

September 16, 2026



**Mendocino County Employees'
Retirement Association**

MCERA Board Education

Greg DeForrest, CFA
Fund Sponsor Consulting

Claire Telleen, CFA
Fund Sponsor Consulting

Hannah Vieira
Fund Sponsor Consulting

MCERA Board Education Calendar

FY 2026 – 2027

✓ June

Asset Allocation by
Function

✓ July

Closed End and Direct
Investing Considerations

✓ August

Quarterly Investment Update

September

Liquidity Management &
Active Risk Budgeting

October

Risk Mitigation & Private
Equity Education

November

Actuarial Valuation
Presentation
Quarterly Investment Update

December

Private Credit Education

January

Capital Market Expectations
California Retirement
System Investment
Experience Review

February

Investment Philosophy
Review
Quarterly Investment Update

March

Asset Liability Study

April

Mid Cap Value Strategy
Update
Performance Measurement
Framework

May

Investment Policy Statement
Update
Quarterly Investment Update

Liquidity Management

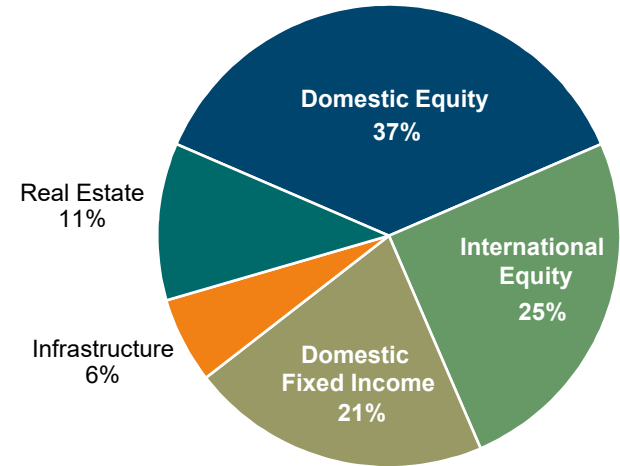
Portfolio Liquidity

Assessing liquidity needs has become more important over time as Public Plans mature and allocate more to private markets. This is especially true if a Plan has meaningful outflows, as a percent of assets, or if there are high allocations to private market assets.

Current MCERA Portfolio

- Over 80% of MCERA's portfolio is invested in liquid, public market securities.
- MCERA's less-liquid portfolio (Real Estate and Infrastructure investments) represent 17% of the total portfolio target (~\$144 million as of 6/30/26).
 - These open-end investments allow for quarterly redemption requests. However, the investment managers can gate contributions and distributions as determined appropriate to protect existing investors.
- MCERA currently has \$10 million in outstanding Real Estate commitments: \$4 million to Kayne Anderson and \$6 million to LaSalle

MCERA Target Asset Allocation



Callan assesses liquidity needs in two main ways:

1. Liquidity Stress Test Model

- Stress test portfolio for a “worse case” scenario

2. Net Outflow / Assets – *last reviewed as part of the 2023 Asset/Liability study; will be reviewed again in the upcoming study*

- Evaluates longer-term cash flow needs; simulated over 10+ years

By these two assessments, MCERA's liquidity needs remain manageable under the current contribution policy.

Liquidity Stress Test

A ~15% portfolio decline has only a modest impact on near-term liquidity needs

As of 6/30/25 – Most recent actuarial valuation

What if the portfolio
were to decline by
~15%?

	Current (6/30/25)	Change	Worse Case ¹
<u>Financial Position</u>			
Market Value of Assets	793	(118)	675
Liquid Assets	659	(98)	560
Illiquid Assets	135	(20)	115
Actuarial Accrued Liability	997	0	997
Plan Fiduciary Net Position as % Total Pension Liability	80%	-12%	68%
<u>Annual Cash Flows</u>			
Benefit Payments	53		53
Contributions (e'er & e'ee)	46		46
Net Outflow	7		7
as % of liquid assets	1.06%		1.25%

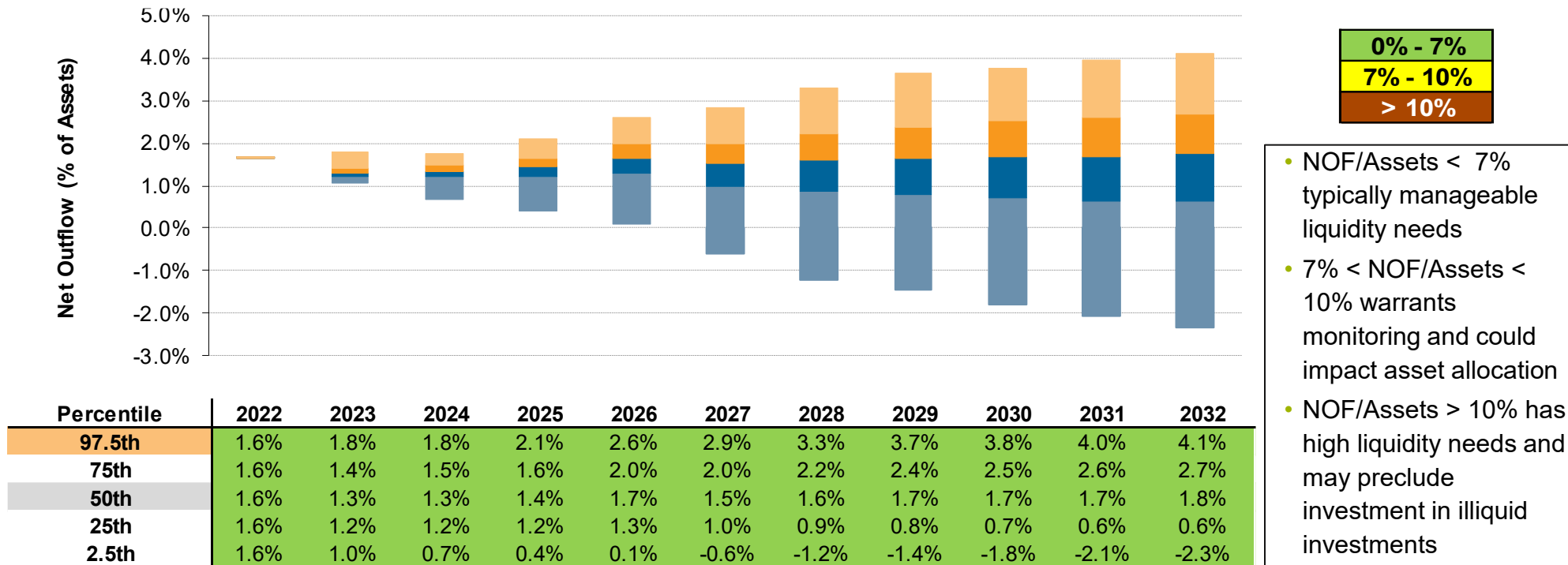
1 - Worse Case scenario is defined as the 97.5th percentile 1-year return based on Callan's Capital Market Expectations

- The table above considers a “worst case” scenario with the market value of the total MCERA portfolio declining by ~15%.
 - Benefit payments and contributions reflect the most recent actuarial report (June 2025); expenses not included here.
- Under this scenario, the impact to liquidity needs as a % of liquid assets is marginal, with total net outflow as a % of liquid assets remaining around 1%.

MCERA 2023 Asset Liability Study - Cash Flows and Liquidity Analysis

Stochastic Forecasts

Net Outflow as a Percentage of Assets



- Net outflow (NOF) = Benefits + administration expenses – employee contributions - employer contributions
 - NOF/assets can reach up to 4% per year
 - Portfolio income (not reflected) can assist with paying benefits
- MCERA Plan has manageable liquidity needs as long as the contribution policy is followed

Active Risk Budgeting

Where Should Active Risk Be Spent?

Four Dimensions: Opportunity Set | Manager Skill | Portfolio Benefit | Cost & Governance

	What to Evaluate	Key Question
Opportunity Set	Market efficiency, security dispersion, breadth of opportunities, structural inefficiencies	Is there sufficient opportunity for skilled managers to differentiate from the benchmark?
Manager Skill	Depth of manager universe, consistency and repeatability of skill, breadth of alpha sources, confidence in manager selection	Can we identify managers with a reasonable likelihood of adding value after fees?
Portfolio Benefit	Diversification of existing exposures, downside protection, correlation of active bets, contribution to total active risk	Does the active exposure improve the portfolio rather than duplicate existing risks?
Cost & Governance	Fees, number of managers, operational complexity, liquidity, monitoring requirements	Is the expected benefit sufficient to justify the cost and oversight required?

Active Risk Spectrum

Greater active risk increases the potential for both outperformance and underperformance.

Low Active Risk

High Active Risk



Passive Large Cap

Example: S&P 500 Index

- Seeks to closely match the benchmark
- Minimal deviations in sector, stock selection, and weights
- higher hurdle for active management given market efficiency
- Very low tracking error

Active Risk Contribution:
Very Low

Active Fixed Income

Example: Core Plus Strategy

- Active positioning within sectors and yield curve
- Moderate deviations from benchmark duration, quality, and sector weights
- Moderate tracking error

Active Risk Contribution:
Moderate

Active International

Example: MSCI ACWI ex U.S.

- Greater opportunity set across countries, sectors, and currencies
- Higher potential for active management to differ from the benchmark
- Higher tracking error

Active Risk Contribution:
Moderate to High

Active Small Cap

Example: Russell 2000

- Broad universe with less efficient markets
- High dispersion of returns and manager approaches
- High potential for meaningful deviations from the benchmark
- Highest tracking error

Active Risk Contribution:
High

Active risk is inherent, with wide dispersion across managers and strategies, benchmark challenges, and manager selection as a key driver of risk and return.

Private Markets

Example: Real Estate & Infrastructure

Active Risk Contribution: Highest

MCERA Investment Beliefs & Current Active/Passive Implementation

Passive management is emphasized in efficient markets, while active management is used where greater opportunity exists

Excerpts from MCERA Investment Beliefs:

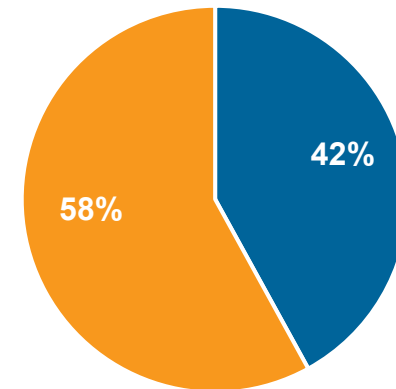
3. Understand and Manage Risk

- Investing involves risk
- Willing to accept risk that is understood for which MCERA receives compensation
- Seek to avoid risk that is not understood, or for which there is insufficient compensation

5. Public Investment Markets are Largely Efficient

- Utilize index funds in efficient market segments
- In market segments that are less efficient, MCERA will rely on active managers, and hold them accountable to achieving net-of-fees outperformance over the long term.

MCERA Passive/Active Implementation



42% Passive:

- Large Cap US Equity (26%)
- Non-US Developed Markets (16%)

58% Active:

- Small and Mid Cap US Equity (11%)
- Emerging Markets & Non-US Small Cap (9%)
- Core Plus Fixed Income (21%)
- Real Assets (17%)

Active Risk Allocation

The opportunity for active management varies by market segment

Actively Implemented in MCERA portfolio	Investment Style	Benchmark	Average Gross Excess Return over Benchmark
	Large Cap Equity	S&P 500	0.05%
	Developed ex-US	MSCI EAFE	0.90%
	Mid Cap Equity	Russell Mid Cap	-0.13%
	Small Cap Equity	Russell 2000	1.07%
	Global ex-US Small Cap	MSCI ACWI ex US Small Cap	1.10%
	Emerging Markets Equity	MSCI EM	0.75%
	Core Plus	Bloomberg US Aggregate	0.96%

Based on rolling 3-year gross excess returns relative to benchmark; trailing 20-year period as of Q2 2026.

- Active management should be considered when the investor believes there will be compensation on a net-of-fee basis. Historical data can help indicate attractive market segments.
- In general, Callan supports the use of passive management within the developed markets in large cap equities.
- We believe there is a compelling case for the use of active management in other areas of the public markets.

Source: Callan Active vs. Passive Data.

MCERA Total Fund Relative Attribution

Ended June 30, 2026

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	37%	37%	23.88%	22.81%	0.37%	0.02%	0.40%
International Equities	26%	25%	26.52%	27.66%	(0.26%)	(0.06%)	(0.32%)
Domestic Fixed Income	21%	21%	5.09%	3.79%	0.29%	0.06%	0.35%
Infrastructure	7%	6%	10.94%	3.54%	0.55%	(0.13%)	0.42%
Real Estate	9%	11%	4.63%	3.54%	0.11%	0.18%	0.29%
Cash	0%	0%	0.00%	0.00%	0.00%	(0.07%)	(0.07%)
Total			17.68%	16.62%	+ 1.07%	+ (0.00%)	1.07%

Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equities	37%	37%	19.17%	20.35%	(0.42%)	(0.02%)	(0.44%)
International Equities	25%	25%	17.82%	19.01%	(0.27%)	(0.04%)	(0.32%)
Domestic Fixed Income	20%	21%	5.42%	4.16%	0.27%	0.05%	0.32%
Infrastructure	7%	6%	9.99%	(1.64%)	0.96%	(0.26%)	0.70%
Real Estate	10%	11%	(1.51%)	(1.64%)	0.01%	0.07%	0.07%
Cash	0%	0%	0.00%	0.00%	0.00%	(0.04%)	(0.04%)
Total			13.09%	12.79%	+ 0.54%	+ (0.24%)	0.30%



1. **Assessing liquidity needs has become more important** as public plans mature and allocate more to private markets.
2. **MCERA's liquidity needs are manageable.**
Current contribution policy and portfolio liquidity provide flexibility even under stressed conditions.
3. **Active risk should be allocated intentionally.**
Concentrate active management where the expected benefits are greatest.
4. **Balance diversification with complexity.**
Use enough managers to diversify risk while avoiding unnecessary complexity and ensuring the portfolio remains practical to govern and oversee.

Appendix

What is Active Risk Budgeting?

Active risk budgeting is the process of determining how much risk the portfolio should take relative to its policy benchmark—and where that risk is most efficiently deployed.

- **Total portfolio risk:** volatility of the overall portfolio.
- **Active risk:** risk arising from deviations from the policy benchmark.
- **Tracking error:** a common measure of active risk—the volatility of returns relative to the benchmark.
- **Risk contribution:** how much each asset class, strategy, or manager contributes to total or active portfolio risk.

Risk Budget vs. Governance Budget

- **Investment Risk Budget:** How much benchmark-relative risk does MCERA want to take?
- **Governance Budget:** How many managers and strategies can Staff and the Committee effectively oversee?
- A theoretically optimal portfolio may not be optimal if it requires an impractical level of monitoring, due diligence, rebalancing, and Committee attention.
- The appropriate number of managers should reflect the desired sources of active risk. More managers do not necessarily provide better diversification.

Large Cap Core Equity Style vs. S&P 500

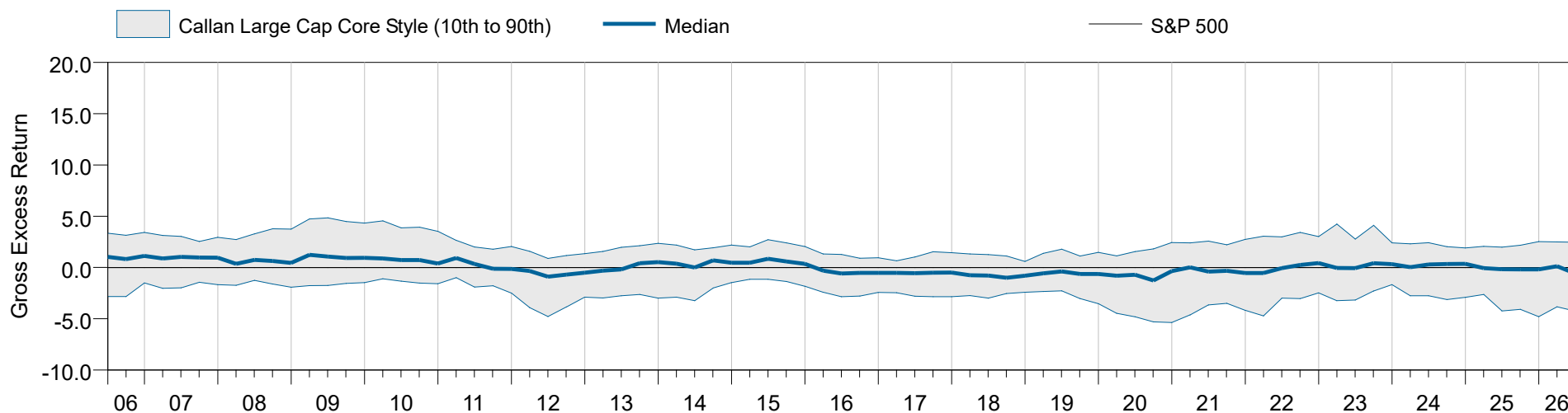
How Often Manager Beat Benchmark by More Than Fee Hurdle in Rolling 3-Year Periods Over Last 20 Years

Fee Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	44%	43%	36%	33%	29%	25%	24%	23%	21%	20%
45th Percentile	49%	48%	48%	45%	43%	40%	38%	33%	25%	25%
40th Percentile	58%	55%	54%	53%	53%	48%	48%	44%	41%	40%
35th Percentile	71%	68%	68%	65%	61%	60%	59%	58%	50%	49%
30th Percentile	79%	76%	75%	73%	71%	70%	68%	68%	64%	61%
25th Percentile	91%	90%	90%	86%	84%	79%	76%	76%	75%	70%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

0.05%

Rolling 3-Year Gross Excess Return relative to S&P 500 for 20 Years ended June 30, 2026



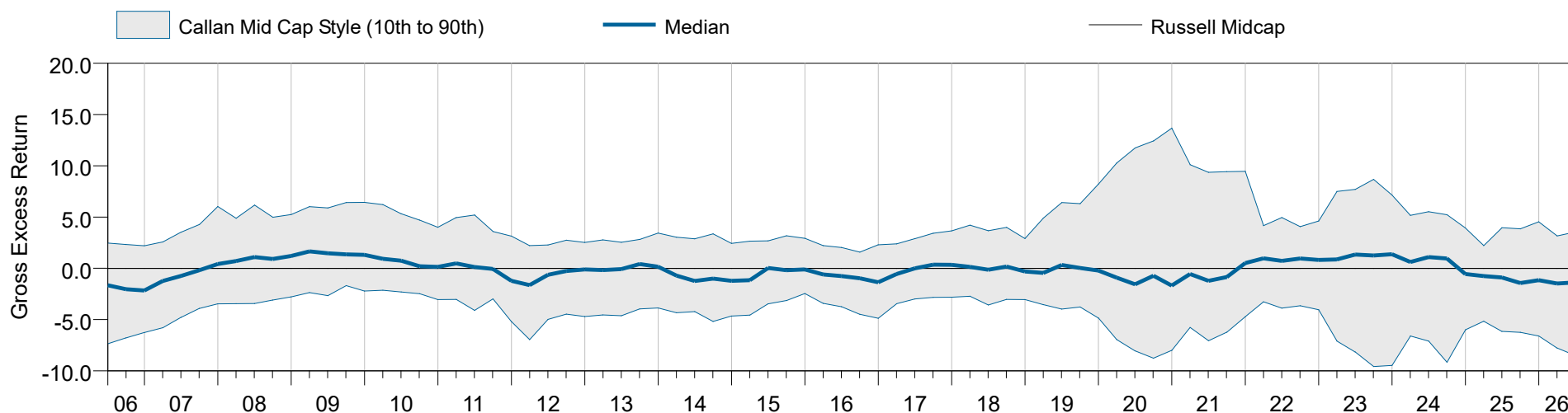
Mid Cap Broad Equity Style vs. Russell Midcap

How Often Manager Beat Benchmark by More Than Fee Hurdle in Rolling 3-Year Periods Over Last 20 Years

Fee Hurdle	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%
Median	33%	31%	29%	28%	26%	26%	25%	25%	21%	21%
45th Percentile	51%	46%	43%	40%	39%	39%	39%	36%	36%	33%
40th Percentile	69%	66%	60%	59%	59%	59%	56%	56%	54%	53%
35th Percentile	79%	76%	75%	71%	71%	70%	68%	64%	63%	61%
30th Percentile	94%	93%	91%	89%	88%	85%	84%	83%	80%	73%
25th Percentile	99%	96%	96%	95%	95%	95%	95%	95%	94%	94%

Average Annualized 3-Year Excess Return (gross) – Median Manager: -0.13%

Rolling 3-Year Gross Excess Return relative to Russell Midcap for 20 Years ended June 30, 2026



Small Cap Equity Style vs. Russell 2000

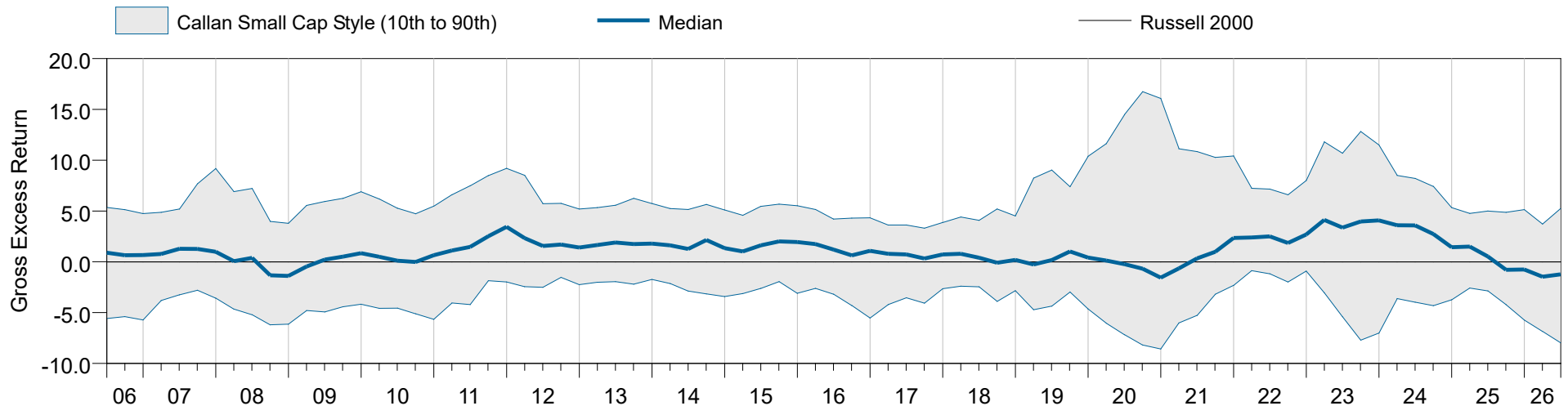
How Often Manager Beat Benchmark by More Than Fee Hurdle in Rolling 3-Year Periods Over Last 20 Years

Fee Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	68%	65%	65%	61%	60%	58%	54%	53%	53%	53%
45th Percentile	84%	83%	83%	80%	78%	75%	73%	73%	73%	70%
40th Percentile	93%	93%	93%	93%	93%	90%	89%	86%	84%	83%
35th Percentile	94%	94%	94%	94%	93%	93%	93%	93%	93%	93%
30th Percentile	99%	98%	98%	98%	98%	96%	96%	96%	96%	95%
25th Percentile	100%	100%	100%	100%	100%	100%	99%	99%	99%	99%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.07%

Rolling 3-Year Gross Excess Return relative to Russell 2000 for 20 Years ended June 30, 2026



Developed ex-U.S. Broad Equity Style vs. MSCI EAFE

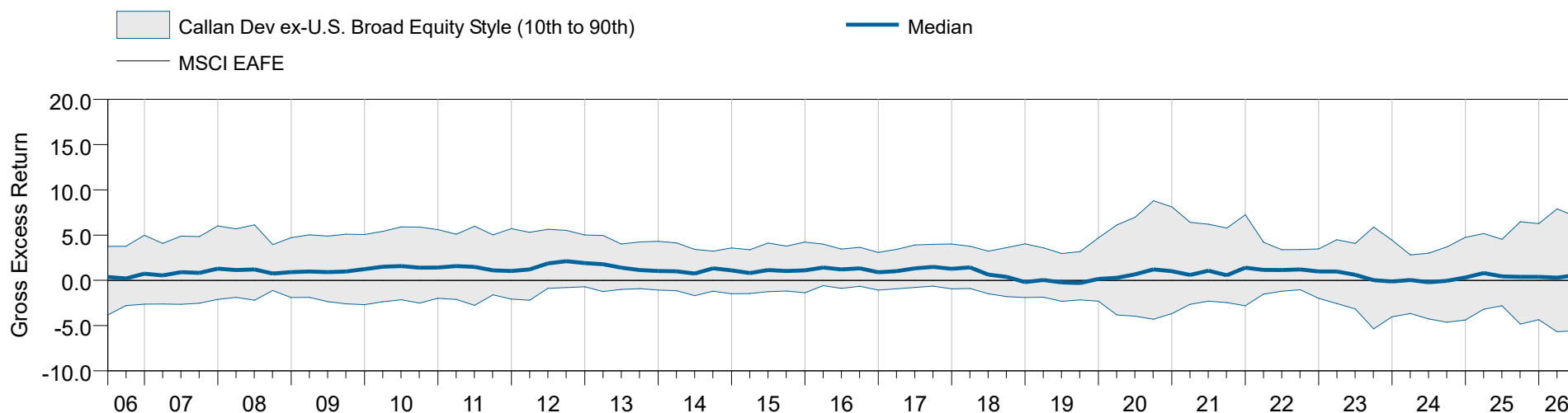
How Often Manager Beat Benchmark by More Than Fee Hurdle in Rolling 3-Year Periods Over Last 20 Years

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	78%	78%	76%	73%	70%	69%	66%	63%	61%	60%
45th Percentile	89%	89%	86%	85%	84%	83%	83%	81%	78%	75%
40th Percentile	95%	94%	94%	93%	90%	90%	90%	88%	88%	88%
35th Percentile	100%	99%	98%	98%	95%	94%	94%	94%	94%	94%
30th Percentile	100%	100%	100%	100%	100%	100%	99%	99%	98%	98%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

0.90%

Rolling 3-Year Gross Excess Return relative to MSCI EAFE for 20 Years ended June 30, 2026



Global ex-U.S. Equity Small Cap Style vs. MSCI ACWI ex USA Small Cap

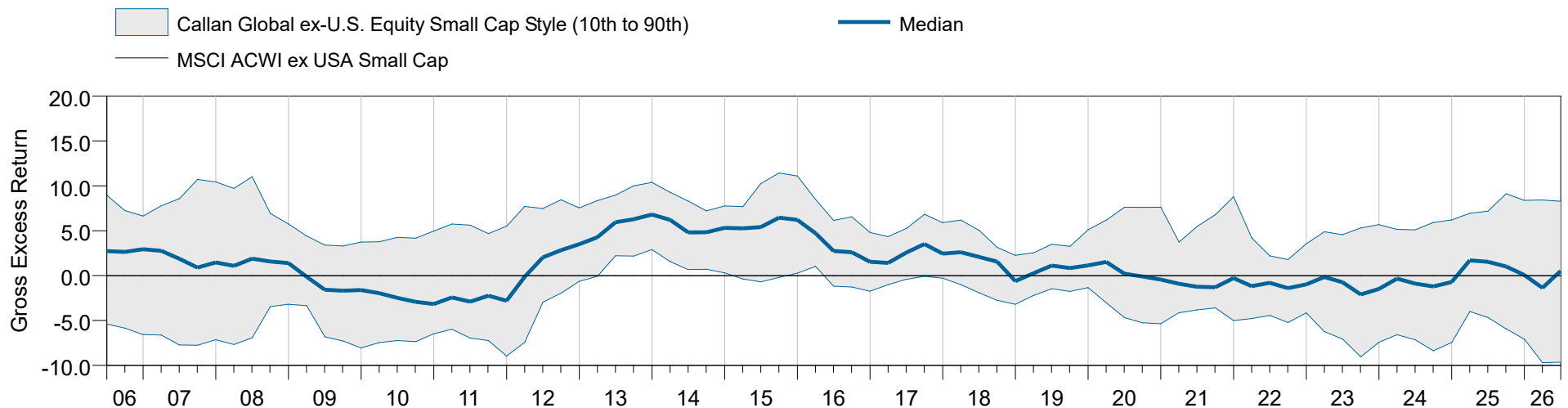
How Often Manager Beat Benchmark by More Than Fee Hurdle in Rolling 3-Year Periods Over Last 20 Years

Fee Hurdle	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%	1.20%
Median	54%	54%	53%	51%	51%	51%	50%	49%	46%	46%
45th Percentile	55%	55%	55%	55%	55%	55%	54%	53%	53%	53%
40th Percentile	63%	63%	63%	63%	61%	60%	58%	58%	56%	56%
35th Percentile	71%	71%	71%	70%	70%	70%	69%	69%	69%	69%
30th Percentile	80%	79%	79%	79%	79%	78%	76%	76%	76%	76%
25th Percentile	85%	84%	84%	83%	83%	83%	83%	83%	83%	83%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.10%

Rolling 3-Year Gross Excess Return relative to MSCI ACWI ex USA Small Cap for 20 Years ended June 30, 2026



Emerging Market Broad Equity Style vs. MSCI Emerging Markets

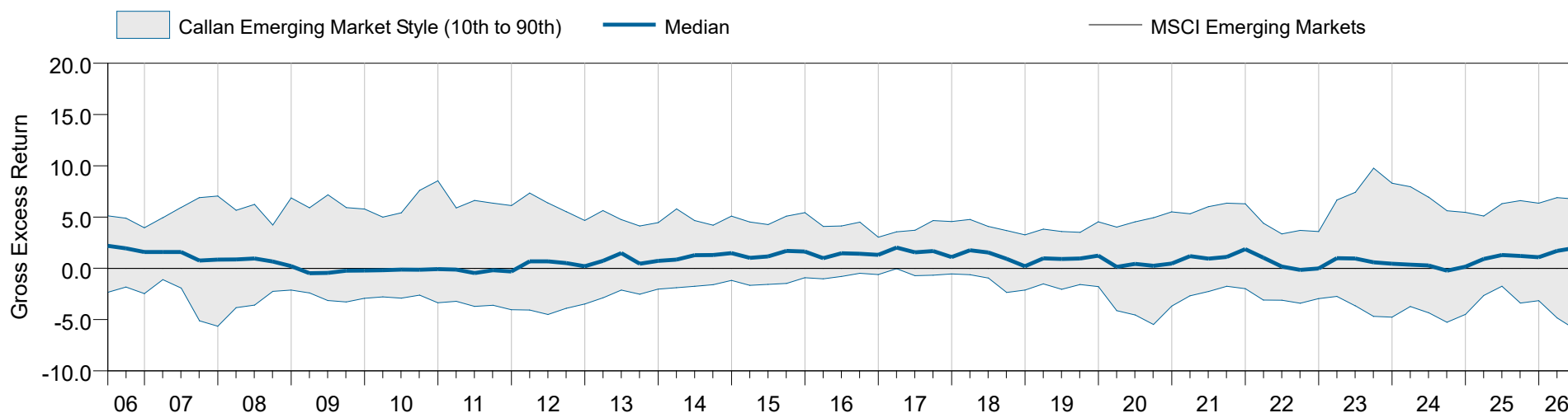
How Often Manager Beat Benchmark by More Than Fee Hurdle in Rolling 3-Year Periods Over Last 20 Years

Fee Hurdle	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%
Median	58%	56%	54%	52%	51%	44%	38%	35%	33%	30%
45th Percentile	73%	72%	68%	67%	65%	65%	62%	57%	54%	53%
40th Percentile	84%	81%	78%	78%	78%	78%	78%	75%	73%	70%
35th Percentile	94%	94%	94%	91%	91%	90%	89%	89%	87%	85%
30th Percentile	100%	100%	100%	99%	99%	99%	97%	97%	95%	92%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

0.75%

Rolling 3-Year Gross Excess Return relative to MSCI Emerging Markets for 20 Years ended June 30, 2026



Core Plus Bond Style vs. Bloomberg Aggregate

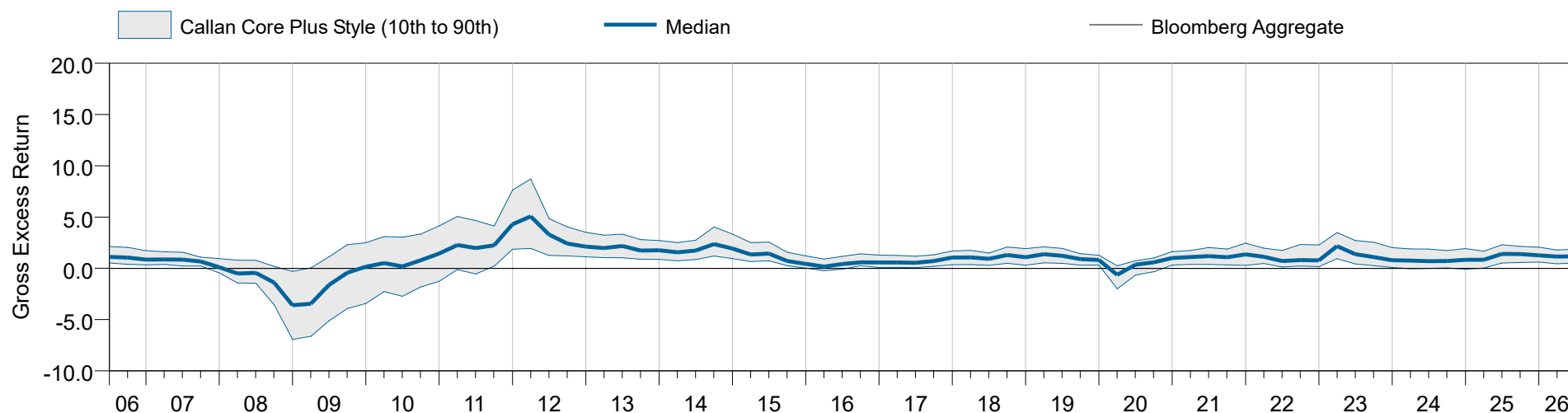
How Often Manager Beat Benchmark by More Than Fee Hurdle in Rolling 3-Year Periods Over Last 20 Years

Fee Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	85%	85%	85%	84%	84%	81%	81%	79%	74%	74%
45th Percentile	89%	88%	86%	86%	85%	83%	81%	81%	80%	75%
40th Percentile	90%	89%	89%	88%	88%	86%	85%	85%	84%	81%
35th Percentile	91%	90%	90%	89%	89%	89%	88%	88%	86%	84%
30th Percentile	91%	91%	91%	90%	90%	89%	89%	88%	88%	86%
25th Percentile	93%	93%	93%	93%	93%	90%	89%	89%	88%	88%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

0.96%

Rolling 3-Year Gross Excess Return relative to Bloomberg Aggregate for 20 Years ended June 30, 2026



Important Disclosures

Information contained in this document may include confidential, trade secret and/or proprietary information of Callan and the client. It is incumbent upon the user to maintain such information in strict confidence. Neither this document nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose.

The content of this document is particular to the client and should not be relied upon by any other individual or entity. There can be no assurance that the performance of any account or investment will be comparable to the performance information presented in this document.

Certain information herein has been compiled by Callan from a variety of sources believed to be reliable but for which Callan has not necessarily verified for accuracy or completeness. Information contained herein is provided as of the date of this report may not be current. Callan has no obligation to bring current the information contained herein.

Callan's performance, market value, and, if applicable, liability calculations are inherently estimates based on data available at the time each calculation is performed and may later be determined to be incorrect or require subsequent material adjustment due to many variables including, but not limited to, reliance on third party data, differences in calculation methodology, presence of illiquid assets, the timing and magnitude of unrecognized cash flows, and other data/assumptions needed to prepare such estimated calculations. In no event should the performance measurement and reporting services provided by Callan be used in the calculation, deliberation, policy determination, or any other action of the client as it pertains to determining amounts, timing or activity of contribution levels or funding amounts, rebalancing activity, benefit payments, distribution amounts, and/or performance-based fee amounts, unless the client understands and accepts the inherent limitations of Callan's estimated performance, market value, and liability calculations.

Callan's performance measurement service reports estimated returns for a portfolio and compares them against relevant benchmarks and peer groups, as appropriate; such service may also report on historical portfolio holdings, comparing them to holdings of relevant benchmarks and peer groups, as appropriate ("portfolio holdings analysis"). To the extent that Callan's reports include a portfolio holdings analysis, Callan relies entirely on holdings, pricing, characteristics, and risk data provided by third parties including custodian banks, record keepers, pricing services, index providers, and investment managers. Callan reports the performance and holdings data as received and does not attempt to audit or verify the holdings data. Callan is not responsible for the accuracy or completeness of the performance or holdings data received from third parties and such data may not have been verified for accuracy or completeness.

Callan does not provide holdings-level monitoring for client portfolios and does not evaluate the appropriateness, risk or characteristics of individual holdings in client portfolios.

Callan's performance measurement service may report on illiquid asset classes, including, but not limited to, private real estate, private equity, private credit, hedge funds and infrastructure. The final valuation reports, which Callan receives from third parties, for of these types of asset classes may not be available at the time a Callan performance report is issued. As a result, the estimated returns and market values reported for these illiquid asset classes, as well as for any composites including these illiquid asset classes, including any total fund composite prepared, may not reflect final data, and therefore may be subject to revision in future quarters.

Callan's services with respect to private markets include qualitative and quantitative due diligence and monitoring of fund managers (i.e., investment managers and general partners) and the funds they sponsor (i.e., portfolios). This may include the review of the investment strategy and team, organizational structure and related matters, historical performance and the volatility of returns, portfolio characteristics, and peer comparisons. Callan does not provide holdings-level monitoring for private market portfolios and does not evaluate the appropriateness, risk or characteristics of individual holdings in private market portfolios. Callan does not assume any responsibility for the underlying investments held within any private market fund or vehicle, including without limitation, the individual portfolio companies, loans, credit instruments, real assets, or other holdings of any such fund or vehicle.

Certain share classes and/or fee arrangements (including but not limited to reductions or modifications of management fees, performance fees, hurdle rates, and other fee-related terms and conditions) may be made available by a manager to current Callan clients. In the event a share class or fee arrangement is limited to current Callan clients, it means that the share class or fee arrangement may not be available and the fees payable to a particular manager may increase if you cease to be a Callan client. Additionally, since any share class or fee arrangement offered by a manager is offered at the manager's discretion without any input from Callan, the manager may change the fees or discontinue the fee arrangement at any time. The existence of a fee arrangement for Callan clients is not an endorsement by Callan of the relevant manager's investment strategy, investment terms or any particular investment vehicle and is not intended to constitute investment advice or an investment recommendation. Additionally, Callan's recommendations are client specific based on a number of factors (including fees) and the existence of any share class or any particular fee arrangement with a manager does not necessarily mean that the investment is appropriate or recommended for a particular client.

Important Disclosures (continued)

The content of this document may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. The opinions expressed herein may change based upon changes in economic, market, financial and political conditions and other factors. Callan has no obligation to bring current the opinions expressed herein.

The information contained herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties. Actual results may vary, perhaps materially, from the future results projected in this document. Undue reliance should not be placed on forward-looking statements.

Callan is not responsible for reviewing the risks of individual securities or the compliance/non-compliance of individual security holdings with a client's investment policy guidelines.

This document should not be construed as legal or tax advice on any matter. You should consult with legal and tax advisers before applying any of this information to your particular situation.

Reference to, or inclusion in this document of, any product, service or entity should not necessarily be construed as recommendation, approval, or endorsement of such product, service or entity by Callan. This document is provided in connection with Callan's consulting services and should not be viewed as an advertisement of Callan, or of the strategies or products discussed or referenced herein.

The issues considered and risks highlighted herein are not comprehensive and other risks may exist that the user of this document may deem material regarding the enclosed information. Please see any applicable full performance report or annual communication for other important disclosures.

Unless Callan has been specifically engaged to do so, Callan does not conduct background checks or in-depth due diligence of the operations of any investment manager search candidate or investment vehicle, as may be typically performed in an operational due diligence evaluation assignment and in no event does Callan conduct due diligence beyond what is described in its report to the client.

Any decision made on the basis of this document is the sole responsibility of the client, as the intended recipient, and it is incumbent upon the client to make an independent determination of the suitability and consequences of such a decision.

Callan undertakes no obligation to update the information contained herein except as specifically requested by the client.

Past performance is no guarantee of future results. Investing involves risk, including possible loss of principal.