0.67	1.06

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

Portfolio Characteristics

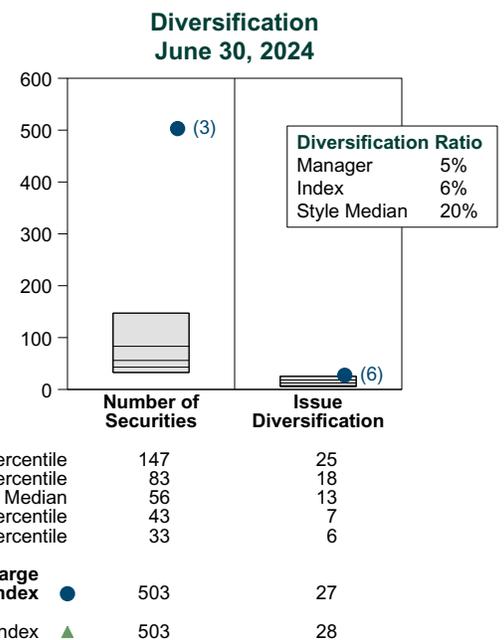
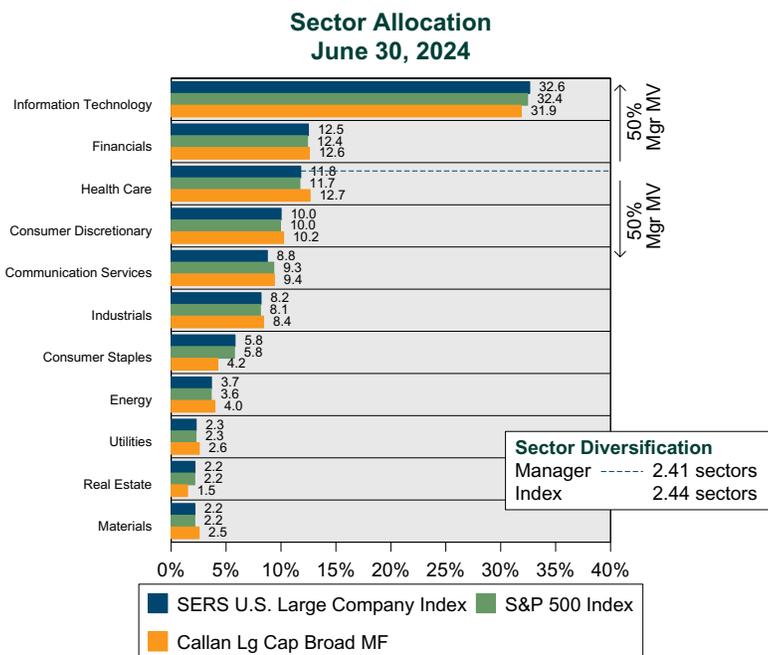
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Broad Equity Mut Funds as of June 30, 2024



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 Top 10 Portfolio Holdings Characteristics as of June 30, 2024

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
Microsoft Corp	Information Technology	\$733,159	7.3%	6.42%	3321.87	33.64	0.67%	17.08%
Nvidia Corp	Information Technology	\$670,702	6.7%	36.74%	3039.08	39.93	0.00%	46.35%
Apple Inc	Information Technology	\$670,041	6.7%	22.99%	3229.66	29.56	0.47%	10.50%
Amazon.Com	Consumer Discretionary	\$390,585	3.9%	7.13%	2011.08	37.50	0.00%	30.50%
Meta Platforms Inc	Communication Services	\$243,850	2.4%	3.94%	1104.97	23.27	0.40%	11.63%
Alphabet Inc Cl A	Communication Services	\$236,119	2.3%	20.82%	1069.95	22.53	0.44%	19.70%
Alphabet Inc Cl C	Communication Services	\$197,847	2.0%	20.60%	1030.27	22.73	0.44%	19.70%
Berkshire Hathaway Inc Del Cl B New	Financials	\$162,557	1.6%	(3.26)%	533.47	20.88	0.00%	16.44%
Lilly (Eli) & Co	Health Care	\$159,543	1.6%	16.57%	860.48	54.78	0.57%	64.00%
Broadcom Ltd Shs	Information Technology	\$154,377	1.5%	21.53%	747.35	28.77	1.31%	17.70%

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	\$670,702	6.7%	36.74%	3039.08	39.93	0.00%	46.35%
First Solar Inc	Information Technology	\$5,341	0.1%	33.57%	24.13	12.94	0.00%	58.00%
Teradyne Inc	Information Technology	\$5,022	0.0%	31.54%	23.15	37.36	0.32%	7.68%
Vistra Energy Corp	Utilities	\$6,178	0.1%	23.75%	29.87	15.67	1.01%	31.13%
Netapp Inc	Information Technology	\$5,870	0.1%	23.29%	26.51	18.48	1.61%	6.15%
Apple Inc	Information Technology	\$670,041	6.7%	22.99%	3229.66	29.56	0.47%	10.50%
Broadcom Ltd Shs	Information Technology	\$154,377	1.5%	21.53%	747.35	28.77	1.31%	17.70%
Monolithic Pwr Sys Inc	Information Technology	\$8,779	0.1%	21.48%	39.99	54.83	0.61%	33.19%
Arista Networks Inc	Information Technology	\$19,653	0.2%	20.86%	109.83	41.28	0.00%	33.07%
Alphabet Inc Cl A	Communication Services	\$236,119	2.3%	20.82%	1069.95	22.53	0.44%	19.70%

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
Walgreens Boots Alliance Inc	Consumer Staples	\$1,915	0.0%	(43.45)%	10.44	3.94	8.27%	(11.04)%
Builders Firstsource Inc	Industrials	\$3,729	0.0%	(33.63)%	16.89	10.46	0.00%	4.80%
Epam Sys Inc	Information Technology	\$2,394	0.0%	(31.88)%	10.91	17.85	0.00%	8.35%
Lauder Estee Cos Inc Cl A	Consumer Staples	\$5,505	0.1%	(30.61)%	24.79	25.65	2.48%	18.90%
Intel Corp	Information Technology	\$29,101	0.3%	(29.60)%	131.84	20.36	1.61%	39.84%
Globe Life Inc	Financials	\$1,526	0.0%	(29.14)%	7.59	6.69	1.17%	11.99%
Paycom Software Inc	Industrials	\$1,527	0.0%	(27.97)%	8.31	17.20	1.05%	10.64%
Molina Healthcare Inc	Health Care	\$3,832	0.0%	(27.63)%	17.42	11.79	0.00%	13.31%
Global Pmts Inc	Financials	\$5,448	0.1%	(27.46)%	24.68	7.82	1.03%	12.58%
Albemarle Corp	Materials	\$2,506	0.0%	(27.21)%	11.23	17.93	1.68%	15.02%

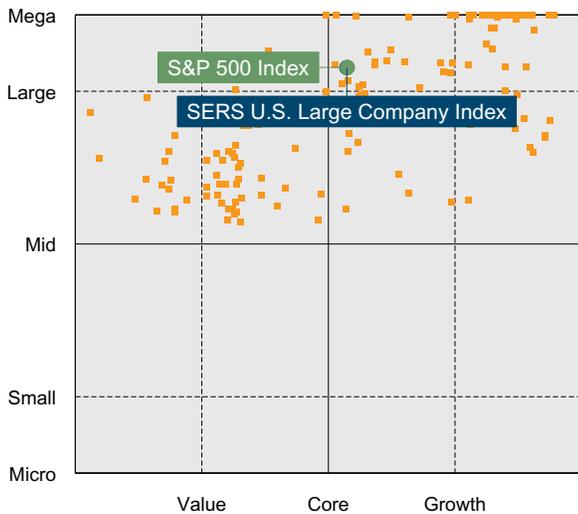
Historical Holdings Based Style Analysis

SERS U.S. Large Company Index

For Three Years Ended June 30, 2024

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.

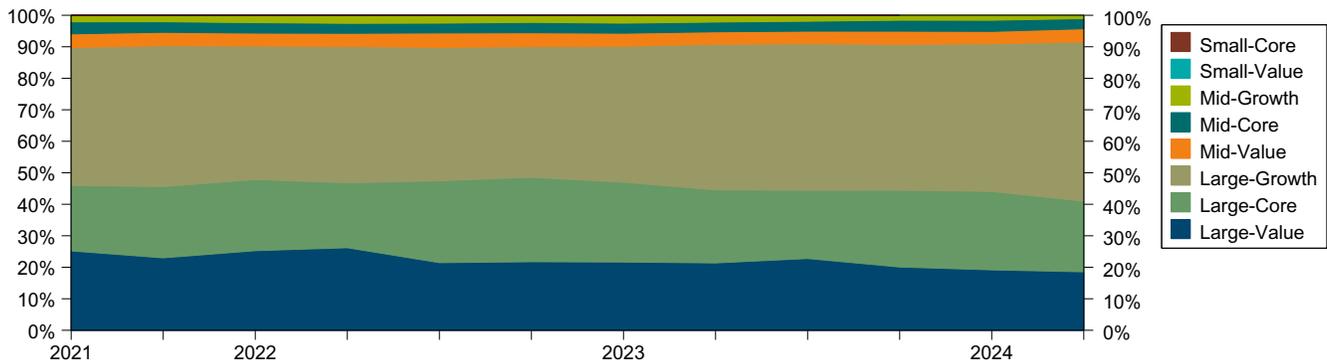
Average Style Map vs Callan Lg Cap Broad MF Holdings for Three Years Ended June 30, 2024



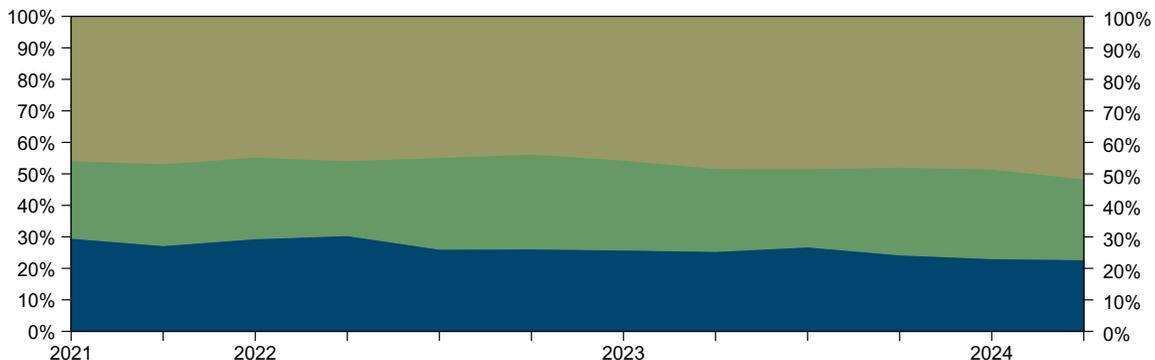
Average Style Exposure Matrix Holdings for Three Years Ended June 30, 2024

	Value	Core	Growth	Total
Large	22.2% (98)	23.4% (93)	44.8% (84)	90.4% (275)
Mid	4.2% (103)	3.3% (79)	2.0% (43)	9.5% (225)
Small	0.0% (3)	0.0% (1)	0.0% (0)	0.0% (4)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Total	26.4% (204)	26.8% (173)	46.8% (127)	100.0% (504)

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



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



SERS U.S. All Company Index Fund

Period Ended June 30, 2024

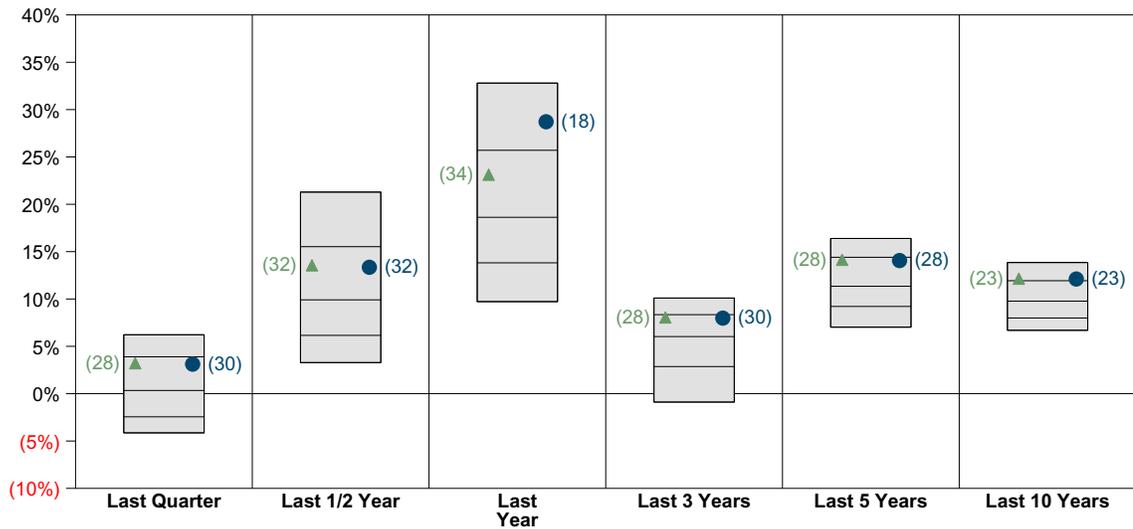
Investment Philosophy

The U.S. All Company Stock Index Fund's Investment objective is to track the performance of the Russell 3000 index. In meeting this objective, the Fund may invest in securities and a combination of other collective funds that together are designed to track the performance of the Index. The Fund will principally invest in other affiliated bank collective funds and equity securities, including common stock of U.S. companies. This fund is managed by Mellon Capital Management.

Quarterly Summary and Highlights

- SERS U.S. All Company Index Fund's portfolio posted a 3.12% return for the quarter placing it in the 30 percentile of the Callan Multi Cap Broad Mutual Funds group for the quarter and in the 18 percentile for the last year.
- SERS U.S. All Company Index Fund's portfolio underperformed the Russell 3000 Index by 0.10% for the quarter and outperformed the Russell 3000 Index for the year by 5.59%.

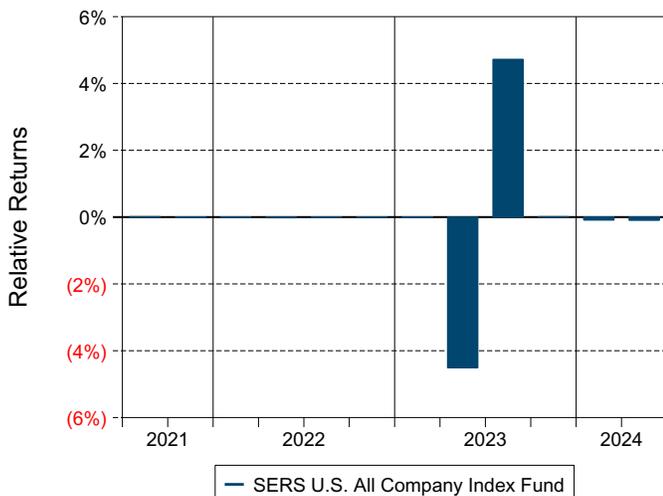
Performance vs Callan Multi Cap Broad Mutual Funds (Institutional Net)



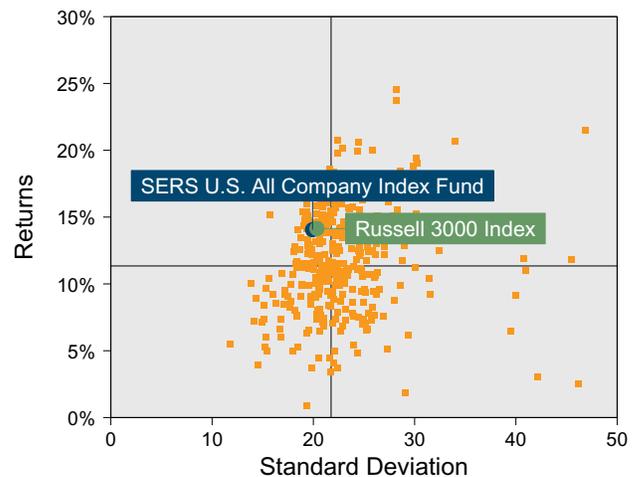
10th Percentile	6.22	21.29	32.80	10.10	16.39	13.85
25th Percentile	3.89	15.52	25.70	8.35	14.40	11.93
Median	0.34	9.91	18.63	6.03	11.34	9.77
75th Percentile	(2.44)	6.16	13.82	2.86	9.21	7.99
90th Percentile	(4.14)	3.28	9.72	(0.89)	7.02	6.69

SERS U.S. All Company Index Fund	●	3.12	13.35	28.72	7.98	14.06	12.11
Russell 3000 Index	▲	3.22	13.56	23.13	8.05	14.14	12.15

Relative Return vs Russell 3000 Index



Callan Multi Cap Broad Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

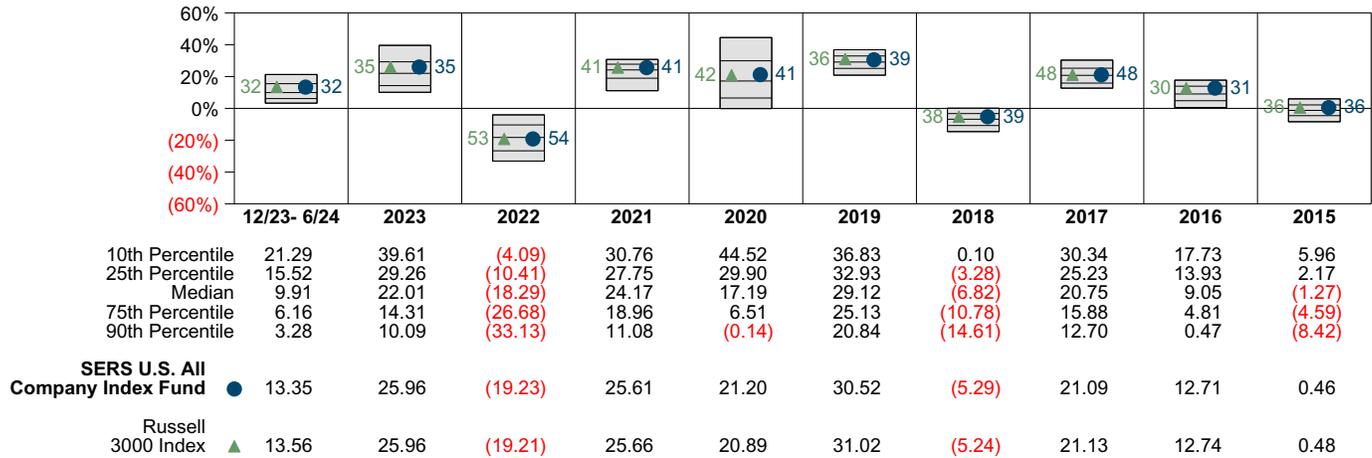


SERS U.S. All Company Index Fund Return Analysis Summary

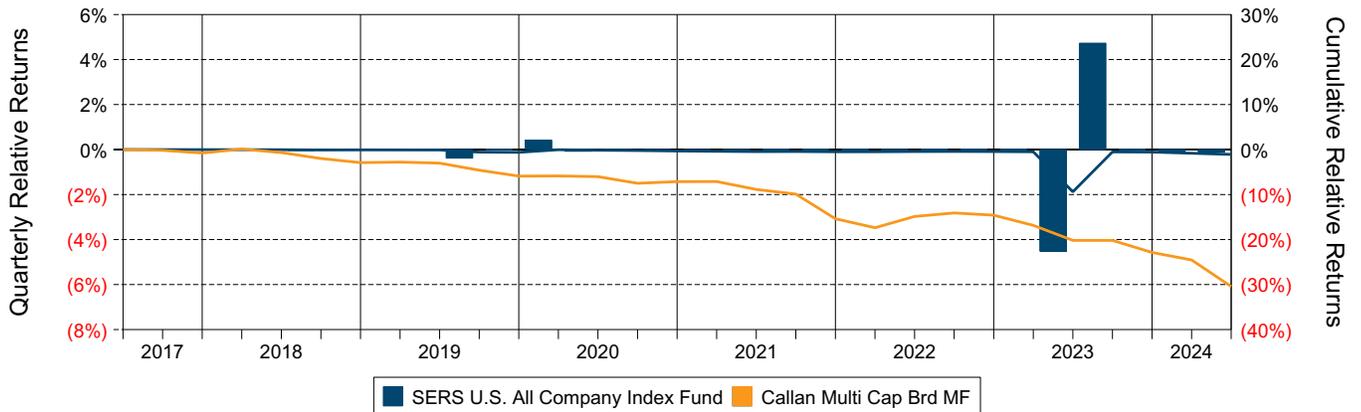
Return Analysis

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.

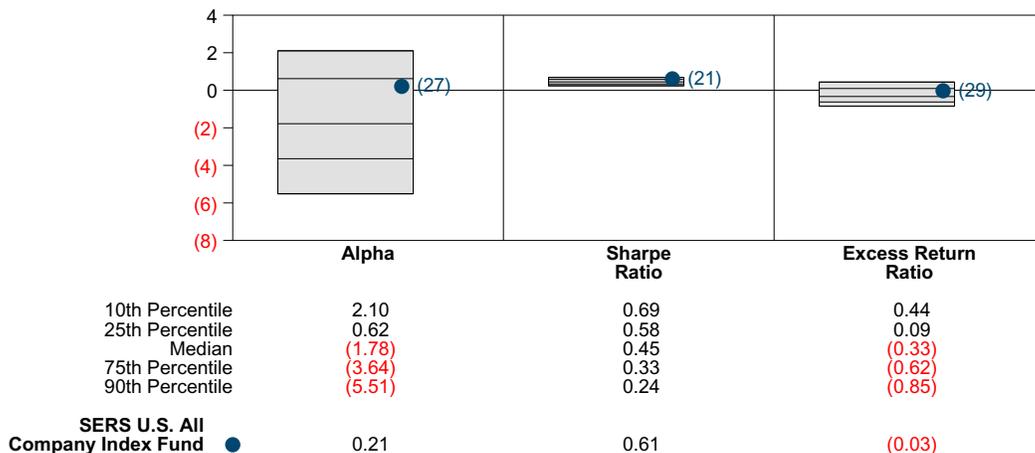
Performance vs Callan Multi Cap Broad Mutual Funds (Institutional Net)



Cumulative and Quarterly Relative Returns vs Russell 3000 Index



Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against Callan Multi Cap Broad Mutual Funds (Institutional Net) Seven Years Ended June 30, 2024

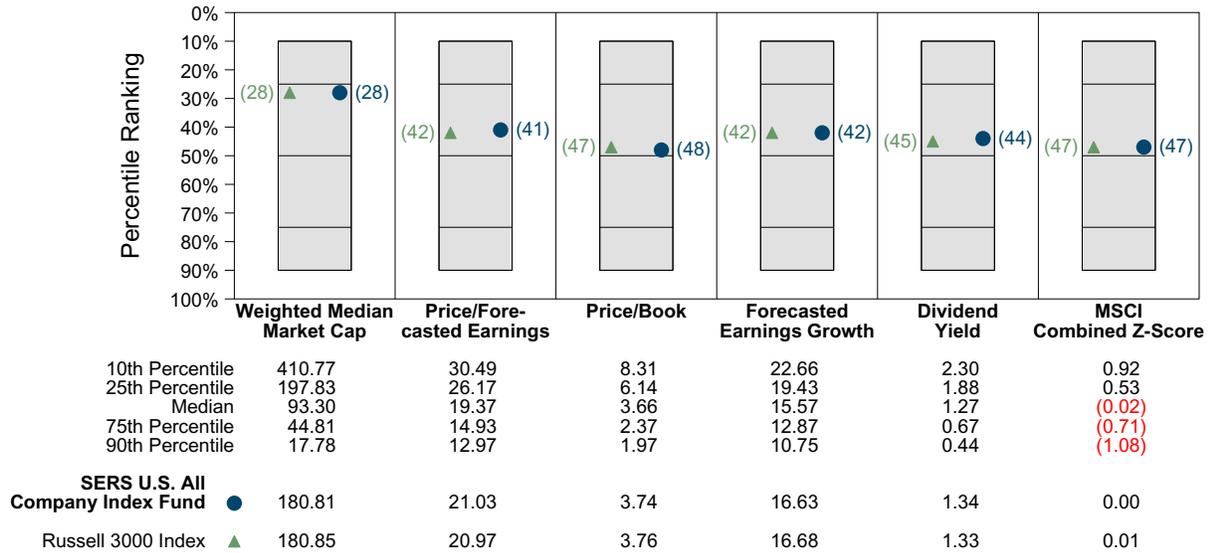


SERS U.S. All Company Index Fund Equity Characteristics Analysis Summary

Portfolio Characteristics

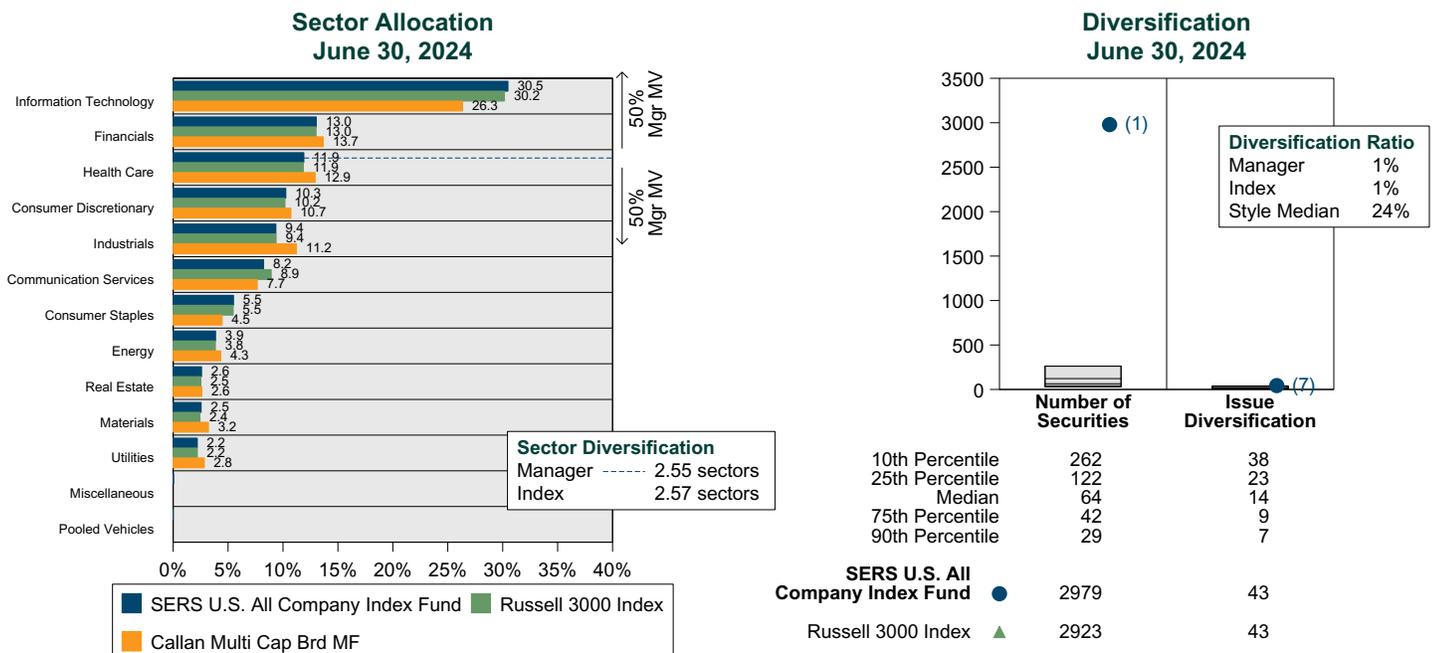
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Multi Cap Broad Mutual Funds as of June 30, 2024



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. All Company Index Fund Top 10 Portfolio Holdings Characteristics as of June 30, 2024

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
Microsoft Corp	Information Technology	\$201,323	6.4%	6.42%	3321.87	33.64	0.67%	17.08%
Apple Inc	Information Technology	\$185,451	5.9%	22.99%	3229.66	29.56	0.47%	10.50%
Nvidia Corp	Information Technology	\$177,981	5.6%	36.74%	3039.08	39.93	0.00%	46.35%
Amazon.Com	Consumer Discretionary	\$108,725	3.4%	7.13%	2011.08	37.50	0.00%	30.50%
Meta Platforms Inc	Communication Services	\$66,925	2.1%	3.94%	1104.97	23.27	0.40%	11.63%
Alphabet Inc Cl A	Communication Services	\$64,802	2.1%	20.82%	1069.95	22.53	0.44%	19.70%
Alphabet Inc Cl C	Communication Services	\$54,778	1.7%	20.60%	1030.27	22.73	0.44%	19.70%
Lilly (Eli) & Co	Health Care	\$46,663	1.5%	16.57%	860.48	54.78	0.57%	64.00%
Berkshire Hathaway Inc Del Cl B New	Financials	\$45,119	1.4%	(3.26)%	533.47	20.88	0.00%	16.44%
Broadcom Ltd Shs	Information Technology	\$44,224	1.4%	21.53%	747.35	28.77	1.31%	17.70%

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
Ast Spacemobile Inc Com Cl A	Communication Services	\$82	0.0%	300.36%	1.62	(16.85)	0.00%	-
Candel Therapeutics Inc	Health Care	\$7	0.0%	292.42%	0.18	(6.81)	0.00%	-
Genedx Holdings Corp Com Cl A	Health Care	\$19	0.0%	186.52%	0.68	(44.76)	0.00%	-
Novavax Inc	Health Care	\$107	0.0%	164.83%	1.78	(164.42)	0.00%	-
Core Scientific	Information Technology	\$99	0.0%	162.71%	1.65	15.37	0.00%	-
Eliem Therapeutics Inc	Health Care	\$3	0.0%	159.55%	0.25	(20.91)	0.00%	-
Insmed Inc Com Par \$.01	Health Care	\$622	0.0%	147.02%	10.93	(15.93)	0.00%	-
Innodata Inc	Industrials	\$24	0.0%	124.70%	0.43	43.11	0.00%	5.99%
Nuscale Pwr Corp Cl A Com	Industrials	\$54	0.0%	120.15%	1.04	(24.10)	0.00%	-
Transmedics Group Inc	Health Care	\$289	0.0%	103.70%	4.96	157.06	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
Aerovate Therapeutics	Health Care	\$1	0.0%	(94.39)%	0.05	(0.74)	0.00%	-
Cerence	Information Technology	\$7	0.0%	(82.03)%	0.12	12.25	0.00%	(2.32)%
Adagio Therapeutics Inc Common Stock	Health Care	\$5	0.0%	(75.21)%	0.13	(2.11)	0.00%	-
Ovid Therapeutics Inc	Health Care	\$3	0.0%	(74.78)%	0.05	(1.25)	0.00%	-
Verastem Inc	Health Care	\$4	0.0%	(74.75)%	0.08	(0.83)	0.00%	-
Zentalis Pharmaceuticals	Health Care	\$14	0.0%	(74.05)%	0.29	(1.30)	0.00%	-
Macrogenics Inc	Health Care	\$16	0.0%	(71.12)%	0.27	(1.74)	0.00%	-
Cid Created On Bank Faith For Id 090	Health Care	\$7	0.0%	(69.91)%	0.16	(1.20)	0.00%	-
Kyverna Therapeutics	Health Care	\$8	0.0%	(69.81)%	0.32	(1.97)	0.00%	-
Caribou Biosciences	Health Care	\$8	0.0%	(68.10)%	0.15	(0.84)	0.00%	-

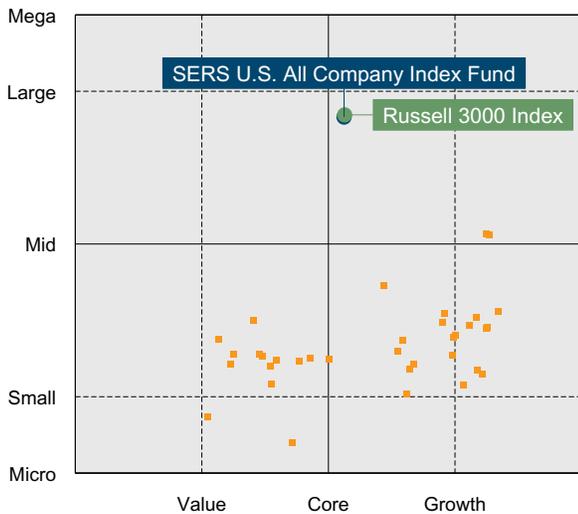
Historical Holdings Based Style Analysis

SERS U.S. All Company Index Fund

For Five and 3/4 Years Ended June 30, 2024

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.

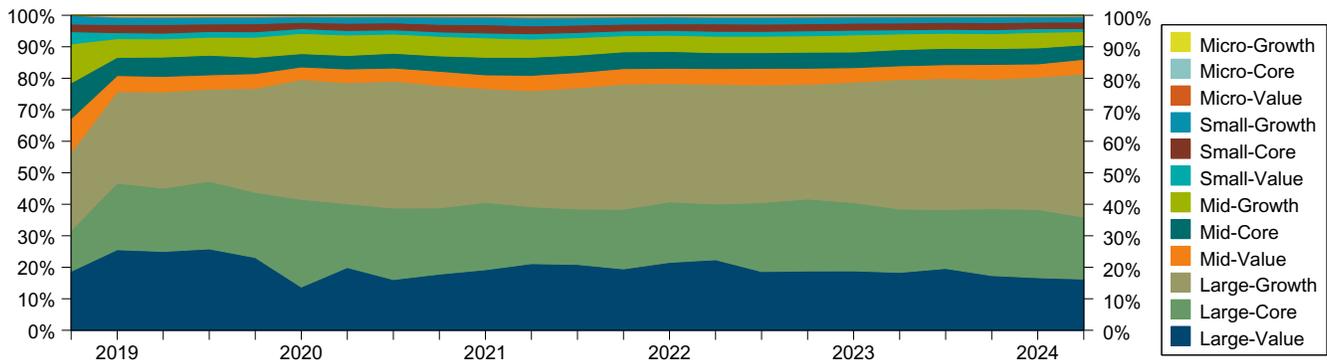
Average Style Map vs Callan SMID Broad MFs Holdings for Five and 3/4 Years Ended June 30, 2024



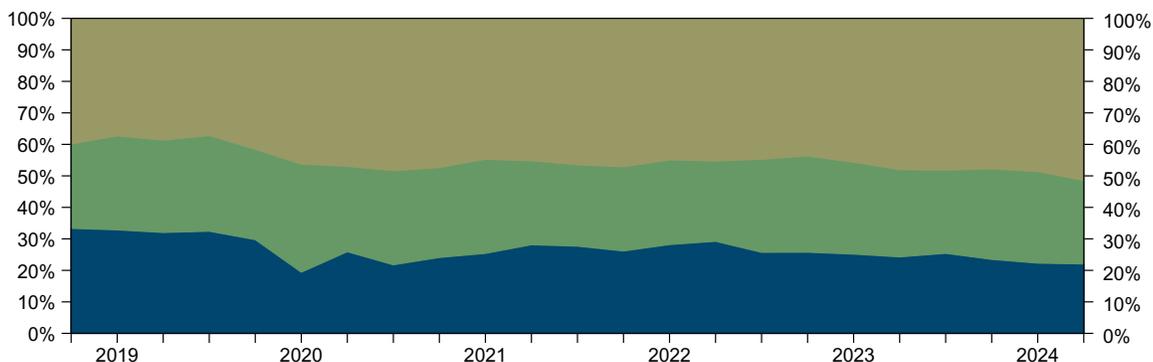
Average Style Exposure Matrix Holdings for Five and 3/4 Years Ended June 30, 2024

	Value	Core	Growth	Total
Large	19.8% (95)	20.4% (95)	37.1% (100)	77.2% (290)
	20.0% (98)	20.7% (96)	37.4% (102)	78.1% (296)
Mid	4.9% (165)	5.4% (206)	5.8% (219)	16.2% (590)
	4.6% (165)	5.2% (208)	5.5% (221)	15.4% (594)
Small	1.6% (294)	2.3% (489)	2.0% (371)	5.9% (1154)
	1.5% (302)	2.3% (502)	2.0% (383)	5.8% (1187)
Micro	0.2% (298)	0.3% (392)	0.1% (159)	0.6% (849)
	0.2% (311)	0.3% (412)	0.1% (168)	0.7% (891)
Total	26.6% (852)	28.4% (1182)	45.0% (849)	100.0% (2883)
	26.4% (876)	28.5% (1218)	45.1% (874)	100.0% (2968)

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



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



SERS U.S. SMID Company Index Period Ended June 30, 2024

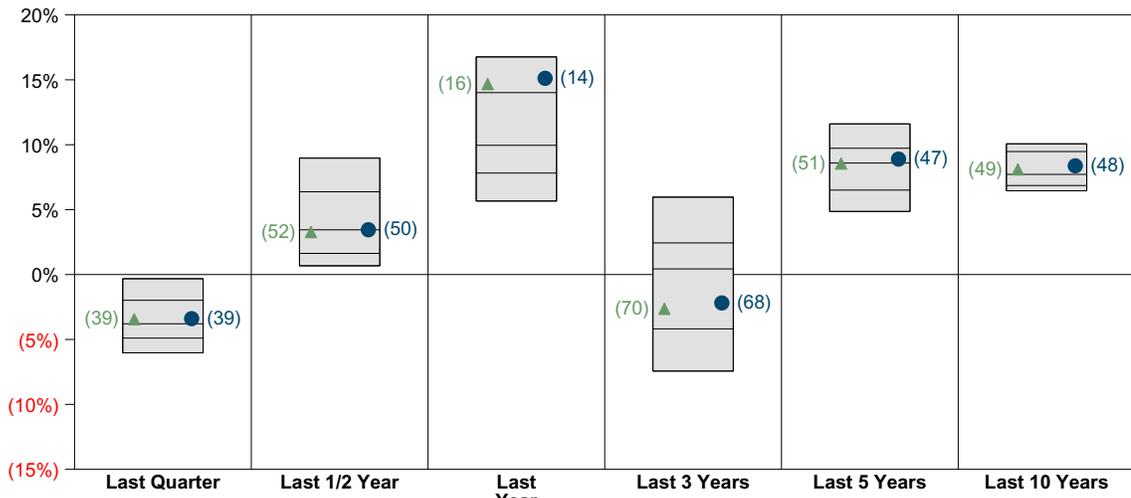
Investment Philosophy

The objective of the U.S. Small/Mid Company Stock Index Fund is to track the performance of the Dow Jones U.S. Completion Total Stock Market Index. In meeting this objective, the Fund may invest in securities, exchange-traded/mutual funds and a combination of other collective funds that together are designed to track the performance of the Dow Jones U.S. Completion Total Stock Market Index. This fund is managed by Mellon Capital Management.

Quarterly Summary and Highlights

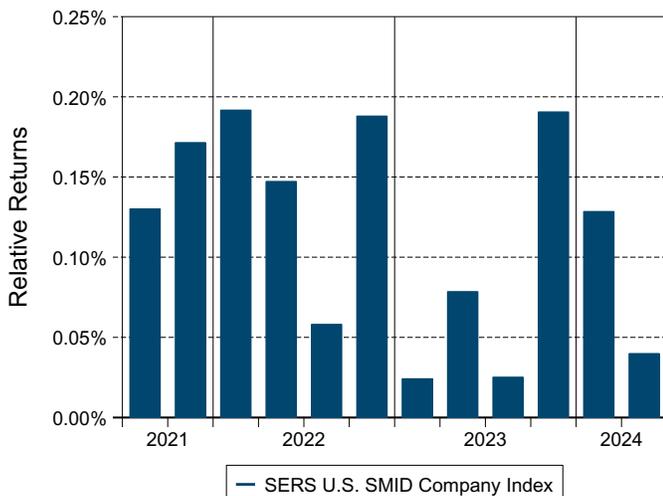
- SERS U.S. SMID Company Index's portfolio posted a (3.40)% return for the quarter placing it in the 39 percentile of the Callan Small/MidCap Broad Mutual Funds group for the quarter and in the 14 percentile for the last year.
- SERS U.S. SMID Company Index's portfolio outperformed the Dow Jones US Completion by 0.04% for the quarter and outperformed the Dow Jones US Completion for the year by 0.44%.

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

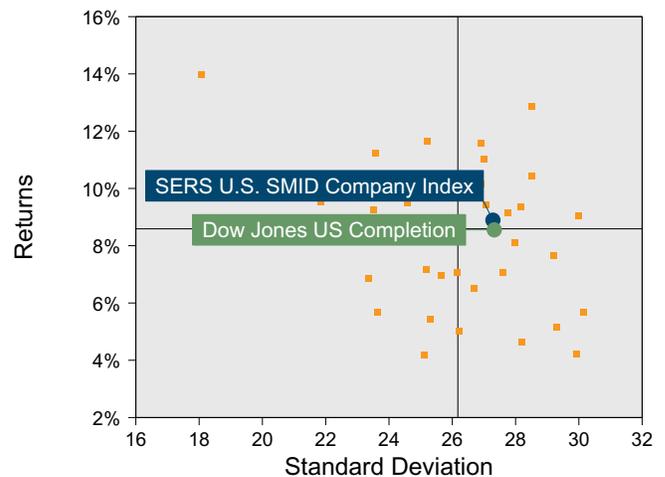


10th Percentile	(0.32)	8.97	16.77	5.96	11.60	10.07
25th Percentile	(1.98)	6.37	14.01	2.44	9.73	9.48
Median	(3.79)	3.45	9.96	0.43	8.59	7.72
75th Percentile	(4.90)	1.63	7.82	(4.18)	6.51	6.86
90th Percentile	(6.03)	0.68	5.66	(7.44)	4.86	6.45
SERS U.S. SMID Company Index	(3.40)	3.45	15.11	(2.19)	8.89	8.37
Dow Jones US Completion	(3.44)	3.27	14.67	(2.64)	8.55	8.10

Relative Return vs Dow Jones US Completion



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

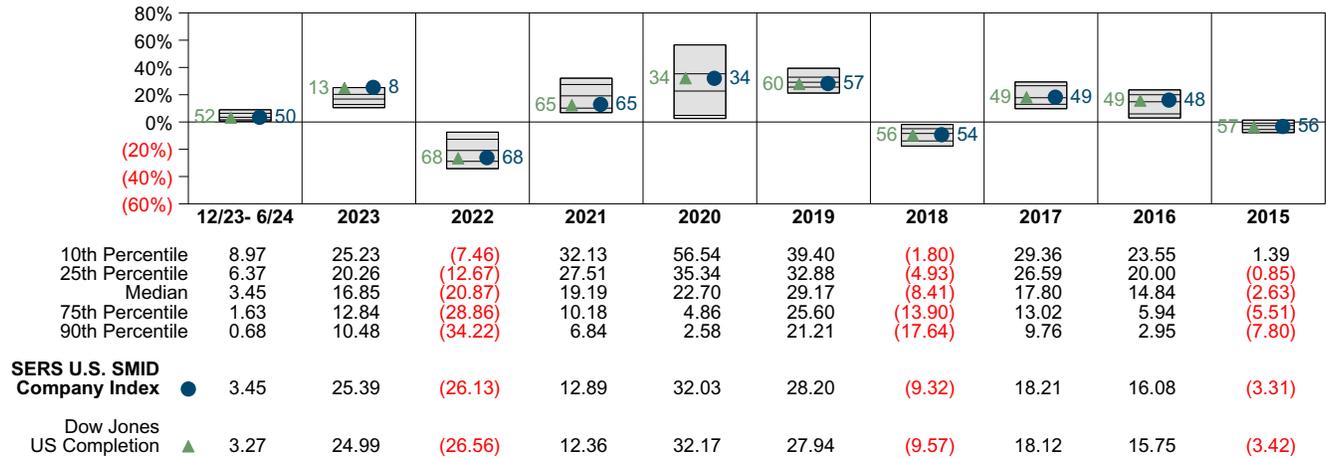


SERS U.S. SMID Company Index Return Analysis Summary

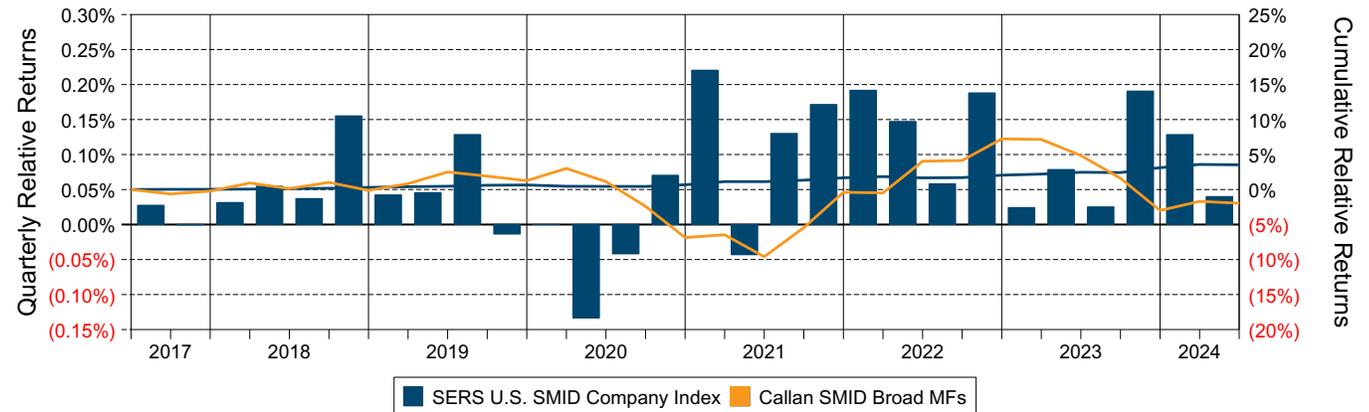
Return Analysis

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.

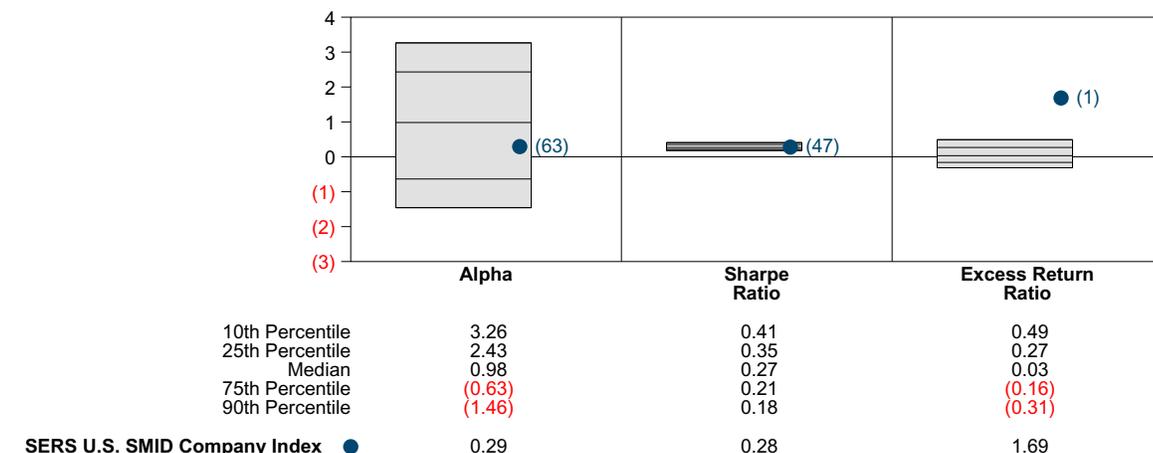
Performance vs Callan Small/MidCap Broad Mutual Funds (Institutional Net)



Cumulative and Quarterly Relative Returns 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, 2024



SERS U.S. SMID Company Index Equity Characteristics Analysis Summary

Portfolio Characteristics

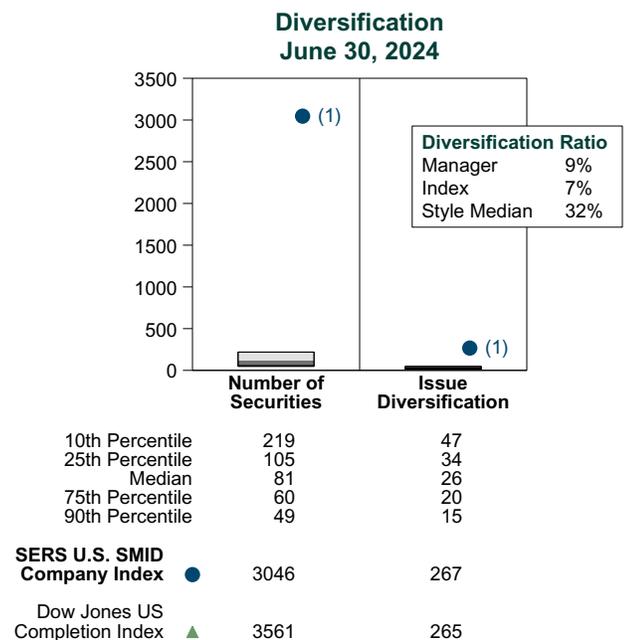
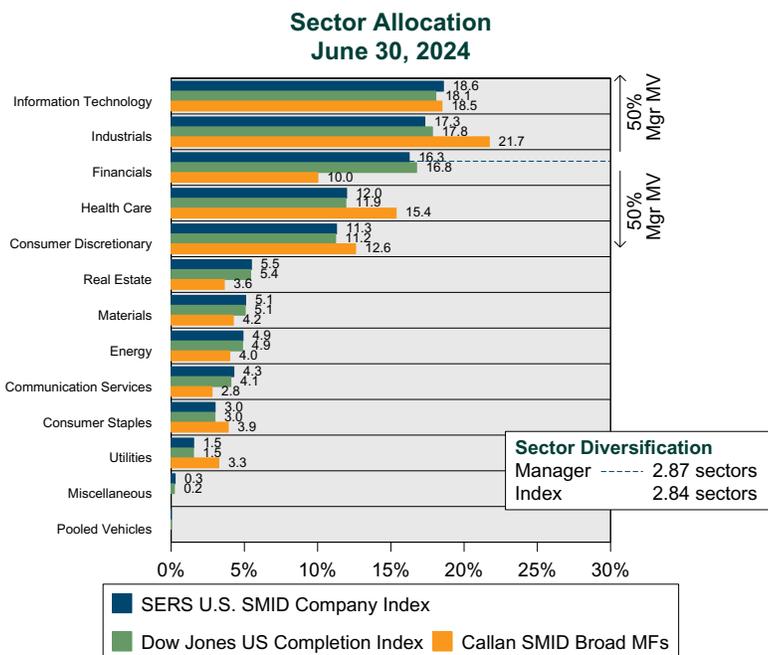
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Small/MidCap Broad Mutual Funds as of June 30, 2024



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. SMID Company Index Top 10 Portfolio Holdings Characteristics as of June 30, 2024

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
Marvell Technology Group Ltd	Information Technology	\$29,540	0.9%	(1.30)%	60.51	38.70	0.34%	20.00%
Apollo Global Mgmt Inc	Financials	\$25,202	0.8%	5.43%	67.18	14.24	1.57%	16.93%
Crh Plc Ord	Materials	\$25,149	0.8%	(12.64)%	51.29	13.24	2.00%	10.27%
Palantir Technologies Inc Cl A	Information Technology	\$24,517	0.8%	10.08%	53.96	69.59	0.00%	85.19%
Workday Inc Cl A	Information Technology	\$23,198	0.7%	(18.04)%	47.48	30.88	0.00%	18.12%
Snowflake Inc Cl A	Information Technology	\$21,995	0.7%	(16.40)%	45.23	173.19	0.00%	16.60%
The Trade Desk Inc Com Cl A	Communication Services	\$21,184	0.7%	11.72%	43.48	57.76	0.00%	37.64%
Cheniere Energy Inc	Energy	\$19,563	0.6%	8.70%	40.02	18.42	1.00%	(30.30)%
Datadog Inc Cl A Com	Information Technology	\$19,489	0.6%	4.93%	40.00	74.24	0.00%	16.00%
Dell Technologies Inc Cl C	Information Technology	\$17,911	0.6%	20.86%	42.62	16.58	1.29%	(1.78)%

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
Mediaco Hldg Inc Cl A	Financials	\$28	0.0%	579.23%	0.15	(8.31)	0.00%	-
Ast Spacemobile Inc Com Cl A	Communication Services	\$813	0.0%	300.36%	1.62	(16.85)	0.00%	-
Candel Therapeutics Inc	Health Care	\$68	0.0%	292.42%	0.18	(6.81)	0.00%	-
Faraday Futre Intlgt Elctr I Com Cl	Consumer Discretionary	\$5	0.0%	286.67%	0.22	(0.08)	0.00%	-
Inseego Corp Com	Information Technology	\$184	0.0%	276.19%	0.13	(70.60)	0.00%	15.00%
Regis Corp	Consumer Discretionary	\$74	0.0%	206.43%	0.05	(8.53)	0.00%	-
Genedx Holdings Corp Com Cl A	Health Care	\$232	0.0%	186.52%	0.68	(44.76)	0.00%	-
Emergent Biosolutions Inc	Health Care	\$168	0.0%	169.48%	0.36	(5.76)	0.00%	12.89%
Novavax Inc	Health Care	\$863	0.0%	164.83%	1.78	(164.42)	0.00%	-
Core Scientific	Information Technology	\$717	0.0%	162.71%	1.65	15.37	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
Ontrak Inc	Health Care	\$1	0.0%	-	0.01	(0.65)	0.00%	-
Xwell Inc	Information Technology	\$34	0.0%	-	0.01	(0.40)	0.00%	-
Lyra Therapeutics Inc Common Stock U	Health Care	\$4	0.0%	(95.55)%	0.02	(0.24)	0.00%	-
Aerovate Therapeutics	Health Care	\$11	0.0%	(94.39)%	0.05	(0.74)	0.00%	-
Aeon Biopharma Inc Cl A	Health Care	\$9	0.0%	(90.95)%	0.04	(0.45)	0.00%	-
Glycomimetics Inc	Health Care	\$7	0.0%	(90.60)%	0.02	(0.53)	0.00%	-
Aptevo Therapeutics Inc	Health Care	\$0	0.0%	(90.00)%	0.00	(0.02)	0.00%	-
Marinus Pharmaceuticals Inc	Health Care	\$30	0.0%	(87.04)%	0.06	(0.78)	0.00%	-
Inotiv Inc	Health Care	\$16	0.0%	(84.83)%	0.04	(0.56)	0.00%	14.28%
Vincera Pharma Inc	Health Care	\$6	0.0%	(84.00)%	0.02	(0.89)	0.00%	-

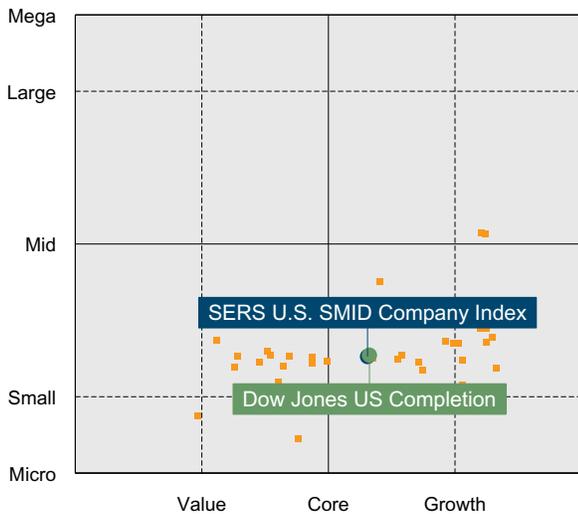
Historical Holdings Based Style Analysis

SERS U.S. SMID Company Index

For Three Years Ended June 30, 2024

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.

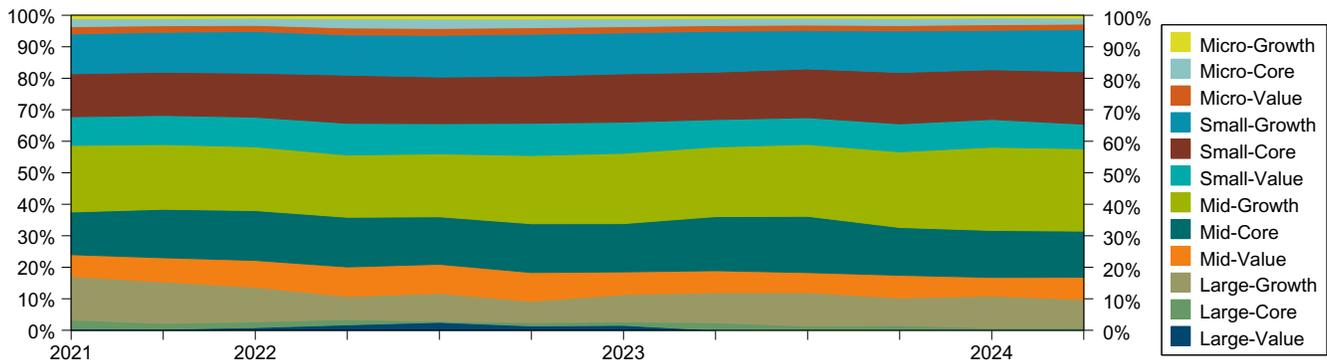
Average Style Map vs Callan SMID Broad MFs Holdings for Three Years Ended June 30, 2024



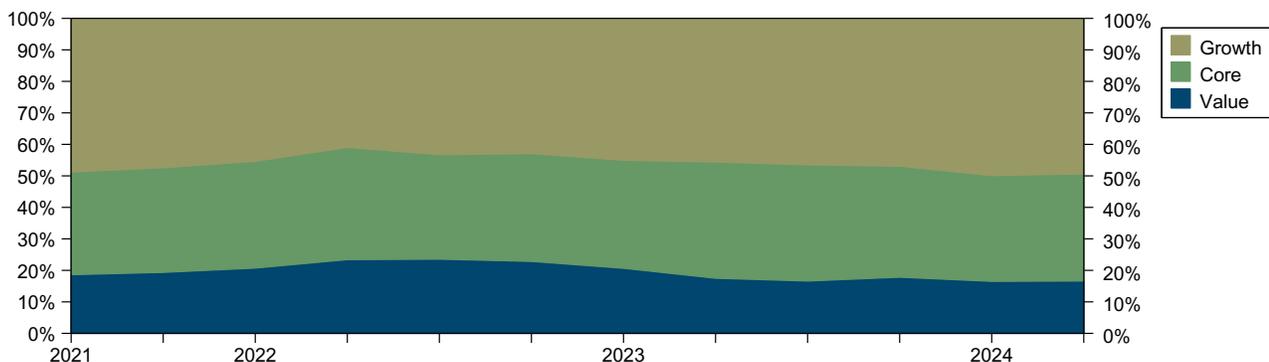
Average Style Exposure Matrix Holdings for Three Years Ended June 30, 2024

	Value	Core	Growth	Total
Large	0.7% (1)	1.5% (3)	9.8% (16)	12.0% (20)
	0.8% (2)	1.7% (3)	10.0% (17)	12.5% (22)
Mid	7.6% (65)	15.5% (135)	22.3% (168)	45.4% (368)
	7.6% (65)	15.5% (137)	22.3% (169)	45.3% (371)
Small	9.2% (284)	15.1% (527)	12.9% (378)	37.2% (1189)
	9.0% (285)	14.9% (531)	12.8% (382)	36.8% (1198)
Micro	2.0% (542)	2.4% (756)	1.0% (249)	5.4% (1547)
	1.9% (686)	2.5% (1077)	1.0% (311)	5.4% (2074)
Total	19.5% (892)	34.5% (1421)	46.0% (811)	100.0% (3124)
	19.3% (1038)	34.6% (1748)	46.1% (879)	100.0% (3665)

SERS U.S. SMID Company Index Historical Cap/Style Exposures



SERS U.S. SMID Company Index Historical Style Only Exposures



SERS Global Non-U.S. Index Fund

Period Ended June 30, 2024

Investment Philosophy

The Global Non-U.S. Stock Index Fund 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.

Quarterly Summary and Highlights

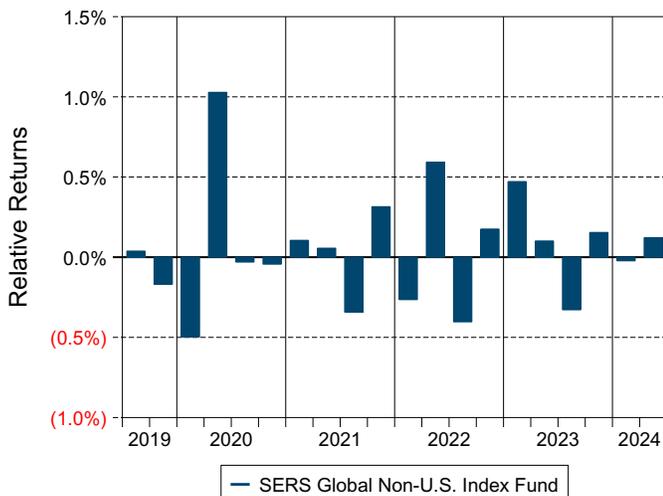
- SERS Global Non-U.S. Index Fund's portfolio posted a 1.08% return for the quarter placing it in the 20 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 32 percentile for the last year.
- SERS Global Non-U.S. Index Fund's portfolio outperformed the MSCI ACWI xUS (Net) by 0.12% for the quarter and underperformed the MSCI ACWI xUS (Net) for the year by 0.08%.

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

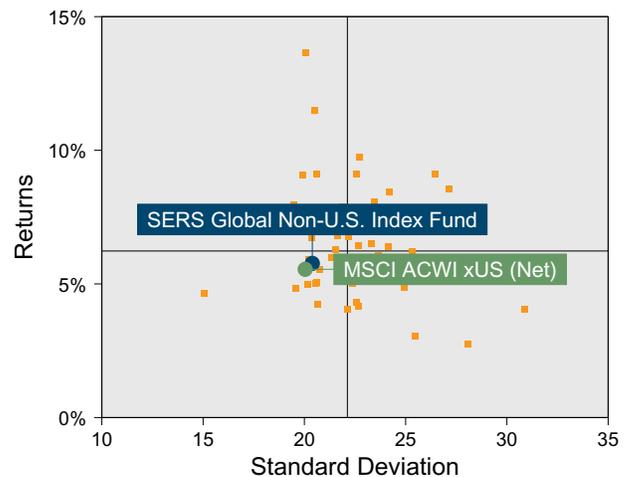


10th Percentile	2.30	8.78	18.13	6.79	9.11	6.66
25th Percentile	0.77	7.14	12.71	3.70	7.83	5.25
Median	(0.04)	4.87	9.93	1.70	6.23	4.19
75th Percentile	(1.28)	3.78	7.38	(1.34)	5.04	3.39
90th Percentile	(2.06)	1.66	5.37	(4.47)	4.19	2.74
SERS Global Non-U.S. Index Fund	● 1.08	5.80	11.54	0.65	5.77	4.08
MSCI ACWI xUS (Net)	▲ 0.96	5.69	11.62	0.46	5.55	3.84

Relative Return vs MSCI ACWI xUS (Net)



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

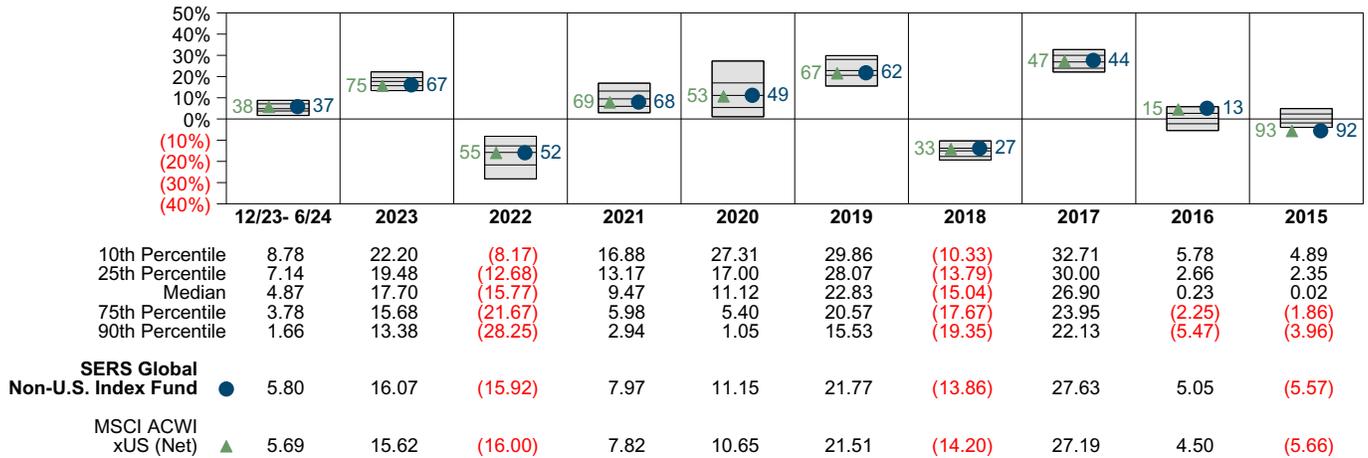


SERS Global Non-U.S. Index Fund Return Analysis Summary

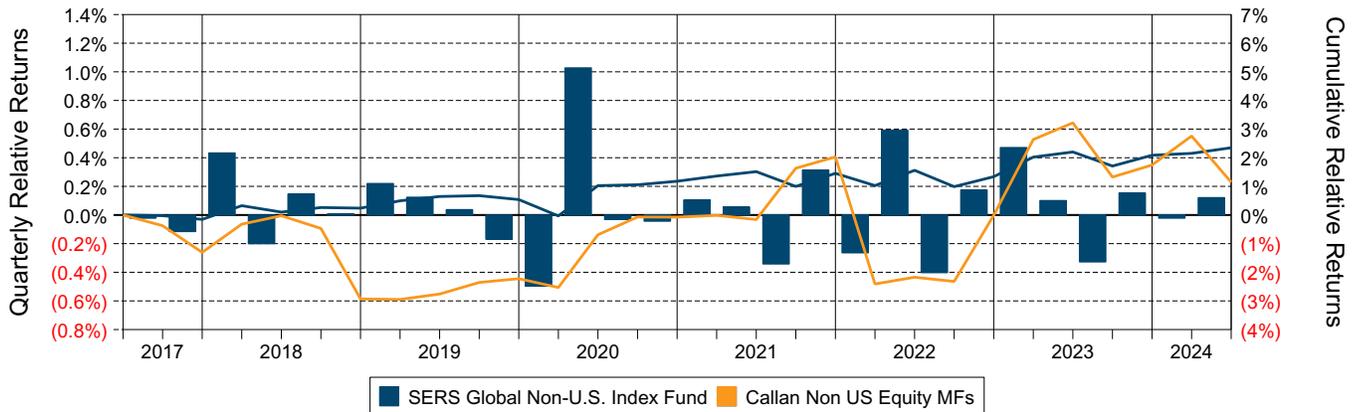
Return Analysis

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.

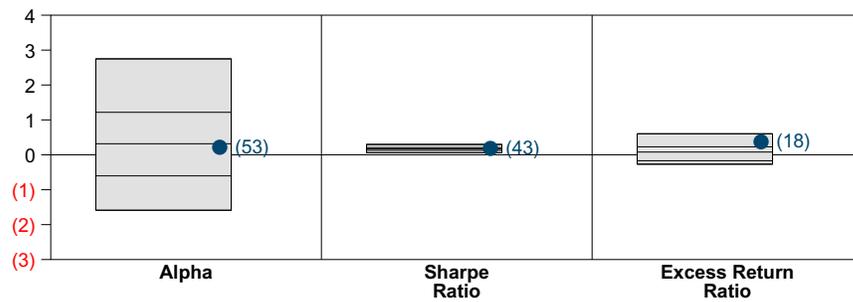
Performance vs Callan Non US Equity Mutual Funds (Institutional Net)



Cumulative and Quarterly Relative Returns vs MSCI ACWI xUS (Net)



Risk Adjusted Return Measures vs MSCI ACWI xUS (Net) Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Seven Years Ended June 30, 2024



10th Percentile	2.75	0.30	0.60
25th Percentile	1.22	0.21	0.23
Median	0.32	0.17	0.08
75th Percentile	(0.60)	0.13	(0.17)
90th Percentile	(1.59)	0.06	(0.27)

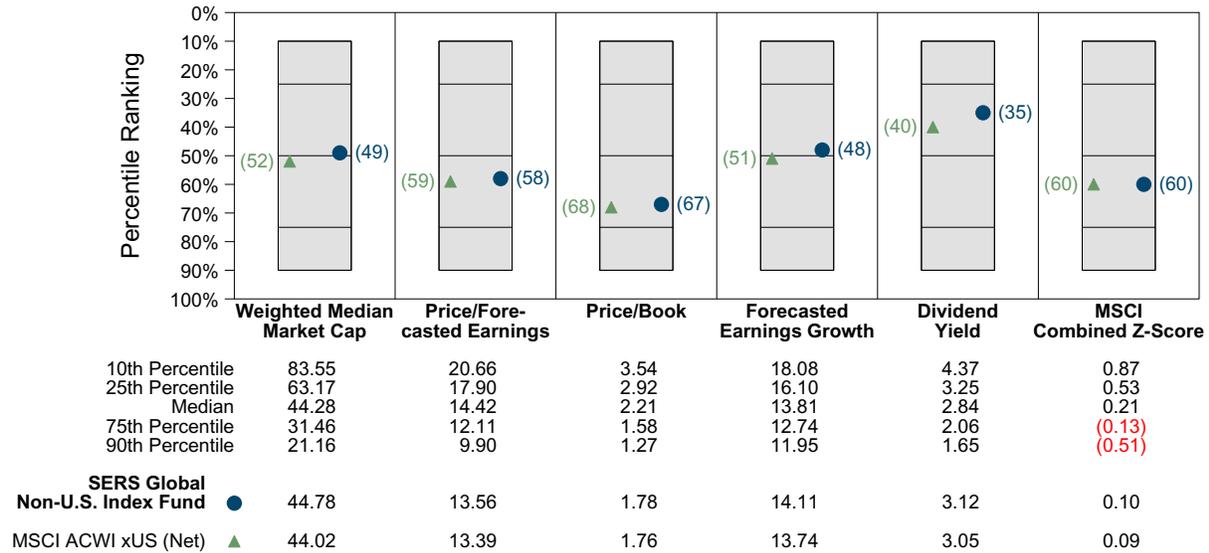
SERS Global Non-U.S. Index Fund	0.22	0.18	0.37
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SERS Global Non-U.S. Index Fund Equity Characteristics Analysis Summary

Portfolio Characteristics

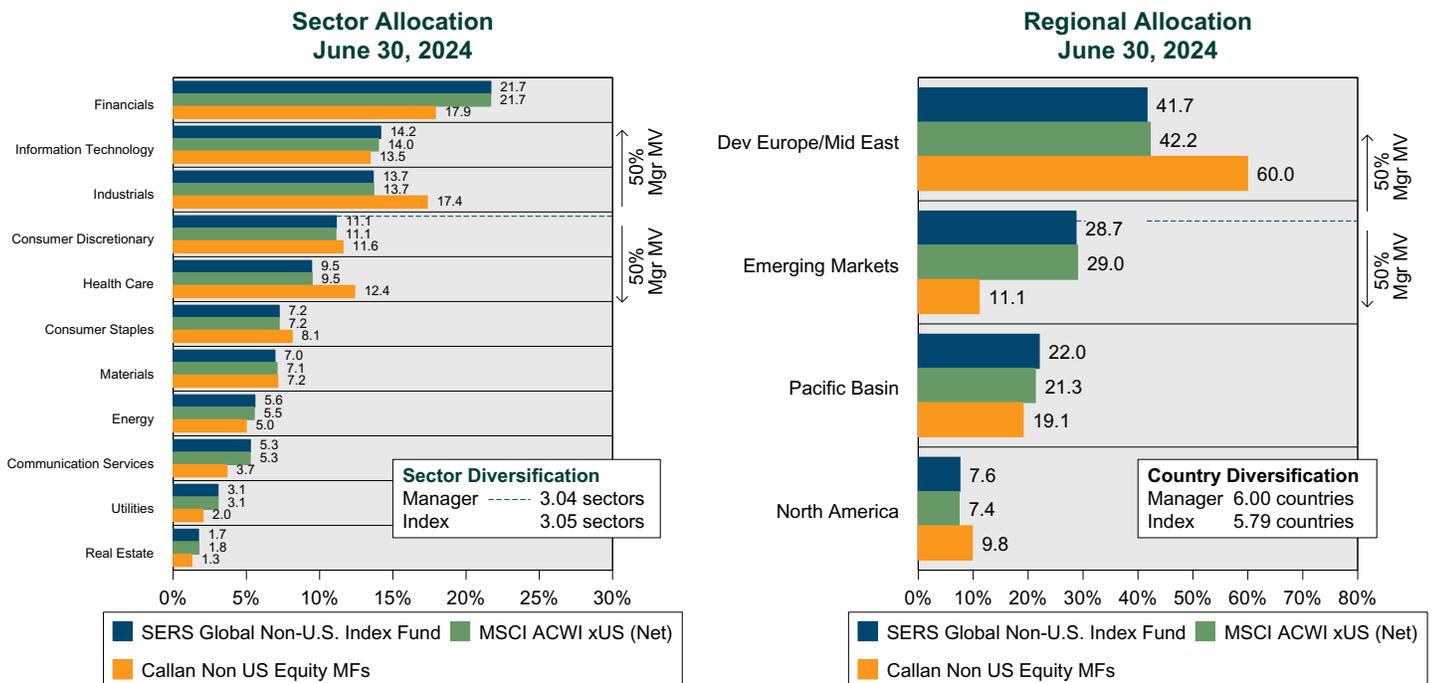
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of June 30, 2024



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.



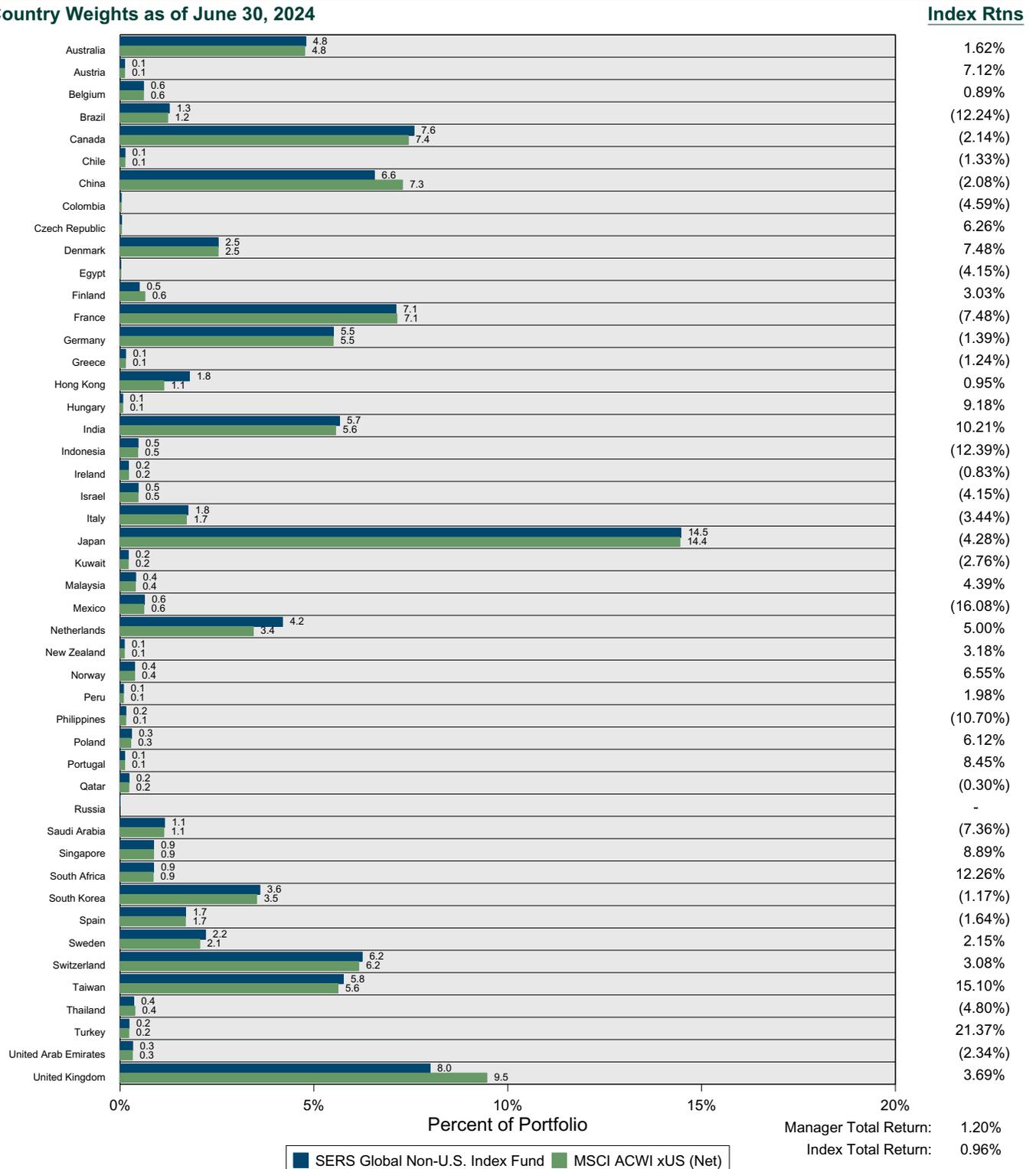
Country Allocation

SERS Global Non-U.S. Index Fund VS MSCI ACWI xUS (Net)

Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of June 30, 2024. 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, 2024



SERS Global Non-U.S. Index Fund Top 10 Portfolio Holdings Characteristics as of June 30, 2024

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	\$167,750	2.9%	22.80%	772.22	21.55	1.45%	20.75%
Asml Holding N V Asml Rev Stk Spl	Information Technology	\$92,302	1.6%	7.46%	412.93	39.25	0.63%	20.25%
Tencent Holdings Limited Shs Par Hkd	Communication Services	\$71,851	1.2%	22.95%	446.20	15.71	0.91%	20.87%
Samsung Electronics Co Ltd Ord	Information Technology	\$64,708	1.1%	(2.83)%	353.46	12.67	1.77%	58.60%
Nestle S A Shs Nom New	Consumer Staples	\$60,941	1.0%	(0.92)%	267.42	17.78	3.27%	5.80%
Astrazeneca Plc Ord	Health Care	\$54,120	0.9%	15.79%	242.14	17.84	1.86%	12.00%
Toyota Motor Corp	Consumer Discretionary	\$48,442	0.8%	(17.41)%	323.05	9.70	2.28%	(2.70)%
Sap Se Shs	Information Technology	\$47,372	0.8%	5.07%	248.56	36.23	1.17%	12.30%
Novartis	Health Care	\$47,150	0.8%	10.33%	234.36	14.15	3.43%	9.40%
Lvmh Moet Hennessy Lou Vuitt Ord	Consumer Discretionary	\$47,106	0.8%	(14.26)%	382.51	21.31	1.82%	8.29%

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	\$460	0.0%	101.72%	7.66	20.53	1.69%	100.29%
Brilliance China Aut Hldgs L Shs	Consumer Discretionary	\$736	0.0%	88.68%	5.31	5.48	0.95%	2.44%
Pharmaessentia	Health Care	\$929	0.0%	71.57%	5.88	76.04	0.00%	-
Sesa Goa	Materials	\$1,382	0.0%	71.15%	20.20	11.15	4.85%	1.05%
Hyundai Electric & Energy Syst	Industrials	\$1,113	0.0%	69.00%	8.12	25.59	0.32%	115.22%
Cosco Shipping Holding Co Lt Shs	Industrials	\$1,158	0.0%	68.25%	5.60	8.14	5.79%	17.11%
Yang Ming Marine Transport Shs	Industrials	\$924	0.0%	65.75%	8.03	11.22	2.68%	(23.95)%
Motherson Sumi Sys.	Consumer Discretionary	\$1,414	0.0%	62.55%	15.47	28.50	0.44%	1.83%
Hindustan Aeronautics	Industrials	\$2,875	0.0%	58.26%	42.22	45.00	0.75%	26.35%
Hargreaves Lansdown Plc Bris Shs	Financials	\$1,186	0.0%	53.91%	6.79	17.10	3.71%	1.12%

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
Guangdong Kangmei	Health Care	\$2	0.0%	(66.18)%	3.70	135.00	0.00%	(8.08)%
Guangzhou Kingmed Diagnostics Group	Health Care	\$6	0.0%	(50.51)%	1.75	14.11	3.22%	(19.39)%
Kukje Precision	Health Care	\$1,152	0.0%	(47.34)%	5.56	(60.20)	0.00%	-
Carl Zeiss Meditec Ag Akt	Health Care	\$615	0.0%	(44.36)%	6.33	23.93	1.67%	20.62%
Genscript Biotech	Health Care	\$272	0.0%	(42.94)%	2.27	(38.07)	0.00%	(4.52)%
Li Auto A	Consumer Discretionary	\$2,552	0.0%	(42.36)%	15.90	9.25	0.00%	10.64%
Sartorius Stedim Biotech Aub Ord	Health Care	\$1,034	0.0%	(42.29)%	15.99	29.98	0.45%	15.10%
Sk le Technology Co Ltd Common Stock	Industrials	\$218	0.0%	(41.09)%	2.28	92.60	0.00%	9.30%
Sartorius Ag Vorz Akt	Health Care	\$1,357	0.0%	(40.41)%	8.81	38.99	0.34%	18.02%
Atacadao Distribuicao Comerc Common	Consumer Staples	\$243	0.0%	(40.36)%	3.42	11.02	3.70%	(30.35)%

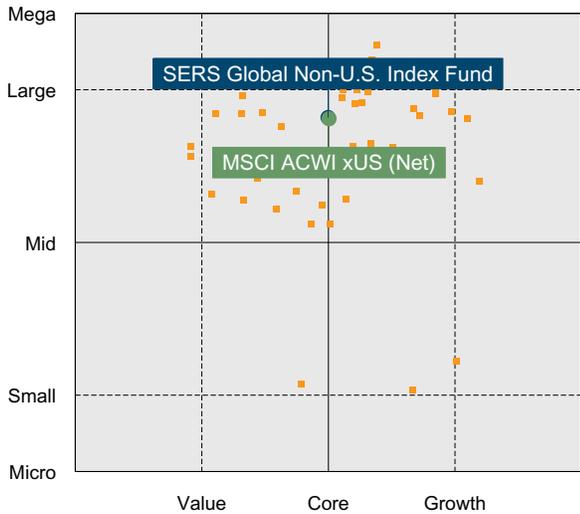
Historical Holdings Based Style Analysis

SERS Global Non-U.S. Index Fund

For Three Years Ended June 30, 2024

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.

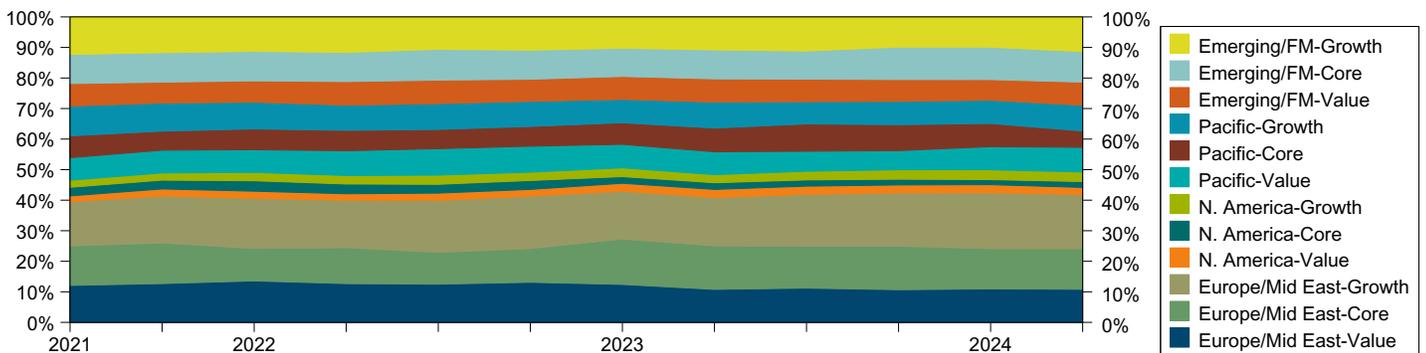
Average Style Map vs Callan Non US Equity MFs Holdings for Three Years Ended June 30, 2024



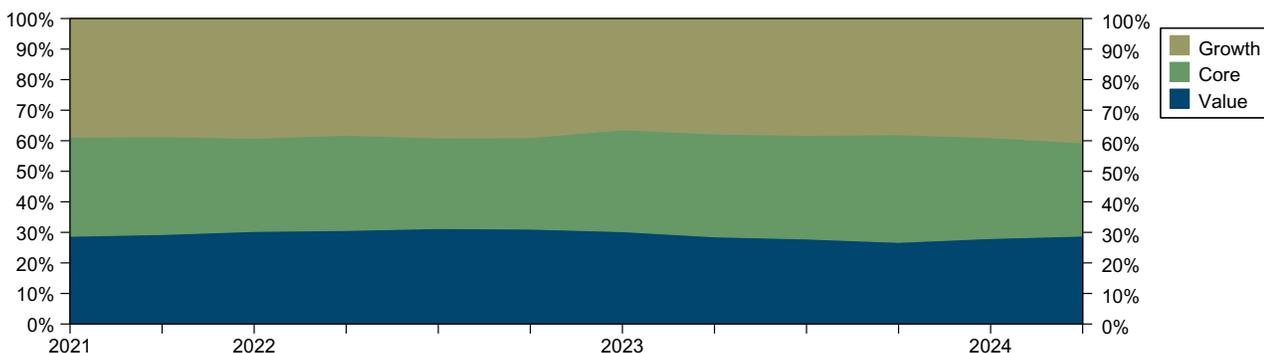
Average Style Exposure Matrix Holdings for Three Years Ended June 30, 2024

	Value	Core	Growth	Total
Europe/ Mid East	12.0% (145)	12.8% (129)	16.5% (141)	41.2% (415)
	11.9% (153)	12.3% (131)	16.7% (152)	40.8% (436)
N. America	2.4% (26)	2.5% (25)	2.8% (32)	7.7% (83)
	2.6% (28)	2.4% (27)	2.8% (35)	7.8% (90)
Pacific	7.6% (133)	7.1% (109)	8.3% (115)	23.0% (357)
	7.5% (134)	7.2% (109)	8.1% (115)	22.8% (358)
Emerging/ FM	7.3% (392)	9.8% (394)	11.0% (424)	28.1% (1210)
	7.4% (420)	10.0% (431)	11.3% (474)	28.6% (1325)
Total	29.3% (696)	32.1% (657)	38.6% (712)	100.0% (2065)
	29.4% (735)	31.8% (698)	38.8% (776)	100.0% (2209)

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, 2024

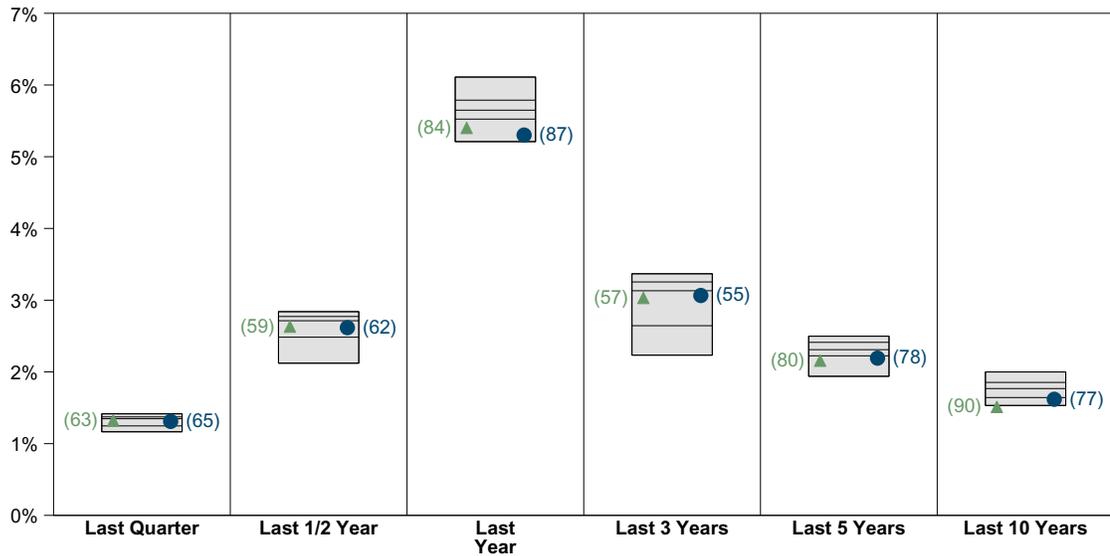
Investment Philosophy

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, which includes STIF, enhanced cash, and money market funds.

Quarterly Summary and Highlights

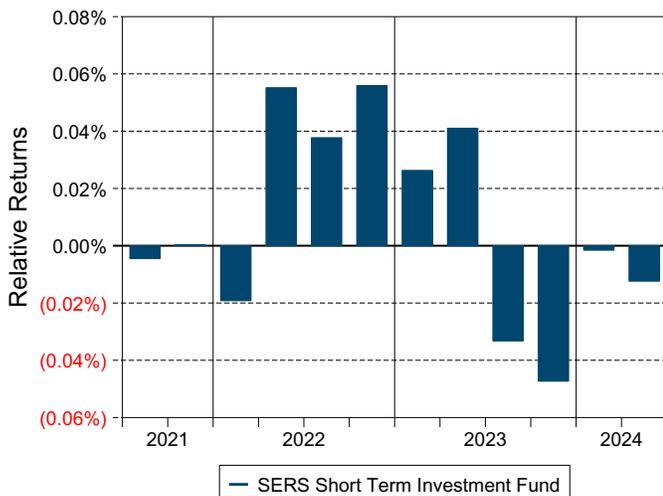
- SERS Short Term Investment Fund's portfolio posted a 1.31% return for the quarter placing it in the 65 percentile of the Callan Cash Database group for the quarter and in the 87 percentile for the last year.
- SERS Short Term Investment Fund's portfolio underperformed the 3-month Treasury Bill by 0.01% for the quarter and underperformed the 3-month Treasury Bill for the year by 0.10%.

Performance vs Callan Cash Database (Gross)

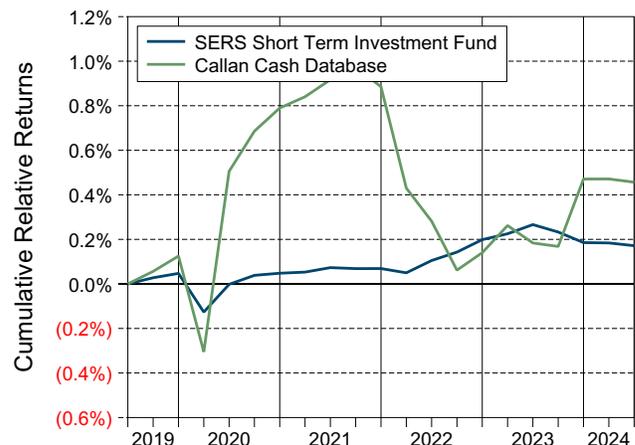


10th Percentile	1.42	2.84	6.11	3.37	2.50	2.00
25th Percentile	1.37	2.77	5.79	3.25	2.41	1.85
Median	1.35	2.71	5.65	3.13	2.31	1.77
75th Percentile	1.25	2.48	5.52	2.64	2.22	1.64
90th Percentile	1.17	2.12	5.21	2.23	1.94	1.53
SERS Short Term Investment Fund	● 1.31	2.62	5.30	3.07	2.19	1.62
3-month Treasury Bill	▲ 1.32	2.63	5.40	3.03	2.16	1.51

Relative Return vs 3-month Treasury Bill



Cumulative Returns vs 3-month Treasury Bill

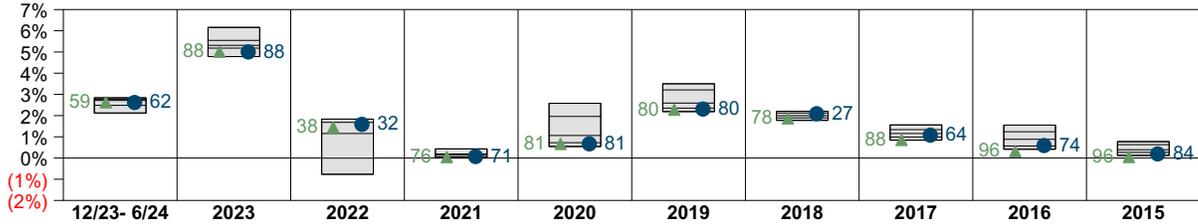


SERS Short Term Investment Fund Return Analysis Summary

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

Performance vs Callan Cash Database (Gross)

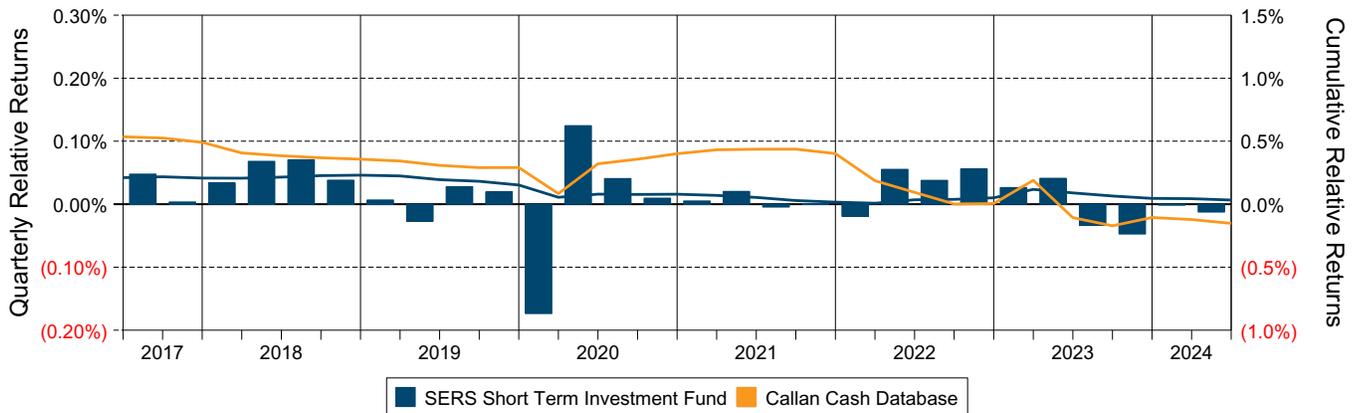


10th Percentile	2.84	6.16	1.84	0.43	2.58	3.50	2.20	1.56	1.55	0.77
25th Percentile	2.77	5.55	1.68	0.19	1.96	3.21	2.12	1.34	1.24	0.63
Median	2.71	5.31	1.16	0.13	1.06	2.59	2.00	1.16	0.88	0.39
75th Percentile	2.48	5.18	(0.01)	0.05	0.72	2.35	1.89	0.99	0.57	0.27
90th Percentile	2.12	4.78	(0.77)	0.00	0.54	2.19	1.78	0.84	0.41	0.12

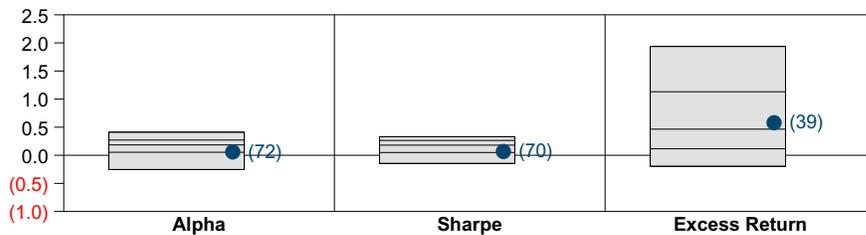
SERS Short Term Investment Fund

3-month Treasury Bill

Rolling 12 Quarter and Quarterly Relative Returns 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, 2024



10th Percentile	0.41	0.33	1.94
25th Percentile	0.27	0.26	1.13
Median	0.18	0.18	0.47
75th Percentile	0.05	0.05	0.12
90th Percentile	(0.25)	(0.15)	(0.20)

SERS Short Term Investment Fund

SERS U.S. Short Term Bond Idx Fund

Period Ended June 30, 2024

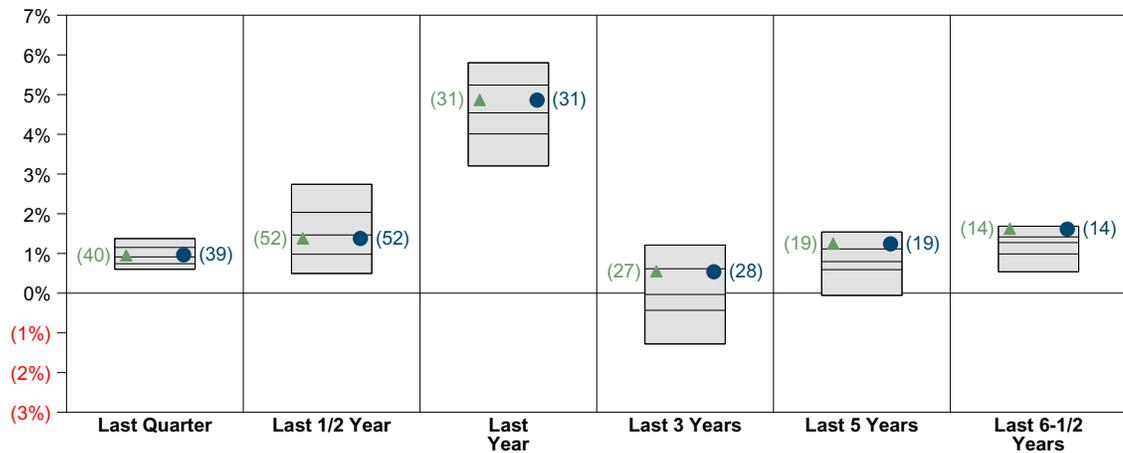
Investment Philosophy

The Fund's investment objective is to seek to track the performance of the Bloomberg Barclays U.S. 1-3 Year Government/Credit Index ("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 Index. The Fund will principally invest in other affiliated bank collective funds, debt securities of U.S. corporations and the U.S. government, its agencies and instrumentalities, including mortgage-related and asset-backed securities. This fund is managed by Mellon Capital Management.

Quarterly Summary and Highlights

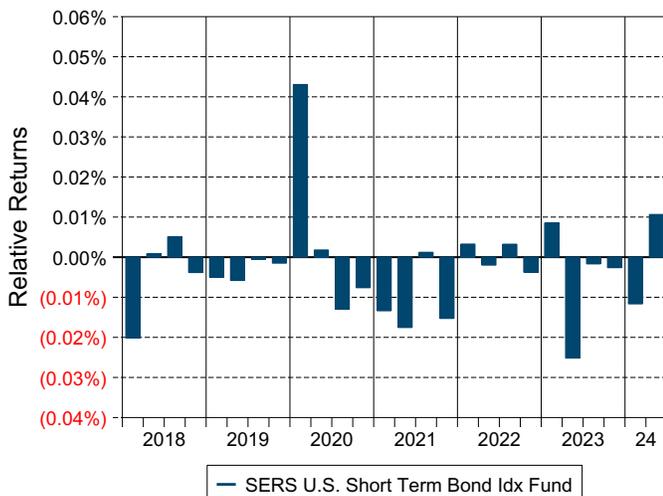
- SERS U.S. Short Term Bond Idx Fund's portfolio posted a 0.96% return for the quarter placing it in the 39 percentile of the Callan Short US Gov Bond Mut Funds group for the quarter and in the 31 percentile for the last year.
- SERS U.S. Short Term Bond Idx Fund's portfolio outperformed the Blmbg Gov/Cred 1-3 Yr by 0.01% for the quarter and underperformed the Blmbg Gov/Cred 1-3 Yr for the year by 0.01%.

Performance vs Callan Short US Gov Bond Mut Funds (Institutional Net)

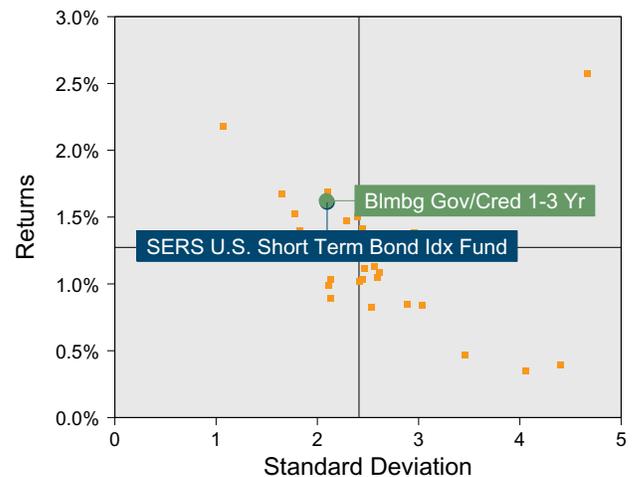


	Last Quarter	Last 1/2 Year	Last Year	Last 3 Years	Last 5 Years	Last 6-1/2 Years
10th Percentile	1.37	2.74	5.80	1.21	1.54	1.69
25th Percentile	1.15	2.03	5.24	0.61	1.11	1.41
Median	0.91	1.46	4.54	(0.03)	0.79	1.27
75th Percentile	0.74	0.98	4.01	(0.43)	0.59	0.99
90th Percentile	0.60	0.49	3.20	(1.28)	(0.06)	0.54
SERS U.S. Short Term Bond Idx Fund ●	0.96	1.38	4.86	0.54	1.24	1.61
Blmbg Gov/Cred 1-3 Yr ▲	0.95	1.38	4.87	0.55	1.25	1.62

Relative Return vs Blmbg Gov/Cred 1-3 Yr



Callan Short US Gov Bond Mut Funds (Institutional Net) Annualized Six and One-Half Year Risk vs Return



SERS U.S. Short Term Bond Idx Fund

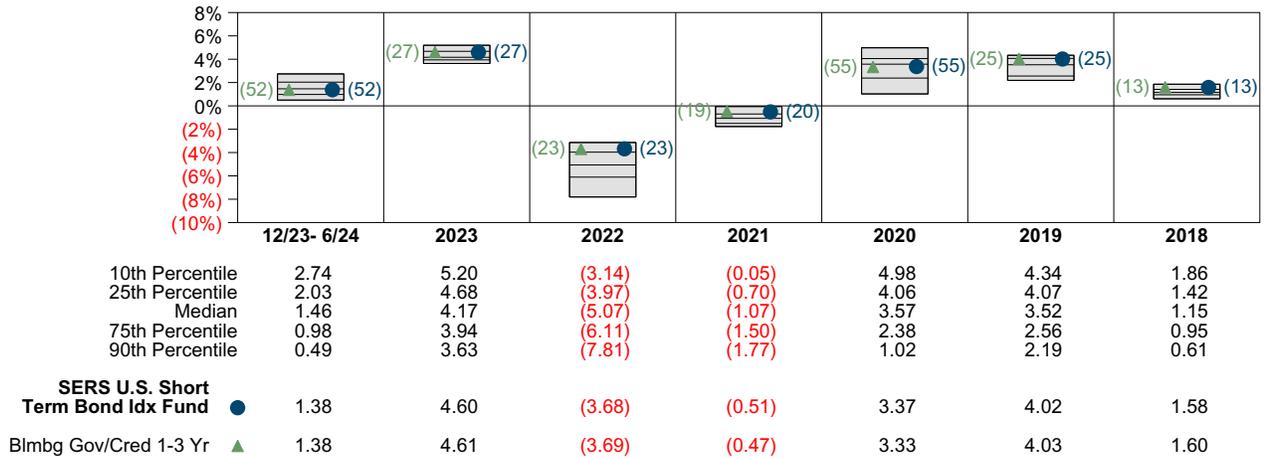
Return Analysis Summary

Return Analysis

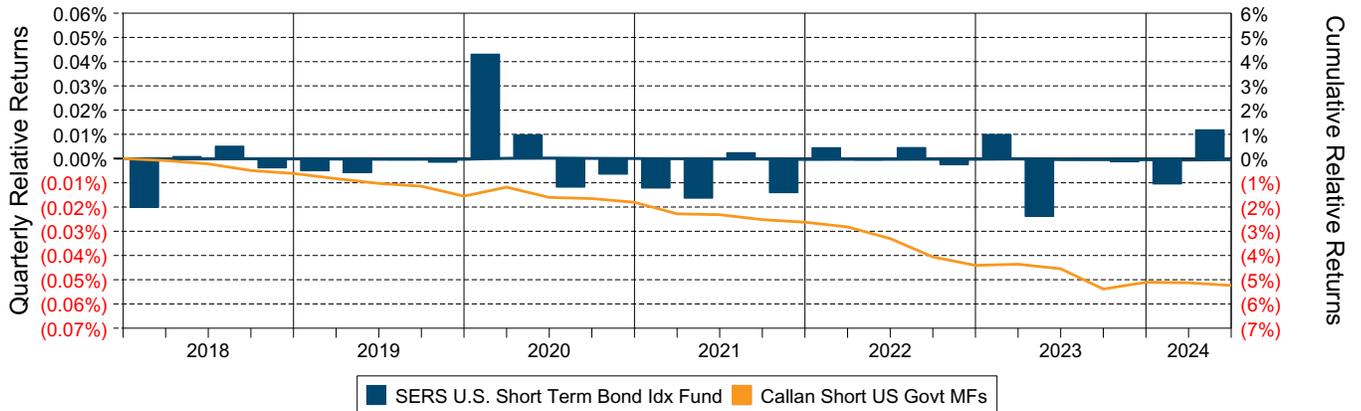
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Callan Cash Database includes STIF, enhanced cash, and money market funds.

Performance vs Callan Short US Gov Bond Mut Funds (Institutional Net)



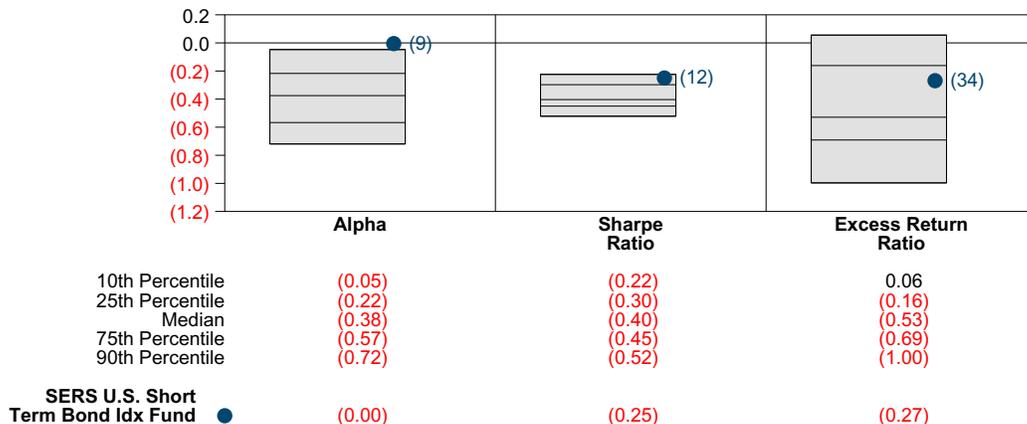
Cumulative and Quarterly Relative Returns vs Blmbg Gov/Cred 1-3 Yr



Risk Adjusted Return Measures vs Blmbg Gov/Cred 1-3 Yr

Rankings Against Callan Short US Gov Bond Mut Funds (Institutional Net)

Six and One-Half Years Ended June 30, 2024



SERS U.S. Short Term Bond Idx Fund

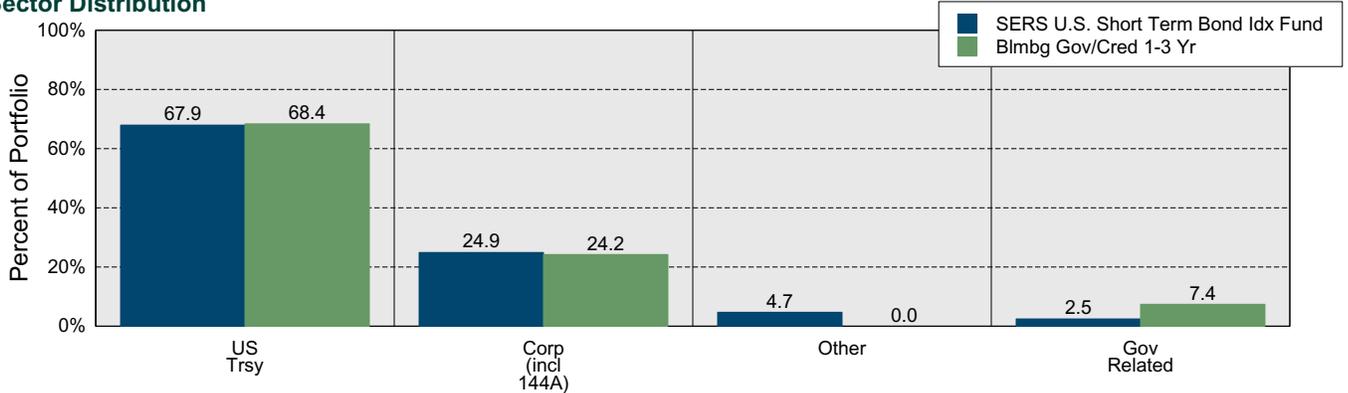
Portfolio Characteristics Summary

As of June 30, 2024

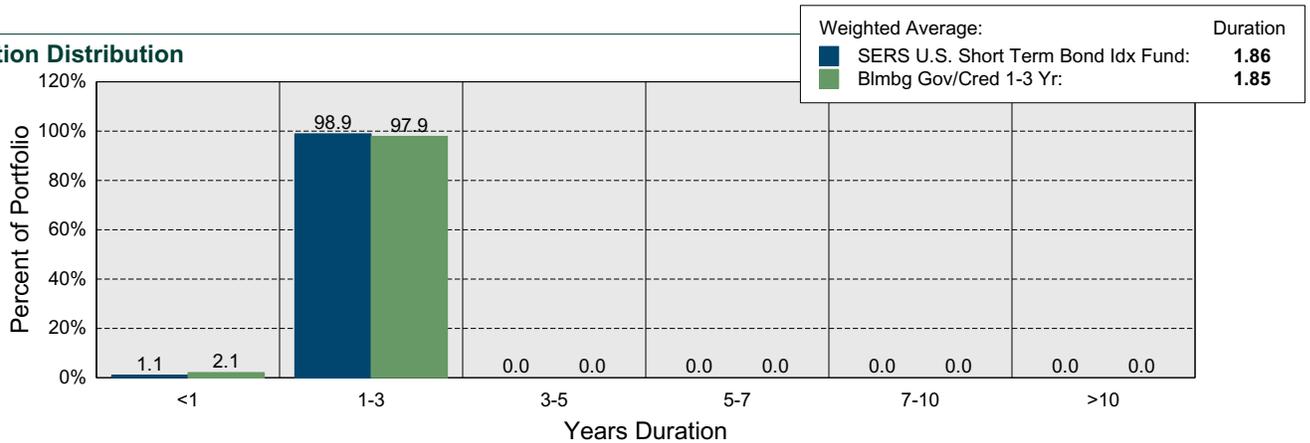
Portfolio Structure Comparison

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.

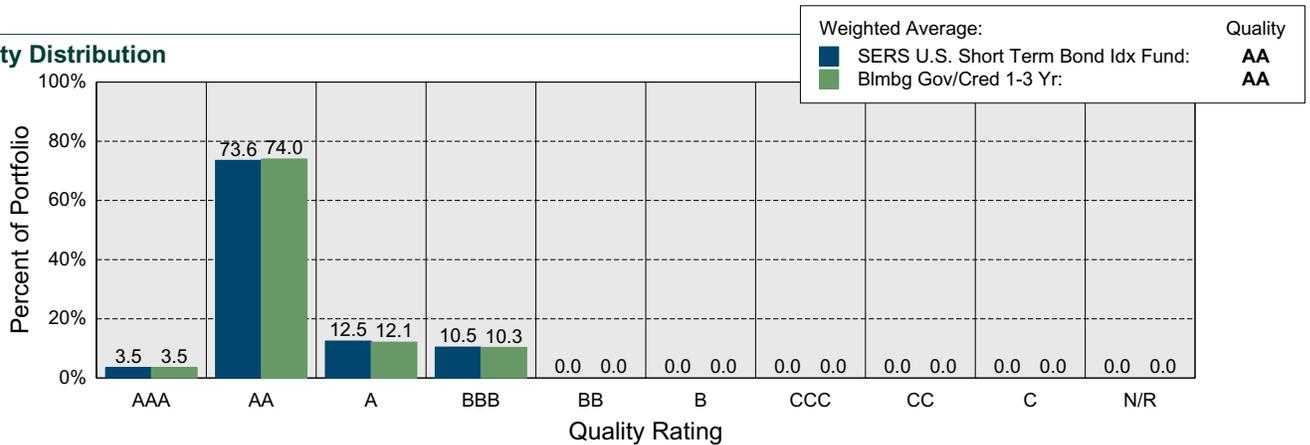
Sector Distribution



Duration Distribution



Quality Distribution



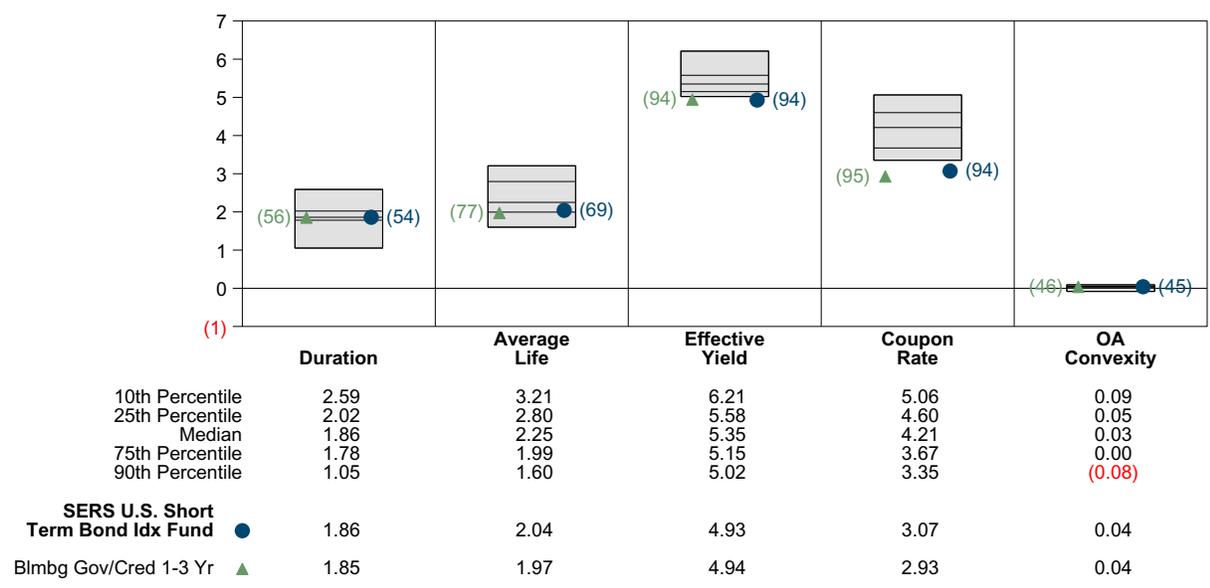
SERS U.S. Short Term Bond Idx Fund

Bond Characteristics Analysis Summary

Portfolio Characteristics

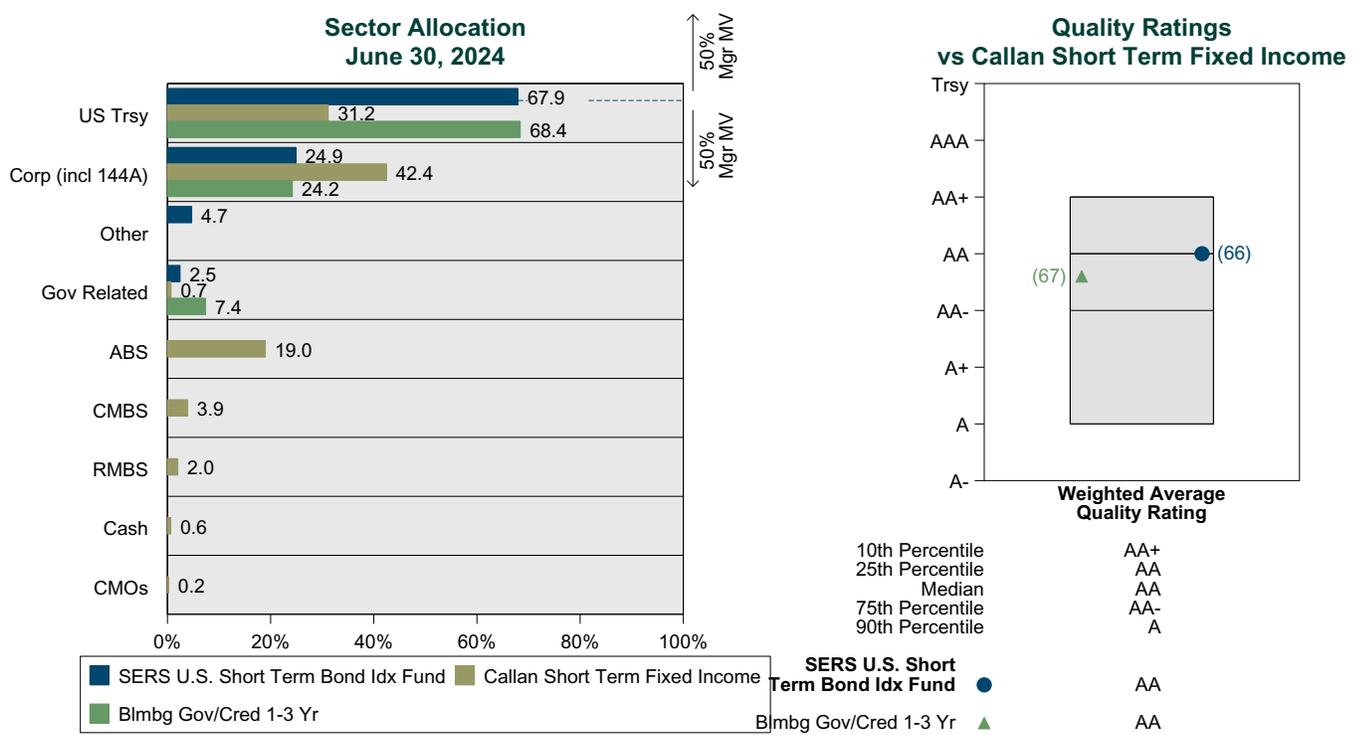
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics Rankings Against Callan Short Term Fixed Income as of June 30, 2024



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.



SERS U.S. TIPS Index Fund

Period Ended June 30, 2024

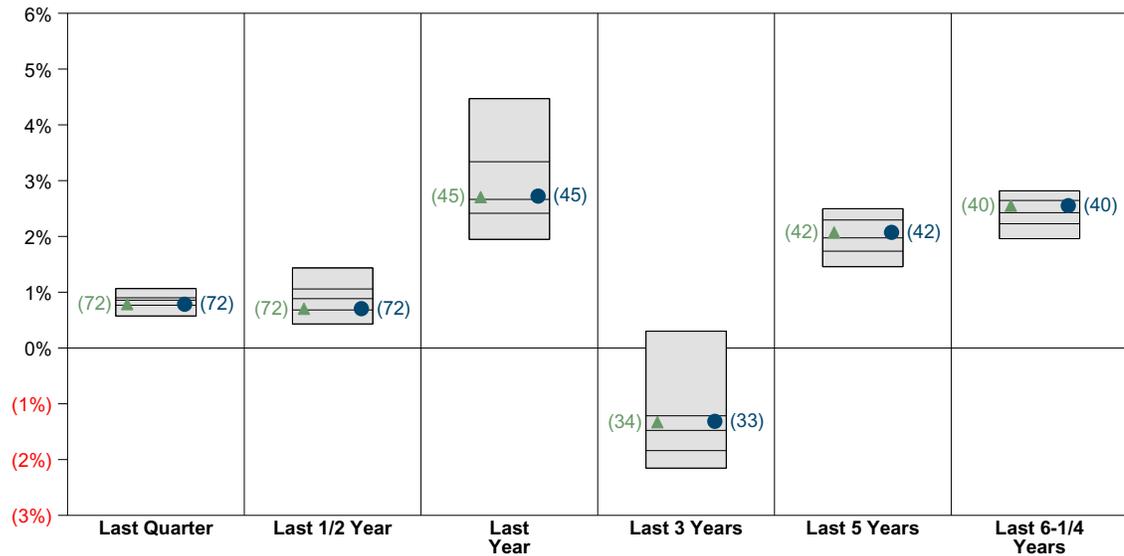
Investment Philosophy

The objective of the U.S. Treasury Inflation Protected Security Index Fund is to track the performance of the U.S. inflation-linked government bond market (otherwise known as Treasury Inflation Protected Securities, or "TIPS"). This fund is managed by Mellon Capital Management.

Quarterly Summary and Highlights

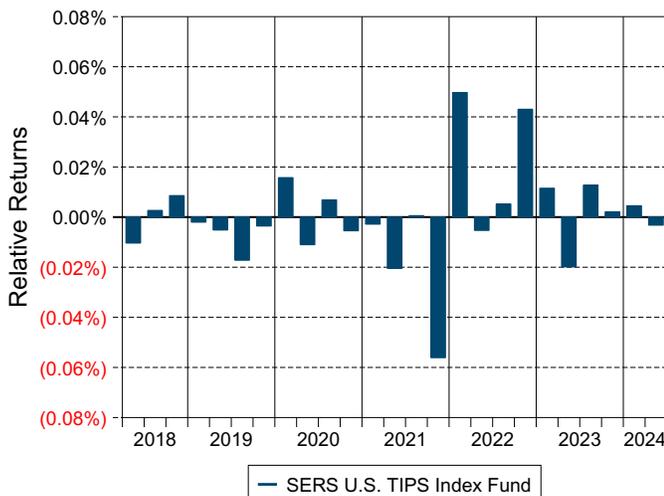
- SERS U.S. TIPS Index Fund's portfolio posted a 0.78% return for the quarter placing it in the 72 percentile of the Callan Treas Infl Prot Securities MFs group for the quarter and in the 45 percentile for the last year.
- SERS U.S. TIPS Index Fund's portfolio underperformed the Blmbg TIPS by 0.00% for the quarter and outperformed the Blmbg TIPS for the year by 0.02%.

Performance vs Callan Treas Infl Prot Securities MFs (Institutional Net)

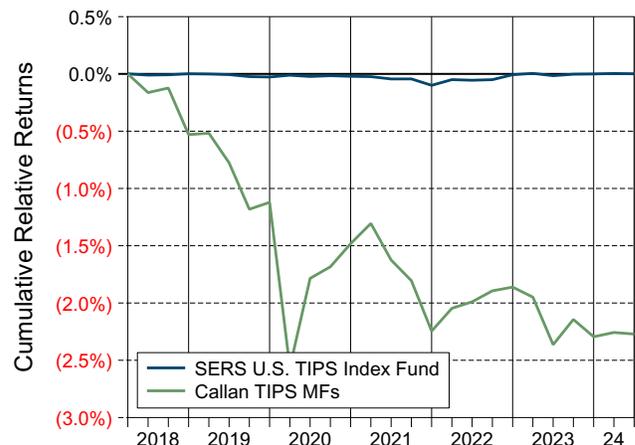


10th Percentile	1.07	1.44	4.47	0.30	2.50	2.82
25th Percentile	0.90	1.06	3.34	(1.22)	2.29	2.64
Median	0.86	0.88	2.66	(1.48)	1.97	2.43
75th Percentile	0.77	0.68	2.42	(1.84)	1.74	2.23
90th Percentile	0.57	0.43	1.95	(2.15)	1.46	1.96
SERS U.S. TIPS Index Fund	● 0.78	0.70	2.72	(1.31)	2.07	2.55
Blmbg TIPS	▲ 0.79	0.70	2.71	(1.33)	2.07	2.55

Relative Return vs Blmbg TIPS



Cumulative Returns vs Blmbg TIPS

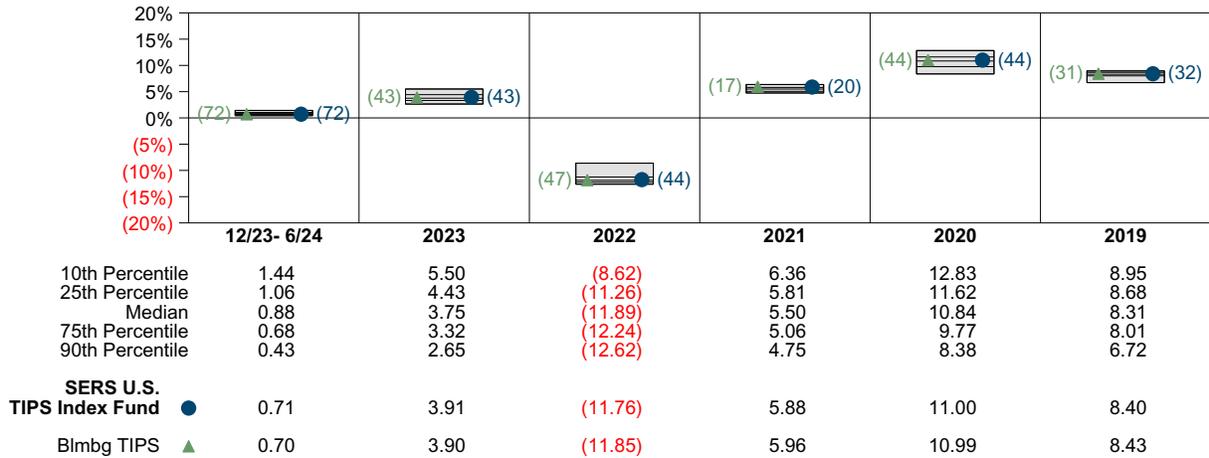


SERS U.S. TIPS Index Fund Return Analysis Summary

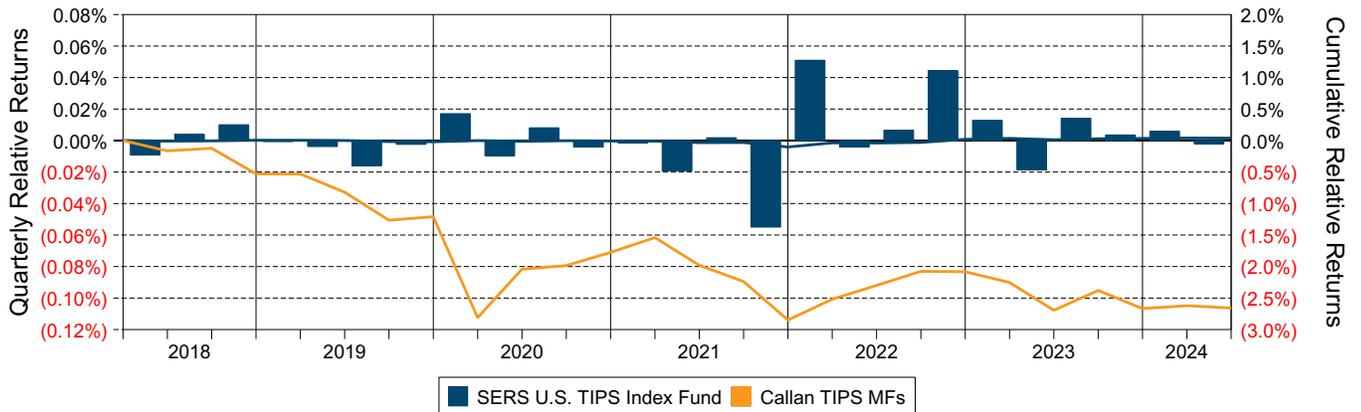
Return Analysis

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.

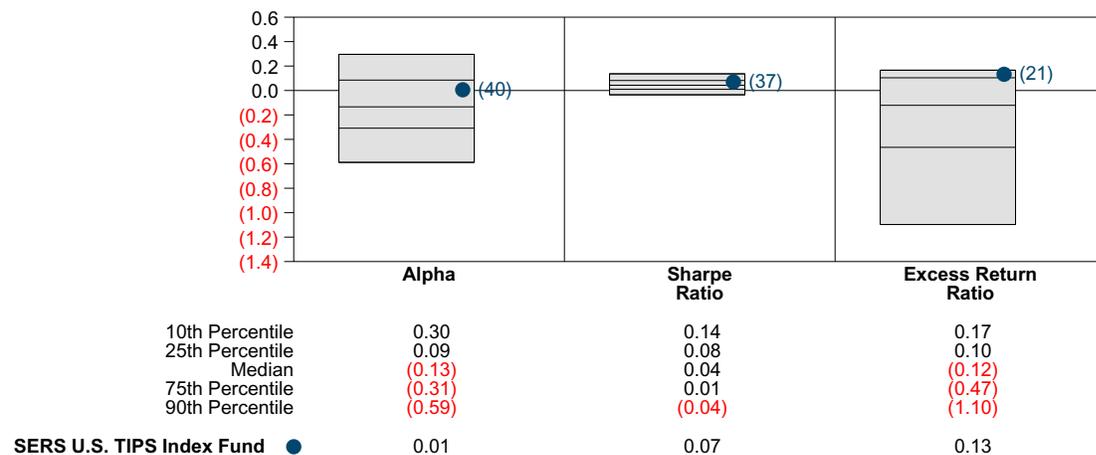
Performance vs Callan Treas Infl Prot Securities MFs (Institutional Net)



Cumulative and Quarterly Relative Returns vs Blmbg TIPS



Risk Adjusted Return Measures vs Blmbg TIPS Rankings Against Callan Treas Infl Prot Securities MFs (Institutional Net) Six and One-Quarter Years Ended June 30, 2024



SERS U.S. TIPS Index Fund

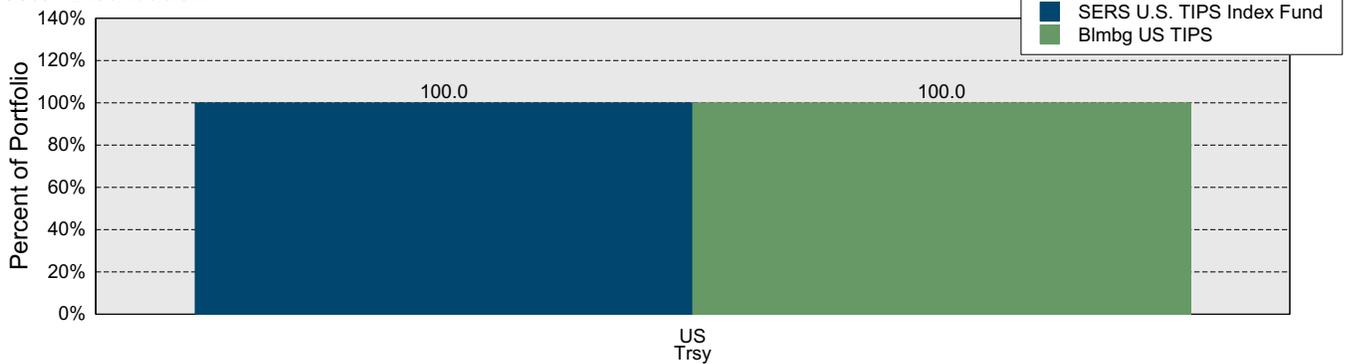
Portfolio Characteristics Summary

As of June 30, 2024

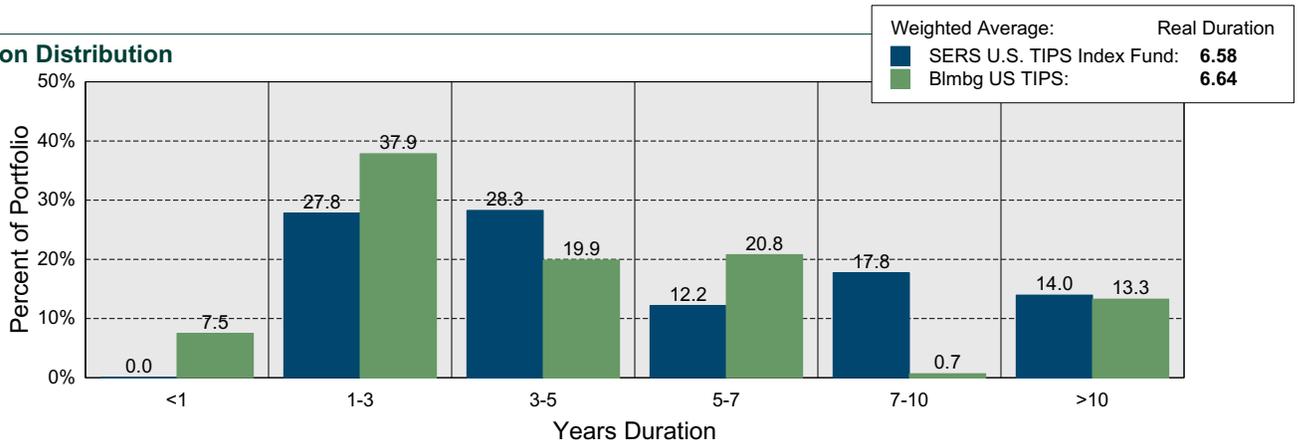
Portfolio Structure Comparison

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.

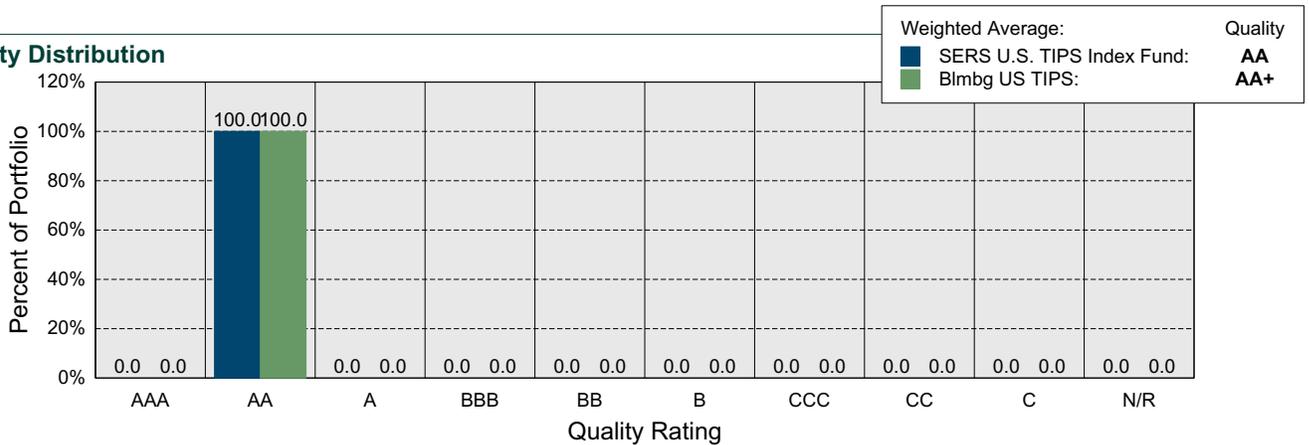
Sector Distribution



Duration Distribution



Quality Distribution

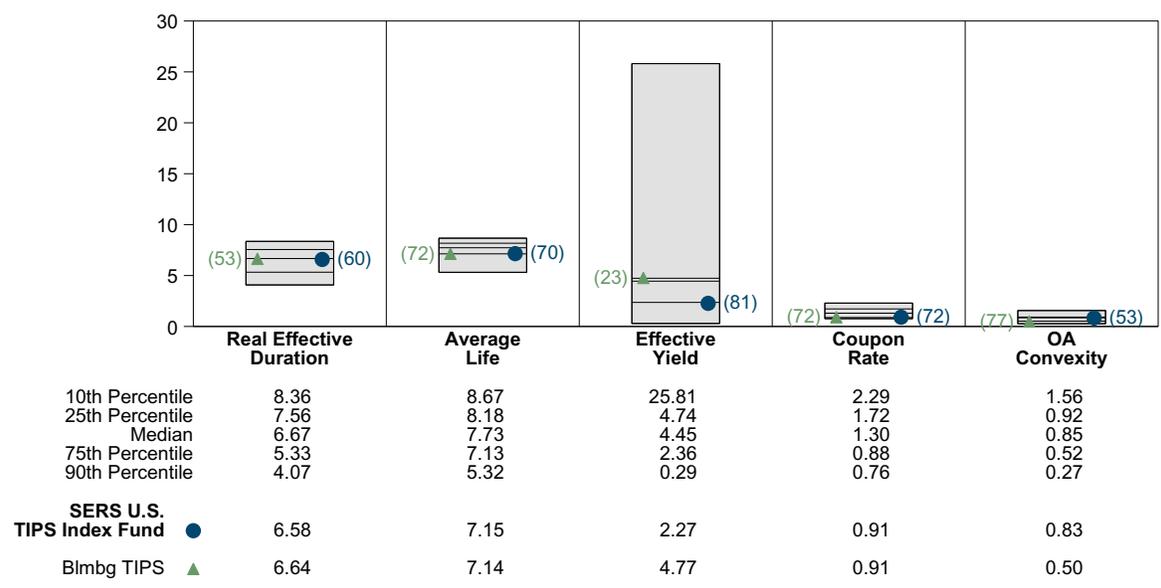


SERS U.S. TIPS Index Fund Bond Characteristics Analysis Summary

Portfolio Characteristics

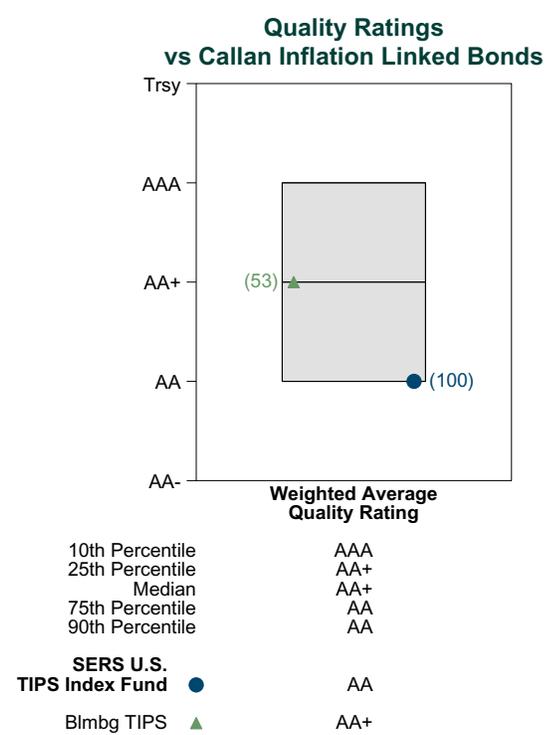
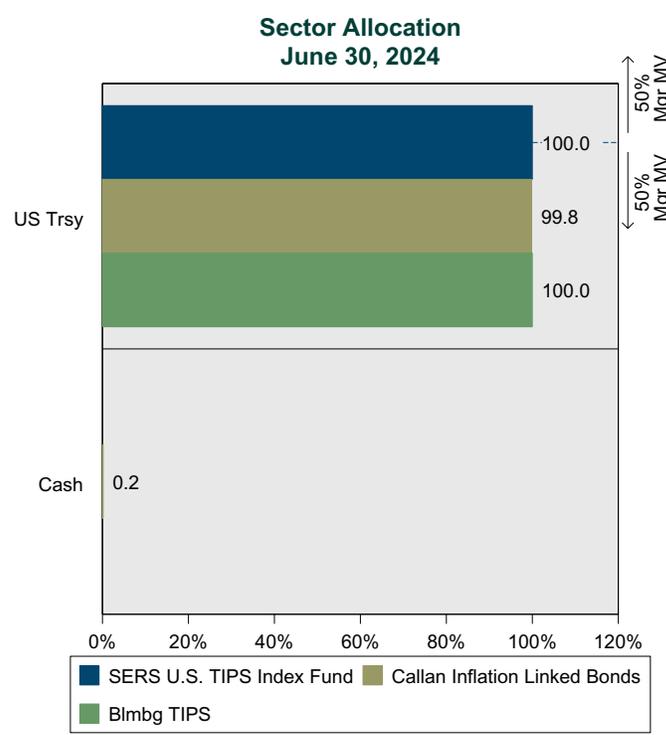
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics Rankings Against Callan Inflation Linked Bonds as of June 30, 2024



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.



SERS U.S. Bond Index Fund

Period Ended June 30, 2024

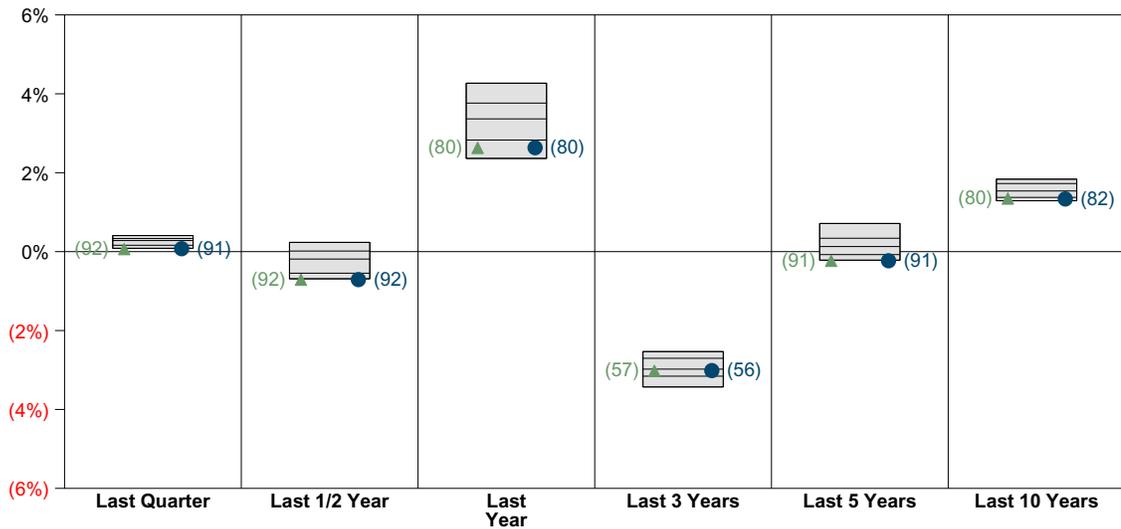
Investment Philosophy

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

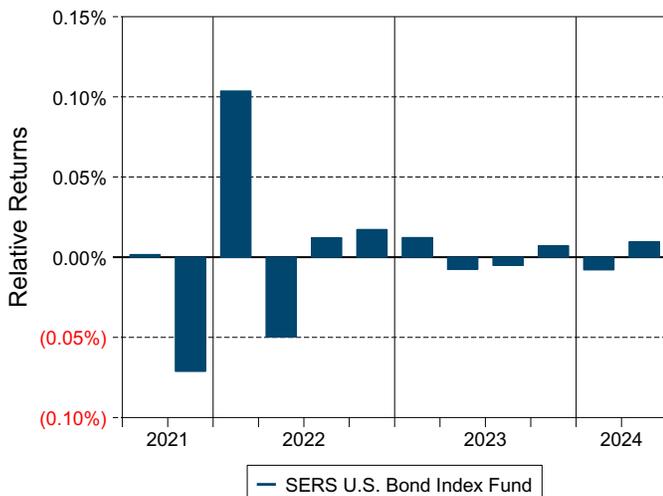
- SERS U.S. Bond Index Fund's portfolio posted a 0.07% return for the quarter placing it in the 91 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 80 percentile for the last year.
- SERS U.S. Bond Index Fund's portfolio outperformed the Blmbg:Aggregate by 0.01% for the quarter and outperformed the Blmbg:Aggregate for the year by 0.00%.

Performance vs Callan Core Bond Mutual Funds (Institutional Net)

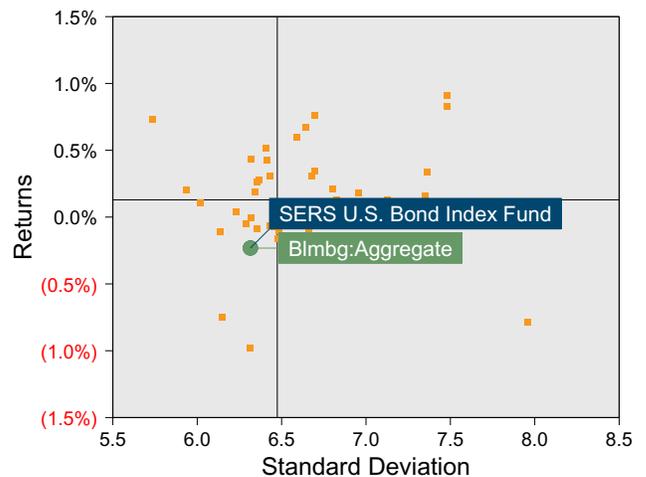


10th Percentile	0.41	0.23	4.27	(2.53)	0.71	1.84
25th Percentile	0.33	0.01	3.76	(2.70)	0.34	1.73
Median	0.28	(0.19)	3.36	(2.98)	0.13	1.54
75th Percentile	0.16	(0.55)	2.83	(3.16)	(0.08)	1.38
90th Percentile	0.08	(0.69)	2.36	(3.43)	(0.22)	1.29
SERS U.S. Bond Index Fund ●	0.07	(0.71)	2.63	(3.02)	(0.23)	1.33
Blmbg:Aggregate ▲	0.07	(0.71)	2.63	(3.02)	(0.23)	1.35

Relative Return vs Blmbg:Aggregate



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

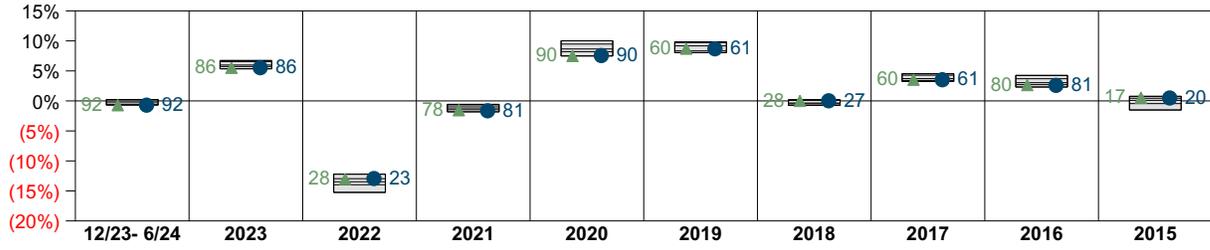


SERS U.S. Bond Index Fund Return Analysis Summary

Return Analysis

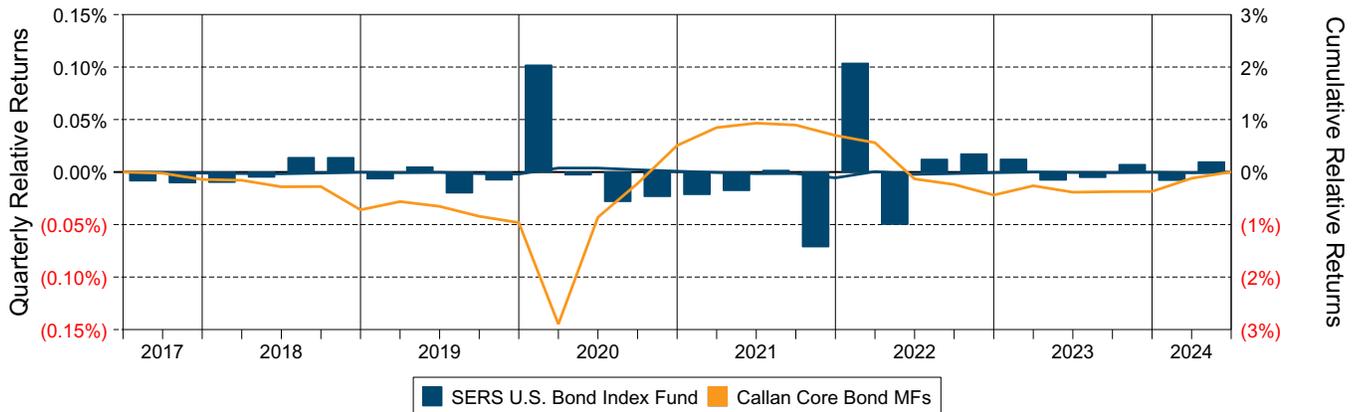
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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)

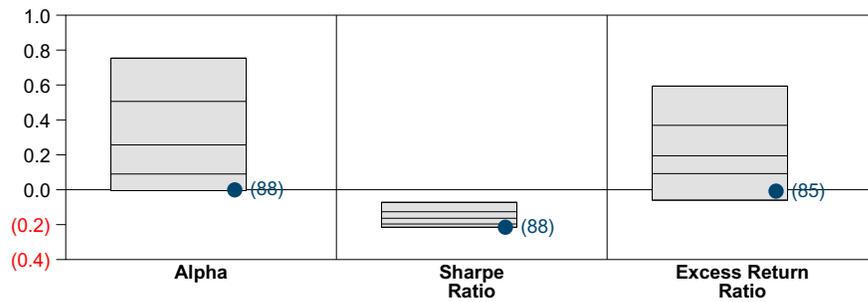


	12/23- 6/24	2023	2022	2021	2020	2019	2018	2017	2016	2015
SERS U.S. Bond Index Fund	● (0.71)	5.54	(12.94)	(1.65)	7.56	8.69	0.02	3.53	2.59	0.49
Blmbg:Aggregate	▲ (0.71)	5.53	(13.01)	(1.54)	7.51	8.72	0.01	3.54	2.65	0.55

Cumulative and Quarterly Relative Returns vs Blmbg:Aggregate



Risk Adjusted Return Measures vs Blmbg:Aggregate Rankings Against Callan Core Bond Mutual Funds (Institutional Net) Seven Years Ended June 30, 2024



	Alpha	Sharpe Ratio	Excess Return Ratio
SERS U.S. Bond Index Fund	● (0.00)	(0.21)	(0.01)

SERS U.S. Bond Index Fund

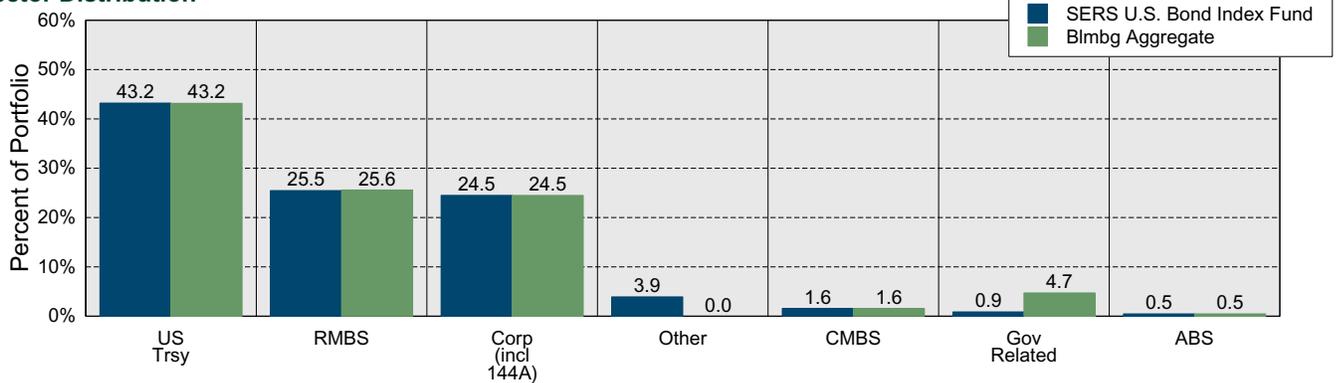
Portfolio Characteristics Summary

As of June 30, 2024

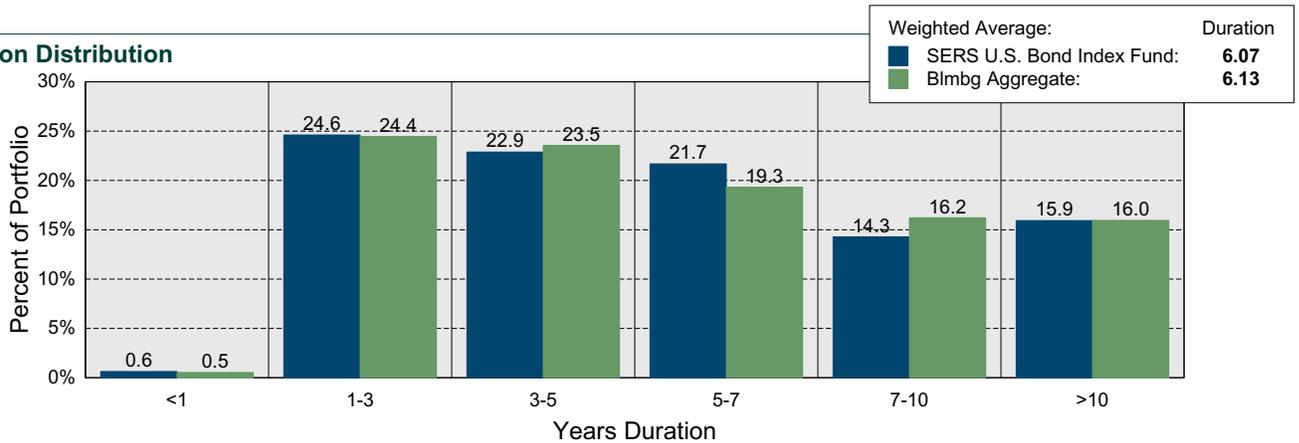
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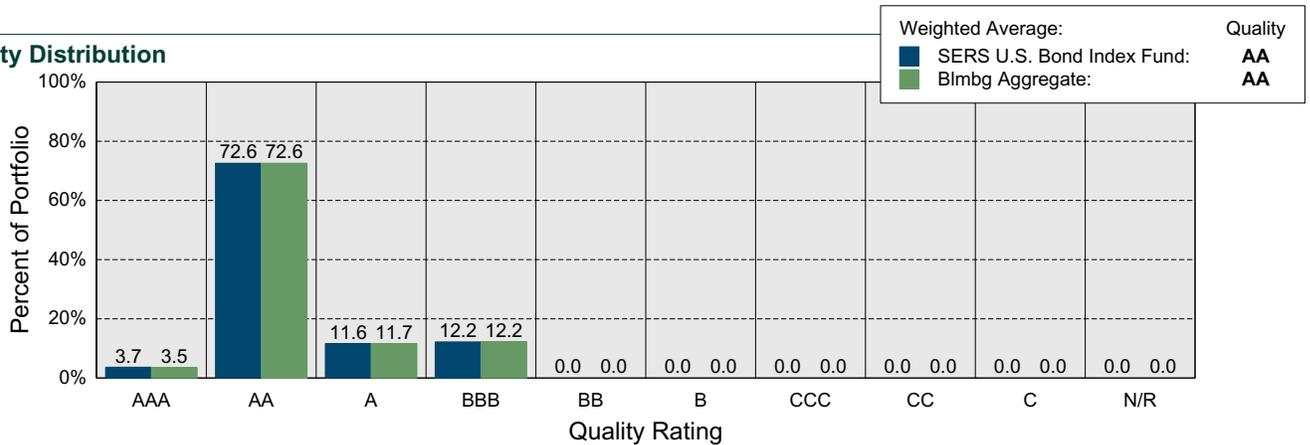
Sector Distribution



Duration Distribution



Quality Distribution



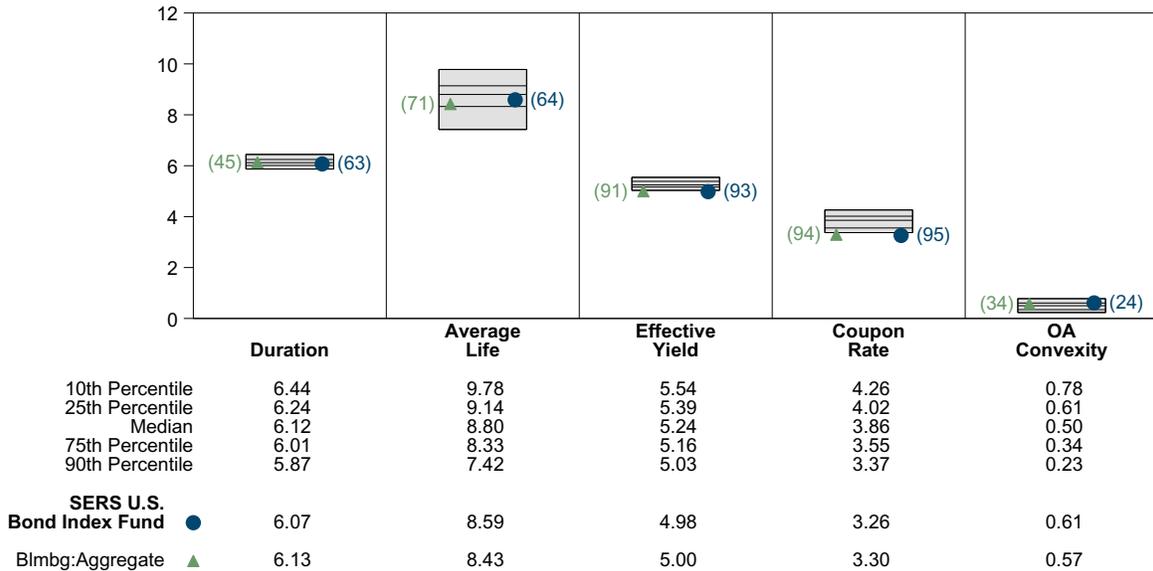
SERS U.S. Bond Index Fund

Bond Characteristics Analysis Summary

Portfolio Characteristics

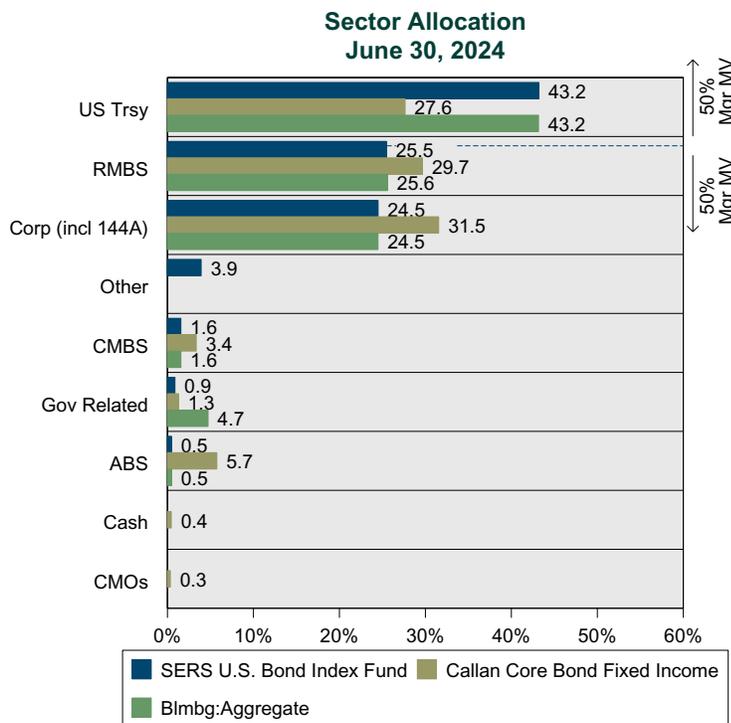
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Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of June 30, 2024

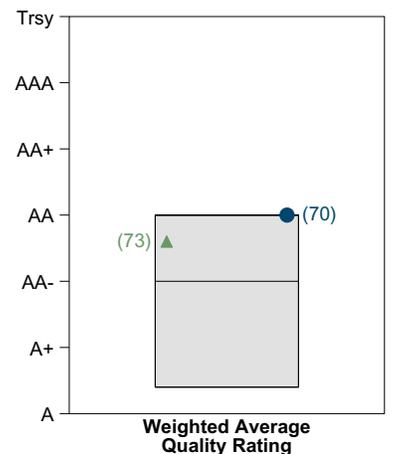


Sector Allocation and Quality Ratings

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.



Quality Ratings vs Callan Core Bond Fixed Income



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.

S&P 500 Index Measures performance of top 500 companies in leading industries of U.S. economy. The index covers approximately 80% of available market capitalization.

Fixed Income Market Indicators

3-month Treasury Bill Provides 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 Represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.

International Equity Market Indicators

MSCI EAFE (Net) 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, carefully structured educational programs to enhance the knowledge of industry professionals, and events to enhance dialogue among investing 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

[Quantifying Sequence-of>Returns Risk for Institutional Investors](#) | This paper shows institutional investors how to quantify sequence-of-returns risk in a single number. The metric is flexible enough to apply to strategic asset-allocation decisions across a variety of investor types.

[Sector-Specialist Strategies on the Rise: Do They Make Sense for Large LPs' Portfolios?](#) | To distinguish themselves in a competitive market, more private equity general partners are offering sector-specialist strategies, which focus on investing in a specific industry.

[2024 Asset Manager DEI Study](#) | The study offers a high-level assessment of the degree to which asset management organizations have established diversity, equity, and inclusion (DEI) policies and procedures.

[2024 DC Trends Survey](#) | This survey provides extensive information for DC plan sponsors to use in improving and benchmarking their plans.

Webinar Replays

[Research Café: ESG Interview Series](#) | This session features Mark Wood, Callan ESG team member, interviewing Nicole Wubbena, fellow ESG and Global Manager Research group member. Their discussion focuses on impact investing in public equity.

Blog Highlights

[Commercial Real Estate Capital Markets and Institutional Investors](#) | A blog post from Christine Mays on the state of the commercial real estate capital markets.

[Is This a Time for Active Managers to Shine?](#) | Tony Lissuzzo of Callan's Nonprofit Group writes on how dispersion affects active management.

Quarterly Updates

[Private Equity Update, 1Q24](#) | A high-level summary of private equity activity in the quarter through all the investment stages

[Active vs. Passive Charts, 1Q24](#) | A comparison of active managers alongside relevant benchmarks over the long term

[Market Pulse, 1Q24](#) | 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, 1Q24](#) | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

[Hedge Fund Update, 1Q24](#) | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

[Real Assets Update, 1Q24](#) | A summary of market activity for real assets and private real estate during the quarter

[Private Credit Update, 1Q24](#) | A review of performance and fundraising activity for private credit during the quarter

[Callan Target Date Index™, 1Q24](#) | Tracks the performance and asset allocation of available target date mutual funds and CITs

[Callan DC Index™, 1Q24](#) | Provides underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately \$400 billion in assets.

Events

A complete list of all upcoming events can be found on our website: callan.com/events-education.

Please mark your calendar and look forward to upcoming invitations:

October Regional Workshops

October 22, 2024 – Denver

October 23, 2024 – Chicago

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

4,845

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

September 24-26, 2024 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities.

Our virtual sessions are held over two to three days with virtual modules of 2.5-3 hours, while in-person sessions run either a full day or one-and-a-half days. 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



"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

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