

City of Milwaukee  
Employees' Retirement System

Bernard J. Allen  
Executive Director

David M. Silber, CFA, CAIA  
Chief Investment Officer

Melody Johnson  
Deputy Director

May 30, 2025

Mr. Jim Owczarski  
City Clerk  
Room 205, City Hall

Dear Mr. Owczarski:

Please be advised that an Investment Committee Meeting of the Annuity and Pension Board has been scheduled for **Thursday, June 5, 2025 at 9:00 a.m.** This meeting will be conducted via teleconference.

*Special Notice: Instructions for the public on how to observe the meeting will be available on the ERS's website ([www.cmers.com](http://www.cmers.com)) prior to the meeting.*

The agenda is as follows:

I. Chief Investment Officer Report.

Please be advised that the Investment Committee may vote to convene in closed session on the following item (II.) as provided in Section 19.85(1)(e) and Section 19.85(1)(f), Wisconsin State Statutes, to deliberate or negotiate the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session and for considering financial, medical, social or personal histories or disciplinary data of specific persons, preliminary consideration of specific personnel problems or the investigation of charges against specific persons except where par. (b) applies which, if discussed in public, would be likely to have a substantial adverse effect upon the reputation of any person referred to in such histories or data, or involved in such problems or investigations. The Investment Committee may then vote to reconvene in open session following the closed session.

II. Neuberger Berman Private Equity Presentation.

III. MFS Investment Management Presentation.

IV. Callan Statement of Investment Policy Review.

V. Informational.

a. Callan 1<sup>st</sup> Quarter 2025 Performance Report.

Sincerely,

A handwritten signature in dark ink, appearing to read "Bernard J. Allen".

Bernard J. Allen  
Executive Director

BJA:jmw



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## MFS® Global Growth Equity

Presented to

Employees' Retirement System of the City of  
Milwaukee

05 June 2025

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## Risks



Emerging markets can have less market structure, depth, and regulatory, custodial or operational oversight and greater political, social, geopolitical and economic instability than developed markets. ■ Investments in certain markets can involve greater risk and volatility because of adverse market, currency, economic, industry, political, regulatory, geopolitical, or other conditions. ■ Stock markets and investments in individual stocks are volatile and can decline significantly in response to or investor perception of, issuer, market, economic, industry, political, regulatory, geopolitical, and other conditions. ■ Investments in growth companies can be more sensitive to the company's earnings and more volatile than the stock market in general.

# Presenters



## Andrew C. Boyd

- Equity Institutional Portfolio Manager
- As an Equity Institutional Portfolio Manager, participates in the research process and strategy discussions. Assesses portfolio risk, customizes portfolios to client objectives and guidelines, and manages daily cash flows. Communicates investment policy, strategy, and positioning.
- Joined MFS in 1998; previous positions include Investment Product Specialist
- Previous experience includes 6 years as Senior Market Research Analyst at John Hancock Funds
- Andrew joined MFS in 1998 and most recently served as a vice president and growth equity investment product specialist within the Advisory Resources Group focused on the analytical teams at key distributors in all channels and third-party platforms. Prior to joining MFS, he spent more than six years at John Hancock Funds, serving in a variety of positions including senior market research analyst. He began his career in the financial services industry in 1992.
- Boston University, MBA
- University of New Hampshire, BA

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## Matt Westhoven

- Relationship Director — Institutional Relationship Management
- Works with clients across the United States and is responsible for assisting them with their long-term investment strategy. Meets with clients to share investment insights, evaluate market opportunities, and discuss any investment and business-related issues.
- Joined MFS in 2010
- Previous experience includes 4 years as Senior Account Manager at Fidelity Investments / Pyramis Global Advisors; 6 years as a Financial Analyst (Treasury and Accounting) at Fidelity Investments
- FINRA License: Series 7 & 63
- Bentley University, MBA
- Bentley University, BS

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We create long-term value by allocating capital responsibly



## COLLECTIVE EXPERTISE

- Engagement
- Diversity and collaboration
- Integrated research



## LONG-TERM DISCIPLINE

- Conviction and longer time horizons
- Continuity/Succession planning
- Alignment of incentives



## RISK MANAGEMENT

- Risk-aware culture
- Understanding material risks
- Capacity management

Uncovering market opportunities while striving to protect our clients' reputations

# Business Profile (USD)

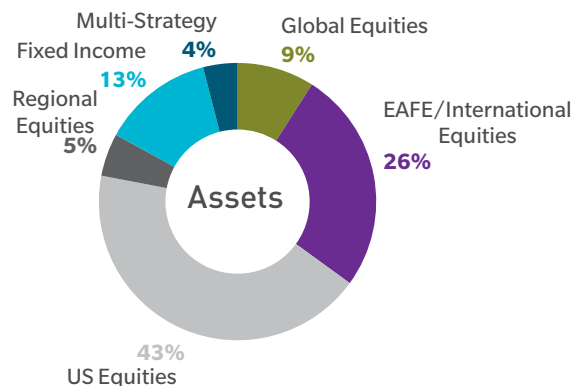
603 billion total MFS® AUM



## Diversified Client and Asset Base<sup>1</sup>

### Assets

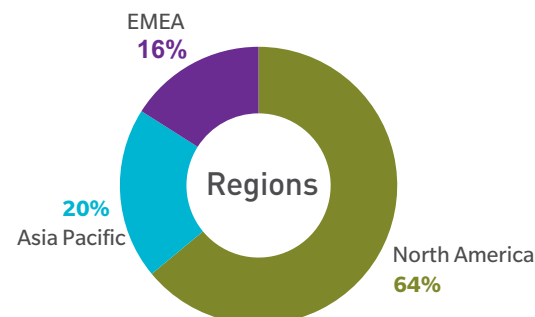
Global Equities	54.4 billion
EAFE/International Equities	155.6 billion
US Equities	258.9 billion
Regional Equities	29.7 billion
Fixed Income <sup>2</sup>	81.4 billion
Multi-Strategy/Other	22.9 billion



## Institutional Business by Client Type and Region<sup>3</sup>

### Client Types

Defined Benefit/Defined Contribution
Endowment and Foundation
Sovereign Wealth Fund/Government Agency
Institutional Platform/Insurance Subadvisory



As of 31-Mar-25.

<sup>1</sup> Data is rounded to the nearest figure.

<sup>2</sup> Total fixed income assets, including non-dedicated fixed income mandates are 105 billion USD.

<sup>3</sup> Represents global clients in institutional vehicles only.

Percentages may not sum to 100% due to rounding.

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Well-diversified business across clients, regions, and investment strategies

# MFS Perspectives — Featured Events & Insights

2025 MFS Global Investment Institute (GII) — Boston — Week of November 3rd

The event will bring together clients, academics, MFS investors and leaders for discussions and networking



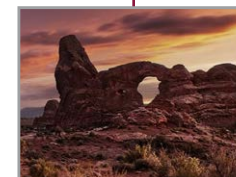
## Market Insights

- **A Simple Way to Think About Tariffs** | [Insights](#)
- **2025 Expectations — A New Mindset for Portfolio Design** | [Insights](#)
- **Why Non-US Equities May Regain Market Leadership** | [Insights](#)
- **Why Active Management in 2025 and Beyond** | [Insights](#)



## Fixed Income & Equity

- **Fixed Income Under the Spotlight**  
The Year of the Great Bifurcation | [Insights](#)
- **Time to Think Differently** | [Insights](#)
- **Exploring Opportunities for Global Small- and Mid-Cap Stocks in the Next Cycle** | [Insights](#)
- **International Large Cap Value**  
The Forgotten Asset Class | [Insights](#)



## Events

- **With Intelligence** — Austin (2/24–25); Charleston (5/12–13); Chicago (9/15–16); Miami (11/17–18)
- **Markets Group** — Nashville (4/30); Seattle (5/22)
- **DCIIA** — Plan Sponsor Institute; Innovation Forum & Retirement Research Center, Newport Beach (3/19–20)
- **Conexus** — Boston (5/19–21); Stanford, CA (9/16–18)
- **P&I Fixed Income & Credit** — Dallas (9/9–10)
- **2025 MFS Global Investment Institute (GII)**  
Boston, Week of November 3rd
- **P&I Public Funds** — Austin (11/19–20)

## Client Resources

- **DC Pulse** | [Insights](#)
- **Global Market Pulse** | [Insights](#)
- **Retirement Outlook 2025** | [Insights](#)
- **2024 MFS DC Plan Sponsor Survey**  
Building Better Outcomes | [Insights](#)
- **Client Investment Strategy Webcasts**  
Strategies Include — Large Cap Value Equity, Intl. Growth Equity, Intl. Equity, Global Equity/Global Concentrated, Intl. Intrinsic Value & Emerging Markets Debt





## The Trend Report

MACRO	INVESTMENT	INDUSTRY/REGIONAL
<p><b>The Great Bifurcation</b></p> <p><b>Consideration</b></p> <p>Global economic growth is set to further bifurcate in 2025. In the US, with inflation being sticky but growth remaining robust, the Fed will likely be more cautious in the period ahead. In contrast, the outlook in Europe has worsened over the past few months, warranting further policy easing.</p>	<p><b>Asset Allocation</b></p> <p><b>Consideration</b></p> <p>Public debt has become an attractive de-risking asset class, for many, reflecting higher total yields. Despite this, over the next 3 years, many institutional investors plan to increase allocations to private debt as investors seek to secure higher potential returns.</p>	<p><b>Public DB Plans</b></p> <p><b>Consideration</b></p> <p>The increase in allocations to privates was largely due to public DB plans looking to generate higher returns in the low-rate environment that they operated in for much of the past decade. However, with higher fixed income yields today, there may be an opportunity to reduce risk, improve liquidity and still generate relatively attractive yields by revisiting fixed income allocations.</p>
<p><b>Magnificent 7</b></p> <p><b>Consideration</b></p> <p>A further increase in name concentration across major equity indices, particularly mega cap tech stocks. Despite the expected broadening of earnings growth over 2025, these stocks through their sheer size, will likely continue to dominate relative performance. Any view on factors like size, momentum, value, or a call on the S&amp;P 500 is likely driven by the expectations for these stocks.</p>	<p><b>Fixed Income</b></p> <p><b>Consideration</b></p> <p>The global fight against inflation saw coordinated global central bank actions hiking rates. With inflation now contained, the state of economies varies across regions. Differentiated growth and monetary policy stances can have major implications for fixed income returns. A knowledgeable active manager may help identify opportunities to deploy credit and duration in a changing environment.</p>	<p><b>Customization</b></p> <p><b>Consideration</b></p> <p>There is an increasing demand for customization in the industry. Asset allocators are seeking trusted strategic partners who provide investment skill, insight, and perspective to help them achieve their unique outcomes.</p>
<p><b>Mind the Gap</b></p> <p><b>Consideration</b></p> <p>Given the current dynamics in credit markets -high yields, tight spreads - and what may lie ahead for US Fed actions, global central bank moves, and impacts of new administration many clients are undertaking an assessment of their current asset mix and looking to fill any gaps they may have in their fixed income allocation.</p>	<p><b>International Benefits</b></p> <p><b>Consideration</b></p> <p>Increasingly investors are splitting their US and international equity exposures. Many active managers are demonstrating relatively solid alpha generation in international markets encouraging many investors to engage them for non-US investments.</p>	<p><b>Defined Contribution</b></p> <p><b>Consideration</b></p> <p>We believe plan sponsors should design a Retirement Income Plan Road Map to address the retirement income challenge. This begins with an assessment of participant needs and an understanding of the current state of the retirement landscape. From there, a sponsor can begin to articulate their retirement income philosophy, which could lead to one of two potential types of solutions.</p>

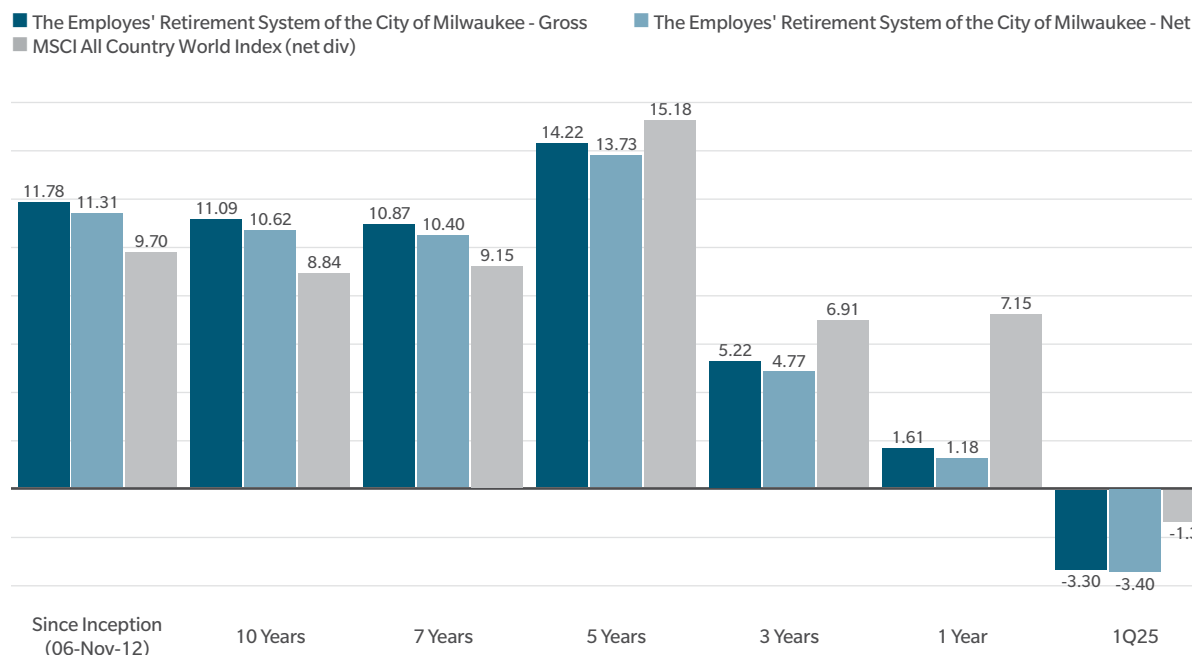
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# Executive Summary



## Performance results (%) (USD), as of 31-Mar-25



## Asset summary (USD)

Beginning value as of 31-Dec-24	207,237,474
Contributions	0
Withdrawals	-34
Asset transfers	0
Change in market value	-6,833,344
Ending value as of 31-Mar-25	200,404,096

## Sector weights (%)

As of 31-Mar-25	Portfolio	Benchmark <sup>^</sup>
<b>Top overweights</b>		
Consumer Staples	8.8	6.3
Industrials	13.0	10.6
Information Technology	25.5	23.4
<b>Top underweights</b>		
Energy	—	4.2
Materials	1.6	3.6
Communication Services	6.6	8.2

<sup>^</sup> MSCI All Country World Index  
The Global Industry Classification Standard (GICS<sup>®</sup>) was developed by and/or is the exclusive property of MSCI, Inc. and S&P Global Market Intelligence Inc. ("S&P Global Market Intelligence"). GICS is a service mark of MSCI and S&P Global Market Intelligence and has been licensed for use by MFS. MFS has applied its own internal sector/industry classification methodology for equity securities and non-equity securities that are unclassified by GICS.  
Source: Benchmark performance from SPAR, FactSet Research Systems Inc. It is not possible to invest directly in an index. Index performance will differ from our actively managed strategies, which may involve a higher degree of risk.

**Past performance is no guarantee of future results.**  
For periods of less than one-year returns are not annualized.

## MFS Global Growth Equity Team



**Jeffrey Constantino, CFA, CPA**

**Portfolio Manager**  
*27 years industry experience*



**Joseph Skorski**

**Portfolio Manager**  
*28 years industry experience*



**Andrew Boyd**

**Institutional Portfolio Manager<sup>1</sup>**  
*31 years industry experience*



**Peter Loncto, CFA**

**Investment Product Specialist**  
*29 years industry experience*

As of 31-Mar-25.

<sup>1</sup> As an Institutional Portfolio Manager, communicates investment policy, strategy, and positioning. Participates in the research process and strategy discussions. Assesses portfolio risk, customizes portfolio objectives and policies, and manages daily cash flows.

Years of industry experience as of 31-Dec-24.

**Tested by market experience, backed by depth**

# MFS Global Growth Equity

*Distinguishing characteristics*



**What we believe makes  
us different from other  
global growth managers?**

## **Invest with long-term horizon**

- Assess investment opportunities in context of 5–10+ year time horizon

## **Focus on high quality companies**

- Seek to invest in "blue chip" companies with durable business models

## **Seek to benefit from long-term above-average growth potential across full market cycles**

- Seek to invest in companies that have the potential to compound above average growth and returns.

## **Maintain strong valuation discipline**

- Utilize patient and contrarian approach

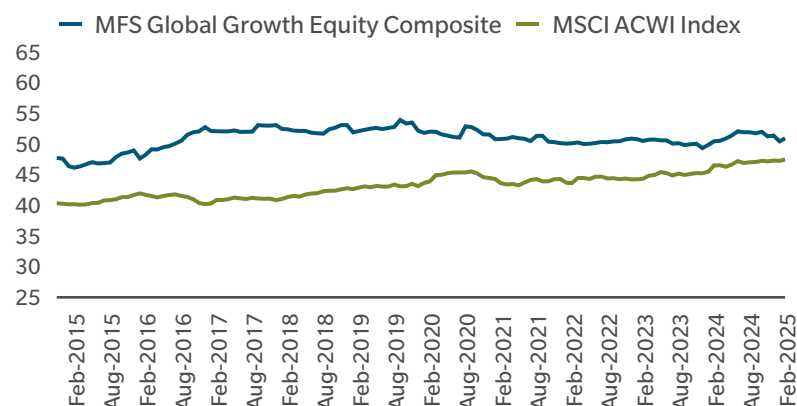
## **Collaborate closely with MFS integrated global research platform**

- Benefit from the MFS global research analysts located around the world

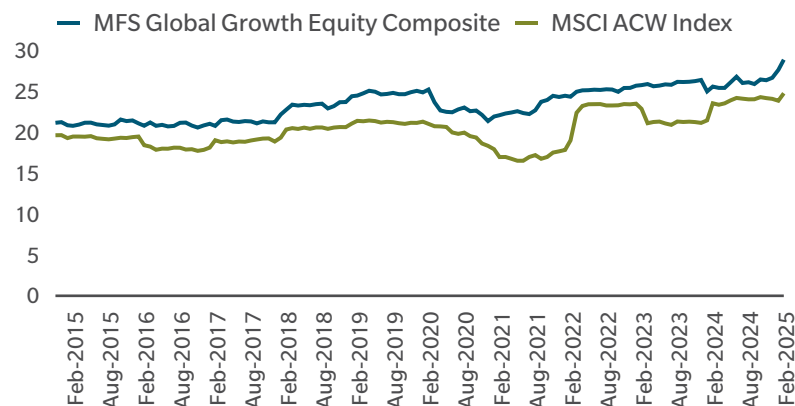
# Consistent Quality Exposure



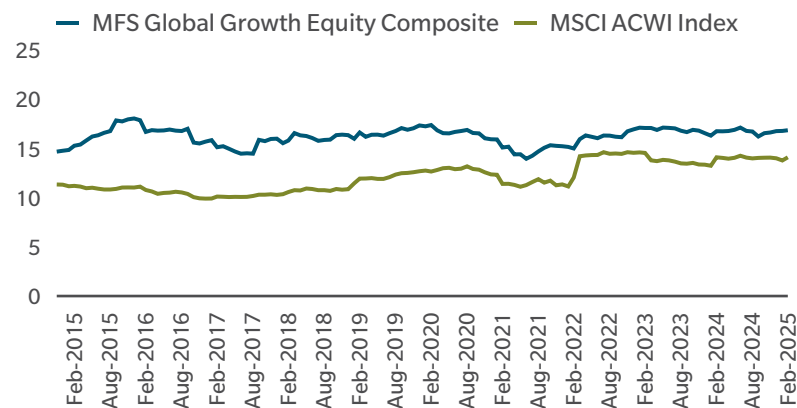
## Gross Profit Margin



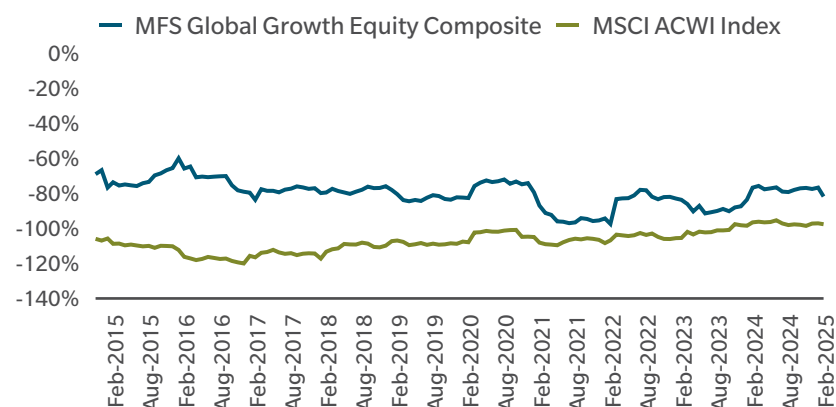
## Operating Profit Margin



## ROIC



## Low Gearing



As of 28-Feb-25.

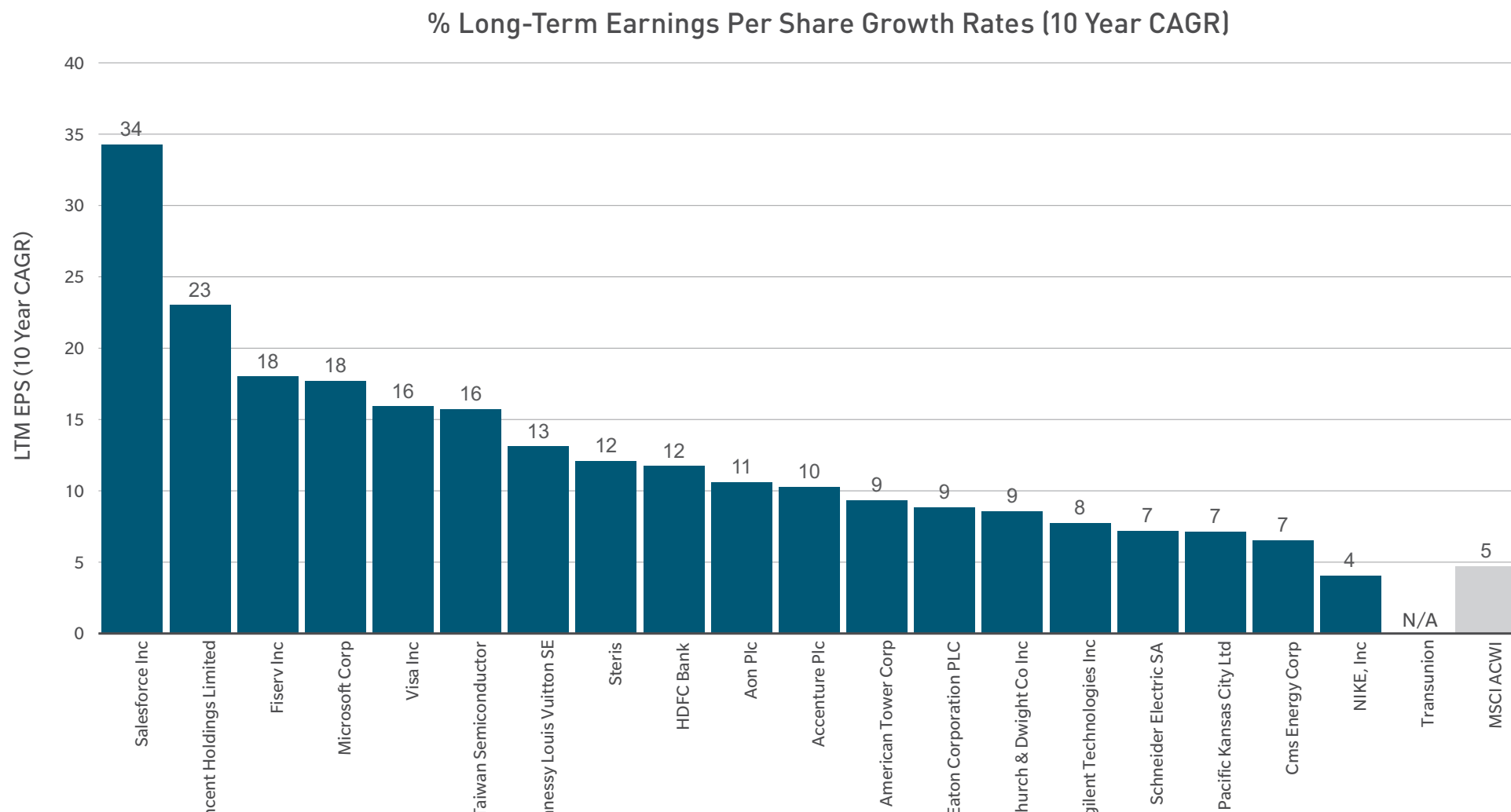
Source: Style Analytics

Gross Profit Margin - Gross profit divided by net sales. Operating Profit Margin - Operating income divided by revenues. Return on Invested Capital -  $(\text{Net income} + ((\text{interest expense on debt} - \text{interest capitalized}) * (1 - \text{tax rate}))) / \text{average of last year's and current year's (total capital + short term debt \& current portion of long term debt)}$ . Low Gearing - The negative of debt to equity.

Based on the MFS Global Growth Equity composite representative account.

# Exposure to Durable Growth Compounders

Long-term growth rates of top 20 active positions



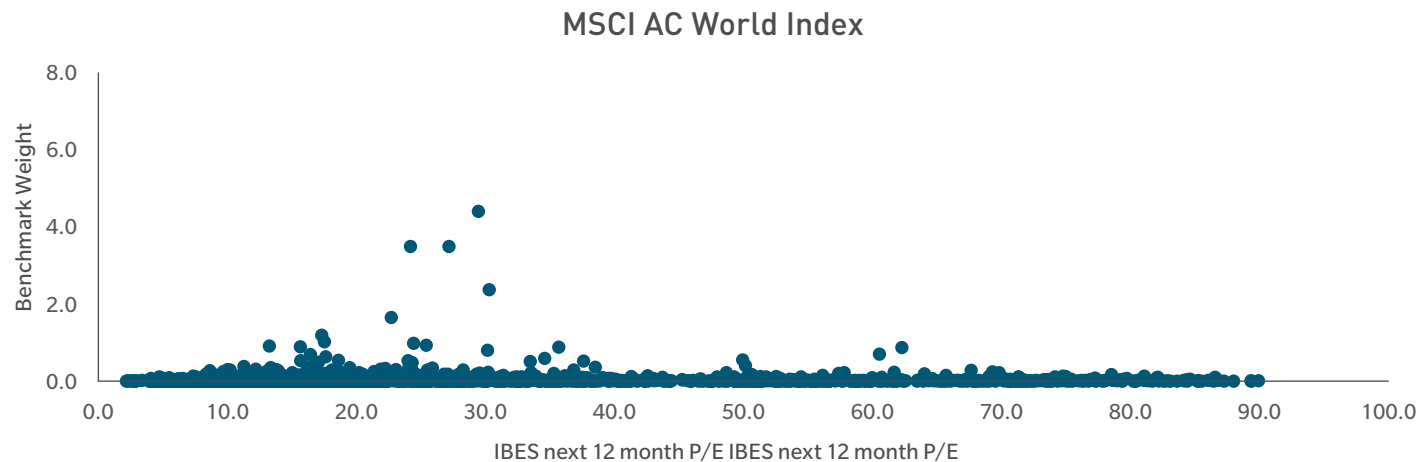
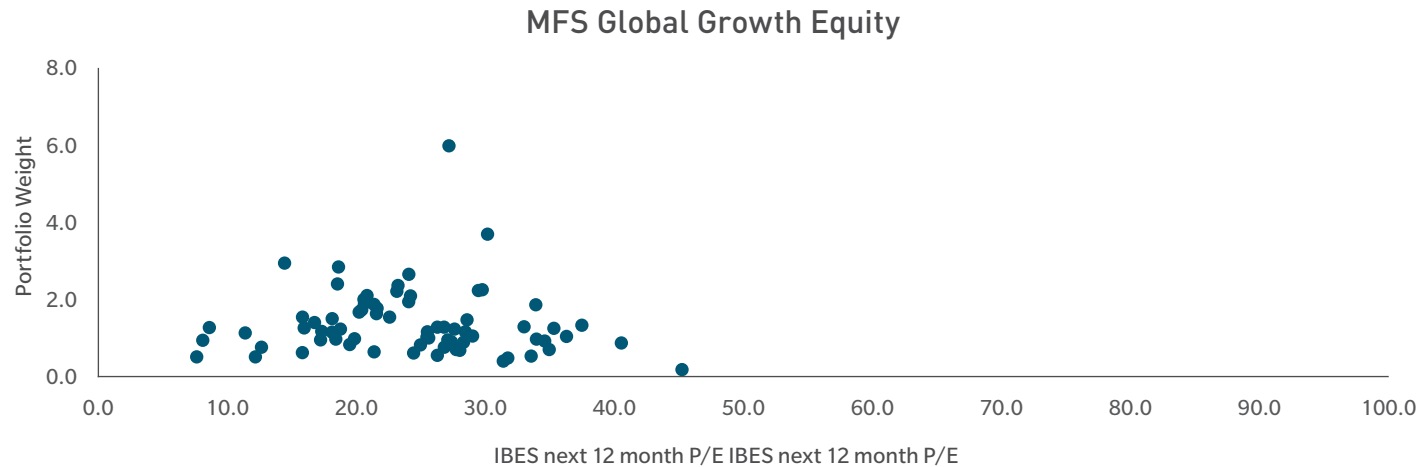
As of 28-Feb-25.

Source: FactSet.

Based on MFS Global Growth Equity composite representative account. Stocks shown are the top 20 holdings relative to the benchmark, sorted by long term earnings per share growth rates.

# Valuation

As of 31 March 2025



Data as of 31-Mar-25. Scatterplot of weights and price/earnings (12 months forward) for the portfolio and index holdings. Price/earnings uses mean broker estimates data sourced from FactSet.

All portfolio holdings are represented above except for 1 holdings (0.75% by weight) with Price/earnings (12 months forward) data that was negative.

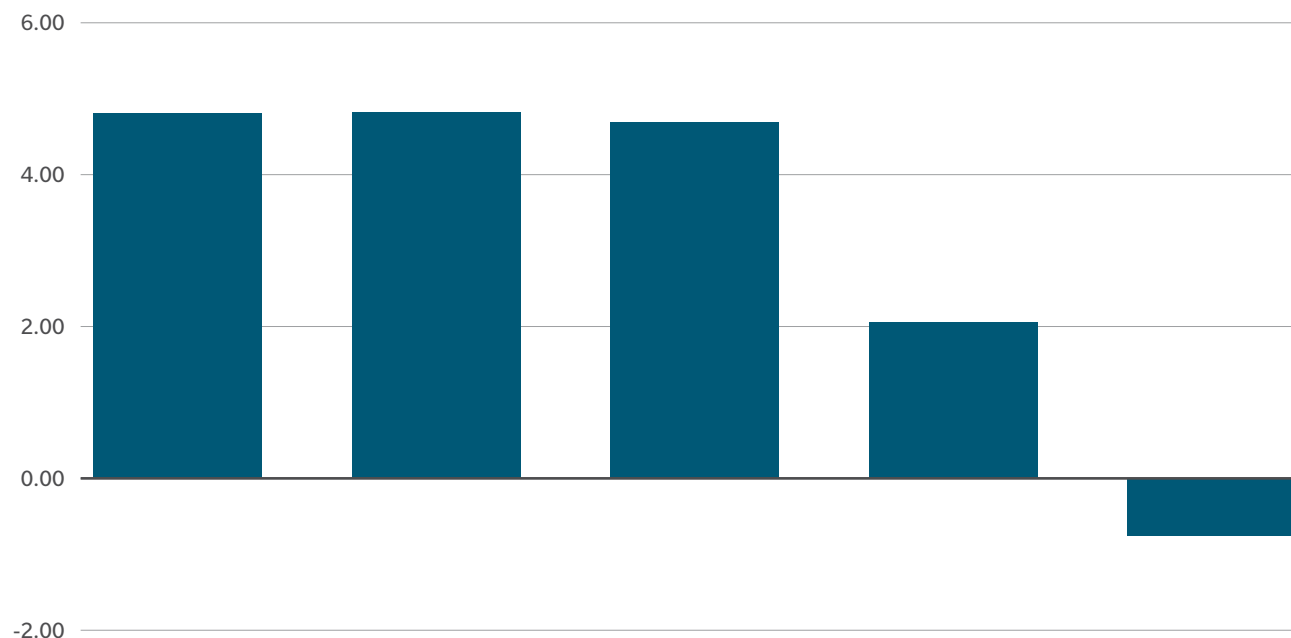
All MSCI AC World Index holdings are represented above except 46 holdings (1.85% by weight) with Price/earnings (12 months forward) greater than 90x, 74 holdings (0.36% by weight) that were not available, and 27 holdings (0.53%) that were negative.

# Downside Risk Management

Five worst drawdowns of MSCI ACW Index since MFS Global Growth inception, 01 December 2003



Relative Performance in Top 5 Drawdowns  
MFS Global Growth Composite (net of fees) vs. MSCI ACW Index



	Nov-07 to Feb-09	May-15 to Feb-16	Feb-18 to Dec-18	Jan-20 to Mar-20	Jan-22 to Sep-22
MFS Global Growth Composite (net of fees)	-50.12	-8.62	-9.56	-19.31	-26.38
MSCI AC World Index (net return)	-54.92	-13.45	-14.25	-21.37	-25.63
Relative Return	4.81	4.83	4.69	2.06	-0.76

As of 31-Mar-25.

Source: FactSet, SPAR

**Past performance is not a reliable indicator for future results. All financial investments involve an element of risk. The value of investments may rise and fall so you may get back less than originally invested.** Investors should consider the risks, including lower returns, related to currency movements between their investing currency and the portfolio's base currency, if different. All returns are cumulative. Net-of-fee performance is based on the average fee actually charged on assets managed in the strategy. Separate account fees are negotiated and if the fee you pay is higher than this average your performance would be lower. See the GIPS Composite Report at the end of this presentation for performance methodology and other information. It is not possible to invest directly in an index. Index performance will differ from our actively managed strategies, which may involve a higher degree of risk.

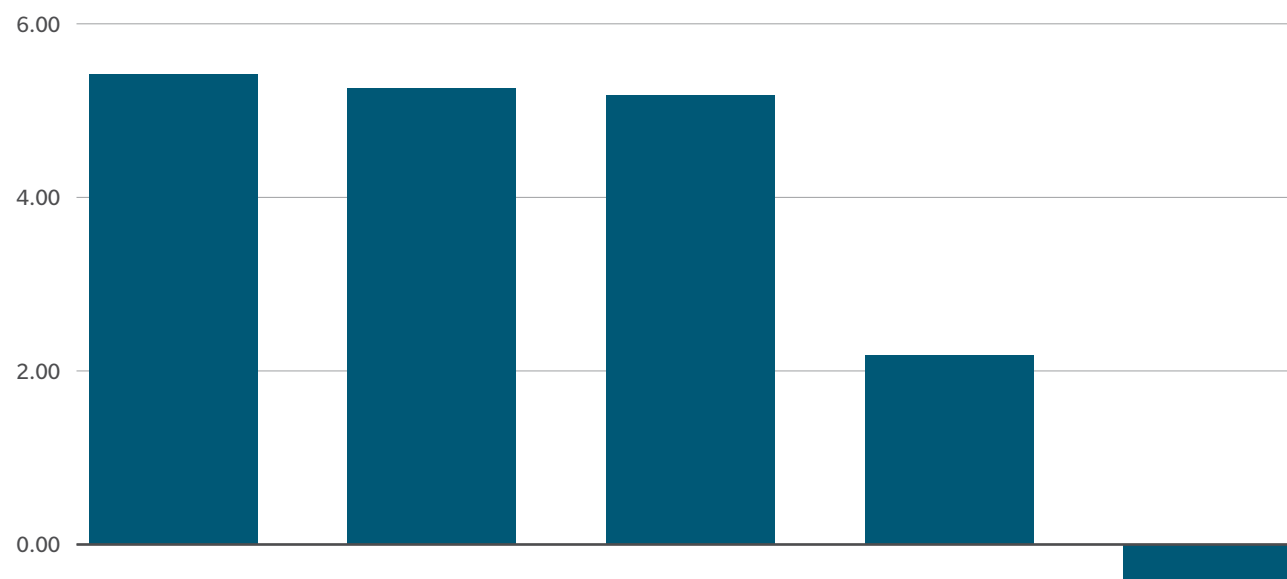


# Downside Risk Management

Five worst drawdowns of MSCI ACW Index since MFS Global Growth inception, 01 December 2003



Relative Performance in Top 5 Drawdowns  
MFS Global Growth Composite (gross of fees) vs. MSCI ACW Index



	Nov-07 to Feb-09	May-15 to Feb-16	Feb-18 to Dec-18	Jan-20 to Mar-20	Jan-22 to Sep-22
MFS Global Growth Composite (gross of fees)	-49.50	-8.19	-9.08	-19.18	-26.08
MSCI AC World Index (net return)	-54.92	-13.45	-14.25	-21.37	-25.63
Relative Return	5.42	5.26	5.18	2.18	-0.45

As of 31-Mar-25.

Source: FactSet, SPAR

**Past performance is not a reliable indicator for future results. All financial investments involve an element of risk. The value of investments may rise and fall so you may get back less than originally invested.** Investors should consider the risks, including lower returns, related to currency movements between their investing currency and the portfolio's base currency, if different. Total gross of fee returns include both capital appreciation and reinvestment of income but exclude custody fees. All returns are cumulative.

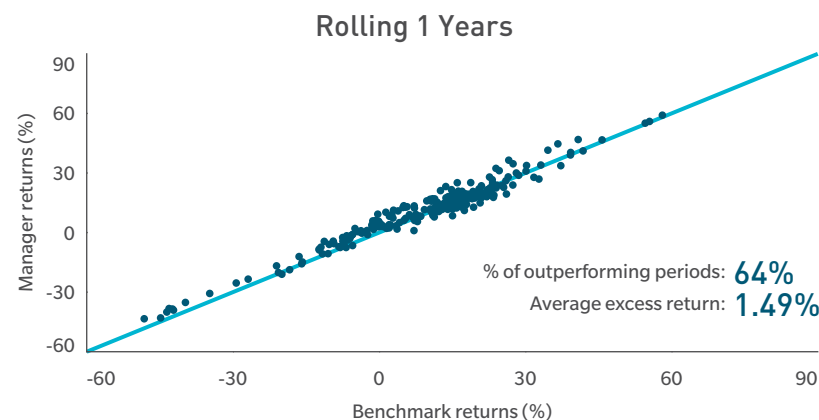
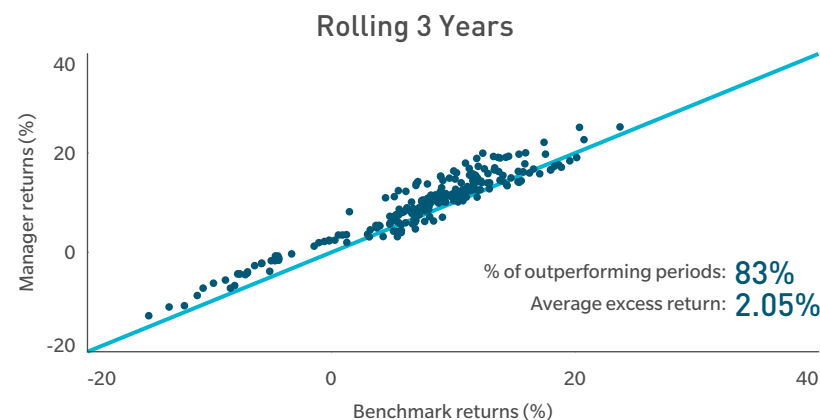
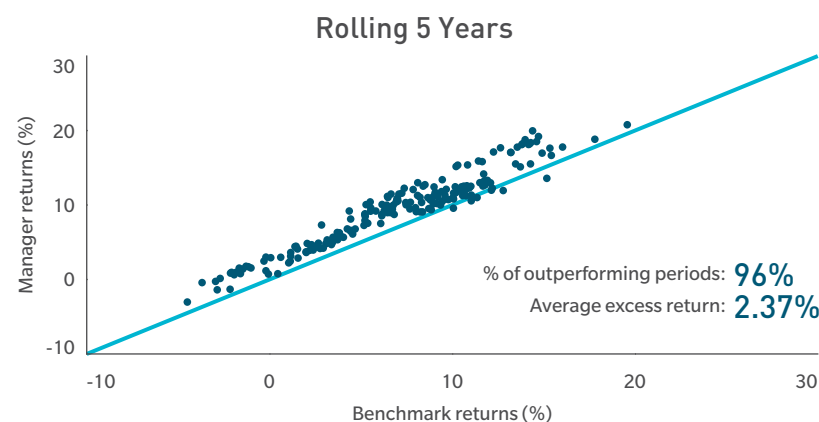
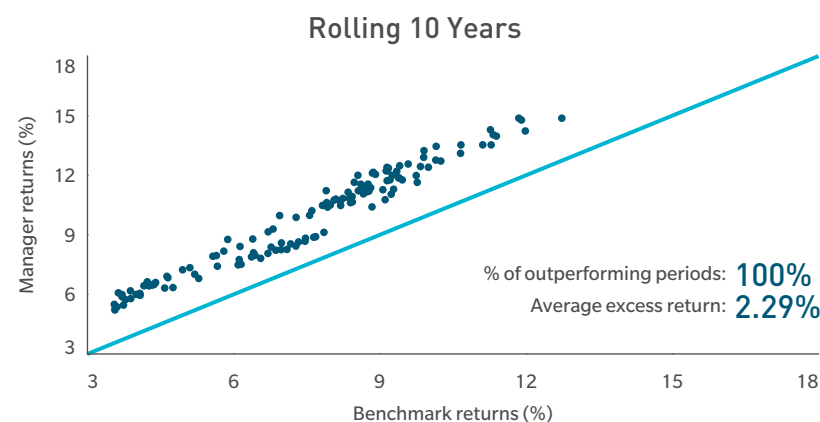
See the GIPS Composite Report at the end of this presentation for performance methodology and other information. It is not possible to invest directly in an index. Index performance will differ from our actively managed strategies, which may involve a higher degree of risk.

# Historical Relative Performance Over Rolling Periods

Net of fees (USD)



## MFS Global Growth Equity Composite vs. MSCI All Country World Index (net div) December 2003–March 2025



The strategy outperformed 137 out of 137 rolling 10 year periods, 190 out of 197 rolling 5 year periods, 185 out of 221 rolling 3 year periods and 159 out of 245 rolling 1 year periods.

Source: Benchmark performance from SPAR, FactSet Research Systems Inc. See the GIPS Composite Report at the end of this presentation for performance methodology and other information. It is not possible to invest directly in an index. Index performance will differ from our actively managed strategies, which may involve a higher degree of risk.

**Past performance is not a reliable indicator for future results. All financial investments involve an element of risk. The value of investments may rise and fall so you may get back less than originally invested.**

Investors should consider the risks, including lower returns, related to currency movements between their investing currency and the portfolio's base currency, if different.

For all time periods, results were calculated on a rolling basis, measured monthly. All returns are annualized.

Net-of-fee performance is based on the average fee actually charged on assets managed in the strategy. Separate account fees are negotiated and if the fee you pay is higher than this average your performance would be lower.

## Performance Results – Gross and Net of Fees (USD)

Relative to MSCI All Country World Index (net div)



As of 31-Mar-25	Period	Portfolio Gross [%]	Portfolio Net [%]	Benchmark [%]
Quarterly returns	1Q25	-3.30	-3.40	-1.32
	4Q24	-3.06	-3.16	-0.99
	3Q24	7.29	7.18	6.61
	2Q24	1.02	0.91	2.87
Annual returns	2025 year to date	-3.30	-3.40	-1.32
	2024	11.92	11.45	17.49
	2023	21.79	21.28	22.20
	2022	-18.25	-18.61	-18.36
Annualized returns	Since inception (06-Nov-12)	11.78	11.31	9.70
	10 years	11.09	10.62	8.84
	5 years	14.22	13.73	15.18
	3 years	5.22	4.77	6.91
	1 year	1.61	1.18	7.15

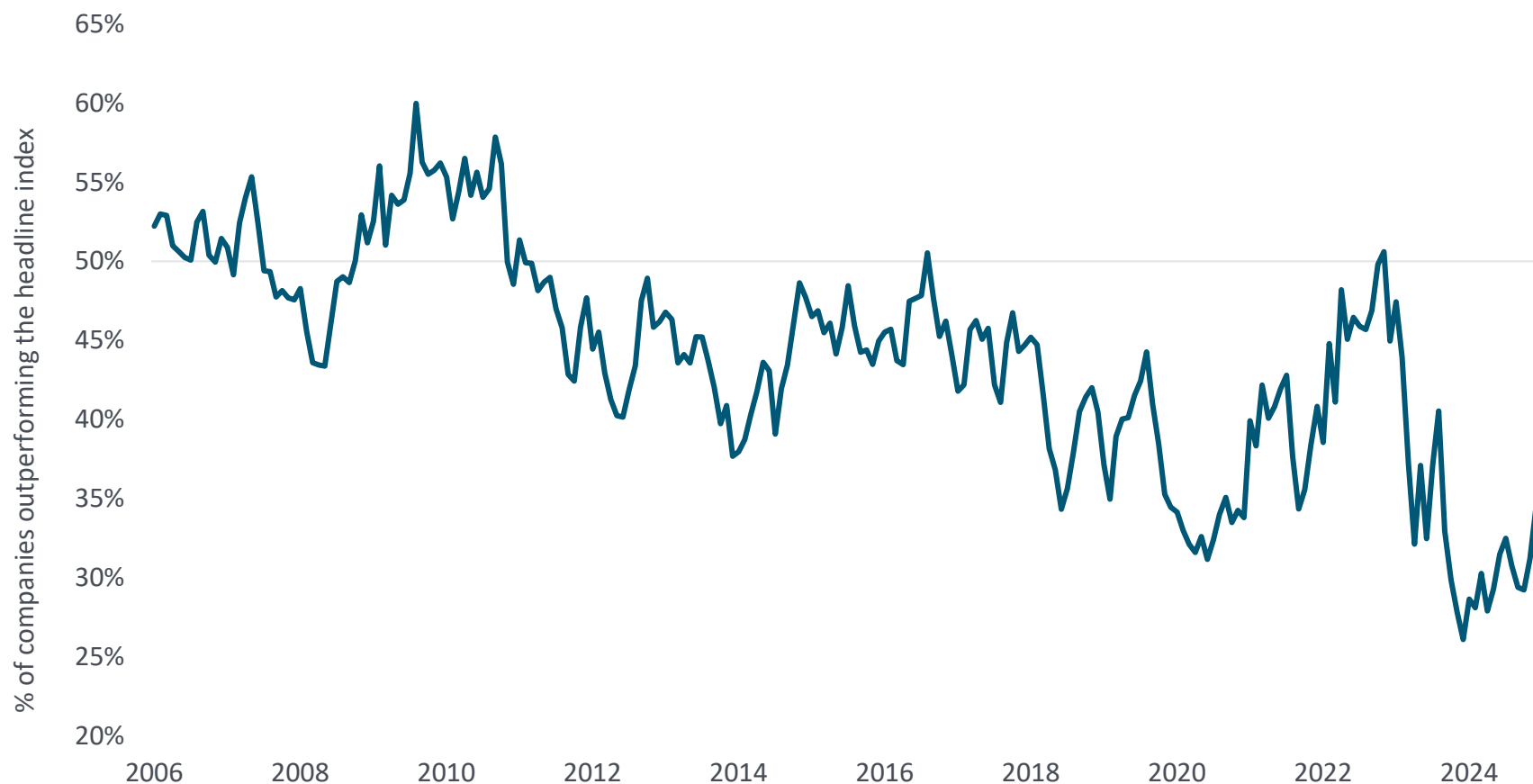
Source: Benchmark performance from SPAR, FactSet Research Systems Inc. It is not possible to invest directly in an index.  
**Past performance is no guarantee of future results.** For periods of less than one-year returns are not annualized.

# Leadership Broadened Significantly in Q1

*Market breadth rebounding in 2025*



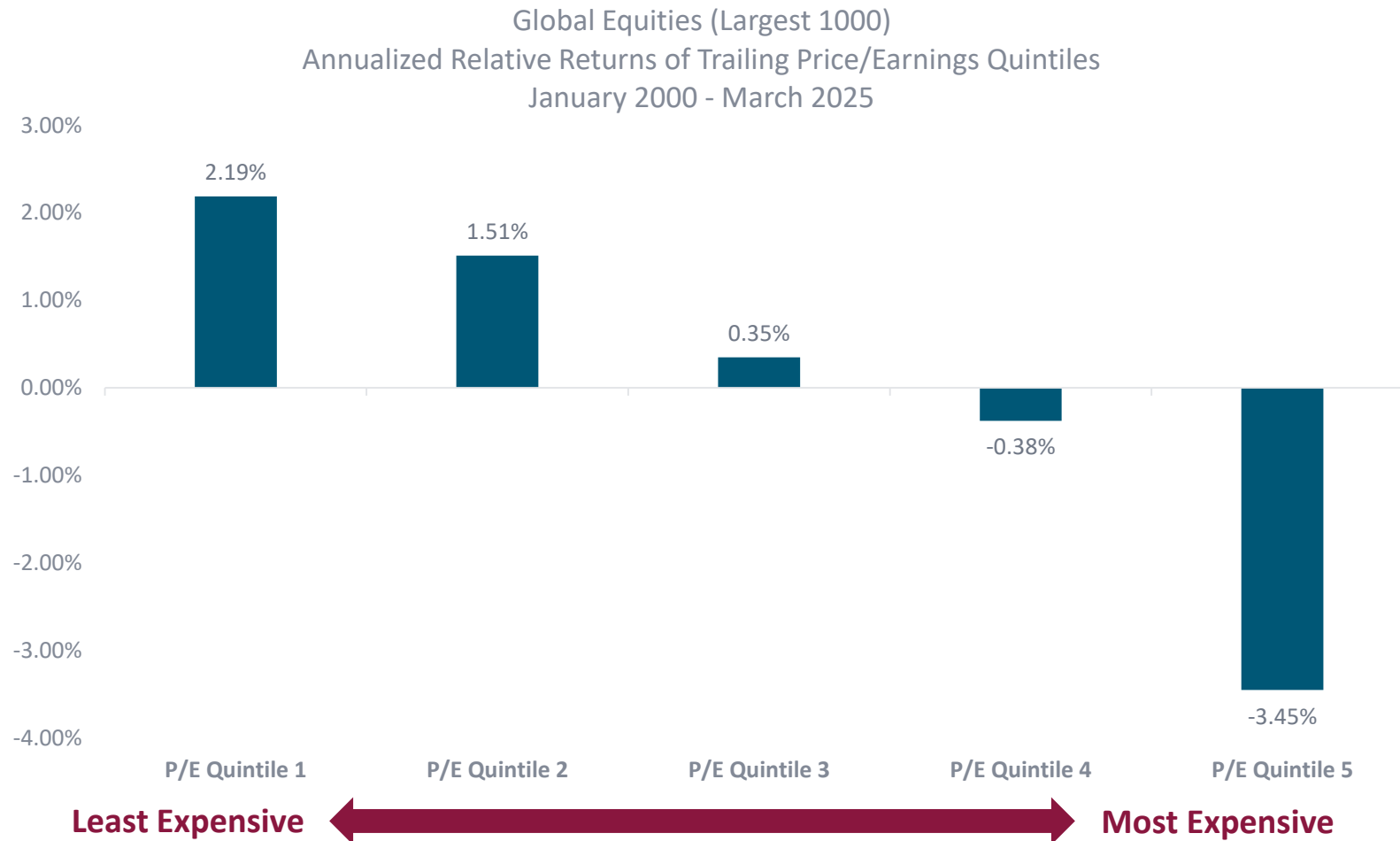
**Percentage of MSCI ACWI Companies Outperforming - Rolling 1-year**



Source: FactSet Portfolio Analysis. Annual data as of 31 March 2005 through 31 March 2025. Companies not included in the index for any full calendar year were excluded in the calculation.

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# Valuation Matters in the Long Run



Source: Style Analytics. The Global Equity universe includes the 1000 largest stocks, including both developed and emerging markets countries. Returns of the hypothetical factor quintile portfolios is relative to the overall universe. Factor buckets are equal-weighted and country and sector adjusted. P/E quintiles were rebalanced semi-annually. The factor identification and construction methodology used by Style Analytics may differ from the methodology used by MFS. While the data are based on sources believed to be reliable, MFS does not represent that it is accurate or complete and should not be relied on as such or be the basis for an investment decision. Quintile 1 is least expensive and Quintile 5 is most expensive.

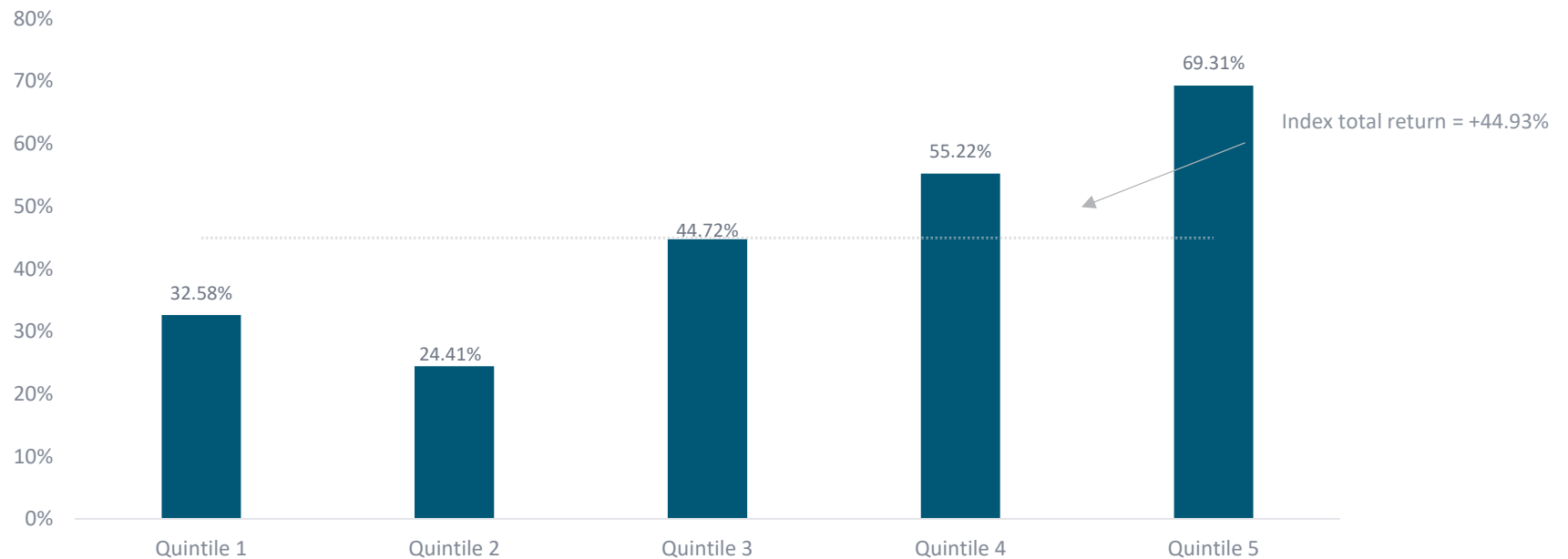
Past performance is no guarantee for future results.

# Expensive Valuation Has Led Since 2023

MSCI ACWI Index Returns (Gross) by Forward P/E Quintiles



January 2023 - December 2024



Least Expensive



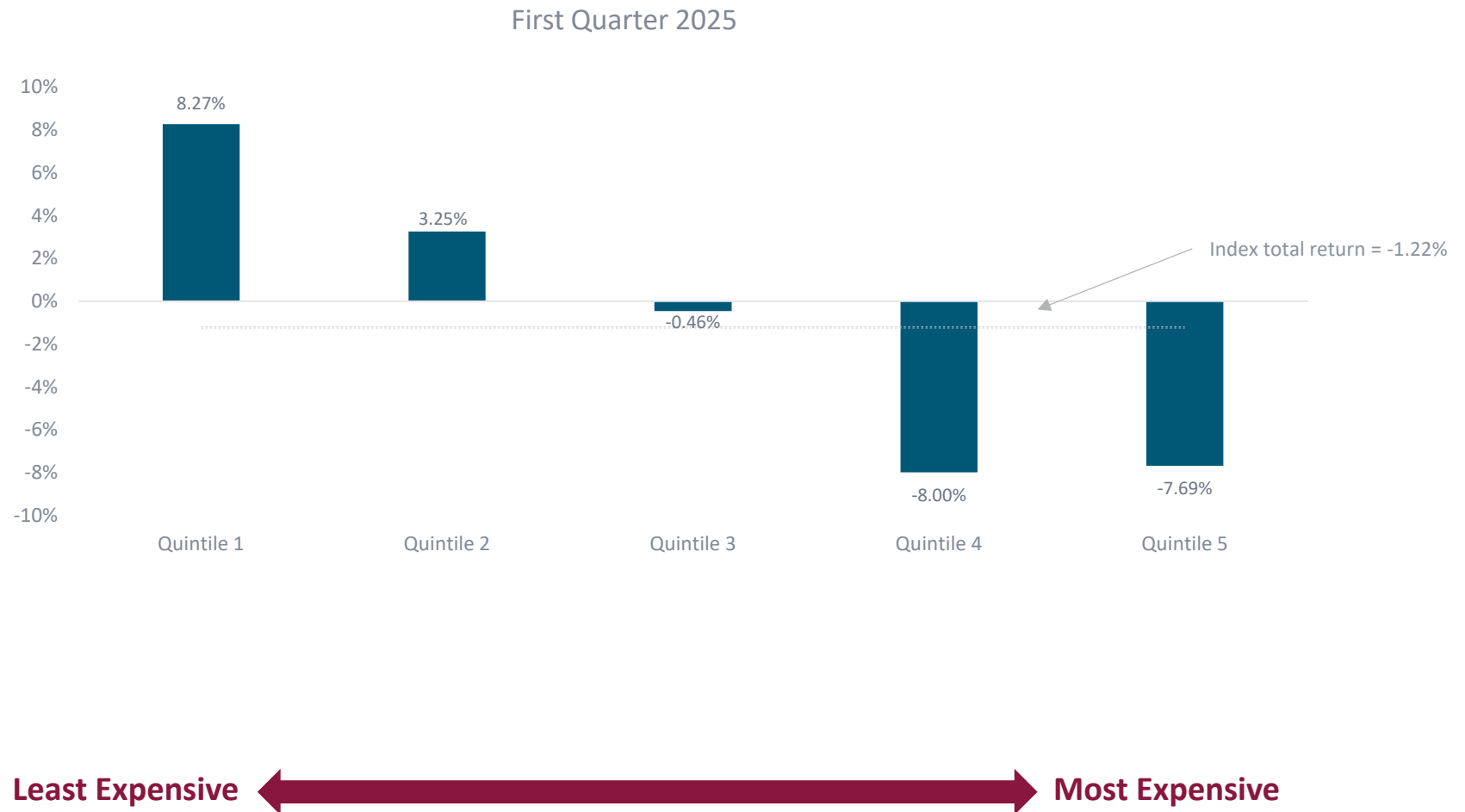
Most Expensive

Source: Factset. Quintiles are based on forward P/E quintiles of the index. Quintile 1 is least expensive and Quintile 5 is most expensive. Past performance is no guarantee of future results. Returns for periods of greater than 1 year are cumulative.

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# Valuation Quintiles - A Return to Long-Term Pattern

MSCI ACWI Index Returns (Gross) by Forward P/E Quintiles



Source: Factset. Quintiles are based on forward P/E quintiles of the index. Quintile 1 is least expensive and Quintile 5 is most expensive. Past performance is no guarantee of future results. Returns for periods of greater than 1 year are cumulative.

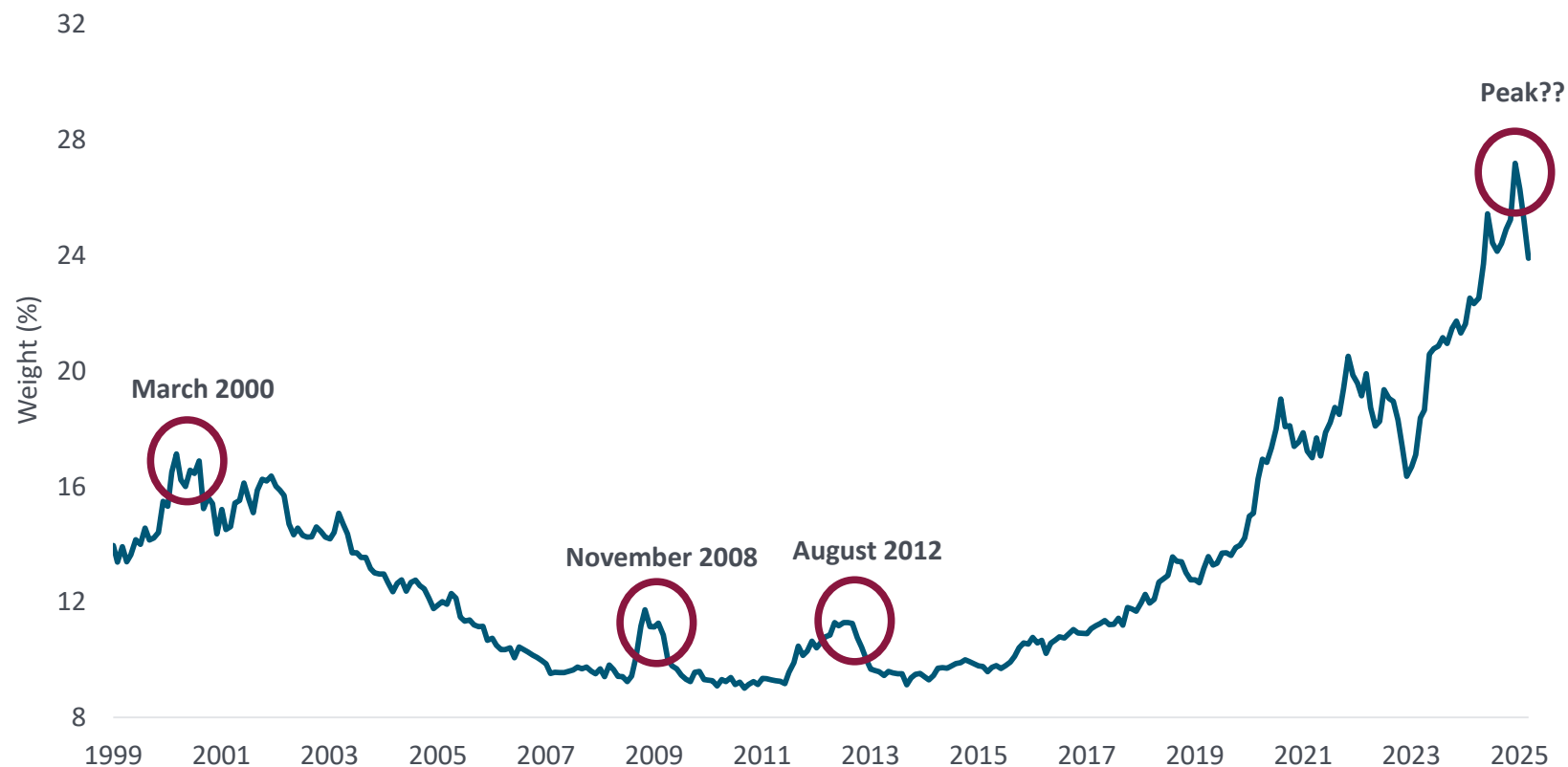
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# Market Concentration Near Historical Levels

*A handful of stocks drive benchmark performance*



**Top 10 Largest Companies**  
MSCI World



Source: FactSet Portfolio Analysis. Monthly data as of 29 January 1999 (oldest available) to 31 March 2025. MSCI World Index. Multiple share class issues are rolled up to the immediate issuer level. Companies are ranked each month by their index weight, and the top-10 largest are summed up each month.

**Market concentration remains a concern in global equities**

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# Market has Become Increasingly Concentrated

Long-term index concentration of the MSCI ACWI Index



**Largest 7 Companies**  
(companies rotate monthly)



**Magnificent 7 Performance and Index Weight**

Company	Q1 2025 Return	2024 Return	MSCI ACWI Index Weight (%)	NTM P/E
Apple	-11%	+31%	4.4	29
NVIDIA	-19%	+171%	3.5	23
Microsoft	-11%	+13%	3.5	26
Amazon	-13%	+44%	2.4	29
Alphabet	-18%	+36%	2.2	17
Meta	-1%	+66%	1.7	22
Tesla	-35%	+63%	1.0	87
Mag 7	-15%	+49%	18.6	25
MSCI AC World Ex Mag7	+2%	+12%	--	16
MSCI AC World Index	-1%	+18%	-	17

Source: LHS – FactSet Portfolio Analysis. Monthly data as of 31 March 2005 to 31 March 2025. Companies are ranked each month by their index weight and the top 7 largest are summed each month. RHS – FactSet. Data as of 31 December 2022 to 28 June 2024. NTM = next-twelve months. **The information included above as well as individual companies and/or securities mentioned should not be construed as investment advice, a recommendation to buy or sell or an indication of trading intent on behalf of any MFS product. Past performance is no guarantee of future results.**

**Narrow leadership of mega-cap stocks**

52701.11

# Performance Drivers — Sectors

Relative to MSCI All Country World Index (USD) — one year as of 31 March 2025



		Average Relative Weighting [%]	Portfolio Returns [%]	Benchmark Returns [%]	Sector Allocation [%] <sup>1</sup>	+ Stock Selection [%] <sup>2</sup>	+ Currency Effect [%]	= Relative Contribution [%]
<b>Contributors</b>	Materials	-2.2	-6.9	-5.1	0.3	-0.1	0.1	0.3
	Financials	-0.7	23.8	21.4	-0.1	0.3	0.0	0.3
	Energy	-4.2	—	2.7	0.2	—	0.0	0.2
	Communication Services	0.5	17.4	15.5	0.2	0.1	-0.0	0.2
	Real Estate	-0.5	13.9	7.1	0.0	0.1	0.0	0.1
	Utilities	-1.3	25.7	18.4	-0.1	0.2	0.0	0.1
<b>Detractors</b>	Consumer Discretionary	-1.6	-16.2	5.3	-0.0	-2.2	-0.0	-2.2
	Industrials	2.1	-7.3	5.7	-0.0	-1.8	0.0	-1.8
	Consumer Staples	1.5	-12.1	7.8	0.1	-1.7	0.0	-1.6
	Health Care	1.4	-7.4	-0.4	-0.1	-0.9	-0.0	-1.0
	Information Technology	3.4	1.7	4.1	0.1	-0.6	-0.1	-0.6
	Cash	1.6	4.9	—	-0.0	—	0.0	-0.0
<b>Total</b>			<b>1.7</b>	<b>7.7</b>	<b>0.5</b>	<b>-6.5</b>	<b>-0.0</b>	<b>-6.0</b>

<sup>1</sup> Sector allocation is calculated based upon each security's price in local currency.

<sup>2</sup> Stock selection is calculated based upon each security's price in local currency and included interaction effect. Interaction effect is the portion of the portfolio's relative performance attributable to combining allocation decisions with stock selection decisions. This effect measures the relative strength of the manager's convictions. The interaction effect is the weight differential times the return differential. The Global Industry Classification Standard (GICS®) was developed by and/or is the exclusive property of MSCI, Inc. and S&P Global Market Intelligence Inc. ("S&P Global Market Intelligence"). GICS is a service mark of MSCI and S&P Global Market Intelligence and has been licensed for use by MFS. MFS has applied its own internal sector/industry classification methodology for equity securities and non-equity securities that are unclassified by GICS.

Attribution results are generated by the FactSet application utilizing a methodology that is widely accepted in the investment industry. Results are based upon daily holdings using a buy-and-hold methodology to generate individual security returns and do not include fees or expenses. As such, attribution results are essentially estimates and do not aggregate to the total return of the portfolio, which can be found elsewhere in this presentation. Recent geopolitical events may have impacted or disrupted the pricing of specific securities including the use of fair valuation approaches. Fair valuation practices across pricing sources – index providers, pricing vendors, MFS – may not align due to security specific considerations or timing of fair valuation parameters. For instance, decisions to use stale prices vs fair value or on the level of haircut when fair valuing securities are typical sources of discrepancy between pricing sources observed during the events. As these securities are bought or sold, the portion of the security's return attributed to the difference between fair value price and trade price will not be recognized in attribution results. These factors may further compound differences between attribution results and actual performance. To obtain the contribution calculation methodology and a complete list of every holding's contribution to the overall portfolio's performance during the measurement period, please email [DLAttributionGrp@MFS.com](mailto:DLAttributionGrp@MFS.com).

# Performance Drivers — Stocks

Relative to MSCI All Country World Index (USD) — one year as of 31 March 2025



		Average Weighting (%)		Returns (%)		Relative Contribution (%)
		Portfolio	Benchmark	Portfolio <sup>1</sup>	Benchmark	
Top Contributors	Tencent Holdings Limited	2.4	0.4	66.0	66.0	1.0
	Visa Inc	3.5	0.6	26.5	26.5	0.6
	Taiwan Semiconductor	3.4	1.0	23.4	16.0	0.5
	Fiserv Inc	1.7	0.1	38.2	38.2	0.4
	Boston Scientific Corp	1.3	0.2	47.3	47.3	0.4
Top Detractors	Estee Lauder Cos Inc/The	1.2	0.0	-56.2	-56.2	-1.2
	Icon Plc	1.1	—	-47.9	—	-0.8
	Canadian Pacific Kansas City Ltd	2.2	0.1	-19.8	-19.9	-0.7
	LVMH Moet Hennessy Louis Vuitton SE	1.6	0.3	-30.1	-30.1	-0.6
	NIKE, Inc	1.6	0.1	-31.2	-31.2	-0.6

<sup>1</sup> Represents performance for the time period stock was held in portfolio.

Attribution results are generated by the FactSet application utilizing a methodology that is widely accepted in the investment industry. Results are based upon daily holdings using a buy-and-hold methodology to generate individual security returns and do not include fees or expenses. As such, attribution results are essentially estimates and do not aggregate to the total return of the portfolio, which can be found elsewhere in this presentation. Recent geopolitical events may have impacted or disrupted the pricing of specific securities including the use of fair valuation approaches. Fair valuation practices across pricing sources – index providers, pricing vendors, MFS – may not align due to security specific considerations or timing of fair valuation parameters. For instance, decisions to use stale prices vs fair value or on the level of haircut when fair valuing securities are typical sources of discrepancy between pricing sources observed during the events. As these securities are bought or sold, the portion of the security's return attributed to the difference between fair value price and trade price will not be recognized in attribution results. These factors may further compound differences between attribution results and actual performance. To obtain the contribution calculation methodology and a complete list of every holding's contribution to the overall portfolio's performance during the measurement period, please email [DLAttributionGrp@MFS.com](mailto:DLAttributionGrp@MFS.com).

# Significant Transactions



From 01-Apr-24 to 31-Mar-25	Security	Sector	Transaction Type	Trade (%)	Beginning Weight (%)	Ending Weight (%)
Purchases	SALESFORCE INC	Information Technology	New position	1.9	—	2.0
	CMS ENERGY CORP	Utilities	New position	1.7	—	2.1
	TRANSUNION	Industrials	Add	1.5	0.2	1.7
	PEPSICO INC	Consumer Staples	Add	1.2	0.4	1.5
	HILTON WORLDWIDE HOLDINGS INC	Consumer Discretionary	New position	1.1	—	1.1
Sales	ALPHABET INC	Communication Services	Trim	-2.3	3.1	1.1
	ANALOG DEVICES INC	Information Technology	Trim	-1.3	1.8	0.8
	TENCENT HOLDINGS LTD	Communication Services	Trim	-0.9	2.5	2.8
	ADOBE INC	Information Technology	Eliminate position	-0.9	0.8	—
	AMPHENOL CORP	Information Technology	Trim	-0.9	2.1	1.5

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# Sector Weights

Relative to MSCI All Country World Index



As of 31-Mar-25	Portfolio (%)	Benchmark (%)	Underweight/Overweight (%)	Largest Holdings
Consumer Staples	8.8	6.3	2.5	CHURCH & DWIGHT CO INC, KWEICHOW MOUTAI CO LTD, PEPSICO INC
Industrials	13.0	10.6	2.4	CANADIAN PACIFIC KANSAS CITY LTD, SCHNEIDER ELECTRIC SE, TRANSUNION
Information Technology	25.5	23.4	2.1	MICROSOFT CORP, TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD, ACCENTURE PLC
Health Care	12.0	10.3	1.7	STERIS PLC, AGILENT TECHNOLOGIES INC, BECTON DICKINSON AND CO (EQ)
Real Estate	1.8	2.1	-0.3	AMERICAN TOWER CORP
Financials	17.7	18.1	-0.4	VISA INC, AON PLC, HDFC BANK LTD
Utilities	2.1	2.7	-0.6	CMS ENERGY CORP
Consumer Discretionary	9.2	10.6	-1.4	LVMH MOET HENNESSY LOUIS VUITTON SE, NIKE INC, HILTON WORLDWIDE HOLDINGS INC
Communication Services	6.6	8.2	-1.6	TENCENT HOLDINGS LTD, WALT DISNEY CO/THE, ALPHABET INC
Materials	1.6	3.6	-2.0	SHERWIN WILLIAMS CO THE (EQ)
Energy	—	4.2	-4.2	

1.6% Cash & Cash Equivalents.

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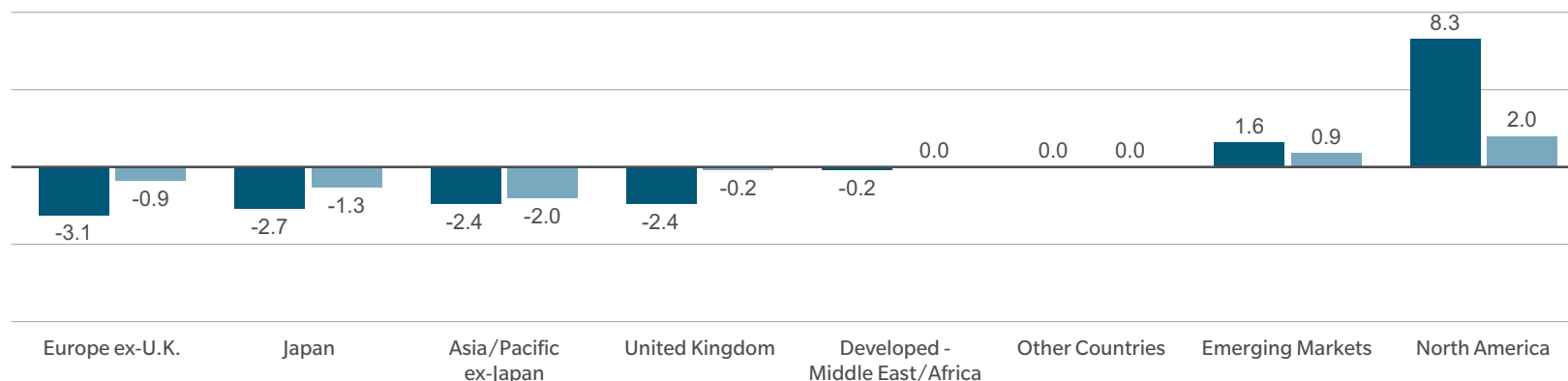
# Regional Exposures — Domicile vs. Revenue

MFS Global Growth Equity relative to MSCI AC World Index



Relative weight (%) as of 31-Mar-25

■ By Domicile ■ By Revenue



## By Domicile

	Portfolio (%)	MSCI AC World Index (%)	Relative Weight (%)
Europe ex-U.K.	8.4	11.5	-3.1
Japan	2.2	4.9	-2.7
Asia/Pacific ex-Japan	0.0	2.4	-2.4
United Kingdom	1.1	3.4	-2.4
Developed - Middle East/Africa	0.0	0.2	-0.2
Other Countries	0.0	0.0	0.0
Emerging Markets	11.9	10.3	1.6
North America	75.7	67.3	8.3

## By Revenue

	Portfolio (%)	MSCI AC World Index (%)	Relative Weight (%)
Europe ex-U.K.	11.1	12.0	-0.9
Japan	3.0	4.3	-1.3
Asia/Pacific ex-Japan	1.0	3.0	-2.0
United Kingdom	3.1	3.3	-0.2
Developed - Middle East/Africa	0.0	0.0	0.0
Other Countries	2.9	2.9	0.0
Emerging Markets	27.1	26.2	0.9
North America	50.2	48.2	2.0

Based on the MFS Global Growth Equity representative account.

Source: Source: MSCI Barra. 0.8% of the portfolio and 0.0% of the benchmark were not covered by the MSCI database. The "Other Countries" category consists of countries not followed by MSCI Frontier Markets as well as other countries not followed by MSCI.

# Characteristics and Top 10 Holdings

Gross of fees (USD)



As of 31-Mar-25	Portfolio	MSCI All Country World Index
<b>Fundamentals - weighted average</b>		
Price/earnings (12 months forward)	21.9x	17.8x
IBES long-term EPS growth <sup>1</sup>	12.6%	13.5%
<b>Market capitalization</b>		
Market capitalization (USD) <sup>2</sup>	459.0 bn	599.8 bn
<b>Diversification</b>		
Number of Issues	72	2,558
<b>Turnover</b>		
Trailing 1 year turnover <sup>3</sup>	22%	—
<b>Risk profile (current)</b>		
Barra predicted tracking error <sup>4</sup>	3.55%	—
<b>Risk/reward (10 year)</b>		
Standard deviation	14.96%	14.84%
Historical tracking error	3.38%	—
Beta	0.98	—

Top 10 Holdings	Portfolio (%)	MSCI All Country World Index (%)
MICROSOFT CORP	5.8	3.5
VISA INC	3.6	0.8
TENCENT HOLDINGS LTD	2.8	0.5
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	2.8	0.9
ACCENTURE PLC	2.6	0.3
AON PLC	2.4	0.1
HDFC BANK LTD	2.3	0.2
CHURCH & DWIGHT CO INC	2.2	0.0
STERIS PLC	2.2	0.0
APPLE INC	2.1	4.4

<sup>1</sup> Source: FactSet

<sup>2</sup> Weighted average.

<sup>3</sup> US Turnover Methodology: (Lesser of Purchase or Sales)/Average Month End Market Value

<sup>4</sup> Source Barra. The Barra information may not be redistributed, may not be reproduced or disseminated in any form and may not be used to create any financial instruments or products or any indices. The Barra information is provided on an "as is" basis and the user of this information assumes the entire risk of any use made of this information. Barra, each of its affiliates and each other person involved in or related to compiling, computing or creating any Barra information (collectively, the "Barra Parties") expressly disclaims all warranties (including, without limitation, any warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall any Barra Party have any liability for any direct, indirect, special, incidental, punitive, consequential (including, without limitation, lost profits) or any other damages.

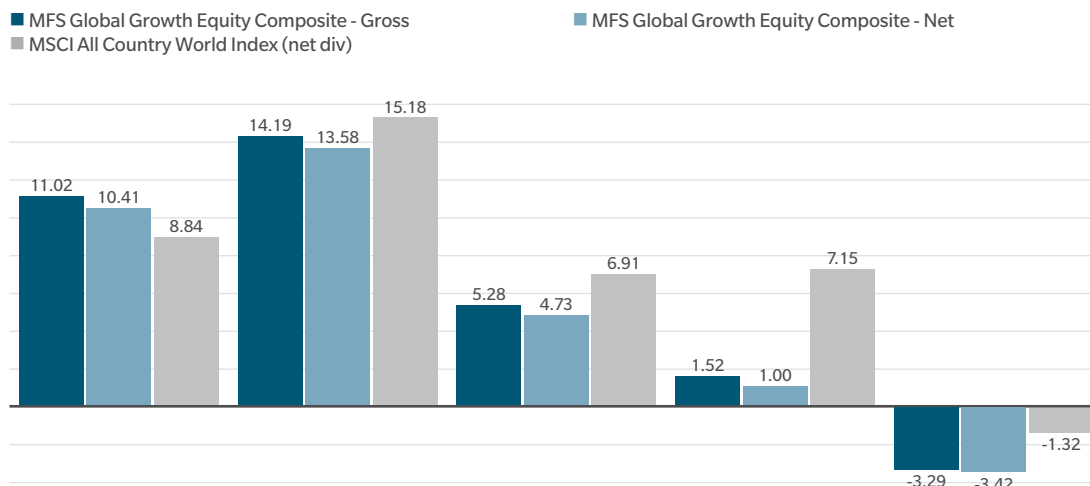
Past performance is no guarantee of future results. No forecasts can be guaranteed.

# MFS Global Growth Equity Composite (USD)

Performance as of 31 March 2025



Annualized Returns (%)



Excess Returns (%)	10 Years	5 Years	3 Years	1 Year	1Q25
Gross vs. MSCI All Country World Index (net div)	2.18	-0.99	-1.63	-5.63	-1.97
Net vs. MSCI All Country World Index (net div)	1.57	-1.60	-2.18	-6.15	-2.10

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
■ MFS Global Growth Equity Composite - Gross	-0.52	6.19	33.09	-3.76	37.22	21.54	19.63	-18.28	22.24	11.69
■ MFS Global Growth Equity Composite - Net	-1.02	5.56	32.32	-4.32	36.45	20.86	19.00	-18.72	21.60	11.12
■ MSCI All Country World Index (net div)	-2.36	7.86	23.97	-9.41	26.60	16.25	18.54	-18.36	22.20	17.49

Source: Benchmark performance from SPAR, FactSet Research Systems Inc. It is not possible to invest directly in an index. Index performance will differ from our actively managed strategies, which may involve a higher degree of risk. Net-of-fee performance is based on the average fee actually charged on assets managed in the strategy. Separate account fees are negotiated and if the fee you pay is higher than this average your performance would be lower. See the GIPS Composite Report at the end of this presentation for performance methodology and other information.

**Past performance is not a reliable indicator for future results. All financial investments involve an element of risk. The value of investments may rise and fall so you may get back less than originally invested.** Investors should consider the risks, including lower returns, related to currency movements between their investing currency and the portfolio's base currency, if different. Total gross of fee returns include both capital appreciation and reinvestment of income but exclude custody fees. **Periods less than one year are actual, not annualized.**



# Appendix



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Disclosure	36

# MFS Global Growth Equity Team



## Jeffrey C. Constantino, CFA, CPA

- Equity Portfolio Manager
- As an Equity Portfolio Manager, responsible for final buy and sell decisions, portfolio construction and risk and cash management. Participates in the research process and strategy discussions.
- Joined MFS in 2000; previous positions include Equity Research Analyst
- Previous experience includes 3 years as Financial Consultant, M&A Group at Arthur Andersen
- Affiliations include CFA Institute, Certified Public Accountant
- The Wharton School, MBA, highest honors with distinction, Palmer Scholar
- University of Illinois, BS, highest honors, Bronze Tablet recipient

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## Joseph A. Skorski

- Equity Portfolio Manager
- As a Portfolio Manager, responsible for final buy and sell decisions, portfolio construction, risk and cash management. Participates in the research process and strategy discussions.
- Joined MFS in 2007; previous positions include Equity Research Analyst
- Previous experience includes 5 years as Equity Research Analyst at Putnam Investments; 5 years as Manager at Accenture
- Massachusetts Institute of Technology, MBA
- Cornell University, BS, with distinction

# MFS Global Growth Equity Team

Continued...



## Andrew C. Boyd

- Equity Institutional Portfolio Manager
- As an Equity Institutional Portfolio Manager, participates in the research process and strategy discussions. Assesses portfolio risk, customizes portfolios to client objectives and guidelines, and manages daily cash flows. Communicates investment policy, strategy, and positioning.
- Joined MFS in 1998; previous positions include Investment Product Specialist
- Previous experience includes 6 years as Senior Market Research Analyst at John Hancock Funds
- Andrew joined MFS in 1998 and most recently served as a vice president and growth equity investment product specialist within the Advisory Resources Group focused on the analytical teams at key distributors in all channels and third-party platforms. Prior to joining MFS, he spent more than six years at John Hancock Funds, serving in a variety of positions including senior market research analyst. He began his career in the financial services industry in 1992.
- Boston University, MBA
- University of New Hampshire, BA

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## Peter D. Loncto, CFA

- Sr. Strategist — Investment Product Specialist
- As a Sr. Strategist — Investment Product Specialist, communicates investment policy, strategy and tactics, performs portfolio analysis and leads product development.
- Joined MFS in 2007
- Previous experience includes 5 years as Senior Marketing Manager at Nicholas-Applegate Capital Management; 3 years as Performance Analyst at State Street Bank and Trust Company
- Originally joined MFS in 1997 and departed the firm in 1999 to attend graduate school. Rejoined MFS in 2007.
- Affiliations include CFA Institute, CFA Society of Boston
- Cornell University, MBA
- Boston College, BA

## Collaborative Research Environment

**122**  
Fundamental  
Research Analysts

26 U.S. Equity Analysts  
38 Non-U.S. Equity Analysts  
53 Fixed Income Analysts  
5 Dedicated ESG & Stewardship Research Analysts  
backed by  
37 Investment/Research/Stewardship Associates

**8**  
Global  
Sector Teams

Organized by region and sectors

**12**  
Analyst-Managed  
Strategies

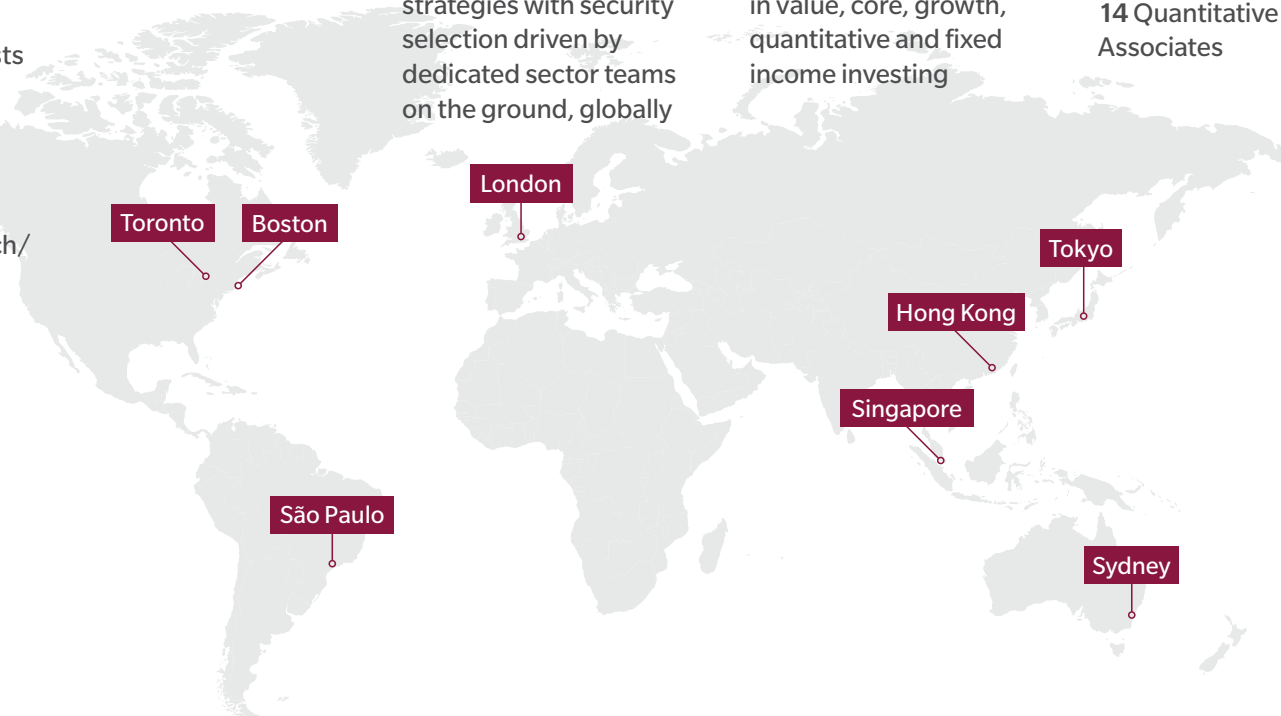
Global, Regional and Country specific strategies with security selection driven by dedicated sector teams on the ground, globally

**101**  
Portfolio  
Managers

With significant industry experience in value, core, growth, quantitative and fixed income investing

**16**  
Quantitative  
Analysts

16 Quantitative Analysts backed by  
14 Quantitative Research Associates

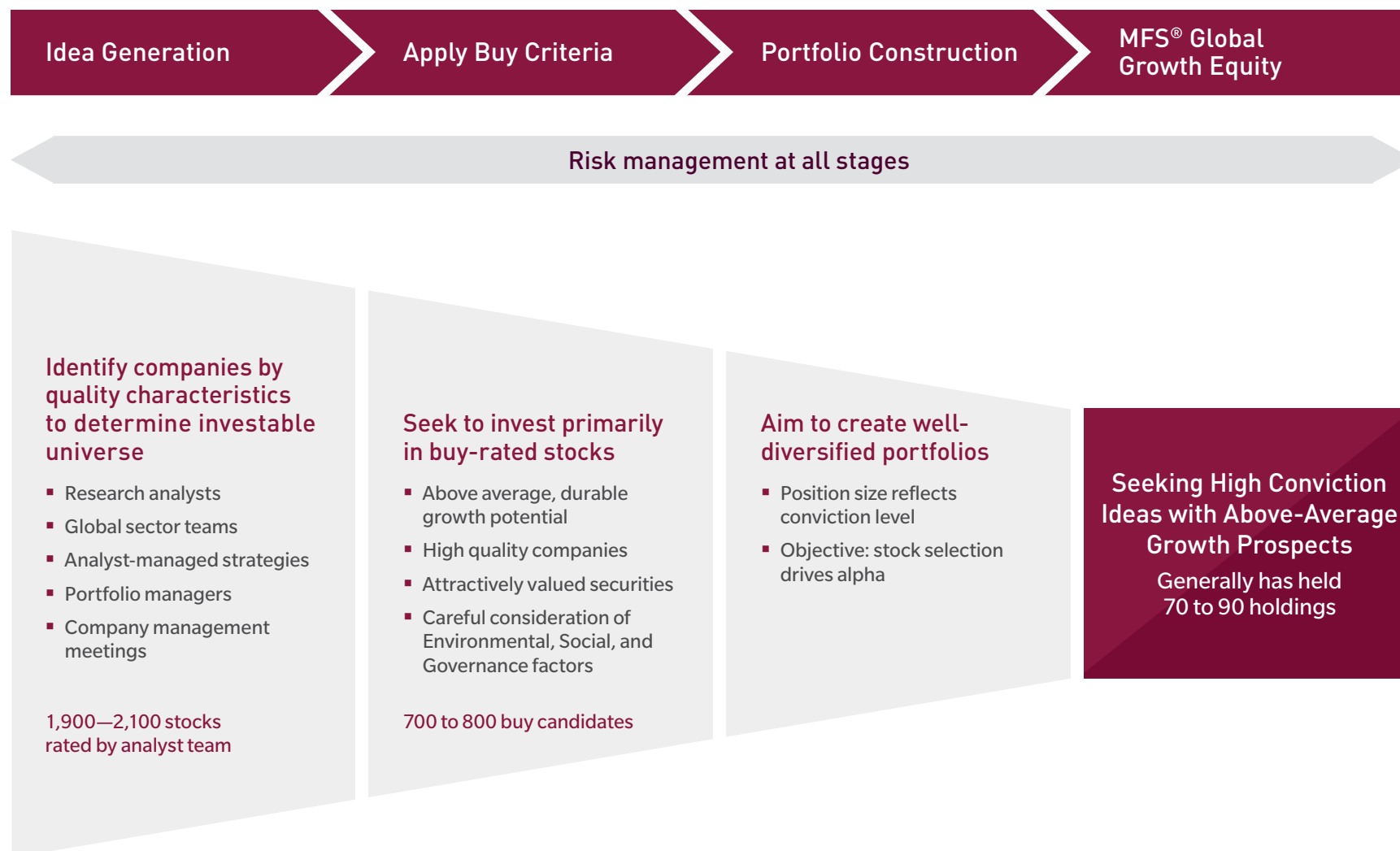


As of 31-Mar-25.

45798.4

We believe a fully integrated global research platform provides competitive advantages

# Investment Process Overview



The information listed above is current as of the date of the material, and any additions, modifications, or deletions that have occurred since that date are not reflected.

Process focused on best ideas that meet portfolio buy criteria

# Consistent Focus on Long-Term Growth Potential, Quality, and Valuation



## Seek above average durable growth across full market cycles

- Seek companies with earnings + dividend yield > market
- Shareholders benefit from compounding growth of company's intrinsic value
- Strong secular growth
- Large opportunity set

## High quality companies with durable franchises

### Durable competitive advantages

- Strong brands
- Intellectual property
- Scale economies
- High customer switching costs
- Culture of operating excellence

### Significant free cash flow

- Capital light businesses
- Strong returns on capital over time

### Solid balance sheet

- Prefer the safety and flexibility of a healthy balance sheet

### Strong management teams

- History of capital stewardship

### Overall assessment

- Favorable governance factors
- Constructive stakeholder interaction
- Risk assessment of material ESG issues

## Attractively valued securities

### Multiple measures of valuation are considered

- Valuation multiples
- Mid-cycle analysis
- Seek temporary attractive entry points and are careful not to overpay
- DCF analysis
- Sum of parts

The extent to which any ESG factors are considered and whether they impact returns will depend on a number of variables, such as investment strategy, the types of asset classes, regional and geographic exposures, and an investment professional's views and analysis of a specific ESG issue. ESG factors alone do not determine any investment decision.

Consistent focus on above-average long-term growth, high-quality businesses, and reasonable valuations

# Portfolio Construction

*Fundamental research provides the foundation for buy and sell decisions*



## Entry points

- Relative valuation opportunity
- New investment idea
- Change in thesis

## Portfolio construction

- Objective — stock selection drives alpha
- Generally, has held 70–90 holdings
- Semi-annual in-depth risk review to ensure no unintended exposures

## Exit points

- Stock reaches full valuation
- Change in thesis
- More appealing alternative

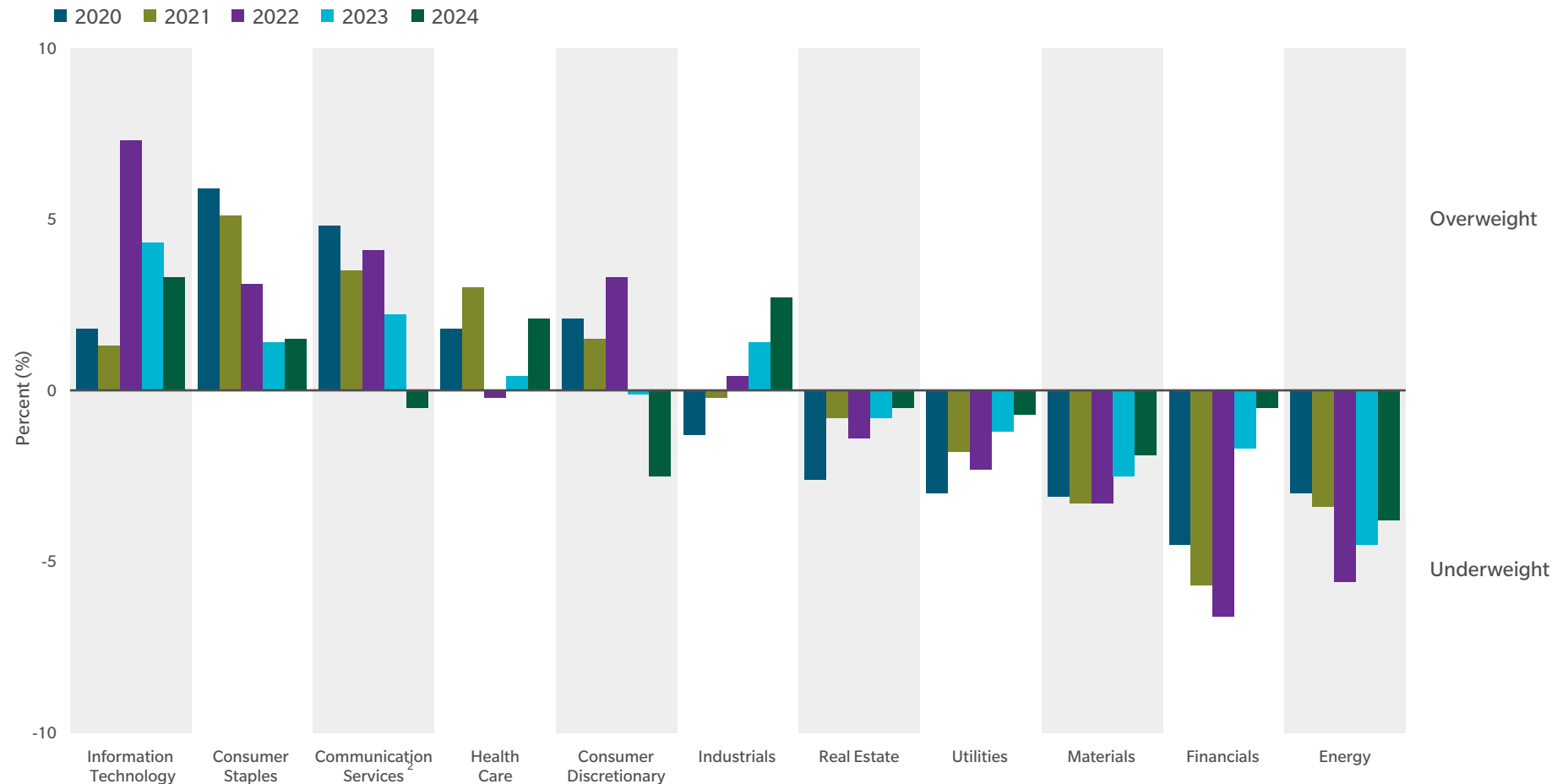
The information listed above is current as of the date of the material, and any additions, modifications, or deletions that have occurred since that date are not reflected.

**Seeks a well-diversified portfolio with emphasis on stock selection**

# Historical Active Sector Weights — MFS Global Growth Equity



MFS<sup>1</sup> minus MSCI All Country World sector weights



<sup>1</sup> Based on the MFS Global Growth Equity representative account.

<sup>2</sup> Effective 30 November 2018, the Global Industry Classification Standard (GICS) underwent a structural change with respect to its current Telecommunication Services sector, which was broadened and renamed as Communication Services. This renamed sector incorporates existing Telecommunications Services companies and select constituents from the Information Technology and Consumer Discretionary sectors. The sector weights on and after 30 November 2018 reflect the GICS sectors after the change; the sector weights before 30 November 2018 reflect the GICS sectors before the change.



# Disclosure



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The GIPS Composite Report is attached to provide additional information about the strategy, composite, and performance methodology. The funds or other investment vehicles mentioned should not be construed as an offer or solicitation.



**Composite:** MFS Global Growth Equity Composite

**Benchmark:** MSCI AC World Index - Net Return

**Creation Date:** 17-Jan-2006

**Inception Date:** 01-Dec-2003

**Composite Description:** The MFS Global Growth Equity Composite includes all discretionary portfolios managed to the MFS Global Growth Equity strategy that do not have geographic restrictions. The strategy seeks long-term capital appreciation by investing principally in a diversified portfolio of stocks of companies in developed and emerging economies that have the potential to generate higher earnings growth and returns over the long term than their industry, and whose stock valuations do not fully reflect their long-term growth prospects. Investments in certain markets can involve greater risk and volatility because of adverse market, currency, economic, industry, political, regulatory, geopolitical, or other conditions. Stock markets and investments in individual stocks are volatile and can decline significantly in response to or investor perception of, issuer, market, economic, industry, political, regulatory, geopolitical, and other conditions. Investments in growth companies can be more sensitive to the company's earnings and more volatile than the stock market in general. Emerging markets can have less market structure, depth, and regulatory, custodial or operational oversight and greater political, social, geopolitical and economic instability than developed markets.

#### Institutional Separate Accounts Fee Schedule

Asset Breakpoints (USD)	Fee
For Assets Up To 50 MM	65 bp
For Assets From 50 MM To 100 MM	55 bp
For Assets Over 100 MM	50 bp

Accounts are eligible for inclusion in the composite if they have assets greater than 1 MM USD. Accounts are included as of their first full month of performance.

Period	Composite and Benchmark Return %			Composite Dispersion	Accounts in Composite at End of Period	Annualized 3-Year Standard Deviation		Assets (USD million)	
	Gross of fees	Net of fees^	Benchmark			Composite	Benchmark	Composite	Firm
2024	11.69	11.12	17.49	0.52	13	17.08	16.43	\$5,983.7	\$576,559.5
2023	22.24	21.60	22.20	0.26	12	17.52	16.50	\$5,509.0	\$575,589.7
2022	-18.28	-18.72	-18.36	0.33	12	19.85	20.14	\$4,480.8	\$527,229.5
2021	19.63	19.00	18.54	0.14	12	16.43	17.08	\$5,154.4	\$674,375.8
2020	21.54	20.86	16.25	0.39	11	17.27	18.38	\$4,117.8	\$599,076.3
2019	37.22	36.45	26.60	0.26	11	11.39	11.38	\$3,186.6	\$518,568.9
2018	-3.76	-4.32	-9.41	0.18	11	10.70	10.62	\$2,144.4	\$426,543.5
2017	33.09	32.32	23.97	0.23	12	11.18	10.51	\$2,422.1	\$491,012.9
2016	6.19	5.56	7.86	0.22	11	11.69	11.21	\$1,738.5	\$425,539.8
2015	-0.52	-1.02	-2.36	0.20	11	11.59	10.94	\$1,717.2	\$412,412.4

MFS Investment Management® claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. MFS Investment Management has been independently verified for the periods 1-Jan-1988 through 31-Dec-2023. The verification report is available upon request. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

Past performance is no guarantee of future results.

Performance for periods less than one year are not annualized.

Total Gross of fee returns in USD (includes both capital appreciation and reinvestment of income) are net of transaction costs, withholding taxes and direct expenses, but before management fees, custody and other indirect expenses. Certain institutional accounts hold Canadian trusts subject to custody and other indirect expenses. Typical separate accounts utilize 4:00 PM (London Time) foreign exchange rates; retail products will use rates deemed most appropriate for daily NAV per share calculations. The possibility exists for performance dispersion between otherwise similarly managed accounts and also with the benchmark.

Net of fee returns presented in this table are gross of fee returns reduced by management fees and performance fees if applicable (actual fees). For certain accounts where the actual fees are unavailable, the maximum applicable annual institutional separate account fees were applied.

Total returns of the benchmark are provided for each period depicted, expressed in USD. Source of Benchmark Performance: FACTSET®.

MSCI AC World Index - Net Return - a market capitalization-weighted index that is designed to measure equity market performance in the global developed and emerging markets.

Composite Dispersion is measured by the asset-weighted standard deviation of gross of fees account returns for all accounts in the composite for the full period. For composites containing less than six accounts for the full period, dispersion is deemed not meaningful and is not presented. The three-year annualized ex post standard deviation measures the variability of the gross of fees composite returns and the benchmark returns over the preceding 36-month period.

From 1-Jan-2012 through 30-Jun-2020, the maximum institutional separate account fee charged for this product was 75 bps.

The composite asset minimum changed from 2MM USD to 1MM USD effective 1-Nov-2022.

For purposes of GIPS compliance, the firm is defined as MFS Investment Management (MFS), which is comprised of Massachusetts Financial Services Company and MFS Institutional Advisors, Inc. (MFSI), each of which is a registered investment advisor, MFS Heritage Trust Company, a New Hampshire Trust company, and MFS Investment Management Canada Limited. Total firm assets include assets managed by Massachusetts Financial Services Company, MFSI, MFS Heritage Trust Company and MFS Investment Management Canada Limited as well as assets managed by Massachusetts Financial Services Company and MFSI in a sub-advisory capacity on behalf of affiliated investment advisors that may or may not be registered under the United States Investment Advisers Act of 1940, such as MFS International (U.K.), Ltd. (MIL UK) and MFS Investment Management K.K. (MIMKK), MFS International Singapore Pte. Ltd, MFS International Australia Pty Ltd, and MFS Investment Management Company (Lux) S.à r.l as well as assets managed by Massachusetts Financial Services Company and MFSI on behalf of unaffiliated investment advisors that are not registered under the United States Investment Advisers Act of 1940.

The firm's list of composite descriptions, list of pooled fund descriptions for limited distribution pooled funds, and list of broad distribution pooled funds are available upon request. Additionally, policies for valuing investment, calculating performance, and preparing GIPS Reports are available upon request.



Source: MSCI. MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used as a basis for other indices or any securities or financial products. This report is not approved, reviewed or produced by MSCI.

Limited Distribution Pooled Fund Fees and Expenses				
Fund Name	Vehicle	Max Management Fee	Other Expense	Total Expenses
MFS Global Equity Growth Fund	Canadian Trust	75	5	80
MFS Heritage Trust Company Collective Investment Trust - MFS Global Growth Fund	Collective Investment Trust	55	10	65

**STATEMENT OF INVESTMENT POLICY**  
**Updated May 2025**

**THE EMPLOYEES' RETIREMENT  
SYSTEM OF THE CITY OF MILWAUKEE**  
789 N. Water Street, 3<sup>rd</sup> Floor  
Milwaukee, WI 53202  
(414) 286-3557

Individual manager guidelines are updated upon Annuity and Pension Board Approval

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**Commented [M11]:** Consider removing these sections from the Statement of Investment Policy.

**THE EMPLOYEES' RETIREMENT  
SYSTEM OF THE CITY OF MILWAUKEE**

**- SECTION I -  
STATEMENT OF INVESTMENT POLICY**

**INTRODUCTION**

The Employees' Retirement System of the City of Milwaukee (the "ERS") was established to provide for the present and future retirement, disability, and death and survivor benefit payments for all city and city agency employees. All of the funds of the retirement system taken in the aggregate constitute a special trust subject to applicable local, state, and federal laws, including but not limited to sections 36-15, 36-09-1, and 36-09-6 of the Milwaukee City Charter.

The Annuity and Pension Board (the "Board") is responsible for the operation of the retirement system and making effective the provisions of the Employees' Retirement Act. The Board consists of three members appointed by the President of the Common Council, the City Comptroller ex-officio, three members elected by the present members of the Employees' Retirement System and one member elected by the retired members of the Employees' Retirement System.

**RESPONSIBILITY OF THE ANNUITY AND PENSION BOARD OF THE  
EMPLOYEES' RETIREMENT SYSTEM OF THE CITY OF MILWAUKEE**

The Board is the trustee of the funds in the retirement system. The Board must use reasonable care, skill and caution in ~~selecting investment professionals~~ managing the Fund. The Board is required to contract for investment management services. The Board must exercise prudence in selecting Investment Managers, but the exercise of prudence does not relieve the Board of all responsibilities. The responsibilities of the Board relating to the investment management of Fund assets include:

1. Establishing written investment objectives and guidelines governing the investment of Fund assets.
2. Using reasonable care, skill and caution in selecting investment professionals.
3. Determining the Fund's liquidity requirements, investment horizon and risk tolerance and communicating these to the appropriate parties.
4. Evaluating the performance of Investment Manager(s) and other qualified investment professionals on a systematic and regularly scheduled basis.
5. The Board and a person under contract to the ERS who invests and manages trust assets has a duty to comply with the prudent investor rule, s. 36-09-1-d and sub-unites thereof.

### **SCOPE OF THIS STATEMENT OF INVESTMENT POLICY**

This Statement of Investment Policy reflects the investment policy, objectives, and constraints of the Employees' Retirement System of the City of Milwaukee ("ERS").

### **PURPOSE OF THIS STATEMENT OF INVESTMENT POLICY**

This Statement of Investment Policy is set forth by the Board of the City of Milwaukee ERS in order to:

1. Define and assign the responsibilities of all involved parties.
2. Establish specific asset allocation and rebalancing procedures.
3. Establish a clear understanding for all parties of the investment goals and objectives of Fund assets.
4. Provide specific guidelines and define limitations for all Investment Managers regarding the investment of Fund assets.
5. Establish a basis for evaluating investment results.
6. Establish a framework for further review and revision of this policy.

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This policy statement is designed to allow for sufficient flexibility in the management oversight process to capture investment opportunities as they may occur, while setting forth reasonable parameters to ensure prudence and care in the execution of the investment program.

### **DUTIES OF FIDUCIARIES**

Each member of the Board of the City of Milwaukee ERS is a fiduciary. The Investment Managers are also fiduciaries.

The Board and a person under contract to the ERS to invest and manage trust assets shall invest and manage assets as a prudent investor would by considering the purposes, terms, distribution requirements and other circumstances of the trust. In satisfying this standard, the Board and such person shall exercise reasonable care, skill and caution. Investment and management decisions respecting individual investment assets must be evaluated not in isolation, but in the context of the trust portfolio as a whole and as part of an overall investment strategy having risk and return objectives reasonably suited to the trust. A reasonable effort shall be made to verify facts relevant to the investment and management of trust assets. Assets may be invested in any kind of property or type of investment consistent with the standards set forth in the Employees' Retirement Act and the Board guidelines. A Board member or a person under contract to the ERS who invests and manages trust assets who has special skills or expertise or is named in reliance upon his or her representation that he or she has special skills or expertise has a duty to use those special skills or expertise.

Commented [MJ2]: Unclear of intent and purpose.

To fulfill such responsibilities, the Trustees are authorized and in the case of Investment Managers, required to retain professional experts including but not limited to:

1. **Staff:** The Retirement Staff ("Staff"), as designated by the Board is the agent of the Board. The Board does not delegate investment management responsibility through the use of its Staff. Staff duties include:
  - A. Monitoring Investment Managers for adherence to policies and guidelines.
  - B. Evaluating and managing the relationships with the Investment Consultant to ensure they are providing all necessary assistance to Staff and the Board as agreed to in service contracts.
  - C. Monitoring the Investment Consultant's manager search process, and conducting due diligence on any Investment Manager selected for hire by the Investment Committee that was considered and recommended to ERS by its Investment Consultant.

~~D. Monitoring the Fund's cash amounts. This includes ensuring the Fund has cash available to pay Fund benefits, expenses, and capital call commitments by identifying Investment Managers to withdraw funds from. This also includes determining whether to invest contributions into cash, deposit the contributions with Investment Managers, or some combination of both. Staff retains discretion in the planning and implementation of this task, which includes identifying the amount to be deposited or withdrawn into or from a respective Investment Manager. Staff works within the parameters of the asset allocation ranges and structures incorporated within this Statement of Investment Policy, and strives to minimize the subjectivity involved in the planning and implementation of this process by taking actions that are consistent with the long-term risk and return objectives approved in the most recent Asset-Liability Study. Staff also considers other factors, including but not limited to liquidity management considerations that arise during stock market downturns that often result in elevated withdrawals from Fixed Income and/or index funds. Staff will include a report on cash activity at regularly scheduled Board meetings. Identifying Investment Managers to withdraw funds from, and taking actions to raise cash from the identified Investment Managers to pay Fund benefits, Fund expenses, and Fund capital call commitments, as necessary. There are many factors to consider when deciding how much money to withdraw from Investment Managers, including but not limited to liquidity management plans that arise during stock market downturns that often result in elevated withdrawals from Fixed Income and/or index funds, and Staff retains discretion in the planning and implementation of this process. Working within the parameters of the asset allocation ranges and structures incorporated within this Statement of Investment Policy, Staff strives to minimize the subjectivity involved in raising funds by taking actions that are consistent with the long-term risk and return objectives approved in the most recent Asset-Liability Study. Staff will include a report on cash activity at regularly scheduled Board meetings.~~

~~E.~~

~~In the rare instance when the Fund has a cash flow positive month (i.e. contributions are greater than cash outflows), Staff retains discretion to decide whether to invest contributions in cash with the intention of using the contributions to pay upcoming benefit~~

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~~payments, or to deposit funds with Investment Managers, or some combination of both. Working within the parameters of the asset allocation ranges and structures incorporated within this Statement of Investment Policy, Staff strives to minimize the subjectivity involved in the planning and implementation of this process by taking actions that are consistent with the long-term risk and return objectives approved in the most recent Asset-Liability Study. Staff will include a report on cash activity at regularly scheduled Board meetings.~~

~~F.E.~~ Restructuring the portfolio following manager terminations, changes to the Fund's strategic asset allocation targets, and changes to an asset class's structure, ~~with the assistance of its Investment Consultant and Investment Manager(s).~~

~~G.F.~~ Organizing and/or participating in any special research required to manage the Fund more effectively and in response to any questions raised by the Board.

~~H.G.~~ Supporting the Board in the development and approval of the Investment Policy Statement, implementing the Policy Statement and reporting at least monthly on investment activity and matters of significance.

~~H.H.~~ ~~Ensuring~~ Monitor the Investment Managers' conformance to the terms of their contracts and that ~~the Investment Mangers'~~ performance ~~monitoring-reporting~~ systems are sufficient to provide the Board with timely, accurate and useful information.

Commented [MJ3]: Consider softening this language.

~~I.I.~~ Performing on-site (or video conference, when conditions do not allow for travel) due diligence meetings with ERS Investment Managers every two years or as required by the Board in accordance with **Board Rules and Regulations** section – Duties of the Chief Investment Officer.

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~~K.J.~~ With the advice of the City Attorney's Office, and outside legal counsel when the City Attorney's Office deems necessary, approve and execute ministerial Private Real Estate and Private Equity contract amendments, pursuant to MCO 36-09-1(d5), under the following conditions:

- Use of **delegated authority** must be consistent with any Real Estate and Private Equity investment plan or strategy approved or adopted by the Board. For the avoidance of doubt, the prudent manner may not always be the quickest manner. **Specific to Private Real Estate only, the use of delegated authority must be consistent with the philosophy that CMERS' ultimate goal is to transition its Real Estate portfolio to 4-5 commingled, open-end fund managers in a prudent manner;**
- Delegated authority may not be used to execute any contract amendments that may be reviewed and executed within the confines of the regular Board schedule;
- Delegated authority cannot be used to execute legal documents for a new Real Estate or new Private Equity vehicle;
- Delegated authority cannot be used to agree to terms that are more disadvantageous than what's already included in the existing agreement (with the exception of term extensions mentioned in the next bullet point);
- Staff may not use delegated authority against the advice of CMERS' Investment

Commented [MJ4]: Define delegated authority.

Commented [MJ5]: Still necessary?

Consultant or the City Attorney's Office;

- Staff or the City Attorney's Office will report to the Board, at the next Board meeting when possible, on actions taken under this plan (including fees);
- CMERS Executive Director may sign amendments executed under this delegation of authority on behalf of the Board;
- Board may revoke the delegated authority at any time.

2. **Investment Consultant:** The Investment Consultant is an advisor to the Board retained to provide investment management advice and a fiduciary for the purposes of the duties assumed under the Consulting Services Agreement. The Investment Consultant will provide investment management advice concerning the investment management of fund assets. Specific responsibilities of the Investment Consultant include:

- A. Assisting in the development and periodic review of investment policy.
- B. Conducting Investment Manager searches as authorized by the Board.
- C. Providing "due diligence" reports or research on each of the Fund's Investment Managers.
- D. Monitoring the performance of the Investment Managers to provide the Board with the ability to determine progress toward the investment objectives.
- E. Communicating advice on matters of policy, manager research, and manager performance to the Board.
- F. Reviewing Fund investment history, historical capital markets' performance and the contents of this Statement of Investment Policy with all Trustees when necessary.
- G. Providing topical research and education on investment subjects that are relevant to the Fund.
- H. Providing asset/liability allocation review and specific recommendations as appropriate.
- I. Communicating with all investment related professionals retained by the Fund as required or prudent.
- J. Reviewing ~~all~~ contracts between the Fund and all Investment Managers and providing a summary of suggested changes when necessary.

3. **Investment Managers:** The Board must contract for investment management but exercise discretion in selection of Investment Managers. When selecting Investment Managers, the Board shall only consider Investment Managers recommended to ERS by its Investment Consultant. The Board may contract with Investment Managers based on an evaluation of their investment philosophy, performance and ability to complement existing portfolio styles. The Board requires any Investment Manager recommended by its Investment Consultant to disclose to ERS whether or not they utilize a placement agent. The Board delegates fiduciary responsibility to Investment Managers through Investment Manager agreements and Board guidelines. The Investment Manager acknowledges that it is a fiduciary of ERS with respect to the investment and management of the Assets. In performing its delegated functions, the Investment Manager owes a duty to the trust to exercise reasonable care to comply with the terms of the delegations as set forth in Chapter 36 of the City Charter, 36-09-1-d, 1-d-1, 1-d-3, 1-d-4 and the Board guidelines. City Charter 36-09-1d through d-8, as of July 27, 2010, are attached as an addendum.

Each specific manager must manage Fund assets according to their role ~~as stated in the guidelines of this Investment Policy and~~ contracted with the Board. No deviation from this discipline is authorized unless first discussed with the Board and its Investment Consultant and written approval issued. If ERS assets are invested in collective investment funds maintained by an Investment Manager, the plan and/or trust document with respect to such collective investment funds shall be part of the guidelines and controlling in the event of a conflict with any other provision of the guidelines.

This Statement of Investment Policy communicates policies regarding the current asset allocation strategies for the assets and the duties and obligations of Investment Managers. Each Investment Manager has full discretion to make all investment decisions for the assets placed under its jurisdiction, while observing and operating within all policies, guidelines, constraints and philosophies as outlined in ~~this Statement~~ the Investment Management Agreement.

Each Investment Manager is required to manage assets as a prudent investor in accordance with s. 36-09-1-d of the Charter and sub-units thereof.

Specific responsibilities of the Investment Managers are specified in the Investment Management

Agreement and Board guidelines and generally include:

- A. Exercise discretionary investment authority including decisions to buy, sell, or hold individual securities within the guidelines established in this Statement. An Investment Manager has a fiduciary duty under federal securities laws to allocate securities fairly among its various accounts. The ERS will be provided a copy of the Investment Manager's trade allocation policy and procedures and will be advised, in writing, of changes to the policy and the potential impacts on ERS' account.
- B. Communicate in a timely manner any significant changes regarding economic outlook, investment strategy, or any other factors which may have an impact upon the achievement of the Fund's investment objectives.
- C. Inform the Board regarding changes within the investment management organization within a timely manner (3 days): Examples include but are not limited to: changes in lead personnel assigned to manage the account and or other significant changes including ownership, ownership structure, investment philosophy.
- D. Inform ERS of any significant asset value lost within 30 days due to termination or withdrawal. Significant asset value is indicated by 15% of the institutional assets under management in the strategy or 10% of the institutional assets under management of the firm.
- E. Subject to such guidelines as the ERS' Board may from time to time establish, vote all proxies for securities held for the Fund so long as in the Manager's belief the result of the ballot would serve to increase the value of the investment or otherwise benefit the Fund.  
For additional details, refer to Section VIII, Proxy Voting Guidelines.
- F. Provide timely reporting of investment activities. Each Investment Manager shall provide reports to the Board as outlined in Section VII.
- G. Maintain records of security buy and sell transactions in accordance with ~~the records retention schedules and practices of the Fund's custodian~~ industry standards.
- H. Meet with the Board on an as needed basis.

4. **Custodian:** The Custodian acts in a ministerial capacity, which means that the Custodian does not assume fiduciary responsibility except as specified in the Custodial Agreement.

In addition, the Custodian will conduct the following responsibilities:

- A. Perform regular accounting of all assets owned, purchased, or sold, as well as monitor the movement of assets into and out of the Fund accounts.
- B. Provide assistance to the Fund to complete activities including, but not limited to,

annual audits and transaction verifications.

C. If directed by the Board, manage a short-term income fund for investment of any cash not invested by managers.

D. The Custodian, if directed by the Board, will manage the securities lending program.

**Commented [MJ6]:** Add Transition Manager.

5. **Additional Professionals:** Additional Professionals, including but not limited to attorneys, actuaries and auditors may be retained by the Board as necessary to assist toward the prudent administration of the Fund.

**- SECTION II -  
INVESTMENT GOALS AND OBJECTIVES**

The overall investment goal is to provide participants with retirement, disability and death and survivor benefits. The purpose of the Fund establishing an investment policy is to obtain the highest return possible on Fund investments within corresponding acceptable levels of minimum investment risk and liquidity requirements in recognition of prudent person standards and compliance with applicable local, state, and federal laws governing the operation and activities of the Fund. In particular, the Fund is bound by the City of Milwaukee Charter Chapter 36.

**FUNDING LEVELS AND LIQUIDITY REQUIREMENTS**

The Board seeks to keep Plan benefits as well funded as possible at all times. Additionally, the Board wishes to remain as fully invested as possible at all times, while maintaining appropriate liquidity. ~~Generally, the Fund will maintain enough liquidity to meet one month of payments and expenses.~~

**ASSET ALLOCATION CONSIDERATIONS**

The Board implements an asset allocation policy that is predicated on a number of factors, including:

1. A projection of actuarial assets, liabilities, and benefit payments and the cost of contributions;
2. Historical and expected long-term capital market risk and return behavior;
3. An assessment of future economic conditions, including inflation and interest rate levels; and
4. The current and projected funding status

The asset allocation policy provides for diversification of assets in an effort to maximize the Fund's investment return consistent with market conditions. Asset allocation modeling identifies asset classes that the Board will utilize and the percentage that each asset class represents of the total Fund. Due to fluctuations in market values, positioning within a specific range is acceptable and constitutes compliance with the policy. It is anticipated that periodic revisions to the policy may occur and implementing such changes may require an extended period of time.

The Board's asset allocation policy is summarized on the following page. The Board, Staff and Investment Consultant will monitor and assess the actual asset allocation versus the policy and will evaluate any deviation deemed significant.

The Board will implement the asset allocation policy through the use of external Investment Managers. Assets will be invested subject to guidelines incorporated into individual investment management agreements (see SECTION VI - SPECIFIC OBJECTIVES AND GUIDELINES FOR MANAGED PORTFOLIOS).

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## TARGET ALLOCATIONS

The Board has determined that the following asset allocation policy is appropriate for the Fund. This allocation policy will be reviewed periodically and may be modified, if appropriate, in light of changes in the structure or goals of the Fund.

<b><u>Public Equity</u></b>	<b><u>Target</u></b>	<b><u>Minimum</u></b>	<b><u>Maximum</u></b>
Domestic Equity			
Passive Large Cap	6.4%		
Active Large Cap	4.0%		
Active Mid/Small Cap	5.8%		
Total Domestic Equity	<b>16.2%</b>	<b>12.2%</b>	<b>20.2%</b>
Total International Equity	<b>12.6%</b>	<b>9.6%</b>	<b>15.6%</b>
Total Global Equity	<b>7.2%</b>	<b>3.2%</b>	<b>11.2%</b>
<b>Total Public Equity</b>	<b>36%</b>	<b>31%</b>	<b>41%</b>
<b><u>Fixed Income</u></b>			
Cash	1%	0%	5.0%
Passive Fixed Income	8.0%		
Core Opportunistic Fixed Income	23.0%		
<b>Total Fixed Income</b>	<b>32%</b>	<b>29%</b>	<b>35%</b>
<b><u>Real Assets</u></b>			
Private Real Estate	8.7%		
Public Diversified Real Assets	3.3%	1.3%	5.3%
<b>Total Real Assets</b>	<b>12%</b>	<b>9%</b>	<b>15%</b>
<b><u>Private Equity</u></b>	<b>11%</b>	<b>8%</b>	<b>16%</b>
<b><u>Absolute Return</u></b>	<b>9%</b>	<b>6%</b>	<b>14%</b>
<b><u>Total</u></b>	<b><u>100%</u></b>		

**Commented [M37]:** Consider appropriateness of ranges around the targets.

**TOTAL FUND PERFORMANCE REVIEW AND EVALUATION****Investment Objectives****Time Horizon****Performance Standard****Universe****Index**

Less than one market cycle (rolling 3-year periods).

Rank in upper 50% of a Peer Group.<sup>1</sup>

One market cycle (rolling 5-year periods).

Rank in upper 50% of a Peer Group.<sup>1</sup>

Exceed the return on a benchmark Index by 1%.<sup>2</sup> Have volatility of +/- 2.5% tracking error to the benchmark Index.<sup>2</sup>

**Commented [MJ8]:** Re-evaluate specific investment goals.

**Investment Guidelines**

- The investment guidelines governing each asset class/manager will together constitute the Total Fund guidelines.
- The Board is responsible for the overall asset allocation of the Fund. Each manager will be responsible for adhering to the guidelines for its portion of Fund assets only.

<sup>1</sup> As measured by a universe of similarly managed funds.

<sup>2</sup> As measured by a composite index designed to track the target asset allocation.

From: To:	1/1/00: 6/30/06	5/1/06: 6/30/08	7/1/08: 9/30/10	10/1/10: 12/31/12	1/1/13: 12/31/13	1/1/14: 12/31/14	1/1/15: 12/31/15	1/1/16: 6/30/16	7/1/16: 12/31/16	1/1/17: 3/31/18	4/1/18: 12/31/18	1/1/19: 12/31/19	1/1/20: 3/31/21	4/1/21: 3/31/22	4/1/22: 9/30/22	10/1/22: 6/30/23	7/1/23: 6/30/25	7/1/25: Present
ACWI Intl (net)	=	=	=	=	=	=	=	56%	56%	55%	50%	47%	43%	44%	44%	44%	39%	36%
Bloomberg U.S. Agg.	30%	28%	28%	28%	28%	28%	28%	25%	22%	22%	25%	25%	26%	23%	23%	23%	29%	32%
NFI-ODCE (1 Qtr Arrears)	=	=	=	=	=	=	7%	7%	7%	7%	7.7%	7.7%	7.7%	9.1%	9.1%	9.7%	9.7%	8.7%
90-Day T-bill + 3%	=	=	=	=	=	=	5%	5%	8%	8%	9%	9%	10%	10%	10%	10%	7%	9%
Russell 3000 + 2% (1 Qtr Arrears)	=	=	=	=	=	=	=	=	=	=	=	=	10%	10%	10%	10%	12%	11%
15% Bloomberg U.S. TIPS / 30% S&P Global Infrastructure / 15% S&P Global Natural Resources / 25% FTSE EPRA/NAREIT Developed / 15% Bloomberg Commodity Total Return	=	=	=	=	=	=	=	=	=	=	=	=	=	3.9%	3.3%	3.3%	3.3%	
35% Barclays TIPS / 20% S&P Global Infrastructure / 20% Global Natural Resources / 10% FTSE EPRA/NAREIT Developed / 15% Bloomberg Commodity Total Return	=	=	=	=	=	=	=	3%	3%	3.3%	3.3%	3.3%	3.9%	=	=	=	=	
Russell 3000 + 3% (1 Qtr Arrears)	=	=	=	2%	2%	2%	4%	4%	5%	5%	8%	=	=	=	=	=	=	=
40% ACWI / 40% Barclays TIPS / 20% Bloomberg Commodity Total Return	=	=	=	=	=	=	3%	=	=	=	=	=	=	=	=	=	=	=
Russell 3000	50%	45%	45%	33%	31%	31%	28%	=	=	=	=	=	=	=	=	=	=	=
MSCI EAFE (net)	15%	20%	20%	22%	22%	22%	20%	=	=	=	=	=	=	=	=	=	=	=
ACWI (net)	=	=	=	=	=	10%	10%	=	=	=	=	=	=	=	=	=	=	=
NCREIF NPI 1 Qtr Arrears)	=	7%	7%	7%	7%	=	=	=	=	=	=	=	=	=	=	=	=	=
MSCI World (net)	=	=	=	10%	10%	=	=	=	=	=	=	=	=	=	=	=	=	=
NCREIF NPI)	5%	7%	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=



## REBALANCING PROCEDURES

The Fund routinely needs cash for payroll or other expenses, has cash flows to and from real estate ~~investments, has cash flows to or~~ private equity investments, or has other cash needs as approved by the Board, required by a court order or required by a governmental body. Cash needs ~~and or~~ investment experience may take the Fund outside of the established asset allocation range, requiring rebalancing activity.

~~As determined necessary given significant cash flows or market movements, and B~~based on the established ranges set forth above, Staff will determine what, if any, rebalancing activity is required.  
~~If Staff deems rebalancing to be necessary, Staff will develop and execute a rebalancing plan. In order to maintain the established target asset allocation, the Fund will implement a systematic rebalancing procedure. As determined necessary given significant cash flows or market movements, the Fund will develop and execute a rebalancing plan.~~ To limit the amount of ~~required~~ liquidations and associated transaction costs, ~~the Fund~~Staff will look to rebalance concurrently with liquidity requirements of the Fund. ~~The Staff, in consultation with the Investment Consultant,~~ will retain discretion regarding rebalancing issues.

~~Based on the established ranges set forth above, Staff will determine what, if any, rebalancing activity is required. If Staff deems rebalancing to be necessary, they will provide the Investment Consultant with written recommendations from which Staff and Investment Consultant will develop a mutually agreed upon rebalancing plan. Staff will be responsible for executing all rebalancing activity.~~

## TRANSITION MANAGER PROCEDURES

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The Fund at times may need to utilize the assistance of a transition manager. The Staff working with its Investment Consultant will develop a transition manager panel, with final approval from the Board. Transition managers may be used, but not limited to, the following:

- Rebalancing between asset classes to achieve the asset allocation target policy objectives
- Terminating and funding new asset managers

If Staff ~~and the Investment Consultant~~ deems hiring a transition manager to be necessary, ~~they will work to~~Staff will develop a mutually agreed upon transition plan. Staff will retain discretion regarding transition issues and will be responsible for executing all transition manager activity. Staff will be responsible for providing an update to the Board on all transition issues.

**- SECTION III -****GUIDELINES FOR ACTIVELY MANAGED FUND ASSETS**

Each Investment Manager within the Fund will be chosen for a specific discipline and will be required to adhere to these general investment guidelines.

1. **Risk Aversion:** Investment Managers are to make reasonable efforts to control risk and will be evaluated regularly to ensure that the return of the portfolio under management is commensurate with the level of risk that is assumed within any given discipline.
2. **Fully Invested:** The Board has adopted a ~~long-term~~long-term Asset Allocation Policy and grants Investment Managers discretion over assets within the portfolios they manage. The Board has set specific guidelines concerning the allowable levels of cash that may be maintained in each actively managed portfolio (Section VI). ~~The Board will closely monitor the use of cash by any manager. If a manager believes that a change in its specific guideline is in the interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.~~
3. **Investment Discipline Objectives:** Each separately managed portfolio will have specific guidelines and objectives established by the Board. Investment Managers are expected to adhere to the investment discipline for which they were hired. Managers will be evaluated for adherence to their stated investment discipline.

~~Specific investment goals and constraints for each Investment Manager shall be incorporated as part of this Statement in Section VI: SPECIFIC OBJECTIVES FOR INDIVIDUALLY MANAGED PORTFOLIOScovered by the Investment Management Agreement. Each~~ manager shall receive a written statement outlining specific goals and constraints as approved by the City of Milwaukee Retirement System.

The goal of each Investment Manager, over the investment horizon, shall be to:

- A. Exceed the market index, or blended market index, selected and agreed upon by the Board that most closely corresponds to its style of investment management.
- B. Display an overall level of risk in the portfolio that is consistent with the risk associated with the benchmark specified.

The Investment Managers are charged with the responsibility of maintaining their portfolios in compliance with the investment guidelines. The Investment Manager is expected to identify policy items that may have an adverse impact on performance and to initiate discussion with the Staff regarding possible modification of such policies. Under no circumstances shall an Investment Manager take an action that causes the portfolio to be in conflict with the guidelines without prior written consent of the Board. If there is a deviation from the guidelines because of an Investment Manager's action, the manager will be reviewed by the Board at the next meeting following notification of the deviation. If there is a deviation from the guidelines because of a change in the market value of an Investment Manager's portfolio

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or a particular holding, or a change in quality rating of a particular holding, the Investment Manager shall take action that is prudent and appropriate to the intended purpose of the portfolio. If for any reason a portfolio deviates from the guidelines, the Investment Manager is responsible for reporting the deviation from the guidelines to the Board and its Investment Consultant in writing within 3 business days of when the deviation occurred. The Investment Manager is required to give this notice even if they have taken immediate action to correct the deviation. The Investment Manager will explain the deviation from the guidelines and suggest appropriate action. ~~Within 30 days after~~After receiving notification of a deviation from the investment policy guidelines, ~~at its next meeting~~ the Board will respond to the manager's recommendation and will direct appropriate action. Depending upon the circumstances, the consequences of deviating from the investment policy guidelines could range from an Investment Manager merely explaining what caused the deviation to occur, to the manager's termination.

4. **Commingled Funds:** In circumstances where the Fund is invested in a commingled vehicle, the Investment Manager will be held to the investment performance standards and guidelines set forth in the goals and guidelines of the commingled vehicle. For voting of proxies, commingled fund managers will use their master trust agreement proxy voting policy standards, however, reporting of proxy voting activity will be in accordance with ERS' policy. Brokerage decisions, including commission recapture, will be made according to the master trust document of the commingled investment vehicle.
5. **Brokerage and Execution of Transactions:** Investment Managers with authority over fund assets must use sound professional judgment in conducting each transaction to obtain the best possible unit price and terms of execution and to work in the best interest of the Fund.

Additionally, the Fund may utilize commissions generated on securities to obtain performance evaluation and other investment related services and benefits for the Fund.

(Please see Section IX: POLICY AND GUIDELINES FOR BROKERAGE SERVICES)

**- SECTION IV -  
SELECTION AND REVIEW OF INVESTMENT MANAGERS**

The Board of Trustees must use reasonable care, skill and caution in selecting the Investment Managers, establishing the scope and terms of the obligations of fiduciary responsibility and periodically reviewing the Investment Manager's actions in order to monitor performance in conjunction with the terms of the delegation. When selecting Investment Managers, the Board shall only consider Investment Managers recommended to ERS by its Investment Consultant that have disclosed whether or not they utilize a placement agent. The Board may contract with Investment Managers based on an evaluation of their investment philosophy, performance and ability to complement existing portfolio styles. The Investment Manager has a duty to the Board to exercise reasonable care to comply with the terms of the delegations. All Investment Managers must:

1. Provide the Board with a written agreement to invest within the guidelines established in the ~~Investment Policy Statement~~Investment Management Agreement.
2. Provide the Board with proof of liability and fiduciary insurance coverage.
3. Be a registered investment advisor or a "bank" exempt from registration under the Investment Advisers Act of 1940, and be recognized as demonstrating experience over a number of years in the management of institutional, tax-exempt assets within a defined investment capacity.
4. Adhere to investment style, concepts and principles for which they were retained, including, but not limited to, developing portfolio strategy, conducting research, constructing buy, sell, and hold lists and purchasing and selling securities.
5. Offer services in exchange for fees that are competitive with industry standards for the product category.
6. Execute all transactions for the benefit of the Fund with brokers and dealers qualified to execute institutional orders on an ongoing basis at the best net cost to the Fund. For additional details, refer to Section IX: POLICY AND GUIDELINES FOR BROKERAGE SERVICES.
7. Managers utilizing separately managed accounts should r~~Re~~concile monthly accounting, transaction, and asset summary with custodian valuations, report separately on gains and losses on sales, and communicate and resolve any significant discrepancies. The month-end custodian valuations will be used to calculate rates of return for performance-reporting purposes and manager fee calculations.
8. Maintain frequent and open communication with the Board and its Staff on all significant matters, including but not limited to changes in the Investment Manager's outlook, strategy, and portfolio structure, changes in ownership, structure, any changes involving key decision makers and significant client losses.

### INVESTMENT MANAGER PERFORMANCE REVIEW AND EVALUATION

Performance reports generated by its Investment Consultant and ~~Custodian Staff, using custodial data,~~ shall be compiled quarterly and communicated to the Board for review. The investment return of total portfolios, as well as asset class components, will be measured against performance benchmarks, appropriate for each portfolio, as adopted by the Board. Consideration shall be given to the extent to which the investment results are consistent with the investment objectives, goals and guidelines as set forth in this Statement. The Board reserves the right to terminate a manager at its discretion for any reason including, but not limited to, the following:

1. Investment performance that is significantly less than anticipated given the discipline employed and the risk parameters established, or unacceptable justification of poor results.
2. Failure to adhere to any aspect of this Statement of Investment Policy, including communication and reporting requirements.
3. Significant changes to the investment management organization, including but not limited to loss of key personnel.
4. Evidence of illegal or unethical behavior by the investment management firm.
5. Lack of willingness to cooperate with reasonable requests by the Board and/or Staff for information, meetings, or other material related to its portfolios.
6. Loss of confidence by the Board in the Investment Manager.
7. A change in the Fund's asset allocation program that necessitates a shift of assets to another sector or asset class.

Investment Managers shall be reviewed regularly regarding performance, personnel, strategy, research capabilities, organizational and business matters and other factors that may impact their ability to achieve the desired investment results.

**- SECTION V -  
DEFINITIONS**

1. **"The Fund"** shall mean the Employees' Retirement System of the City of Milwaukee Fund.
2. **"Annuity and Pension Board"** shall refer to the governing Board of Trustees established to administer the Fund as specified by applicable ordinance.
3. **"Fiduciary"** shall mean any entity or person who exercises any discretionary authority or discretionary control respecting management of the Fund or exercises any authority or control respecting management or disposition of the Fund's assets, or renders investment advice for a fee or other compensation, direct or indirect, with respect to monies or property of the Fund, or has any discretionary authority or responsibility in the administration of the Fund.
4. **"Investment Consultant"** shall mean any entity or person employed to provide advisory services, including advice on investment objective and/or asset allocation, manager search, and performance monitoring.
5. **"Investment Manager"** shall mean any individual, or group of individuals, employed to manage the investment of Fund assets.
6. **"Broker-Dealer"** shall mean any entity or person in the business of effecting securities transactions for its own account and/or of others and registered as such with the Securities and Exchange Commission and a member of the National Association of Securities Dealers, Inc.
7. **"Market Cycle"** shall be a time period that includes a significant market decline from peak to trough and a sustained market increase significantly above the previous peak. Within the stock and bond markets, a complete cycle usually has a span of 4 to 6 years but can be shorter or longer. Observing performance over a market cycle allows the Board to analyze the results without biasing the results in favor of managers that might outperform during certain sub-periods. If a market cycle should take place within a shorter time period, additional time may still be needed to assess the value added of the manager.

### CONCLUSION

This Statement is a working document structured to accomplish long term and short term planning. Investment Managers and other fiduciaries are invited to contact the Fund or its Investment Consultant with any questions about the interpretation or application of any provisions. This Statement of Investment Policy will be reviewed annually. All changes will be communicated to all appropriate parties in writing.

Please address reports, correspondence and communications to:

EMPLOYEES' RETIREMENT SYSTEM OF THE CITY OF MILWAUKEE  
David M. Silber, Chief Investment Officer  
789 N. Water Street  
3<sup>rd</sup> Floor  
Milwaukee, WI 53202  
(414) 286-3557

Please address all manager fee bills to:

EMPLOYEES' RETIREMENT SYSTEM OF THE CITY OF MILWAUKEE  
Bernard (Jerry) Allen, Executive Director  
789 N. Water Street  
3<sup>rd</sup> Floor  
Milwaukee, WI 53202  
(414) 286-3557

**- SECTION VI -****SPECIFIC OBJECTIVES AND GUIDELINES FOR MANAGED PORTFOLIOS**

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**INVESTMENT OBJECTIVES AND GUIDELINES**

The Board expects to receive results from the Investment Managers that are consistent with the policies included herein. The following sections outline the specific objectives and guidelines established for each asset and management category. These objectives and guidelines will provide a basis for evaluating the effectiveness of each Investment Manager and the overall investment program over time.

**BOARD RESTRICTIONS**

- No transaction that is prohibited under the Uniform Prudent Investor Act promulgated by the National Conference of Commissioners on Uniform State Laws (1994) and the Restatement of Trusts 3d (City of Milwaukee Charter, Chapter 36-09-1-d-7).
- No unauthorized investment under the Wisconsin Statutes.
- Prohibited investments include mortgage interest only (IO), principal only (PO), inverse floaters or other CMO derivatives that have uncertain or volatile duration or price movement.
- No assets shall be invested in restricted (lettered) stock or in private placements. This restriction is not meant to preclude purchases of securities issued under SEC Rule 144a. Rule 144a allows trading among qualified institutional investors within a segment of the private placement market.

**DERIVATIVES**

A derivative is broadly defined as a financial instrument whose value, usefulness and marketability, is derived from or linked to the value of an underlying security, commodity, or index that represents either direct ownership of an asset or direct obligation of an issuer. Investment managers may use derivatives traded on a recognized derivatives exchange for hedging and efficient portfolio management purposes subject to compliance with the following specific guidelines at all times.

*a) Futures*

- Shall never be used for leverage purposes.
- The effective economic exposure to any asset class after allowing for the impact of short futures positions shall never be negative.



*b) Options*

- Call options may be purchased only as long as there is sufficient cash available to meet the exercise price or as part of a call spread.
- Put options may be purchased only to the extent that the corresponding physical asset is held in the portfolio or as part of a put spread.
- Writing of options is prohibited.

*c) Reporting*

- All derivative positions and transactions shall be separately and explicitly identified in the Investment Manager's reporting. Each time the Investment Manager undertakes a derivative transaction they shall highlight it in the first written report afterwards and explain the rationale for the transaction.

*d) Over-the-counter derivatives not traded on a recognized exchange can only be used with prior specific written consent of the Board.*

- Forward contracts may be used at the manager's discretion to hedge currency exposure.

Note that managers employing absolute return/alternative return strategies may make extensive use of derivatives. The ability to use derivatives is specified in the individual manager guidelines.

**TRANSITION MANAGER**

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Permission is granted to transition managers to use futures on financial contracts, forward currency contracts, and Exchange Traded Funds in the management of portfolio transitions and in the management of portfolio rebalancing activity, according to the above-referenced Derivatives Guidelines. The use of these instruments by transition managers for these purposes will typically begin and end in short periods of time.

## TOTAL FUND

## OBJECTIVES AND GUIDELINES

Investment Objectives

Time Horizon	Performance Standard		Index
		<u>Universe</u>	
	Less than one market cycle (rolling 3-year periods).	Rank in upper 50% of a Peer Group. <sup>1</sup>	
	One market cycle (rolling 5-year periods).	Rank in upper 40% of a Peer Group. <sup>1</sup>	Exceed the return on a benchmark Index by 1%. <sup>2</sup> Have volatility of +/- 2.5% tracking error to the benchmark Index. <sup>2</sup>

Investment Guidelines

- The investment guidelines governing each asset class/manager will together constitute the Total Fund guidelines.
- The Board is responsible for the overall asset allocation of the Fund. Each manager will be responsible for adhering to the guidelines for its portion of Fund assets only.

<sup>1</sup> As measured by a universe of similarly managed funds.

<sup>2</sup> As measured by a composite index designed to track the target asset allocation.

From:	1/1/00- 4/30/06	5/1/06- 4/30/08	7/1/08- 9/30/10	10/1/10- 12/31/12	1/1/13- 12/31/13	1/1/14- 12/31/14	1/1/15- 12/31/15	1/1/16- 6/30/16	7/1/16- 12/31/16	1/1/17- 3/31/18	4/1/18- 12/31/18	1/1/19- 12/31/19	1/1/20- 3/31/21	4/1/21- 3/31/22	4/1/22- 9/30/22	10/1/22- 6/30/23	7/1/23- 6/30/25
ACWI IMI (net)	-	-	-	-	-	-	-	56%	56%	55%	50%	47%	43%	44%	44%	44%	39%
Bloomberg U.S. Agg.	30%	28%	28%	28%	28%	28%	28%	25%	22%	22%	25%	25%	26%	23%	23%	23%	29%
NFI-ODCE (1 Qtr Arrears)	-	-	-	-	-	-	7%	7%	7%	7%	7.7%	7.7%	7.7%	9.1%	9.1%	9.7%	9.7%
90-Day T-bill + 3%	-	-	-	-	-	-	5%	5%	8%	8%	9%	9%	10%	10%	10%	10%	7%
Russell 3000 + 2% (1 Qtr Arrears)	-	-	-	-	-	-	-	-	-	-	-	-	10%	10%	10%	10%	12%
15% Bloomberg U.S. TIPS / 30% S&P Global Infrastructure / 15% S&P Global Natural Resources / 25% FTSE EPRA/NAREIT Developed / 15% Bloomberg Commodity Total Return	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9%	3.3%	3.3%
35% Barclays TIPS / 20% S&P Global Infrastructure / 20% Global Natural Resources / 10% FTSE EPRA/NAREIT Developed / 15% Bloomberg Commodity Total Return	-	-	-	-	-	-	-	-	3%	3%	3.3%	3.3%	3.3%	3.9%	-	-	-
Russell 3000 + 3% (1 Qtr Arrears)	-	-	-	2%	2%	2%	4%	4%	5%	5%	8%	-	-	-	-	-	-
40% ACWI / 40% Barclays TIPS / 20% Bloomberg Commodity Total Return	-	-	-	-	-	-	3%	-	-	-	-	-	-	-	-	-	-
Russell 3000	50%	45%	45%	33%	31%	31%	28%	-	-	-	-	-	-	-	-	-	-
MSCI EAFE (net)	15%	20%	20%	22%	22%	22%	20%	-	-	-	-	-	-	-	-	-	-
ACWI (net)	-	-	-	-	-	10%	10%	-	-	-	-	-	-	-	-	-	-
NCREIF (NPI 1 Qtr Arrears)	-	-	7%	7%	7%	7%	-	-	-	-	-	-	-	-	-	-	-
MSCI World (net)	-	-	-	10%	10%	-	-	-	-	-	-	-	-	-	-	-	-
NCREIF (NPI)	5%	7%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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**Manager:** Northern Trust  
**Role:** Passive Domestic Equities

**Objectives and Guidelines**

**Investment Objectives**

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Not Applicable	
One market cycle (rolling 5-year periods).	Not Applicable	Track the performance of S&P 500 Index within 10 basis points

**Investment Guidelines**

- The portfolio will be invested in a sufficient number of stocks, which in aggregate fairly represent the S&P 500 Index.
- Eligible investments for the portfolio shall be limited to units of the NTGI – QM Collective Daily S&P 500 Equity Index Fund – Lending.
- Cash will be held to a minimum.
- The portfolio will be rebalanced as necessary – selling issues that are removed from the Index and purchasing new issues added to the Index.
- Derivatives may be used to equitize cash.

**Manager:** BlackRock**Role:** Passive Index Value Domestic Equities**Objectives and Guidelines****Investment Objectives**

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Not Applicable	
One market cycle (rolling 5-year periods).	Not Applicable	Track the performance of Russell 1000 Value Index within 10 basis points

**Investment Guidelines**

- The portfolio will be invested in a portfolio of equity securities with the objective of fairly approximating as closely as practicable the capitalization weighted total rate of return of that segment of the U.S. market for publicly traded equity securities as represented by the Russell 1000 Value Index.
- Eligible investments for the portfolio shall be limited to units of the BlackRock Russell 1000 Value Fund.
- Cash will be held to a minimum. We aim to keep the equitized cash balance in the fund to less than 1%, although the percentage at any point could be higher.
- Futures and other derivatives may be used to invest all or any portion of the Fund in one or more futures contracts or other similar assets for the purpose of acting as a substitute for investment in securities. The fund will always have an equitized cash position.

**Manager:** Dimensional Fund Advisors

**Role:** Active Large Capitalization Value Domestic Equities

## **ACCOUNT SPECIFIC INVESTMENT GUIDELINES**

### ***Investment Approach***

The investment objective of the Account is to achieve long-term capital appreciation. The Manager's investment approach for the Account is to capture the return and diversification benefits of securities of large U.S. companies, as determined from time to time by the Manager, that the Manager determines to be value stocks and anticipates a weighted average total market capitalization generally lower than the benchmark. The Manager does not provide any guarantee with regard to the performance of the Account or that any investment objective will be successfully achieved.

### ***Benchmark***

Russell 1000 Value Index

### ***Authorized Investments***

- The Account may invest in any of the following:
  - Common Stocks, preferred stocks, convertible securities, warrants, rights and other securities with equity characteristics, as determined by the Manager
  - Depository receipts including "ADRs", "EDRs", "NVDRs" and "GDRs" (whether the underlying company is listed or unlisted) and foreign listings
  - Futures contracts and options on futures contracts for U.S equity securities and indices. These contracts may be used to adjust market exposure based on actual or expected cash inflows to or outflows from the Account. The Account does not intend to sell futures contracts to establish short positions in individual securities or to use derivatives for purposes of speculation or leveraging investment returns.
  - Participation notes
  - Real estate investment trusts ("REITs")
  - Exchange Traded Funds ("ETFs")
  - Securities received in connection with corporate actions from time to time
  - Cash and cash equivalents

### ***Investment Guidelines***

- Appropriate investments consist of authorized investments as noted above.
- At time of purchase, investment in any one company should not exceed 5% of the Account.

- At time of purchase, investments in any one industry as defined by 6-digit GIC should not exceed 25% of the value of the Account's total assets.
- The Manager is expected to maintain an invested position with no more than 10% of the Account invested in fixed income, cash or cash equivalents, except after cash inflows or prior to expected outflows.
- Under normal circumstances, at least 80% of the Account will be invested in securities of large cap U.S. companies.
- Under normal circumstances, the weighted average total market capitalization of the Account should not exceed 150% of the weighted average total market capitalization of the Russell 1000 Value Index.

***Additional Considerations***

The Manager may consider a company's size, value, and/or profitability relative to other eligible companies when making investment decisions for the Account. The Manager may adjust the representation in the Account of an eligible company, or exclude a company, after considering such factors as free float, momentum, trading strategies, liquidity, profitability, and other factors that the Manager determines to be appropriate, given market conditions. Securities are considered value stocks primarily because a company's shares have a high book value in relation to their market value. In assessing profitability, the Manager may consider different ratios, such as that of earnings or profits from operations relative to book value or assets. The criteria the Manager uses for assessing value or profitability are subject to change from time to time.

**Manager:** Polen Capital Management  
**Role:** Active Large Capitalization Domestic Equities

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in upper 50% of a Peer Group. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in upper 45% of a Peer Group. <sup>1</sup>	Exceed (after fees) the S&P 500 Index.

#### Investment Guidelines

- Appropriate investments consist primarily of common and preferred stocks and/or convertible securities. Convertible securities may represent up to 5% of the portfolio market value.
- Holdings in any one company should not exceed the greater of 10% of the portfolio or 3% over the S&P 500 Index weighting, measured at market value
- Holdings in one economic sector, based on the GICS sector classifications, should not exceed greater than 60% of the market value of the portfolio.
- The manager is expected to maintain a fully invested position at all times with no more than 10% of the portfolio in fixed income or cash equivalents. If a manager believes that a change in this guideline is in the interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- Holdings may include up to 20% American Depositary Receipts (ADRs) and/or foreign securities traded on US exchanges, or in the OTC market, measured at market value.
- Permissible investments also include exchange traded funds, mutual funds, and real estate investment trusts (REITs).
- The following investment vehicles are not allowed:
  - Commodities, commodity contracts, related futures or options
  - Illiquid securities
  - Venture capital investments
  - Short sales
  - Direct investments in oil, gas or other mineral exploration or developments
  - Margin transactions
  - Direct investments in real estate or interests in real estate
  - Section 144A Securities

<sup>1</sup> As measured by the Callan Large Cap Broad Equity Peer Group.

**Manager:** EARNEST Partners  
**Role:** Active Mid Capitalization Domestic Equities

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Universe	Performance Standard
		<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in upper 50% of a Peer Group. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in upper 45% of a Peer Group. <sup>1</sup>	Exceed (after fees) the Russell Mid Cap Index + 2%.

#### Investment Guidelines

- Appropriate investments consist primarily of common and preferred stocks and/or convertible securities. Convertible securities may represent up to 5% of the portfolio at market value.
- Holdings in any one company should not exceed 7% of the portfolio, measured at market value.
- Holdings in one economic sector should not exceed the greater of 30% of the portfolio or 200% of the Index weighting, measured at market value.
- The manager is expected to maintain a fully invested position at all times with no more than 10% of the portfolio in fixed income, cash equivalents or Exchange Traded Funds. If a manager believes that a change in this guideline is in the interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- Holdings may include up to 10% American Depositary Receipts (ADRs), measured at market value.
- Holdings may include Real Estate Investment Trusts (REITs) at a level of up to 1.2 times the proportion of REITs in the Russell Mid Cap Index.

<sup>1</sup> As measured by the Callan Mid Cap Equity Peer Group.



**Manager:** Dimensional Fund Advisors  
**Role:** Active Small Capitalization Value Domestic Equities

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in upper 50% of a Peer Group. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in upper 40% of a Peer Group. <sup>1</sup>	Exceed (after fees) the Russell 2000 Value Index + 2%.

#### Investment Guidelines

- Appropriate investments consist of common and preferred stocks and cash equivalents.
- Holdings in any one company should not exceed 5% of the portfolio measured at cost; 10% measured at market value.
- Holdings in one industrial sector should not exceed the greater of 30% of the portfolio or 150% of the Index weighting, measured at market value.
- The manager is expected to maintain a fully invested position with no more than 10% of the portfolio in fixed income or cash equivalents. If a manager believes that a change in this guideline is in the interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- At least 80% of the portfolio will be invested in small capitalization companies.
- Holdings may include up to 10% American Depositary Receipts (ADRs), measured at market value.

<sup>1</sup> As measured by the Callan Small Capitalization Value Equity Peer Group.

**Manager:** Brandes Investment Partners**Role:** Active International Equities**Objectives and Guidelines****Investment Objectives**

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in the upper 50% of a Universe. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in the upper 40% of a Universe. <sup>1</sup>	Exceed (after fees) the MSCI EAFE Index + 2%.

**Investment Guidelines**

- Holdings in any one company should not exceed the greater of 7% of the portfolio or 5% over the Index weighting, measured at market value.
- Adequate diversification by sector, country and currency block should be maintained.
- Japan's and the United Kingdom's combined weighting is limited to their combined benchmark weighting plus 15% while Canada's is limited to 12%. Other countries' maximum is the greater of the benchmark plus 10% or 200% of the benchmark weighting.
- A maximum of 30% of the portfolio may be invested in non-EAFE markets. Canada is not counted towards this 30% limitation.
- The manager is expected to maintain a fully invested position with no more than 10% of the portfolio in fixed income or cash equivalents. If a manager believes that a change in this guideline is in the best interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- Foreign currency forward contracts are permitted for defensively hedging purposes only. The total exposure of all hedges is limited to 100% of the total portfolio value, at market. Shorting currency exposure in countries without any underlying security exposure is prohibited.
- Warrants are not to exceed 20% of the portfolio value.

<sup>1</sup> As measured by the Callan International Equity Peer Group.

<sup>2</sup> MSCI EAFE is the Morgan Stanley Capital International Europe, Australasia and the Far East

**Manager:** William Blair Institutional Management

**Role:** Active International Equities

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Universe	Performance Standard Index
Less than one market cycle (rolling 3-year periods).	Rank in the upper 50% of a Universe. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in the upper 40% of a Universe. <sup>1</sup>	Exceed (after fees) the MSCI ACWIxUS <sup>2</sup> Index + 2%.

#### Investment Guidelines

- Holdings in any one company should not exceed the greater of 7% of the portfolio or 5% over the Index weighting, measured at market value.
- Adequate diversification by sector, country and currency block should be maintained.
- Japan's and the United Kingdom's combined weighting is limited to their combined benchmark weighting plus 15% while Canada's is limited to 12%. Other countries' maximum is the greater of the benchmark plus 10% or 200% of the benchmark weighting.
- William Blair may invest a maximum of 35% of the portfolio or 150% of the MSCI ACWI ex-US Index weighting (whichever is less) in emerging markets companies.
- The manager is expected to maintain a fully invested position with no more than 10% of the portfolio in fixed income or cash equivalents. If a manager believes that a change in this guideline is in the best interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- Foreign currency forward contracts are permitted for defensive hedging purposes only. The total exposure of all hedges is limited to 100% of the total portfolio value, at market. Shorting currency exposure in countries without any underlying security exposure is prohibited.
- Warrants are not to exceed 20% of the portfolio value.

<sup>1</sup> As measured by the Callan International Equity Peer Group.

<sup>2</sup> MSCI ACWIxUS is the Morgan Stanley Capital International All Country World Free Index excluding the United States.

**Manager:** DFA International Small Capitalization Value Portfolio

**Role:** Active International Small Capitalization Equities

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in the upper 50% of a Universe. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in the upper 40% of a Universe. <sup>1</sup>	Exceed (after fees) the MSCI EAFE Small Cap (Net) <sup>2</sup> Index by 2%.

#### Investment Guidelines

- Holdings in any one company should not exceed the greater of 7% of the portfolio or 5% over the Index weighting, measured at market value.
- Investments are limited to small Japanese, United Kingdom, European, Canadian and Asia Pacific companies, or small companies in such other countries as the manager's Investment Committee may from time to time determine.
- At least 80% of the portfolio will be invested in small capitalization companies.
- The manager is expected to maintain a fully invested position with no more than 10% of the portfolio in fixed income or cash equivalents. If a manager believes that a change in this guideline is in the best interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- Foreign currency forward contracts are permitted for defensive hedging purposes only. The total exposure of all hedges is limited to 100% of the total portfolio value, at market. Shorting currency exposure in countries without any underlying security exposure is prohibited.
- Warrants are not to exceed 20% of the portfolio value.

<sup>1</sup> As measured by the Callan International Equity Small Cap Peer Group.

<sup>2</sup> MSCI EAFE is the Morgan Stanley Capital International Europe, Australasia and the Far East (MSCI EAFE).

**Fund:** AQR Emerging Equities Fund, L.P.  
**Managing Member:** AQR Capital Management, LLC  
**Role:** Active Emerging Markets Equities  
**Date:** 8/1/2016

### Objectives and Guidelines

AQR Emerging Equities Fund, L.P. (the "Fund") is not subject to the investment objectives and guidelines contained in this Investment Policy. The operative investment objective and guidelines of the Fund are set forth in the governing documents and the Confidential Private Placement Memorandum of the Fund ("PPM"). Notwithstanding, the Manager has informed ERS that as of the date of ERS' initial investment, the investment objectives and guidelines set forth below are consistent with the operative investment objectives and guidelines of the Fund. The Manager has further informed ERS that the investment guidelines and objectives of the Fund are subject to change.

#### Investment Objectives

##### Time Horizon

Less than one market cycle  
(rolling 3-year periods).

One market cycle (rolling 5-  
year periods).

##### Performance Standard

##### Index

Exceed (after fees) the MSCI  
Emerging Markets Index by 200  
basis points annually.

#### Investment Guidelines

- ERS will invest in the AQR Emerging Equities Fund, L.P., a commingled fund. Therefore, ERS' investment is subject to the terms and provisions of the governing documents for the Fund, such as the objectives and guidelines as outlined in the governing documents and PPM.

#### Current Investment Policy

- This Fund seeks to add value by employing a disciplined approach emphasizing both bottom-up security selection decisions and top-down country/currency allocation.
- This Fund intends to utilize a set of valuation, momentum and economic factors to generate an investment portfolio based on asset allocation models and security selection procedures aimed at assisting the Fund in meeting its investment objective.
- This Fund generally will be managed by both underweighting and overweighting securities, countries and currencies relative to the Benchmark; however, the Fund has the ability to trade in securities of issuers in countries and currencies not included in the benchmark.
- This Fund will invest primarily in equity and equity-related securities and currency forwards.

- The Investment Manager is not restricted as to the percentage of the Fund's assets that may be invested in any particular issuer, industry, instrument, market or strategy. The Fund does not and will not maintain any fixed limits, guidelines or requirements for diversifying its portfolio among strategies, issuers, industries, instruments, markets or sectors. However, as of the date of this document, typical maximum deviations are as follows: stock selection, +/- 2.5%; sector selection, +/- 5.5%; country selection, +/- 10%; and currency selection, +/- 15%.
- Permissible Investments include the following:
  - Equity and Equity-Related Securities
  - Currency Forwards
  - Fixed-Income Securities (Corporate and Governmental)
  - Exchange-Traded Funds ("ETFs")
  - Equity Index Futures
  - Equity Index Swaps
  - Options
  - Warrants
  - Equity Swaps
  - Futures
  - U.S. Government Securities
  - Bank Deposits
  - Money Market Instruments
- Further, AQR will implement the Fund's portfolio using whatever financial instruments are deemed appropriate. These include, but are not limited to, the instruments identified in the general description of each investment strategy employed by the Fund in the PPM. AQR may, at any time, discontinue using any of these financial instruments or may add additional financial instruments.
- The Fund will use leverage as part of the investment program. Leverage may take the form of, among other things, financial instruments including, without limitation, derivative instruments which are inherently leveraged and products with embedded leverage such as options, short sales, swaps and forwards. The Fund generally will not be economically leveraged. Economic leverage occurs when the total value of equity securities held long, plus the notional market value of equity derivatives held long, minus the notional market value of equity derivatives held short, is greater than 100% of the total market value of the Fund.

The representations of the Manager are made solely as of the date of ERS' initial investment in the Fund and solely with respect to the current version of this Investment Policy. For avoidance of doubt, the Manager expressly disclaims any amendment or revision of this Investment Policy.

**Manager:** BlackRock Institutional Trust Company, N.A.  
**Role:** Enhanced Index Core Global Equities

**Objectives and Guidelines****Investment Objectives**

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in upper 50% of a Peer Group. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in upper 40% of a Peer Group. <sup>1</sup>	Exceed (after fees) the MSCI All Country World Index

All active weight restrictions set forth below will be measured relative to the MSCI All Country World Index.

**Investment Guidelines**

- Appropriate investments consist primarily of common and preferred stocks and/or convertible securities. Convertible securities may represent up to 5% of the portfolio market value.
- Holdings in any one company should not exceed the greater of 10% of the portfolio or 5% over the Index weighting, measured at market value.
- Holdings in any one sector should not exceed the greater of 25% of the portfolio or 10% over the Index weighting, measured at market value.
- Holdings in any one country should not exceed the greater of 25% of the portfolio or 10% of the Index weighting, measured at market value.
- A maximum of 25% of the portfolio may be invested in emerging markets.
- Holdings may include up to 25% American Depositary Receipts (ADRs), measured at market value.
- The manager is expected to maintain a fully invested position at all times with no more than 10% of the portfolio in fixed income or cash equivalents. If a manager believes that a change in this guideline is in the interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- Holding Foreign currency forward contracts are permitted for defensively hedging purposes only. The total exposure of all hedges is limited to 100% of the total portfolio value, at market. Shorting currency exposure in countries without any underlying security exposure is prohibited.
- Derivatives may be used to equitize cash.

<sup>1</sup> As measured by the Callan Global Equity Peer Group.

Manager: MFS Institutional Advisors, Inc.  
 Role: Active Growth Global Equities

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in the upper 50% of a Universe. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in the upper 40% of a Universe. <sup>1</sup>	Exceed (after fees) the MSCI All Country World Index

All active weight restrictions set forth below will be measured relative to the MSCI All Country World Index.

#### Investment Guidelines

- If the portfolio deviates from these Guidelines for any reason, manager will notify the Board and its Investment Consultant in writing within three business days of *discovery* of the variance and take further action pursuant to Section III. 3. of the Statement of Investment Policy.
- Permissible Investments include the following:
  - Common Stock
  - Preferred Stock
  - Convertible Securities, including Convertible Preferred Stock and Convertible Bonds
  - Rights, Warrants, and Participatory Notes (P-Notes)
  - Exchange-traded Funds (“ETFs”)
  - Index Futures
  - ADRs, ADSs, GDRs, and GDSs (and other depository receipts and shares)
  - Real Estate Investment Trusts (“REITs”)
  - Publicly-traded Partnerships (“PTPs”)
  - Units
  - IPOs. The portfolio may participate in initial public offerings. For purposes of investment in U.S. IPOs, the Board represents that the portfolio is not restricted from participating in such offerings under FINRA Rule 5130 or FINRA Rule 5131.
  - Unlisted securities are allowed (including securities traded in the over the counter market, Regulation S securities, and Rule 144A securities as further described herein).

<sup>1</sup> As measured by the Callan Global Equity Peer Group (data to be provided to MFS on a quarterly basis)

- Holdings in any one company should not exceed the greater of 7% of the portfolio or 3% over the Index weighting, measured at market value.
- Adequate diversification by sector and country should be maintained, meaning that holdings in any one sector should not exceed the greater of 30% of the portfolio or 200% of the Index weighting (as defined by GICS sector scheme), measured at market value. The portfolio will be invested in at least 10 countries at all times, one of which will be the United States.



- A maximum of 25% of the portfolio, measured at market value, may be invested in emerging markets as classified by MSCI.
- The manager is expected to maintain a fully invested position with no more than 10% of the portfolio in fixed income or cash equivalents. If a manager believes that a change in this guideline is in the best interest of the Fund, the manager should bring this recommendation immediately to the attention of the Board.
- Foreign currency forward contracts are permitted for defensive hedging purposes only. The total exposure of all hedges is limited to 100% of the total portfolio value, at market. Shorting currency exposure in countries without any underlying security exposure is prohibited. (Manager is not required to execute foreign currency trades through the custodian but may trade with those foreign exchange counterparties that manager believes will provide the best service in accordance with its fiduciary duty to seek best execution.)
- Rights, warrants, and P-Notes are not to exceed 10% of the portfolio value.
- 144A securities and Regulation S securities are not to exceed 10% of the portfolio value. 144A securities that are exchange traded do not count against the 10% limit.
- Settlement Practices/Lock-Ups. It is understood that certain foreign markets may require free or partial free delivery (e.g. initial partial escrow payments) regarding settlement of trades. It is further understood that certain securities, including pre IPOs, are subject to "lock-up" provisions in certain markets.
- For purposes of the restriction in Section VI of the IPS prohibiting investment in restricted (lettered) stock or private placements (other than Rule 144A securities with registration rights which are allowed), lettered stock shall be defined as private placements other than Rule 144A with registration rights.

**Other:**

For the avoidance of doubt, where the limitations above are affected by items out of the manager's control (e.g., cash inflows, cash outflows, market action), they will not be considered as a breach of the guidelines and the manager will take action to resolve the temporary non-compliance as soon as practicable. The time to bring the portfolio back into compliance could take several days (e.g., 5 days) to resolve.

**Trading Currency:**

The trading currency for the portfolio is US Dollars (USD) unless specifically instructed by the Board to the manager to the contrary.

**Reporting Currency:**

The reporting currency of the portfolio is US Dollars.

The manager shall comply with its Operational and Compliance Standards, a copy of which shall be provided to the Board.

**Manager:** BlackRock  
**Role:** Passive Fixed Income

**Objectives and Guidelines****Investment Objectives**

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
One market cycle (rolling 5-year periods).	Not Applicable	Seek to track the performance of the Bloomberg Barclays U.S. Government Bond Index

**Investment Guidelines**

- The Fund will be invested and reinvested primarily in a portfolio of fixed income securities issued or guaranteed by the U.S. government and shares of investment companies (including exchange-traded funds), with the objective of approximating as closely as practicable the total rate of return of the Bloomberg Barclays U.S. Government Bond Index.
- The Fund is an “index fund” that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of the Bloomberg U.S. Government Bond Index (its “Underlying Index”). The Underlying Index is sponsored by an organization (the “Index Provider”) that determines the composition and relative weightings of the securities in the Underlying Index and publishes information regarding the market value of the Underlying Index.
- Futures and other derivatives may be used to invest all or any portion of the Fund in one or more futures contracts, forward contracts or other similar assets for the purpose of acting as a temporary substitute for investment in securities.
- The Fund is permitted to engage in securities lending to enhance returns.

Manager: Reams Asset Management  
 Role: Opportunistic Fixed Income

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Performance Standard	
	Universe	Index
Less than one market cycle (rolling 3-year periods).	Rank in upper 50% of a Peer Group. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in upper 40% of a Peer Group. <sup>1</sup>	Exceed (after fees) the Benchmark Index + 1.0%. <sup>2</sup>

#### Investment Guidelines

- The duration of the aggregate portfolio should be no more than 2 years below or above the Barclays Capital Aggregate Index.
- A maximum of 20% of the market value of the portfolio may be invested in corporate, non-corporate and 144(a) securities rated at or below BB+ or Ba1. An additional 5% of the market value of the portfolio may be invested in non-rated issues.
- A maximum of 10% of the market value of the portfolio may be invested in non-dollar securities.
- Corporate, non-corporate and 144(a) securities that are downgraded below B- or B3 by both Standard and Poors and Moody's Investor Services must be sold within 90 days following the downgrade. Reams must notify ERS of the downgrade in writing within 3 business days and provide a written update to ERS on the downgraded security on a weekly basis.
- Asset-backed securities that are downgraded below BBB- or Baa3 by both Standard and Moody's Investor Services must be sold within 90 days following the downgrade. Reams must notify ERS of the downgrade in writing within 3 business days and provide a written update to ERS on the downgraded security on a weekly basis.
- The average quality of the portfolio must be A-/A3 or better. Unrated U.S. Treasury and U.S. Federal Government Agency securities are permissible and will be treated as AAA rated for purposes of average quality calculations.
- No one security or aggregation of one company's securities, except securities issued or guaranteed by the U.S. Government or its agencies, will comprise more than 2% of the portfolio, as determined at the time of purchase.
- Long-only (sell protection) indexed credit default swaps may be utilized to gain exposure in the fixed income market with a notional value limit of 30% of the portfolio. The indexed credit default swaps shall not be used to create leverage or for speculative purposes and will be calculated at their notional value for guideline purposes. In addition, any portfolio liabilities resulting from the indexed credit default swaps must be fully collateralized by cash, cash equivalents, or U.S. Treasury securities.

- A maximum of 3% of the portfolio, at the time of purchase, may be invested in the Reams Unconstrained Bond Fund, a commingled fund, managed by Reams, subject to guidelines set forth in the goals and guidelines of the commingled vehicle.
- Sector limitations (as a percentage of the portfolio's market value) are limited to the following ranges:

Sector	Min	Max
US Treasuries	0%	100%
US Agencies	0%	80%*
Corporates	0%	100%
Mortgage-Backed Securities	0%	80%**
Asset-Backed Securities	0%	25%
Non-Corporates <sup>(3)</sup>	0%	20%
Emerging Market Debt <sup>(4)</sup>	0%	0%
Non-Dollar Securities	0%	10%
144(a) Securities	0	25%

\*US Agencies excluding Mortgage-Backed Securities Max is 50%.

\*\*Non-Agency Mortgage-Backed Securities Max is 25%.

- Minimum credit ratings for individual holdings, specific to the sectors, are as follows:

Sector	Minimum Rating
Corporates & Non-Corporates	B-/B3
Asset-Backed Securities	BBB-/Baa3
144(a) Securities	B-/B3
Cash equivalents, commercial paper and repurchase agreements	A1/P1

<sup>1</sup> As measured by the Callan Fixed Income Core Opportunistic Peer Group

<sup>2</sup> As measured by the Barclays Capital Aggregate Index

<sup>3</sup> Non-Corporates replaced Yankees in the Barclays Capital Aggregate Index and include dollar denominated supranational, sovereign, foreign agency, and foreign local debt.

<sup>4</sup> Emerging markets as defined by the International Finance Corporation.

**Manager:** Loomis, Sayles & Company  
**Role:** Opportunistic Fixed Income

### Objectives and Guidelines

#### Investment Objectives

Time Horizon	Performance Standard	
	<u>Universe</u>	<u>Index</u>
Less than one market cycle (rolling 3-year periods).	Rank in upper 50% of a Peer Group. <sup>1</sup>	
One market cycle (rolling 5-year periods).	Rank in the upper 40% of a Peer Group <sup>1</sup>	Exceed (after fees) the Benchmark Index + 1.0%. <sup>2</sup>

#### Investment Guidelines

- The effective duration of the aggregate portfolio should be no less than 50% and no more than 250% of the Bloomberg Barclays US Aggregate Index.
- Up to 20% of the market value of the portfolio may be issues rated B- by Standard and Poor's and Fitch or B3 by Moody's. If the ratings assigned to an instrument by Standard & Poor's, Moody's, and/or Fitch are not the same, the highest rating of these ratings agencies will be used.
- If an instrument is not rated by Standard & Poor's, Moody's, and Fitch, the equivalent rating determined by the Loomis Sayles Research Department will be used.
- An additional 5% may be invested in issues not rated by Standard & Poor's, Moody's, and Fitch..
- Loomis must notify ERS of the downgrade of corporate, non-corporate and 144(a) securities below B- or B3 by Standard and Poor's, Moody's Investors Service and Fitch within three (3) business days. Loomis must provide quarterly credit updates so long as it retains the security(ies). Corporate, non-corporate and 144(a) securities rated below B- and B3 by Standard and Poor's, Moody's Investors Service and Fitch may not exceed 3% of the market value of the portfolio.
- Asset-backed securities that are downgraded below BBB- or Baa3 by Standard and Poor's, Moody's Investor Services and Fitch must be sold within 90 days following the downgrade. Loomis must notify ERS of the downgrade in writing within 3 business days and provide a written update to ERS on the downgraded security on a weekly basis.
- The average quality of the portfolio must be BBB-/Baa3 or better. U.S. Treasury and U.S. Federal Government Agency securities are permissible and will be treated as AAA/Aaa rated for purposes of average quality calculations.
- No security, except securities issued or guaranteed by the U.S. Government or its agencies or instrumentalities, or index derivatives will comprise more than 5% of the portfolio, at the time of purchase.

- Up to 20% of the market value of the portfolio may be invested in total equities (common and preferred) as determined at the time of purchase. Common stock shall be limited to 5% of the market value of the portfolio, as determined at the time of purchase.
- Sector limitations (as a percentage of the portfolio's market value) are limited to the following ranges:

Sector	Min	Max
US Treasuries	0%	100%
US Agencies	0%	50%
Corporates	0%	100%
Mortgage-Backed Securities	0%	50%
Asset-Backed Securities, including a 5% sub-limit in Collateralized Loan Obligations	0%	25%
Investment Grade Yankees and Non-Corporates <sup>(3)</sup>	0%	25%
Non-Investment Grade Yankees and Non-Corporates <sup>(3)</sup>	0%	20%
Non-US Dollar / Non-Canadian Dollar	0%	20%
144(a) Securities	0%	65%
Individual Bank Loans*	0%	15%
Canadian Dollar Issues	0%	20%
Eligible derivatives include currency forwards (deliverable and non-deliverable) <sup>(4)</sup> and US Treasury Futures <sup>(5)</sup>	N/A	N/A
Long-only (sell protection) Index Credit Default Swaps	0%	30% <sup>(6)</sup>

- Minimum credit ratings for individual holdings, specific to the sectors, are as follows:

Sector	Minimum Rating
Corporates & Non-Corporates	B-/B3
Asset-Backed Securities	BBB-/Baa3
Collateralized Loan Obligations	BB-/Ba3
144(a) Securities	B-/B3
Cash equivalents, commercial paper and repurchase agreements	A1/P1

<sup>1</sup> As measured by the Callan Core Opportunistic Fixed Income Peer Group

<sup>2</sup> As measured by the Bloomberg Aggregate Index

<sup>3</sup> Canadian issued bonds do not count towards the Yankee limit.

<sup>4</sup> Currency forwards may be used for hedging purposes only.

<sup>5</sup> US Treasury Futures may be used for both hedging and non-hedging purposes. Derivatives used to manage duration, interest rate and yield curve strategies may require notional amounts in excess of the portfolio's market value. US Treasury Futures will be limited by the duration restriction of the portfolio.

<sup>6</sup> Notional limit of 30%. Index credit default swaps shall not be used to create leverage or for speculative purposes and will be calculated at their notional value for guideline purposes. Liabilities resulting from CDX must be fully collateralized by cash, cash equivalents and U.S Treasuries.

\* Investment in individual bank loans will generate a transaction cost associated with both the purchase and sale of these loans. The counterparty on these trades determines how they will settle and most choose ClearPar. ClearPar is the primary platform and supported by most banks. Bank loans that do not settle on this platform are prohibitively labor intensive and it is not likely many trades will occur away from the ClearPar platform.

Portfolios participating in a bank loan trade will be charged by ClearPar a pro-rata share of the trade (a "subtrade"). ClearPar will deliver the invoice to the Loomis and, in turn, Loomis will deliver this invoice to your custodian to pay from the assets of the portfolio. While you may elect to pay the invoice directly, directing the custodian to pay the invoices from the portfolio assets will facilitate proper performance calculations for your portfolio. As of the current date, the subtrade fee structure is as follows:

Subtrades per Master Trade	Subtrade Fee per Subtrade
1-5	\$19
6-21	\$110 divided by number of subtrades
22 or more	\$5

There is also a volume discount schedule that is applied once trades on the platform exceed 5,000.

**Fund:** Principal Diversified Real Asset CIT ("Principal DRA CIT")  
**Manager:** Principal Global Investors Trust  
**Role:** Real Assets Strategy

### Objectives and Guidelines

#### Investment Objectives

<b>Time Horizon</b>	<b>Market Cycle approximately 3-5 years</b>
<b>Performance Standard</b>	<b>3-5% over CPI over a market cycle</b>
<b>Index</b>	<b>Custom Index:</b>  <b>15% Barclays U.S. TIPS Index</b> <b>30% S&amp;P Global Infrastructure Index</b> <b>15% S&amp;P Global Natural Resources Index</b> <b>15% Bloomberg Commodity Total Return Index</b> <b>25% FTSE EPRA/NAREIT Developed Market Index</b>

#### Investment Guidelines

The Principal DRA CIT is a collective investment trust for which Principal Global Investors Trust Company (f/k/a Union Bond & Trust Company) ("Trust Company"), an Oregon banking corporation acts as Trustee (the "Trustee") pursuant to the Declaration of Trust as may be amended from time to time. The Principal DRA CIT is only available to certain retirement, pension, profit sharing, stock bonus and similar plans and their individual participants. The Trust Company has retained Principal Global Investors, LLC ("PGI") to serve as the investment advisor for the Principal DRA CIT. PGI is an affiliate of the Trust Company.

**Objective:** The investment objective of the Principal DRA CIT is to seek a long-term total return in excess of CPI by 3-5%.

#### **Main Strategies and Risks**

The Principal DRA CIT seeks to achieve its investment objective by allocating its assets among numerous investment categories including, but not limited to the following: inflation-indexed bonds, securities of real estate companies, commodity futures, fixed-income securities, foreign currency, securities of natural resource companies, master limited partnership ("MLPs"), publicly-listed infrastructure companies, floating rate debt, securities of global agriculture companies, and securities of global timber companies. The Principal DRA CIT is allowed to utilize derivative instruments.



The Trustee, as authorized in the Declaration of Trust, has hired PGI to serve as investment advisor for the Principal DRA CIT. PGI develops recommendations for the Principal DRA CIT's strategic asset allocation, which are executed by multiple sub-advisors. The allocations will vary from time to time and the Principal DRA CIT may add additional investment categories.

In recommending strategic allocations and sub-advisors to implement the allocations, PGI considers, among other things, quantitative measures, such as past performance, expected levels of risk and returns, expense levels, diversification of existing funds, and style consistency. In addition, qualitative factors such as organizational stability, investment experience, consistency of investment process, risk management processes, and information, trading, and compliance systems of the underlying investment option's sub-advisor are also evaluated. The Trustee considers the recommendations provided by PGI and determines whether to use cash flows or asset transfers or both to achieve the target weights established from time to time for underlying investment options.

Trustee makes this representation solely as of the date of The Employees' Retirement System of the City of Milwaukee ("ERS") initial investment in the collective investment trust and solely with respect to the current version of this Investment Policy. For avoidance of doubt, Trustee expressly disclaims any amendment or revision of this Investment Policy.

**Manager:** Robert W. Baird  
**Role:** Short-Term Fixed Income Manager

**Objectives and Guidelines**

**Investment Objectives**

Primary: Provide principal preservation and liquidity of assets to meet projected payouts.

Secondary: Track the Barclays 1-3 year Government/Credit Index, and provide competitive investment returns over time.

**Investment Guidelines**

- Meet liquidity requirements that currently anticipate payouts beginning in January 2013 through at least December 2014. These liquidity needs shall be reviewed on a regular basis.
- The maximum effective duration of the short-term fixed income portfolio, including any investments in approved money market and short-term bond funds, shall be 2 years.
- The portfolio may be invested in securities having a rating of AAA or AA by Standard and Poor's or Aaa and Aa1 by Moody's Investors Service.
- Baird must notify ERS of downgrades of securities below AA or Aa1 by both Standard and Poor's and Moody's Investors Service, and make a recommendation within three (3) business days. If the security is retained, Baird must provide weekly credit updates so long as it retains the security(ies).
- No security, except securities issued or guaranteed by the U.S. Government or its agencies, will comprise more than 5% of the portfolio. No limitation with regard to money market sweep funds or short term bond funds.
- Eligible Investments:
  1. The following shall be eligible investments:
    - a. U.S Treasury and Agency Obligations
    - b. Approved money market and short term bond funds
    - c. Agency mortgage-backed securities including collateralized mortgage obligations
    - d. Mortgage and asset backed securities rated AAA
    - e. Corporate notes and bonds, U.S. dollar-denominated, including 144a securities
    - f. Repurchase agreements – U.S. government collateral only
    - g. Short-term fixed income mutual funds whose holdings are consistent with the characteristics of the eligible investments
  2. Convertibles, options, futures or other derivative instruments are prohibited

**Fund:** CMERS Low Beta LLC  
**Managing Member:** UBS Hedge Fund Solutions LLC  
**Role:** Hedge Fund of Funds Strategy

### **Investment Objectives**

The Investment Manager will attempt to construct a broad based neutral portfolio with exposure to a number of hedge fund strategies

The Fund seeks to target limited beta to equity markets over an economic cycle (3-5 years), as measured relative to the MSCI World Index USD.

#### **Time Horizon**

#### **Performance Standard**

	<u><b>Index</b></u>
Less than one market cycle (rolling 3-year periods).	
One market cycle (rolling 5-year periods).	Exceed (after fees) the Secured Overnight Financing Rate (SOFR) by 400 basis points.

### **Investment Guidelines**

#### **Strategies and Anticipated Allocation Ranges**

Equity Hedged: (0-50%)

- The Fund will retain flexibility to invest in managers who may exhibit either long or short bias to risky assets depending on market environment provided downside risk is seen to be adequately restrained. Sub-strategies currently include: Fundamental and Equity Event.

13F Strategy: (0-5%)

- The Fund is permitted to invest in a Portfolio Fund managed by the Investment Manager which pursues the Investment Manager's "13F Strategy," an equity trading strategy that seeks to replicate the aggregate performance characteristics of a portfolio of equity securities held by a select number of Submanagers which have listed them on their respective filings under SEC Form 13F. The 13F Strategy shall be considered a subset of Equity Hedged such that the allocation range for the 13F Strategy and Equity Hedge together shall be (0-50%).

Credit / Income (0-50%)

- Credit: These strategies in aggregate are subject to a guideline of no more than 50% of the total portfolio. The Fund will retain flexibility to invest in managers who may exhibit either long or short bias to risky assets depending on market environment provided downside risk is seen to be adequately restrained.

- Sub-strategies currently include: Distressed, Corporate Long/Short, Structured Products and will not exceed 40% of the total portfolio.
- Income: The Fund will retain flexibility to invest in managers that participate in reinsurance strategies. Reinsurance strategies will not exceed 10% of the portfolio.

Relative Value: (0-60%)

- The Fund is permitted to invest in all Relative Value strategies, including: Quantitative Equity, Merger Arbitrage, Capital Structure/Volatility Arbitrage, Fixed Income Relative Value (FIRV), and Agency MBS.

Trading: (0-40%)

- The Fund is permitted to invest in all Trading strategies, including Global Macro, Commodities and Systematic CTAs. Sub-strategies currently include: Systematic, Global Macro, Commodities.

Other: (0-10%)

- This category contains investment approaches that are outside of the mainstream hedge fund strategies (Equity Hedged, Credit, Relative Value, and Trading). The category includes other alternative strategies, such as tactical asset allocation/risk parity, private equity, and real estate dealings, as well as new niche investment approaches that do not fit into any of the other mainstream strategies.

Direct Trading (0-5%)

Multi-Strategy:

- The Fund is permitted to invest in Multi-Strategy managers, which include allocations to a combination of strategies. These offerings are often the result of commonalities in the research and trading talent required for successful execution of the strategies. These funds allocate capital opportunistically among strategies believed to offer a suitable risk-adjusted return profile going forward.
- Applicable guidelines for multi-strategy managers will be monitored on a look-through basis to the underlying Strategies and will count toward the specified limits above.

Investments in Portfolio Funds Managed by Affiliates of the Investment Manager

Investments in Portfolio Funds managed by affiliates of the Investment Manager will be capped at 20% and would be limited to Customized Baskets ("CBs"), Managed Accounts ("MAs") or other Special Purpose Vehicles ("SPVs") where the Investment Manager may seek to attain certain exposures pursuant to the investment objectives of the Fund and where such exposure may otherwise not be accessible to the Fund. In the event such investments are implemented, the Investment Manager will not charge the Fund additional management fees or performance fees within the CBs, MAs or SPVs. Aside from such investments in CBs, MAs or SPVs, no investments will be made to UBS affiliates (e.g. O'Connor).

#### Diversification

The Investment Manager will determine the appropriate number of Portfolio Funds in its sole discretion. However, the number will typically range between 15-39 Portfolio Funds, excluding co-investments, unless otherwise agreed by the Fund.

#### Liquidity Considerations

The Investment Manager will seek to invest in Portfolio Funds with a mix of different liquidity profiles. However, the Investment Manager will seek to maintain:

- At least 70% of the net asset value of the Fund to be allocated to Portfolio Funds with stated liquidity terms (with penalties) that allow for redemption within 1 year.
- Up to 30% of the net asset value of the Fund may be allocated to Portfolio Funds with stated liquidity terms that allow for redemption greater than a 1 year hard lock up. Up to 1/3 of these Portfolio Funds (approximately 10% of the Fund) may have a hard lock up of greater than 2 years, but no more than 3 years unless they fall into the category of Portfolio Funds with no predefined redemption period. The latter shall also fall inside the 10% limitation.
- An investor gate can cause a position to fall into multiple liquidity buckets. For example, a 1/8<sup>th</sup> quarterly liquidity fund would have 50% of its position in the "within 1 year " bucket and the remainder in the "greater than 1 year bucket", none of which would fall into the greater than 2 year bucket.

The above terms do not include audit withholds imposed by Portfolio Funds. The Fund acknowledges and understands that disbursements of any withheld amounts could take between 12 and 18 months to receive and will not be counted toward the above liquidity considerations.

From time to time, a manager may segregate certain securities from its Portfolio Fund and establish a "side pocket" structure and/or share class, which may have less liquid characteristics. The Investment Manager will attempt to limit the Fund's exposure to side pocket holdings. However, the ultimate side pocket exposure will be at the discretion of the each underlying manager.

#### Leverage

The Investment Manager does not expect to employ leverage above and beyond what may be undertaken by the underlying Portfolio Funds. The Fund indicated it is able to provide additional cash with sufficient notice for operating purposes such as funding short term subscriptions or coverage for FX currency hedging.

#### Investment Manager Bespoke Structures/Co-Investments

The Fund is eligible to participate in A&Q bespoke structures and co-investments with full discretion of the Investment Manager.

#### Investment Eligibility

The Fund may invest in both US tax transparent funds and/or offshore vehicles.

Tail/Overlay Hedging

The Fund is eligible to participate in A&Q Tail/Overlay Program (TAU).

New Issues

The Fund is eligible to participate in new issues, and as such the Fund may invest in the new issues eligible share classes, if deemed appropriate.

**Fund:** CMERS Low Beta 2 LLC  
**Managing Member:** Aptitude Investment Management LP  
**Role:** Hedge Fund of Funds Strategy

### **Investment Objectives**

The Fund's investment objective is to target attractive risk-adjusted long-term returns. The Fund will seek to achieve its investment objective while referencing an annualized volatility, as measured by standard deviation of returns, of approximately 5.0%, an equity beta target of approximately 0.20 (which is not expected to exceed 0.25) to the MSCI World Index over rolling three-year periods, and a Sharpe ratio of over 0.5, in each case, measured over the long term.

### **Investment Guidelines**

#### **Strategies and Anticipated Allocation Ranges**

The Managing Member generally classifies the hedge fund strategies utilized by Advisors into four broad categories: the equity long/short sector, the relative value sector, the event driven sector and the tactical trading sector (the "Hedge Fund Sectors"). These Hedge Fund Sectors are subjective classifications made by the Managing Member in its sole discretion, based on internal guidelines. Such classifications are based on information provided by the Advisors to the Managing Member and may differ from classifications of similarly named sectors made by other industry participants. Advisors may utilize some or all of these strategies. In addition, certain Advisors may also utilize other investment strategies that are not within these sectors but are either related or unrelated to any such sectors.

Once the Fund is fully invested, the Managing Member will seek to manage portfolio exposure to the Hedge Fund Sectors within the following target ranges:

Relative Value:	20% -- 70%
Equity Long Short:	10% -- 50%
Tactical Trading:	10% -- 40%
Event Driven:	0% -- 40%

#### **Investments in Portfolio Funds Managed by the Managing Member or its Affiliates**

The Fund may access particular Advisors or Portfolio Funds directly or indirectly by among other means, through intermediate entities managed by the Managing Member or an affiliate of the Managing Member in which other funds or assets managed by the Managing Member have an interest. The Fund will not be charged any additional fees payable to the Managing Member or its affiliates in connection with the foregoing.

#### Diversification

The Managing Member will generally seek to select Portfolio Funds subject to the following diversification limits:

1. Once the Fund has made allocations to at least 10 Portfolio Funds, no more than 20% of the Fund's net assets to be allocated to any single Portfolio Fund.
2. Once the Fund has made allocations to at least 20 Portfolio Funds, no more than 15% of the Fund's net assets to be allocated to any single Portfolio Fund.

#### Liquidity Considerations

The Managing Member will generally seek to select Portfolio Funds for the Fund subject to the following liquidity guidelines:

1. At least 50% of the Fund's net asset value will have a Liquidity Profile (as defined below) of no more than 12 months; at least 90% of the Fund's net asset value will have a Liquidity Profile of no more than 36 months; and 100% of the Fund's net asset value will have a Liquidity Profile of no more than 5 years. The Liquidity Profiles will be determined at the time of investment.
2. The "Liquidity Profile" of a Portfolio Fund is the minimum number of days, as determined by the Managing Member, for redemption in full (excluding audit holdbacks or reserves and side pockets) from such Portfolio Fund, without taking into account notice periods or the timing of payment of redemption proceeds. In determining the Liquidity Profile of a Portfolio Fund for purposes of these Investment Guidelines, the Managing Member will use the Portfolio Fund's stated redemption terms under normal market conditions, including normal redemption dates and investor-level gates. However, required notice periods, soft lock-ups and initial hard lock-ups with respect to such Portfolio Fund, and the right of an Advisor to suspend redemptions or otherwise further limit redemptions, holdback amounts related to redemptions, side pocket assets, segregate assets, or make distributions in kind will not be taken into account in calculating a Portfolio Fund's Liquidity Profile.
3. The Managing Member may (and it is expected that it will) invest the Fund's assets in Portfolio Funds that make side pocket investments.
4. Co-Investments shall not be considered for purposes of compliance with this liquidity guideline.



#### Compliance with Guidelines

The Managing Member will use commercially reasonable efforts to comply with the Investment Guidelines. The compliance of any investment decisions for the Fund with the Investment Guidelines is to be determined on the date that the applicable investment is made.

#### Rebalancing

The Managing Member will use commercially reasonable efforts to review the conformity of the Fund's portfolio with the Investment Guidelines on a periodic basis (expected to be no more frequently than quarterly). If the Managing Member determines that the Fund is not in compliance with the Investment Guidelines, the Managing Member shall promptly notify the Members, and promptly after discussing such non-compliance with the Members at the next quarterly performance review, the Managing Member will initiate a remedial plan by which it will seek to reallocate the Fund's assets in order to bring the Fund's investments back into conformity with the Investment Guidelines.

#### Leverage

The Fund may employ leverage above and beyond what may be undertaken by the underlying Portfolio Funds only with the consent of a Majority in Interest.

#### Managing Member Bespoke Structures/Co-Investments

The Fund is eligible to participate in co-investments or similar opportunities, subject to the investment guidelines and the consent of a Majority in Interest.

#### New Issues

The Fund is eligible to participate in new issues, and as such the Fund may invest in the new issues eligible share classes, if deemed appropriate.

### **PRIVATE EQUITY**

A separate Private Equity Statement of Investment Policy has been adopted by the Board. This policy is an extension of the Statement of Investment policy and will be reviewed ~~annually~~as needed.

### **REAL ESTATE**

A separate Real Estate Investment Policy Statement has been adopted by the Board. This policy is an extension of the Statement of Investment policy and will be reviewed ~~annually~~as needed.

**- SECTION VII -****REQUIRED REPORTING OF ACTIVELY MANAGED INVESTMENT PORTFOLIOS**

The Board has determined that each Investment Manager given discretionary authority over a portion of the Fund's assets shall provide to Staff, on a monthly and quarterly basis, reporting that is appropriate given the Investment Manager's asset class, strategy type, and vehicle type, as determined by Staff.

On an annual basis, Investment Managers shall complete an Annual Compliance Certificate that the ERS provides.

~~The Board has determined that each Investment Manager given discretionary authority over a portion of the Fund's assets shall provide the following required reports to the Fund at the time periods indicated.~~

~~15 copies of these reports shall be compiled and distributed to Staff.~~

**~~ON A MONTHLY BASIS:~~**

- ~~1. TRANSACTION STATEMENT: A complete list of all transactions.~~
- ~~2. ASSET LISTING: A complete list of all portfolio holdings, including securities' names, amount owned, cost and market valuations and percentage of total portfolio.~~
- ~~3. A STATEMENT OF INVESTMENT PERFORMANCE: Expressed in percentage increase/decrease for the following periods: Month, Year To Date, One Year, Three Year, Five Year and Since Inception. Comparative statistics for the specific Benchmarks should also be included.~~

**~~ON A QUARTERLY BASIS:~~**

~~In addition to the above reports, the following will be completed:~~

- ~~1. A LETTER OF TRANSMITTAL: Addressed to the Chief Investment Officer of the Fund with copies to trustees that includes a narrative about the account performance and all related factors for the quarter.~~
- ~~2. A STATEMENT OF EXPECTATIONS: Regarding both near and long-term expectations for the account.~~
- ~~3. RECONCILIATION: At market value, between the managers' records and those provided by the Fund's Custodian. Differences in cash due to unsettled trades should be so noted as well as any differences in carrying value of securities. The Custodian's final pricing will be used to calculate returns and to calculate manager fees.~~

**~~ON AN ANNUAL BASIS:~~**

- ~~1. Complete an Annual Compliance Certificate that the ERS or the Investment Consultant provides~~

In addition, the Manager will meet with the representatives of the Board as often as deemed necessary by the Board. In the interim, the Manager will keep Staff, the Board, and the Investment Consultant apprised of any relevant information regarding its organization, personnel and/or investment strategy. The manager will notify Staff ~~or the President of the Board~~ within 3 days of any change in the lead

personnel assigned to manage the account.

**- SECTION VIII -  
PROXY VOTING GUIDELINES**

**Commented [MJ13]:** Incorporate language pertaining to commingled funds.

The Board of the ERS has delegated the responsibility for voting proxies to their Investment Managers. Each Investment Manager has the responsibility for voting proxies in the best interests of plan participants.

The Board will monitor the proxy voting of its Investment Managers. ~~By~~ As of June 30 of each year, each Investment Manager will supply to the Board and its Investment Consultant an acknowledgement that it is responsible for voting proxies in the best interests of plan participants, a copy of the Investment Manager's proxy voting procedures and guidelines and a list of how the Investment Manager voted on all proxy issues during the 12 months preceding the report.

**- SECTION IX -  
POLICY AND GUIDELINES FOR BROKERAGE SERVICES**

This policy statement is intended to serve as a guide for Investment Managers engaged on behalf of the Employees' Retirement System of the City of Milwaukee (the "System") in the course of investing the retirement funds of the System. Each Investment Manager engaged by the System is responsible to exercise its responsibility prudently and solely in the interests of the participants and beneficiaries of the System. This document outlines the policies and procedures to be considered by Investment Managers in fulfilling this obligation.

1. General Policies and Principles: The Board requires that these principles guide all transactions:

- a) Each manager is charged with the responsibility for all aspects of the investment process with respect to assets entrusted to it and consistent with the specific terms of this engagement by the System.
- b) Each manager is expected to act prudently with respect to decisions to buy or sell securities as well as with respect to the decision who will execute the transaction.
- c) Each manager shall secure best execution for each transaction it enters on behalf of the System. This requires that each manager execute securities transactions for the System in such a manner that the System's total cost or proceeds in each transaction is the most favorable under the circumstances. Each manager shall consider the full range and quality of a broker's services in placing brokerage, including, but not limited to, the value of research provided as well as execution capability, commission rate, financial responsibility and responsiveness to the manager. Lowest commissions paid in connection with a trade is not determinative of whether the transaction represents the best qualitative execution of the trade.

2. Trading Policies and Guidelines: Consistent with its fiduciary and best execution responsibilities described above, each manager, excluding the collective or commingled fund managers, should use its best efforts to minimize total commission dollars generated by buy

and sell transactions of exchange traded or electronically traded securities in accordance with the following action and policy of the Board:

- a) The System desires to minimize total transaction costs (commission plus net price) through the use of electronic trading services.
3. The Board may utilize the services of a transaction cost provider to monitor the individual manager transactions.

**- SECTION X -**

**APPROVED SECURITIES LENDING PROGRAMS**

The Board has authorized the execution of a Securities Lending Program which will be performed by the Fund's custodian or qualified ~~third party~~<sup>third-party</sup> securities lending agent(s). The program is monitored and reviewed by the Staff and was established by a written agreement authorized by the Board. The Securities Lending Program is detailed in the Securities Lending Authorization Agreement with the Fund's custodian, presently The Northern Trust Company.

**- SECTION XI -  
STATEMENT OF INVESTMENT POLICY ADDENDUM**

- d. Prudent Investor Rule. Except as otherwise specifically provided in this chapter, the board and a person under contract to the Employees' Retirement System who invests and manages trust assets owes a duty to comply with the prudent investor rule.
- d-1. Standard of Care; Portfolio Strategy; Risk and Return Objectives. The board and a person under contract to the Employees' Retirement System to invest and manage trust assets shall invest and manage assets as a prudent investor would by considering the purposes, terms, distribution requirements and other circumstances of the trust. In satisfying this standard, the board and such person shall exercise reasonable care, skill and caution. Investment and management decisions respecting individual investment assets must be evaluated not in isolation, but in the context of the trust portfolio as a whole and as part of an overall investment strategy having risk and return objectives reasonably suited to the trust. A reasonable effort shall be made to verify facts relevant to the investment and management of trust assets. Assets may be invested in any kind of property or type of investment consistent with the standards of this sub. d. A board member or a person under contract to the Employees' Retirement System who invests and manages trust assets who has special skills or expertise or is named in reliance upon his or her representation that he or she has special skills or expertise has a duty to use those special skills or expertise.
- d-2. Diversification. The board and person under contract to the Employees' Retirement System to invest and manage trust assets shall diversify the investment of the trust unless the board reasonably determines that because of the special circumstances, the purposes of the trust are better served without diversifying.
- d-3. Loyalty. The board and a person under contract with the Employees' Retirement System to invest and manage trust assets shall invest and manage the trust assets solely in the interests of the beneficiaries.
- d-4. Investment Costs. In investing and managing trust assets, the board and a person under contract to the Employees' Retirement System to invest and manage trust assets may only incur costs that are appropriate and reasonable in relation to the assets for the purposes of the trust ~~and the skills of the trustee.~~

- d-5. Delegation. The board has a duty to personally perform the responsibilities of trusteeship except as those responsibilities are by this section delegated to others or except as a prudent person might delegate those responsibilities to others. In deciding whether and to whom and in what manner to delegate fiduciary authority in the administration of the trust and thereafter supervising agents, the board is under a duty to the beneficiaries to exercise fiduciary discretion and to act as a prudent person would in similar circumstances. In performing a delegated function, a person under contract to the Employees' Retirement System to invest or manage funds owes a duty to the trust to exercise reasonable care to comply with the terms of the delegation. The board shall not be liable to the beneficiaries or to the trust for the decisions or actions of a person to whom a function was delegated provided that the board shall have used reasonable care, skill and caution in selecting the person; establishing the scope and terms of the delegation consistent with the purposes and terms of the trust; and periodically reviewing the person's actions in order to monitor performance in compliance with the terms of delegation.
- d-6. Reviewing Compliance. Compliance with the prudent investor rule is determined in light of the facts and circumstances existing at the time of the decision or action and not by hindsight.
- d-7. The text and comments to the Uniform Prudent Investor Act promulgated by the National Conference of Commissioners on Uniform State Laws (1994) and the Restatement of Trusts 3d: Prudent Investor Rule (1992) are interpretive of the provisions of this par.
- d-8. Nothing in this par. prevents the board and the Employees' Retirement System from requiring indemnification or insurance from a contractor, nor does anything in this par. preclude the board and the Employees' Retirement System from obtaining indemnification or insurance for their activities.



March 31, 2025



## **City of Milwaukee Employees' Retirement System**

**Investment Measurement Service  
Quarterly Review**

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## Time to Prepare for An Uncertain Stretch

### ECONOMY

**2** While lagging economic indicators showed a relatively robust economy heading into 2025, leading indicators telegraphed a slowdown. This is critical since 1Q25 lagging data reflect the economy as of March 31, before the president's early April tariff announcement.

## Steady Results Until End of Quarter Shift

### FIXED INCOME

**8** U.S. interest rates and corporate credit spreads held steady for most of 1Q until policy signals from the Trump administration prompted investors to reprice risk assets. Muni bonds were flat while global indices were slightly lower as economic forecasts were trimmed.

## Fundraising Low; Strong Growth Seen

### PRIVATE CREDIT

**12** Over the past 10 years private credit has generated a net IRR of 8.8%. The number of funds raised in 4Q24 was the lowest in eight years. North American private credit assets under management is expected to grow from \$1.01 trillion in 2024 to \$1.74 trillion in 2029.

## Positive Results but Tariff Changes Loom

### INSTITUTIONAL INVESTORS

**4** Results for all investor types were positive for the year ending 4Q24, although they struggled to match a 60% stocks/40% bonds benchmark. While 1Q25 was relatively quiet, the tariff announcements right after quarter end introduced a fair amount of uncertainty.

## Income Returns Up; REITs Top Equities

### REAL ESTATE/REAL ASSETS

**10** Income returns for private real estate were positive across sectors and regions; appreciation returns for property sectors were mixed. Global REITs outperformed equities. U.S. REITs saw a gain, in contrast to the S&P 500, which fell 4.3%. Redemption queues are plunging.

## Mixed Results; Gains Driven by Credit

### HEDGE FUNDS/MACs

**13** The median Callan Institutional Hedge Fund Peer Group rose 1.4%. The Callan Absolute Return FOF ended 1.3% higher, while the Callan Core Diverse FOF fell 0.03%. The Callan Long/Short FOF ended 0.9% lower. MAC strategies showed gains, mostly due to fixed income.

## Choppy Start in U.S. but Global Stocks Up

### EQUITY

**6** The S&P 500 Index fell by 4.3%, partially driven by escalating trade tensions and the potential negative impact of a Chinese AI rival. Global equity markets rebounded, with broad indices posting their best one-quarter period compared to the S&P 500 in a decade.

## Activity Mixed and Uneven Across Cycle

### PRIVATE EQUITY

**11** There has been a big drop in the number of funds raised, but buyout activity jumped. Venture capital is still recovering from the peak of 2021, while exits are still depressed. Performance continued to lag public equity, which has been driven by the Magnificent 7.

## DC Index Dips After Four Straight Gains

### DEFINED CONTRIBUTION

**15** The Callan DC Index™ fell 0.2% in 4Q24, after seeing gains in the four previous quarters. The Age 45 Target Date Fund had a slightly lower quarterly return but topped the index over the full year. Balances fell by 0.8% after a 4.7% increase in the previous quarter.

## Broad Market Quarterly Returns

U.S. Equity  
Russell 3000



-4.7%

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



5.2%

U.S. Fixed Income  
Bloomberg Agg



2.8%

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



2.5%

Sources: Bloomberg, FTSE Russell, MSCI

# Time to Prepare for an Uncertain Stretch

ECONOMY | Jay Kloepper

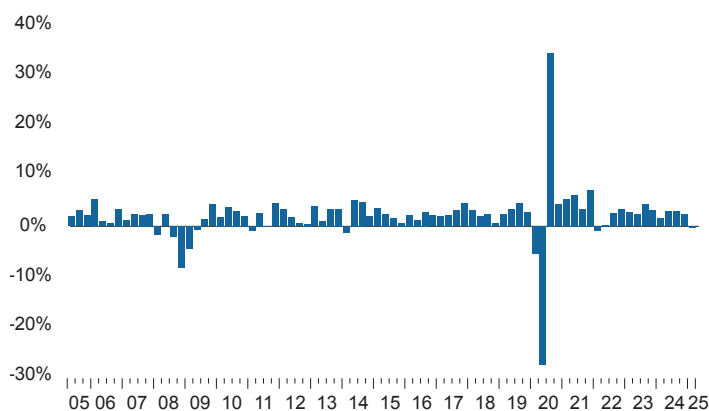
The U.S. and global economies showed signs of slowing toward the end of 2024, through leading indicators such as sentiment, consumer confidence, planned discretionary spending (think of travel, vacations, leisure), and business spending plans and capital investment. The stock and bond markets are also leading indicators of investor sentiment. Broad economic indicators such as employment, income, production, and housing, in contrast to the leading indicators, held up through 2024 and into 1Q25, but these data are collected after the fact. The typical pattern of macroeconomic data is that if a recession is expected, the stock and bond markets will react while the economy is still doing well (according to these after-the-fact data points). The same process works in reverse; the stock market looks forward to better times after repricing and can often look rosy while the economy struggles to hit bottom and recover. The lag in reporting of the broad economic data can frustrate us as the economy hits a turning point; we sense the situation has changed but we have to wait for confirmation.

Why does this data lag matter? March 31 now seems like a long time ago. We must remind ourselves that the upheaval in global capital markets did not strike until April, after 1Q25 ended. The data through March confirm expectations for a softening in the economy in the first quarter, but these data do not include the impact of the tariff announcements in April. The 1Q data do include declines in business and consumer confidence that began to accumulate in advance of the April announcements and actions by the administration.

U.S. GDP fell by 0.3% (annual rate) in 1Q25, the first quarterly decline since the pandemic. While GDP grew 2.8% in 2024, the third year in a string of strong growth, the sharp reversal in 1Q surprised no one. Markets believed a recession was coming at the start of last year. The Federal Reserve telegraphed that it was considering rate cuts as early as 1Q24 and finally acted in September, despite the seeming lack of compelling evidence to support the need to ease. The leading indicators listed above started flashing recession signs in 4Q24, maybe earlier, as both consumer and business sentiment showed growing unease and caution about

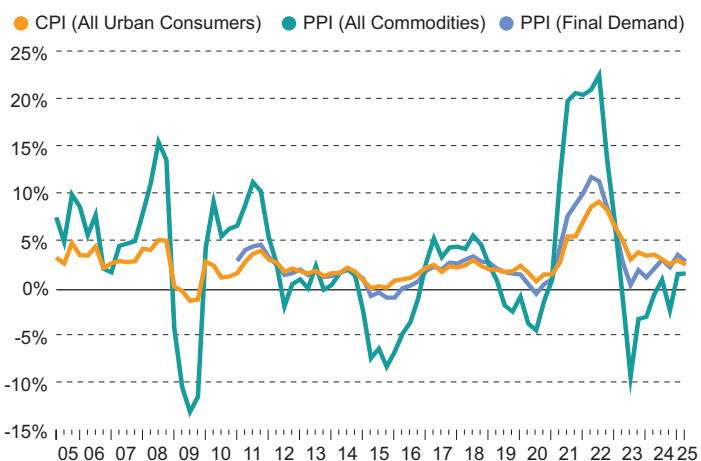
## Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

## Inflation Year-Over-Year



Source: Bureau of Labor Statistics

spending. In the PMI data from S&P, it is important to note that U.S.-based manufacturers, the intended beneficiaries of tariffs, were split. Those competing with imported final goods reported positive sentiment, while those that rely on inputs from around the globe were more cautious. Last year was marked by a tumultuous U.S. presidential election, looming potential trade conflicts, and geopolitical upheaval spread around the world. Actors in the economy were clearly preparing for potential uncertainty in 2025, but it would be safe to say few were expecting the extent of the tariffs announced in early April and the resulting large market impact.

In contrast to the drop in GDP, underlying economic data still looked solid through 1Q25. The U.S. economy added another 228,000 jobs in March, well above the rate that signals expansion, and the unemployment rate remains near a historic low at 4.2%. One sign of labor market normalization is the ratio of the number of unemployed looking for work to job openings; after dropping to 0.5 following the pandemic, the tight labor market appears to be loosening, with this ratio rising to 1.0 in March. However, the official data do not capture the impact of a sharp drop in immigration (both legal and illegal) and mass deportations of immigrants stated to be in the country without authorization, particularly on the labor market that serves the agriculture, construction, and services industries; these sectors are likely to face severe labor shortages in 2025 and thus pose a threat to labor costs. Inflation as measured by the CPI dropped to 2.4% in March, while average hourly earnings rose by 3.8% during 1Q25, meaning real income continues to rise. The economic data and the GDP report for 1Q depict an economy that may be on the precipice of greater change.

Three details in 1Q GDP bear pointing out. First, we saw a surge in imports, as businesses and consumers likely stocked up in advance of the tariff announcements, and these are a negative to GDP. Net exports—exports minus imports—fell by 50% annualized in 1Q and subtracted 5 percentage points off GDP. Second, one of the positive contributors to GDP was inventory building of products, some made in the United States, notably consumer goods such as drugs, perhaps in anticipation of rising prices from tariffs. Third, physical gold and silver imports as investments surged over the last year, and these are now excluded from consumption. GDPNow estimates from the Atlanta Fed during 1Q pointed out the impact of gold on GDP. Taking large gold imports out of consumer

### The Long-Term View

Index	1Q25	Periods Ended 3/31/25			
		1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	-4.7	7.2	18.2	11.8	7.4
S&P 500	-4.3	8.3	18.6	12.5	7.4
Russell 2000	-9.5	-4.0	13.3	6.3	6.8
Global ex-U.S. Equity					
MSCI EAFE	6.9	4.9	11.8	5.4	3.9
MSCI ACWI ex USA	5.2	6.1	10.9	5.0	--
MSCI Emerging Markets	2.9	8.1	7.9	3.7	--
MSCI ACWI ex USA Small Cap	0.6	1.9	11.8	5.3	6.1
Fixed Income					
Bloomberg Agg	2.8	4.9	-0.4	1.5	4.0
90-Day T-Bill	1.0	5.0	2.6	1.9	1.9
Bloomberg Long G/C	3.6	1.7	-3.7	1.0	5.3
Bloomberg GI Agg ex US	2.5	1.5	-2.4	-0.2	2.6
Real Estate					
NCREIF Property	1.3	2.7	3.2	5.4	7.5
FTSE Nareit Equity	0.9	9.9	11.3	5.3	9.8
Alternatives					
Cambridge PE*	2.7	7.9	14.3	13.4	12.4
Cambridge Senior Debt*	3.3	10.2	7.9	7.3	4.6
HFRI Fund Weighted	-0.4	4.6	9.5	5.0	5.2
Bloomberg Commodity	8.9	12.3	14.5	2.8	2.2
Inflation – CPI-U	1.3	2.4	4.4	3.1	2.5

\*Data for most recent period lags. Data as of 3Q24.

Sources: Bloomberg, Bureau of Economic Analysis, FTSE Russell, Hedge Fund Research, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

spending reduces total imports. One final note, the impact of the California wildfires is muted in GDP, since the destruction of fixed assets (structures) does not impact GDP or incomes directly.

### Recent Quarterly Economic Indicators

	1Q25	4Q24	3Q24	2Q24	1Q24	4Q23
Employment Cost: Total Compensation Growth	3.6%	3.8%	3.9%	4.1%	4.2%	4.2%
Nonfarm Business: Productivity Growth	-0.6%*	1.5%	2.9%	2.1%	1.6%	3.5%
GDP Growth	-0.3%	2.3%	2.8%	3.0%	1.6%	3.2%
Manufacturing Capacity Utilization	76.9%	76.2%	76.7%	77.1%	77.1%	77.6%
Consumer Sentiment Index (1966=100)	64.5	72.1	68.1	71.1	78.4	64.9

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

\* Estimate

# Gains Ease but Still Positive; Tariff Uncertainty the Main Concern

## INSTITUTIONAL INVESTORS

### Investor Performance

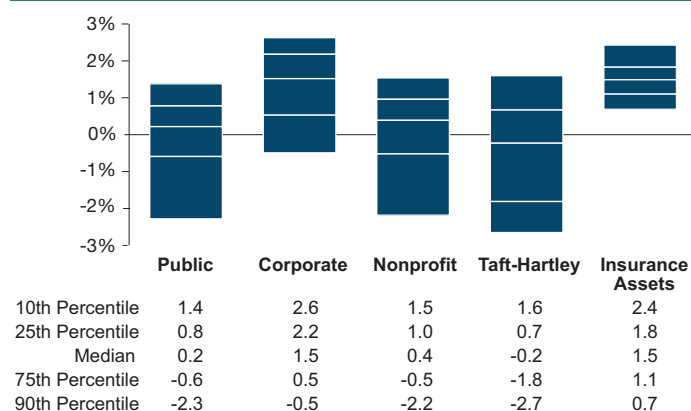
- While returns moderated from the double-digit levels in the four quarters ending 4Q24, all institutional investors reported gains for the four quarters ending 1Q25.
- The gains were tightly clustered, with nonprofits doing best.
- The performance was helped by robust gains for U.S. and global stocks and fixed income.
- But investors did not top a 60% S&P 500/40% Bloomberg US Aggregate Bond Index benchmark.
- Performance over longer time periods was mixed compared to the benchmark:
  - Three Years:** The benchmark easily topped investor returns.
  - Five Years:** Aside from typically bond-heavy corporate defined benefit (DB) plans, investors came close to matching the benchmark return.
  - 10 Years:** Investor returns struggled against the benchmark.
  - 20 Years:** While still trailing the benchmark, investors did relatively better (again, aside from corporate DB plans).

### Macroeconomic Issues

- The Federal Reserve Open Market Committee held rates steady at 4.25% in 1Q25.

### Quarterly Returns, Callan Database Groups

(3/31/25)



Source: Callan

- The Fed signaled a cautious approach.
- With inflation continuing to persist above 3%, future rate cuts are unlikely.
- The yield curve stayed “flat” but declined.
  - The short end was essentially unchanged.
  - The 1-year U.S. T-bill was down 13 bps to 4.02%.
  - The 10-year and 30-year U.S. Treasury yields were off by 26 bps (to 4.21%) and 20 bps (to 4.58%), respectively.
- Equity and fixed income performance was mixed in 1Q25.
  - S&P 500 fell 4.3% (coming off two straight years of 20%+ annual returns).

### Callan Database Median and Index Returns\* for Periods Ended 3/31/25

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	0.2	5.5	4.4	10.3	7.0	7.0
Corporate Database	1.5	4.5	1.5	6.2	5.2	6.3
Nonprofit Database	0.4	5.6	4.6	10.5	6.7	6.8
Taft-Hartley Database	-0.2	5.0	3.9	9.9	6.8	6.8
Insurance Assets Database	1.5	5.9	3.6	4.9	4.0	4.5
All Institutional Investors	0.5	5.2	4.0	9.8	6.5	6.7
Large (>\$1 billion)	0.8	5.4	3.8	10.0	6.9	7.0
Medium (\$100mm - \$1bn)	0.3	5.0	4.0	9.9	6.6	6.8
Small (<\$100 million)	0.3	5.4	4.3	9.8	6.3	6.5
60% S&P 500/40% Bloomberg Agg	-1.5	7.0	5.8	10.9	8.3	7.7

\*Returns less than one year are not annualized.

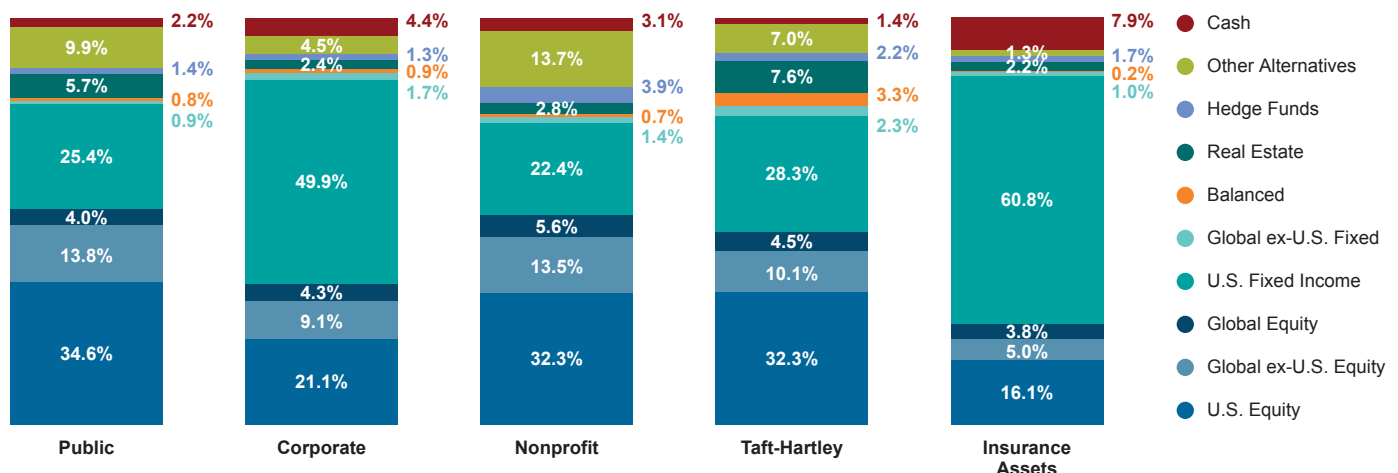
Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. 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.

- The Bloomberg Aggregate gained 2.8%.
- While 1Q25 was, relatively, quiet—everything changed.
- Tariffs announced by President Trump on April 2.
- The tariff amounts ranged from 10% (Singapore, Ukraine, U.K.) to 49% for Cambodia.
- The immediate capital markets reaction was negative.
  - Equity markets across the globe immediately dropped.
  - Treasury rates rose and credit spreads widened.
- A week later, Trump announced a 90-day pause.
  - The equity market responded with the best one-day gain in years.
  - Rates and spreads fell slightly.
- From April 4 through April 12 the S&P 500 index moved at least 4.9% each intra-day (longest since COVID)

### Public DB Plans

- Based on the results of our proprietary Consultant Survey, funded status and return enhancement were neck and neck as the most significant issue.
- Interest in private real estate continued at high levels as more than 20% of plans indicated they are considering increasing allocations.
- In another sharp reversal, there was a jump in the share of clients planning to decrease global ex-U.S. equity allocations after a big share said they planned to increase allocations in 3Q24.
- There was almost no interest in changing allocations to other public markets asset classes, either increasing allocations or decreasing them.

### 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

### Corporate DB Plans

- For the first time, hibernation was the top goal for clients, according to our survey.
- Closing the funding gap, which had typically been the top goal, was No. 2.
- The share of plans with a funded status above 100% has held fairly steady. The share of plans with a funded status below 91% is at its lowest level ever.

### DC Plans

- The share of plans in our survey that indicated they were considering cutting the number of funds in their lineup hit its highest level since 3Q17.
- Fees remain the top issue for DC plans, as they have been for years. Compliance and investment structure have shifted over time as No. 2 and 3.

### Nonprofits

- Liquidity is the top concern, displacing return enhancement, according to our survey.
- Overall interest in changing private markets allocations was low.
  - Just as many nonprofit clients indicated they planned to increase as decrease private equity.
  - The share of clients planning to cut hedge fund allocations, while small, was steady compared to other quarters and showed the asset class remains under some pressure.
  - Interest in private real estate rose slightly.
  - Client interest in increasing allocations to private credit also stayed steady as in previous quarters after bumping up in 3Q23 and 1Q22.



# Equity

## U.S. Equities

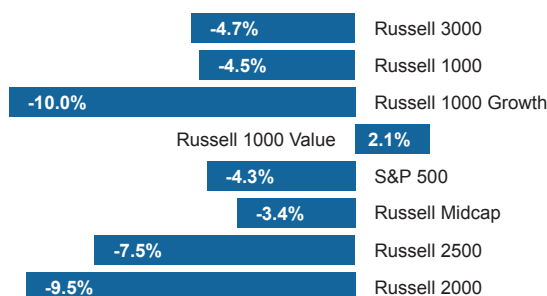
### Choppy start to the New Year

- The U.S. equity market gave back some of its 2024 gains in 1Q25. The S&P 500 Index fell by 4.3%, partially driven by escalating trade tensions and the potential negative impact from the emergence of China-based AI company DeepSeek as a rival to U.S.-based AI leaders.
- Mega-cap growth stocks, particularly the Magnificent 7, lagged the broad index. Market leadership broadened out during the quarter.
- From a sector perspective, Consumer Discretionary and Technology were the two worst-performing sectors, while Energy and Health Care performed the best.
- During 1Q, mid cap stocks performed the best followed by large cap stocks. Small cap stocks continued to underperform as elevated interest rates and fear of tariffs weighed on smaller, more leveraged business models.
- Value outperformed growth across the market cap spectrum, reversing the long-term trend of growth outperformance.
- Given the macroeconomic uncertainty, volatility has spiked to levels last seen in the early months of the pandemic.
- Investors were focused on tariff impacts as some of the better-performing sectors (e.g., Financials, Health Care, and Utilities) are more insulated.
- Factors that performed well during the quarter included return on equity, dividend yield, and low beta.
- Despite their outperformance, value stocks remain cheap versus growth stocks based on forward P/E ratios.

- The Russell 2000 Index has a trailing four-year annualized return of -1% due in part to rising rates, lower sales growth, and fiscal stimulus skewing in favor of larger companies. Long-term periods of small cap underperformance have been followed by periods of outperformance historically.
- Small caps, on both an absolute and relative (to large caps) basis, continue to trade at historic lows.

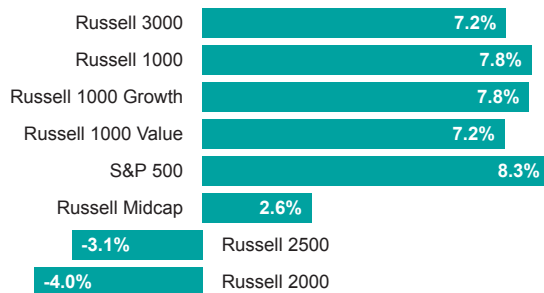
### U.S. Equity: Quarterly Returns

(3/31/25)



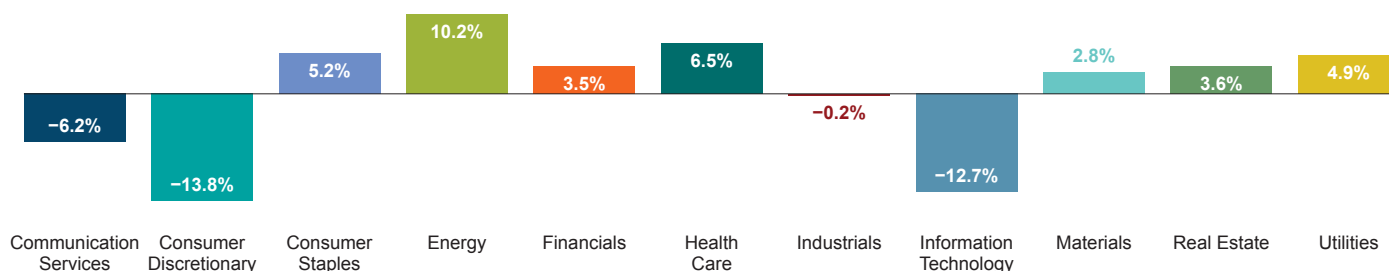
### U.S. Equity: One-Year Returns

(3/31/25)



Sources: FTSE Russell and S&P Dow Jones Indices

### Quarterly Performance of Industry Sectors (3/31/25)



Source: S&P Dow Jones Indices

## Global Equities

### Broad market

- Following a challenging 4Q24, global equity markets rebounded, with broad indices posting their best one-quarter period compared to the S&P 500 in a decade.

### Emerging markets

- Emerging markets ended the quarter in positive territory, although trailing their developed market peers.
- India, which accounted for nearly 20% of the index, had another negative quarter.
- China, which struggled in 4Q, saw strong gains and ended with the highest trailing 12-month return in five years.

### Growth vs. value

- Value was the decisive winner in both emerging and developed markets. This had multiple causes, including European stimulus, higher expected interest rates, and persistent inflation driving investors to defensive, dividend-paying stocks.

### U.S. dollar

- The U.S. dollar experienced a significant decline, dropping 4% relative to a broad basket of developed currencies, which provided additional support to developed ex-U.S. markets but was less supportive in emerging markets.

### Seven states propose legislation to remove China

- Indiana, Florida, Missouri, Oklahoma, Kansas, Texas, and North Dakota proposed legislation to divest from Chinese/Hong Kong investments in the last 18 months; all but one passed.
- The divestment initiatives reflect national security concerns, economic considerations, and political factors.

### Ex-China universe

- According to Morningstar, the number of ex-China emerging market funds has nearly doubled to approximately 70 globally over the past two years.
- These funds have attracted substantial investor interest, with assets under management increasing by 75% in 2024 (through October) to over \$26 billion.

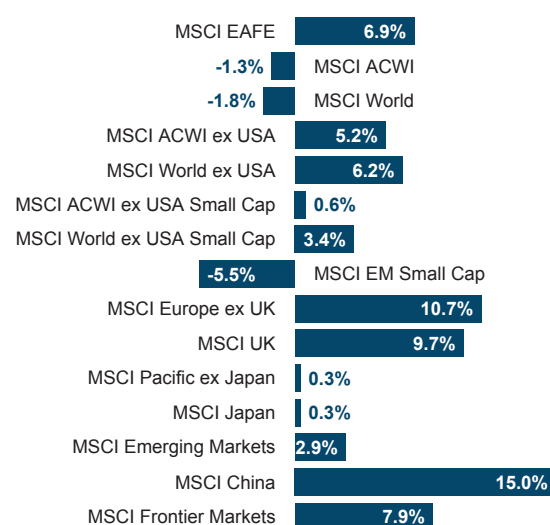
### Reversing the trend with currency

- The U.S. dollar depreciated against the euro, yen, pound, and most emerging market currencies. After a strong

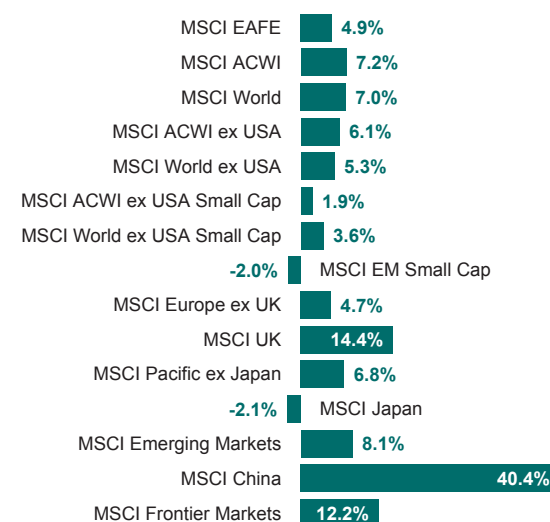
performance throughout 2024, the U.S. Dollar Index declined approximately 4% in 1Q25, driven by increased investor allocations to non-U.S. assets.

- Concerns about fading U.S. exceptionalism and reduced confidence in the dollar's safe-haven status—amid rising geopolitical and economic isolation—contributed to last quarter's market shifts.

## Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 3/31/25)



## Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 3/31/25)



Source: MSCI

# Fixed Income

## U.S. Fixed Income

### Macro environment

- U.S. interest rates and corporate credit spreads held steady for most of the quarter until policy signals from the Trump administration—including deficit reduction and tariff rumors—prompted investors to reprice risk assets.
- In March, the Fed kept rates unchanged despite rising volatility from softer economic data and White House uncertainty, while other major central banks shifted to a more accommodative stance.

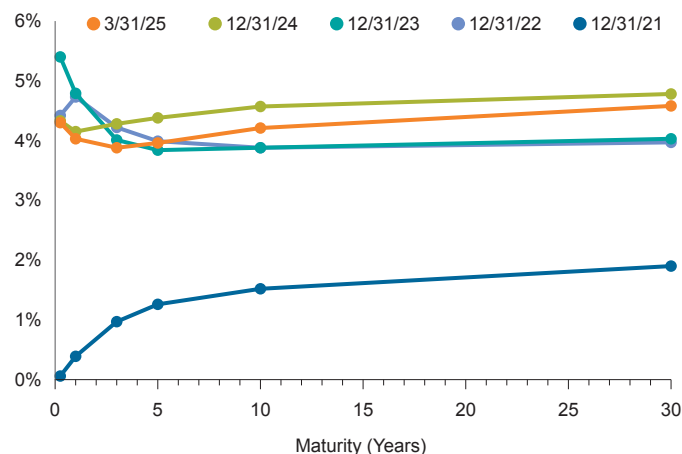
### Performance and drivers

- The Bloomberg US Aggregate Bond Index rose 2.8% as falling rates drove gains, making it the top contributor to the quarter's positive returns. Although investors demanded higher premiums for credit risk, these concerns did not offset overall gains.
- Nonetheless, credit spreads across public markets generally widened in March.

### Valuations

- Corporate credit spreads across investment grade and leveraged finance were “priced to perfection” before the administration induced uncertainties that caused spreads to widen.
- New issuance across IG and HY were also on pace to match 2024 YTD supply, but issuers delayed offerings as demand softened.
- Credit remains in high demand, driven by attractive absolute yields. New issuance is healthy in response to the demand for credit, with issuance on par with the YTD 2024 pace.
- Spreads tightened for both investment grade and high yield during the quarter. April's bout of volatility cheapened BBs vs BBBs, thus giving more opportunities for sector rotation and security selection.
- Liability management exercises (LMEs), including distressed exchanges, have become increasingly common in leveraged finance. In these cases, borrowers restructure stressed or distressed debt outside of bankruptcy court, spurring lender-on-lender aggression. Including LMEs in default calculations materially elevates default metrics.

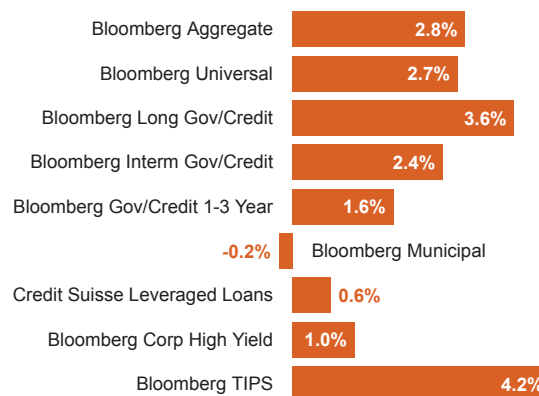
## U.S. Treasury Yield Curves



Source: Bloomberg

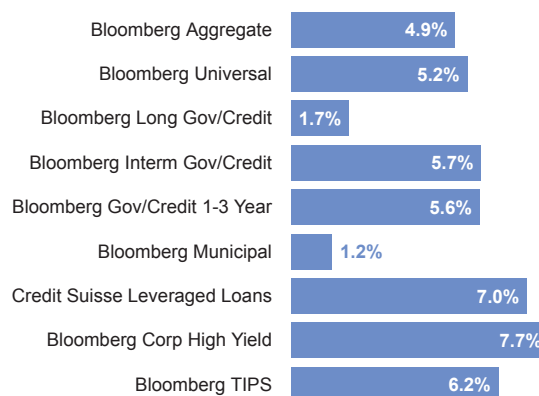
## U.S. Fixed Income: Quarterly Returns

(3/31/25)



## U.S. Fixed Income: One-Year Returns

(3/31/25)



Sources: Bloomberg and Credit Suisse

## FIXED INCOME (Continued)

- Rising interest costs and weak covenant structures spur the rise in LMEs. Borrowers are transferring previously collateralized assets to new unrestricted subsidiaries and issuing new debt that becomes senior to existing debt.
- Loan issuer downgrades vs. upgrades remain elevated.

### Municipal Bonds

#### Flat in 1Q

- The municipal bond AAA-rated curve steepened notably, with short yields falling but long-end yields rising 30–40 bps.
- The spread between AAA 2-year bonds and 10-year bonds widened 30 bps over the quarter, while Muni/Treasury ratios rose sharply across the curve.

#### Strong issuance met with mixed demand

- New issuance totaled \$119 billion, up 15% YOY, supported by March's \$41.4 billion in volume.
- Demand softened, with funds experiencing outflows in March, weighted toward ETFs.

#### Muni valuations cheapened, still rich vs 10-year average

- 10-year AAA Muni/10-year Treasury yield ratio climbed to 77.25%, from 66.96% in 4Q.
- Longer maturities saw the biggest move: 30-year ratio surged to 92.4%, up 10.8 percentage points.

### Global Fixed Income

#### Macro environment

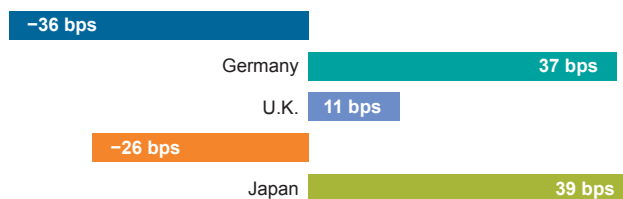
- Forecasts for global economic growth in 2025 were revised slightly downward by 0.1 percentage points to 3.1%, citing weakening business and consumer sentiment.
- Global central banks maintained a cautious tone, balancing disinflationary pressures with ongoing political and trade-related uncertainties.
- The ECB and BOE cut rates, while the BOJ raised its short-term rate by 25 bps to 0.5%, its highest level since 2008.

#### U.S. dollar weakened

- The U.S. dollar declined after reaching a two-year high in early January; the heaviest decline occurred in early March when tariffs on Mexican and Canadian goods went into effect.
- The Bloomberg Global Aggregate ex US Hedged Index traded down 0.2% for the quarter, while the Unhedged Index rose by 2.5% due to U.S. dollar weakness.

### Change in 10-Year Global Government Bond Yields

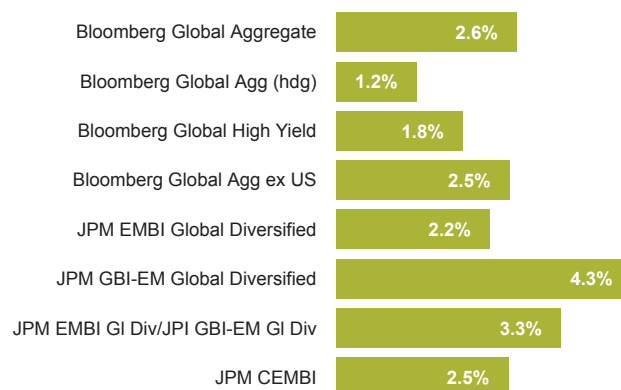
4Q24 to 1Q25



Source: Bloomberg

### Global Fixed Income: Quarterly Returns

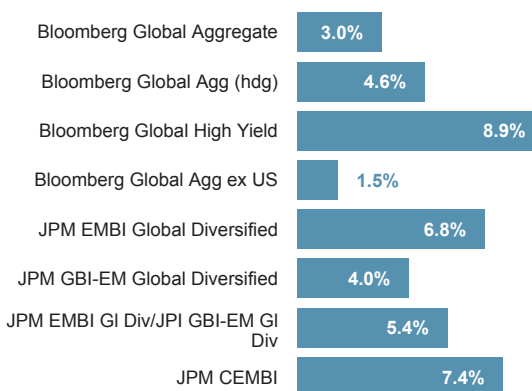
(3/31/25)



Sources: Bloomberg and JPMorgan Chase

### Global Fixed Income: One-Year Returns

(3/31/25)



Sources: Bloomberg and JPMorgan Chase

### Emerging market debt was a bright spot

- Local currency sovereign bonds (JPM GBI-EM GD) led the strength in EM debt, while hard currency sovereigns (JPM EMBI GD) also had a solid quarter as investors repriced the U.S. for slower growth and a weaker dollar.

# Income Returns Were Positive; REITs Topped Equities

REAL ESTATE/REAL ASSETS | Munir Iman

## Valuations reflect higher interest rates

- Valuations appear to have bottomed and now reflect higher borrowing costs.
- Income returns were positive across sectors and regions.
- Property sectors were mixed; Office and Hotel experienced negative appreciation, and the remaining sectors had flat or positive appreciation.

## REITs outperformed equities, both in the U.S. and globally

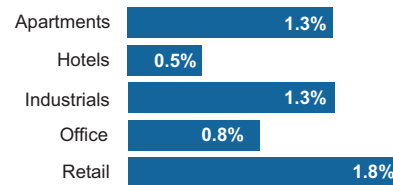
- Global REITs outperformed in 1Q25, up 1.6% compared to a 2.8% decline for global equities (MSCI World).
- U.S. REITs gained 0.9% in 1Q25, in contrast with the S&P 500 Index, which fell 4.3%.
- Global REITs are trading at a discount to NAV (-6.8%). Historically, they have traded at a -3.8% discount to NAV.

## Over \$250 billion of dry powder

- ODCE redemption queues are approximately 13.0% of net asset value, with a median queue of 10.2%. This compares to the GFC when queues peaked at approximately 15% of net asset value (NAV).
- Outstanding redemption requests for most large ODCE funds are approximately 6% to 33% of NAV (one outlier at 51%).
- Redemption queues are now sharply decreasing after having peaked at 19.3% of NAV in 1Q24. This has been driven

## Sector Quarterly Returns by Property Type

(3/31/25)



Source: NCREIF

primarily by rescissions of redemption requests within a handful of managers with large queues and increased redemption payments due to increased transactions.

## Pricing, transaction volumes increasing

- Transaction volume is increasing on a rolling four-quarter basis yet remains below five-year averages.
- In 1Q25, transaction volume slightly increased on a quarter-over-quarter basis despite a modest decline in the number of properties sold. Transaction volume remains lower compared to 2022.
- The volatile rise in interest rates is the driving force behind the slowdown in transactions. Increasing transactions are driven by increasing confidence in multi-family and industrial values. Valuations have largely adjusted to increased borrowing costs.

## Callan Database Median and Index Returns\* for Periods Ended 3/31/25

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	20 Years
<b>Real Estate ODCE Style</b>	<b>0.9</b>	<b>0.9</b>	<b>1.2</b>	<b>-5.1</b>	<b>2.1</b>	<b>5.2</b>	<b>5.2</b>
NFI-ODCE (value-weighted, net)	0.9	0.9	1.2	-5.1	2.0	4.7	5.4
NCREIF Property	1.3	1.3	2.7	-2.1	3.2	5.4	6.9
NCREIF Farmland	0.1	0.1	-1.7	3.5	4.8	5.7	11.1
NCREIF Timberland	0.8	0.8	5.6	8.9	7.9	5.3	6.8
<b>Public Real Estate</b>							
<b>Global Real Estate Style</b>	<b>1.5</b>	<b>1.5</b>	<b>4.5</b>	<b>-3.0</b>	<b>7.4</b>	<b>4.1</b>	<b>6.5</b>
FTSE EPRA Nareit Developed	5.8	5.8	14.8	2.4	9.5	6.1	--
<b>Global ex-U.S. Real Estate Style</b>	<b>1.6</b>	<b>1.6</b>	<b>-3.7</b>	<b>-6.9</b>	<b>3.3</b>	<b>2.8</b>	<b>--</b>
FTSE EPRA Nareit Dev ex US	3.3	3.3	-3.5	-7.7	1.1	-0.2	--
<b>U.S. REIT Style</b>	<b>1.2</b>	<b>1.2</b>	<b>10.7</b>	<b>-0.7</b>	<b>10.8</b>	<b>6.2</b>	<b>8.3</b>
FTSE EPRA Nareit Equity REITs	0.9	0.9	9.9	-0.6	11.3	5.3	7.5

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

# Activity Mixed and Uneven Across the Cycle

PRIVATE EQUITY | Ashley Kahn

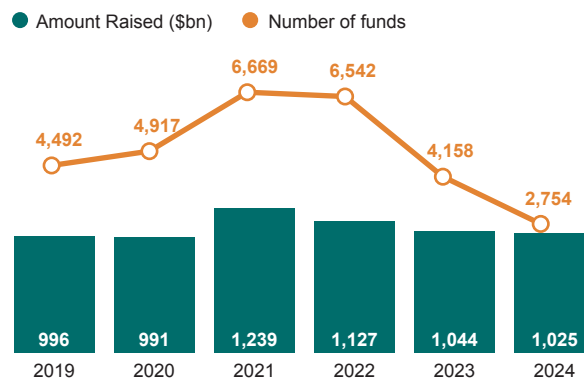
**Fundraising** ► There has been a steep decline in the number of funds raised since 2021—and it was down another 40% in 2024. With volume essentially flat compared to last year, capital continues to concentrate in the larger, often buyout, funds. Lingering feelings of uncertainty and more constrained capital budgets tend to drive LPs toward proven managers (and re-ups), as opposed to smaller, emerging managers.

**Buyouts** ► 2024 activity was up 22% by volume and 5% by count from 2023, with valuations nearing the record-highs of 2021. Activity reflects a more supportive macro environment closing out the year, driven by drops in interest rates, moderating inflation, and improved credit availability. These favorable conditions were short-lived and have since waned in 2025. With rising macroeconomic uncertainty and fluctuating tariff levels, operational acumen and the ability to respond to changing conditions will become even more essential for buyout managers.

**Venture Capital and Growth Equity** ► As venture/growth finishes the third year since its peak in 2021, recovery has been mixed and uneven, especially by stage. It saw steady declines in deal count over the last 3 years, with the number of deals in 2024 on par with pre-pandemic levels. In contrast, deal volume is up by 16% this year compared to 2023. Early-stage valuations have reached record highs, up 28% from last year. This has been driven by today's artificial intelligence (AI) "supercycle," with greater competition for AI startups pushing

## Annual Fundraising

(12/31/24)



Source: Pitchbook

up valuations. In contrast, VC managers are paring back late-stage fund sizes as they come back to market, knowing they cannot deploy the same levels of capital as predecessor funds.

**Exits** ► This is the third year of depressed exit activity, spanning 2022-24. This year it was at ~75% of pre-pandemic levels, in line with last year. A huge backlog of pending exits remains today, totaling nearly 4,000 companies

**Performance** ► Short-term performance continues to lag public equity (driven by the Magnificent 7). Due to the smoothed nature of its returns, private equity doesn't outperform when public equity rises rapidly (it likewise doesn't drop as sharply when public equity drops).

## Private Equity Performance (%) (Pooled Horizon IRRs through 9/30/24\*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
All Venture	1.4	2.4	-5.3	14.9	14.8	12.2
Growth Equity	2.8	7.7	-0.5	13.9	13.2	13.5
All Buyouts	3.3	10.1	6.3	15.2	14.0	14.0
Mezzanine	3.0	10.4	9.1	11.7	10.9	11.4
Credit Opportunities	2.5	9.9	7.6	9.2	7.6	9.2
Control Distressed	0.9	3.3	6.7	13.3	10.8	11.2
<b>All Private Equity</b>	<b>2.7</b>	<b>7.9</b>	<b>2.8</b>	<b>14.4</b>	<b>13.4</b>	<b>13.1</b>

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.



# Fundraising Hits 8-Year Low but Strong Growth Seen

PRIVATE CREDIT | Cos Braswell

**Performance** ► Private credit returns vary across sub-asset class and underlying return drivers. Over the past 10 years the asset class has generated a net IRR of 8.8%, outperforming leveraged loans. Higher-risk strategies have performed better than lower-risk strategies.

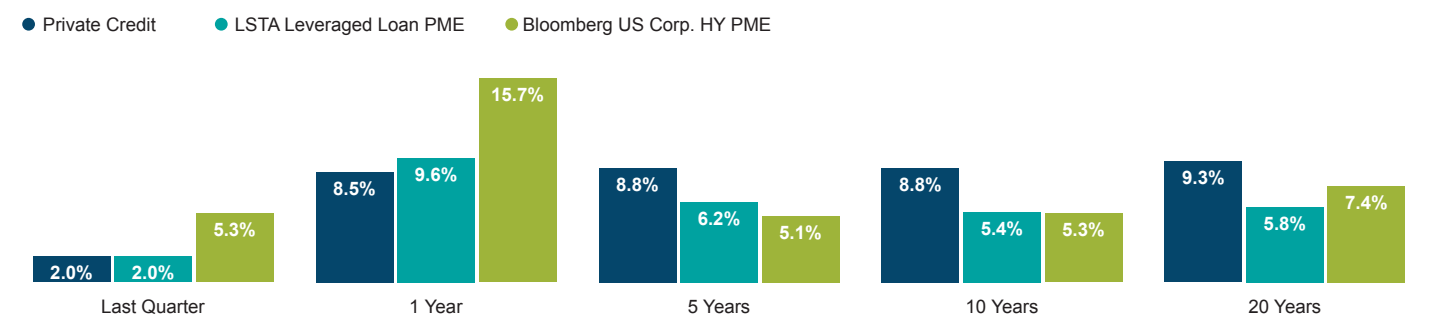
**Fundraising** ► The number of funds raised in 4Q24 was the lowest in eight years. Private credit fundraising ended 2024 down, the third yearly decline in a row. Direct lending continues to dominate fundraises with special situations following. There is increased interest in specialty finance/ABL strategies for more mature PC portfolios.

**Assets** ► North American private credit assets under management (AUM) is expected to grow significantly, from \$1.01 trillion in 2024 to \$1.74 trillion in 2029, representing an annualized growth rate of 11%. European private debt AUM is projected to grow at a slower pace of 7.8%, reflecting resilience despite a more challenging economic environment.

**Loan Markets** ► In 4Q24, both the private credit and syndicated loans markets remained slow, compared to the first half of the year. Despite the low volume, both markets continue to have a large appetite for deals. Direct lending volumes have been relatively more stable but remain at a lower level compared to institutional issuance in 2024 YTD, showing approximately \$50 to \$55 billion in 1Q24 and 2Q.

**Yields** ► 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 dropped in 2024 but then increased to start 2025. Spreads contracted in 2024, a continuation from late 2023, due to stronger credit conditions as the U.S. economic outlook improved. However, in April 2025 we observed a spike in high yield effective yields.

## Private Credit Performance (%) (Pooled Horizon IRRs through 9/30/24\*)



## Private Credit Performance (%) (Pooled Horizon IRRs by Strategy through 9/30/24\*)

Strategy	Quarter	1 Year	5 Years	10 Years	20 Years
Senior Debt	2.3	9.1	7.8	8.2	8.4
Subordinated	0.8	7.5	10.1	10.3	10.3
Credit Opportunities	1.6	8.1	8.8	8.7	9.4
Total Private Credit	2.0	8.5	8.8	8.8	9.3

Source: LSEG/Cambridge  
\*Most recent data available at time of publication

# Mixed Quarter With Gains Driven by Credit

HEDGE FUNDS/MACs | Joe McGuane

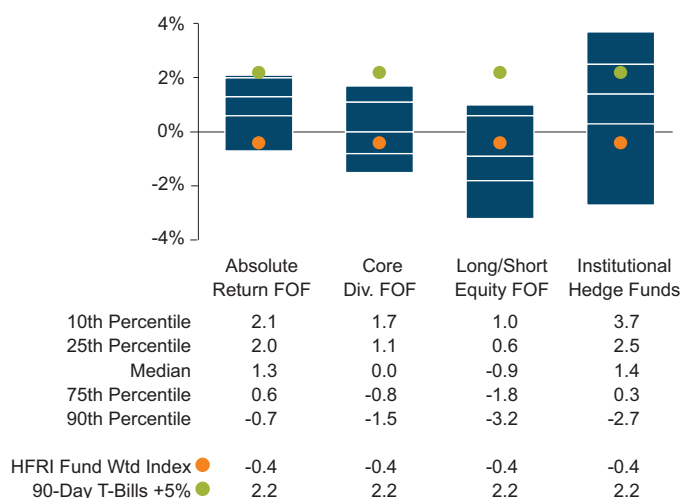
U.S. equity markets ended 1Q25 lower, as the DOGE-driven cutting of government jobs and programs caused confusion in Washington, and rising concerns over tariffs as well as signs of a weakening consumer stoked fears of a recession. The Federal Reserve kept monetary policy on hold, even while cutting its forecast for economic growth this year, citing the risk of inflation from evolving trade policy. Credit markets were relatively unmoved, as high-yield credit spreads widened during the quarter but remained tight by historical standards.

The S&P 500's performance was led lower by Consumer Discretionary and Technology, which were hurt by a weaker growth outlook, offset by gains in Energy as well as Health Care and Staples in a rotation to defensives.

Hedge funds ended the quarter mixed, as credit and interest rate-sensitive fixed income-based relative value strategies drove the majority of performance to start off the year. Macro strategies ended slightly higher as performance was mixed on interest rate volatility and a declining U.S. dollar. Equity hedge strategies ended lower, as strategies that were focused on technology

## Hedge Fund Style Group Returns

(3/31/25)



Sources: Callan, Credit Suisse, Federal Reserve

suffered declines on trade/tariff volatility. Event-driven strategies also suffered losses during the quarter, as corporate activity ground to a halt during the quarter.

Serving as a proxy for large, broadly diversified hedge funds with low-beta exposure to equity markets, the median Callan

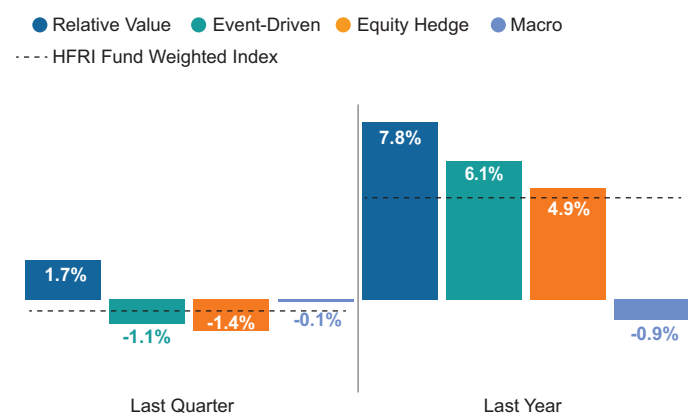
## Callan Peer Group Median and Index Returns\* for Periods Ended 3/31/25

Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	1.4	7.9	6.3	9.5	6.7	6.8
Callan Fund-of-Funds Peer Group	0.2	7.1	5.3	8.3	4.8	5.0
Callan Absolute Return FOF Style	1.3	8.1	6.1	8.8	4.4	4.8
Callan Core Diversified FOF Style	0.0	6.4	5.5	8.5	4.7	4.9
Callan Long/Short Equity FOF Style	-0.9	5.0	4.9	7.9	5.1	5.3
HFRI Fund Weighted Index	-0.5	4.6	4.6	9.5	5.0	4.8
HFRI Fixed Convertible Arbitrage	3.0	9.8	6.1	9.0	5.9	5.5
HFRI Distressed/Restructuring	0.7	9.6	4.6	11.2	5.4	5.4
HFRI Emerging Markets	2.3	9.0	4.3	8.5	4.5	3.4
HFRI Equity Market Neutral	1.5	7.9	6.6	6.0	3.7	3.4
HFRI Event-Driven	-1.1	6.5	5.1	10.6	5.2	5.3
HFRI Relative Value	1.7	7.8	5.3	7.8	4.5	5.0
HFRI Macro	-0.1	-0.7	2.4	5.7	2.8	2.6
HFRI Equity Hedge	-1.4	4.8	4.8	11.2	5.9	5.5
HFRI Multi-Strategy	0.2	12.2	5.1	8.8	4.0	4.1
HFRI Merger Arbitrage	0.3	5.8	4.2	8.4	4.9	4.3
90-Day T-Bill + 5%	2.2	10.0	9.2	7.6	6.9	6.3

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



## HFRI Hedge Fund-Weighted Strategy Returns (3/31/25)



Source: HFRI

Institutional Hedge Fund Peer Group rose 1.4%. Within this style group of 50 peers, the average hedge credit manager gained 2.1%, driven by interest rate volatility during 1Q. Meanwhile, the average hedge equity manager moved 1.7% lower, as those with longer biased exposure to technology experienced lower performance. The median Callan Institutional hedge rates manager fell 0.5%, largely driven by interest rate volatility across the curve.

Within the HFRI indices, the best-performing strategy was relative value, up 1.7%, as managers profited from the volatility in credit and interest rates. Macro strategies ended down 0.1%, as managers were actively trading around interest rates, U.S. dollar positions, and volatility during the quarter. Equity hedge strategies ended 1.4% lower, as managers with a focus on technology experienced negative performance, as tariff talk heated up during the quarter. Event-driven strategies ended 1.1% lower, as the expected increase in corporate activity during 1Q had yet to materialize.

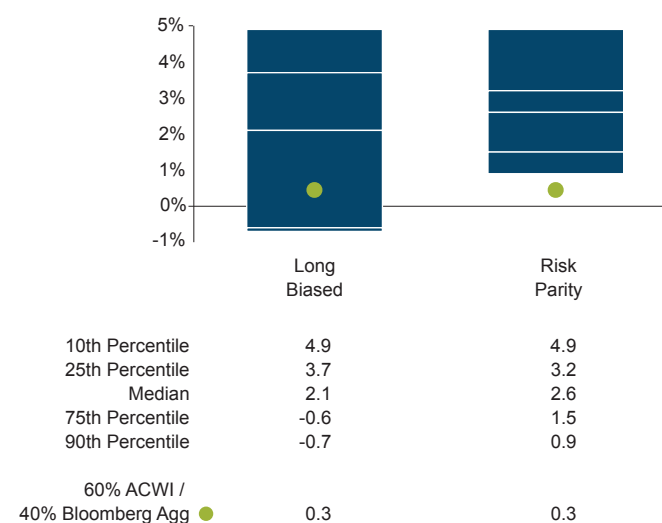
Across the Callan Hedge FOF database, the median Callan Absolute Return FOF ended 1.3% higher, as exposure to lower equity beta managers and macro managers drove performance. The median Callan Core Diverse FOF ended flat, as equity hedge and event-driven strategies were a drag on performance. The Callan Long/Short FOF ended 0.9% lower, as an overweight to higher equity beta strategies drove performance lower.

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 Callan MAC Risk Parity peer group rose 2.6%, as fixed income and commodity performance offset negative performance from the U.S. dollar and U.S. equities. The Callan Long Biased MAC peer group rose 2.1%, as fixed income and commodity performance offset negative equity performance.

Markets entered 2025 with optimism, supported by strong momentum in U.S. equities, technological innovation, and a resilient U.S. economy. Policy shifts, geopolitical shocks, and evolving investor expectations contributed to a sharp increase in volatility. With all of this complexity, opportunity presents itself for hedge fund strategies. Elevated dispersion across sectors, countries, and asset classes is creating opportunities for active managers, especially those that have the ability to dynamically manage risk. Hedge funds are well positioned in this market environment where capital preservation is key.

## MAC Style Group Returns (3/31/25)



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

# DC Index Dips After Four Straight Gains

DEFINED CONTRIBUTION | Scotty Lee

## Performance: Index Dips After Four Straight Gains

- The Callan DC Index™ lost 0.2% in 4Q24, which brought the Index's trailing one-year return to 14.3%. The Age 45 Target Date Fund (analogous to the 2045 vintage) had a lower quarterly return (-1.6%) but a higher YTD return (+14.4%).

## Growth Sources: Balances Fall Due Mostly to Net Flows

- Balances within the DC Index fell by 0.8% after a 4.7% increase in the previous quarter. Investment losses (-0.2%) were not the primary cause as net flows (-0.6%) fell more.

## Turnover: Slight Rise After All-Time Low

- Turnover (i.e., net transfer activity levels within DC plans) increased to 0.11% from the previous quarter's all-time low of 0.02%. The Index's historical average (0.53%) remained steady.

## Net Cash Flow Analysis: U.S. Equity Falls Sharply

- For the second straight quarter, U.S. fixed income outpaced target date funds, earning 35.7% of quarterly net flows. Brokerage windows held the top spot for inflows, receiving 40.6% of flows.
- Notably, within equities, investors withdrew assets from U.S. large cap equity (-25.5%) and U.S. small/mid-cap equity (-19.1%), similar to the large outflows of the previous quarter. Stable value (-34.0%) also saw relatively large outflows for the 10th consecutive quarter.

## Equity Allocation: Exposure Rises

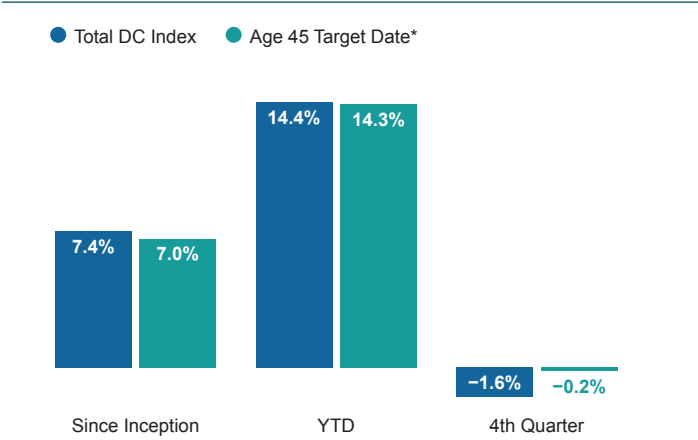
- The Index's overall allocation to equity (74.4%) rose slightly from the previous quarter's level (74.0%).

## Asset Allocation: Large Cap Equity Gains

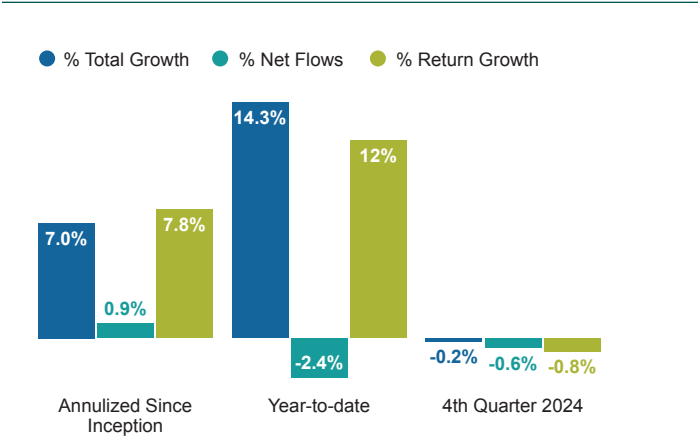
- U.S. large cap equity (29.0%), target date funds (36.0%), and brokerage windows (3.1%) were among the asset classes with the largest percentage increases in allocation, while stable value (-5.6%) had the largest decrease in allocation from the previous quarter due to net outflows.

*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 (12/31/24)



## Growth Sources (12/31/24)



## Net Cash Flow Analysis 4Q24 (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Brokerage Window	40.6%
U.S. Fixed Income	35.7%
U.S. Large Cap	-25.5%
Stable Value	-34.0%
Total Turnover**	0.1%

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 2040 TDF to the 2045 TDF in June 2023.  
\*\* Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.



## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2025, with the distribution as of December 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.

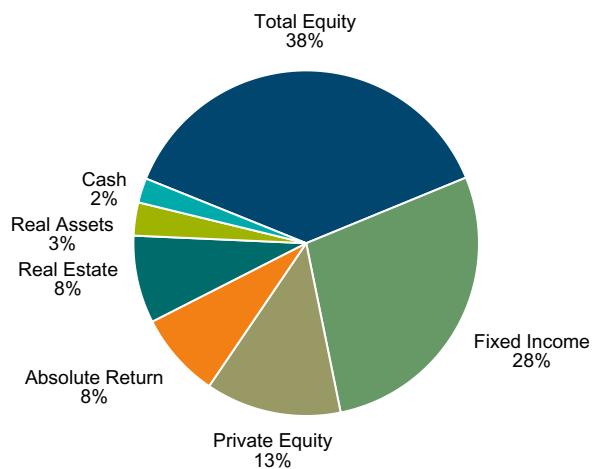
### Asset Distribution Across Investment Managers

	March 31, 2025			December 31, 2024		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
<b>Total Domestic Equity</b>	<b>\$1,010,775,492</b>	<b>16.79%</b>	<b>\$0</b>	<b>\$(30,409,300)</b>	<b>\$1,041,184,793</b>	<b>17.78%</b>
BlackRock Russell 1000 Value	200,295,501	3.33%	0	4,190,078	196,105,423	3.35%
DFA Large Cap Value	146,253,890	2.43%	0	3,026,260	143,227,630	2.45%
Northern Trust Global	196,996,113	3.27%	0	(8,790,755)	205,786,867	3.52%
Polen Capital Management	114,342,059	1.90%	0	(7,040,549)	121,382,608	2.07%
Earnest Partners LLC	169,845,178	2.82%	0	(5,817,911)	175,663,089	3.00%
DFA Small Cap Value	183,042,753	3.04%	0	(15,976,424)	199,019,176	3.40%
<b>Total Global Equity</b>	<b>\$449,665,656</b>	<b>7.47%</b>	<b>\$0</b>	<b>\$(9,192,838)</b>	<b>\$458,858,494</b>	<b>7.84%</b>
BlackRock Global Alpha Tilts	248,848,705	4.13%	0	(2,387,753)	251,236,458	4.29%
MFS Investment Management	200,816,951	3.34%	0	(6,805,085)	207,622,037	3.55%
<b>Total International Equity</b>	<b>\$806,660,402</b>	<b>13.40%</b>	<b>\$(28,480,370)</b>	<b>\$50,117,092</b>	<b>\$785,023,680</b>	<b>13.41%</b>
AQR Emerging Markets	103,038,658	1.71%	(190,621)	1,465,261	101,764,018	1.74%
Brandes Investment Partners	308,777,888	5.13%	(22,000,000)	31,614,030	299,163,859	5.11%
William Blair & Company	223,624,681	3.71%	(107,547)	102,368	223,629,860	3.82%
DFA International Small Cap	171,219,175	2.84%	(6,182,201)	16,935,434	160,465,943	2.74%
<b>Total Fixed Income</b>	<b>\$1,683,226,406</b>	<b>27.96%</b>	<b>\$0</b>	<b>\$44,988,364</b>	<b>\$1,638,238,042</b>	<b>27.98%</b>
BlackRock US Govt Bond	428,793,373	7.12%	0	12,128,047	416,665,326	7.12%
Reams Asset Management	762,560,371	12.67%	0	21,561,569	740,998,802	12.66%
Loomis, Sayles & Company, L.P.	491,872,662	8.17%	0	11,298,749	480,573,914	8.21%
<b>Total Private Equity</b>	<b>\$767,450,496</b>	<b>12.75%</b>	<b>\$9,981,363</b>	<b>\$(1,084,378)</b>	<b>\$758,553,511</b>	<b>12.96%</b>
Abbott Capital Management 2010	13,075,663	0.22%	(321,420)	0	13,397,083	0.23%
Abbott Capital Management 2011	27,446,594	0.46%	(825,000)	0	28,271,594	0.48%
Abbott Capital Management 2012	25,811,606	0.43%	(800,000)	0	26,611,606	0.45%
Abbott Capital Management 2013	25,139,299	0.42%	(1,050,000)	0	26,189,299	0.45%
Abbott Capital Management 2014	29,615,215	0.49%	(1,050,000)	0	30,665,215	0.52%
Abbott Capital Management 2015	26,033,328	0.43%	(1,631,250)	0	27,664,578	0.47%
Abbott Capital Management 2016	24,131,756	0.40%	(980,000)	0	25,111,756	0.43%
Abbott Capital Management 2018	24,625,037	0.41%	(865,000)	0	25,490,037	0.44%
Abbott Capital Management 2019	23,121,181	0.38%	0	0	23,121,181	0.39%
Abbott Capital Management 2020	34,348,332	0.57%	1,710,000	(50,000)	32,688,332	0.56%
Abbott Capital Management 2021	12,841,803	0.21%	1,005,000	(25,000)	11,861,803	0.20%
Abbott Capital Management 2022	14,757,546	0.25%	778,750	(43,750)	14,022,546	0.24%
Abbott Capital Management 2023	7,923,375	0.13%	2,083,125	(28,125)	5,868,375	0.10%
Abbott Capital Management 2024	6,333,509	0.11%	1,225,000	(25,000)	5,133,509	0.09%
Abbott Capital Management 2025	1,800,000	0.03%	1,800,000	0	-	-
Mesirow V	25,218,804	0.42%	(1,725,000)	0	26,943,804	0.46%
Mesirow VI	51,779,175	0.86%	(2,340,000)	0	54,119,175	0.92%
Mesirow VII	122,181,180	2.03%	(700,000)	0	122,881,180	2.10%
Mesirow VIII	81,496,820	1.35%	0	0	81,496,820	1.39%
Mesirow IX	11,040,000	0.18%	11,040,000	0	-	-
NB Secondary Opp Fund III	6,448,429	0.11%	(73,469)	(51,147)	6,573,045	0.11%
NB Secondary Opp Fund IV	15,938,434	0.26%	(388,593)	(186,640)	16,513,667	0.28%
NB Secondary Opp Fund V	55,119,983	0.92%	4,745,455	(550,000)	50,924,528	0.87%
Private Advisors VI	17,159,795	0.29%	(1,479,780)	(79,716)	18,719,291	0.32%
Private Advisors VII	11,320,221	0.19%	(328,013)	(0)	11,648,234	0.20%
Private Advisors VIII	17,426,402	0.29%	(1,662,315)	(0)	19,088,717	0.33%
Private Advisors IX	37,428,410	0.62%	0	0	37,428,410	0.64%
Apogem Capital X	17,888,599	0.30%	1,813,873	(45,000)	16,119,726	0.28%
<b>Absolute Return</b>	<b>\$480,458,497</b>	<b>7.98%</b>	<b>\$0</b>	<b>\$6,910,845</b>	<b>\$473,547,652</b>	<b>8.09%</b>
Aptitude	195,532,932	3.25%	0	992,921	194,540,011	3.32%
UBS A & Q	284,925,565	4.73%	0	5,917,924	279,007,641	4.77%
<b>Real Assets</b>	<b>\$187,504,316</b>	<b>3.11%</b>	<b>\$(289,635)</b>	<b>\$6,433,121</b>	<b>\$181,360,830</b>	<b>3.10%</b>
Principal DRA	187,504,316	3.11%	(289,635)	6,433,121	181,360,830	3.10%
<b>Total Real Estate</b>	<b>\$493,777,728</b>	<b>8.20%</b>	<b>\$6,471,458</b>	<b>\$5,202,421</b>	<b>\$482,103,849</b>	<b>8.23%</b>
Real Estate	493,777,728	8.20%	6,471,458	5,202,421	482,103,849	8.23%
<b>Total Cash</b>	<b>\$140,774,804</b>	<b>2.34%</b>	<b>\$103,191,331</b>	<b>\$2,103,610</b>	<b>\$35,479,862</b>	<b>0.61%</b>
Cash	140,774,804	2.34%	103,191,331	2,103,610	35,479,862	0.61%
<b>Total Fund</b>	<b>\$6,020,293,798</b>	<b>100.0%</b>	<b>\$90,874,148</b>	<b>\$75,068,938</b>	<b>\$5,854,350,712</b>	<b>100.0%</b>

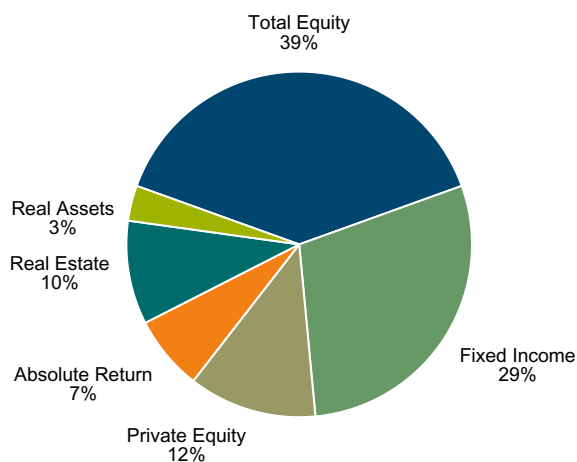
## Actual vs Target Asset Allocation As of March 31, 2025

The first chart below shows the Fund's asset allocation as of March 31, 2025. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

### Actual Asset Allocation



### Target Asset Allocation



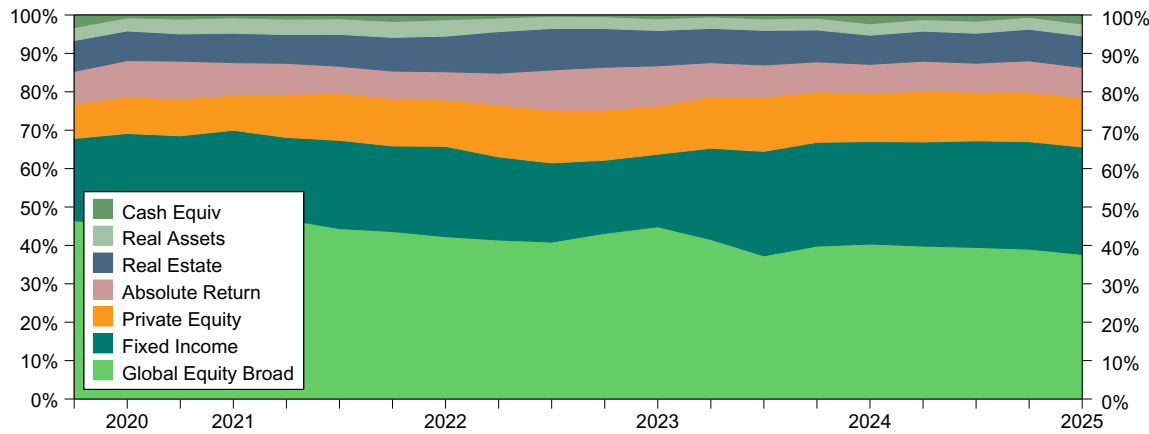
Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Total Equity	2,267	37.7%	39.0%	(1.3%)	(81)
Fixed Income	1,683	28.0%	29.0%	(1.0%)	(63)
Private Equity	767	12.7%	12.0%	0.7%	45
Absolute Return	480	8.0%	7.0%	1.0%	59
Real Estate	494	8.2%	9.7%	(1.5%)	(90)
Real Assets	188	3.1%	3.3%	(0.2%)	(11)
Cash	141	2.3%	0.0%	2.3%	141
Total	6,020	100.0%	100.0%		

\* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

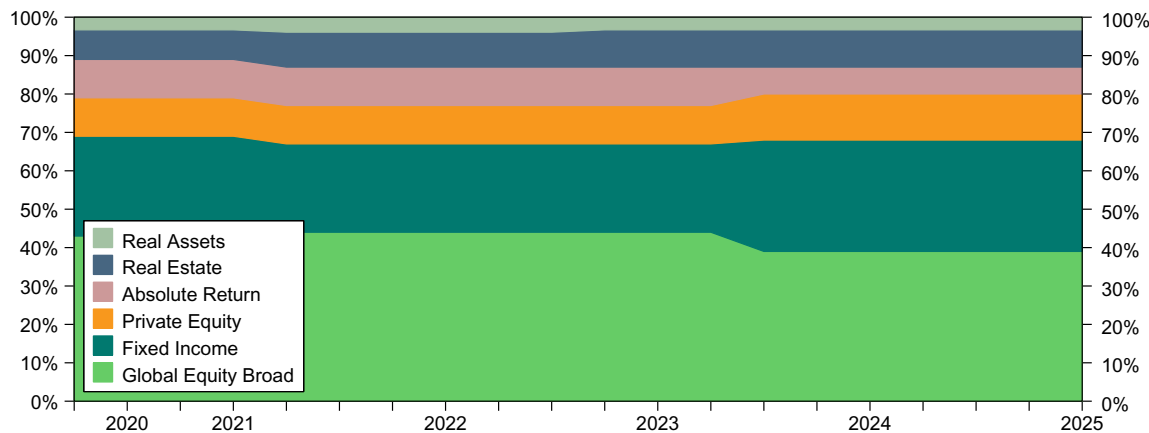
## Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

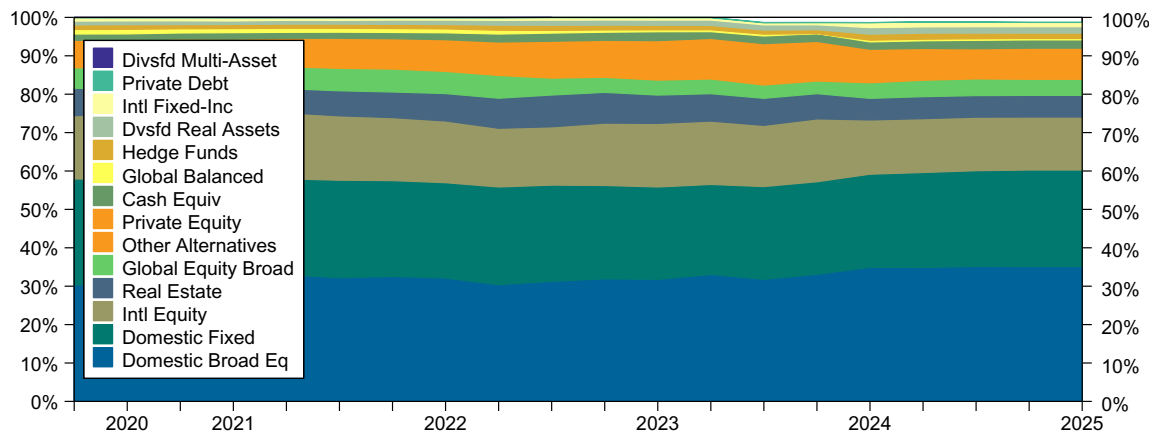
### Actual Historical Asset Allocation



### Target Historical Asset Allocation



### Average Callan Public Fund Sponsor Database Historical Asset Allocation



\* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

## Total Fund Period Ended March 31, 2025

### Investment Philosophy

The Public Fund Sponsor Database consists of public employee pension total funds including both Callan Associates client and surveyed non-client funds. Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 7.0% 3-month Treasury Bill+3.0%, 9.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

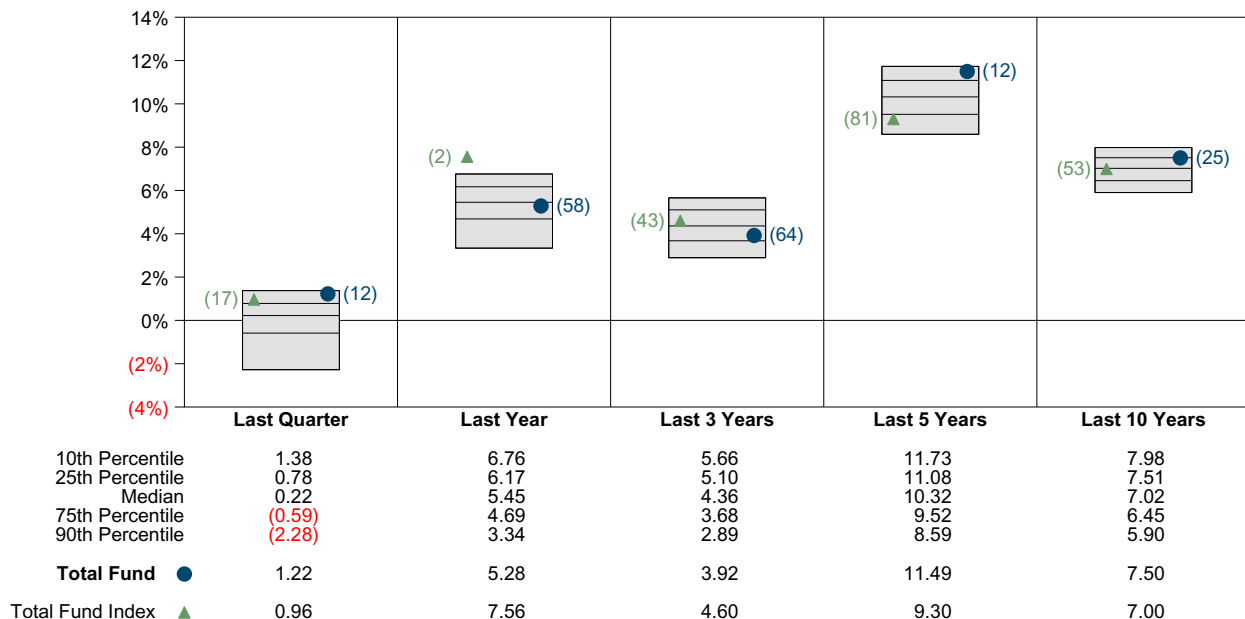
### Quarterly Summary and Highlights

- Total Fund's portfolio posted a 1.22% return for the quarter placing it in the 12 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 58 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Index by 0.26% for the quarter and underperformed the Total Fund Index for the year by 2.27%.

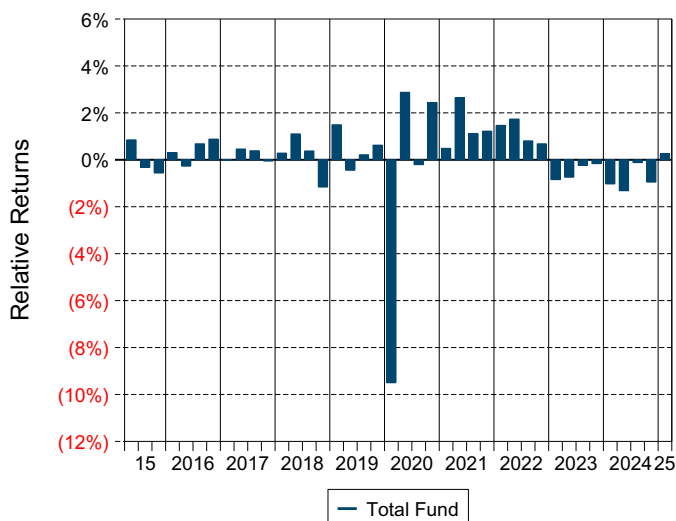
### Quarterly Asset Growth

Beginning Market Value	\$5,854,350,712
Net New Investment	\$90,874,148
Investment Gains/(Losses)	\$75,068,938
Ending Market Value	\$6,020,293,798

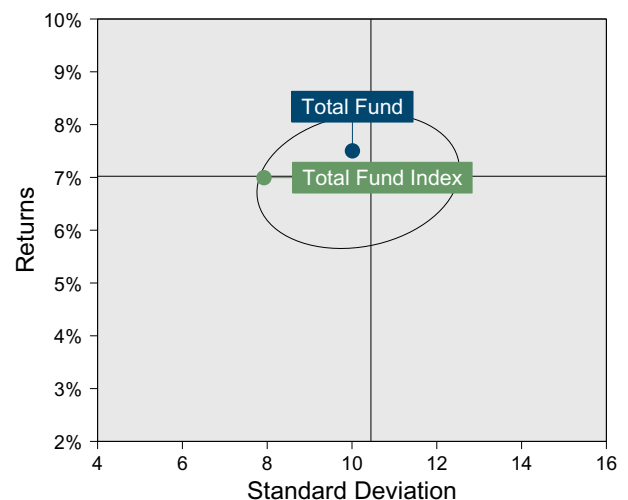
### Performance vs Callan Public Fund Sponsor Database (Gross)



### Relative Return vs Total Fund Index



### Callan Public Fund Sponsor Database (Gross) Annualized Ten Year Risk vs Return

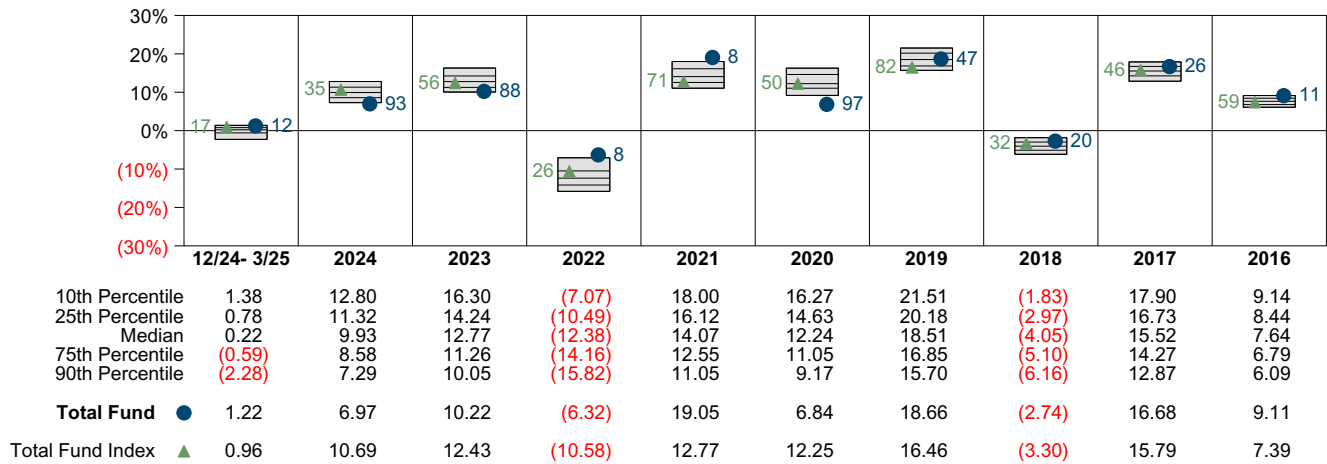


# Total Fund Return Analysis Summary

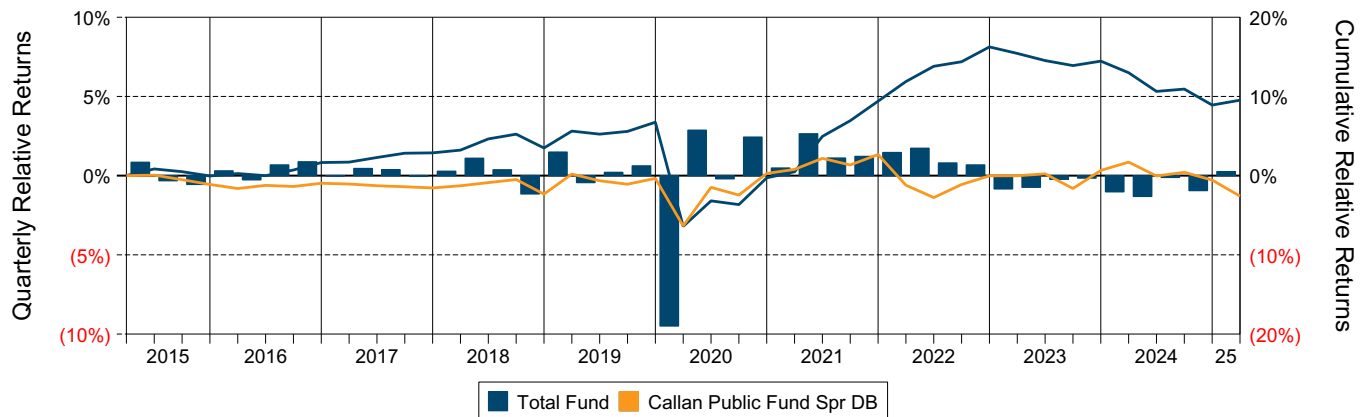
## Return Analysis

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.

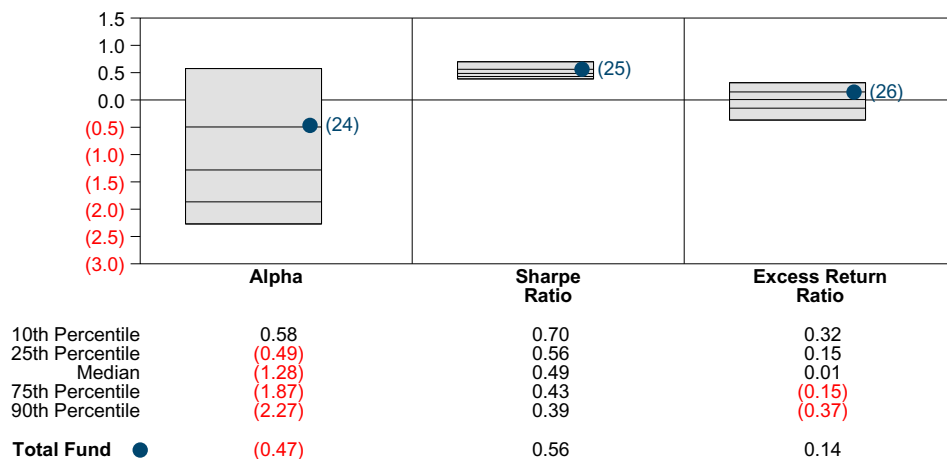
### Performance vs Callan Public Fund Sponsor Database (Gross)



### Cumulative and Quarterly Relative Returns vs Total Fund Index



### Risk Adjusted Return Measures vs Total Fund Index Rankings Against Callan Public Fund Sponsor Database (Gross) Ten Years Ended March 31, 2025





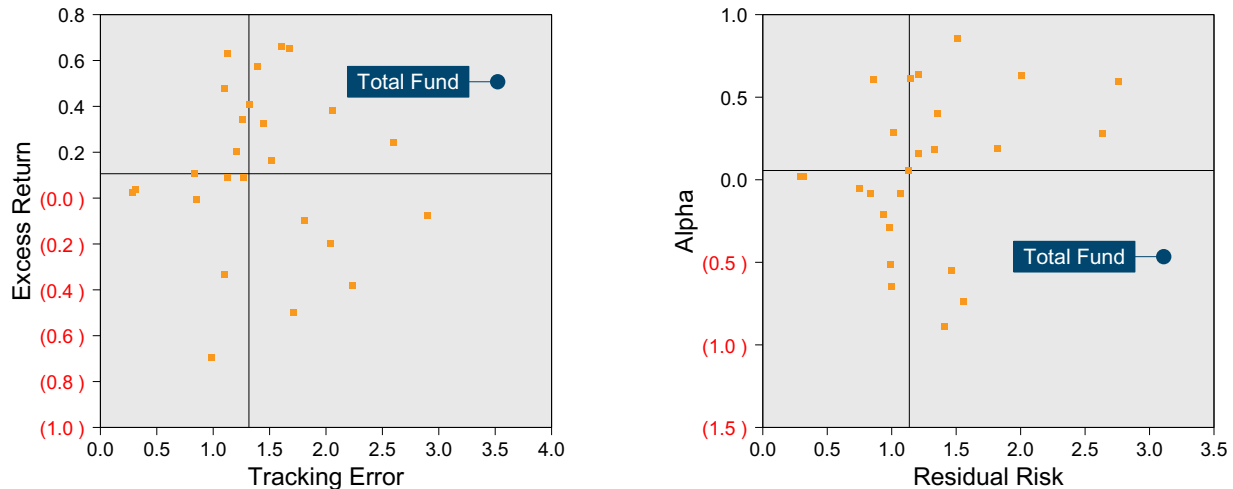
## Total Fund

### Total Fund vs Target Risk Analysis

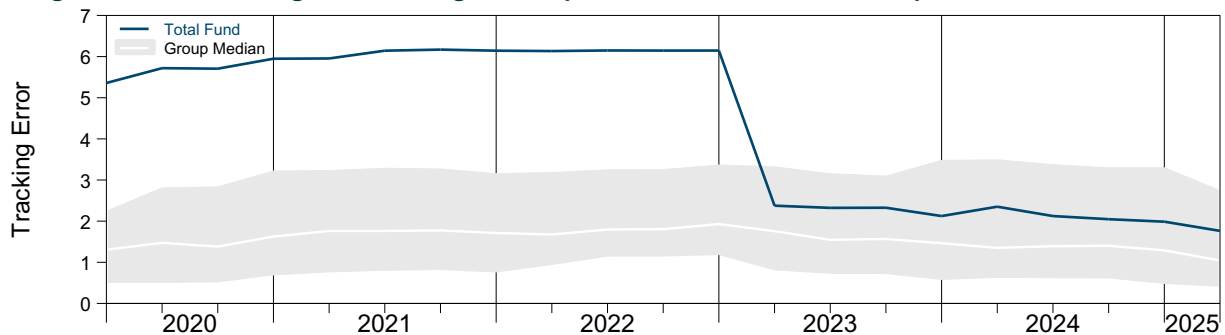
#### Risk Analysis

The graphs below analyze the performance and risk of the fund relative to the appropriate target mix. This relative performance is compared to a peer group of funds wherein each member fund is measured against its own target mix. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the target. The second scatter chart displays the relationship, sometimes called Information Ratio, between alpha (market-risk or "beta" adjusted return) and residual risk (non-market or "unsystematic" risk). The third chart shows tracking error patterns over time compared to the range of tracking error patterns for the peer group. The last two charts show the ranking of the fund's risk statistics versus the peer group.

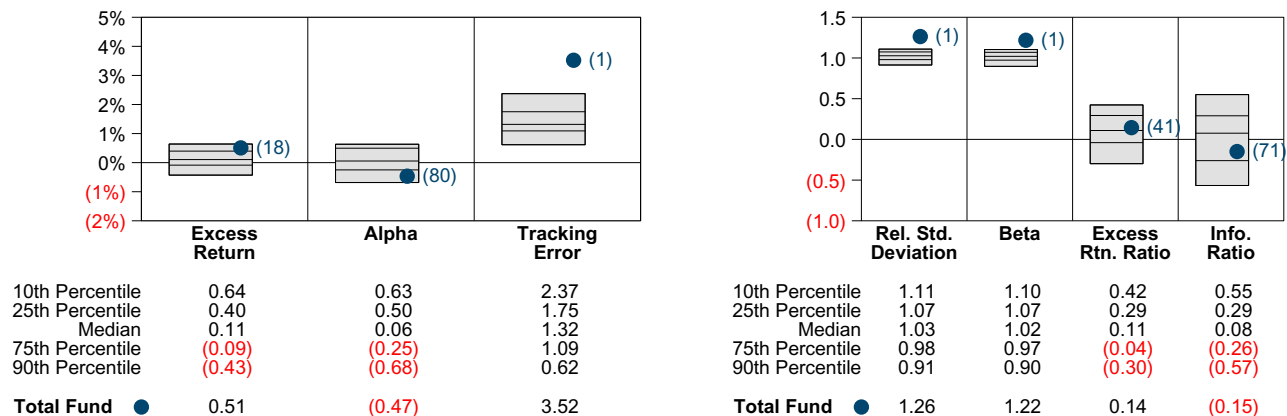
#### Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended March 31, 2025



#### Rolling 12 Quarter Tracking Error vs Targets Compared to Callan Public Fund Sponsor Database



#### Risk Statistics Rankings vs Targets Rankings Against Callan Public Fund Sponsor Database Ten Years Ended March 31, 2025



## Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended March 31, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

### Returns and Rankings for Periods Ended March 31, 2025

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
<b>Total Public Equity</b>	<b>0.43%</b>		<b>4.58%</b>		<b>6.77%</b>		<b>16.42%</b>		<b>10.41%</b>	(1/16)
MSCI ACWI IMI	(1.61%)		6.30%		6.31%		15.02%		9.84%	(1/16)
<b>Total Domestic Equity</b>	<b>(2.92%)</b>	<b>10</b>	<b>2.33%</b>	<b>92</b>	<b>5.63%</b>	<b>89</b>	<b>17.66%</b>	<b>60</b>	<b>8.13%</b>	(7/98)
Russell 3000 Index	(4.72%)	55	7.22%	16	8.22%	14	18.18%	32	8.19%	(7/98)
Pub Pln- Dom Equity	(4.62%)		5.68%		7.48%		17.76%		-	
BlackRock Russell 1000 Value	2.14%	38	7.20%	46	6.66%	67	16.19%	84	9.04%	(4/17)
Russell 1000 Value Index	2.14%	38	7.18%	46	6.64%	67	16.15%	84	8.91%	(4/17)
Callan Large Cap Value	1.32%		6.89%		7.61%		18.45%		-	
DFA Large Cap Value	2.11%	38	4.20%	75	7.35%	54	18.15%	59	8.66%	(11/17)
Russell 1000 Value Index	2.14%	38	7.18%	46	6.64%	67	16.15%	84	8.88%	(11/17)
Callan Large Cap Value	1.32%		6.89%		7.61%		18.45%		-	
Northern Trust Global	(4.27%)	38	8.24%	16	9.07%	46	18.60%	51	10.95%	(8/88)
S&P 500 Index	(4.27%)	38	8.25%	16	9.06%	46	18.59%	51	10.91%	(8/88)
Callan Large Cap Core	(4.72%)		5.94%		8.86%		18.63%		-	
Polen Capital Management	(5.80%)	15	1.49%	84	2.98%	98	12.77%	96	14.25%	(7/12)
S&P 500 Index	(4.27%)	8	8.25%	16	9.06%	46	18.59%	34	13.85%	(7/12)
Callan Large Cap Growth	(8.96%)		4.90%		8.92%		17.73%		-	
Earnest Partners LLC	(3.31%)	41	(3.29%)	71	3.37%	58	15.92%	50	10.79%	(5/05)
Russell MidCap Index	(3.40%)	45	2.59%	13	4.62%	39	16.28%	47	9.64%	(5/05)
Callan Mid Capitalization	(3.89%)		(0.82%)		3.86%		15.93%		-	
DFA Small Cap Value	(8.03%)	66	(4.25%)	60	5.58%	15	23.33%	10	11.41%	(11/96)
Russell 2000 Value Index	(7.74%)	59	(3.12%)	57	0.05%	90	15.31%	79	8.62%	(11/96)
Callan Small Cap Value	(7.08%)		(2.40%)		2.91%		18.58%		-	
<b>Total Global Equity</b>	<b>(2.00%)</b>	<b>65</b>	<b>5.14%</b>	<b>55</b>	<b>6.91%</b>	<b>49</b>	<b>15.40%</b>	<b>45</b>	<b>9.54%</b>	(4/10)
MSCI World	(1.79%)	62	7.04%	37	7.58%	44	16.13%	33	9.67%	(4/10)
Callan Global Equity	(1.25%)		5.49%		6.78%		15.08%		-	
BlackRock Global Alpha Tilts	(0.95%)	47	8.05%	27	8.46%	33	16.50%	30	12.15%	(3/16)
MSCI ACWI Gross	(1.22%)	49	7.63%	30	7.42%	45	15.71%	38	11.74%	(3/16)
Callan Global Equity	(1.25%)		5.49%		6.78%		15.08%		-	
MFS Investment Management	(3.28%)	81	1.62%	76	5.00%	75	14.04%	66	11.60%	(12/12)
MSCI ACWI Gross	(1.22%)	49	7.63%	30	7.42%	45	15.71%	38	10.23%	(12/12)
Callan Global Equity	(1.25%)		5.49%		6.78%		15.08%		-	
<b>Total International Equity</b>	<b>6.30%</b>	<b>36</b>	<b>7.01%</b>	<b>38</b>	<b>7.93%</b>	<b>10</b>	<b>15.15%</b>	<b>3</b>	<b>7.22%</b>	(5/96)
MSCI EAFE	6.86%	9	4.88%	86	6.05%	34	11.77%	65	4.92%	(5/96)
Pub Pln- Intl Equity	5.91%		6.58%		5.66%		12.23%		-	
AQR Emerging Markets	1.44%	73	2.44%	88	2.23%	54	10.20%	40	6.15%	(8/16)
MSCI EM Gross	3.01%	47	8.65%	31	1.91%	57	8.38%	67	5.57%	(8/16)
Callan Emerging Broad	2.91%		7.16%		2.43%		9.52%		-	
Brandes Investment Partners	10.42%	9	12.36%	18	14.15%	1	18.53%	3	8.34%	(2/98)
MSCI EAFE	6.86%	51	4.88%	69	6.05%	56	11.77%	65	5.00%	(2/98)
Callan NonUS Eq	7.01%		7.12%		6.39%		12.57%		-	
William Blair & Company	0.05%	96	(2.71%)	95	0.36%	96	9.81%	86	7.21%	(12/03)
MSCI ACWIxUS Gross	5.36%	72	6.65%	55	5.03%	70	11.46%	71	6.69%	(12/03)
Callan NonUS Eq	7.01%		7.12%		6.39%		12.57%		-	
DFA International Small Cap	10.47%	1	13.53%	2	9.49%	4	17.89%	6	5.78%	(5/06)
MSCI EAFE Small	3.69%	56	3.10%	56	0.88%	60	9.89%	63	4.24%	(5/06)
Callan Intl Small Cap	4.10%		3.77%		2.67%		11.71%		-	

## Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended March 31, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

### Returns and Rankings for Periods Ended March 31, 2025

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
<b>Total Fixed Income</b>	<b>2.75%</b>	<b>18</b>	<b>5.68%</b>	<b>21</b>	<b>1.62%</b>	<b>36</b>	<b>2.88%</b>	<b>10</b>	<b>6.51%</b>	(12/87)
Bimbg Aggregate	2.78%	10	4.88%	54	0.52%	82	(0.40%)	94	5.39%	(12/87)
Pub Pln- Dom Fixed	2.29%		5.00%		1.29%		1.19%		-	
BlackRock US Govt Bond	2.91%	24	4.65%	98	0.03%	100	-		(1.72%)	(12/21)
Bimbg Government	2.91%	24	4.53%	98	0.01%	100	(1.60%)	100	(1.83%)	(12/21)
Callan Core Bond FI	2.80%		5.30%		0.96%		0.48%		-	
Reams Asset Management	2.91%	26	5.39%	79	1.60%	28	2.00%	25	4.96%	(1/01)
Bimbg Aggregate	2.78%	52	4.88%	94	0.52%	90	(0.40%)	100	3.71%	(1/01)
Callan Core Plus FI	2.79%		5.67%		1.36%		1.48%		-	
Loomis, Sayles & Company, L.P.	2.35%	96	7.06%	3	2.94%	2	4.13%	1	8.05%	(12/87)
Bimbg Aggregate	2.78%	52	4.88%	94	0.52%	90	(0.40%)	100	5.39%	(12/87)
Callan Core Plus FI	2.79%		5.67%		1.36%		1.48%		-	
<b>Total Private Equity</b>	<b>(0.14%)</b>		<b>5.59%</b>		<b>1.10%</b>		<b>16.17%</b>		<b>11.94%</b>	(6/10)
Private Equity Benchmark (3)	3.14%		25.96%		10.42%		16.37%		-	
Abbott Capital Management 2010	0.00%		(4.74%)		(9.60%)		8.76%		0.60%	(6/10)
Abbott Capital Management 2011	0.00%		(3.37%)		(10.22%)		10.50%		3.53%	(6/11)
Abbott Capital Management 2012	0.00%		(3.47%)		(6.93%)		12.45%		9.74%	(7/12)
Abbott Capital Management 2013	0.00%		(1.99%)		(5.91%)		12.78%		10.45%	(5/13)
Abbott Capital Management 2014	0.00%		(2.66%)		(5.39%)		13.46%		9.76%	(4/14)
Abbott Capital Management 2015	0.00%		4.16%		2.30%		17.03%		12.47%	(4/15)
Abbott Capital Management 2016	0.00%		8.60%		5.59%		19.33%		12.19%	(3/16)
Abbott Capital Management 2018	0.00%		7.54%		6.35%		16.82%		12.91%	(7/18)
Abbott Capital Management 2019	0.00%		8.63%		6.51%		15.89%		15.08%	(1/20)
Abbott Capital Management 2020	(0.15%)		7.72%		3.36%		-		15.22%	(1/21)
Abbott Capital Management 2021	(0.20%)		5.63%		3.20%		-		4.90%	(2/21)
Abbott Capital Management 2022	(0.31%)		(0.79%)		(1.13%)		-		(1.08%)	(2/22)
Abbott Capital Management 2023	(0.39%)		6.23%		-		-		2.88%	(7/23)
Abbott Capital Management 2024	(0.47%)		-		-		-		1.58%	(6/24)
Mesirow V	0.00%		2.53%		(6.48%)		12.12%		13.16%	(6/10)
Mesirow VI	0.00%		4.28%		(3.51%)		16.90%		12.07%	(7/13)
Mesirow VII	0.00%		7.72%		4.21%		16.24%		4.13%	(6/17)
Mesirow VIII	0.00%		6.43%		1.44%		-		0.05%	(9/20)
NB Secondary Opp Fund III	(0.78%)		7.98%		7.50%		10.71%		11.41%	(12/13)
NB Secondary Opp Fund IV	(1.13%)		7.26%		4.14%		13.74%		16.90%	(4/17)
NB Secondary Opp Fund V	(1.07%)		17.95%		49.33%		-		47.72%	(3/22)
Private Advisors VI	(0.43%)		11.16%		8.56%		22.33%		13.22%	(4/15)
Private Advisors VII	0.00%		9.22%		12.54%		17.72%		13.74%	(1/17)
Private Advisors VIII	0.00%		14.29%		16.79%		22.10%		17.69%	(8/18)
Private Advisors IX	0.00%		9.33%		15.17%		21.04%		20.29%	(2/20)
Apogem Capital X	(0.25%)		4.44%		-		-		16.84%	(5/23)
<b>Absolute Return</b>	<b>1.46%</b>		<b>9.41%</b>		<b>8.75%</b>		<b>14.10%</b>		<b>6.45%</b>	(6/14)
90 Day T-Bill + 3%	1.74%		7.97%		7.23%		5.56%		4.73%	(6/14)
Aptitude	0.51%	76	8.51%	37	-		-		8.38%	(9/22)
30-Day Average SOFR +4%	2.06%	21	9.18%	27	8.31%	1	-		8.89%	(9/22)
Callan Abs Rtn Hedge FoF	1.32%		8.09%		6.09%		8.80%		-	
UBS A & Q	2.12%	10	10.08%	16	8.83%	1	10.16%	28	6.83%	(12/14)
(Libor thru 2/22) SOFR +4%	2.06%	21	9.18%	27	8.31%	1	6.63%	75	5.91%	(12/14)
Callan Abs Rtn Hedge FoF	1.32%		8.09%		6.09%		8.80%		-	
<b>Real Assets</b>	<b>3.55%</b>		<b>5.67%</b>		<b>(0.01%)</b>		<b>10.08%</b>		<b>5.57%</b>	(1/16)
Principal DRA	3.55%	48	5.67%	69	(0.01%)	80	10.08%	59	5.57%	(1/16)
Principal DRA Blend Index (1)	4.73%	43	8.42%	44	0.39%	76	9.52%	63	5.25%	(1/16)
Callan Alternative Inv DB	3.30%		7.49%		3.21%		11.65%		-	
<b>Total Real Estate</b>	<b>1.06%</b>		<b>2.90%</b>		<b>(2.12%)</b>		<b>4.31%</b>		<b>6.39%</b>	(7/86)
Real Estate	1.06%	43	2.90%	35	(2.12%)	41	4.31%	36	6.39%	(7/86)
Blended Benchmark (2)	0.85%	57	(2.43%)	87	(3.11%)	50	2.24%	63	-	
Callan Tot Real Est DB	0.93%		1.78%		(3.03%)		3.20%		-	
<b>Total Fund</b>	<b>1.22%</b>	<b>12</b>	<b>5.28%</b>	<b>58</b>	<b>3.92%</b>	<b>64</b>	<b>11.49%</b>	<b>12</b>	-	
Total Fund Index*	0.96%	17	7.56%	2	4.60%	43	9.30%	81	-	
Callan Public Fund Spr DB	0.22%		5.45%		4.36%		10.32%		-	

\* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Bimbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

(1) Current Principal DRA Blend Index = 15% Bloomberg US TIPS Idx, 15% Bloomberg Commodity Idx, 30% S&P Global Infrastructure Idx, 15% S&P Global Natural Resources Idx and 25% FTSE EPRA/NAREIT Developed Market Idx.  
(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

(3) Private Equity Benchmark = Russell 3000 Index lagged 3 months+3.0% through 12/31/19, Russell 3000 Index lagged 3 months+2.0% thereafter.

## Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2024- 3/2025		2024		2023		2022		2021	
<b>Total Public Equity</b>	<b>0.43%</b>		<b>12.05%</b>		<b>21.40%</b>		<b>(15.78%)</b>		<b>20.92%</b>	
MSCI ACWI IMI	(1.61%)		16.37%		21.58%		(18.40%)		18.22%	
<b>Total Domestic Equity</b>	<b>(2.92%)</b>	<b>10</b>	<b>14.70%</b>	<b>97</b>	<b>19.73%</b>	<b>89</b>	<b>(15.68%)</b>	<b>12</b>	<b>28.12%</b>	<b>16</b>
Russell 3000 Index	(4.72%)	55	23.81%	14	25.96%	17	(19.21%)	79	25.66%	55
Pub Pln- Dom Equity	(4.62%)		21.56%		23.70%		(17.91%)		25.88%	
BlackRock Russell 1000 Value	2.14%	38	14.39%	57	11.47%	63	(7.54%)	80	25.18%	79
Russell 1000 Value Index	2.14%	38	14.37%	57	11.46%	63	(7.54%)	80	25.16%	79
Callan Large Cap Value	1.32%		15.56%		12.85%		(4.93%)		28.35%	
DFA Large Cap Value	2.11%	38	13.84%	59	12.33%	53	(4.95%)	50	27.52%	64
Russell 1000 Value Index	2.14%	38	14.37%	57	11.46%	63	(7.54%)	80	25.16%	79
Callan Large Cap Value	1.32%		15.56%		12.85%		(4.93%)		28.35%	
Northern Trust Global	(4.27%)	38	25.00%	47	26.30%	48	(18.08%)	58	28.69%	54
S&P 500 Index	(4.27%)	38	25.02%	47	26.29%	48	(18.11%)	59	28.71%	54
Callan Large Cap Core	(4.72%)		24.81%		26.16%		(17.42%)		29.05%	
Polen Capital Management	(5.80%)	15	16.07%	90	38.20%	61	(37.72%)	89	24.84%	44
S&P 500 Index	(4.27%)	8	25.02%	70	26.29%	89	(18.11%)	6	28.71%	21
Callan Large Cap Growth	(8.96%)		30.20%		40.56%		(30.21%)		24.35%	
Earnest Partners LLC	(3.31%)	41	8.20%	86	17.57%	52	(15.13%)	52	26.09%	48
Russell MidCap Index	(3.40%)	45	15.34%	35	17.23%	53	(17.32%)	58	22.58%	58
Callan Mid Capitalization	(3.89%)		13.28%		17.82%		(14.34%)		25.38%	
DFA Small Cap Value	(8.03%)	66	7.87%	64	21.85%	13	(1.69%)	10	40.61%	16
Russell 2000 Value Index	(7.74%)	59	8.05%	63	14.65%	65	(14.48%)	84	28.27%	64
Callan Small Cap Value	(7.08%)		9.03%		16.41%		(10.51%)		31.82%	
<b>Total Global Equity</b>	<b>(2.00%)</b>	<b>65</b>	<b>15.82%</b>	<b>45</b>	<b>22.29%</b>	<b>47</b>	<b>(17.35%)</b>	<b>47</b>	<b>19.03%</b>	<b>53</b>
MSCI World	(1.79%)	62	18.67%	35	23.79%	35	(18.14%)	52	21.82%	28
Callan Global Equity	(1.25%)		14.47%		21.74%		(17.81%)		19.42%	
BlackRock Global Alpha Tilts	(0.95%)	47	19.03%	32	23.27%	40	(16.80%)	43	18.73%	56
MSCI ACWI Gross	(1.22%)	49	18.02%	37	22.81%	43	(17.96%)	51	19.04%	53
Callan Global Equity	(1.25%)		14.47%		21.74%		(17.81%)		19.42%	
MFS Investment Management	(3.28%)	81	11.87%	60	21.00%	52	(18.14%)	52	19.56%	49
MSCI ACWI Gross	(1.22%)	49	18.02%	37	22.81%	43	(17.96%)	51	19.04%	53
Callan Global Equity	(1.25%)		14.47%		21.74%		(17.81%)		19.42%	
<b>Total International Equity</b>	<b>6.30%</b>	<b>36</b>	<b>6.58%</b>	<b>34</b>	<b>22.82%</b>	<b>3</b>	<b>(15.36%)</b>	<b>23</b>	<b>13.08%</b>	<b>14</b>
MSCI EAFE	6.86%	9	3.82%	83	18.24%	20	(14.45%)	18	11.26%	24
Pub Pln- Intl Equity	5.91%		5.45%		16.71%		(16.86%)		8.95%	
AQR Emerging Markets	1.44%	73	7.37%	54	18.78%	12	(20.29%)	38	1.23%	36
MSCI EM Gross	3.01%	47	8.05%	46	10.27%	59	(19.74%)	35	(2.22%)	55
Callan Emerging Broad	2.91%		7.71%		11.91%		(21.94%)		(0.59%)	
Brandes Investment Partners	10.42%	9	7.12%	37	31.34%	1	(6.79%)	5	14.42%	18
MSCI EAFE	6.86%	51	3.82%	68	18.24%	47	(14.45%)	43	11.26%	54
Callan NonUS Eq	7.01%		5.93%		18.11%		(15.20%)		11.56%	
William Blair & Company	0.05%	96	3.93%	68	16.06%	74	(28.57%)	95	13.27%	31
MSCI ACWIxUS Gross	5.36%	72	6.09%	47	16.21%	72	(15.57%)	51	8.29%	72
Callan NonUS Eq	7.01%		5.93%		18.11%		(15.20%)		11.56%	
DFA International Small Cap	10.47%	1	8.35%	25	18.04%	22	(9.42%)	5	16.47%	14
MSCI EAFE Small	3.69%	56	1.82%	59	13.16%	66	(21.39%)	52	10.10%	72
Callan Intl Small Cap	4.10%		2.90%		15.18%		(20.63%)		12.78%	

## Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2024- 3/2025		2024		2023		2022		2021	
<b>Total Fixed Income</b>	<b>2.75%</b>	<b>18</b>	<b>2.49%</b>	<b>48</b>	<b>6.63%</b>	<b>43</b>	<b>(6.83%)</b>	<b>9</b>	<b>(0.36%)</b>	<b>45</b>
Blmbg Aggregate	2.78%	10	1.25%	83	5.53%	81	(13.01%)	71	(1.54%)	91
Pub Plin- Dom Fixed	2.29%		2.38%		6.40%		(12.26%)		(0.57%)	
BlackRock US Govt Bond	2.91%	24	0.79%	98	4.24%	100	(12.43%)	22	-	
Blmbg Government	2.91%	24	0.62%	98	4.09%	100	(12.32%)	16	(2.28%)	100
Callan Core Bond FI	2.80%		1.93%		6.17%		(12.91%)		(1.03%)	
Reams Asset Management	2.91%	26	1.76%	86	6.76%	57	(11.39%)	13	(1.23%)	91
Blmbg Aggregate	2.78%	52	1.25%	95	5.53%	96	(13.01%)	41	(1.54%)	97
Callan Core Plus FI	2.79%		2.74%		6.90%		(13.27%)		(0.27%)	
Loomis, Sayles & Company, L.P.	2.35%	96	5.26%	1	8.56%	2	(12.12%)	18	2.13%	5
Blmbg Aggregate	2.78%	52	1.25%	95	5.53%	96	(13.01%)	41	(1.54%)	97
Callan Core Plus FI	2.79%		2.74%		6.90%		(13.27%)		(0.27%)	
<b>Total Private Equity</b>	<b>(0.14%)</b>		<b>5.67%</b>		<b>2.89%</b>		<b>(4.88%)</b>		<b>67.66%</b>	
Private Equity Benchmark (3)	3.14%		37.37%		22.76%		(15.10%)		34.08%	
Abbott Capital Management 2010	0.00%		(4.74%)		(6.70%)		(16.87%)		65.55%	
Abbott Capital Management 2011	0.00%		(3.37%)		(7.55%)		(18.97%)		76.29%	
Abbott Capital Management 2012	0.00%		(3.47%)		(3.85%)		(13.14%)		72.85%	
Abbott Capital Management 2013	0.00%		(1.99%)		(2.85%)		(12.51%)		70.21%	
Abbott Capital Management 2014	0.00%		(2.66%)		(3.96%)		(9.41%)		75.52%	
Abbott Capital Management 2015	0.00%		4.16%		3.60%		(0.79%)		75.81%	
Abbott Capital Management 2016	0.00%		8.60%		5.24%		2.90%		71.04%	
Abbott Capital Management 2018	0.00%		7.54%		3.96%		7.44%		47.06%	
Abbott Capital Management 2019	0.00%		8.63%		3.43%		7.54%		57.22%	
Abbott Capital Management 2020	(0.15%)		7.88%		1.70%		0.81%		65.36%	
Abbott Capital Management 2021	(0.20%)		5.84%		2.00%		1.72%		-	
Abbott Capital Management 2022	(0.31%)		(0.81%)		4.87%		-		-	
Abbott Capital Management 2023	(0.39%)		5.80%		-		-		-	
Abbott Capital Management 2024	(0.47%)		-		-		-		-	
Mesirow V	0.00%		2.53%		(0.80%)		(19.60%)		78.52%	
Mesirow VI	0.00%		4.28%		(0.52%)		(13.41%)		88.26%	
Mesirow VII	0.00%		7.72%		5.78%		(0.68%)		60.27%	
Mesirow VIII	0.00%		6.43%		0.22%		(2.15%)		10.14%	
NB Secondary Opp Fund III	(0.78%)		7.67%		17.34%		(2.34%)		30.34%	
NB Secondary Opp Fund IV	(1.13%)		7.46%		4.64%		0.29%		48.73%	
NB Secondary Opp Fund V	(1.07%)		19.22%		21.41%		-		-	
Private Advisors VI	(0.43%)		11.63%		4.68%		9.97%		83.78%	
Private Advisors VII	0.00%		9.22%		7.32%		21.61%		52.55%	
Private Advisors VIII	0.00%		13.69%		9.80%		27.61%		47.25%	
Private Advisors IX	0.00%		8.98%		13.33%		24.00%		37.25%	
Apogem Capital X	(0.25%)		4.59%		-		-		-	
<b>Absolute Return</b>	<b>1.46%</b>		<b>11.53%</b>		<b>6.09%</b>		<b>26.46%</b>		<b>8.87%</b>	
90 Day T-Bill + 3%	1.74%		8.25%		8.01%		4.46%		3.05%	
Aptitude	0.51%	76	13.13%	20	5.24%	59	-		-	
30-Day Average SOFR +4%	2.06%	21	9.44%	52	9.09%	1	-		-	
Callan Abs Rtn Hedge FoF	1.32%		9.61%		5.87%		3.34%		6.76%	
UBS A & Q	2.12%	10	10.48%	40	6.48%	30	8.85%	13	8.08%	45
(Libor thru 2/22) SOFR +4%	2.06%	21	9.44%	52	9.09%	1	5.32%	25	4.11%	77
Callan Abs Rtn Hedge FoF	1.32%		9.61%		5.87%		3.34%		6.76%	
<b>Real Assets</b>	<b>3.55%</b>		<b>3.92%</b>		<b>3.95%</b>		<b>(5.29%)</b>		<b>18.24%</b>	
Principal DRA	3.55%	48	3.92%	84	3.95%	49	(5.29%)	85	18.24%	44
Principal DRA Blend Index (1)	4.73%	43	4.21%	82	4.31%	48	(5.06%)	85	15.87%	46
Callan Alternative Inv DB	3.30%		7.08%		3.41%		9.02%		13.64%	
<b>Total Real Estate</b>	<b>1.06%</b>		<b>(2.36%)</b>		<b>(10.23%)</b>		<b>13.88%</b>		<b>23.85%</b>	
Real Estate	1.06%	43	(2.36%)	67	(10.23%)	71	13.88%	30	23.85%	
Blended Benchmark (2)	0.85%	57	(8.44%)	86	(13.08%)	79	21.68%	20	14.83%	
Callan Tot Real Est DB	0.93%		(0.08%)		(2.59%)		8.57%		-	
<b>Total Fund</b>	<b>1.22%</b>	<b>12</b>	<b>6.97%</b>	<b>93</b>	<b>10.22%</b>	<b>88</b>	<b>(6.32%)</b>	<b>8</b>	<b>19.05%</b>	<b>8</b>
Total Fund Index*	0.96%	17	10.69%	35	12.43%	56	(10.58%)	26	12.77%	71
Callan Public Fund Spr DB	0.22%		9.93%		12.77%		(12.38%)		14.07%	

\* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

(1) Current Principal DRA Blend Index = 15% Bloomberg US TIPS Idx, 15% Bloomberg Commodity Idx, 30% S&P Global Infrastructure Idx, 15% S&P Global Natural Resources Idx and 25% FTSE EPRA/NAREIT Developed Market Idx.  
(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

(3) Private Equity Benchmark = Russell 3000 Index lagged 3 months+3.0% through 12/31/19, Russell 3000 Index lagged 3 months+2.0% thereafter.

## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2025					
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Net of Fee Returns</b>					
<b>Total Domestic Equity</b>	<b>(2.99%)</b>	<b>2.04%</b>	<b>5.34%</b>	<b>17.37%</b>	<b>10.42%</b>
Russell 3000 Index	(4.72%)	7.22%	8.22%	18.18%	11.80%
BlackRock Russell 1000 Value	2.13%	7.19%	6.65%	16.18%	-
Russell 1000 Value Index	2.14%	7.18%	6.64%	16.15%	8.79%
DFA Large Cap Value	2.07%	4.01%	7.16%	17.94%	-
Russell 1000 Value Index	2.14%	7.18%	6.64%	16.15%	8.79%
Northern Trust Global	(4.27%)	8.23%	9.06%	18.59%	12.52%
S&P 500 Index	(4.27%)	8.25%	9.06%	18.59%	12.50%
Polen Capital Management	(5.89%)	1.09%	2.59%	12.34%	12.79%
S&P 500 Index	(4.27%)	8.25%	9.06%	18.59%	12.50%
Earnest Partners LLC	(3.44%)	(3.81%)	2.82%	15.33%	10.52%
Russell MidCap Index	(3.40%)	2.59%	4.62%	16.28%	8.82%
DFA Small Cap Value	(8.18%)	(4.86%)	4.95%	22.80%	7.92%
Russell 2000 Value Index	(7.74%)	(3.12%)	0.05%	15.31%	6.07%
<b>Total Global Equity</b>	<b>(2.11%)</b>	<b>4.69%</b>	<b>6.53%</b>	<b>15.06%</b>	<b>9.98%</b>
MSCI World	(1.79%)	7.04%	7.58%	16.13%	9.50%
BlackRock Global Alpha Tilts	(1.06%)	7.58%	8.14%	16.26%	-
MSCI ACWI Gross	(1.22%)	7.63%	7.42%	15.71%	9.39%
MFS Investment Management	(3.38%)	1.20%	4.56%	13.56%	10.57%
MSCI ACWI Gross	(1.22%)	7.63%	7.42%	15.71%	9.39%
<b>Total International Equity</b>	<b>6.18%</b>	<b>6.51%</b>	<b>7.43%</b>	<b>14.61%</b>	<b>6.16%</b>
MSCI EAFE Index	6.86%	4.88%	6.05%	11.77%	5.40%
AQR Emerging Markets	1.25%	1.71%	1.47%	9.38%	-
MSCI EM Gross	3.01%	8.65%	1.91%	8.38%	4.11%
Brandes Investment Partners	10.32%	11.93%	13.71%	18.08%	6.87%
MSCI EAFE Index	6.86%	4.88%	6.05%	11.77%	5.40%
William Blair & Company	(0.07%)	(3.18%)	(0.12%)	9.30%	5.21%
MSCI ACWI ex-US Index	5.36%	6.65%	5.03%	11.46%	5.49%
DFA International Small Cap	10.35%	13.04%	9.02%	17.33%	6.51%
MSCI EAFE Small	3.69%	3.10%	0.88%	9.89%	5.34%

\*Net returns are simulated with the use of fee schedules through March 31, 2019. Actual fees paid are used thereafter.



## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2025. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

### Returns for Periods Ended March 31, 2025

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Net of Fee Returns</b>					
<b>Total Fixed Income</b>	<b>2.73%</b>	<b>5.62%</b>	<b>1.52%</b>	<b>2.79%</b>	<b>2.15%</b>
Bimbg Aggregate	2.78%	4.88%	0.52%	(0.40%)	1.46%
BlackRock US Govt Bond	2.91%	4.63%	0.02%	-	-
Bimbg Government	2.91%	4.53%	0.01%	(1.60%)	0.98%
Reams Asset Management	2.91%	5.36%	1.50%	1.89%	3.01%
Bimbg Aggregate	2.78%	4.88%	0.52%	(0.40%)	1.46%
Loomis, Sayles & Company, L.P.	2.31%	6.90%	2.79%	3.98%	3.68%
Bimbg Aggregate	2.78%	4.88%	0.52%	(0.40%)	1.46%
<b>Total Private Equity</b>	<b>(0.14%)</b>	<b>5.59%</b>	<b>1.10%</b>	<b>16.17%</b>	<b>15.66%</b>
Private Equity Benchmark	3.14%	25.96%	10.42%	16.37%	-
Abbott Capital Management 2010	0.00%	(4.74%)	(9.60%)	8.76%	12.91%
Abbott Capital Management 2011	0.00%	(3.37%)	(10.22%)	10.50%	13.64%
Abbott Capital Management 2012	0.00%	(3.47%)	(6.93%)	12.45%	13.31%
Abbott Capital Management 2013	0.00%	(1.99%)	(5.91%)	12.78%	13.45%
Abbott Capital Management 2014	0.00%	(2.66%)	(5.39%)	13.46%	12.46%
Abbott Capital Management 2015	0.00%	4.16%	2.30%	17.03%	12.47%
Abbott Capital Management 2016	0.00%	8.60%	5.59%	19.33%	-
Abbott Capital Management 2018	0.00%	7.54%	6.35%	16.82%	-
Abbott Capital Management 2019	0.00%	8.63%	6.51%	15.89%	-
Abbott Capital Management 2020	(0.15%)	7.72%	3.36%	-	-
Abbott Capital Management 2021	(0.20%)	5.63%	3.20%	-	-
Abbott Capital Management 2022	(0.31%)	(0.79%)	(1.13%)	-	-
Abbott Capital Management 2023	(0.39%)	6.23%	-	-	-
Abbott Capital Management 2024	(0.47%)	-	-	-	-
Mesirow V	0.00%	2.53%	(6.48%)	12.12%	14.69%
Mesirow IV	0.00%	4.28%	(3.51%)	16.90%	14.08%
Mesirow VII	0.00%	7.72%	4.21%	16.24%	-
Mesirow VIII	0.00%	6.43%	1.44%	-	-
NB Secondary Opp Fund III	(0.78%)	7.98%	7.50%	10.71%	13.75%
NB Secondary Opp Fund IV	(1.13%)	7.26%	4.14%	13.74%	-
NB Secondary Opp Fund V	(1.07%)	17.95%	49.33%	-	-
Private Advisors VI	(0.43%)	11.16%	8.56%	22.33%	13.22%
Private Advisors VII	0.00%	9.22%	12.54%	17.72%	-
Private Advisors VIII	0.00%	14.29%	16.79%	22.10%	-
Private Advisors IX	0.00%	9.33%	15.17%	21.04%	-
Apogem Capital X	(0.25%)	4.44%	-	-	-
<b>Absolute Return</b>	<b>1.46%</b>	<b>9.41%</b>	<b>8.75%</b>	<b>14.05%</b>	<b>6.27%</b>
90 Day T-Bill + 3%	1.74%	7.97%	7.23%	5.56%	4.87%
Aptitude	0.51%	8.51%	-	-	-
30-Day Average SOFR +4%	2.06%	9.18%	8.31%	-	-
UBS A & Q	2.12%	10.08%	8.83%	10.16%	6.81%
(Libor thru 2/22) SOFR +4%	2.06%	9.18%	8.31%	6.63%	5.96%
<b>Real Assets</b>	<b>3.39%</b>	<b>5.02%</b>	<b>(0.64%)</b>	<b>9.39%</b>	<b>-</b>
Principal DRA	3.39%	5.02%	(0.64%)	9.39%	-
Principal DRA Blend Index	4.73%	8.42%	0.39%	9.52%	-
<b>Total Real Estate</b>	<b>0.98%</b>	<b>2.58%</b>	<b>(2.42%)</b>	<b>3.98%</b>	<b>6.65%</b>
Real Estate	0.98%	2.58%	(2.42%)	3.98%	6.65%
Blended Benchmark	0.85%	(2.43%)	(3.11%)	2.24%	5.25%
<b>Total Fund</b>	<b>1.17%</b>	<b>5.07%</b>	<b>3.70%</b>	<b>11.25%</b>	<b>7.24%</b>
Total Fund Index	0.96%	7.56%	4.60%	9.30%	7.00%

\*Net returns are simulated with the use of fee schedules through March 31, 2019. Actual fees paid are used thereafter.

## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2024- 3/2025	2024	2023	2022	2021
<b>Net of Fee Returns</b>					
<b>Total Domestic Equity</b>	<b>(2.99%)</b>	<b>14.38%</b>	<b>19.38%</b>	<b>(15.89%)</b>	<b>27.88%</b>
Russell 3000 Index	(4.72%)	23.81%	25.96%	(19.21%)	25.66%
BlackRock Russell 1000 Value	2.13%	14.37%	11.46%	(7.55%)	25.17%
Russell 1000 Value Index	2.14%	14.37%	11.46%	(7.54%)	25.16%
DFA Large Cap Value	2.07%	13.64%	12.12%	(5.12%)	27.35%
Russell 1000 Value Index	2.14%	14.37%	11.46%	(7.54%)	25.16%
Northern Trust Global	(4.27%)	24.99%	26.29%	(18.09%)	28.68%
S&P 500 Index	(4.27%)	25.02%	26.29%	(18.11%)	28.71%
Polen Capital Management	(5.89%)	15.61%	37.75%	(37.97%)	24.34%
S&P 500 Index	(4.27%)	25.02%	26.29%	(18.11%)	28.71%
Earnest Partners LLC	(3.44%)	7.62%	16.95%	(15.58%)	25.59%
Russell MidCap Index	(3.40%)	15.34%	17.23%	(17.32%)	22.58%
DFA Small Cap Value	(8.18%)	7.19%	21.04%	(2.12%)	40.38%
Russell 2000 Value Index	(7.74%)	8.05%	14.65%	(14.48%)	28.27%
<b>Total Global Equity</b>	<b>(2.11%)</b>	<b>15.34%</b>	<b>21.88%</b>	<b>(17.55%)</b>	<b>18.80%</b>
MSCI World	(1.79%)	18.67%	23.79%	(18.14%)	21.82%
BlackRock Global Alpha Tilts	(1.06%)	18.55%	22.93%	(16.89%)	18.67%
MSCI ACWI Gross	(1.22%)	18.02%	22.81%	(17.96%)	19.04%
MFS Investment Management	(3.38%)	11.41%	20.50%	(18.50%)	19.05%
MSCI ACWI Gross	(1.22%)	18.02%	22.81%	(17.96%)	19.04%
<b>Total International Equity</b>	<b>6.18%</b>	<b>6.09%</b>	<b>22.25%</b>	<b>(15.75%)</b>	<b>12.57%</b>
MSCI EAFE Index	6.86%	3.82%	18.24%	(14.45%)	11.26%
AQR Emerging Markets	1.25%	6.62%	17.92%	(20.93%)	0.47%
MSCI EM Gross	3.01%	8.05%	10.27%	(19.74%)	(2.22%)
Brandes Investment Partners	10.32%	6.70%	30.84%	(7.15%)	14.00%
MSCI EAFE Index	6.86%	3.82%	18.24%	(14.45%)	11.26%
William Blair & Company	(0.07%)	3.44%	15.50%	(28.91%)	12.77%
MSCI ACWI ex-US Index	5.36%	6.09%	16.21%	(15.57%)	8.29%
DFA International Small Cap	10.35%	7.89%	17.52%	(9.80%)	15.89%
MSCI EAFE Small	3.69%	1.82%	13.16%	(21.39%)	10.10%

\*Net returns are simulated with the use of fee schedules through March 31, 2019. Actual fees paid are used thereafter.



## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

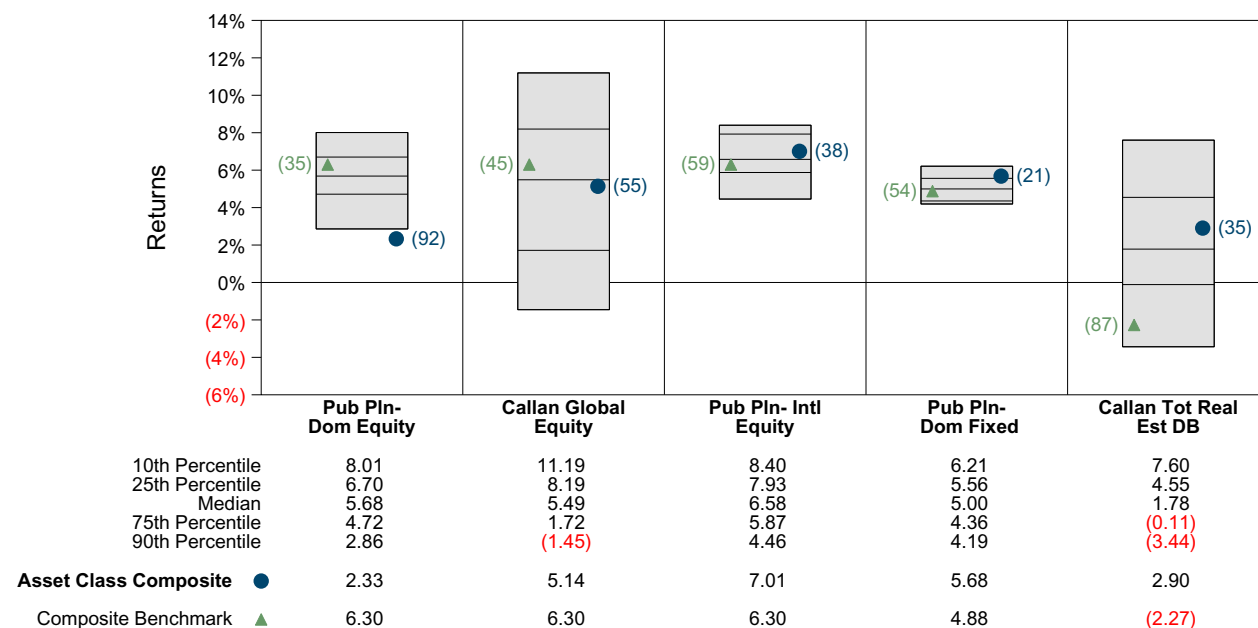
	12/2024- 3/2025	2024	2023	2022	2021
<b>Net of Fee Returns</b>					
<b>Total Fixed Income</b>	<b>2.73%</b>	<b>2.42%</b>	<b>6.52%</b>	<b>(6.93%)</b>	<b>(0.45%)</b>
Bimbg Aggregate	2.78%	1.25%	5.53%	(13.01%)	(1.54%)
BlackRock US Govt Bond	2.91%	0.77%	4.22%	(12.44%)	-
Bimbg Government	2.91%	0.62%	4.09%	(12.32%)	(2.28%)
Reams Asset Management	2.91%	1.70%	6.62%	(11.50%)	(1.36%)
Bimbg Aggregate	2.78%	1.25%	5.53%	(13.01%)	(1.54%)
Loomis, Sayles & Company, L.P.	2.31%	5.10%	8.41%	(12.26%)	1.98%
Bimbg Aggregate	2.78%	1.25%	5.53%	(13.01%)	(1.54%)
<b>Total Private Equity</b>	<b>(0.14%)</b>	<b>5.67%</b>	<b>2.89%</b>	<b>(4.88%)</b>	<b>67.66%</b>
Private Equity Benchmark	3.14%	37.37%	22.76%	(15.10%)	34.08%
Abbott Capital Management 2010	0.00%	(4.74%)	(6.70%)	(16.87%)	65.55%
Abbott Capital Management 2011	0.00%	(3.37%)	(7.55%)	(18.97%)	76.29%
Abbott Capital Management 2012	0.00%	(3.47%)	(3.85%)	(13.14%)	72.85%
Abbott Capital Management 2013	0.00%	(1.99%)	(2.85%)	(12.51%)	70.21%
Abbott Capital Management 2014	0.00%	(2.66%)	(3.96%)	(9.41%)	75.52%
Abbott Capital Management 2015	0.00%	4.16%	3.60%	(0.79%)	75.81%
Abbott Capital Management 2016	0.00%	8.60%	5.24%	2.90%	71.04%
Abbott Capital Management 2018	0.00%	7.54%	3.96%	7.44%	47.06%
Abbott Capital Management 2019	0.00%	8.63%	3.43%	7.54%	57.22%
Abbott Capital Management 2020	(0.15%)	7.88%	1.70%	0.81%	65.36%
Abbott Capital Management 2021	(0.20%)	5.84%	2.00%	1.72%	-
Abbott Capital Management 2022	(0.31%)	(0.81%)	4.87%	-	-
Abbott Capital Management 2023	(0.39%)	5.80%	-	-	-
Abbott Capital Management 2024	(0.47%)	-	-	-	-
Mesirow V	0.00%	2.53%	(0.80%)	(19.60%)	78.52%
Mesirow IV	0.00%	4.28%	(0.52%)	(13.41%)	88.26%
Mesirow VII	0.00%	7.72%	5.78%	(0.68%)	60.27%
Mesirow VIII	0.00%	6.43%	0.22%	(2.15%)	10.14%
NB Secondary Opp Fund III	(0.78%)	7.67%	17.34%	(2.34%)	30.34%
NB Secondary Opp Fund IV	(1.13%)	7.46%	4.64%	0.29%	48.73%
NB Secondary Opp Fund V	(1.07%)	19.22%	21.41%	-	-
Private Advisors VI	(0.43%)	11.63%	4.68%	9.97%	83.78%
Private Advisors VII	0.00%	9.22%	7.32%	21.61%	52.55%
Private Advisors VIII	0.00%	13.69%	9.80%	27.61%	47.25%
Private Advisors IX	0.00%	8.98%	13.33%	24.00%	37.25%
Apogem Capital X	(0.25%)	4.59%	-	-	-
<b>Absolute Return</b>	<b>1.46%</b>	<b>11.53%</b>	<b>6.09%</b>	<b>26.46%</b>	<b>8.77%</b>
90 Day T-Bill + 3%	1.74%	8.25%	8.01%	4.46%	3.05%
Aptitude	0.51%	13.13%	5.24%	-	-
30-Day Average SOFR +4%	2.06%	9.44%	9.09%	-	-
UBS A & Q	2.12%	10.48%	6.48%	8.85%	8.08%
(Libor thru 2/22) SOFR +4%	2.06%	9.44%	9.09%	5.32%	4.11%
<b>Real Assets</b>	<b>3.39%</b>	<b>3.28%</b>	<b>3.31%</b>	<b>(5.91%)</b>	<b>17.51%</b>
Principal DRA	3.39%	3.28%	3.31%	(5.91%)	17.51%
Principal DRA Blend Index	4.73%	4.21%	4.31%	(5.07%)	15.87%
<b>Total Real Estate</b>	<b>0.98%</b>	<b>(2.67%)</b>	<b>(10.54%)</b>	<b>13.58%</b>	<b>23.45%</b>
Real Estate	0.98%	(2.67%)	(10.54%)	13.58%	23.45%
Blended Benchmark	0.85%	(8.44%)	(13.08%)	21.68%	14.83%
<b>Total Fund</b>	<b>1.17%</b>	<b>6.74%</b>	<b>9.97%</b>	<b>(6.51%)</b>	<b>18.80%</b>
Total Fund Index	0.96%	10.69%	12.43%	(10.58%)	12.77%

\*Net returns are simulated with the use of fee schedules through March 31, 2019. Actual fees paid are used thereafter.

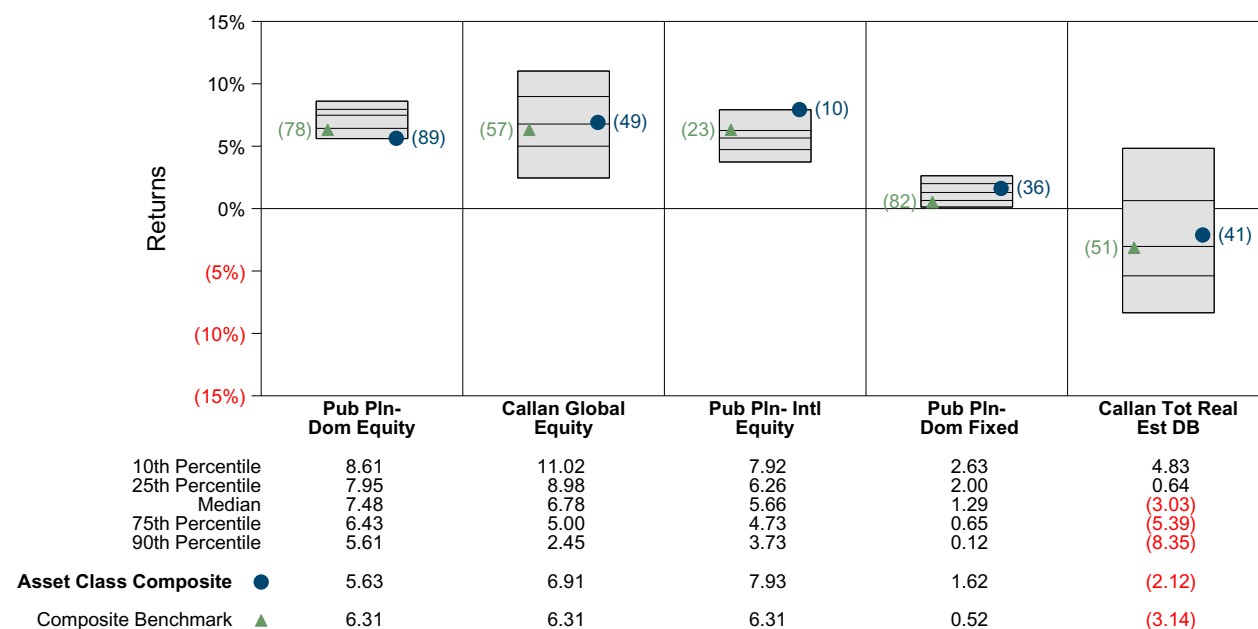
## Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases.

### Total Asset Class Performance One Year Ended March 31, 2025



### Total Asset Class Performance Three Years Ended March 31, 2025

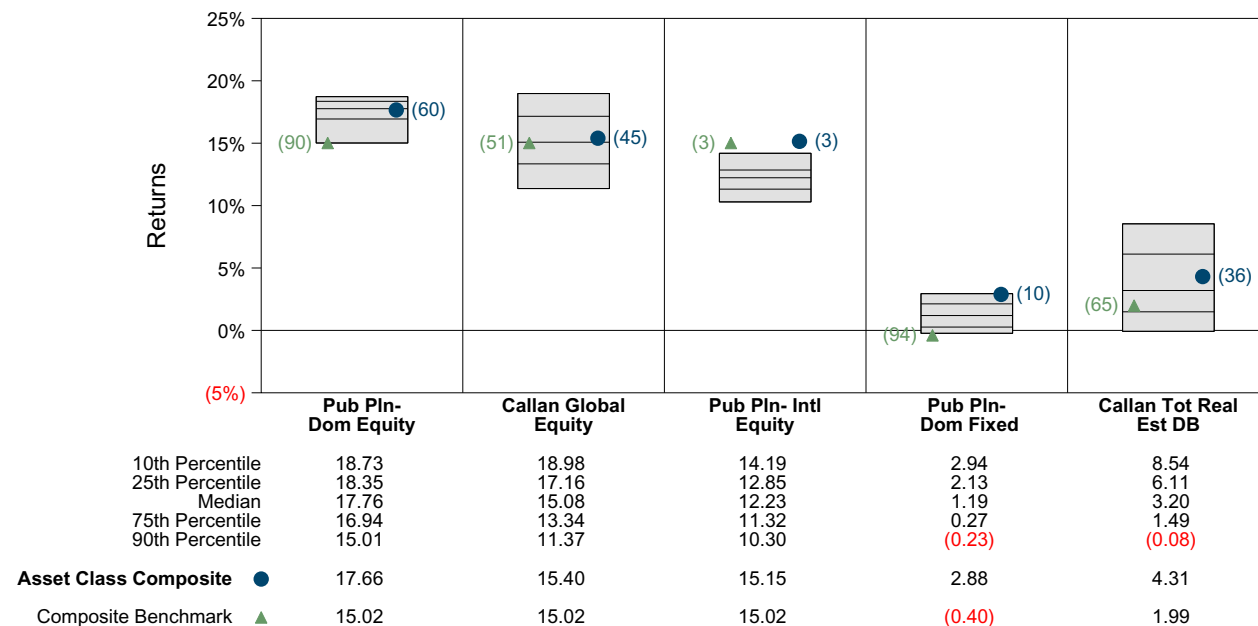


\* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

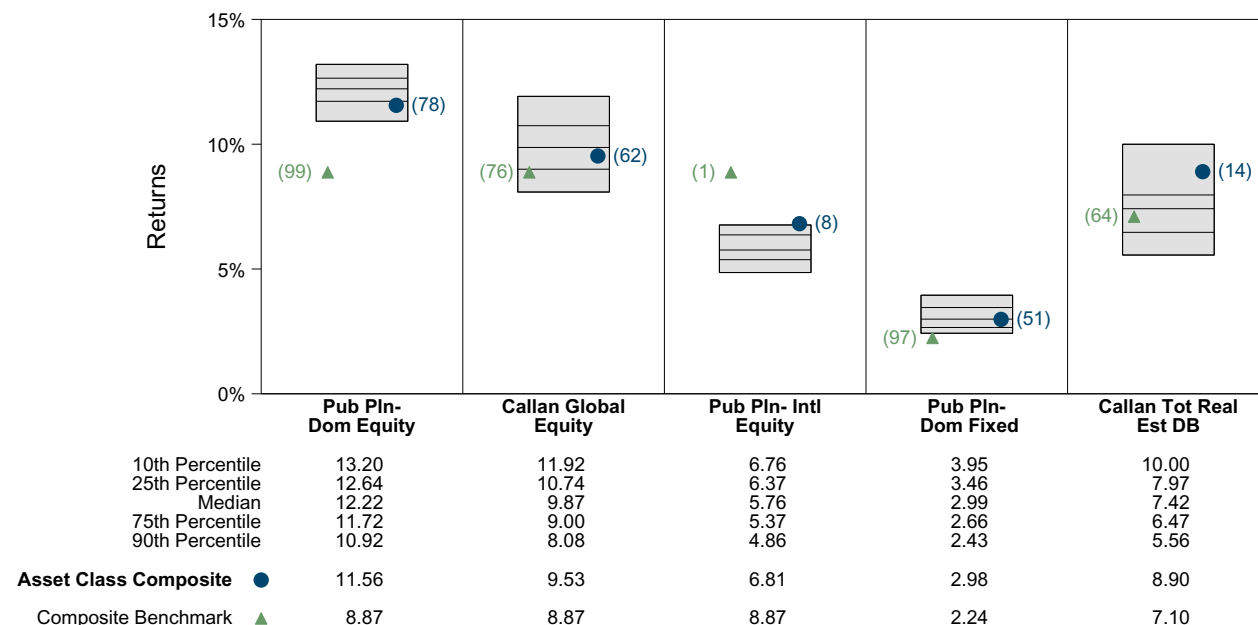
## Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases.

### Total Asset Class Performance Five Years Ended March 31, 2025



### Total Asset Class Performance Fourteen and One-Quarter Years Ended March 31, 2025

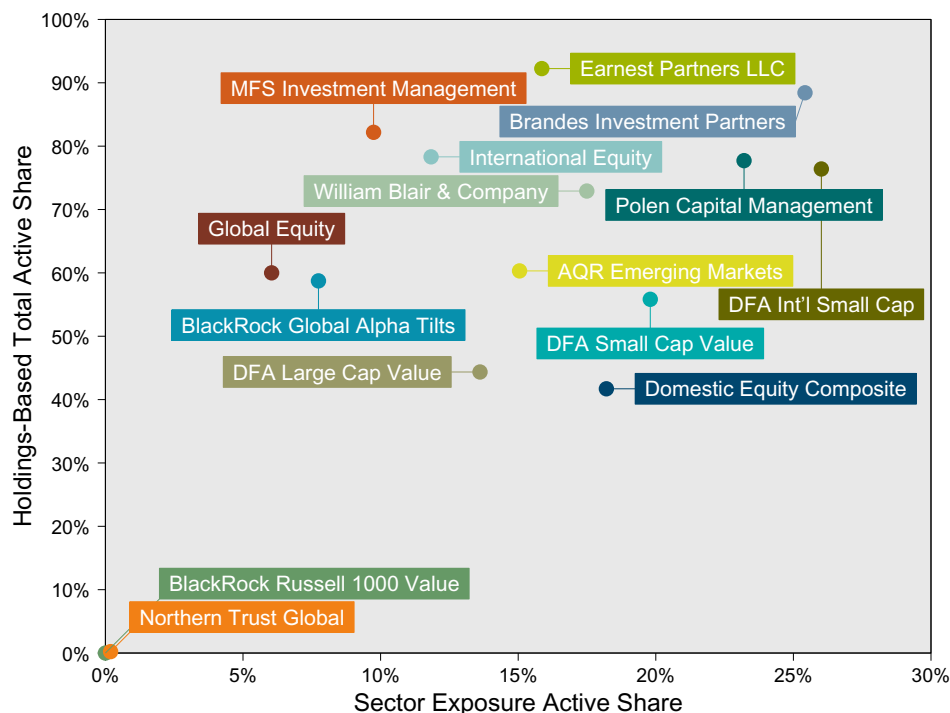


\* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Val Wt Nt lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

## Active Share Structure Analysis For One Quarter Ended March 31, 2025

This analysis compares multiple portfolios and composites in an active share context, illustrating the varying degrees of active risk taken by individual portfolios, and how they combine into active risk profiles for composites and the equity structure. Two sources of active share (active risk) are shown: 1) Total Holdings-Based Active Share based on individual position comparisons to the index (and the subcomponent from holding non-index securities), and 2) Sector Exposure Active Share that quantifies the more macro-level sector differences from the index.

### Active Share Analysis Ended March 31, 2025

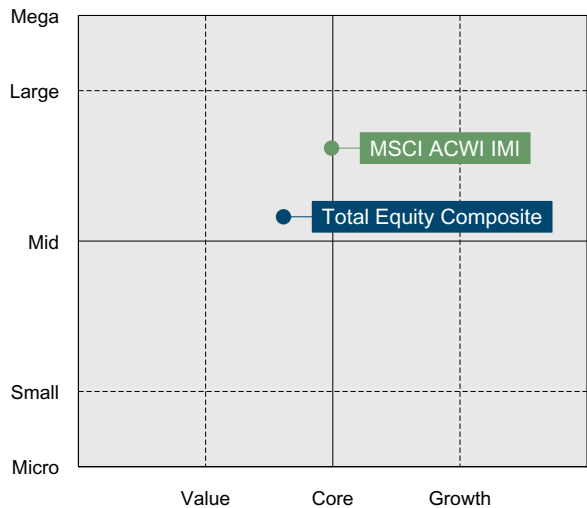


	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
<b>Domestic Equity Composite</b>	<b>Russell 3000</b>	<b>41.70%</b>	<b>0.79%</b>	<b>18.20%</b>	<b>1747</b>	<b>98.22</b>
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	870	68.10
DFA Large Cap Value	Russell 1000 Value	44.35%	0.70%	13.61%	345	47.71
Northern Trust Global	S&P 500	0.22%	0.00%	0.19%	502	29.25
Polen Capital Management	S&P 500	77.72%	2.40%	23.21%	25	7.94
Earnest Partners LLC	Russell MidCap	92.24%	9.62%	15.86%	59	21.32
DFA Small Cap Value	Russell 2000 Value	55.83%	20.92%	19.80%	933	122.23
<b>Global Equity</b>	<b>MSCI World</b>	<b>60.00%</b>	<b>6.38%</b>	<b>6.04%</b>	<b>370</b>	<b>41.59</b>
BlackRock Global Alpha Tilts	MSCI ACWI GD	58.74%	3.50%	7.74%	315	30.12
MFS Investment Management	MSCI ACWI GD	82.19%	1.60%	9.74%	72	20.87
<b>International Equity</b>	<b>MSCI EAFE</b>	<b>78.31%</b>	<b>28.98%</b>	<b>11.83%</b>	<b>2416</b>	<b>85.02</b>
AQR Emerging Markets	MSCI EM GD	60.31%	2.95%	15.05%	318	31.96
Brandes Investment Partners	MSCI EAFE	88.43%	17.36%	25.42%	68	24.02
William Blair & Company	MSCI ACWI xUS GD	72.92%	7.76%	17.49%	270	49.64
DFA Int'l Small Cap	MSCI EAFE Small	76.40%	17.58%	26.02%	1813	136.31

Current Holdings Based Style Analysis
Total Equity Composite
As of March 31, 2025

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional 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 current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

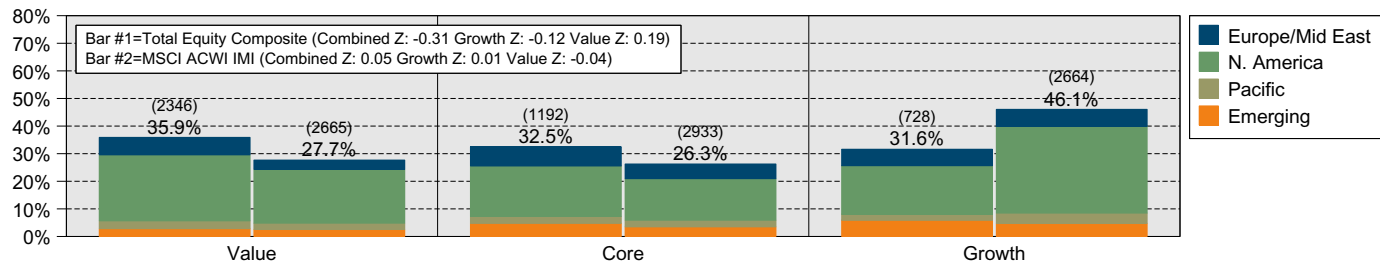
Style Map vs Callan Public Fund Spr DB Holdings as of March 31, 2025



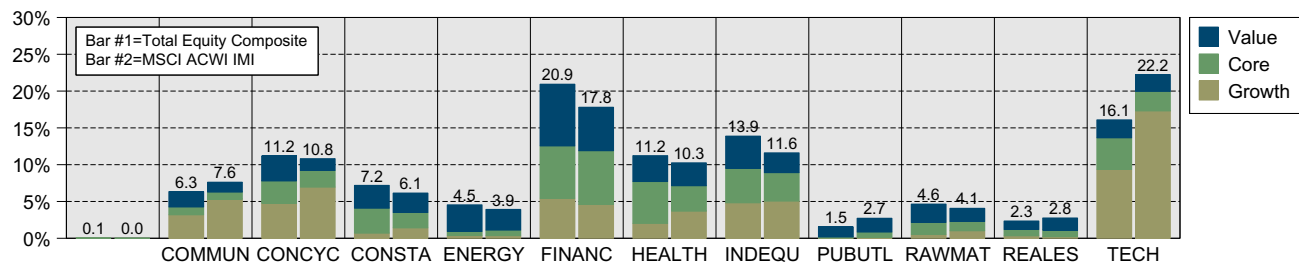
Style Exposure Matrix Holdings as of March 31, 2025

Europe/ Mid East	6.3% (398)	6.9% (263)	6.0% (148)	19.2% (809)
	3.3% (397)	5.3% (455)	6.2% (465)	14.8% (1317)
N. America	23.9% (1031)	18.3% (528)	17.6% (296)	59.8% (1855)
	19.6% (918)	15.1% (888)	31.4% (696)	66.0% (2502)
Pacific	2.8% (773)	2.5% (249)	2.2% (98)	7.5% (1120)
	2.3% (444)	2.4% (489)	3.7% (436)	8.4% (1369)
Emerging	2.8% (144)	4.7% (152)	5.9% (186)	13.4% (482)
	2.6% (906)	3.5% (1101)	4.8% (1067)	10.8% (3074)
Total	35.9% (2346)	32.5% (1192)	31.6% (728)	100.0% (4266)
	27.7% (2665)	26.3% (2933)	46.1% (2664)	100.0% (8262)
	Value	Core	Growth	Total

Combined Z-Score Style Distribution Holdings as of March 31, 2025



Sector Weights Distribution Holdings as of March 31, 2025



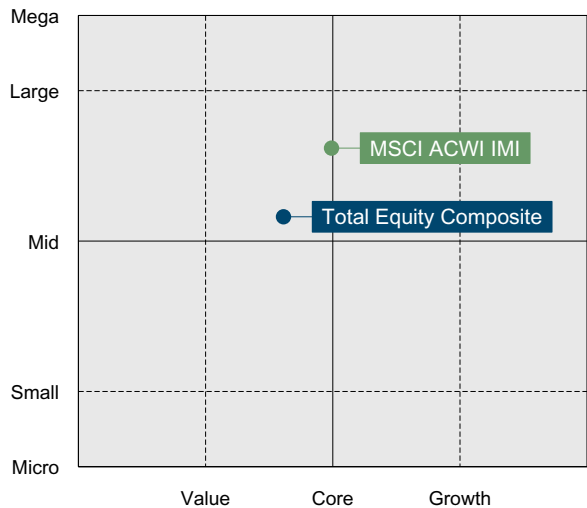
# Current Holdings Based Style Analysis

## Total Equity Composite

### As of March 31, 2025

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional 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 current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

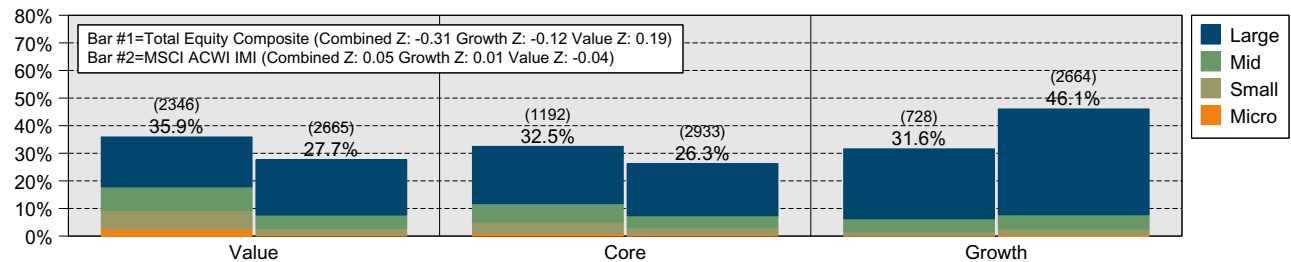
Style Map vs Callan Public Fund Spr DB Holdings as of March 31, 2025



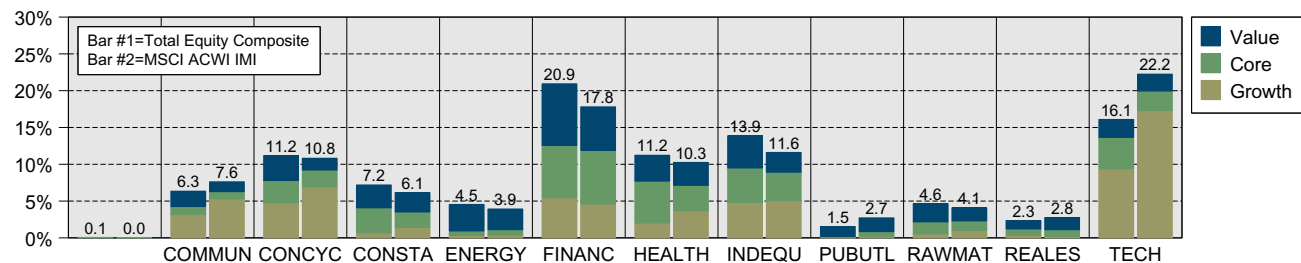
Style Exposure Matrix Holdings as of March 31, 2025

	Value	Core	Growth	Total
Large	18.1% (225) 20.0% (301)	20.7% (186) 18.9% (247)	25.4% (198) 38.3% (277)	64.2% (609) 77.3% (825)
Mid	8.4% (285) 4.8% (487)	6.6% (261) 4.4% (538)	4.7% (248) 5.1% (628)	19.8% (794) 14.3% (1653)
Small	6.8% (464) 2.3% (1038)	4.3% (380) 2.4% (1196)	1.4% (167) 2.2% (1071)	12.4% (1011) 7.0% (3305)
Micro	2.6% (1372) 0.5% (839)	0.9% (365) 0.5% (952)	0.1% (115) 0.4% (688)	3.6% (1852) 1.4% (2479)
Total	35.9% (2346) 27.7% (2665)	32.5% (1192) 26.3% (2933)	31.6% (728) 46.1% (2664)	100.0% (4266) 100.0% (8262)

Combined Z-Score Style Distribution Holdings as of March 31, 2025



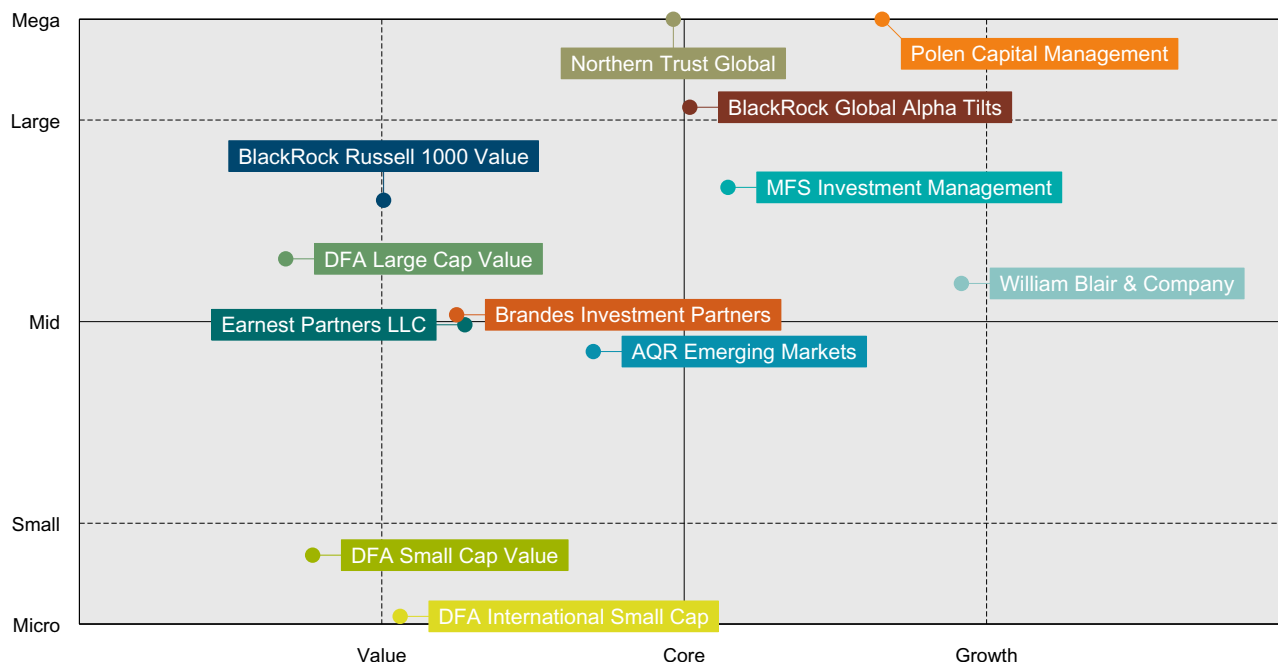
Sector Weights Distribution Holdings as of March 31, 2025



## Global Holdings Based Style Analysis For One Quarter Ended March 31, 2025

This page analyzes and compares the investment styles of multiple portfolios using a detailed holdings-based style analysis methodology. The size component of style is measured by the weighted median market capitalization of the holdings. The value/core/growth style dimension is captured by the "Combined Z-Score" of the portfolio. This score is based on eight fundamental factors used in the MSCI stock style scoring system. The table below gives a more detailed breakdown of several relevant style metrics on the portfolios.

### Style Map Holdings for One Quarter Ended March 31, 2025



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
BlackRock Russell 1000 Value	8.83%	95.46	(0.89)	(0.41)	0.47	870	68.10
DFA Large Cap Value	6.45%	61.11	(1.20)	(0.40)	0.80	345	47.71
Northern Trust Global	8.69%	249.21	0.03	0.00	(0.03)	502	29.25
Polen Capital Management	5.04%	394.09	0.69	0.19	(0.51)	25	7.94
Earnest Partners LLC	7.49%	23.95	(0.63)	(0.27)	0.36	59	21.32
DFA Small Cap Value	8.07%	3.40	(1.11)	(0.30)	0.81	933	122.23
MFS Investment Management	8.86%	103.02	0.20	(0.10)	(0.30)	72	20.87
BlackRock Global Alpha Tilts	10.98%	155.79	0.08	0.03	(0.05)	315	30.12
AQR Emerging Markets	4.54%	21.26	(0.22)	0.00	0.22	318	31.96
Brandes Investment Partners	13.62%	28.28	(0.66)	(0.20)	0.46	68	24.02
William Blair & Company	9.86%	46.67	0.95	0.33	(0.61)	270	49.64
DFA International Small Cap	7.55%	2.18	(0.84)	(0.22)	0.62	1813	136.31





## List of Callan's Investment Manager Clients

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Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry, and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor, and disclose potential conflicts on an ongoing basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database, or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g., attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group, and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance department.

### Manager Name

abrdn  
Acadian Asset Management LLC  
ACR Alpine Capital Research  
Adams Street Partners, LLC  
Aegon Asset Management  
AEW Capital Management, L.P.  
AllianceBernstein  
Allspring Global Investments, LLC  
Altrinsic Global Advisors, LLC  
American Century Investments  
Amundi US, Inc.  
Antares Capital LP  
Apollo Global Management, Inc.  
AQR Capital Management  
Ares Management LLC  
ARGA Investment Management, LP  
Ariel Investments, LLC  
Aristotle Capital Management, LLC

### Manager Name

Atlanta Capital Management Co., LLC  
Audax Private Debt  
AXA Investment Managers  
Baillie Gifford International, LLC  
Baird Advisors  
Barings LLC  
Baron Capital Management, Inc.  
Barrow, Hanley, Mewhinney & Strauss, LLC  
BentallGreenOak  
Beutel, Goodman & Company Ltd.  
BlackRock  
Blackstone Group (The)  
Blue Owl Capital, Inc.  
BNY Mellon Asset Management  
Boston Partners  
Brandes Investment Partners, L.P.  
Brandywine Global Investment Management, LLC  
Brookfield Asset Management Inc.

Manager Name
Brown Brothers Harriman & Company
Brown Investment Advisory & Trust Company
Capital Group
CastleArk Management, LLC
Cercano Management LLC
Champlain Investment Partners, LLC
CIBC Asset Management Inc.
CIM Group, LP
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Comvest Partners
Cooke & Bieler, L.P.
Crescent Capital Group LP
Dana Investment Advisors, Inc.
D.E. Shaw Investment Management, LLC
DePrince, Race & Zollo, Inc.
Dimensional Fund Advisors L.P.
Doubleline
DWS
EARNEST Partners, LLC
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Eagle Investment Management, LLC
First Hawaiian Bank Wealth Management Division
Fisher Investments
Franklin Templeton
Fred Alger Management, LLC
GAMCO Investors, Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Golub Capital
GW&K Investment Management
Harbor Capital Group Trust
HarbourVest Partners, LLC
Hardman Johnston Global Advisors LLC
Heitman LLC

Manager Name
Hotchkis & Wiley Capital Management, LLC
HPS Investment Partners, LLC
IFM Investors
Impax Asset Management LLC
Income Research + Management
Insight Investment
Intercontinental Real Estate Corporation
Invesco
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
Kayne Anderson Rudnick Investment Management, LLC
King Street Capital Management, L.P.
Kohlberg Kravis Roberts & Co. L.P. (KKR)
Lazard Asset Management
LGIM America
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord, Abbett & Company
LSV Asset Management
Mackay Shields LLC
Macquarie Asset Management
Manulife Investment Management
Manulife   CQS Investment Management
Marathon Asset Management, L.P.
Maverick Real Estate Partners
Mawer Investment Management Ltd.
MetLife Investment Management
MFS Investment Management
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mount Lucas Management LP
MUFG Bank, Ltd.
Natixis Investment Managers
Neuberger Berman
Newmarket Capital
Newton Investment Management

**Manager Name**

Nipun Capital, L.P.

NISA Investment Advisors LLC

Northern Trust Asset Management

Nuveen

Oaktree Capital Management, L.P.

Orbis Investment Management Limited

P/E Investments

Pacific Investment Management Company

Parametric Portfolio Associates LLC

Partners Group (USA) Inc.

Pathway Capital Management, LP

Peavine Capital

Peregrine Capital Management, LLC

PGIM DC Solutions

PGIM Fixed Income

PGIM Quantitative Solutions LLC

Pictet Asset Management

PineBridge Investments

Polen Capital Management, LLC

PPM America, Inc.

Pretium Partners, LLC

Principal Asset Management

Raymond James Investment Management

RBC Global Asset Management

Red Cedar Investment Management

Regions Financial Corporation

S&amp;P Dow Jones Indices

Sands Capital Management

**Manager Name**

Schroder Investment Management North America Inc.

Segall Bryant &amp; Hamill

SLC Management

Star Mountain Capital, LLC

State Street Global Advisors

Strategic Global Advisors, LLC

T. Rowe Price Associates, Inc.

TD Global Investment Solutions – TD Epoch

The TCW Group, Inc.

Thompson, Siegel &amp; Walmsley LLC

TPG Angelo Gordon

Tweedy, Browne Company LLC

UBS Asset Management

VanEck

Vaughan Nelson Investment Management

Versus Capital Group

Victory Capital Management Inc.

Virtus Investment Partners, Inc.

Vontobel Asset Management

Voya

Walter Scott &amp; Partners Limited

WCM Investment Management

Wellington Management Company LLP

Western Asset Management Company LLC

Westfield Capital Management Company, LP

William Blair &amp; Company LLC

Xponance, Inc.

## Important Disclosures

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