

December 31, 2023



## City of Milwaukee Employees' Retirement System

Investment Measurement Service  
Quarterly Review

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### December 31, 2023

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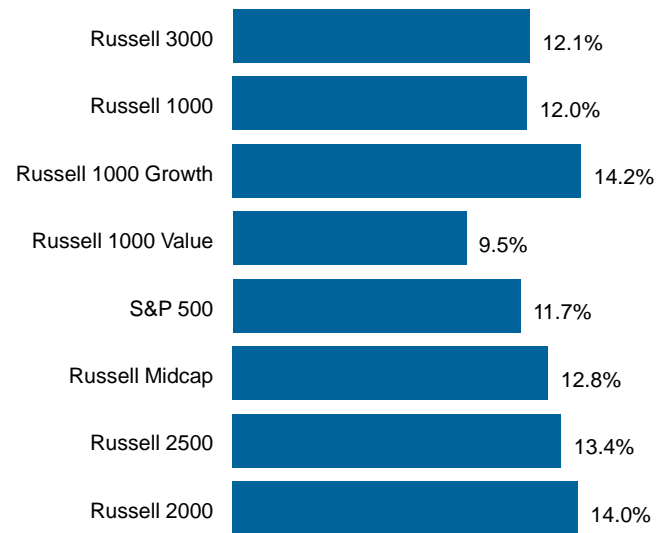


**U.S. EQUITY**

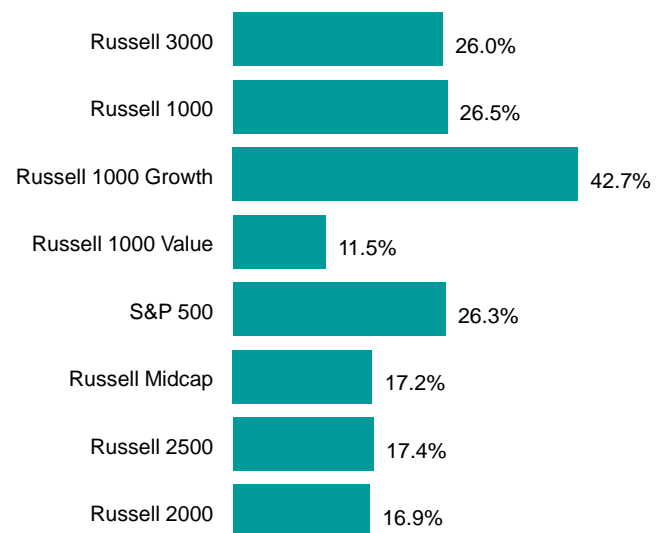
**End-of-the-year rally**

- U.S. equity markets rebounded in the last two months of the year as the impact of possible rate cuts in 2024 started to get priced in.
- The S&P 500 Index approached a record high as the year closed. Of note, 2023 was the first year since 2012 that the S&P failed to reach a high-water mark. That said, the index was up an impressive 11.7% in 4Q and 26.3% for the year.
- The tech sector was the clear winner for the quarter and the year (+17.2%; +57.8%) while Energy (-6.9%; -1.3%) was the only sector to register both a 4Q and 2023 decline.
- 2023 saw the narrowest breadth of leadership (“the Magnificent Seven”) since 1987, with just 27% of stocks outperforming the S&P 500. Historically, such concentrated leadership has not been the sign of a healthy market.
- Fourth quarter and 2023 returns for the bunch were impressive: Alphabet: +6.8%, +58.8%; Amazon: +19.5%, +80.9%; Apple: +12.6%, +49.0%; Meta: +17.9%; +194.1%; Microsoft: +19.3%, +58.2%; NVIDIA: +13.9%, +239.0%; Tesla: -0.7%, +101.7%.
- The index would have been up only about 10% for the year without these stocks, and the equal-weighted S&P 500 returned 11.9% in 4Q and 13.9% in 2023.
- However, gains started broadening out in the last two months of the year with the equal-weighted S&P index outperforming the capitalization-weighted version.
- Smaller cap stocks also outperformed their large cap counterparts in 4Q23, further proof of the broadening out of returns.
- For the full year, large cap stocks outperformed small cap stocks by almost 10 percentage points.
- Growth vs. value performance was mixed across market capitalization during the quarter. Within large cap, growth outperformed value, while the opposite was true within small cap.

**U.S. Equity: Quarterly Returns**

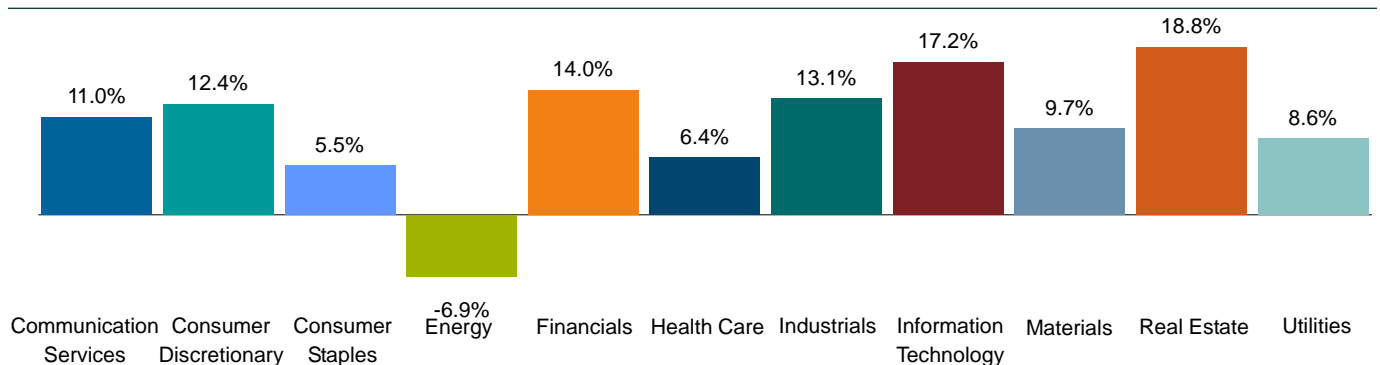


**U.S. Equity: One-Year Returns**



Sources: FTSE Russell, S&P Dow Jones Indices

**S&P Sector Returns, Quarter Ended 12/31/23**



Source: S&P Dow Jones Indices

**Global markets in the black for 4Q**

**Broad market**

- Dovish signaling from central banks and dropping yields led to a broad market rally in 4Q23.
- Global ex-U.S. small caps reclaimed some of their lagging performance in 4Q but ended the year as the worst-performing broad-based index, albeit up over 12%. Elevated borrowing costs and the persistent risk of a recession have kept investors away.
- Japan's low rates have benefited exporters, and the threat of being delisted spurred a stock buy-back spree. Coupled with an increased focus on governance, this spurred Japan to a multi-decade high.

**Emerging markets**

- Emerging markets underperformed developed markets.
- India's rally couldn't overcome China's weakness, whose economic growth was near the government's target, but investor concerns around stimulus and a surprisingly sluggish reopening drove stocks lower.

**Growth vs. value**

- Energy, a volatile area in the market, pulled back value's rally after having a strong 3Q. Global ex-U.S. growth rallied on lowering yields but couldn't overcome earlier underperformance and ended the year behind its value peers in both emerging and developed markets.

**U.S. dollar vs. other currencies**

- The U.S. dollar weakened in 4Q as investors believed that U.S. interest rates would fall faster than much of the developed world.

**China: Danger or opportunity?**

**Long-term growth potential**

- China has the second-largest GDP and the world's largest population of consumers.

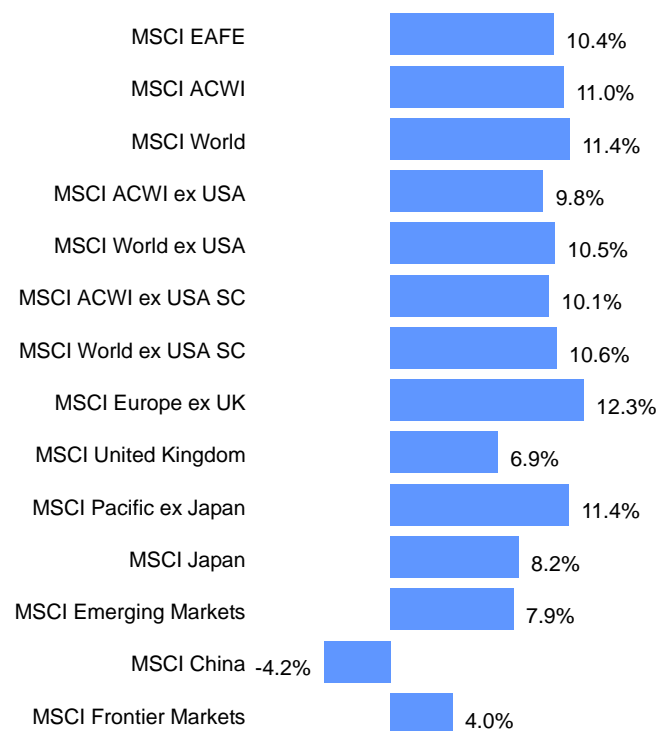
**Valuation**

- Valuations remain attractive on a forward P/E basis.

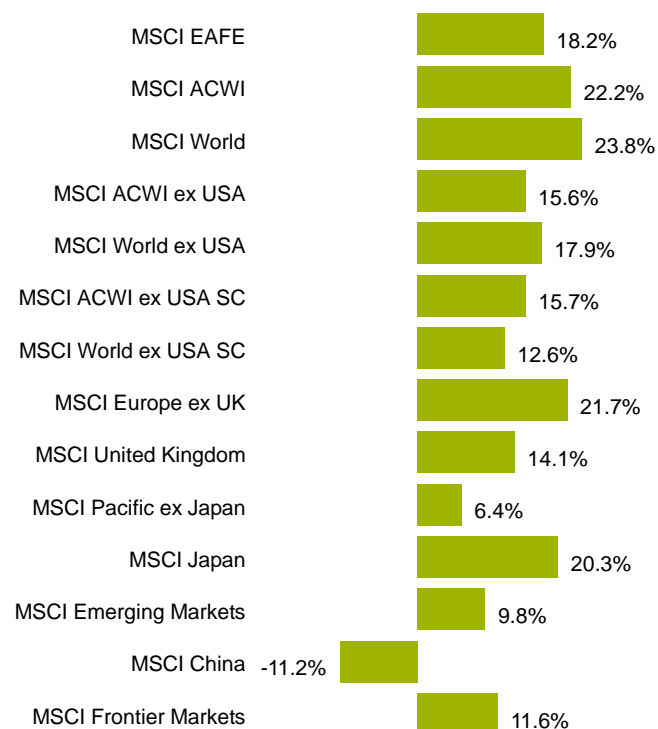
**Structural challenges**

- Inbound foreign direct investment (FDI) for China went negative for the first time as local markets remained weak and geopolitical tensions persisted.
- China is run by an authoritarian regime that may act against investors' best interests.

**Global Equity: Quarterly Returns**



**Global Equity: One-Year Returns**



Source: MSCI

**U.S. FIXED INCOME**

**Strong returns at end of year**

- Driven by falling rates and strong risk-on sentiment, the Agg returned 6.8%, the highest quarterly return since 2Q89 (when the 90-day T-bill was over 8% and inflation hit 14% earlier in the decade)!
- 10-year U.S. Treasury yield closed the year at 3.88%
- A round trip from December 2022, masking significant volatility during the year
- High was 4.98% in October and low was 3.30% in April
- Corporates and mortgages outperformed Treasuries for the quarter and year.
- High yield corporates soared as defaults remained low and the economy resilient.

**U.S. Treasury yield curve remained inverted, but less so**

- 106 bps as of 6/30; 44 bps as of 9/30; 35 bps as of 12/31

**Fed kept Fed Funds rate on hold and softened language**

- Pivoted from “higher for longer” to projected rate cuts in 2024
- Inflation over past six months below Fed’s 2% target
- Core PCE Price Index was 1.9% annualized in November.
- Markets expect six rate cuts in 2024 versus three in the Fed’s Summary of Economic Projections.

**Valuations**

- Investment grade and high yield corporate spreads now below 10-year averages

**MUNICIPAL BONDS**

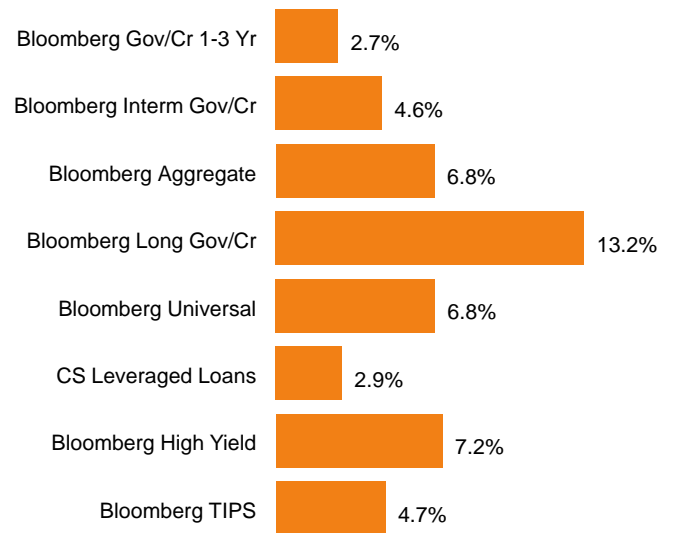
**Gains in 4Q and a superb November**

- November was the best month since August 1982.
- Helped by falling yields, muted issuance, and strong demand
- Reversed the -1.4% year-to-date return as of 9/30

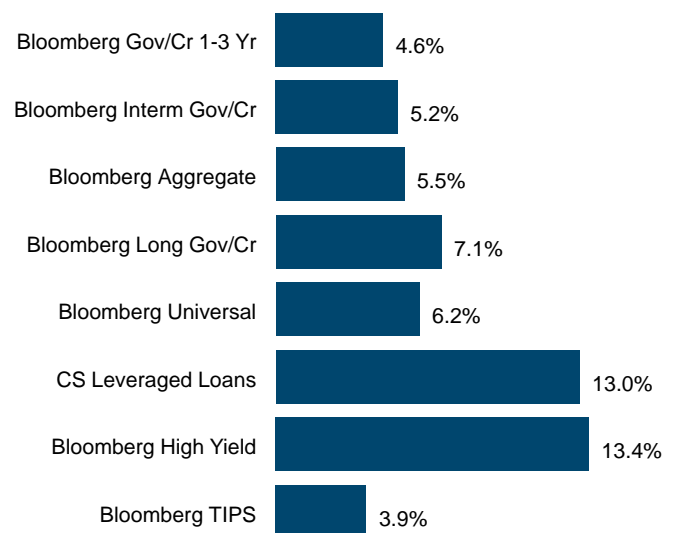
**BBBs performed best for quarter and year**

- AAA: +8.4%; +5.8%
- AA: +7.6%; +5.9%
- A: +8.0%; +7.3%
- BBB: +9.2%; +8.9%

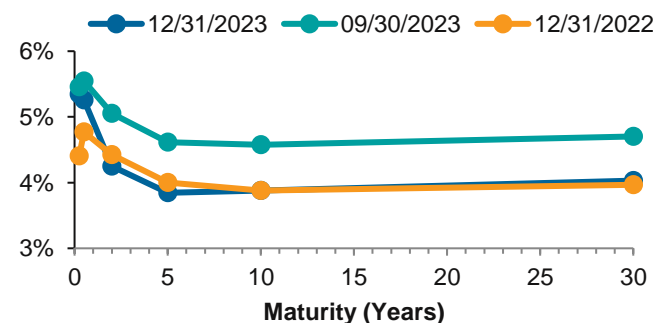
**U.S. Fixed Income: Quarterly Returns**



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



**U.S. Treasury Yield Curves**



Sources: Bloomberg, Credit Suisse

**MUNICIPAL BONDS (continued)**

**Valuations**

- Credit spreads close to historical averages
- Mortgage spreads widened on interest rate volatility and slowing prepayments.

**Valuations vs. U.S. Treasuries richened**

- 10-year AAA Muni/10-year U.S. Treasury yield ratio 59%, down from 75% as of 9/30
- Well below 10-year median of 87%
- After-tax yields remain attractive at 5.4% (source: Morgan Stanley).

**Fundamentals for state, local governments remain sound**

- Upgrades exceeded downgrades in 2023.

**GLOBAL FIXED INCOME**

**Falling rates bolstered 4Q returns globally**

- Central banks seen as moving closer to cutting rates as inflation moderated
- Gains were broad-based across countries with the U.S. lagging other developed markets in unhedged terms.
- Emerging markets also posted strong results with gains across most countries.

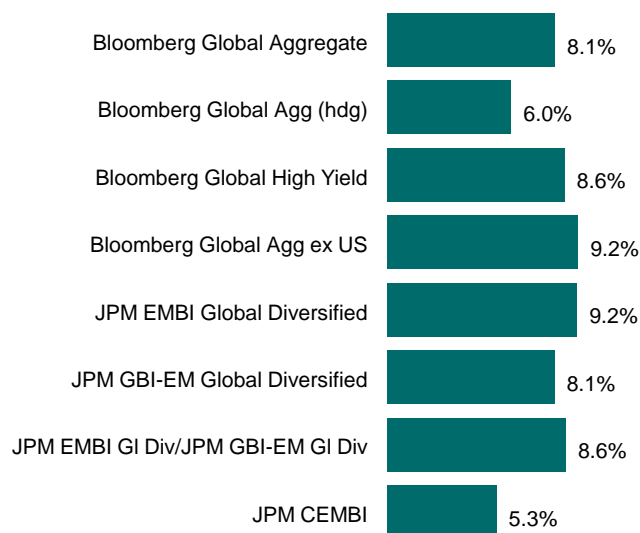
**U.S. dollar weakened**

- Major currencies rose compared to the dollar in 4Q.

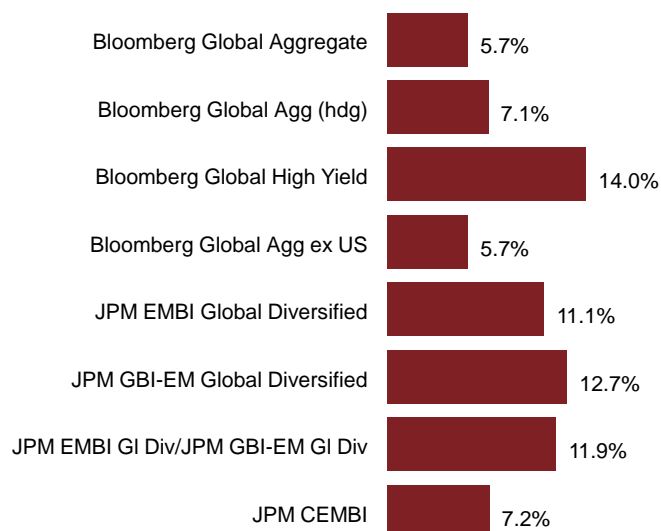
**Emerging markets also posted strong results**

- Gains across most countries

**Global Fixed Income: Quarterly Returns**

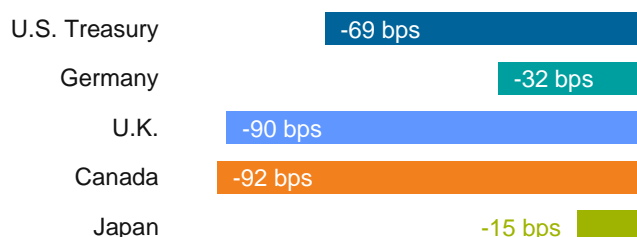


**Global Fixed Income: One-Year Returns**



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

**3Q23 to 4Q23**



Sources: Bloomberg, JP Morgan





## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of December 31, 2023, with the distribution as of September 30, 2023. 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.

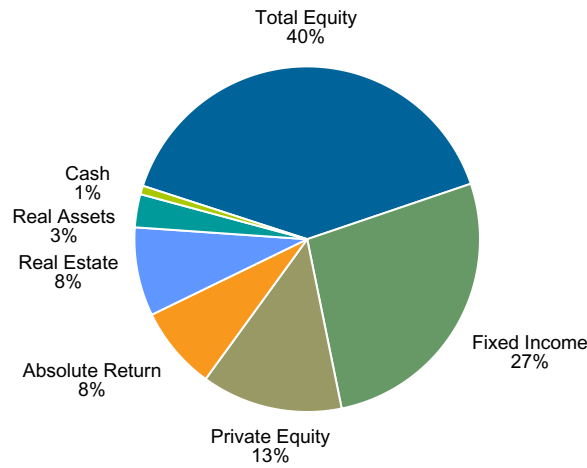
### Asset Distribution Across Investment Managers

	December 31, 2023			September 30, 2023		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
<b>Total Domestic Equity</b>	<b>\$1,012,685,609</b>	<b>17.73%</b>	<b>\$0</b>	<b>\$107,251,715</b>	<b>\$905,433,894</b>	<b>16.55%</b>
BlackRock Russell 1000 Value	192,775,335	3.37%	0	16,734,202	176,041,134	3.22%
DFA Large Cap Value	138,559,629	2.43%	0	11,613,660	126,945,970	2.32%
Northern Trust Global	194,667,407	3.41%	0	20,373,500	174,293,907	3.19%
Polen Capital Management	120,511,155	2.11%	0	15,133,946	105,377,208	1.93%
Earnest Partners LLC	102,253,552	1.79%	0	11,730,907	90,522,645	1.65%
DFA Small Cap Value	184,500,232	3.23%	0	24,699,988	159,800,243	2.92%
CastleArk Management	79,418,299	1.39%	0	6,965,513	72,452,787	1.32%
<b>Total Global Equity</b>	<b>\$447,185,223</b>	<b>7.83%</b>	<b>\$0</b>	<b>\$45,717,219</b>	<b>\$401,468,004</b>	<b>7.34%</b>
BlackRock Global Alpha Tilts	249,877,437	4.37%	0	25,709,915	224,167,523	4.10%
MFS Investment Management	197,307,785	3.45%	0	20,007,305	177,300,481	3.24%
<b>Total International Equity</b>	<b>\$814,282,492</b>	<b>14.26%</b>	<b>\$(450,364)</b>	<b>\$81,297,321</b>	<b>\$733,435,535</b>	<b>13.40%</b>
AQR Emerging Markets	106,458,055	1.86%	(182,991)	10,038,620	96,602,426	1.77%
Brandes Investment Partners	321,977,810	5.64%	0	31,217,347	290,760,463	5.31%
William Blair & Company	223,661,694	3.92%	(98,772)	26,018,391	197,742,076	3.61%
DFA International Small Cap	162,184,933	2.84%	(168,601)	14,022,964	148,330,570	2.71%
<b>Total Fixed Income</b>	<b>\$1,543,832,923</b>	<b>27.03%</b>	<b>\$(47,000,000)</b>	<b>\$102,574,929</b>	<b>\$1,488,257,994</b>	<b>27.20%</b>
BlackRock US Govt Bond	359,087,888	6.29%	(47,000,000)	20,262,803	385,825,084	7.05%
Reams Asset Management	728,182,399	12.75%	0	49,694,791	678,487,609	12.40%
Loomis, Sayles & Company, L.P.	456,562,636	7.99%	0	32,617,335	423,945,301	7.75%
<b>Total Private Equity</b>	<b>\$754,362,272</b>	<b>13.21%</b>	<b>\$905,711</b>	<b>\$(14,868,058)</b>	<b>\$768,324,619</b>	<b>14.04%</b>
Abbott Capital Management 2010	17,995,036	0.32%	(1,047,084)	(1,562,628)	20,604,748	0.38%
Abbott Capital Management 2011	37,093,473	0.65%	(540,570)	(3,059,893)	40,693,936	0.74%
Abbott Capital Management 2012	33,721,670	0.59%	(794,245)	(1,939,166)	36,455,081	0.67%
Abbott Capital Management 2013	32,411,892	0.57%	(868,275)	(1,778,590)	35,058,757	0.64%
Abbott Capital Management 2014	36,805,385	0.64%	(686,496)	(2,046,729)	39,538,610	0.72%
Abbott Capital Management 2015	30,618,899	0.54%	(918,750)	(413,928)	31,951,577	0.58%
Abbott Capital Management 2016	27,236,252	0.48%	(790,000)	(86,321)	28,112,573	0.51%
Abbott Capital Management 2018	23,287,292	0.41%	625,000	(143,638)	22,805,930	0.42%
Abbott Capital Management 2019	20,444,935	0.36%	830,000	(122,541)	19,737,476	0.36%
Abbott Capital Management 2020	26,892,058	0.47%	1,150,000	30,691	25,711,367	0.47%
Abbott Capital Management 2021	9,160,930	0.16%	1,187,500	(13,907)	7,987,337	0.15%
Abbott Capital Management 2022	9,466,007	0.17%	546,875	(130,035)	9,049,167	0.17%
Abbott Capital Management 2023	1,944,500	0.03%	0	(5,500)	1,950,000	0.04%
Mesirow V	35,710,296	0.63%	(3,000,000)	(2,137,988)	40,848,284	0.75%
Mesirow VI	62,075,467	1.09%	(3,180,000)	(3,010,093)	68,265,560	1.25%
Mesirow VII	123,347,995	2.16%	(2,500,000)	498,941	125,349,054	2.29%
Mesirow VIII	62,463,859	1.09%	5,400,000	(828,138)	57,891,997	1.06%
NB Secondary Opp Fund III	6,708,863	0.12%	(1,186,497)	123,846	7,771,514	0.14%
NB Secondary Opp Fund IV	17,383,395	0.30%	(340,905)	(102,363)	17,826,663	0.33%
NB Secondary Opp Fund V	40,082,567	0.70%	5,601,026	512,585	33,968,956	0.62%
Private Advisors VI	20,787,369	0.36%	0	298,238	20,489,131	0.37%
Private Advisors VII	13,614,386	0.24%	(733,227)	177,817	14,169,796	0.26%
Private Advisors VIII	19,464,400	0.34%	0	323,330	19,141,070	0.35%
Private Advisors IX	34,916,616	0.61%	0	330,443	34,586,173	0.63%
Apogem Capital X	10,728,730	0.19%	2,151,357	217,511	8,359,862	0.15%
<b>Absolute Return</b>	<b>\$443,098,146</b>	<b>7.76%</b>	<b>\$(30,000,000)</b>	<b>\$10,309,532</b>	<b>\$462,788,614</b>	<b>8.46%</b>
Aptitude	171,755,489	3.01%	0	3,472,520	168,282,969	3.08%
UBS A & Q	271,342,657	4.75%	(30,000,000)	6,837,012	294,505,645	5.38%
<b>Real Assets</b>	<b>\$175,601,312</b>	<b>3.07%</b>	<b>\$(260,714)</b>	<b>\$11,907,740</b>	<b>\$163,954,286</b>	<b>3.00%</b>
Principal DRA	175,601,312	3.07%	(260,714)	11,907,740	163,954,286	3.00%
<b>Total Real Estate</b>	<b>\$474,058,982</b>	<b>8.30%</b>	<b>\$(1,506,236)</b>	<b>\$(17,794,490)</b>	<b>\$493,359,709</b>	<b>9.02%</b>
Real Estate	474,058,982	8.30%	(1,506,236)	(17,794,490)	493,359,709	9.02%
<b>Total Cash</b>	<b>\$47,056,593</b>	<b>0.82%</b>	<b>\$(8,341,072)</b>	<b>\$629,970</b>	<b>\$54,767,695</b>	<b>1.00%</b>
Cash	47,056,593	0.82%	(8,341,072)	629,970	54,767,695	1.00%
<b>Total Fund</b>	<b>\$5,712,163,552</b>	<b>100.0%</b>	<b>\$(86,652,676)</b>	<b>\$327,025,878</b>	<b>\$5,471,790,350</b>	<b>100.0%</b>

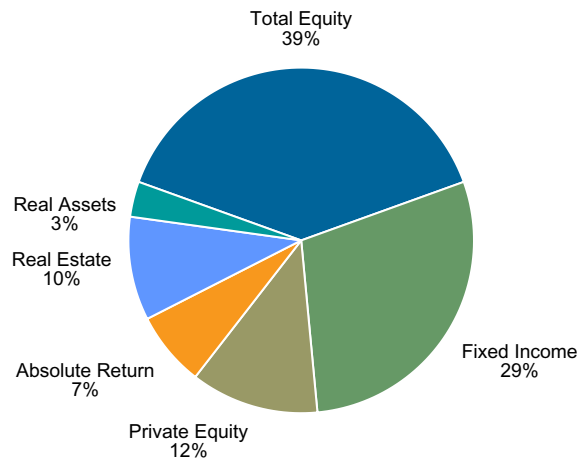
## Actual vs Target Asset Allocation As of December 31, 2023

The first chart below shows the Fund's asset allocation as of December 31, 2023. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

### Actual Asset Allocation



### Target Asset Allocation



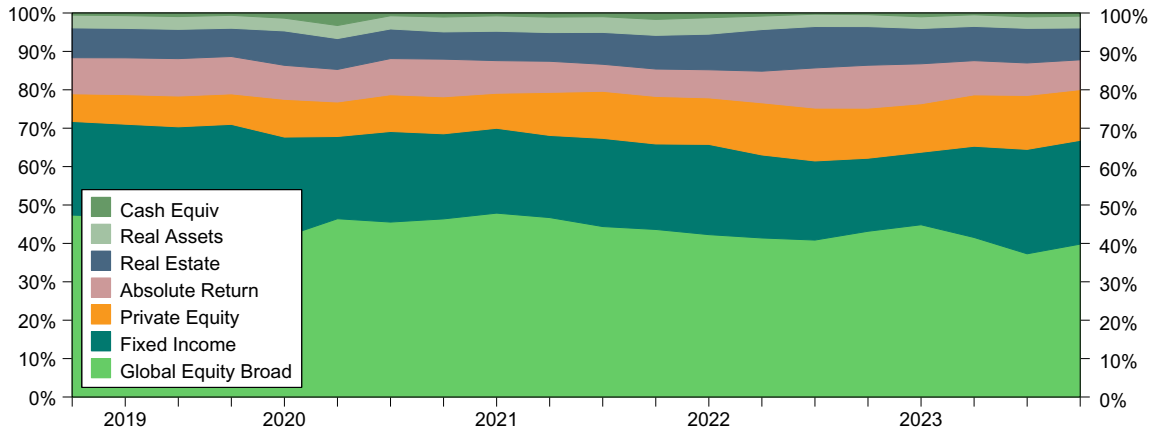
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,274,153	39.8%	39.0%	0.8%	46,410
Fixed Income	1,543,833	27.0%	29.0%	(2.0%)	(112,694)
Private Equity	754,362	13.2%	12.0%	1.2%	68,903
Absolute Return	443,098	7.8%	7.0%	0.8%	43,247
Real Estate	474,059	8.3%	9.7%	(1.4%)	(80,021)
Real Assets	175,601	3.1%	3.3%	(0.2%)	(12,900)
Cash	47,057	0.8%	0.0%	0.8%	47,057
Total	5,712,164	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 Eq Wt Net lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

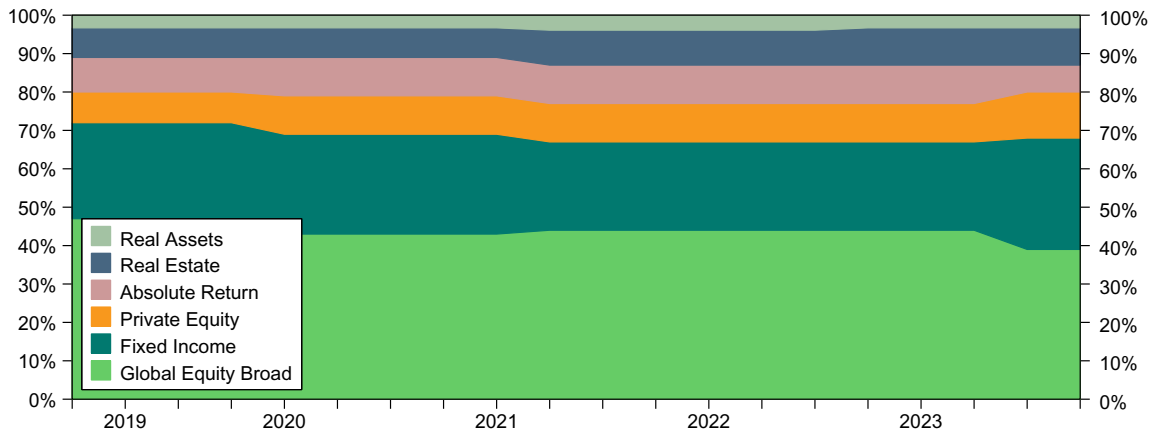
## Actual vs Target Historical Asset Allocation

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.

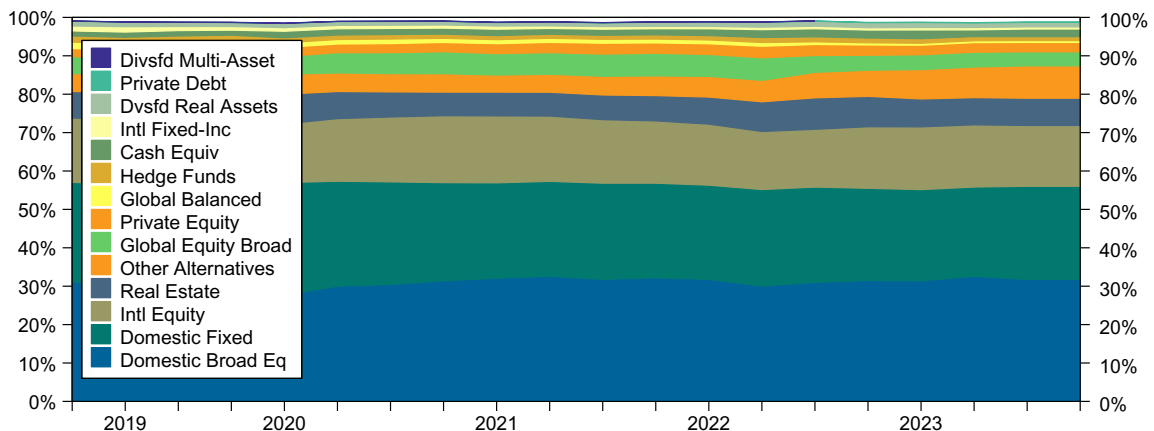
### Actual Historical Asset Allocation



### 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 Eq Wt Net lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

# Total Fund

## Period Ended December 31, 2023

### 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.

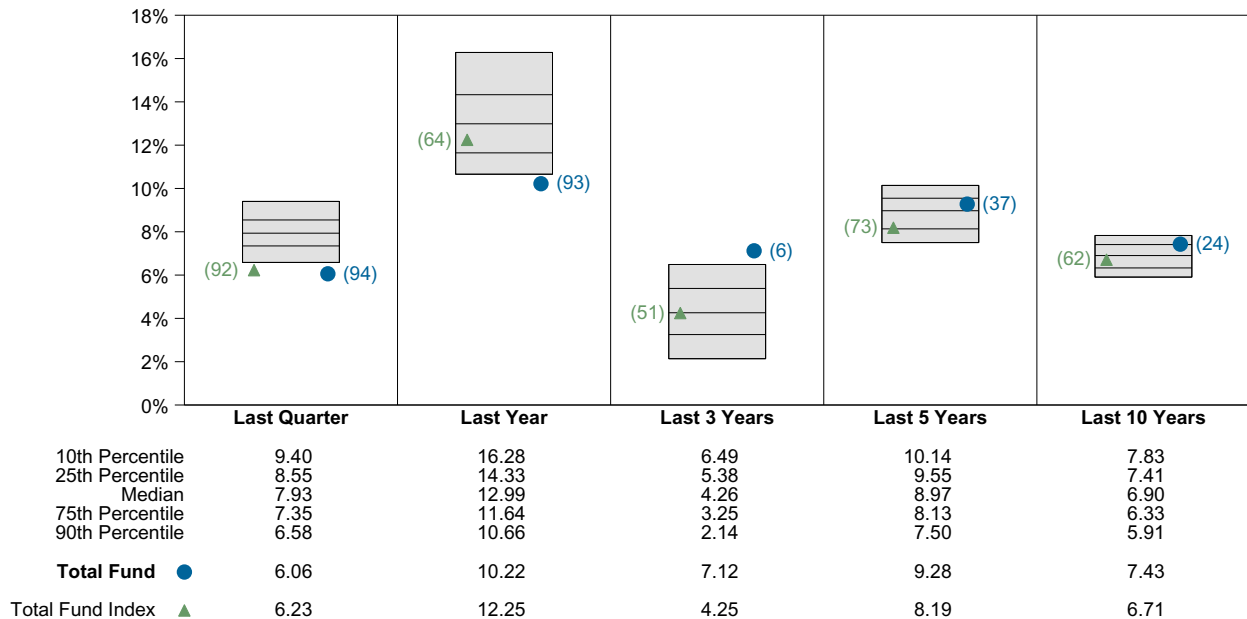
### Quarterly Summary and Highlights

- Total Fund's portfolio posted a 6.06% return for the quarter placing it in the 94 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 93 percentile for the last year.
- Total Fund's portfolio underperformed the Total Fund Index by 0.17% for the quarter and underperformed the Total Fund Index for the year by 2.03%.

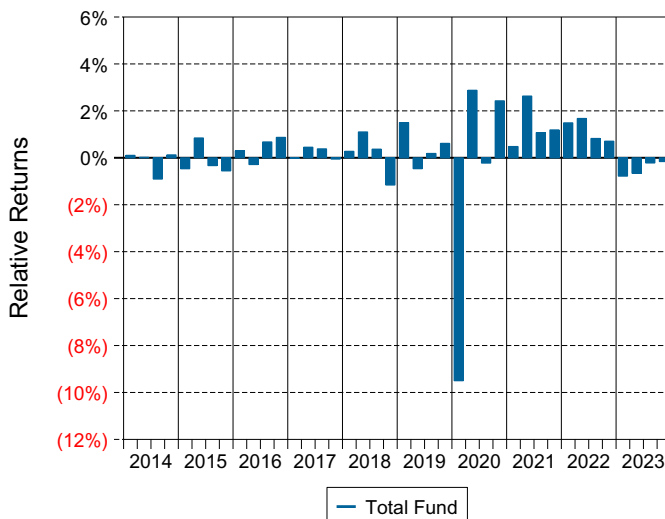
### Quarterly Asset Growth

Beginning Market Value	\$5,471,790,350
Net New Investment	\$-86,652,676
Investment Gains/(Losses)	\$327,025,878
Ending Market Value	\$5,712,163,552

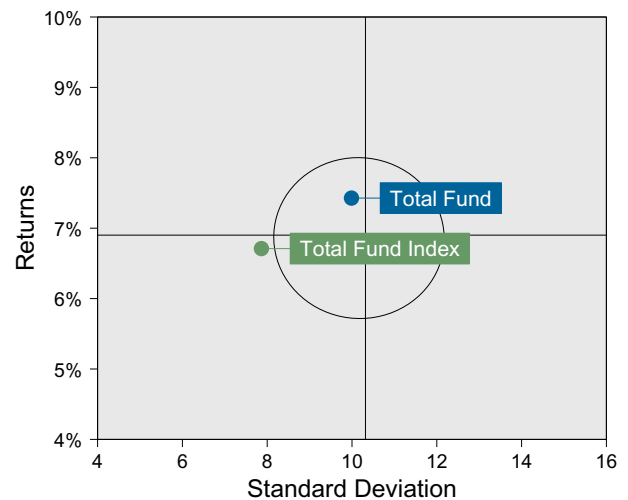
### Performance vs Callan Public Fund Sponsor Database (Gross)



### Relative Return vs Total Fund Index



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

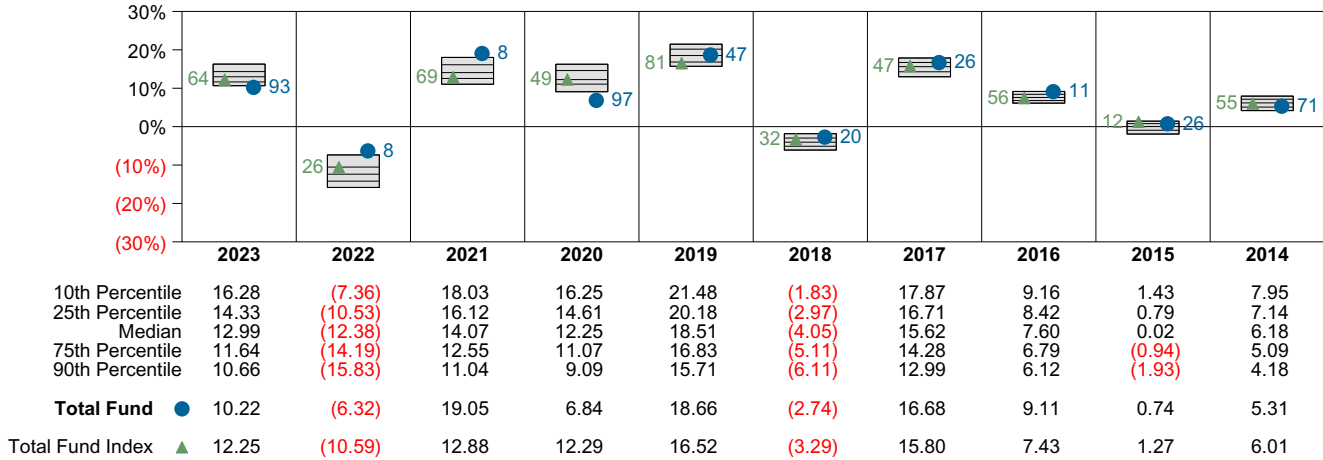


# Total Fund Return Analysis Summary

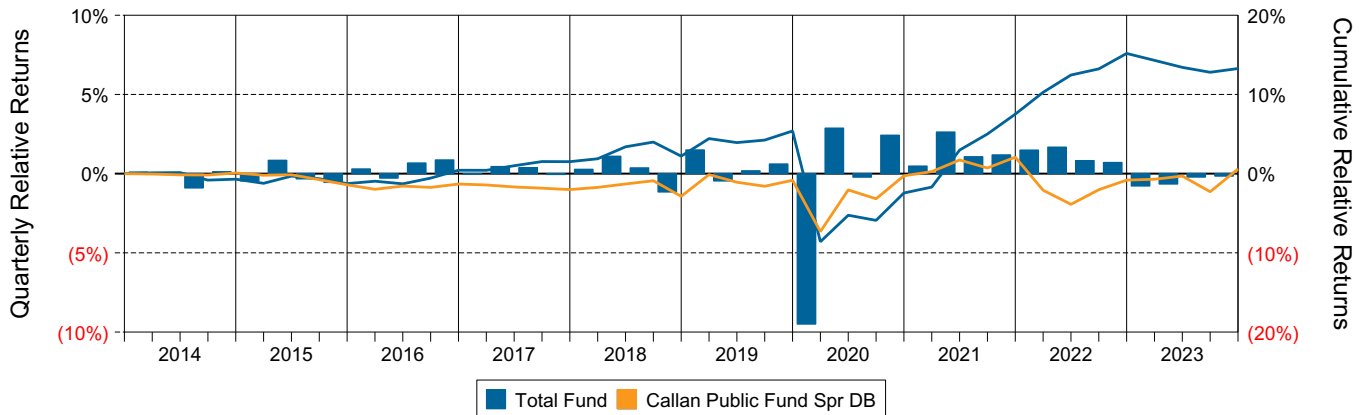
## Return Analysis

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.

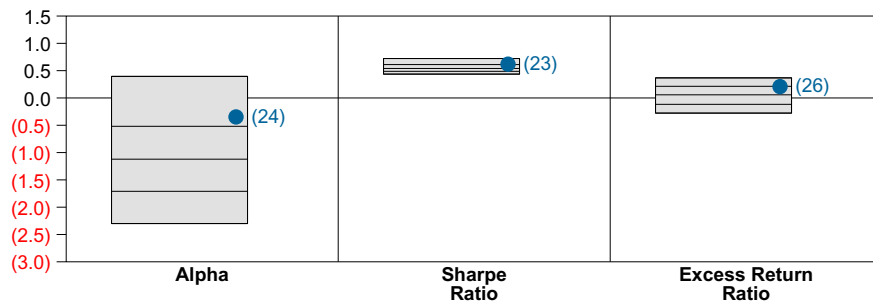
### Performance vs Callan Public Fund Sponsor Database (Gross)



### 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 December 31, 2023



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.40	0.72	0.37
25th Percentile	(0.52)	0.61	0.21
Median	(1.12)	0.54	0.06
75th Percentile	(1.71)	0.49	(0.12)
90th Percentile	(2.30)	0.44	(0.28)
<b>Total Fund</b>	● (0.35)	0.62	0.21

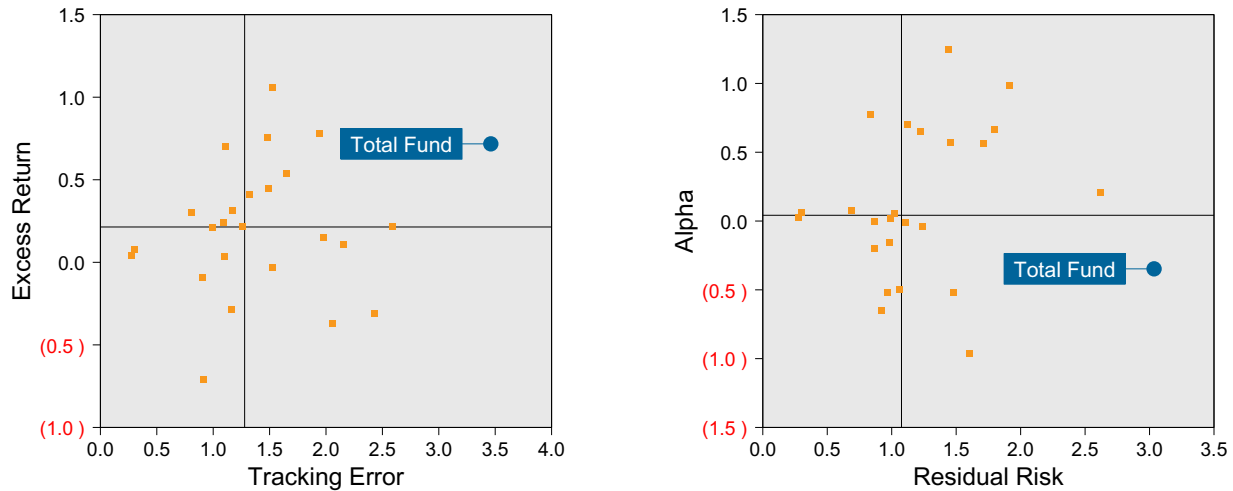
# Total Fund

## Total Fund vs Target Risk Analysis

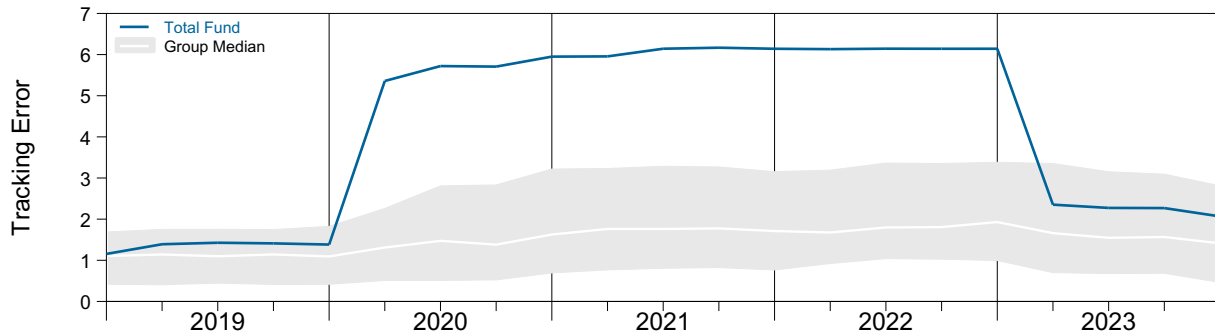
### Risk Analysis

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.

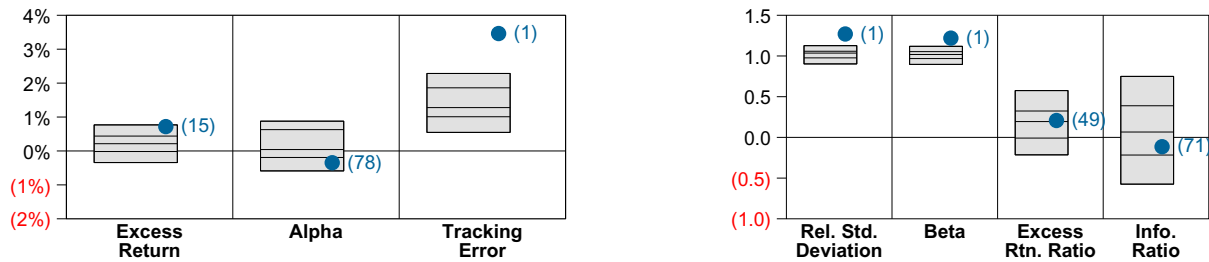
### Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended December 31, 2023



### 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 December 31, 2023



10th Percentile  
25th Percentile  
Median  
75th Percentile  
90th Percentile

Excess Return	Alpha	Tracking Error
0.77	0.88	2.28
0.44	0.63	1.86
0.21	0.04	1.28
(0.02)	(0.19)	1.01
(0.34)	(0.59)	0.55

Total Fund ●

0.72	(0.35)	3.46
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10th Percentile  
25th Percentile  
Median  
75th Percentile  
90th Percentile

Rel. Std. Deviation	Beta	Excess Rtn. Ratio	Info. Ratio
1.13	1.12	0.57	0.75
1.06	1.05	0.32	0.39
1.04	1.02	0.19	0.07
0.98	0.97	(0.01)	(0.22)
0.90	0.90	(0.21)	(0.57)

Total Fund ●

1.27	1.22	0.21	(0.11)
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## 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 December 31, 2023. 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 December 31, 2023

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
<b>Total Public Equity</b>	<b>11.48%</b>		<b>21.40%</b>		<b>7.33%</b>		<b>12.48%</b>		<b>10.49%</b>	(1/16)
MSCI ACWI IMI	11.14%		21.58%		5.46%		11.49%		9.59%	(1/16)
<b>Total Domestic Equity</b>	<b>11.85%</b>	<b>48</b>	<b>19.73%</b>	<b>92</b>	<b>8.96%</b>	<b>32</b>	<b>14.23%</b>	<b>64</b>	<b>8.09%</b>	(7/98)
Russell 3000 Index	12.07%	33	25.96%	14	8.54%	50	15.16%	21	7.90%	(7/98)
Pub Pln- Dom Equity	11.81%		23.72%		8.54%		14.57%		-	
BlackRock Russell 1000 Value	9.51%	63	11.47%	65	8.86%	89	11.06%	86	8.27%	(4/17)
Russell 1000 Value Index	9.50%	64	11.46%	66	8.86%	90	10.91%	87	8.12%	(4/17)
Callan Large Cap Value	10.04%		12.99%		11.11%		12.61%		-	
DFA Large Cap Value	9.15%	75	12.33%	54	10.83%	55	11.18%	80	7.83%	(11/17)
Russell 1000 Value Index	9.50%	64	11.46%	66	8.86%	90	10.91%	87	8.02%	(11/17)
Callan Large Cap Value	10.04%		12.99%		11.11%		12.61%		-	
Northern Trust Global	11.69%	58	26.30%	48	10.01%	58	15.71%	50	10.80%	(8/88)
S&P 500 Index	11.69%	58	26.29%	48	10.00%	58	15.69%	50	10.75%	(8/88)
Callan Large Cap Core	11.88%		26.16%		10.33%		15.69%		-	
Polen Capital Management	14.36%	42	38.20%	60	2.43%	87	15.06%	83	15.02%	(7/12)
S&P 500 Index	11.69%	93	26.29%	89	10.00%	16	15.69%	74	13.68%	(7/12)
Callan Large Cap Growth	14.19%		40.49%		6.74%		17.14%		-	
Earnest Partners LLC	12.96%	28	17.57%	50	7.96%	48	16.19%	6	11.28%	(5/05)
Russell MidCap Index	12.82%	29	17.23%	51	5.92%	56	12.68%	62	9.68%	(5/05)
Callan Mid Capitalization	11.47%		17.62%		7.40%		13.51%		-	
DFA Small Cap Value	15.46%	18	21.85%	13	18.98%	4	15.75%	8	12.00%	(11/96)
Russell 2000 Value Index	15.26%	20	14.65%	65	7.94%	81	10.00%	89	9.04%	(11/96)
Callan Small Cap Value	13.54%		16.62%		11.09%		12.33%		-	
CastleArk Management	9.61%	74	10.32%	86	(3.83%)	66	9.73%	82	9.71%	(9/13)
Russell 2000 Growth Index	12.75%	26	18.66%	47	(3.50%)	62	9.22%	86	8.44%	(9/13)
Callan Small Cap Growth	11.13%		17.88%		(1.53%)		12.21%		-	
<b>Total Global Equity</b>	<b>11.39%</b>	<b>45</b>	<b>22.29%</b>	<b>47</b>	<b>6.36%</b>	<b>49</b>	<b>13.37%</b>	<b>31</b>	<b>9.44%</b>	(4/10)
MSCI World	11.42%	44	23.79%	35	7.27%	35	12.80%	44	9.37%	(4/10)
Callan Global Equity	11.26%		21.72%		6.34%		12.62%		-	
BlackRock Global Alpha Tilts	11.47%	43	23.27%	40	6.79%	42	12.48%	54	11.85%	(3/16)
MSCI ACWI Gross	11.15%	51	22.81%	43	6.25%	52	12.27%	56	11.53%	(3/16)
Callan Global Equity	11.26%		21.72%		6.34%		12.62%		-	
MFS Investment Management	11.28%	49	21.00%	53	5.80%	58	14.76%	12	12.19%	(12/12)
MSCI ACWI Gross	11.15%	51	22.81%	43	6.25%	52	12.27%	56	9.91%	(12/12)
Callan Global Equity	11.26%		21.72%		6.34%		12.62%		-	
<b>Total International Equity</b>	<b>11.08%</b>	<b>2</b>	<b>22.82%</b>	<b>1</b>	<b>5.54%</b>	<b>4</b>	<b>9.66%</b>	<b>11</b>	<b>7.08%</b>	(5/96)
MSCI EAFE	10.42%	7	18.24%	15	4.02%	17	8.16%	49	4.76%	(5/96)
Pub Pln- Intl Equity	9.70%		16.51%		1.82%		8.11%		-	
AQR Emerging Markets	10.39%	10	18.78%	12	(1.41%)	24	6.44%	27	6.00%	(8/16)
MSCI EM Gross	7.93%	59	10.27%	59	(4.71%)	50	4.08%	78	5.01%	(8/16)
Callan Emerging Broad	8.20%		11.91%		(4.84%)		5.38%		-	
Brandes Investment Partners	10.74%	35	31.34%	1	11.89%	1	9.78%	25	8.06%	(2/98)
MSCI EAFE	10.42%	41	18.24%	46	4.02%	41	8.16%	69	4.83%	(2/98)
Callan NonUS Eq	10.07%		18.08%		3.36%		8.86%		-	
William Blair & Company	13.16%	9	16.06%	74	(2.08%)	90	10.18%	20	7.47%	(12/03)
MSCI ACWIxUS Gross	9.82%	55	16.21%	72	2.04%	65	7.60%	78	6.53%	(12/03)
Callan NonUS Eq	10.07%		18.08%		3.36%		8.86%		-	
DFA International Small Cap	9.45%	85	18.04%	20	7.59%	5	8.97%	32	5.12%	(5/06)
MSCI EAFE Small	11.14%	30	13.16%	68	(0.69%)	61	6.58%	70	4.22%	(5/06)
Callan Intl Small Cap	10.88%		15.06%		(0.01%)		7.77%		-	

## 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 December 31, 2023. 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 December 31, 2023

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
<b>Total Fixed Income</b>	<b>6.98%</b>	<b>42</b>	<b>6.63%</b>	<b>49</b>	<b>(0.34%)</b>	<b>12</b>	<b>1.68%</b>	<b>72</b>	<b>6.59%</b>	(12/87)
Blmbg Aggregate	6.82%	52	5.53%	92	(3.31%)	90	1.10%	95	5.46%	(12/87)
Pub Pln- Dom Fixed	6.87%		6.60%		(2.23%)		2.04%		-	
BlackRock US Govt Bond	5.54%	100	4.24%	99	-	-	-		(4.43%)	(12/21)
Blmbg Government	5.62%	100	4.09%	99	(3.74%)	98	0.56%	100	(4.53%)	(12/21)
Callan Core Bond FI	6.95%		6.17%		(2.92%)		1.68%		-	
Reams Asset Management	7.32%	33	6.76%	57	(2.24%)	27	3.58%	4	5.02%	(1/01)
Blmbg Aggregate	6.82%	81	5.53%	96	(3.31%)	90	1.10%	98	3.73%	(1/01)
Callan Core Plus FI	7.17%		6.90%		(2.52%)		2.23%		-	
Loomis, Sayles & Company, L.P.	7.69%	4	8.56%	2	(0.86%)	5	3.61%	4	8.12%	(12/87)
Blmbg Aggregate	6.82%	81	5.53%	96	(3.31%)	90	1.10%	98	5.46%	(12/87)
Callan Core Plus FI	7.17%		6.90%		(2.52%)		2.23%		-	
<b>Total Private Equity</b>	<b>(1.93%)</b>		<b>2.89%</b>		<b>17.95%</b>		<b>18.51%</b>		<b>12.66%</b>	(6/10)
Private Equity Benchmark (3)	(2.66%)		22.76%		11.80%		11.95%		-	
Abbott Capital Management 2010	(7.84%)		(6.70%)		8.69%		13.23%		1.02%	(6/10)
Abbott Capital Management 2011	(7.59%)		(7.55%)		9.71%		15.33%		4.17%	(6/11)
Abbott Capital Management 2012	(5.39%)		(3.85%)		13.02%		17.04%		11.19%	(7/12)
Abbott Capital Management 2013	(5.15%)		(2.85%)		13.10%		17.65%		11.96%	(5/13)
Abbott Capital Management 2014	(5.23%)		(3.96%)		15.16%		18.26%		11.39%	(4/14)
Abbott Capital Management 2015	(1.32%)		3.60%		21.80%		19.40%		13.84%	(4/15)
Abbott Capital Management 2016	(0.31%)		5.24%		22.81%		19.38%		13.08%	(3/16)
Abbott Capital Management 2018	(0.62%)		3.96%		17.99%		16.67%		14.55%	(7/18)
Abbott Capital Management 2019	(0.60%)		3.43%		20.48%		-		17.78%	(1/20)
Abbott Capital Management 2020	0.12%		1.70%		19.24%		-		19.24%	(1/21)
Abbott Capital Management 2021	(0.16%)		2.00%		-		-		5.08%	(2/21)
Abbott Capital Management 2022	(1.36%)		4.87%		-		-		(1.19%)	(2/22)
Abbott Capital Management 2023	(0.28%)		-		-		-		(0.28%)	(7/23)
Mesirov V	(5.36%)		(0.80%)		12.50%		14.99%		14.24%	(6/10)
Mesirov VI	(4.51%)		(0.52%)		17.49%		20.77%		13.14%	(7/13)
Mesirov VII	0.40%		5.78%		18.97%		15.16%		3.75%	(6/17)
Mesirov VIII	(1.36%)		0.22%		2.60%		-		(1.78%)	(9/20)
NB Secondary Opp Fund III	1.91%		17.34%		14.31%		11.80%		12.18%	(12/13)
NB Secondary Opp Fund IV	(0.58%)		4.64%		16.00%		15.51%		19.25%	(4/17)
NB Secondary Opp Fund V	1.39%		21.41%		-		-		76.15%	(3/22)
Private Advisors VI	1.46%		4.68%		28.38%		23.81%		13.86%	(4/15)
Private Advisors VII	1.32%		7.32%		25.80%		18.15%		14.93%	(1/17)
Private Advisors VIII	1.69%		9.80%		27.30%		18.03%		19.34%	(8/18)
Private Advisors IX	0.96%		13.33%		24.48%		-		24.83%	(2/20)
Apogem Capital X	2.07%		-		-		-		29.18%	(5/23)
<b>Absolute Return</b>	<b>2.35%</b>		<b>6.09%</b>		<b>13.46%</b>		<b>7.21%</b>		<b>5.94%</b>	(6/14)
90 Day T-Bill + 3%	2.08%		8.01%		5.15%		4.88%		4.30%	(6/14)
Aptitude	2.06%	57	5.24%	53	-	-	-		6.15%	(9/22)
1-month LIBOR + 4%	2.35%	30	9.38%	1	6.41%	19	6.03%	31	8.95%	(9/22)
Callan Abs Rtn Hedge FoF	2.11%		5.75%		5.49%		5.34%		-	
UBS A & Q	2.52%	28	6.48%	40	7.80%	10	9.01%	8	6.39%	(12/14)
1-month LIBOR + 4%	2.35%	30	9.38%	1	6.41%	19	6.03%	31	5.54%	(12/14)
Callan Abs Rtn Hedge FoF	2.11%		5.75%		5.49%		5.34%		-	
<b>Real Assets</b>	<b>7.26%</b>		<b>3.95%</b>		<b>5.20%</b>		<b>7.06%</b>		<b>5.49%</b>	(1/16)
Principal DRA	7.26%	10	3.95%	48	5.20%	74	7.06%	68	5.49%	(1/16)
Principal DRA Blend Index (1)	7.55%	10	4.31%	47	4.69%	79	6.11%	74	4.94%	(1/16)
Callan Alternative Inv DB	0.92%		3.03%		10.73%		8.32%		-	
<b>Total Real Estate</b>	<b>(3.61%)</b>		<b>(10.23%)</b>		<b>8.18%</b>		<b>6.26%</b>		<b>6.65%</b>	(7/86)
Real Estate	(3.61%)	91	(10.23%)	71	8.18%	20	6.26%	28	6.65%	(7/86)
Blended Benchmark (2)	(2.12%)	86	(13.08%)	85	6.69%	33	5.22%	44	-	
Callan Tot Real Est DB	(0.14%)		(5.53%)		5.07%		4.70%		-	
<b>Total Fund</b>	<b>6.06%</b>	<b>94</b>	<b>10.22%</b>	<b>93</b>	<b>7.12%</b>	<b>6</b>	<b>9.28%</b>	<b>37</b>	<b>-</b>	
Total Fund Index*	6.23%	92	12.25%	64	4.25%	51	8.19%	73	-	
Callan Public Fund Spr DB	7.93%		12.99%		4.26%		8.97%		-	

\* 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 Eq Wt Net 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.

	2023		2022		2021		2020		2019	
<b>Total Public Equity</b>	<b>21.40%</b>		<b>(15.78%)</b>		<b>20.92%</b>		<b>14.78%</b>		<b>26.90%</b>	
MSCI ACWI IMI	21.58%		(18.40%)		18.22%		16.25%		26.35%	
<b>Total Domestic Equity</b>	<b>19.73%</b>	<b>92</b>	<b>(15.68%)</b>	<b>12</b>	<b>28.12%</b>	<b>16</b>	<b>16.35%</b>	<b>72</b>	<b>29.24%</b>	<b>74</b>
Russell 3000 Index	25.96%	14	(19.21%)	80	25.66%	54	20.89%	24	31.02%	25
Pub Pln- Dom Equity	23.72%		(17.91%)		25.85%		18.58%		30.20%	
BlackRock Russell 1000 Value	11.47%	65	(7.54%)	80	25.18%	80	3.28%	47	26.79%	48
Russell 1000 Value Index	11.46%	66	(7.54%)	79	25.16%	80	2.80%	52	26.54%	51
Callan Large Cap Value	12.99%		(5.04%)		28.39%		3.04%		26.58%	
DFA Large Cap Value	12.33%	54	(4.95%)	49	27.52%	65	(1.56%)	90	26.71%	48
Russell 1000 Value Index	11.46%	66	(7.54%)	79	25.16%	80	2.80%	52	26.54%	51
Callan Large Cap Value	12.99%		(5.04%)		28.39%		3.04%		26.58%	
Northern Trust Global	26.30%	48	(18.08%)	58	28.69%	54	18.42%	52	31.54%	39
S&P 500 Index	26.29%	48	(18.11%)	58	28.71%	54	18.40%	52	31.49%	40
Callan Large Cap Core	26.16%		(17.42%)		29.05%		18.84%		30.46%	
Polen Capital Management	38.20%	60	(37.72%)	89	24.84%	43	35.13%	55	38.85%	11
S&P 500 Index	26.29%	89	(18.11%)	6	28.71%	21	18.40%	98	31.49%	76
Callan Large Cap Growth	40.49%		(30.18%)		24.26%		35.57%		34.43%	
Earnest Partners LLC	17.57%	50	(15.13%)	52	26.09%	48	21.61%	41	38.38%	12
Russell MidCap Index	17.23%	51	(17.32%)	58	22.58%	58	17.10%	48	30.54%	52
Callan Mid Capitalization	17.62%		(14.34%)		25.38%		16.17%		31.00%	
DFA Small Cap Value	21.85%	13	(1.69%)	10	40.61%	16	3.85%	45	18.79%	89
Russell 2000 Value Index	14.65%	65	(14.48%)	84	28.27%	64	4.63%	37	22.39%	64
Callan Small Cap Value	16.62%		(10.51%)		31.82%		2.88%		24.31%	
CastleArk Management	10.32%	86	(28.21%)	62	12.30%	42	45.10%	46	23.28%	86
Russell 2000 Growth Index	18.66%	47	(26.36%)	44	2.83%	80	34.63%	73	28.48%	54
Callan Small Cap Growth	17.88%		(27.10%)		10.91%		44.48%		30.24%	
<b>Total Global Equity</b>	<b>22.29%</b>	<b>47</b>	<b>(17.35%)</b>	<b>47</b>	<b>19.03%</b>	<b>54</b>	<b>18.78%</b>	<b>43</b>	<b>31.05%</b>	<b>27</b>
MSCI World	23.79%	35	(18.14%)	52	21.82%	28	15.90%	55	27.67%	49
Callan Global Equity	21.72%		(17.81%)		19.46%		17.02%		27.49%	
BlackRock Global Alpha Tilts	23.27%	40	(16.80%)	43	18.73%	56	16.53%	52	26.86%	53
MSCI ACWI Gross	22.81%	43	(17.96%)	51	19.04%	54	16.82%	51	27.30%	51
Callan Global Equity	21.72%		(17.81%)		19.46%		17.02%		27.49%	
MFS Investment Management	21.00%	53	(18.14%)	52	19.56%	49	22.42%	32	37.31%	4
MSCI ACWI Gross	22.81%	43	(17.96%)	51	19.04%	54	16.82%	51	27.30%	51
Callan Global Equity	21.72%		(17.81%)		19.46%		17.02%		27.49%	
<b>Total International Equity</b>	<b>22.82%</b>	<b>1</b>	<b>(15.36%)</b>	<b>23</b>	<b>13.08%</b>	<b>14</b>	<b>10.84%</b>	<b>70</b>	<b>21.68%</b>	<b>71</b>
MSCI EAFE	18.24%	15	(14.45%)	18	11.26%	23	7.82%	90	22.01%	62
Pub Pln- Intl Equity	16.51%		(16.85%)		8.94%		12.71%		22.89%	
AQR Emerging Markets	18.78%	12	(20.29%)	38	1.23%	36	18.26%	49	20.54%	64
MSCI EM Gross	10.27%	59	(19.74%)	35	(2.22%)	55	18.69%	44	18.90%	72
Callan Emerging Broad	11.91%		(22.16%)		(0.59%)		18.17%		22.26%	
Brandes Investment Partners	31.34%	1	(6.79%)	4	14.42%	18	(1.30%)	96	15.31%	98
MSCI EAFE	18.24%	46	(14.45%)	43	11.26%	52	7.82%	65	22.01%	66
Callan NonUS Eq	18.08%		(15.29%)		11.50%		11.19%		23.78%	
William Blair & Company	16.06%	74	(28.57%)	95	13.27%	30	31.44%	6	31.58%	10
MSCI ACWIxUS Gross	16.21%	72	(15.57%)	51	8.29%	71	11.13%	50	22.13%	64
Callan NonUS Eq	18.08%		(15.29%)		11.50%		11.19%		23.78%	
DFA International Small Cap	18.04%	20	(9.42%)	5	16.47%	14	1.47%	91	21.62%	83
MSCI EAFE Small	13.16%	68	(21.39%)	52	10.10%	72	12.34%	46	24.96%	51
Callan Intl Small Cap	15.06%		(20.63%)		12.78%		11.29%		24.99%	

## 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.

	2023		2022		2021		2020		2019	
<b>Total Fixed Income</b>	<b>6.63%</b>	<b>49</b>	<b>(6.83%)</b>	<b>9</b>	<b>(0.36%)</b>	<b>45</b>	<b>(1.82%)</b>	<b>98</b>	<b>11.82%</b>	<b>5</b>
Blmbg Aggregate	5.53%	92	(13.01%)	73	(1.54%)	91	7.51%	67	8.72%	58
Pub Plin- Dom Fixed	6.60%		(12.24%)		(0.57%)		8.53%		8.98%	
BlackRock US Govt Bond	4.24%	99	(12.43%)	22	-	-	-	-	-	-
Blmbg Government	4.09%	99	(12.32%)	17	(2.28%)	100	7.94%	85	6.83%	100
Callan Core Bond FI	6.17%		(12.91%)		(1.03%)		8.71%		9.17%	
Reams Asset Management	6.76%	57	(11.39%)	13	(1.23%)	91	17.28%	2	8.82%	92
Blmbg Aggregate	5.53%	96	(13.01%)	41	(1.54%)	97	7.51%	93	8.72%	93
Callan Core Plus FI	6.90%		(13.27%)		(0.27%)		9.27%		10.01%	
Loomis, Sayles & Company, L.P.	8.56%	2	(12.12%)	18	2.13%	5	7.14%	94	14.42%	1
Blmbg Aggregate	5.53%	96	(13.01%)	41	(1.54%)	97	7.51%	93	8.72%	93
Callan Core Plus FI	6.90%		(13.27%)		(0.27%)		9.27%		10.01%	
<b>Total Private Equity</b>	<b>2.89%</b>		<b>(4.88%)</b>		<b>67.66%</b>		<b>22.14%</b>		<b>16.63%</b>	
Private Equity Benchmark (3)	22.76%		(15.10%)		34.08%		17.99%		6.65%	
Abbott Capital Management 2010	(6.70%)		(16.87%)		65.55%		24.43%		16.52%	
Abbott Capital Management 2011	(7.55%)		(18.97%)		76.29%		29.13%		19.64%	
Abbott Capital Management 2012	(3.85%)		(13.14%)		72.85%		29.04%		17.91%	
Abbott Capital Management 2013	(2.85%)		(12.51%)		70.21%		28.65%		21.13%	
Abbott Capital Management 2014	(3.96%)		(9.41%)		75.52%		26.51%		19.74%	
Abbott Capital Management 2015	3.60%		(0.79%)		75.81%		16.62%		15.14%	
Abbott Capital Management 2016	5.24%		2.90%		71.04%		20.02%		9.08%	
Abbott Capital Management 2018	3.96%		7.44%		47.06%		22.73%		7.26%	
Abbott Capital Management 2019	3.43%		7.54%		57.22%		10.04%		-	
Abbott Capital Management 2020	1.70%		0.81%		65.36%		-		-	
Abbott Capital Management 2021	2.00%		1.72%		-		-		-	
Abbott Capital Management 2022	4.87%		-		-		-		-	
Mesirov V	(0.80%)		(19.60%)		78.52%		21.39%		16.29%	
Mesirov VI	(0.52%)		(13.41%)		88.26%		29.10%		22.73%	
Mesirov VII	5.78%		(0.68%)		60.27%		16.43%		3.33%	
Mesirov VIII	0.22%		(2.15%)		10.14%		-		-	
NB Secondary Opp Fund III	17.34%		(2.34%)		30.34%		4.23%		12.18%	
NB Secondary Opp Fund IV	4.64%		0.29%		48.73%		14.80%		14.76%	
NB Secondary Opp Fund V	21.41%		-		-		-		-	
Private Advisors VI	4.68%		9.97%		83.78%		16.54%		17.98%	
Private Advisors VII	7.32%		21.61%		52.55%		3.97%		11.23%	
Private Advisors VIII	9.80%		27.61%		47.25%		15.78%		(4.08%)	
Private Advisors IX	13.33%		24.00%		37.25%		-		-	
<b>Absolute Return</b>	<b>6.09%</b>		<b>26.46%</b>		<b>8.87%</b>		<b>(14.04%)</b>		<b>12.79%</b>	
90 Day T-Bill + 3%	8.01%		4.46%		3.05%		3.67%		5.28%	
Aptitude	5.24%	53	-		-		-		-	
1-month LIBOR + 4%	9.38%	1	5.80%	21	4.11%	77	4.63%	45	6.32%	30
Callan Abs Rtn Hedge FoF	5.75%		3.34%		6.76%		4.03%		4.71%	
UBS A & Q	6.48%	40	8.85%	13	8.08%	44	12.18%	14	9.53%	4
1-month LIBOR + 4%	9.38%	1	5.80%	21	4.11%	77	4.63%	45	6.32%	30
Callan Abs Rtn Hedge FoF	5.75%		3.34%		6.76%		4.03%		4.71%	
<b>Real Assets</b>	<b>3.95%</b>		<b>(5.29%)</b>		<b>18.24%</b>		<b>4.69%</b>		<b>15.39%</b>	
Principal DRA	3.95%	48	(5.29%)	84	18.24%	43	4.69%	24	15.39%	15
Principal DRA Blend Index (1)	4.31%	47	(5.07%)	83	15.87%	45	2.08%	32	14.86%	16
Callan Alternative Inv DB	3.03%		9.37%		13.64%		(0.39%)		7.82%	
<b>Total Real Estate</b>	<b>(10.23%)</b>		<b>13.88%</b>		<b>23.85%</b>		<b>0.76%</b>		<b>6.21%</b>	
Real Estate	(10.23%)	71	13.88%	26	23.85%	34	0.76%	55	6.21%	65
Blended Benchmark (2)	(13.08%)	85	21.68%	15	14.83%	57	0.89%	53	5.26%	73
Callan Tot Real Est DB	(5.53%)		8.26%		18.84%		1.40%		7.71%	
<b>Total Fund</b>	<b>10.22%</b>	<b>93</b>	<b>(6.32%)</b>	<b>8</b>	<b>19.05%</b>	<b>8</b>	<b>6.84%</b>	<b>97</b>	<b>18.66%</b>	<b>47</b>
Total Fund Index*	12.25%	64	(10.59%)	26	12.88%	69	12.29%	49	16.52%	81
Callan Public Fund Spr DB	12.99%		(12.38%)		14.07%		12.25%		18.51%	

\* 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 Eq Wt Net 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 December 31, 2023. 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 December 31, 2023

	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>11.76%</b>	<b>19.38%</b>	<b>8.69%</b>	<b>13.96%</b>	<b>10.60%</b>
Russell 3000 Index	12.07%	25.96%	8.54%	15.16%	11.48%
BlackRock Russell 1000 Value Russell 1000 Value Index	9.50%	11.46%	8.85%	11.05%	-
	9.50%	11.46%	8.86%	10.91%	8.40%
DFA Large Cap Value Russell 1000 Value Index	9.10%	12.12%	10.65%	10.96%	-
	9.50%	11.46%	8.86%	10.91%	8.40%
Northern Trust Global S&P 500 Index	11.69%	26.29%	10.00%	15.70%	12.05%
	11.69%	26.29%	10.00%	15.69%	12.03%
Polen Capital Management S&P 500 Index	14.25%	37.75%	2.04%	14.61%	14.02%
	11.69%	26.29%	10.00%	15.69%	12.03%
Earnest Partners LLC Russell MidCap Index	12.81%	16.95%	7.43%	15.60%	11.53%
	12.82%	17.23%	5.92%	12.68%	9.42%
DFA Small Cap Value Russell 2000 Value Index	15.27%	21.04%	18.48%	15.39%	8.83%
	15.26%	14.65%	7.94%	10.00%	6.76%
CastleArk Management Russell 2000 Growth Index	9.43%	9.58%	(4.42%)	9.03%	7.40%
	12.75%	18.66%	(3.50%)	9.22%	7.16%
<b>Total Global Equity</b>	<b>11.29%</b>	<b>21.88%</b>	<b>6.08%</b>	<b>13.05%</b>	<b>9.06%</b>
MSCI World	11.42%	23.79%	7.27%	12.80%	8.60%
BlackRock Global Alpha Tilts MSCI ACWI Gross	11.38%	22.93%	6.63%	12.28%	-
	11.15%	22.81%	6.25%	12.27%	8.48%
MFS Investment Management MSCI ACWI Gross	11.17%	20.50%	5.35%	14.27%	10.55%
	11.15%	22.81%	6.25%	12.27%	8.48%
<b>Total International Equity</b>	<b>10.96%</b>	<b>22.25%</b>	<b>5.06%</b>	<b>9.14%</b>	<b>4.99%</b>
MSCI EAFE Index	10.42%	18.24%	4.02%	8.16%	4.28%
AQR Emerging Markets MSCI EM Gross	10.20%	17.92%	(2.15%)	5.64%	-
	7.93%	10.27%	(4.71%)	4.08%	3.05%
Brandes Investment Partners MSCI EAFE Index	10.63%	30.84%	11.47%	9.35%	5.24%
	10.42%	18.24%	4.02%	8.16%	4.28%
William Blair & Company MSCI ACWI ex-US Index	13.02%	15.50%	(2.53%)	9.68%	5.13%
	9.82%	16.21%	2.04%	7.60%	4.32%
DFA International Small Cap MSCI EAFE Small	9.34%	17.52%	7.10%	8.43%	4.61%
	11.14%	13.16%	(0.69%)	6.58%	4.80%

\*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 December 31, 2023. 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 December 31, 2023

	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>6.95%</b>	<b>6.52%</b>	<b>(0.44%)</b>	<b>1.57%</b>	<b>2.06%</b>
Blmbg Aggregate	6.82%	5.53%	(3.31%)	1.10%	1.81%
BlackRock US Govt Bond Blmbg Government	5.54%	4.22%	-	-	-
Reams Asset Management Blmbg Aggregate	5.62%	4.09%	(3.74%)	0.56%	1.27%
Reams Asset Management Blmbg Aggregate	7.29%	6.62%	(2.36%)	3.44%	3.08%
Loomis, Sayles & Company, L.P. Blmbg Aggregate	6.82%	5.53%	(3.31%)	1.10%	1.81%
<b>Total Private Equity</b>	<b>(1.93%)</b>	<b>2.89%</b>	<b>17.95%</b>	<b>18.51%</b>	<b>16.76%</b>
Private Equity Benchmark	(2.66%)	22.76%	11.80%	11.95%	-
Abbott Capital Management 2010	(7.84%)	(6.70%)	8.69%	13.23%	14.79%
Abbott Capital Management 2011	(7.59%)	(7.55%)	9.71%	15.33%	15.04%
Abbott Capital Management 2012	(5.39%)	(3.85%)	13.02%	17.04%	14.26%
Abbott Capital Management 2013	(5.15%)	(2.85%)	13.10%	17.65%	13.43%
Abbott Capital Management 2014	(5.23%)	(3.96%)	15.16%	18.26%	-
Abbott Capital Management 2015	(1.32%)	3.60%	21.80%	19.40%	-
Abbott Capital Management 2016	(0.31%)	5.24%	22.81%	19.38%	-
Abbott Capital Management 2018	(0.62%)	3.96%	17.99%	16.67%	-
Abbott Capital Management 2019	(0.60%)	3.43%	20.48%	-	-
Abbott Capital Management 2020	0.12%	1.70%	19.24%	-	-
Abbott Capital Management 2021	(0.16%)	2.00%	-	-	-
Abbott Capital Management 2022	(1.36%)	4.87%	-	-	-
Abbott Capital Management 2023	(0.28%)	-	-	-	-
Mesirow V	(5.36%)	(0.80%)	12.50%	14.99%	16.61%
Mesirow IV	(4.51%)	(0.52%)	17.49%	20.77%	13.86%
Mesirow VII	0.40%	5.78%	18.97%	15.16%	-
Mesirow VIII	(1.36%)	0.22%	2.60%	-	-
NB Secondary Opp Fund III	1.91%	17.34%	14.31%	11.80%	16.05%
NB Secondary Opp Fund IV	(0.58%)	4.64%	16.00%	15.51%	-
NB Secondary Opp Fund V	1.39%	21.41%	-	-	-
Private Advisors VI	1.46%	4.68%	28.38%	23.81%	-
Private Advisors VII	1.32%	7.32%	25.80%	18.15%	-
Private Advisors VIII	1.69%	9.80%	27.30%	18.03%	-
Private Advisors IX	0.96%	13.33%	24.48%	-	-
Apogem Capital X	2.07%	-	-	-	-
<b>Absolute Return</b>	<b>2.35%</b>	<b>6.09%</b>	<b>13.43%</b>	<b>7.09%</b>	<b>-</b>
90 Day T-Bill + 3%	2.08%	8.01%	5.15%	4.88%	4.25%
Aptitude	2.06%	5.24%	-	-	-
1-month LIBOR + 4%	2.35%	9.38%	6.41%	6.03%	5.41%
UBS A & Q	2.52%	6.48%	7.80%	9.01%	-
1-month LIBOR + 4%	2.35%	9.38%	6.41%	6.03%	5.41%
<b>Real Assets</b>	<b>7.10%</b>	<b>3.31%</b>	<b>4.54%</b>	<b>6.42%</b>	<b>-</b>
Principal DRA	7.10%	3.31%	4.54%	6.42%	-
Principal DRA Blend Index	7.55%	4.31%	4.69%	6.11%	-
<b>Total Real Estate</b>	<b>(3.65%)</b>	<b>(10.54%)</b>	<b>7.85%</b>	<b>5.94%</b>	<b>8.49%</b>
Real Estate	(3.65%)	(10.54%)	7.85%	5.94%	8.49%
Blended Benchmark	(2.12%)	(13.08%)	6.69%	5.22%	7.53%
<b>Total Fund</b>	<b>6.00%</b>	<b>9.97%</b>	<b>6.89%</b>	<b>9.03%</b>	<b>7.16%</b>
Total Fund Index	6.23%	12.25%	4.25%	8.19%	6.71%

\*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.

	2023	2022	2021	2020	2019
<b>Net of Fee Returns</b>					
<b>Total Domestic Equity</b>	<b>19.38%</b>	<b>(15.89%)</b>	<b>27.88%</b>	<b>16.09%</b>	<b>28.94%</b>
Russell 3000 Index	25.96%	(19.21%)	25.66%	20.89%	31.02%
BlackRock Russell 1000 Value	11.46%	(7.55%)	25.17%	3.27%	26.77%
Russell 1000 Value Index	11.46%	(7.54%)	25.16%	2.80%	26.54%
DFA Large Cap Value	12.12%	(5.12%)	27.35%	(1.78%)	26.42%
Russell 1000 Value Index	11.46%	(7.54%)	25.16%	2.80%	26.54%
Northern Trust Global	26.29%	(18.09%)	28.68%	18.41%	31.53%
S&P 500 Index	26.29%	(18.11%)	28.71%	18.40%	31.49%
Polen Capital Management	37.75%	(37.97%)	24.34%	34.59%	38.27%
S&P 500 Index	26.29%	(18.11%)	28.71%	18.40%	31.49%
Earnest Partners LLC	16.95%	(15.58%)	25.59%	20.96%	37.65%
Russell MidCap Index	17.23%	(17.32%)	22.58%	17.10%	30.54%
DFA Small Cap Value	21.04%	(2.12%)	40.38%	3.74%	18.58%
Russell 2000 Value Index	14.65%	(14.48%)	28.27%	4.63%	22.39%
CastleArk Management	9.58%	(28.58%)	11.55%	44.12%	22.47%
Russell 2000 Growth Index	18.66%	(26.36%)	2.83%	34.63%	28.48%
<b>Total Global Equity</b>	<b>21.88%</b>	<b>(17.55%)</b>	<b>18.80%</b>	<b>18.48%</b>	<b>30.55%</b>
MSCI World	23.79%	(18.14%)	21.82%	15.90%	27.67%
BlackRock Global Alpha Tilts	22.93%	(16.89%)	18.67%	16.39%	26.48%
MSCI ACWI Gross	22.81%	(17.96%)	19.04%	16.82%	27.30%
MFS Investment Management	20.50%	(18.50%)	19.05%	21.88%	36.74%
MSCI ACWI Gross	22.81%	(17.96%)	19.04%	16.82%	27.30%
<b>Total International Equity</b>	<b>22.25%</b>	<b>(15.75%)</b>	<b>12.57%</b>	<b>10.28%</b>	<b>21.08%</b>
MSCI EAFE Index	18.24%	(14.45%)	11.26%	7.82%	22.01%
AQR Emerging Markets	17.92%	(20.93%)	0.47%	17.38%	19.64%
MSCI EM Gross	10.27%	(19.74%)	(2.22%)	18.69%	18.90%
Brandes Investment Partners	30.84%	(7.15%)	14.00%	(1.69%)	14.86%
MSCI EAFE Index	18.24%	(14.45%)	11.26%	7.82%	22.01%
William Blair & Company	15.50%	(28.91%)	12.77%	30.84%	31.01%
MSCI ACWI ex-US Index	16.21%	(15.57%)	8.29%	11.13%	22.13%
DFA International Small Cap	17.52%	(9.80%)	15.89%	0.81%	21.00%
MSCI EAFE Small	13.16%	(21.39%)	10.10%	12.34%	24.96%

\*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.

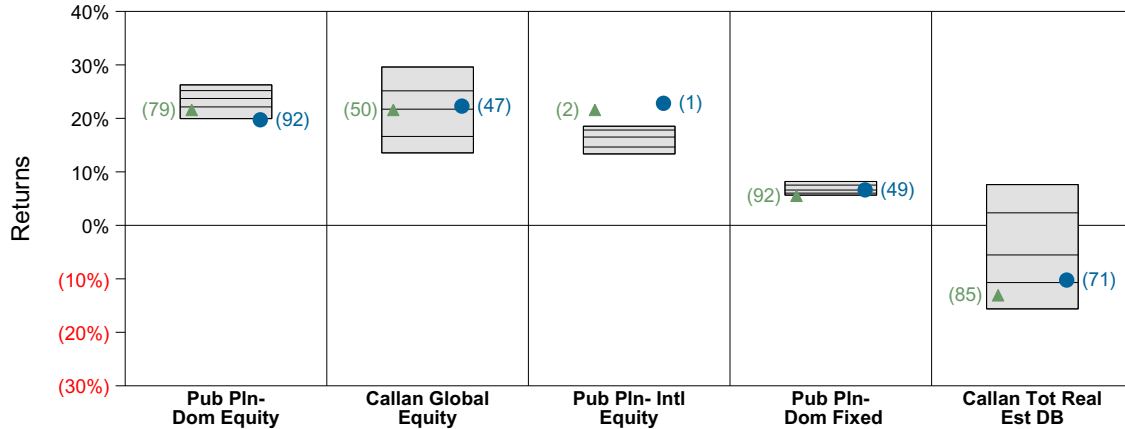
	2023	2022	2021	2020	2019
<b>Net of Fee Returns</b>					
<b>Total Fixed Income</b>	<b>6.52%</b>	<b>(6.93%)</b>	<b>(0.45%)</b>	<b>(1.91%)</b>	<b>11.68%</b>
Blmbg Aggregate	5.53%	(13.01%)	(1.54%)	7.51%	8.72%
BlackRock US Govt Bond	4.22%	(12.44%)	-	-	-
Blmbg Government	4.09%	(12.32%)	(2.28%)	7.94%	6.83%
Reams Asset Management	6.62%	(11.50%)	(1.36%)	17.11%	8.65%
Blmbg Aggregate	5.53%	(13.01%)	(1.54%)	7.51%	8.72%
Loomis, Sayles & Company, L.P.	8.41%	(12.26%)	1.98%	6.99%	14.25%
Blmbg Aggregate	5.53%	(13.01%)	(1.54%)	7.51%	8.72%
<b>Total Private Equity</b>	<b>2.89%</b>	<b>(4.88%)</b>	<b>67.66%</b>	<b>22.14%</b>	<b>16.63%</b>
Private Equity Benchmark	22.76%	(15.10%)	34.08%	17.99%	6.65%
Abbott Capital Management 2010	(6.70%)	(16.87%)	65.55%	24.43%	16.52%
Abbott Capital Management 2011	(7.55%)	(18.97%)	76.29%	29.13%	19.64%
Abbott Capital Management 2012	(3.85%)	(13.14%)	72.85%	29.04%	17.91%
Abbott Capital Management 2013	(2.85%)	(12.51%)	70.21%	28.65%	21.13%
Abbott Capital Management 2014	(3.96%)	(9.41%)	75.52%	26.51%	19.74%
Abbott Capital Management 2015	3.60%	(0.79%)	75.81%	16.62%	15.14%
Abbott Capital Management 2016	5.24%	2.90%	71.04%	20.02%	9.08%
Abbott Capital Management 2018	3.96%	7.44%	47.06%	22.73%	7.26%
Abbott Capital Management 2019	3.43%	7.54%	57.22%	10.04%	-
Abbott Capital Management 2020	1.70%	0.81%	65.36%	-	-
Abbott Capital Management 2021	2.00%	1.72%	-	-	-
Abbott Capital Management 2022	4.87%	-	-	-	-
Mesirow V	(0.80%)	(19.60%)	78.52%	21.39%	16.29%
Mesirow IV	(0.52%)	(13.41%)	88.26%	29.10%	22.73%
Mesirow VII	5.78%	(0.68%)	60.27%	16.43%	3.33%
Mesirow VIII	0.22%	(2.15%)	10.14%	-	-
NB Secondary Opp Fund III	17.34%	(2.34%)	30.34%	4.23%	12.18%
NB Secondary Opp Fund IV	4.64%	0.29%	48.73%	14.80%	14.76%
NB Secondary Opp Fund V	21.41%	-	-	-	-
Private Advisors VI	4.68%	9.97%	83.78%	16.54%	17.98%
Private Advisors VII	7.32%	21.61%	52.55%	3.97%	11.23%
Private Advisors VIII	9.80%	27.61%	47.25%	15.78%	(4.08%)
Private Advisors IX	13.33%	24.00%	37.25%	-	-
<b>Absolute Return</b>	<b>6.09%</b>	<b>26.46%</b>	<b>8.77%</b>	<b>(14.21%)</b>	<b>12.52%</b>
90 Day T-Bill + 3%	8.01%	4.46%	3.05%	3.67%	5.28%
Aptitude	5.24%	-	-	-	-
1-month LIBOR + 4%	9.38%	5.80%	4.11%	4.63%	6.32%
UBS A & Q	6.48%	8.85%	8.08%	12.18%	9.53%
1-month LIBOR + 4%	9.38%	5.80%	4.11%	4.63%	6.32%
<b>Real Assets</b>	<b>3.31%</b>	<b>(5.91%)</b>	<b>17.51%</b>	<b>4.02%</b>	<b>14.84%</b>
Principal DRA	3.31%	(5.91%)	17.51%	4.02%	14.84%
Principal DRA Blend Index	4.31%	(5.07%)	15.87%	2.08%	14.86%
<b>Total Real Estate</b>	<b>(10.54%)</b>	<b>13.58%</b>	<b>23.45%</b>	<b>0.39%</b>	<b>5.95%</b>
Real Estate	(10.54%)	13.58%	23.45%	0.39%	5.95%
Blended Benchmark	(13.08%)	21.68%	14.83%	0.89%	5.26%
<b>Total Fund</b>	<b>9.97%</b>	<b>(6.51%)</b>	<b>18.80%</b>	<b>6.59%</b>	<b>18.34%</b>
Total Fund Index	12.25%	(10.59%)	12.88%	12.29%	16.52%

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

## Asset Class Rankings

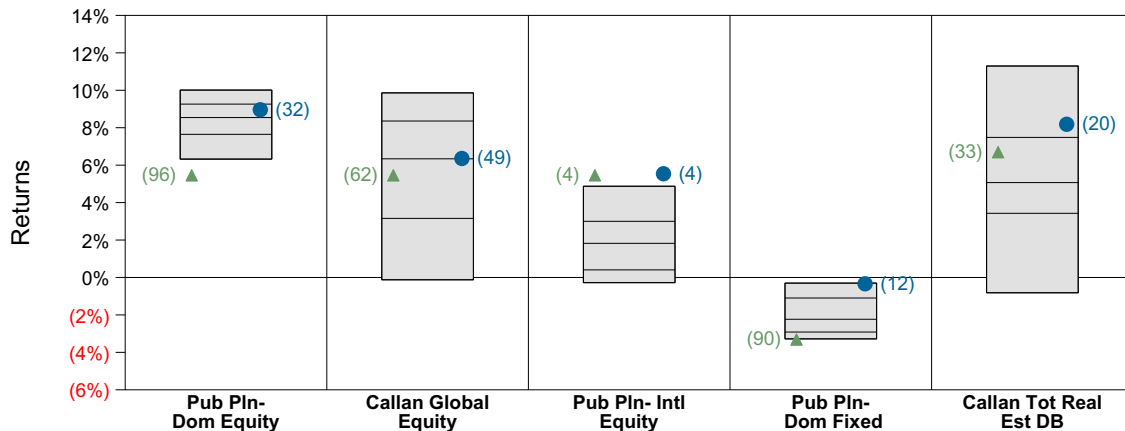
The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases.

### Total Asset Class Performance One Year Ended December 31, 2023



	Pub Pln-Dom Equity	Callan Global Equity	Pub Pln- Intl Equity	Pub Pln-Dom Fixed	Callan Tot Real Est DB
10th Percentile	26.26	29.60	18.53	8.20	7.62
25th Percentile	25.19	25.15	17.82	7.52	2.34
Median	23.72	21.72	16.51	6.60	(5.53)
75th Percentile	22.14	16.62	14.64	6.02	(10.70)
90th Percentile	19.95	13.55	13.35	5.65	(15.62)
<b>Asset Class Composite</b>	● 19.73	22.29	22.82	6.63	(10.23)
Composite Benchmark	▲ 21.58	21.58	21.58	5.53	(13.08)

### Total Asset Class Performance Three Years Ended December 31, 2023



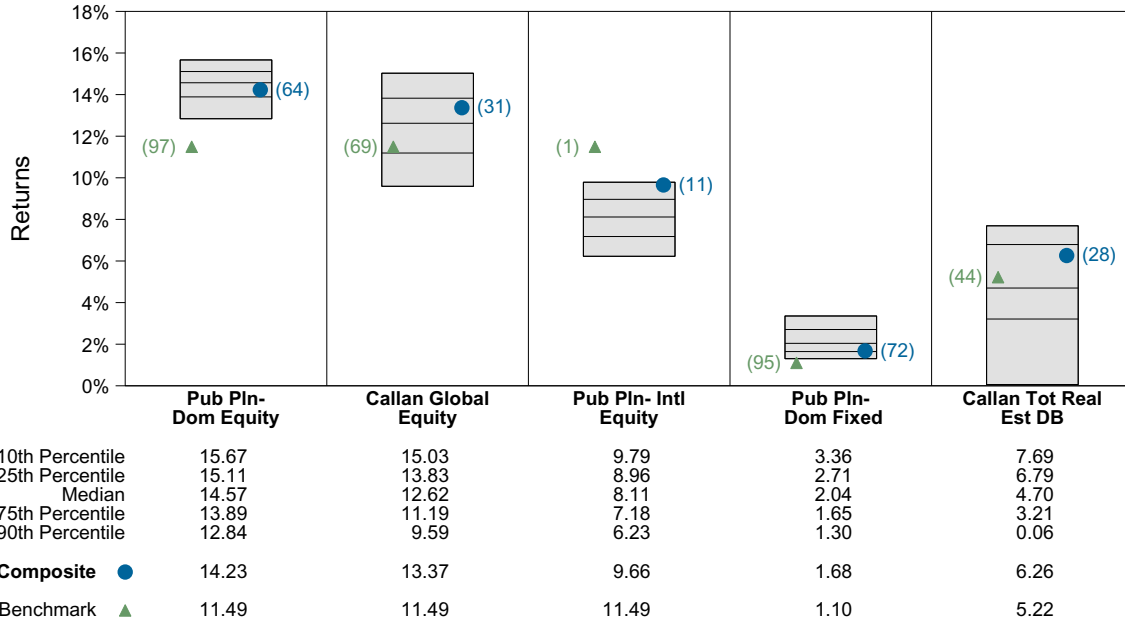
	Pub Pln-Dom Equity	Callan Global Equity	Pub Pln- Intl Equity	Pub Pln-Dom Fixed	Callan Tot Real Est DB
10th Percentile	10.01	9.86	4.87	(0.30)	11.30
25th Percentile	9.26	8.36	3.00	(1.10)	7.48
Median	8.54	6.34	1.82	(2.23)	5.07
75th Percentile	7.65	3.16	0.41	(2.91)	3.43
90th Percentile	6.32	(0.12)	(0.28)	(3.28)	(0.82)
<b>Asset Class Composite</b>	● 8.96	6.36	5.54	(0.34)	8.18
Composite Benchmark	▲ 5.46	5.46	5.46	(3.31)	6.69

\* 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 Eq Wt Net lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.

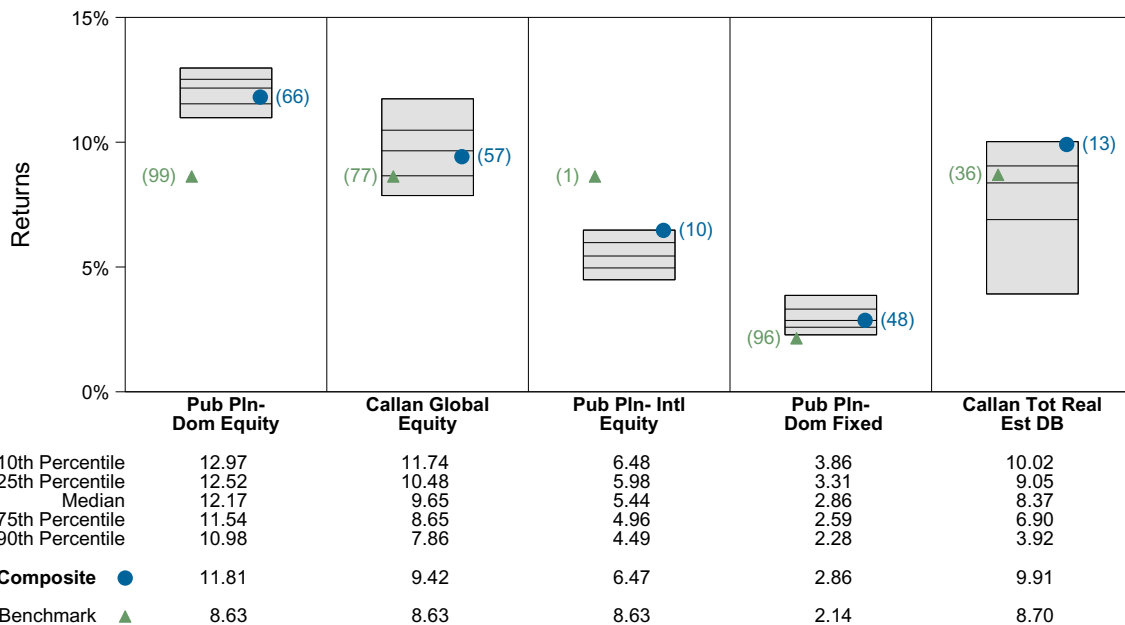
## Asset Class Rankings

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 December 31, 2023



### Total Asset Class Performance Thirteen Years Ended December 31, 2023



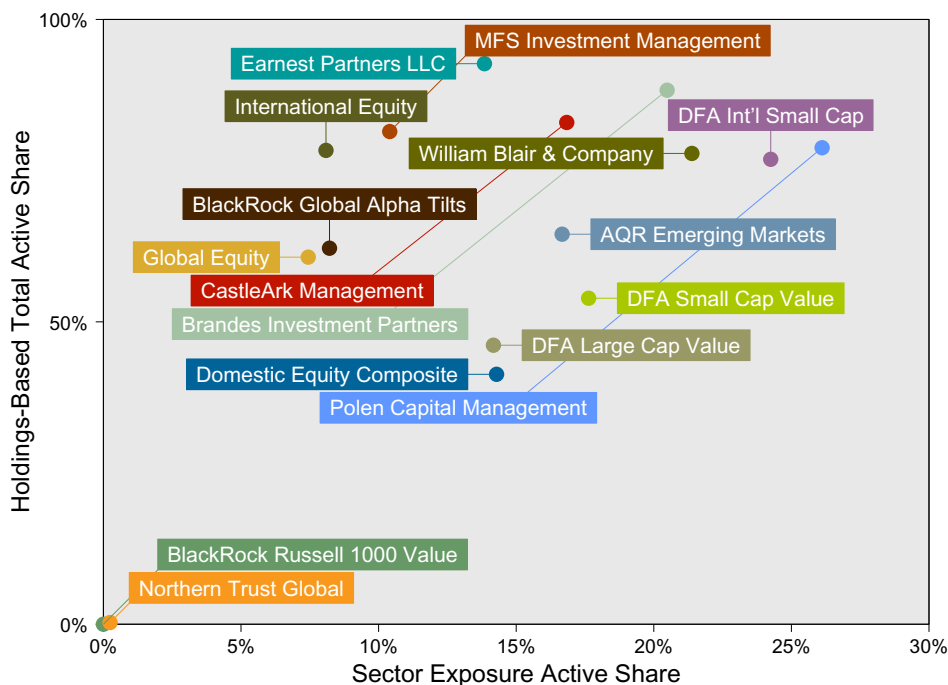
\* Current Quarter Target = 39.0% MSCI ACWI IMI, 29.0% Blmbg:Aggregate, 12.0% Russell 3000 Index lagged 3 months+2.0%, 9.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 7.0% 3-month Treasury Bill+3.0% and 3.3% Principal DRA Blend Index.



## Active Share Structure Analysis For One Quarter Ended December 31, 2023

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 December 31, 2023



	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>41.32%</b>	<b>0.88%</b>	<b>14.29%</b>	<b>1853</b>	<b>132.24</b>
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	849	72.06
DFA Large Cap Value	Russell 1000 Value	46.13%	1.06%	14.17%	307	48.28
Northern Trust Global	S&P 500	0.28%	0.00%	0.24%	502	35.35
Polen Capital Management	S&P 500	78.79%	2.24%	26.12%	23	6.72
Earnest Partners LLC	Russell MidCap	92.69%	9.62%	13.85%	58	22.85
DFA Small Cap Value	Russell 2000 Value	53.90%	15.04%	17.63%	941	122.83
CastleArk Management	Russell 2000 Growth	82.96%	20.67%	16.84%	109	38.80
<b>Global Equity</b>	<b>MSCI World</b>	<b>60.69%</b>	<b>7.11%</b>	<b>7.44%</b>	<b>548</b>	<b>45.46</b>
BlackRock Global Alpha Tilts	MSCI ACWI GD	62.17%	4.14%	8.22%	496	37.53
MFS Investment Management	MSCI ACWI GD	81.47%	1.89%	10.40%	73	21.19
<b>International Equity</b>	<b>MSCI EAFE</b>	<b>78.35%</b>	<b>28.83%</b>	<b>8.09%</b>	<b>2483</b>	<b>83.48</b>
AQR Emerging Markets	MSCI EM GD	64.49%	3.54%	16.67%	337	29.87
Brandes Investment Partners	MSCI EAFE	88.30%	14.96%	20.48%	67	22.65
William Blair & Company	MSCI ACWI xUS GD	77.84%	12.19%	21.38%	273	48.49
DFA Int'l Small Cap	MSCI EAFE Small	76.87%	16.88%	24.25%	1838	149.69

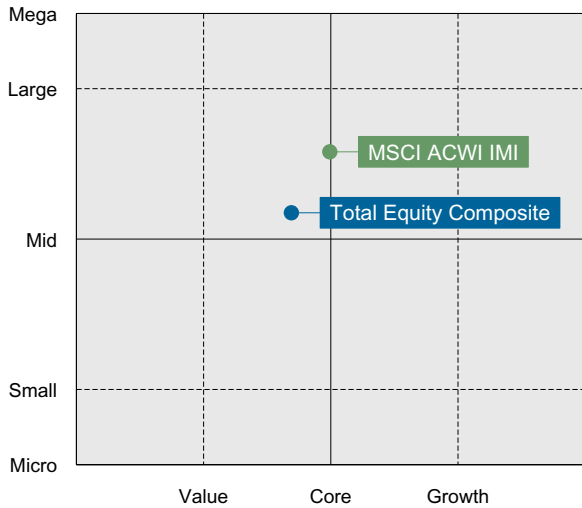
# Current Holdings Based Style Analysis

## Total Equity Composite

### As of December 31, 2023

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.

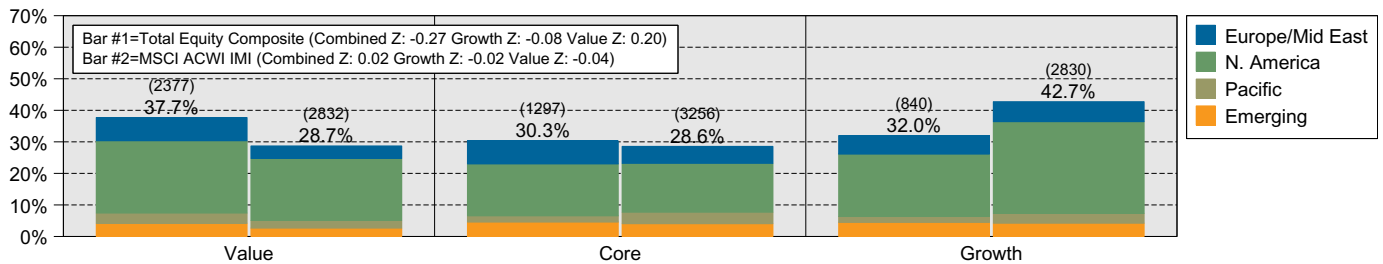
**Style Map vs Callan Public Fund Spr DB Holdings as of December 31, 2023**



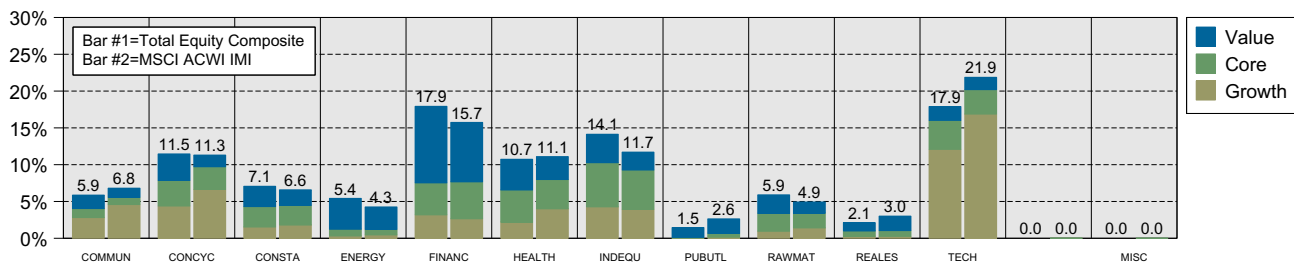
**Style Exposure Matrix Holdings as of December 31, 2023**

	Value	Core	Growth	Total
Europe/Mid East	7.4% (414)	7.3% (261)	5.9% (140)	20.5% (815)
N. America	3.9% (440)	5.4% (513)	6.3% (470)	15.6% (1423)
Pacific	22.9% (984)	16.5% (624)	19.8% (365)	59.2% (1973)
Emerging	19.7% (891)	15.5% (1057)	29.1% (709)	64.3% (2657)
<b>Total</b>	<b>37.7% (2377)</b>	<b>30.3% (1297)</b>	<b>32.0% (840)</b>	<b>100.0% (4514)</b>
	28.7% (2832)	28.6% (3256)	42.7% (2830)	100.0% (8918)

**Combined Z-Score Style Distribution Holdings as of December 31, 2023**



**Sector Weights Distribution Holdings as of December 31, 2023**



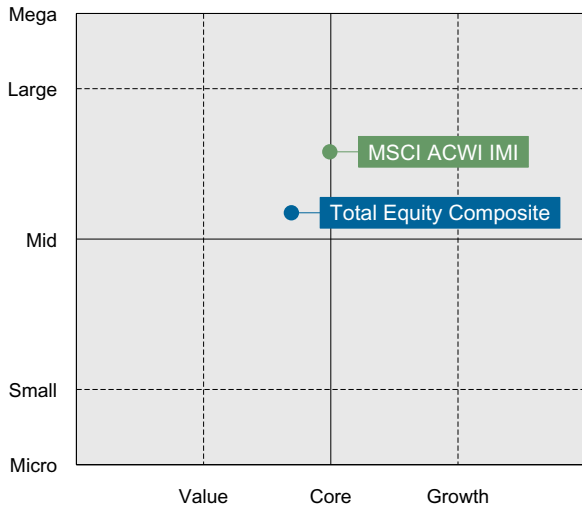
# Current Holdings Based Style Analysis

## Total Equity Composite

### As of December 31, 2023

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.

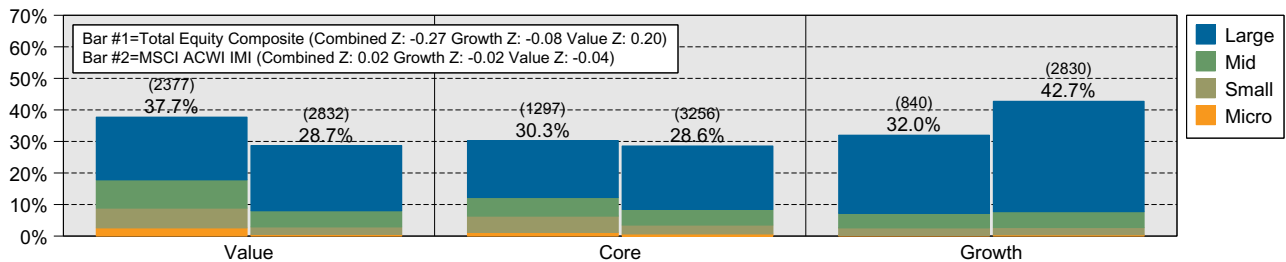
**Style Map vs Callan Public Fund Spr DB Holdings as of December 31, 2023**



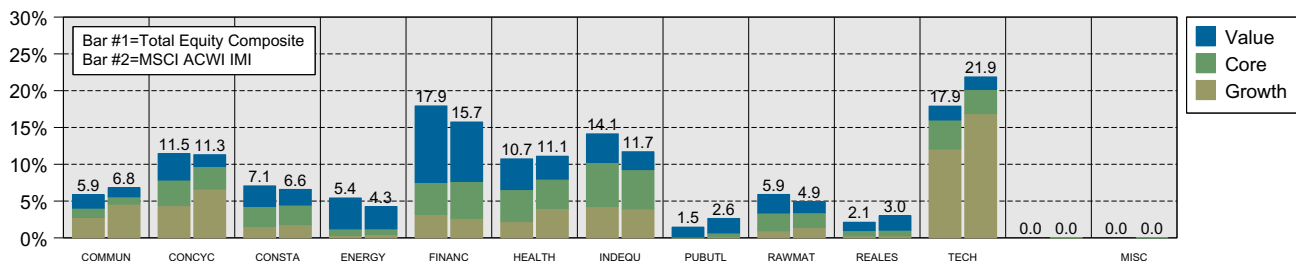
**Style Exposure Matrix Holdings as of December 31, 2023**

	Value	Core	Growth	Total
Large	19.9% (242)	18.1% (200)	24.8% (203)	62.8% (645)
	20.7% (311)	20.1% (271)	35.0% (309)	75.8% (891)
Mid	9.0% (337)	5.9% (270)	4.6% (262)	19.5% (869)
	5.1% (551)	5.0% (587)	5.0% (645)	15.2% (1783)
Small	6.3% (462)	5.2% (399)	2.3% (220)	13.7% (1081)
	2.4% (1074)	2.8% (1333)	2.3% (1162)	7.5% (3569)
Micro	2.6% (1336)	1.1% (428)	0.3% (155)	4.0% (1919)
	0.5% (896)	0.7% (1065)	0.4% (714)	1.6% (2675)
Total	37.7% (2377)	30.3% (1297)	32.0% (840)	100.0% (4514)
	28.7% (2832)	28.6% (3256)	42.7% (2830)	100.0% (8918)

**Combined Z-Score Style Distribution Holdings as of December 31, 2023**



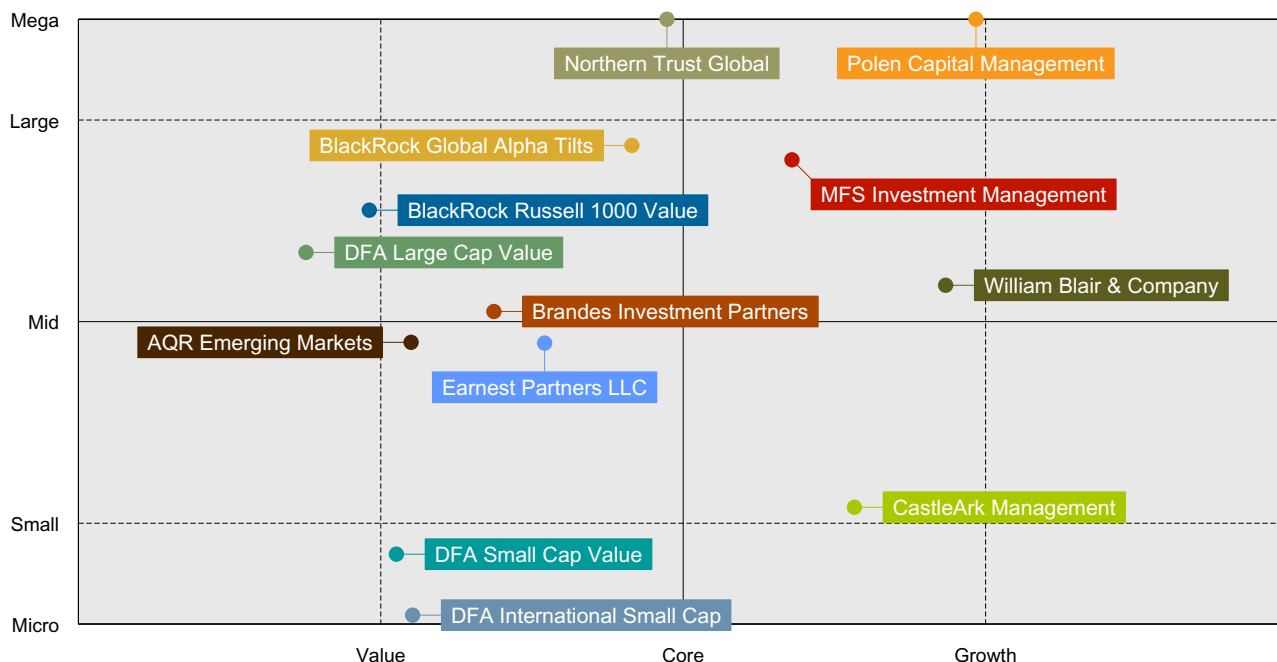
**Sector Weights Distribution Holdings as of December 31, 2023**



## Global Holdings Based Style Analysis For One Quarter Ended December 31, 2023

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 December 31, 2023



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
BlackRock Russell 1000 Value	8.48%	71.45	(0.97)	(0.40)	0.57	849	72.06
DFA Large Cap Value	6.09%	52.33	(1.17)	(0.33)	0.84	307	48.28
Northern Trust Global	8.56%	208.34	(0.03)	(0.03)	(0.01)	502	35.35
Polen Capital Management	5.30%	271.41	0.93	0.33	(0.60)	23	6.72
Earnest Partners LLC	4.50%	19.21	(0.42)	(0.24)	0.18	58	22.85
DFA Small Cap Value	8.11%	2.97	(0.89)	(0.17)	0.72	941	122.83
CastleArk Management	3.49%	4.91	0.55	0.08	(0.47)	109	38.80
MFS Investment Management	8.68%	94.20	0.36	(0.04)	(0.40)	73	21.19
BlackRock Global Alpha Tilts	10.99%	100.70	(0.14)	0.01	0.15	496	37.53
AQR Emerging Markets	4.68%	19.28	(0.84)	(0.09)	0.75	337	29.87
Brandes Investment Partners	14.16%	25.67	(0.58)	(0.15)	0.42	67	22.65
William Blair & Company	9.83%	37.51	0.84	0.23	(0.60)	273	48.49
DFA International Small Cap	7.13%	1.91	(0.84)	(0.12)	0.72	1838	149.69



## Quarterly Highlights

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

## New Research from Callan's Experts

**[2023 Nuclear Decommissioning Funding Study](#)** | Callan's annual study offers key insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

**[2023 Investment Management Fee Study](#)** | The purpose of the study is to provide a detailed analysis on fee levels and trends across multiple asset classes and mandate sizes, for both active and passive management.

**[2023 Asset Manager ESG Study](#)** | Callan's inaugural ESG Study analyzes responses to various environmental, social, and governance questions in Callan's manager database by firm size, asset class, country of domicile, and ownership structure.

## Webinar Replays

**[Research Cafe: Office-to-Residential Conversions](#)** | During this interview, Callan specialists Aaron Quach and Christine Mays of Callan's Real Assets Consulting Group discuss office-to-residential conversions.

**[Webinar: Callan's Retirement Conundrum](#)** | During this discussion, representatives from Callan and October Three (a human resource and actuarial consulting firm) discuss how a small provision in SECURE 2.0 has paved the way for cash-balance pension plans to meet retirement income needs.

## Blog Highlights

**[How Your Public DB Plan's Returns Compare](#)** | This 3Q23 update to our quarterly series of blog posts provides context for public defined benefit (DB) plans about their returns over time.

**[ILS on Pace for Banner Year in 2023](#)** | When reviewing hedge fund portfolios, those investing in insurance-linked securities (ILS) are finding that this oft-overlooked strategy is buoying performance.

## Quarterly Updates

**[Private Equity Update, 3Q23](#)** | A high-level summary of private equity activity in the quarter through all the investment stages

**[Active vs. Passive Charts, 3Q23](#)** | A comparison of active managers alongside relevant benchmarks over the long term

**[Market Pulse, 3Q23](#)** | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

**[Capital Markets Review, 3Q23](#)** | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

**[Hedge Fund Update, 3Q23](#)** | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

**[Real Assets Update, 3Q23](#)** | A summary of market activity for real assets and private real estate during the quarter

**[Private Credit Update, 3Q23](#)** | A review of performance and fundraising activity for private credit during the quarter

**[Callan Target Date Index™, 3Q23](#)** | Tracks the performance and asset allocation of available target date mutual funds and CITs

**[Callan DC Index™, 3Q23](#)** | Provides underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately \$400 billion in assets

## Events

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

Please mark your calendar and look forward to upcoming invitations:

### 2024 National Conference

April 8-10, 2024 – San Francisco

### June Regional Workshops

June 25, 2024 – Atlanta

June 27, 2024 – San Francisco

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

## Education: By the Numbers

50+

Unique pieces of research the Institute generates each year

525

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

4,845

Total attendees of the "Callan College" since 1994

## Education

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

### Alternative Investments

Feb. 21-22, 2024 – Virtual

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In our "Callan College" on Alternatives, you will learn about the importance of allocations to alternatives, and how to consider integrating, evaluating, and monitoring them.

### Introduction to Investments

March 19-21, 2024 – Virtual

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

Our virtual sessions are held over two to three days with virtual modules of 2.5-3 hours, while in-person sessions run either a full day or one-and-a-half days. Virtual tuition is \$950 per person and includes instruction and digital materials. In-person tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including registration can be found at: [callan.com/events-education](https://callan.com/events-education)



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

Greg Allen, CEO and Chief Research Officer





## List of Callan’s Investment Manager Clients

Confidential – For Callan Client Use Only

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
ABS Global Investments
Acadian Asset Management LLC
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
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC

Manager Name
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
Belle Haven Investments L.P.
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.
Brown Brothers Harriman & Company

**Manager Name**

Brown Investment Advisory &amp; Trust Company

Capital Group

CastleArk Management, LLC

CIBC Asset Management Inc.

ClearBridge Investments, LLC

Cohen &amp; Steers Capital Management, Inc.

Columbia Threadneedle Investments NA

Comvest Partners

Covenant Capital Group

CQS

Credit Suisse Asset Management, LLC

D.E. Shaw Investment Management, LLC

DePrince, Race &amp; Zollo, Inc.

Diamond Hill Capital Management, Inc.

Dimensional Fund Advisors L.P.

Doubleline

DWS

EARNEST Partners, LLC

Fayez Sarofim &amp; Company

Federated Hermes, Inc.

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Eagle Investment Management, LLC

First Hawaiian Bank Wealth Management Division

First Sentier Investors

Fisher Investments

Franklin Templeton

Fred Alger Management, LLC

GAM (USA) Inc.

GlobeFlex Capital, L.P.

GoldenTree Asset Management, LP

Goldman Sachs

Golub Capital

Guggenheim Investments

GW&amp;K Investment Management

Harbor Capital Advisors

Harding Loevner LP

Hardman Johnston Global Advisors LLC

Heitman LLC

Hotchkis &amp; Wiley Capital Management, LLC

**Manager Name**

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Income Research + Management

Insight Investment

Intech Investment Management LLC

Intercontinental Real Estate Corporation

Invesco

J.P. Morgan

Janus

Jennison Associates LLC

Jobs Peak Advisors

KeyCorp

Kohlberg Kravis Roberts &amp; Co. L.P. (KKR)

Lazard Asset Management

LGIM America

Lincoln National Corporation

Longview Partners

Loomis, Sayles &amp; Company, L.P.

Lord, Abbett &amp; Company

LSV Asset Management

MackKay Shields LLC

Macquarie Asset Management (MAM)

Manulife Investment Management

Marathon Asset Management, L.P.

MetLife Investment Management

MFS Investment Management

MidFirst Bank

Mondrian Investment Partners Limited

Montag &amp; Caldwell, LLC

Morgan Stanley Investment Management

MUFG Union Bank, N.A.

Natixis Investment Managers

Neuberger Berman

Newton Investment Management

Northern Trust Asset Management

Nuveen

Oaktree Capital Management, L.P.

P/E Investments

Pacific Investment Management Company

Pantheon Ventures

Parametric Portfolio Associates LLC

**Manager Name**

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Pathway Capital Management, LP

PFM Asset Management LLC

PGIM DC Solutions

PGIM Fixed Income

PGIM Quantitative Solutions LLC

Pictet Asset Management

PineBridge Investments

Polen Capital Management, LLC

Pretium Partners, LLC

Principal Asset Management

Putnam Investments, LLC

Raymond James Investment Management

RBC Global Asset Management

Regions Financial Corporation

Robeco Institutional Asset Management, US Inc.

Rockpoint

S&amp;P Dow Jones Indices

Sands Capital Management

Schroder Investment Management North America Inc.

Segall Bryant &amp; Hamill

SLC Management

Smith Graham &amp; Co. Investment Advisors, L.P.

State Street Global Advisors

**Manager Name**

Strategic Global Advisors, LLC

T. Rowe Price Associates, Inc.

TD Global Investment Solutions – TD Epoch

The Carlyle Group

The TCW Group, Inc.

Thompson, Siegel &amp; Walmsley LLC

Top Tier Capital Partners

Tri-Star Trust Bank

Turning Rock Partners, L.P.

UBS Asset Management

VanEck

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

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