

February 25, 2025



**Pennsylvania State Employees'
Retirement System – Defined
Benefit Plan**

Fourth Quarter 2024

Executive Summary

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Market Environment

Equity Markets Up Sharply in 2024

Stocks have recovered losses of 2022; fixed income still lags

S&P 500 climbed 25% in 2024

- U.S. large cap substantially outperformed U.S. small cap, developed ex-U.S. markets, and emerging markets. Technology and AI drove the S&P 500.

Weak 4Q for core fixed income

- The Bloomberg Aggregate fell 3.1%. Long duration and non-U.S. bonds saw even greater declines.
- Interest rates remain volatile as the markets assess how the Fed will continue with easing.
- CPI-U came in at 2.9% (year-over-year) through December, up from 3Q, but with a welcome decline in the core figure, which rose 3.2%.

Solid growth through 2024

- 3Q GDP came in at a surprisingly strong 3.1%, after another surprise in 2Q, and saw 2.3% growth in 4Q. Consumer spending continues to drive GDP growth.

Returns for Periods ended 12/31/24

	Quarter	1 Year	3 Years	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	2.63	23.81	8.01	13.86	12.55	7.84
S&P 500	2.41	25.02	8.94	14.53	13.10	7.70
Russell 2000	0.33	11.54	1.24	7.40	7.82	7.55
Global ex-U.S. Equity						
MSCI World ex USA	-7.43	4.70	1.91	5.10	5.26	3.78
MSCI Emerging Markets	-8.01	7.50	-1.92	1.70	3.64	--
MSCI ACWI ex USA Small Cap	-7.66	3.36	-1.47	4.30	5.66	6.23
Fixed Income						
Bloomberg Aggregate	-3.06	1.25	-2.41	-0.33	1.35	3.94
90-day T-Bill	1.17	5.25	3.89	2.46	1.77	1.91
Bloomberg Long Gov/Credit	-7.42	-4.15	-9.20	-3.26	0.99	5.36
Bloomberg Global Agg ex-US	-6.84	-4.22	-6.28	-3.37	-0.90	2.45
Real Estate						
NCREIF Property Index	0.90	0.43	-0.82	3.13	5.66	7.58
FTSE Nareit Equity	-6.21	8.73	-2.20	4.27	5.73	9.84
Alternatives						
Cambridge Private Equity*	2.68	7.93	2.75	14.27	13.40	12.39
Cambridge Senior Debt*	3.35	10.18	7.08	7.89	7.31	4.59
HFRI Fund Weighted	1.49	9.83	4.41	7.00	5.26	5.57
Bloomberg Commodity	-0.45	5.38	4.05	6.77	1.28	2.15
Gold Spot Price	-0.69	27.47	13.04	11.64	8.35	9.24
Inflation: CPI-U*	0.10	2.89	4.22	4.20	3.00	2.54

*Cambridge Private Equity and Cambridge Senior Debt data as of 9/30/24. Returns greater than one year are annualized.

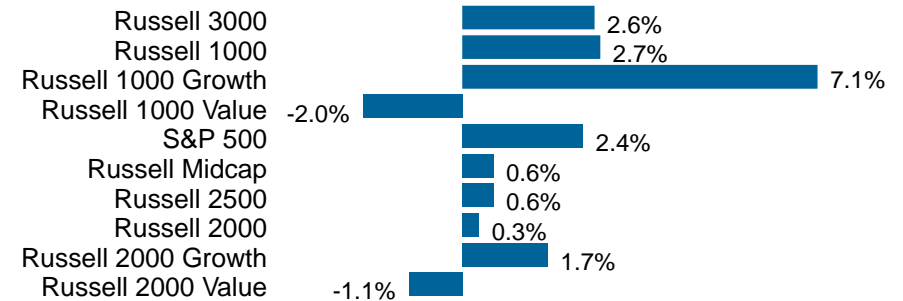
Sources: Bloomberg, Callan, Cambridge, FTSE Russell, HFRI, MSCI, NCREIF, S&P Dow Jones Indices

U.S. Equity Performance: 4Q24

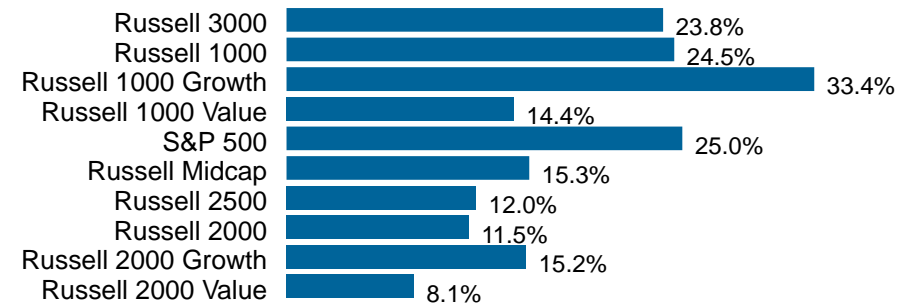
U.S. market ends on a high note, though with some volatility

- The U.S. equity market ended on a positive note as the S&P 500 Index was up over 2%. However, the quarter was marked by volatility, particularly during October and December. Negative returns in October were driven by investor anxiety around the U.S. presidential election, uncertainty with the Fed's approach to interest rate cuts on a go-forward basis, and some misses to earnings expectations for companies. December returns, while initially buoyed by the Fed's third consecutive rate cut, cooled after the Fed announced no additional rate cuts until the second half of 2025.
- Sector performance was mixed; only 4 (Communication Services, Consumer Discretionary, Financials, and Information Technology) posted positive returns.
- During 4Q24, large cap stocks outperformed small cap stocks. Growth stocks outperformed value stocks across the market cap spectrum.
- Market concentration remains elevated; the percentage of companies outperforming the S&P 500 is at historic lows and there remains a large divergence between S&P 500 and S&P 500 ex-Magnificent Seven returns.

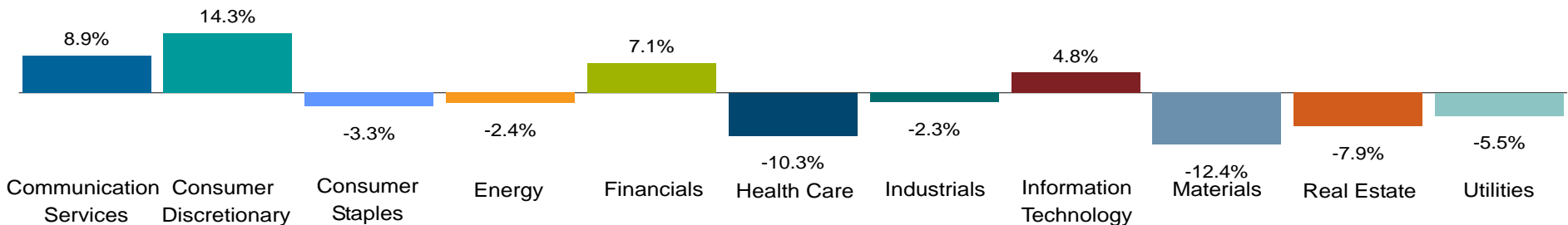
U.S. Equity: Quarter Ended 12/31/24



U.S. Equity: One Year Ended 12/31/24



Industry Sector Quarterly Performance (S&P 500) as of 12/31/24



Sources: FTSE Russell, S&P Dow Jones Indices

U.S. Equity Overview

Narratives around large caps remain unchanged

Large caps keep driving narrow markets

- Concentration and performance contribution of the Mag Seven stocks within the large cap benchmarks remain outsized relative to the aggregate of benchmark constituents. In 2024, the S&P 500's return was 25%; the S&P 500 ex-Mag Seven return was 16%.
- For the second straight year <30% of S&P 500 stocks outperformed the S&P 500 itself.

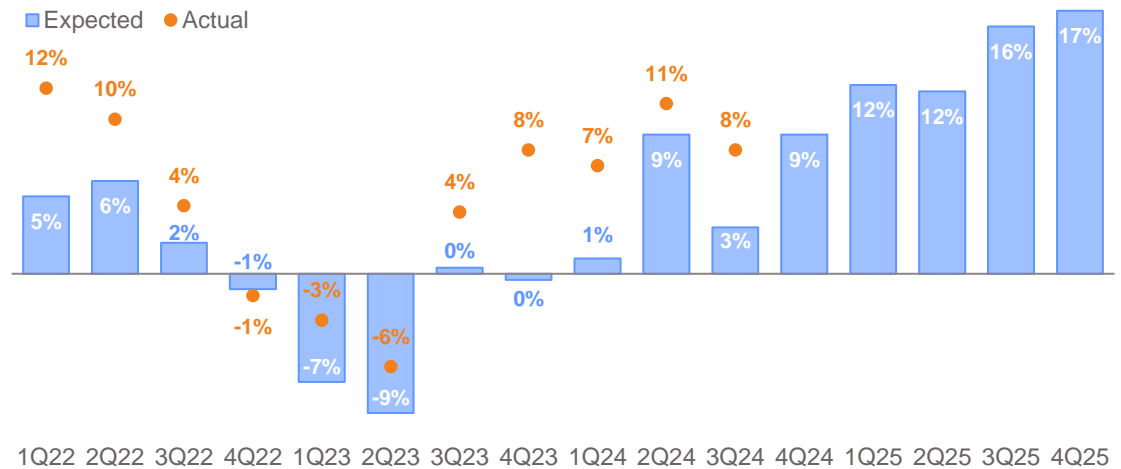
Fundamentals key to success of large caps

- In recent years, themes—like “work from home” stocks and AI—as well as momentum have been attributed to the prolonged success of the Mag Seven.
- However, Mag Seven valuations have been supported by strong earnings, low debt, and high cash levels. Consensus and forward-looking EPS growth expectations also remain high for large cap companies.

Magnificent Seven Stocks and % Contribution to Benchmark Performance



S&P 500 Quarterly Year / Year EPS Growth Relative to Consensus Expectations



Sources: Factset, Furey Research Partners, Goldman Sachs Global Investment Research (12/12/24), Westfield Capital

Global/Global ex-U.S. Equity Performance: 4Q24

Non-U.S. markets pull back at year-end

Broad market

- Global equity markets had a rough end to the year as concerns around Trump tariffs weighed on Europe and China.
- Europe was one of the worst-performing regions, plagued by political uncertainty and continued economic woes.
- While still negative, Japan's decline over the quarter was stemmed by the approval of a new economic stimulus plan focused on issues such as wage stability and deflation.

Emerging markets

- Emerging markets declined on the heels of poor results out of China and India. Although Chinese stocks initially gained from the announced stimulus, they later declined due to expected tariffs. Economic growth in India fell short of expectations.

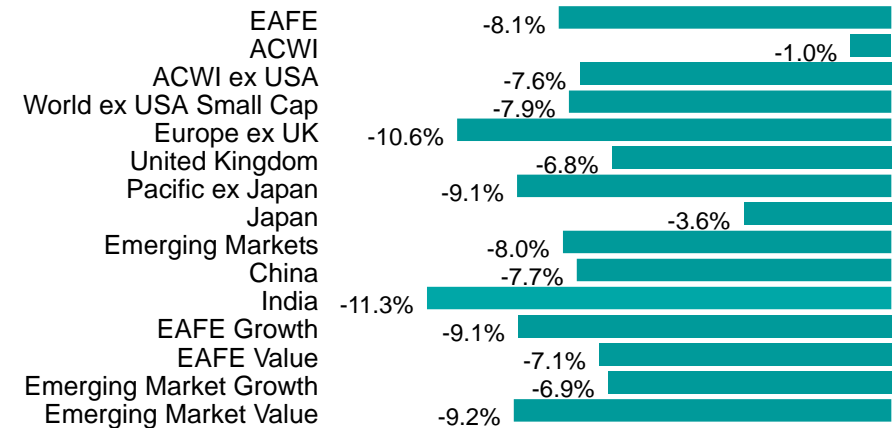
Growth vs. value

- In developed markets outside the U.S., the influence of technology and AI is comparatively more muted, which makes the trend of growth stocks, especially those from the "Magnificent Seven," outperforming value stocks less pronounced.

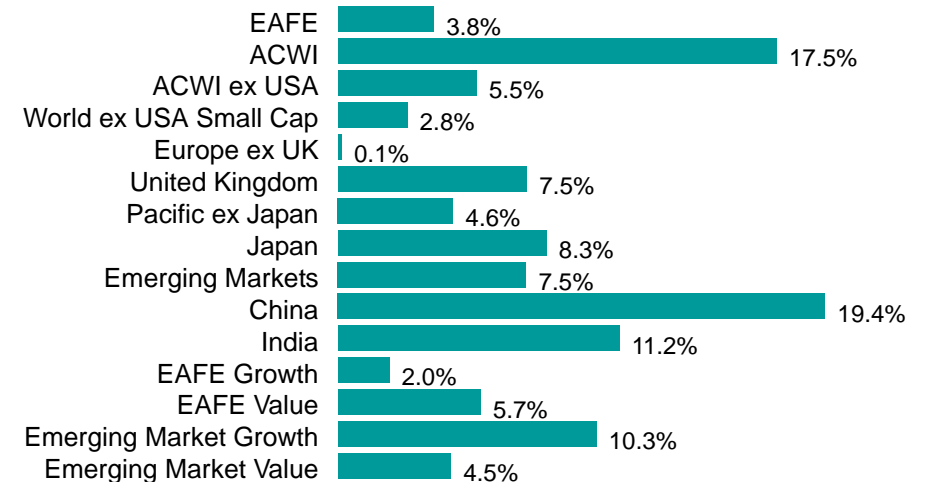
U.S. dollar strength

- The U.S. dollar shifted direction from the last quarter as expectations for interest rate cuts faded, along with the anticipated beneficial effects of the Trump administration on the U.S. economy; in total the U.S. Dollar Index rose over 7% during the quarter.

Global Equity Returns: Quarter Ended 12/31/24



Global Equity Returns: One Year Ended 12/31/24



Source: MSCI

Global/Global ex-U.S. Equity Key Themes

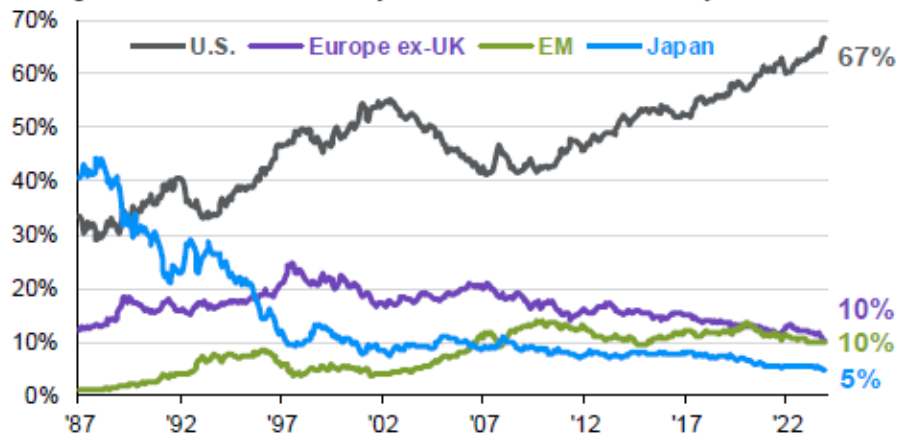
Global market concentration and non-U.S. valuation discounts

Global equity market concentration continues higher

- The U.S. share of market capitalization in global indices is at all-time highs as U.S. technology companies lead markets higher.
- Market capitalization-weighted global benchmarks are providing lower diversification benefits than historically at not only the country level but also the security level as the top five constituents of the MSCI ACWI Index currently comprise over 17% of the benchmark.

Share of Global Market Capitalization

% Weight in the MSCI ACWI Index, USD, Monthly



Non-U.S. relative valuations at extreme lows

- As U.S. stocks trend higher, non-U.S. equity valuations are at extreme discounts vs. the U.S. against historical averages. At the sector level, almost every non-U.S. sector is currently trading at a large discount to its U.S. counterpart.
- While political concerns and economic challenges have been contributing factors to the valuation gap, markets are pricing in high expectations for continued U.S. strength.

Price-to-Earnings Discount vs. U.S.

MSCI ACWI ex-USA vs. S&P 500, next 12 months



Sources: FactSet, J.P. Morgan Asset Management, MSCI, S&P Dow Jones Indices

U.S. Fixed Income Performance: 4Q24

Uncertainty resumes, hurting 4Q fixed income performance

Macro environment

- The Fed continued the rate cutting cycle, most recently in December, bringing the target range to 4.25%-4.50%.
- The yield curve steepened, with rates rising for Treasuries one year and longer. The 10-year rose 77 bps from 3.81% to 4.58%.
- Inflation concerns resurfaced, with the breakeven inflation rate rising by 19 bps to 2.30% over the course of the quarter.

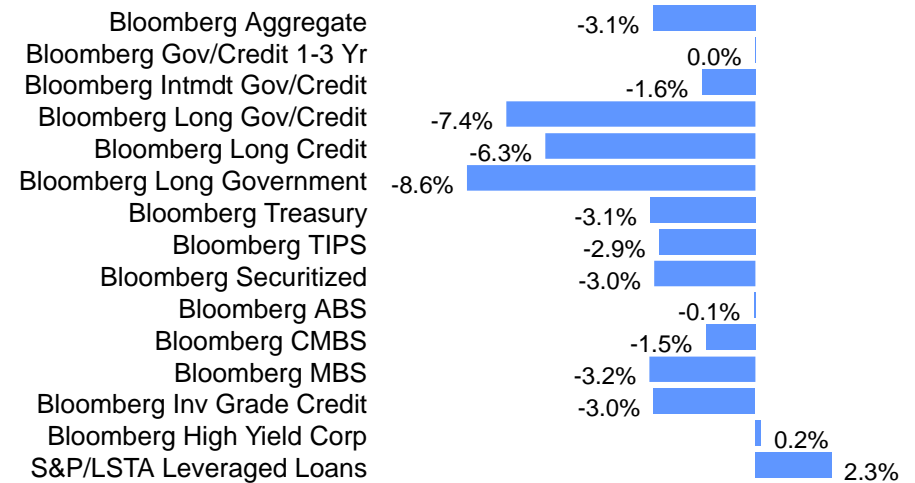
Performance and drivers

- The Bloomberg US Aggregate Bond Index fell 3.1% due to the rise in rates.
- With the steepening yield curve, long government bonds fared the worst among sectors.
- Leveraged finance sectors (High yield: +0.2%, leveraged loans: +2.3%) were the only positive fixed income sectors as spreads tightened.

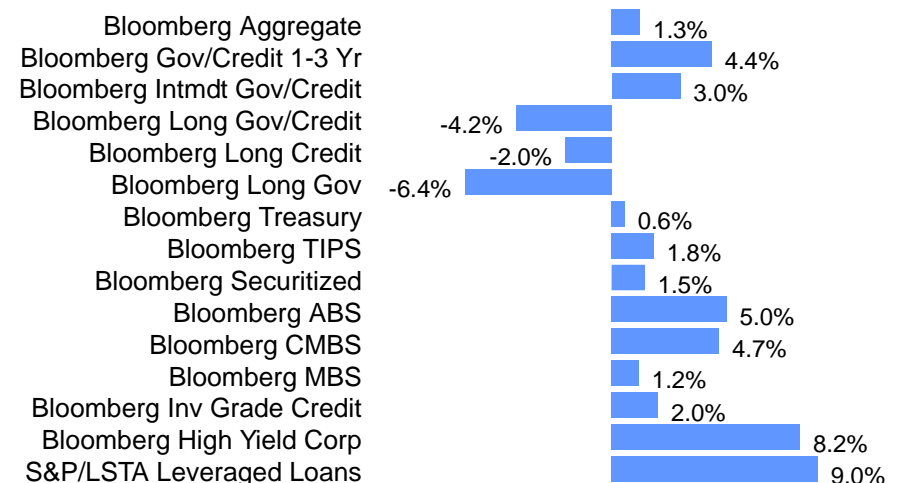
Valuations

- Corporate credit spreads across both investment grade and leveraged finance tightened, with both being “priced to perfection.”
- New issuance continued to be strong, with 2024 totals for both IG and HY outpacing 2023.

U.S. Fixed Income Returns: Quarter Ended 12/31/24



U.S. Fixed Income Returns: One Year Ended 12/31/24



Sources: Bloomberg, Callan, J.P. Morgan, S&P Dow Jones Indices, U.S. Treasury

Diversification Remains Key Risk Control

Periodic Table of Investment Returns

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Emerging Markets	Emerging Markets	Emerging Markets	U.S. Fixed	Emerging Markets	Small Cap	Real Estate Funds	Emerging Markets	Small Cap	Large Cap	Real Estate Funds	Small Cap	Emerging Markets	Real Estate Funds	Large Cap	Small Cap	Large Cap	Real Estate Funds	Large Cap	Large Cap
34.00%	32.17%	39.38%	5.24%	78.51%	26.85%	14.96%	18.23%	38.82%	13.69%	13.95%	21.31%	37.28%	7.36%	31.49%	19.96%	28.71%	6.55%	26.29%	25.02%
Real Estate Funds	Non-U.S. Equity	Real Estate Funds	Non-U.S. Fixed	High Yield	Emerging Markets	U.S. Fixed	Non-U.S. Equity	Large Cap	Real Estate Funds	Large Cap	High Yield	Non-U.S. Equity	Cash Equivalent	Small Cap	Large Cap	Real Estate Funds	Cash Equivalent	Non-U.S. Equity	Small Cap
20.15%	25.71%	14.84%	4.39%	58.21%	18.88%	7.84%	16.41%	32.39%	11.46%	1.38%	17.13%	24.21%	1.87%	25.52%	18.40%	21.02%	1.46%	17.94%	11.54%
Non-U.S. Equity	Small Cap	Hedge Funds	Cash Equivalent	Non-U.S. Equity	Real Estate Funds	High Yield	Small Cap	Non-U.S. Equity	U.S. Fixed	U.S. Fixed	Large Cap	Large Cap	U.S. Fixed	Non-U.S. Equity	Emerging Markets	Small Cap	Hedge Funds	Small Cap	Hedge Funds
14.47%	18.37%	12.56%	2.06%	33.67%	15.26%	4.98%	16.35%	21.02%	5.97%	0.55%	11.96%	21.83%	0.01%	22.49%	18.31%	14.82%	1.06%	16.93%	9.82%
Hedge Funds	Large Cap	Non-U.S. Equity	Real Estate Funds	Small Cap	High Yield	Non-U.S. Fixed	Large Cap	Real Estate Funds	Small Cap	Cash Equivalent	Emerging Markets	Small Cap	High Yield	Emerging Markets	Non-U.S. Fixed	Non-U.S. Equity	High Yield	High Yield	High Yield
7.61%	15.79%	12.44%	-10.70%	27.17%	15.12%	4.36%	16.00%	12.90%	4.89%	0.05%	11.19%	14.65%	-2.08%	18.44%	10.11%	12.62%	-11.19%	13.44%	8.19%
Large Cap	Real Estate Funds	Non-U.S. Fixed	Hedge Funds	Large Cap	Large Cap	Large Cap	High Yield	Hedge Funds	Hedge Funds	Hedge Funds	Real Estate Funds	Non-U.S. Fixed	Non-U.S. Fixed	High Yield	Non-U.S. Equity	Hedge Funds	U.S. Fixed	Emerging Markets	Emerging Markets
4.91%	15.27%	11.03%	-19.07%	26.47%	15.06%	2.11%	15.81%	9.73%	4.13%	-0.71%	7.79%	10.51%	-2.15%	14.32%	7.59%	8.23%	-13.01%	9.83%	7.50%
Small Cap	Hedge Funds	U.S. Fixed	High Yield	Hedge Funds	Hedge Funds	Cash Equivalent	Real Estate Funds	High Yield	High Yield	Non-U.S. Equity	Non-U.S. Equity	High Yield	Hedge Funds	Hedge Funds	U.S. Fixed	High Yield	Non-U.S. Equity	Hedge Funds	Cash Equivalent
4.55%	13.86%	6.97%	-26.16%	18.57%	10.95%	0.10%	9.79%	7.44%	2.45%	-3.04%	2.75%	7.50%	-3.19%	9.31%	7.51%	5.28%	-14.29%	5.83%	5.25%
Cash Equivalent	High Yield	Large Cap	Small Cap	Non-U.S. Fixed	Non-U.S. Equity	Hedge Funds	Hedge Funds	Cash Equivalent	Cash Equivalent	Small Cap	U.S. Fixed	Hedge Funds	Large Cap	U.S. Fixed	High Yield	Cash Equivalent	Large Cap	Non-U.S. Fixed	Non-U.S. Equity
3.06%	11.85%	5.49%	-33.79%	7.53%	8.95%	-2.52%	7.67%	0.07%	0.04%	-4.41%	2.65%	7.12%	-4.38%	8.72%	7.11%	0.05%	-18.11%	5.72%	4.70%
High Yield	Non-U.S. Fixed	Cash Equivalent	Large Cap	U.S. Fixed	U.S. Fixed	Small Cap	U.S. Fixed	U.S. Fixed	Emerging Markets	High Yield	Non-U.S. Fixed	Real Estate Funds	Small Cap	Non-U.S. Fixed	Hedge Funds	U.S. Fixed	Non-U.S. Fixed	U.S. Fixed	U.S. Fixed
2.74%	8.16%	5.00%	-37.00%	5.93%	6.54%	-4.18%	4.21%	-2.02%	-2.19%	-4.47%	1.49%	6.66%	-11.01%	5.09%	6.36%	-1.54%	-18.70%	5.53%	1.25%
U.S. Fixed	Cash Equivalent	High Yield	Non-U.S. Equity	Cash Equivalent	Non-U.S. Fixed	Non-U.S. Equity	Non-U.S. Fixed	Emerging Markets	Non-U.S. Fixed	Non-U.S. Fixed	Hedge Funds	U.S. Fixed	Non-U.S. Equity	Real Estate Funds	Cash Equivalent	Emerging Markets	Emerging Markets	Cash Equivalent	Real Estate Funds
2.43%	4.86%	1.87%	-43.56%	0.21%	4.95%	-12.21%	4.09%	-2.60%	-3.09%	-6.02%	1.25%	3.54%	-14.09%	4.39%	0.67%	-2.54%	-20.09%	5.01%	-2.27%
Non-U.S. Fixed	U.S. Fixed	Small Cap	Emerging Markets	Real Estate Funds	Cash Equivalent	Emerging Markets	Cash Equivalent	Non-U.S. Fixed	Non-U.S. Equity	Emerging Markets	Cash Equivalent	Cash Equivalent	Emerging Markets	Cash Equivalent	Real Estate Funds	Non-U.S. Fixed	Small Cap	Real Estate Funds	Non-U.S. Fixed
-8.65%	4.33%	-1.57%	-53.33%	-30.40%	0.13%	-18.42%	0.11%	-3.08%	-4.32%	-14.92%	0.33%	0.86%	-14.57%	2.28%	0.34%	-7.05%	-20.44%	-12.73%	-4.22%

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

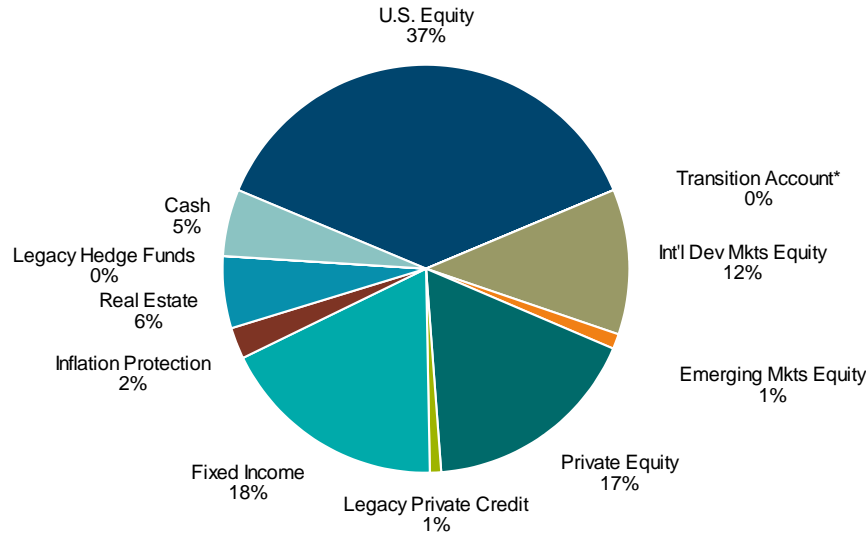
Callan

**PA SERS Defined Benefit Plan
Performance Review**

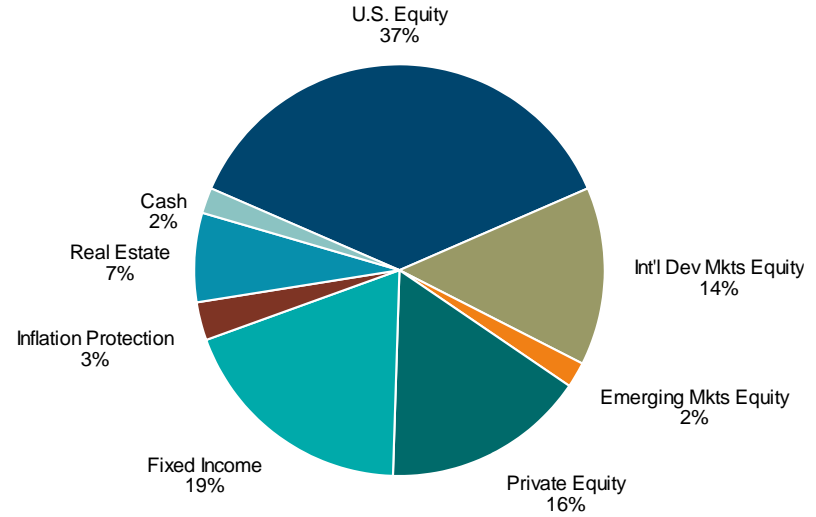
Total Fund

Actual Asset Allocation versus Target as of December 31, 2024

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
U.S. Equity	14,450,036	37.4%	37.0%	0.4%	137,223
Transition Account*	937	0.0%	0.0%	0.0%	937
Int'l Dev Mkts Equity	4,462,526	11.5%	14.0%	(2.5%)	(953,132)
Emerging Mkts Equity	467,479	1.2%	2.0%	(0.8%)	(306,187)
Private Equity	6,724,225	17.4%	16.0%	1.4%	534,901
Legacy Private Credit	344,029	0.9%	0.0%	0.9%	344,029
Fixed Income	7,004,918	18.1%	19.0%	(0.9%)	(344,904)
Inflation Protection	948,914	2.5%	3.0%	(0.5%)	(211,585)
Real Estate	2,219,645	5.7%	7.0%	(1.3%)	(488,185)
Legacy Hedge Funds	14,159	0.0%	0.0%	0.0%	14,159
Cash	2,046,409	5.3%	2.0%	3.3%	1,272,744
Total	38,683,277	100.0%	100.0%		

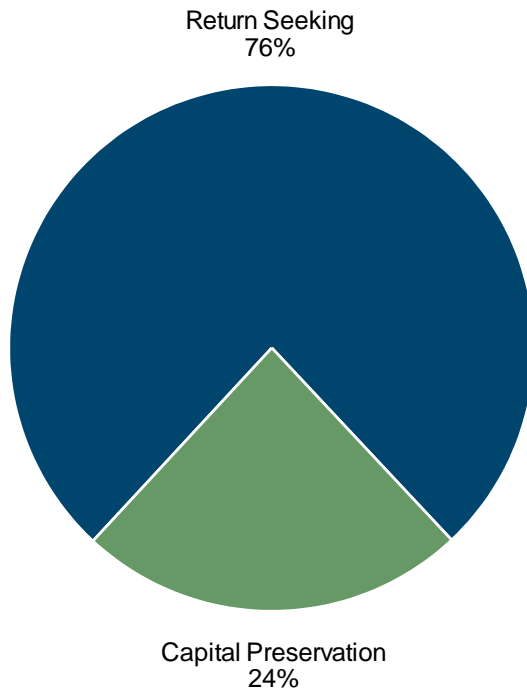
*Market values are shown net of accrued fees.

*Transition account market values are not included in any asset class and are excluded from these charts.

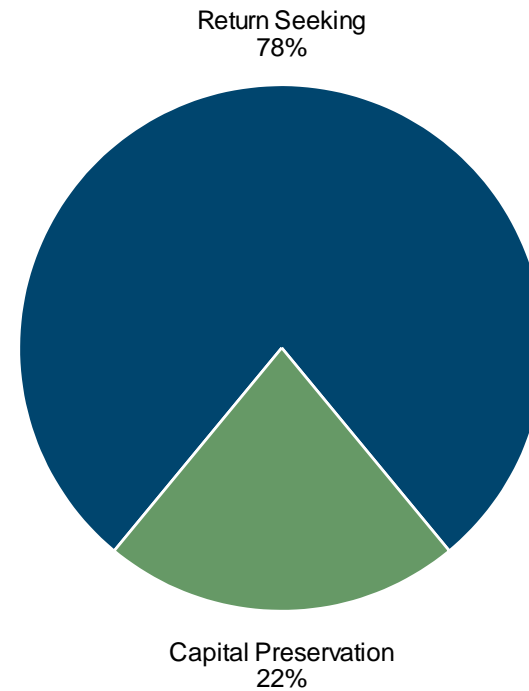
Return Seeking and Capital Preservation Assets

As of December 31, 2024

Actual Asset Allocation



Target Asset Allocation



*Return Seeking Assets: U.S. Equity, Int'l Developed Markets Equity, Emerging Markets Equity, Transition Account, Private Equity, Real Estate, Opportunistic Fixed Income, Legacy Hedge Funds and Legacy Private Credit.

*Capital Preservation Assets: Core Fixed Income, Nominal U.S. Treasuries, Inflation Protection (TIPS) and Cash.

*Market values are shown net of accrued fees.

Projected Risk, Liquidity and Correlation

	Capital Preservation Assets				Return Seeking Assets					
	Cash	Inflation Protection (TIPS)	Treasuries	Core Fixed Income	U.S. Equity	Developed International Equity	Emerging Markets Equity	Opportunistic Fixed Income	Real Estate	Private Equity
Policy Target Asset Allocation	2%	3%	5%	12%	37%	14%	2%	2%	7%	16%
Projected Return* (Geometric)	3.00%	5.05%	4.70%	5.25%	7.65%	7.50%	7.70%	7.40%	7.65%	8.75%
Projected Risk* (Standard Deviation)	0.90%	5.40%	5.55%	4.25%	17.40%	20.15%	25.60%	15.70%	15.75%	27.60%
Liquidity	High	High	High	High	High	High	Medium	Low	Low	Low
Correlation to U.S. Equity*	-0.03	-0.03	-0.05	0.08	1.00	0.73	0.84	0.68	0.68	0.80
Months of Benefit Payments**	6.1	2.8	4.7	13.7						
Months of Benefit Payments (Includes EE & ER Contributions)**	18.4	8.5	14.2	41.3						
Cumulative Months of Benefit Payments (Includes EE & ER Contributions)**			82.5							

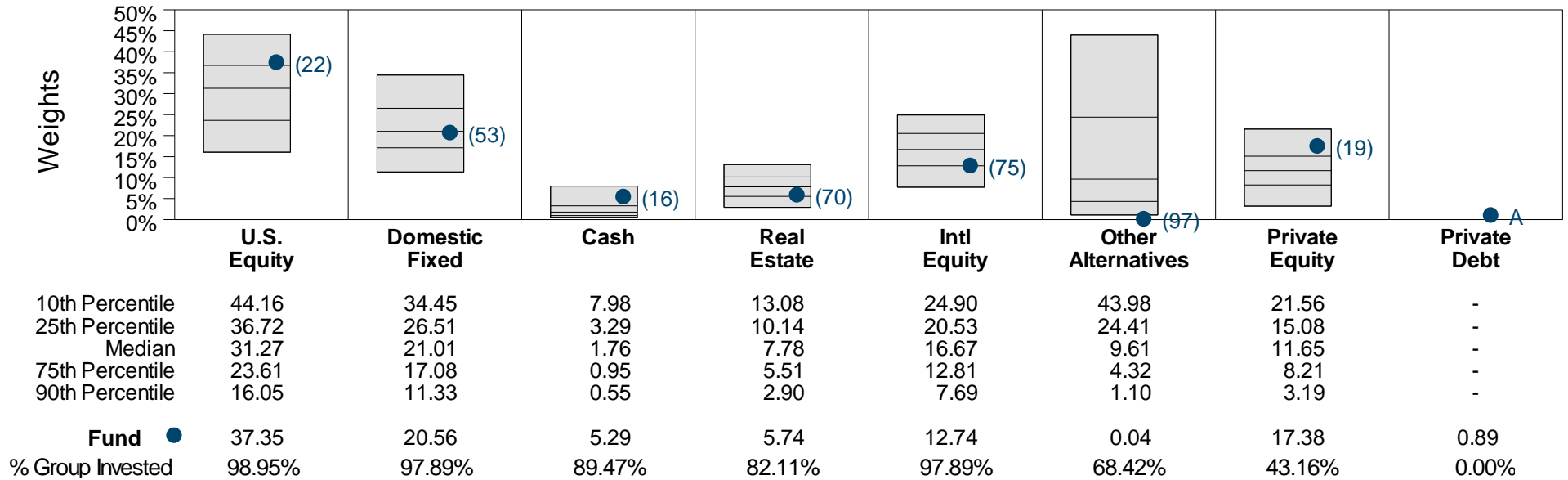
*Callan 2024 Capital Market Projections

**Provided by SERS IO as of 12/31/2024.

Total Fund

Actual Asset Allocation versus Large Public Plan (>\$1B) Peers as of December 31, 2024

Asset Class Weights vs Callan Public Fund Spons - Large (>1B)

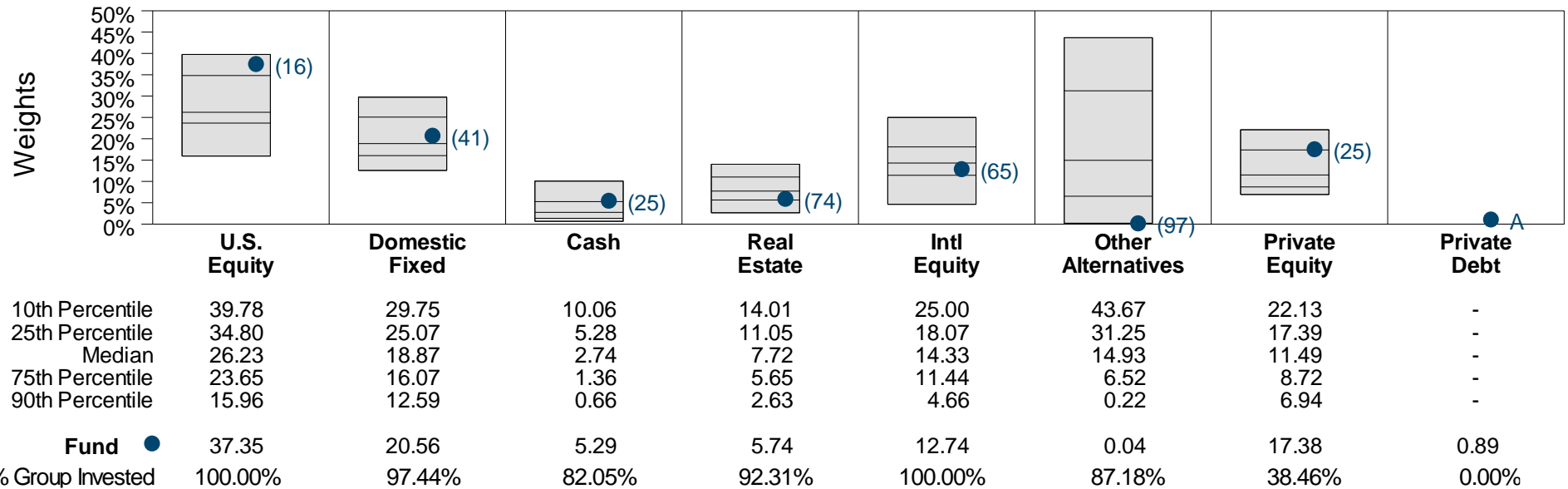


* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

Actual Asset Allocation versus Very Large Public DB Plan (>\$10B) Peers as of December 31, 2024

Asset Class Weights vs Callan Public Fund Spons- V Lg DB (>10B)



* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

One Quarter Attribution Analysis versus Target – Net of Fees as of December 31, 2024

Note: Attribution is a snapshot in time. Asset allocation effect utilizes monthly asset class weights to calculate the overall effect on attribution. Asset class weights fluctuate month to month and are combined to calculate a quarterly attribution effect.

Relative Attribution Effects for Quarter ended December 31, 2024

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
U.S. Equity	38%	37%	2.80%	2.63%	0.06%	0.07%	0.13%
Int'l Dev. Mkts Equity	12%	14%	(6.81%)	(7.43%)	0.08%	0.14%	0.21%
Emerging Markets	1%	2%	(7.76%)	(8.01%)	0.00%	0.05%	0.06%
Private Equity**	17%	16%	1.34%	1.34%	0.00%	0.02%	0.02%
Legacy Private Credit**	1%	0%	2.44%	2.44%	0.00%	0.03%	0.03%
Fixed Income	18%	19%	(2.34%)	(3.06%)	0.13%	0.01%	0.15%
Inflation Protection	2%	3%	(2.88%)	(2.88%)	(0.00%)	0.01%	0.01%
Real Estate	6%	7%	(3.53%)	(0.07%)	(0.20%)	(0.01%)	(0.21%)
Legacy Hedge Funds	0%	0%	3.71%	3.71%	0.00%	0.00%	0.00%
Cash	4%	2%	1.34%	1.17%	0.00%	0.07%	0.07%
Total			(0.19%)	(0.66%)	0.08%	0.40%	0.47%

- **What helped relative attribution?**
 - An underweight as compared to target to non-U.S. Developed Markets Equity helped performance (attribution based on target return)
 - Outperformance relative to target from Fixed Income, non-U.S. Developed Markets Equity and U.S. Equity managers helped performance
 - An overweight as compared to target to U.S. Equity and Cash and an underweight to Emerging Markets helped performance (attribution based on target return)
- **What hurt relative attribution?**
 - Underperformance relative to target from Real Estate managers

* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

**For this analysis, PE and PC are benchmarked to the SERS' PE and PC program returns, respectively.

Returns are shown net of fees

Total Fund

One Year Attribution Analysis versus Target – Net of Fees as of December 31, 2024

Note: Attribution is a snapshot in time. Asset allocation effect utilizes monthly asset class weights to calculate the overall effect on attribution. Asset class weights fluctuate month to month and are combined to calculate an annual attribution effect.

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
U.S. Equity	35%	35%	23.38%	23.81%	(0.12%)	0.07%	(0.05%)
Int'l Dev. Mkts Equity	12%	14%	4.97%	4.15%	0.10%	0.09%	0.19%
Emerging Markets	3%	3%	8.64%	7.43%	0.04%	(0.03%)	0.02%
Private Equity**	18%	16%	6.28%	6.28%	0.00%	(0.09%)	(0.09%)
Legacy Private Credit**	1%	0%	10.86%	10.86%	0.00%	0.01%	0.01%
Fixed Income	19%	19%	2.48%	1.25%	0.26%	0.03%	0.29%
Inflation Protection	3%	3%	1.81%	1.84%	(0.00%)	0.02%	0.02%
Real Estate	6%	7%	(12.25%)	(8.44%)	(0.27%)	0.10%	(0.17%)
Legacy Hedge Funds	0%	0%	(9.46%)	(9.46%)	0.00%	(0.01%)	(0.01%)
Cash	3%	2%	5.44%	5.25%	0.00%	0.04%	0.04%
Total			9.82%	= 9.58%	+ 0.02%	+ 0.23%	0.24%

- **What helped relative attribution?**
 - Outperformance relative to target from Fixed Income and non-U.S. Developed Markets Equity managers
 - A slight underweight as compared to target to Real Estate and non-U.S. Developed Markets Equity helped performance (attribution based on target return)
 - A Slight overweight as compared to target to U.S. equity and cash helped performance (attribution based on target return)
- **What hurt relative attribution?**
 - Underperformance relative to target from Real Estate and U.S. Equity managers
 - An overweight as compared to target to Private Equity hurt performance (attribution based on target return)
 - A slight underweight as compared to target to Emerging Markets hurt performance (attribution based on target return)

* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

**For this analysis, PE and PC are benchmarked to the SERS' PE and PC program returns, respectively. Returns are shown net of fees.

Total Fund

Three Year Attribution Analysis versus Target – Net of Fees as of December 31, 2024

Note: Attribution is a snapshot in time. Asset allocation effect utilizes monthly asset class weights to calculate the overall effect on attribution. Asset class weights fluctuate month to month and are combined to calculate an annual attribution effect.

Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
U.S. Equity	32%	32%	7.83%	8.01%	(0.05%)	(0.04%)	(0.09%)
Int'l Dev. Mkts Equity	13%	14%	1.95%	1.13%	0.10%	0.01%	0.12%
Emerging Markets	4%	5%	(2.25%)	(1.29%)	(0.04%)	0.02%	(0.02%)
Private Equity**	18%	15%	2.45%	2.45%	0.00%	0.01%	0.01%
Legacy Private Credit**	1%	1%	9.89%	9.89%	0.00%	(0.08%)	(0.08%)
Fixed Income	19%	21%	(1.75%)	(2.41%)	0.14%	0.08%	0.22%
Inflation Protection	3%	3%	(2.74%)	(2.30%)	(0.01%)	0.00%	(0.01%)
Real Estate	7%	7%	(6.42%)	(2.24%)	(0.33%)	(0.00%)	(0.33%)
Legacy Hedge Funds	0%	0%	(11.34%)	(11.34%)	0.00%	(0.01%)	(0.01%)
Cash	2%	2%	4.06%	3.89%	0.00%	0.04%	0.04%
Total			2.68%	= 2.84%	+ (0.19%)	+ 0.03%	(0.15%)

• What helped relative attribution?

- Outperformance relative to target from Fixed Income and non-U.S. Developed Markets Equity managers
- An underweight as compared to target to Fixed Income and Emerging Markets helped performance (attribution based on target return)
- A slight overweight as compared to target to Cash (attribution based on target return)

• What hurt relative attribution?

- Underperformance relative to target from Real Estate, U.S. Equity and Emerging Markets Equity managers
- A slight overweight as compared to target to Legacy Private Credit hurt performance (attribution based on target return)
- A slight underweight as compared to target to U.S. Equity hurt performance (attribution based on target return)

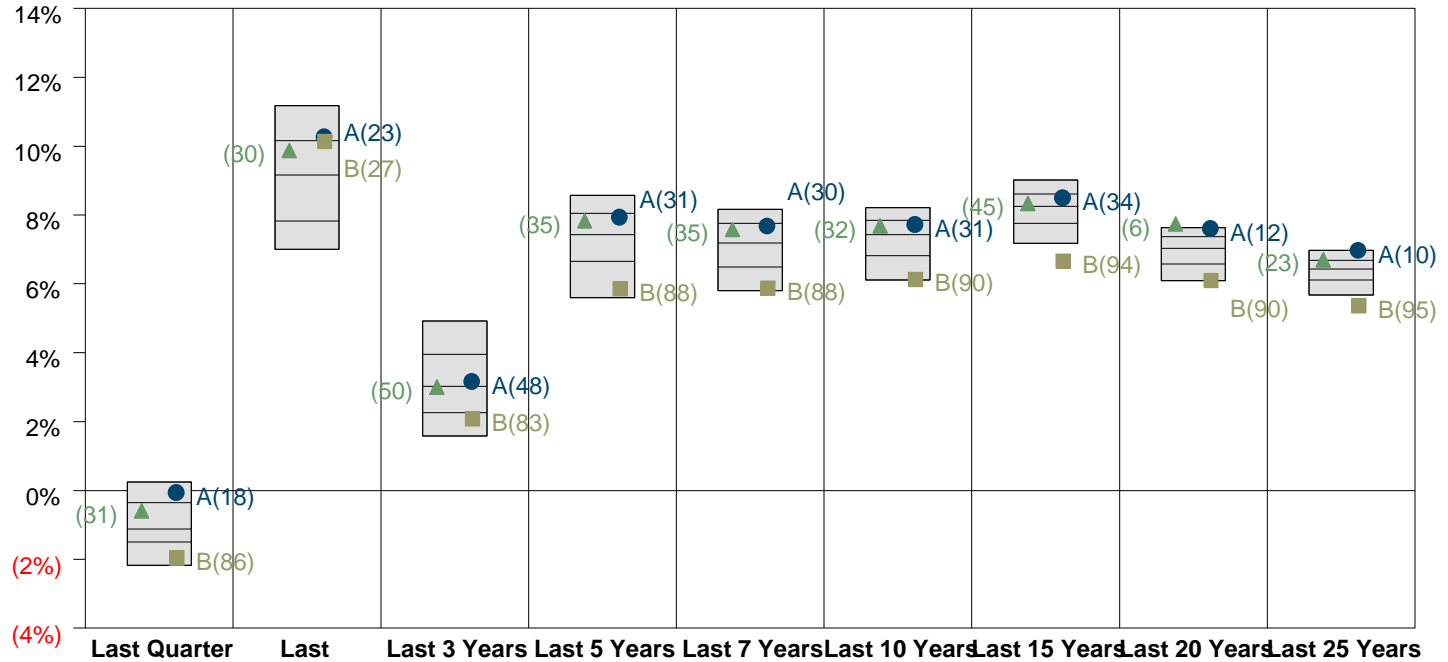
* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

**For this analysis, PE and PC are benchmarked to the SERS' PE and PC program returns, respectively. Returns are shown net of fees.

Total Fund

Gross of Fee Performance versus Large Public Plan (>\$1B) Peers and Benchmark as of December 31, 2024

Performance vs Callan Public Fund Spons - Large (>1B) (Gross)



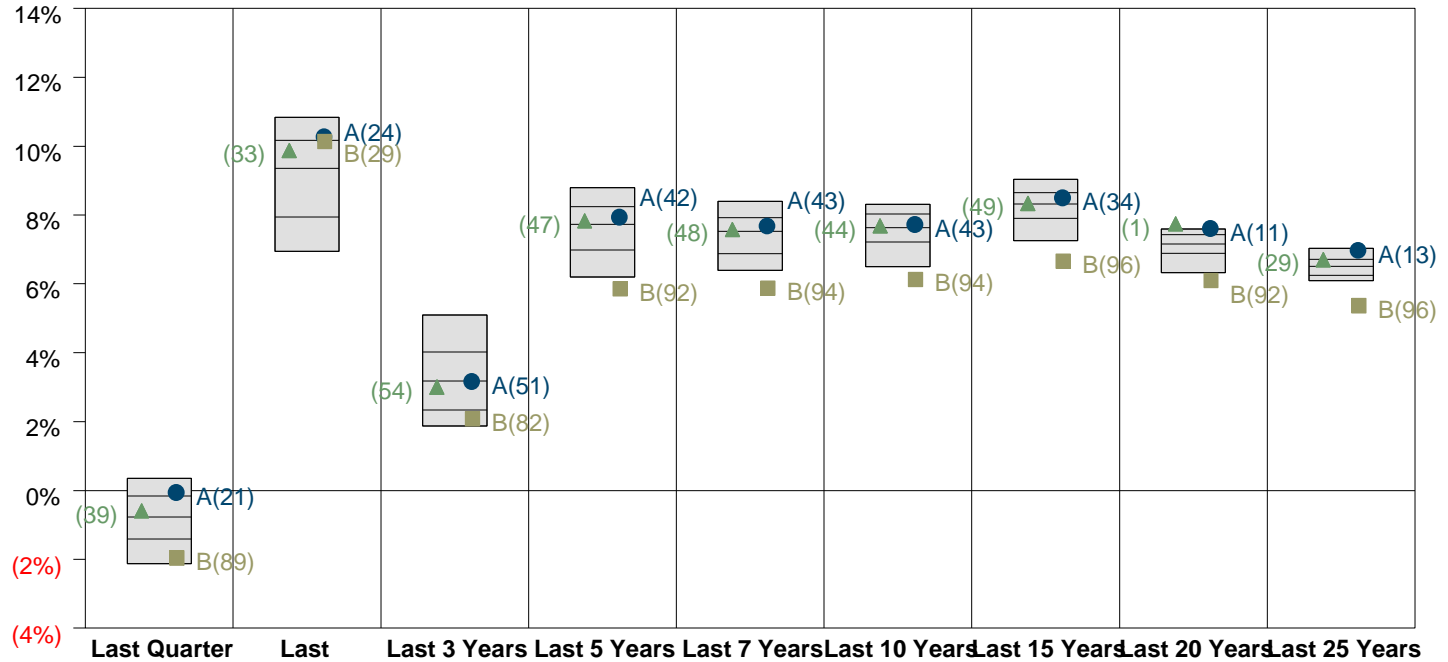
10th Percentile	0.25	11.18	4.92	8.58	8.16	8.21	9.01	7.63	6.97
25th Percentile	(0.35)	10.17	3.96	8.05	7.76	7.85	8.61	7.37	6.68
Median	(1.12)	9.17	3.03	7.43	7.18	7.43	8.25	7.04	6.43
75th Percentile	(1.50)	7.83	2.26	6.65	6.49	6.81	7.75	6.58	6.11
90th Percentile	(2.17)	7.00	1.58	5.60	5.80	6.11	7.18	6.09	5.68
Total Fund	● A (0.08)	10.25	3.14	7.91	7.66	7.70	8.48	7.59	6.95
60% MSCI ACW IMI/40% Blmbg U.S. Agg	■ B (1.96)	10.14	2.08	5.85	5.87	6.12	6.66	6.10	5.36
Total Fund Custom Benchmark	▲ (0.59)	9.88	3.01	7.83	7.58	7.68	8.34	7.74	6.70

* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

Gross of Fee Performance versus Very Large Public DB Plan (>\$10B) Peers and Benchmark as of December 31, 2024

Performance vs Callan Public Fund Spons- V Lg DB (>10B) (Gross)



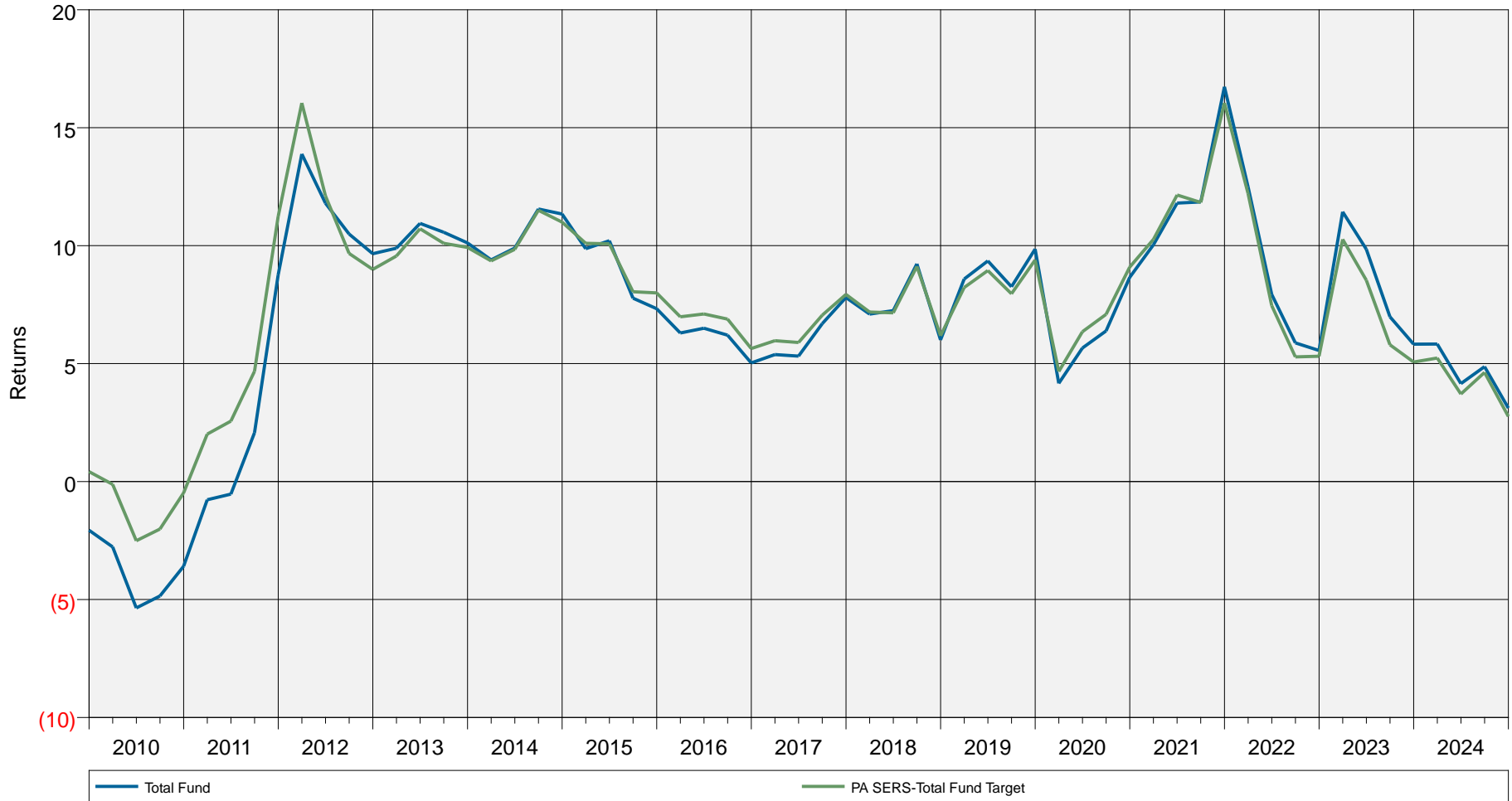
10th Percentile	0.35	10.83	5.10	8.80	8.40	8.31	9.03	7.60	7.03
25th Percentile	(0.15)	10.17	4.03	8.25	7.92	8.03	8.65	7.43	6.71
Median	(0.77)	9.35	3.18	7.73	7.53	7.63	8.32	7.16	6.50
75th Percentile	(1.41)	7.95	2.33	6.98	6.88	7.22	7.91	6.89	6.25
90th Percentile	(2.12)	6.95	1.88	6.20	6.39	6.49	7.26	6.32	6.09
Total Fund	● A (0.08)	10.25	3.14	7.91	7.66	7.70	8.48	7.59	6.95
60% MSCI ACW IMI/40% Blmbg U.S. Agg	■ B (1.96)	10.14	2.08	5.85	5.87	6.12	6.66	6.10	5.36
Total Fund Custom Benchmark	▲ (0.59)	9.88	3.01	7.83	7.58	7.68	8.34	7.74	6.70

* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

Rolling 3-year Gross of Fee Performance versus Benchmark as of December 31, 2024

Rolling 12 Quarter Gross of Fee Returns
for 15 Years Ended December 31, 2024

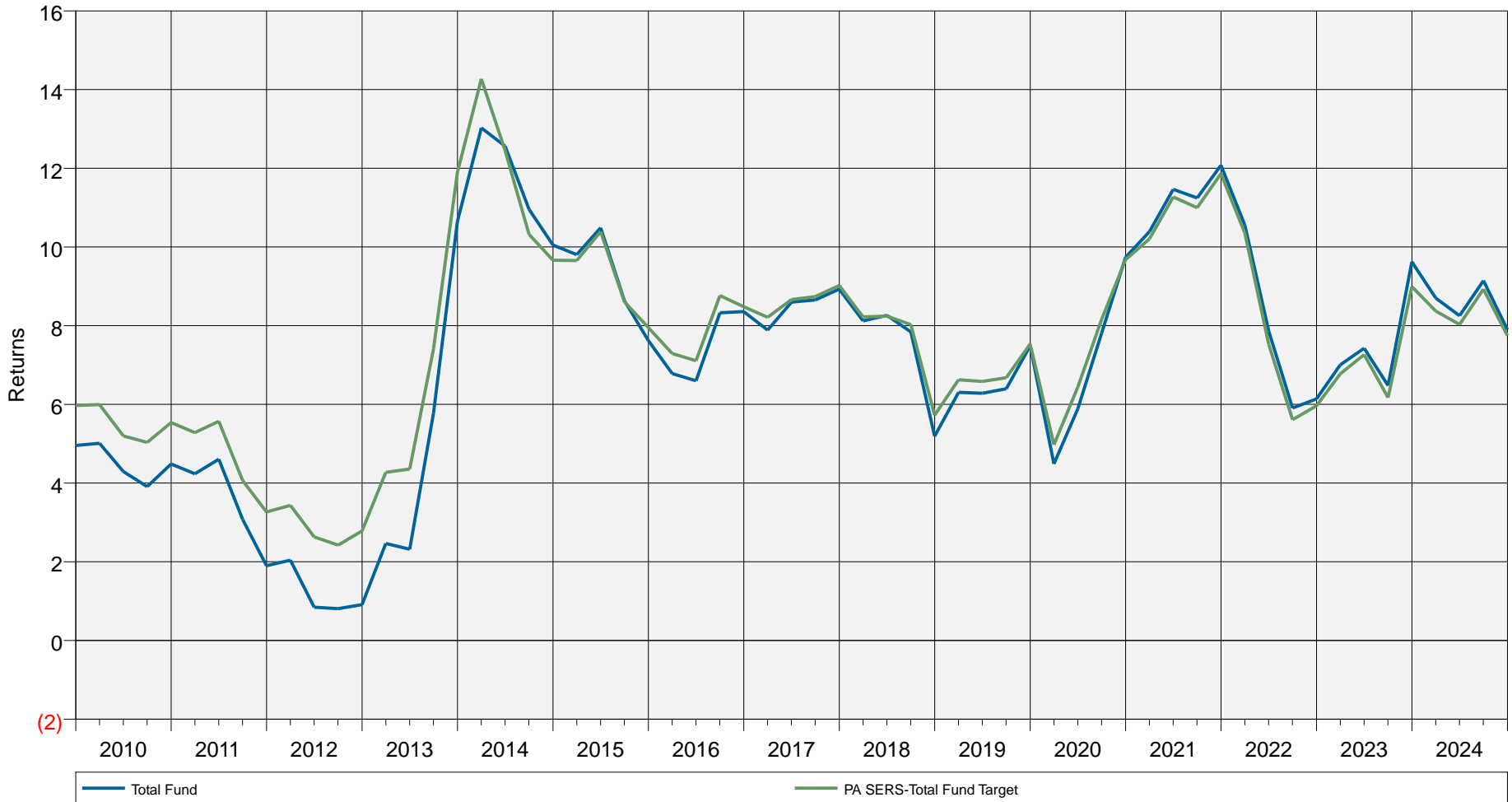


* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

Rolling 5-year Gross of Fee Performance versus Benchmark as of December 31, 2024

Rolling 20 Quarter Gross of Fee Returns
for 15 Years Ended December 31, 2024



* Current Quarter Target = 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Quarter lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Asset Class Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years
Net Performance						
Total Fund	\$38,683	100.00%	(0.19%)	9.82%	2.68%	7.12%
Total Fund Custom Benchmark(1)	-	-	(0.59%)	9.88%	3.01%	7.83%
Public Market Equiv Benchmark(2)	-	-	0.34%	15.19%	5.20%	8.42%
60/40 Index(3)	-	-	(1.96%)	10.14%	2.08%	5.85%
U.S. Equity	\$14,450	37.35%	2.80%	23.38%	7.83%	13.64%
Russell 3000 Index (4)	-	-	2.63%	23.81%	8.01%	13.86%
S&P 1500 Index	-	-	2.22%	23.95%	8.54%	14.13%
Int'l Developed Mkts Equity	\$4,463	11.54%	(6.81%)	4.97%	1.95%	5.86%
MSCI World ex US (5)	-	-	(7.43%)	4.15%	1.13%	4.72%
Emerging Mkts Equity	\$467	1.21%	(7.76%)	8.64%	(2.25%)	2.96%
MSCI EM (5)	-	-	(8.01%)	7.43%	(1.29%)	2.57%
Private Equity	\$6,724	17.38%	1.34%	6.28%	2.45%	14.24%
Burgiss Private Equity Index (Qtr lag)	-	-	0.03%	0.08%	(0.58%)	9.01%
Global Equity + 3% (Qtr lag)(6)	-	-	7.23%	35.89%	12.78%	17.28%
Legacy Private Credit Funds (7)	\$344	0.89%	2.44%	10.50%	9.77%	10.62%
S&P Levered Loan Index + 1% (Qtr lag)	-	-	2.28%	10.59%	7.48%	6.80%
Fixed Income	\$7,005	18.11%	(2.34%)	2.48%	(1.75%)	(0.09%)
Blmbg U.S. Agg Bond Index	-	-	(3.06%)	1.25%	(2.41%)	(0.33%)
Inflation Protection (TIPS)	\$949	2.45%	(2.88%)	1.81%	(2.74%)	1.44%
Blmbg U.S. TIPS Index	-	-	(2.88%)	1.84%	(2.30%)	1.87%
Real Estate	\$2,220	5.74%	(3.53%)	(12.25%)	(6.42%)	(0.24%)
Real Estate Custom Bench (Qtr lag)(8)	-	-	(0.07%)	(8.44%)	(2.24%)	1.93%
CPI + 3% (Qtr lag)	-	-	1.09%	5.44%	7.75%	7.20%
Cash	\$2,046	5.29%	1.34%	5.44%	4.06%	2.56%
3-month Treasury Bill	-	-	1.17%	5.25%	3.89%	2.46%

* All returns on this report are shown with 2- decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

(1)The current total fund benchmark consists of: 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Qtr lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index. See page 77 for full benchmark history.

(2) The current public equivalent benchmark consists of: 19% Bloomberg U.S. Agg Bond Index, 37% Russell 3000, 14% MSCI World ex US Index, 12% Russell 3000+ 3% (Qtr lag), 7% CPI+3% (Qtr Lag), 3% Bloomberg US TIPS Index, 2% MSCI EM Index, 4% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index. See page 77 for full benchmark history.

(3) Benchmark consists of 60% MSCI ACW IMI Index and 40% Bloomberg U.S. Agg Bond Index

(4) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

(5) Intl Dev Mkts Equity and Emerging Mkts Equity benchmarks switched from IMI version to non-IMI starting 07/01/2024.

(6) As of 01/01/2020 benchmark consists of 25% MSCI World ex US +3% (Qtr lag) and 75% Russell 3000 + 3% (Qtr lag). Benchmark performance represents the historical benchmark (Russell 3000 +3% Qtr lag) linked to the current benchmark.

(7) Legacy Private Credit performance is included in the total fund starting at the composite's true inception date, 07/01/2022. The history is calculated and shown for informational purposes.

(8) As of 07/01/2022, the benchmark consists of 100% NCREIF NFI-ODCE (Qtr lag). From 03/31/2019 to 07/01/2022 the benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged).

Asset Class Returns

As of December 31, 2024

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance					
Total Fund	7.00%	7.74%	6.79%	6.18%	9.27% ^(1/81)
Total Fund Custom Benchmark(1)	7.68%	8.34%	7.74%	6.70%	-
Public Market Equiv Benchmark(2)	8.12%	8.76%	8.06%	6.95%	-
60/40 Index(3)	6.12%	6.66%	6.10%	5.36%	-
U.S. Equity	11.79%	13.20%	9.34%	7.57%	11.06% ^(1/81)
Russell 3000 Index (4)	12.55%	13.56%	10.22%	7.84%	11.36% ^(1/81)
S&P 1500 Index	12.79%	13.71%	10.31%	7.93%	-
Int'l Developed Mkts Equity	6.14%	6.35%	5.21%	-	6.28% ^(1/02)
MSCI World ex US (5)	5.25%	5.34%	5.06%	3.83%	6.17% ^(1/02)
Emerging Mkts Equity	4.91%	3.14%	4.57%	-	6.52% ^(1/02)
MSCI EM (5)	3.93%	3.26%	6.23%	5.57%	8.19% ^(1/02)
Private Equity	11.83%	12.30%	12.21%	10.55%	11.33% ^(1/86)
Burgiss Private Equity Index (Qtr lag)	10.13%	11.67%	11.91%	10.84%	15.81% ^(1/86)
Global Equity + 3% (Qtr lag)(6)	15.50%	16.70%	13.73%	11.60%	14.86% ^(1/86)
Legacy Private Credit Funds (7)	-	-	-	-	10.34% ^(4/18)
S&P Levered Loan Index + 1% (Qtr lag)	-	-	-	-	6.35% ^(4/18)
Fixed Income	1.50%	3.13%	3.71%	4.56%	7.40% ^(1/81)
Blmbg U.S. Agg Bond Index	1.35%	2.37%	3.01%	3.94%	6.70% ^(1/81)
Inflation Protection (TIPS)	2.03%	2.14%	2.83%	-	2.84% ^(2/03)
Blmbg U.S. TIPS Index	2.24%	2.86%	3.30%	4.77%	3.74% ^(2/03)
Real Estate	2.17%	4.53%	4.26%	5.36%	7.29% ^(3/84)
Real Estate Custom Bench (Qtr lag)(8)	4.93%	7.04%	5.78%	6.53%	-
CPI + 3% (Qtr lag)	5.85%	5.56%	5.57%	5.55%	5.82% ^(3/84)
Cash	2.00%	1.43%	1.91%	2.36%	3.49% ^(1/87)
3-month Treasury Bill	1.77%	1.20%	1.66%	1.91%	3.23% ^(1/87)

* All returns on this report are shown with 2- decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

(1) The current total fund benchmark consists of: 19% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 37% Russell 3000 Index, 14% MSCI World ex US Index, 7% NCREIF NFI-ODCE (Qtr lag), 2% MSCI Emerging Markets Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index. See page 77 for full benchmark history.

(2) The current public equivalent benchmark consists of: 19% Bloomberg U.S. Agg Bond Index, 37% Russell 3000, 14% MSCI World ex US Index, 12% Russell 3000+ 3% (Qtr lag), 7% CPI+3% (Qtr Lag), 3% Bloomberg US TIPS Index, 2% MSCI EM Index, 4% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index. See page 77 for full benchmark history.

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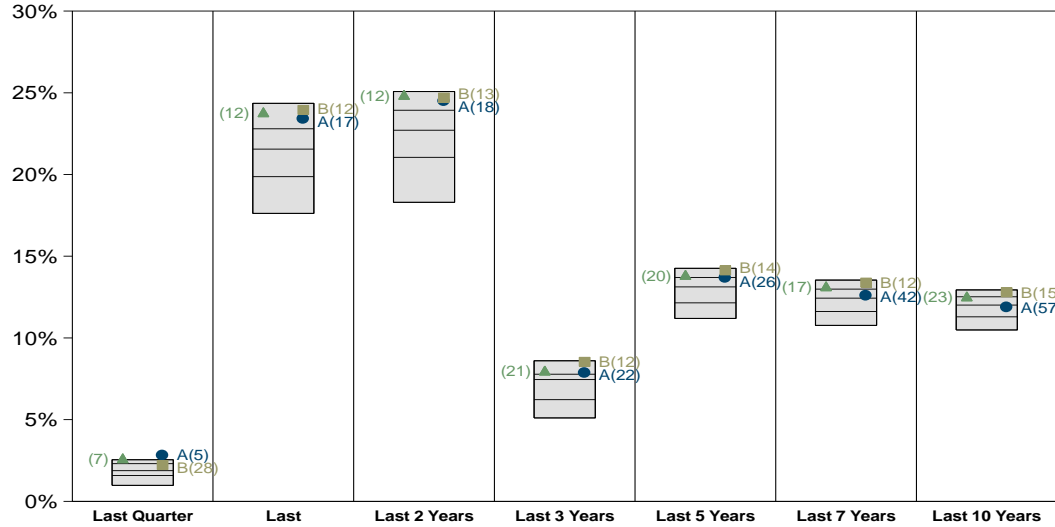
(8) As of 07/01/2022, the benchmark consists of 100% NCREIF NFI-ODCE (Qtr lag). From 03/31/2019 to 07/01/2022 the benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged).

Callan

**Appendix I – Asset Class and Manager
Performance**

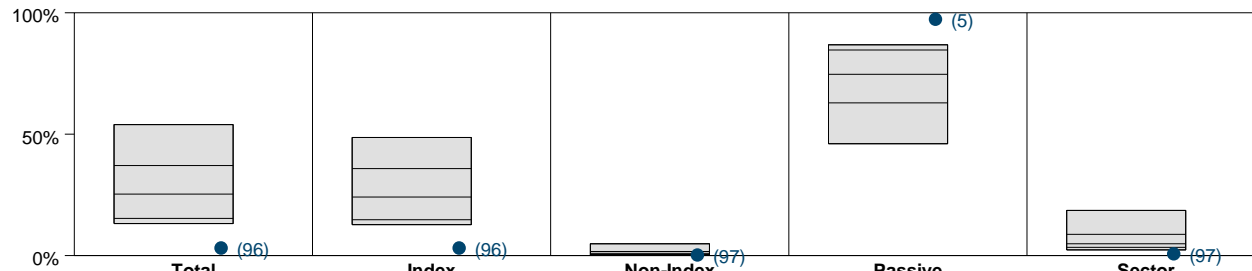
U.S. Equity as of December 31, 2024

Performance vs Public Fund - Domestic Equity (Gross)



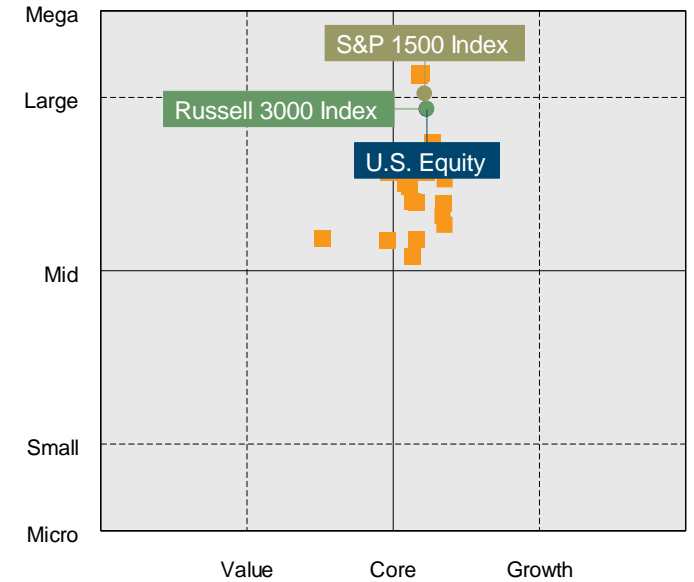
	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	2.54	24.35	25.07	8.60	14.26	13.54	12.93
25th Percentile	2.30	22.80	23.93	7.78	13.70	12.99	12.52
Median	1.88	21.55	22.71	7.45	13.12	12.43	12.01
75th Percentile	1.58	19.87	21.05	6.23	12.15	11.62	11.29
90th Percentile	0.97	17.62	18.30	5.10	11.20	10.77	10.49
U.S. Equity ● A	2.81	23.41	24.49	7.86	13.68	12.59	11.87
S&P 1500 Index ■ B	2.22	23.95	24.71	8.54	14.13	13.39	12.79
Russell 3000 Index ▲	2.63	23.81	24.88	8.01	13.86	13.16	12.55

Active Share vs. Pub Pln- Dom Equity



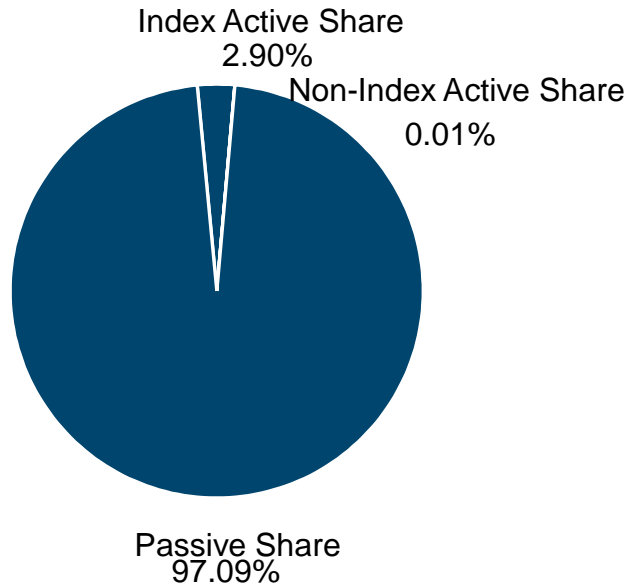
	Total Active Share	Index Active Share	Non-Index Active Share	Passive Share	Sector Active Share
10th Percentile	53.96	48.65	4.89	86.82	18.60
25th Percentile	37.10	35.86	1.70	84.67	8.75
Median	25.35	24.11	0.94	74.65	4.89
75th Percentile	15.33	14.79	0.44	62.90	3.39
90th Percentile	13.18	12.78	0.21	46.04	2.39
U.S. Equity ●	2.91	2.90	0.01	97.09	0.53

Style Map vs Pub Pln- Dom Equity Holdings as of December 31, 2024



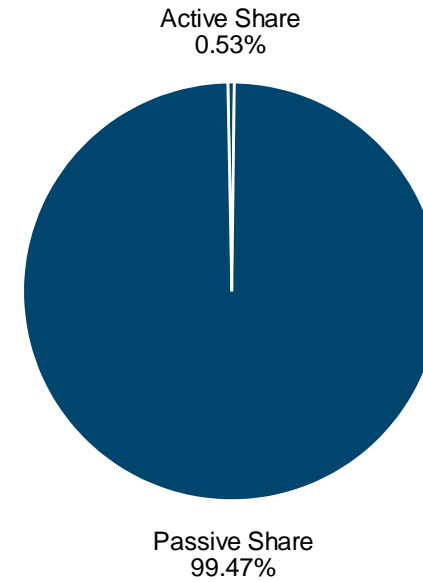
U.S. Equity as of December 31, 2024

Holdings-Level Active Share



Total Active Share: 2.91%

Sector Exposure Active Share

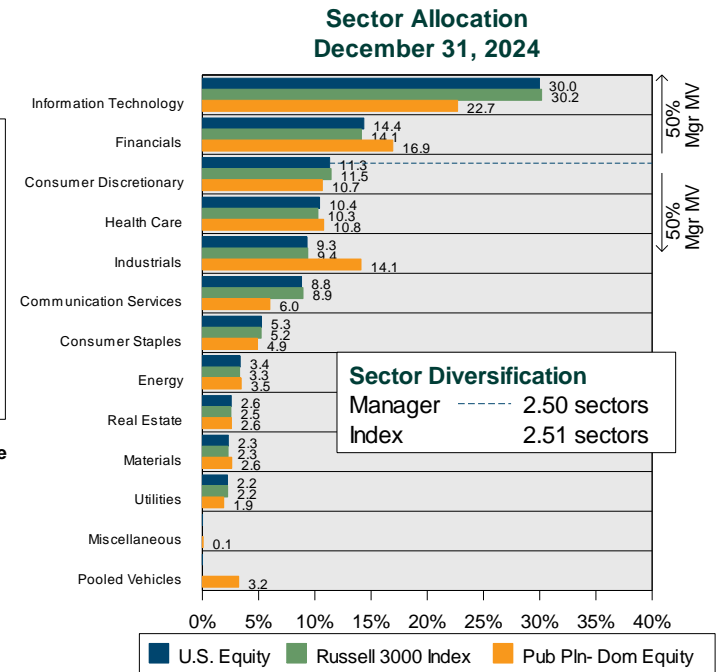
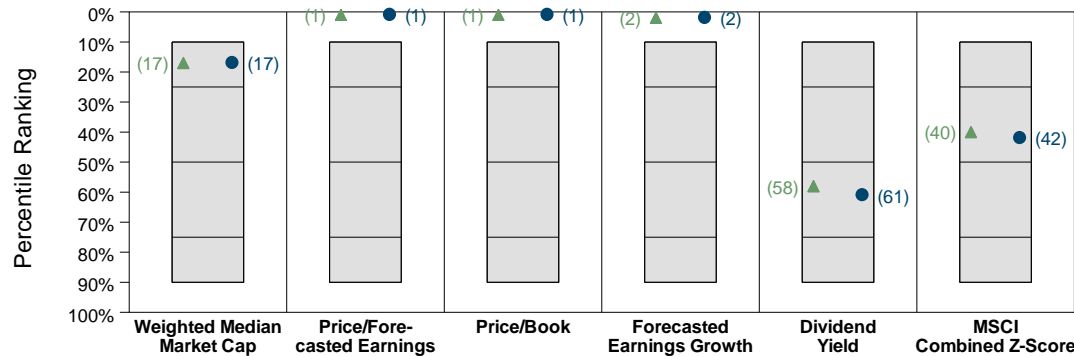


	Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
Communication Services	0.65%	0.02%	0.67%	8.95%	8.82%	0.09%
Consumer Discretionary	2.22%	0.01%	2.23%	11.46%	11.32%	0.28%
Consumer Staples	2.75%	0.00%	2.75%	5.23%	5.26%	0.14%
Energy	3.20%	0.00%	3.20%	3.31%	3.38%	0.10%
Financials	3.02%	0.05%	3.06%	14.14%	14.36%	0.38%
Health Care	5.75%	0.00%	5.75%	10.28%	10.42%	0.57%
Industrials	4.95%	0.00%	4.95%	9.38%	9.32%	0.47%
Information Technology	2.17%	0.00%	2.17%	30.17%	29.98%	0.65%
Materials	4.99%	0.00%	4.99%	2.28%	2.31%	0.11%
Miscellaneous	0.00%	100.00%	100.00%	-	0.02%	0.00%
Pooled Vehicles	0.00%	100.00%	100.00%	-	0.00%	0.00%
Real Estate	2.43%	0.00%	2.44%	2.54%	2.57%	0.06%
Utilities	1.54%	0.00%	1.54%	2.25%	2.24%	0.04%
Total	2.90%	0.01%	2.91%	100.00%	100.00%	2.91%

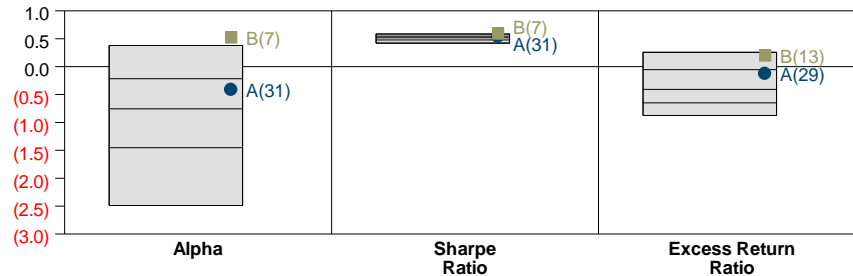
U.S. Equity

As of December 31, 2024

Portfolio Characteristics Percentile Rankings
Rankings Against Public Fund - Domestic Equity
as of December 31, 2024



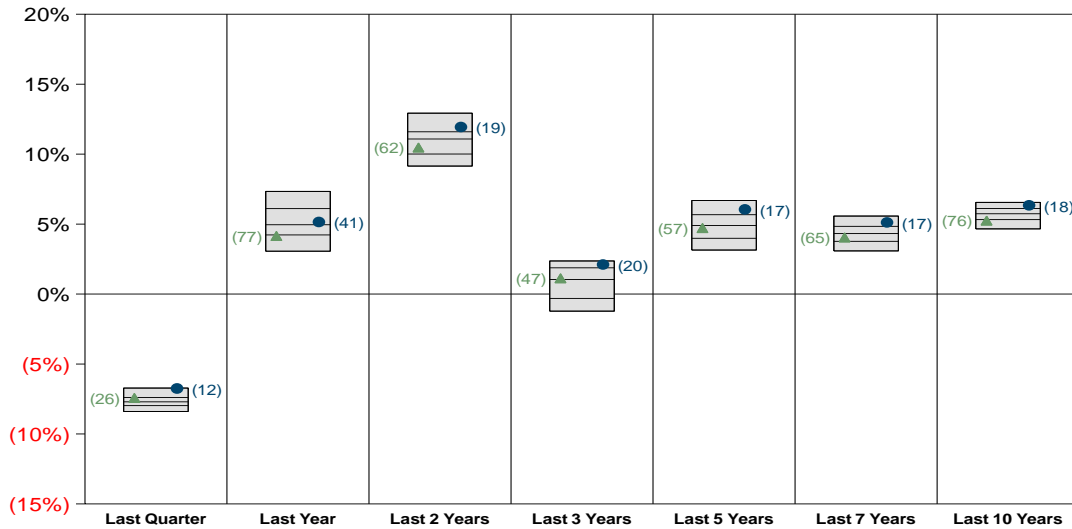
Risk Adjusted Return Measures vs Russell 3000 Index
Rankings Against Public Fund - Domestic Equity (Gross)
Five Years Ended December 31, 2024



10th Percentile	0.38	0.58	0.26
25th Percentile	(0.22)	0.55	(0.05)
Median	(0.76)	0.52	(0.41)
75th Percentile	(1.45)	0.48	(0.65)
90th Percentile	(2.49)	0.42	(0.87)
U.S. Equity ● A	(0.42)	0.54	(0.13)
S&P 1500 Index	0.52	0.59	0.20

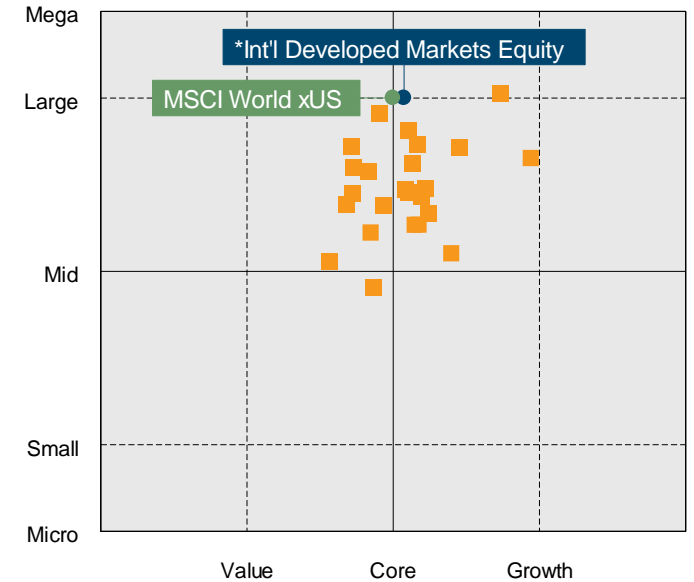
International Equity as of December 31, 2024

Performance vs Public Fund - International Equity (Gross)

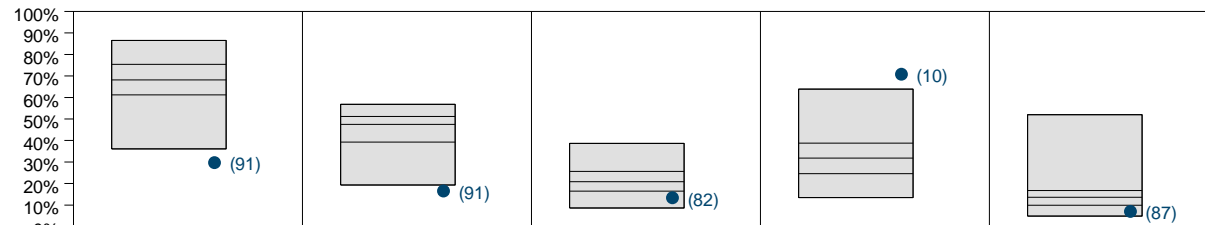


	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	(6.72)	7.34	12.93	2.36	6.69	5.58	6.55
25th Percentile	(7.39)	6.11	11.60	1.88	5.67	4.84	6.11
Median	(7.70)	4.95	11.09	1.05	4.90	4.32	5.74
75th Percentile	(7.97)	4.23	10.01	(0.31)	3.98	3.77	5.32
90th Percentile	(8.39)	3.06	9.15	(1.22)	3.15	3.09	4.66
Int'l Developed Markets Equity	● (6.78)	5.12	11.91	2.08	6.02	5.09	6.31
MSCI World ex US	▲ (7.43)	4.15	10.47	1.13	4.72	4.05	5.25

Style Map vs Pub Pln- Intl Equity Holdings as of December 31, 2024



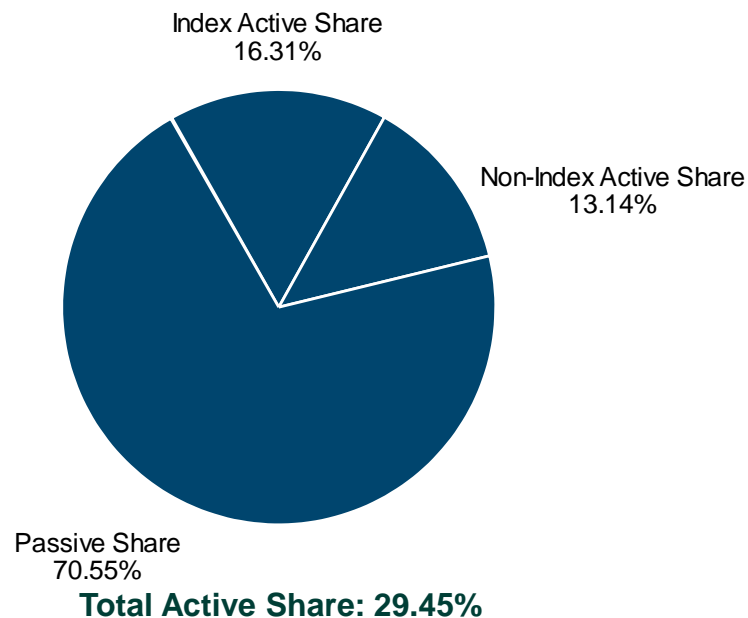
Active Share vs. Pub Pln- Intl Equity



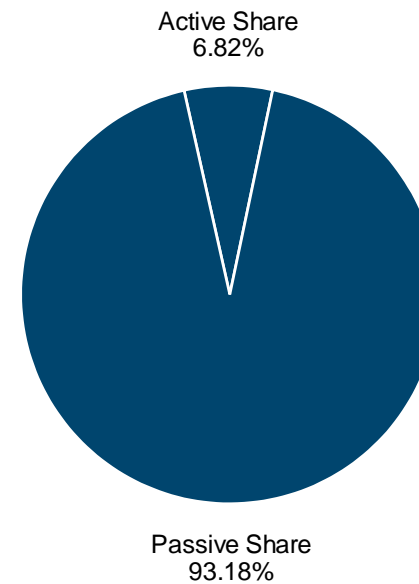
	Total Active Share	Index Active Share	Non-Index Active Share	Passive Share	Sector Active Share
10th Percentile	86.50	56.84	38.67	63.86	52.00
25th Percentile	75.41	51.16	25.64	38.79	16.77
Median	68.19	47.50	20.88	31.81	13.62
75th Percentile	61.21	39.28	16.45	24.59	9.95
90th Percentile	36.14	19.32	8.65	13.50	4.87
Int'l Developed Markets Equity	● 29.45	16.31	13.14	70.55	6.82

International Equity as of December 31, 2024

Holdings-Level Active Share



Sector Exposure Active Share

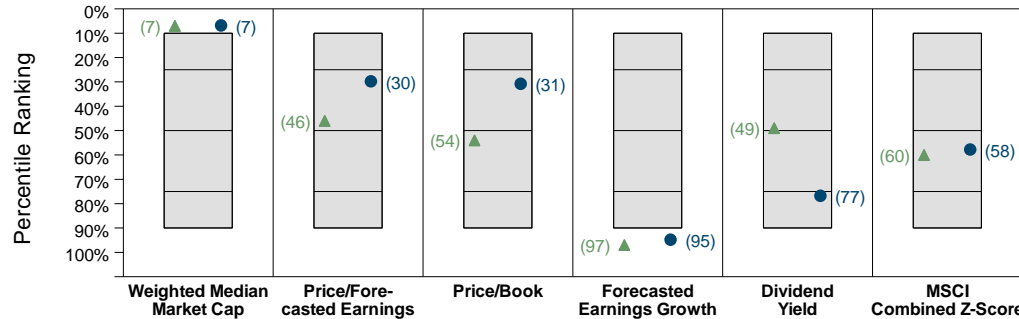


	Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
Communication Services	14.66%	13.19%	27.86%	4.37%	4.44%	1.20%
Consumer Discretionary	20.76%	14.43%	35.19%	10.37%	11.86%	3.67%
Consumer Staples	14.27%	11.17%	25.44%	7.89%	7.56%	2.07%
Energy	16.57%	16.57%	33.14%	5.11%	3.94%	1.89%
Financials	9.55%	6.80%	16.35%	23.69%	19.59%	5.15%
Health Care	14.87%	13.09%	27.95%	11.00%	11.68%	3.05%
Industrials	18.29%	14.99%	33.28%	17.05%	17.73%	5.59%
Information Technology	21.52%	20.56%	42.08%	9.01%	12.27%	3.73%
Materials	13.35%	9.70%	23.05%	6.53%	5.99%	1.62%
Miscellaneous	0.00%	100.00%	100.00%	-	0.58%	0.27%
Pooled Vehicles	0.00%	100.00%	100.00%	-	0.00%	0.00%
Real Estate	17.58%	17.58%	35.15%	1.82%	1.86%	0.63%
Utilities	4.13%	4.13%	8.26%	3.16%	2.48%	0.54%
Total	16.31%	13.14%	29.45%	100.00%	100.00%	29.43%

International Equity

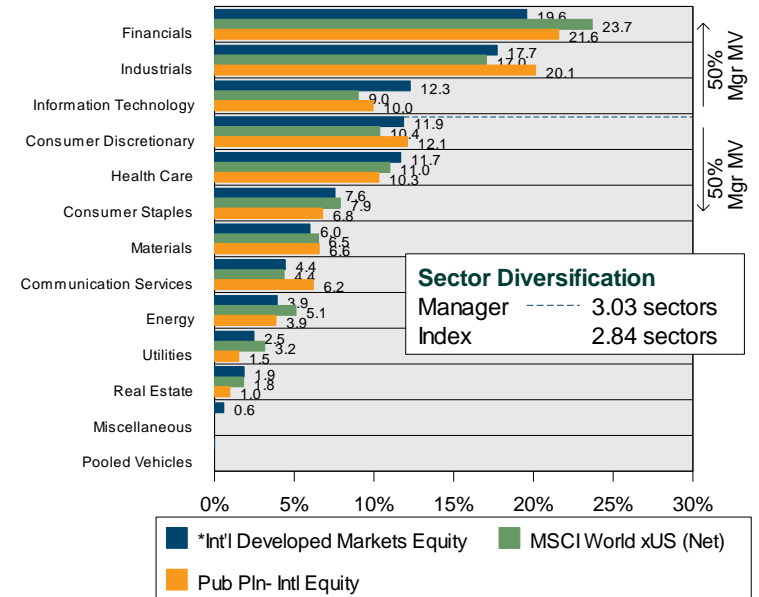
As of December 31, 2024

Portfolio Characteristics Percentile Rankings
Rankings Against Public Fund - International Equity
as of December 31, 2024



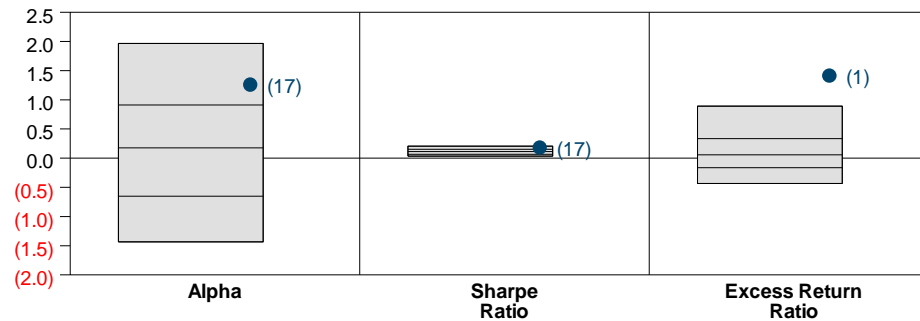
*Int'l Developed Markets Equity	●	51.67	15.16	2.13	11.97	2.52	0.17
MSCI World xUS (Net)	▲	51.51	14.11	1.89	11.67	2.92	0.11

Sector Allocation December 31, 2024



Sector Diversification
Manager --- 3.03 sectors
Index --- 2.84 sectors

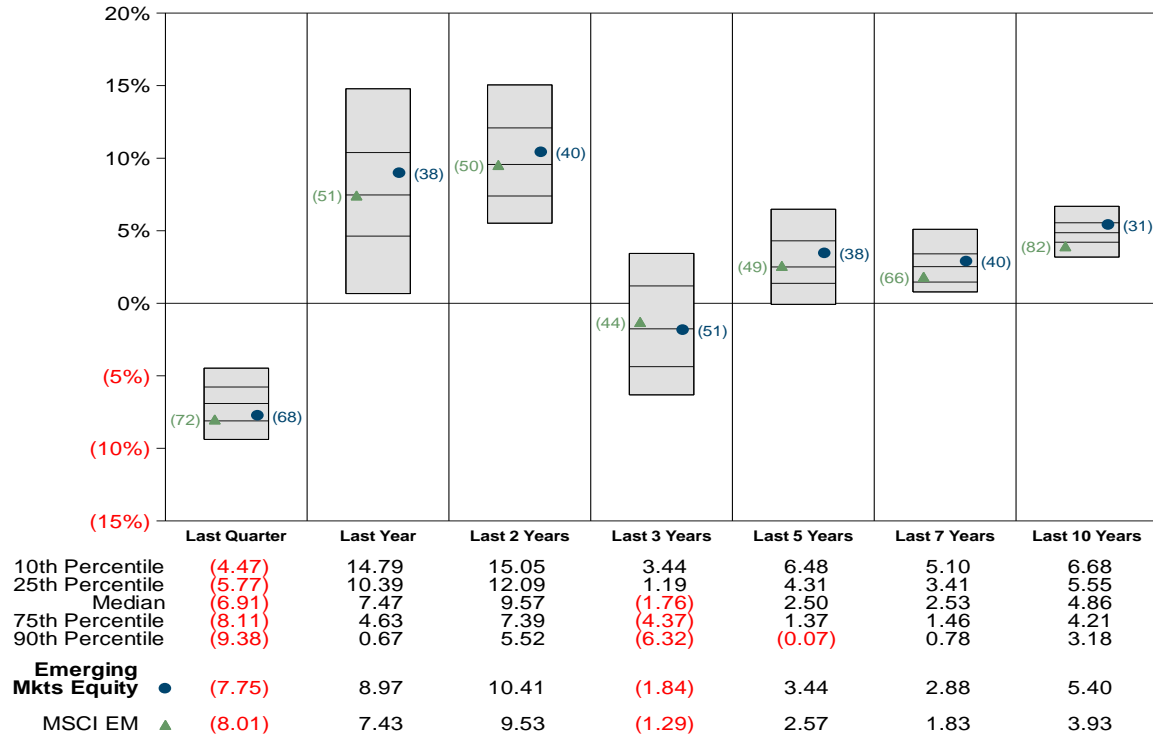
Risk Adjusted Return Measures vs MSCI World ex US
Rankings Against Public Fund - International Equity (Gross)
Five Years Ended December 31, 2024



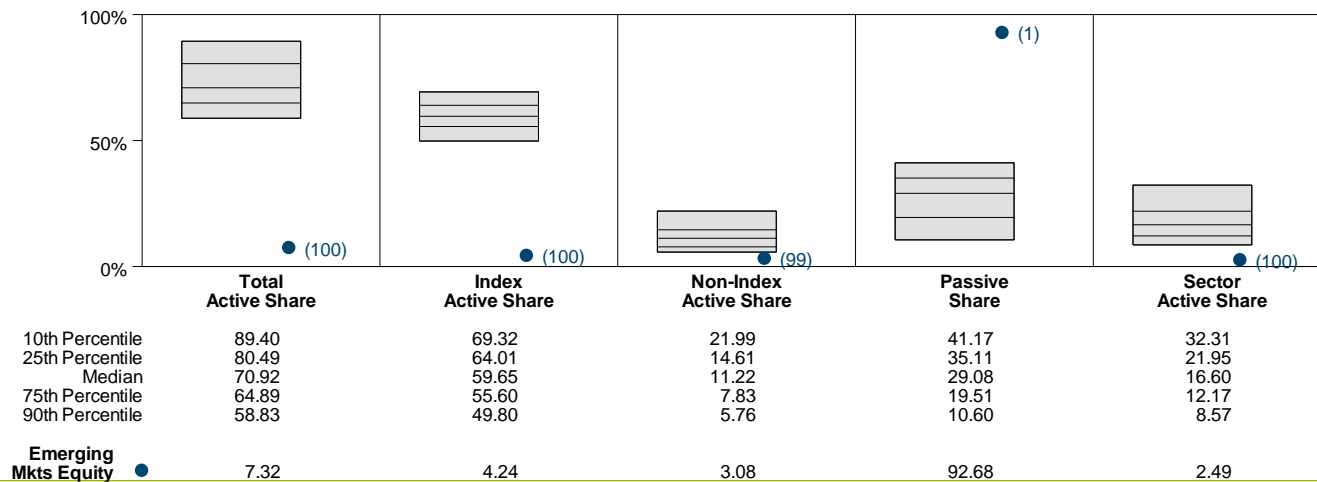
*Int'l Developed Markets Equity	●	1.25	0.17	1.40
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Emerging Markets Equity as of December 31, 2024

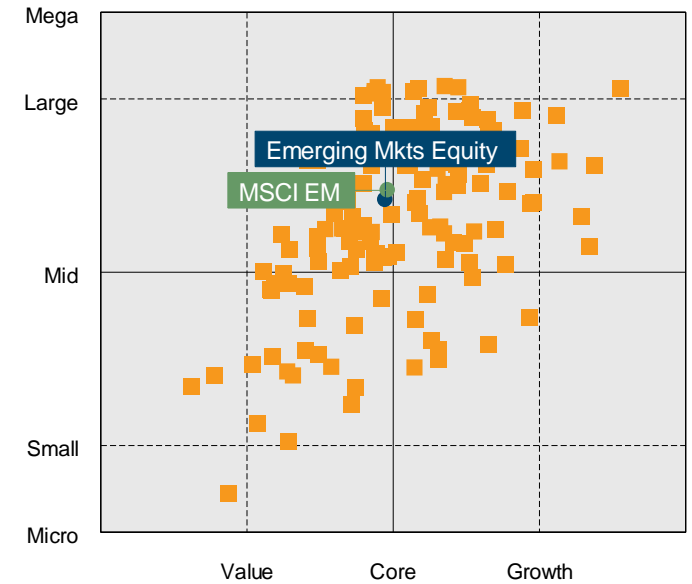
Performance vs Callan Emerging Broad (Gross)



Active Share vs. Callan Emerging Broad

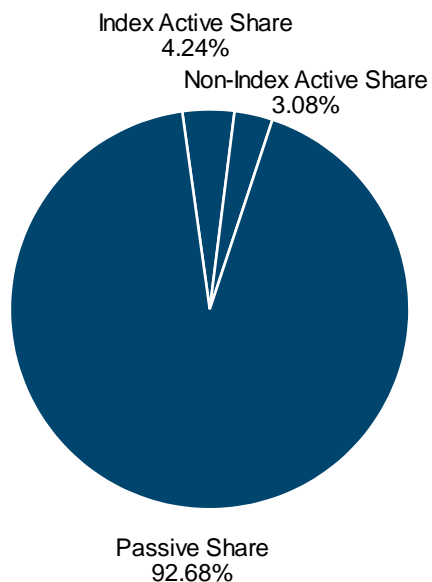


Style Map vs Callan Emerging Broad Holdings as of December 31, 2024



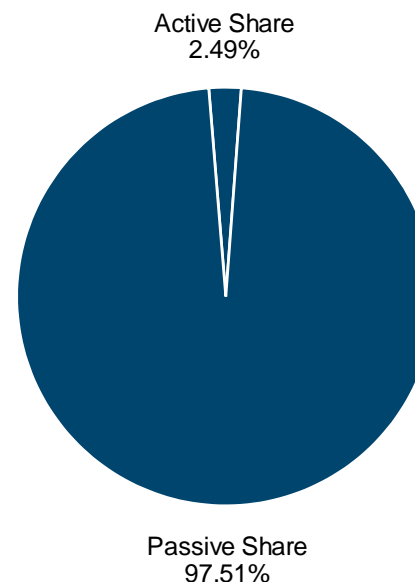
Emerging Markets Equity as of December 31, 2024

Holdings-Level Active Share



Total Active Share: 7.32%

Sector Exposure Active Share

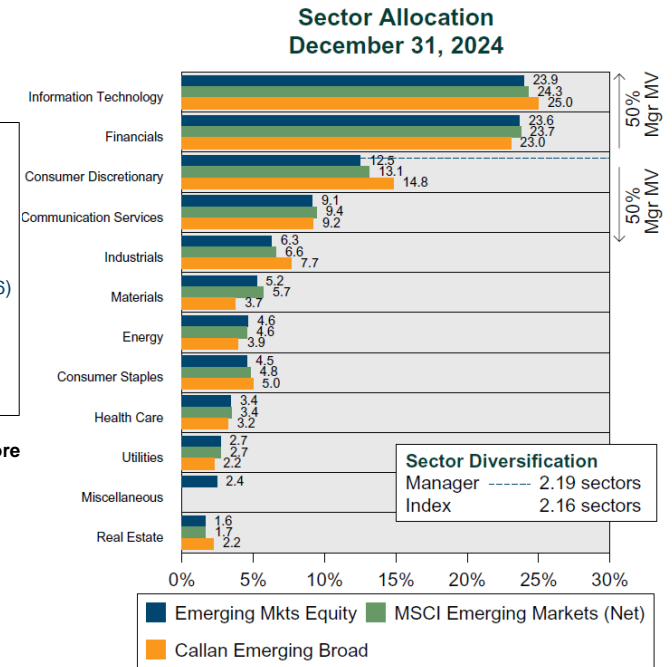
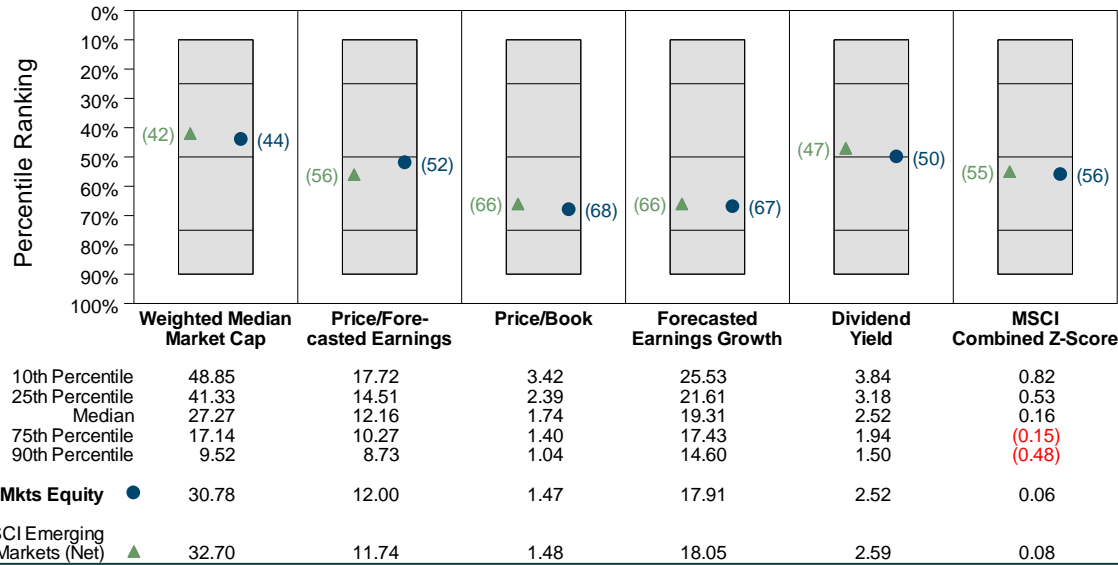


	Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
Communication Services	5.62%	4.04%	9.66%	9.42%	9.14%	0.84%
Consumer Discretionary	10.17%	5.11%	15.27%	13.12%	12.49%	1.78%
Consumer Staples	7.21%	3.28%	10.49%	4.79%	4.53%	0.46%
Energy	5.71%	2.28%	7.99%	4.56%	4.63%	0.37%
Financials	2.05%	0.72%	2.76%	23.73%	23.64%	0.67%
Health Care	4.81%	2.31%	7.12%	3.45%	3.41%	0.24%
Industrials	6.34%	1.43%	7.77%	6.59%	6.28%	0.42%
Information Technology	1.99%	0.69%	2.67%	24.25%	23.94%	0.70%
Materials	9.57%	0.85%	10.43%	5.71%	5.22%	0.39%
Miscellaneous	0.00%	100.00%	100.00%	-	2.43%	1.21%
Real Estate	4.65%	1.80%	6.45%	1.65%	1.61%	0.10%
Utilities	4.24%	1.37%	5.61%	2.72%	2.68%	0.14%
Total	4.24%	3.08%	7.32%	100.00%	100.00%	7.32%

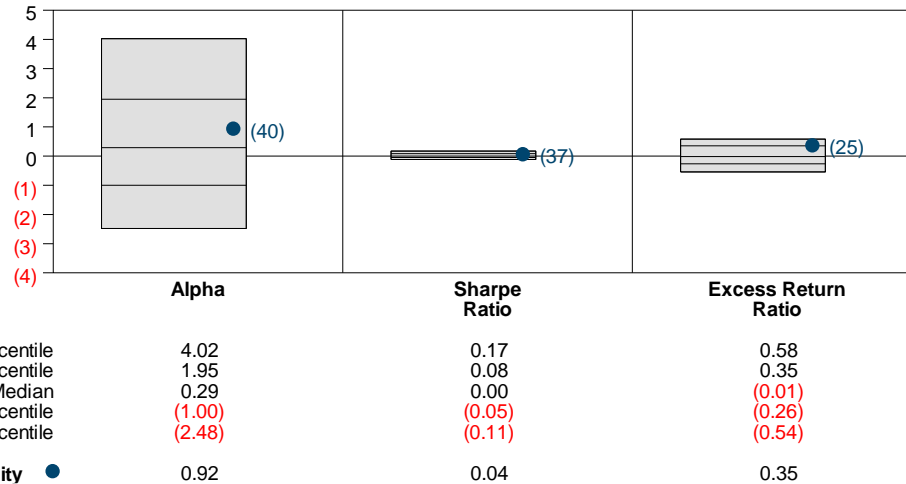
Emerging Markets Equity

As of December 31, 2024

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Emerging Broad
as of December 31, 2024

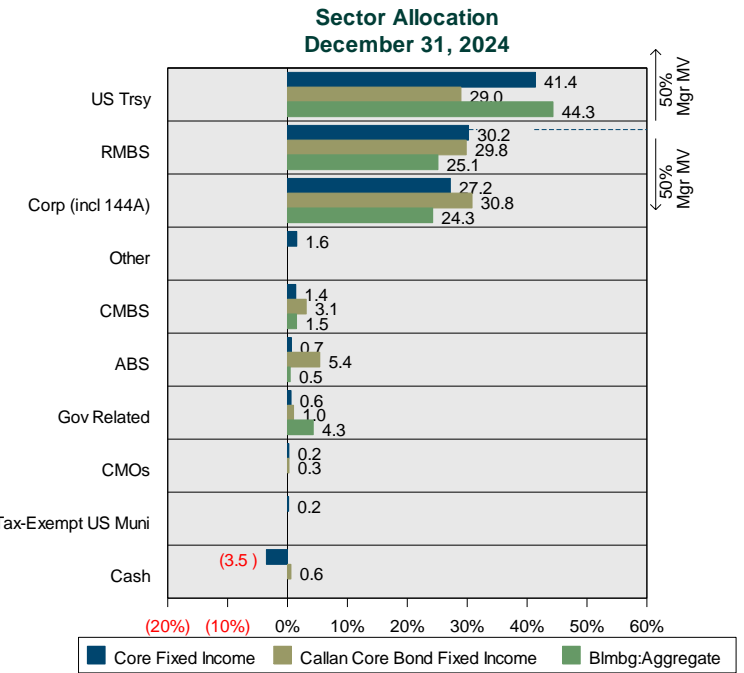
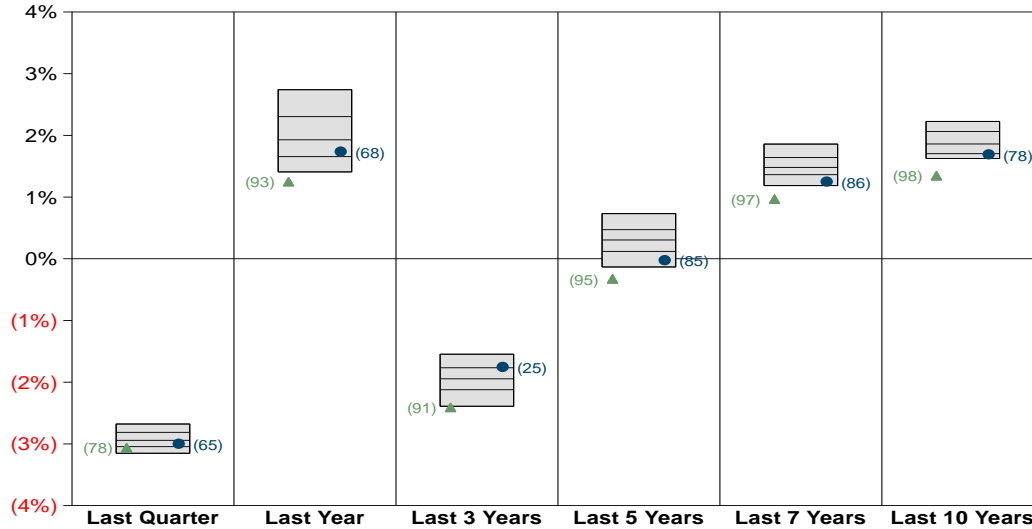


Risk Adjusted Return Measures vs MSCI EM
Rankings Against Callan Emerging Broad (Gross)
Five Years Ended December 31, 2024

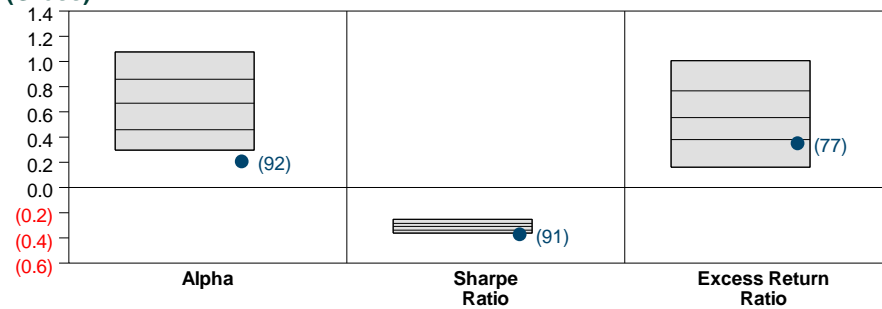


Core Fixed Income As of December 31, 2024

Performance vs Callan Core Bond Fixed Income (Gross)



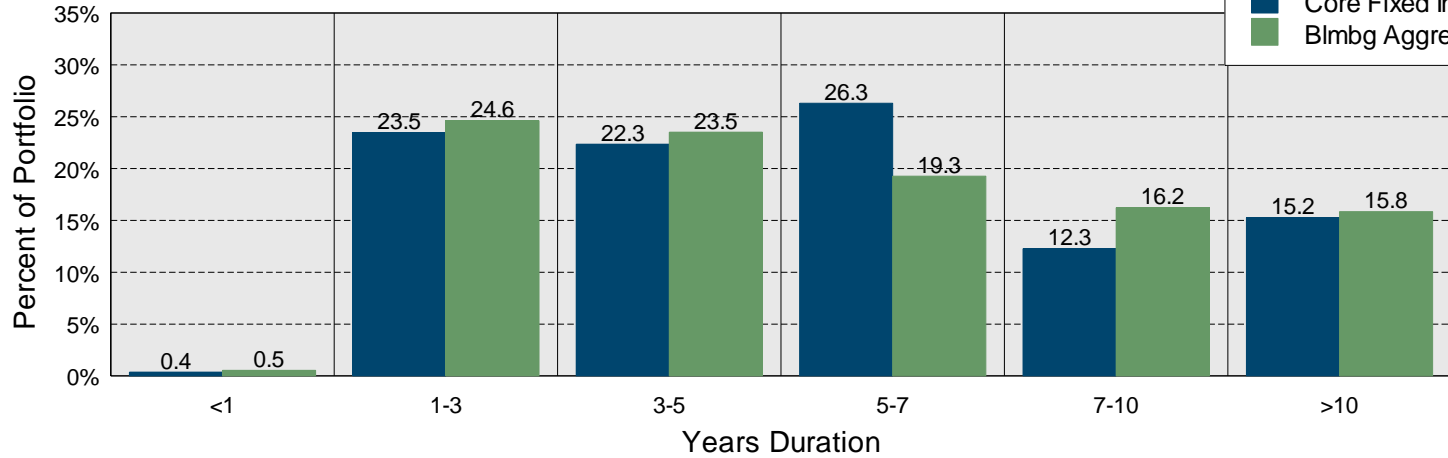
Risk Adjusted Return Measures vs Bimbg:Aggregate Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended December 31, 2024



Core Fixed Income

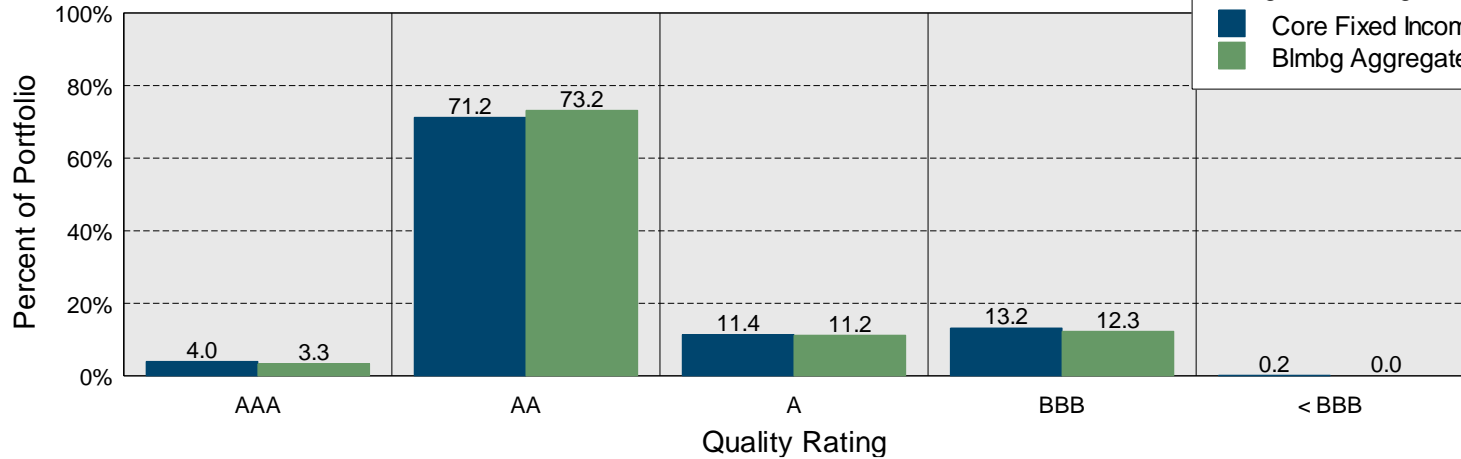
As of December 31, 2024

Duration Distribution



Weighted Average:	Duration
Core Fixed Income:	6.00
Blmbg Aggregate:	6.08

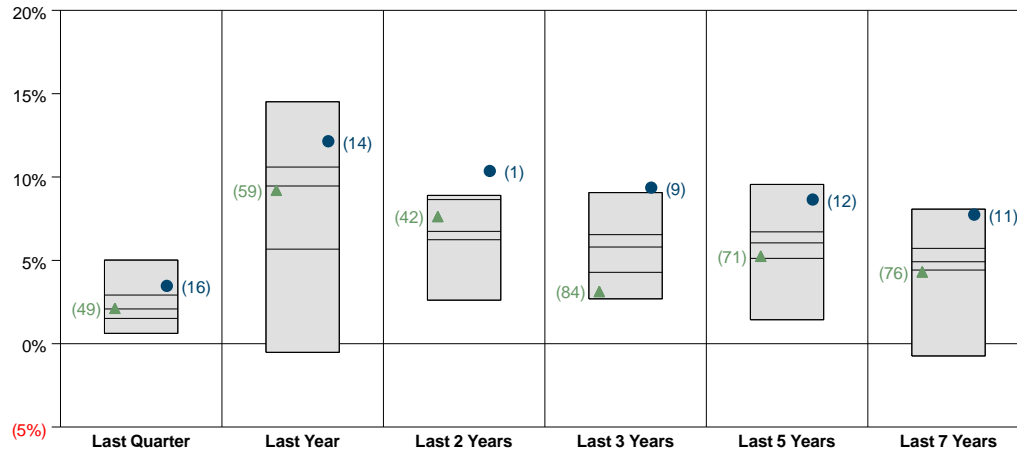
Quality Distribution



Weighted Average:	Quality
Core Fixed Income:	AA-
Blmbg Aggregate:	AA

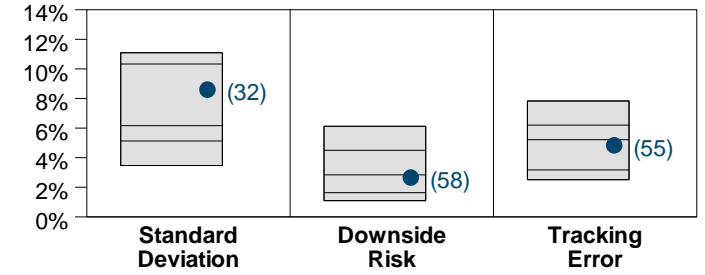
Opportunistic Fixed Income As of December 31, 2024

Performance vs Callan Absolute Rtn Hedge Fund of Funds (Net)



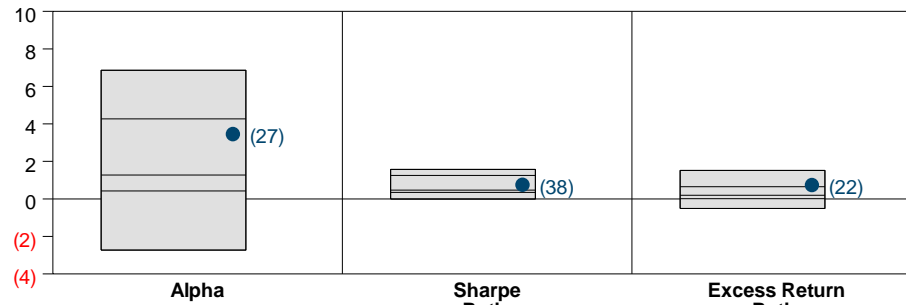
	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years
10th Percentile	5.02	14.52	8.90	9.07	9.56	8.07
25th Percentile	2.92	10.60	8.64	6.54	6.71	5.72
Median	2.09	9.46	6.74	5.80	6.05	4.91
75th Percentile	1.52	5.67	6.24	4.28	5.12	4.42
90th Percentile	0.62	(0.52)	2.61	2.69	1.44	(0.74)
Blackstone Keystone	3.43	12.11	10.33	9.33	8.61	7.71
HFRI Fund of Funds Composite Index	2.12	9.21	7.63	3.13	5.25	4.31

Risk Statistics Rankings vs HFRI Fund of Funds Composite Index Rankings Against Callan Absolute Rtn Hedge Fund of Funds (Net) Five Years Ended December 31, 2024



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	11.10	6.13	7.84
25th Percentile	10.33	4.50	6.21
Median	6.17	2.85	5.22
75th Percentile	5.13	1.64	3.17
90th Percentile	3.48	1.09	2.52
Blackstone Keystone	8.56	2.61	4.78

Risk Adjusted Return Measures vs HFRI Fund of Funds Composite Index Rankings Against Callan Absolute Rtn Hedge Fund of Funds (Net) Five Years Ended December 31, 2024



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	6.86	1.57	1.52
25th Percentile	4.27	1.25	0.65
Median	1.27	0.47	0.20
75th Percentile	0.42	0.34	0.01
90th Percentile	(2.73)	0.00	(0.51)
Blackstone Keystone	3.43	0.72	0.70

Investment Manager Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years
Net Performance- Domestic Equity						
U.S. Equity	\$14,450	100.00%	2.80%	23.38%	7.83%	13.64%
Russell 3000 Index (1)	-	-	2.63%	23.81%	8.01%	13.86%
S&P 1500 Index	-	-	2.22%	23.95%	8.54%	14.13%
MCM Russell 1000 Index	13,628	94.31%	2.75%	24.43%	8.52%	14.36%
Russell 1000 Index	-	-	2.75%	24.51%	8.41%	14.28%
S&P 500 Index	-	-	2.41%	25.02%	8.94%	14.53%
MCM Russell 2000 Core Index	101	0.70%	0.38%	12.00%	1.45%	7.81%
Russell 2000 Index	-	-	0.33%	11.54%	1.24%	7.40%
S&P 600 Index	-	-	(0.58%)	8.70%	1.91%	8.36%
MCM Russell 2000 Val Index	324	2.24%	(1.03%)	8.08%	2.03%	7.36%
Russell 2000 Value Index	-	-	(1.06%)	8.05%	1.94%	7.29%
S&P 600 Value Index	-	-	1.43%	7.56%	3.21%	8.10%
Emerald Asset Management	397	2.75%	3.80%	19.85%	2.56%	8.75%
Russell 2000 Growth Index	-	-	1.70%	15.15%	0.21%	6.86%
S&P 600 Growth Index	-	-	(2.62%)	9.63%	0.44%	8.24%

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance- Domestic Equity					
U.S. Equity	11.79%	13.20%	9.34%	7.57%	11.06% (1/81)
Russell 3000 Index (1)	12.55%	13.56%	10.22%	7.84%	11.36% (1/81)
S&P 1500 Index	12.79%	13.71%	10.31%	7.93%	-
MCM Russell 1000 Index	12.93%	-	-	-	14.63% (1/12)
Russell 1000 Index	12.87%	13.79%	10.39%	7.84%	14.61% (1/12)
S&P 500 Index	13.10%	13.88%	10.35%	7.70%	14.75% (1/12)
MCM Russell 2000 Core Index	-	-	-	-	8.38% (12/16)
Russell 2000 Index	7.82%	10.33%	7.79%	7.55%	8.13% (12/16)
S&P 600 Index	8.96%	11.66%	8.99%	9.51%	8.71% (12/16)
MCM Russell 2000 Val Index	-	-	-	-	6.83% (12/16)
Russell 2000 Value Index	7.14%	9.46%	7.01%	8.98%	6.81% (12/16)
S&P 600 Value Index	8.18%	11.03%	8.37%	9.68%	7.89% (12/16)
Emerald Asset Management	-	-	-	-	10.54% (12/16)
Russell 2000 Growth Index	8.09%	10.92%	8.32%	5.83%	9.02% (12/16)
S&P 600 Growth Index	9.55%	12.18%	9.51%	9.02%	9.30% (12/16)

* All returns on this report are shown with 2- decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

** Market values may not sum as a result of accounts funded within the quarter or accounts in the process of liquidation. The market values and performance of such accounts are included within their relevant composites.

(1) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

Investment Manager Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years
Net Performance- International Equity						
Int'l Developed Mkts Equity	\$4,463	100.00%	(6.81%)	4.97%	1.95%	5.86%
MSCI World ex US (1)	-	-	(7.43%)	4.15%	1.13%	4.72%
Walter Scott & Partners(2)	831	18.62%	(2.72%)	9.16%	2.70%	9.53%
MSCI World	-	-	(0.16%)	18.67%	6.34%	11.17%
BlackRock MSCI World Ex US Index	3,235	72.49%	(7.61%)	4.82%	2.25%	5.49%
MSCI World ex US	-	-	(7.43%)	4.70%	1.91%	5.10%
Xponance Non-U.S. Small Cap	246	5.51%	(6.83%)	4.78%	(2.07%)	2.80%
MSCI ACWI ex US Small Cap	-	-	(7.66%)	3.36%	(1.47%)	4.30%
Harris Assoc Int'l SCV	148	3.32%	(11.06%)	(2.22%)	0.20%	5.14%
MSCI World ex US Sm Cap	-	-	(7.86%)	2.76%	(2.77%)	2.87%
MSCI World ex US Sm Value	-	-	(8.12%)	2.95%	0.52%	3.37%

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance- International Equity					
Int'l Developed Mkts Equity	6.14%	6.35%	5.21%	-	6.28% ^(1/02)
MSCI World ex US (1)	5.25%	5.34%	5.06%	3.83%	6.17% ^(1/02)
Walter Scott & Partners (2)	11.00%	10.80%	-	-	9.53% ^(10/06)
MSCI World	9.95%	10.03%	7.97%	5.80%	7.62% ^(10/06)
BlackRock MSCI World Ex US Index	-	-	-	-	5.78% ^(6/17)
MSCI World ex US	5.26%	5.25%	4.95%	3.78%	5.37% ^(6/17)
Xponance Non-U.S. Small Cap	-	-	-	-	3.33% ^(10/18)
MSCI ACWI ex US Small Cap	5.66%	6.04%	6.27%	6.23%	4.20% ^(10/18)
Harris Assoc Int'l SCV	6.07%	6.95%	7.41%	-	9.61% ^(7/03)
MSCI World ex US Sm Cap	5.49%	6.29%	5.68%	-	7.97% ^(7/03)
MSCI World ex US Sm Value	5.13%	5.95%	5.78%	7.32%	8.15% ^(7/03)

* All returns on this report are shown with 2-decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

** Market values may not sum as a result of accounts funded within the quarter or accounts in the process of liquidation. The market values and performance of such accounts are included within their relevant composites.

(1) Intl Dev Mkts Equity benchmark reflects MSCI world ex US IMI until 06/30/2024 and MSCI world ex US Index, thereafter.

(2) Walter Scott since inception returns were contained in the Global Mandates composite prior to 12/31/2019.

Investment Manager Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years	
Net Performance- Emerging Mkts Equity							
Emerging Mkts Equity	\$467	100.00%	(7.76%)	8.64%	(2.25%)	2.96%	
MSCI EM (1)	-	-	(8.01%)	7.43%	(1.29%)	2.57%	
BlackRock Emg Mkts Index	466	99.79%	(7.82%)	7.13%	(2.25%)	1.37%	
MSCI EM	-	-	(8.01%)	7.50%	(1.92%)	1.70%	
			Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance- Emerging Mkts Equity							
Emerging Mkts Equity			4.91%	3.14%	4.57%	-	6.52% ⁽¹⁾⁽²⁾
MSCI EM (1)			3.93%	3.26%	6.23%	5.57%	8.19% ⁽¹⁾⁽²⁾
BlackRock Emg Mkts Index			-	-	-	-	3.00% ⁽⁷⁾⁽¹⁷⁾
MSCI EM			3.64%	3.02%	6.01%	-	3.30% ⁽⁷⁾⁽¹⁷⁾

* All returns on this report are shown with 2-decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

** Market values may not sum as a result of accounts funded within the quarter or accounts in the process of liquidation. The market values and performance of such accounts are included within their relevant composites.

*** Globeflex is in liquidation and has \$49k remaining in assets as of 09/30/2024.

**** Leading Edge is in liquidation and has \$708k remaining in assets as of 09/30/2024.

(1) Emerging Mkts Equity benchmark reflects MSCI EM IMI until 06/30/2024 and MSCI EM Index, thereafter.

Investment Manager Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years
Net Performance - Fixed Income						
Fixed Income (1)	\$7,005	100.00%	(2.34%)	2.48%	(1.75%)	(0.09%)
Bimbg U.S. Agg Bond Index	-	-	(3.06%)	1.25%	(2.41%)	(0.33%)
Core Fixed Income	\$4,591	65.55%	(3.02%)	1.69%	(1.80%)	(0.08%)
Bimbg U.S. Agg Bond Index	-	-	(3.06%)	1.25%	(2.41%)	(0.33%)
PIMCO Core Bond Fund	560	7.99%	(2.87%)	2.50%	(1.69%)	0.28%
Bimbg Agg ex Treasury	-	-	(3.00%)	1.76%	(2.05%)	(0.13%)
Mellon Bond Index	4,032	57.56%	(3.04%)	1.48%	(2.30%)	(0.32%)
Bimbg U.S. Agg Bond Index (2)	-	-	(3.06%)	1.25%	(2.41%)	(0.33%)
Opportunistic Fixed Income	\$803	11.46%	3.16%	10.94%	8.32%	7.15%
BAAM Keystone (3)	803	11.46%	3.16%	10.94%	8.40%	7.71%
HFRI FOF Comp Index	-	-	2.12%	9.21%	3.13%	5.25%
Nominal U.S. Treasuries	\$1,581	22.58%	(3.14%)	0.11%	(5.15%)	(2.21%)
Bimbg US Treas Bell 10Y	-	-	(5.19%)	(1.73%)	(5.33%)	(1.98%)
Mellon US Treasury Index	1,581	22.58%	(3.14%)	-	-	-
Bimbg US Treasury	-	-	(3.14%)	0.58%	(2.88%)	(0.68%)
Legacy Fixed Income	\$29	0.42%	3.28%	16.46%	-	-
Fidelity HY CMBS (4)	29	0.42%	3.51%	17.36%	1.38%	1.26%
Bimbg US CMBS Ex AAA Index (5)	-	-	(1.48%)	6.04%	(1.73%)	0.32%

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The market values and performance of such accounts are included within their relevant composites.

(1) Fixed Income included the new fixed income sub-composite from 03/01/2021 to 06/30/2022. On 07/01/2022, the sub-composites of the new fixed income structure was liquidated and the managers reorganized under Core Fixed Income,

Opportunistic Fixed Income, Nominal US Treasuries and Legacy Fixed Income sub-composites.

(2) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

(3) Blackstone Keystone since inception returns were included in the Legacy Hedge Fund composite through 9/30/2017, included in the Multi-Strategy composite from 10/01/2017 through 12/31/2019, included in the Opportunistic Fixed composite from 01/01/2020 through 12/31/2020, included in the Private Credit from 01/01/2021 through 09/30/2021 and Opportunistic Fixed composite, thereafter.

(4) Fidelity was included in the Opportunistic Fixed composite prior to 03/01/2021, included in the High Yield under the new fixed income structure from 03/01/2021 through 06/30/2022, and Legacy Fixed Income Structure, thereafter.

(5) Fidelity's blended benchmark consists of FTSE High Yield Market Index prior to 12/31/2009 and Bimbg US CMBS Ex AAA Index, thereafter.

Investment Manager Returns

As of December 31, 2024

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Fixed Income					
Fixed Income (1)	1.50%	3.13%	3.71%	4.56%	7.40% ⁽¹⁾⁽⁸¹⁾
Blmbg U.S. Agg Bond Index	1.35%	2.37%	3.01%	3.94%	6.70% ⁽¹⁾⁽⁸¹⁾
Core Fixed Income	1.60%	2.95%	3.39%	-	3.77% ⁽¹⁾⁽⁰²⁾
Blmbg U.S. Agg Bond Index	1.35%	2.37%	3.01%	3.94%	3.42% ⁽¹⁾⁽⁰²⁾
PIMCO Core Bond Fund	1.85%	-	-	-	1.70% ⁽¹⁾⁽¹³⁾
Blmbg Agg ex Treasury	1.65%	2.68%	-	-	1.77% ⁽¹⁾⁽¹³⁾
Mellon Bond Index	1.33%	2.31%	2.93%	3.93%	6.18% ⁽⁴⁾⁽⁸⁴⁾
Blmbg U.S. Agg Bond Index (2)	1.35%	2.37%	3.01%	4.03%	-
Opportunistic Fixed Income	5.20%	-	-	-	5.61% ⁽¹⁰⁾⁽¹²⁾
BAAM Keystone (3)	6.20%	-	-	-	7.64% ⁽⁷⁾⁽¹²⁾
HFRI FOF Comp Index	3.80%	3.63%	3.42%	3.77%	4.32% ⁽⁷⁾⁽¹²⁾
Nominal U.S. Treasuries	0.19%	-	-	-	0.76% ⁽⁹⁾⁽¹¹⁾
Blmbg US Treas Bell 10Y	0.14%	2.09%	2.62%	3.62%	0.87% ⁽⁹⁾⁽¹¹⁾
Mellon US Treasury Index	-	-	-	-	3.96% ⁽⁵⁾⁽²⁴⁾
Legacy Fixed Income	-	-	-	-	3.87% ⁽⁷⁾⁽²²⁾
Fidelity HY CMBS (4)	3.03%	7.55%	5.28%	6.92%	7.21% ⁽⁴⁾⁽⁹⁷⁾
Blmbg US CMBS Ex AAA Index (5)	2.42%	5.62%	0.88%	3.03%	3.40% ⁽⁴⁾⁽⁹⁷⁾

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The market values and performance of such accounts are included within their relevant composites.

(1) Fixed Income included the new fixed income sub-composite from 03/01/2021 to 06/30/2022. On 07/01/2022, the sub-composites of the new fixed income structure was liquidated and the managers reorganized under Core Fixed Income,

Opportunistic Fixed Income, Nominal US Treasuries and Legacy Fixed Income sub-composites.

(2) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

(3) Blackstone Keystone since inception returns were included in the Legacy Hedge Fund composite through 9/30/2017, included in the Multi-Strategy composite from 10/01/2017 through 12/31/2019, included in the Opportunistic Fixed composite from 01/01/2020 through 12/31/2020, included in the Private Credit from 01/01/2021 through 09/30/2021 and Opportunistic Fixed composite, thereafter.

(4) Fidelity was included in the Opportunistic Fixed composite prior to 03/01/2021, included in the High Yield under the new fixed income structure from 03/01/2021 through 06/30/2022, and Legacy Fixed Income Structure, thereafter.

(5) Fidelity's blended benchmark consists of FTSE High Yield Market Index prior to 12/31/2009 and Blmbg US CMBS Ex AAA Index, thereafter.

Investment Manager Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years
Net Performance - Inflation Protection						
Inflation Protection (TIPS)	\$949	100.00%	(2.88%)	1.81%	(2.74%)	1.44%
Blmbg U.S. TIPS Index	-	-	(2.88%)	1.84%	(2.30%)	1.87%
NISA Inv Adv TIPS	464	48.89%	(2.90%)	2.05%	(2.27%)	1.86%
Blmbg U.S. TIPS Index (1)	-	-	(2.88%)	1.84%	(2.30%)	1.87%
Brown Brothers TIPS	485	51.11%	(2.90%)	1.88%	(2.34%)	1.74%
Blmbg U.S. TIPS Index	-	-	(2.88%)	1.84%	(2.30%)	1.87%

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Inflation Protection					
Inflation Protection (TIPS)	2.03%	2.14%	2.83%	-	2.84% ^(2/03)
Blmbg U.S. TIPS Index	2.24%	2.86%	3.30%	4.77%	3.74% ^(2/03)
NISA Inv Adv TIPS	2.24%	2.15%	-	-	2.79% ^(4/07)
Blmbg U.S. TIPS Index (1)	2.24%	2.15%	2.76%	4.33%	2.79% ^(4/07)
Brown Brothers TIPS	2.22%	-	-	-	1.71% ^(2/12)
Blmbg U.S. TIPS Index	2.24%	2.86%	3.30%	4.77%	1.66% ^(2/12)

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(1) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

Investment Manager Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years	
Net Performance - Private Equity							
Private Equity	\$6,724	100.00%	1.34%	6.28%	2.45%	14.24%	
Burgiss Private Equity Index (Qtr lag)	-	-	0.03%	0.08%	(0.58%)	9.01%	
Global Equity + 3% (Qtr lag)(1)	-	-	7.23%	35.89%	12.78%	17.28%	
Buyouts	3,642	54.16%	1.29%	4.14%	3.73%	13.82%	
Burgiss Buyout Index (Qtr lag)	-	-	0.03%	0.08%	0.18%	8.40%	
Special Situations	1,769	26.30%	1.93%	10.74%	10.08%	16.70%	
Burgiss Special Situations Idx (Qtr lag)	-	-	0.03%	0.10%	0.66%	3.59%	
Growth Equity	1,142	16.98%	1.17%	8.86%	(2.37%)	18.33%	
Burgiss Venture Capital Index (Qtr lag)	-	-	0.02%	0.04%	(2.61%)	13.49%	
Keystone Legacy (2)	172	2.56%	(2.37%)	(7.77%)	(18.07%)	(4.07%)	
			Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Private Equity							
Private Equity	11.83%	12.30%	12.21%	10.55%	11.33%	(1/86)	
Burgiss Private Equity Index (Qtr lag)	10.13%	11.67%	11.91%	10.84%	15.81%	(1/86)	
Global Equity + 3% (Qtr lag)(1)	15.50%	16.70%	13.73%	11.60%	14.86%	(1/86)	
Buyouts	12.45%	13.56%	13.95%	12.08%	13.21%	(4/86)	
Burgiss Buyout Index (Qtr lag)	9.84%	11.54%	12.42%	11.18%	18.00%	(4/86)	
Special Situations	12.68%	13.06%	13.41%	13.14%	13.11%	(1/95)	
Burgiss Special Situations Idx (Qtr lag)	4.87%	7.31%	7.51%	8.62%	9.24%	(1/95)	
Growth Equity	14.68%	12.89%	9.90%	6.36%	8.48%	(1/86)	
Burgiss Venture Capital Index (Qtr lag)	14.06%	14.48%	11.92%	9.00%	13.62%	(1/86)	
Keystone Legacy (2)	-	-	-	-	(3.97%)	(7/18)	

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(1) As of 01/01/2020 benchmark consists of 25% MSCI World ex US and 75% Russell 3000 + 3% with a 1 quarter lag.

(2) As of 09/30/2024, Keystone Legacy SPV consists of 36 non-core funds, prior performance is reflected in previous sub-asset classes.

Investment Manager Returns

As of December 31, 2024

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last 3 Years	Last 5 Years
Net Performance - Real Estate						
Real Estate	\$2,220	100.00%	(3.53%)	(12.25%)	(6.42%)	(0.24%)
Real Estate Custom Bench (Qtr lag) (1)	-	-	(0.07%)	(8.44%)	(2.24%)	1.93%
CPI +3% (Qtr lag)	-	-	1.09%	5.44%	7.75%	7.20%
Core/Core Plus Real Estate Funds	1,063	47.90%	(2.96%)	(7.13%)	(0.03%)	2.86%
NCREIF ODCE Index (Qtr lag)	-	-	(0.07%)	(8.44%)	(1.06%)	2.33%
Value Add/Oppportunistic SMA	244	10.97%	(9.84%)	(43.83%)	(26.96%)	(13.83%)
NCREIF ODCE Index (Qtr lag)	-	-	(0.07%)	(8.44%)	(1.06%)	2.33%
Value Add/Oppportunistic Funds	767	34.57%	(1.88%)	(6.96%)	(2.38%)	2.42%
NCREIF ODCE Index (Qtr lag)	-	-	(0.07%)	(8.44%)	(1.06%)	2.33%
REITS	146	6.56%	(5.37%)	11.26%	(1.33%)	5.57%
FTSE NAREIT US Index	-	-	(6.20%)	7.90%	(2.81%)	3.46%

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Real Estate					
Real Estate	2.17%	4.53%	4.26%	5.36%	7.29% (3/84)
Real Estate Custom Bench (Qtr lag) (1)	4.93%	7.04%	5.78%	6.53%	-
CPI +3% (Qtr lag)	5.85%	5.56%	5.57%	5.55%	5.82% (3/84)
Core/Core Plus Real Estate Funds	5.46%	7.80%	6.34%	6.78%	6.54% (9/85)
NCREIF ODCE Index (Qtr lag)	5.46%	7.31%	5.65%	6.12%	5.52% (9/85)
Value Add/Oppportunistic SMA	(6.09%)	(1.76%)	(0.71%)	0.84%	2.35% (5/88)
NCREIF ODCE Index (Qtr lag)	5.46%	7.31%	5.65%	6.12%	5.53% (5/88)
Value Add/Oppportunistic Funds	4.98%	7.33%	5.60%	6.68%	7.17% (3/84)
NCREIF ODCE Index (Qtr lag)	5.46%	7.31%	5.65%	6.12%	5.78% (3/84)
REITS	6.18%	8.07%	7.72%	9.54%	9.21% (4/95)
FTSE NAREIT US Index	6.38%	9.39%	7.30%	9.41%	9.39% (4/95)

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(1) As of 07/01/2022, the benchmark consists of 100% NCREIF NFI-ODCE (Qtr lag). From 03/31/2019 to 07/01/2022, the benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged). Prior to 03/31/2019, benchmark history was provided by RVK.

Callan

Appendix II – Callan Update

Published Research Highlights: 4Q24

2024 Real Assets Fees and Terms Study



2024 ESG Survey



3Q24 Market Intelligence Report (clients-only)



Coming Soon: 2025 Capital Markets Assumptions



Recent Blog Posts

**IRS Guidance:
How Reliable
Is it?**

Jana Steele

**Public DB Plan
Trends (and
Some That Will
Be)**

Weston Lewis

**Are Equity
Returns More
Volatile in an
Election Year?
It Depends!**

Ric Ford and Drew
Beiger

Additional Reading

Active vs. Passive quarterly charts

Capital Markets Review quarterly newsletter

Monthly Updates to the Periodic Table

Market Pulse Flipbook quarterly markets update

Market Intelligence (clients-only)

Real Estate Indicators market outlook

Callan Institute Events

Upcoming conferences, workshops, and webinars

2025 National Conference

Registration is now open for this event in Scottsdale on April 27-29, 2025!

Our annual conference will feature mainstage speakers and Callan-led workshops on a variety of topics.

This year we welcome Zanny Minton Beddoes, Ethan Mollick, Admiral James Stavridis, Barry Sternlicht, and Evy Poumpouras to the stage! We will be updating our website as we add additional information regarding this event!

Learn more about this event at:
<https://www.callan.com/events/2025nationalconference/>



Mark Your Calendar

2025 Regional Workshops

June 3, 2025 – Denver

June 5, 2025 – New York

October 28, 2025 – Chicago

October 30, 2025 – San Francisco

Watch your email for further details and an invitation.

Upcoming Webinars

February 20, 2025

Research Café: ESG Interview Series

March 20, 2025

Research Café: Sector-Specific Strategies

March 28, 2025

STAR Webinar

April 25, 2025

Market Intelligence Report and Webinar

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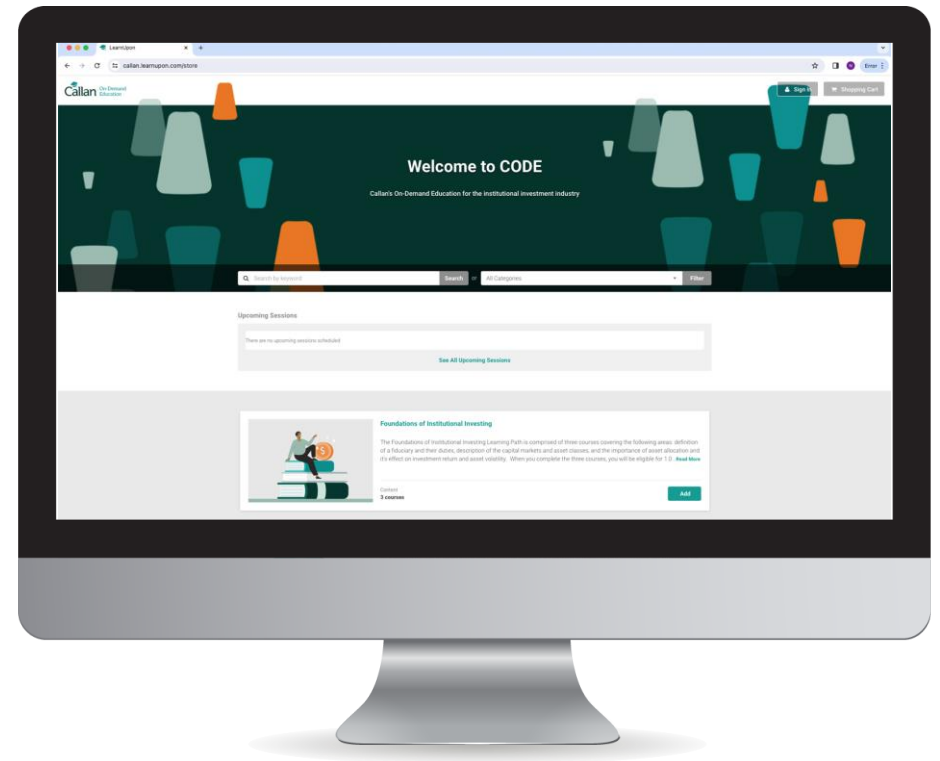


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- 2 Showcase your skills and knowledge
- 3 Learn from Callan's investment experts

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