


June 30, 2023



City of Milwaukee Employees' Retirement System

Investment Measurement Service
Quarterly Review

Table of Contents

June 30, 2023

Capital Markets Review	1
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Total Fund	
Allocation Across Investment Managers	7
Actual vs. Target Asset Allocation	8
Total Fund vs. Total Public Fund Database	10
Investment Manager Returns - Gross of Fee	13
Investment Manager Returns - Net of Fee	17
Asset Class Rankings	21
Active Share Structure Analysis	23
Total Equity Style Analysis	24
Manager Comparison Style Analysis	26
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Callan Research/Education	27
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Disclosures	30

U.S. EQUITY

Large cap growth stocks lead broad indices higher

- The S&P 500 posted a second straight quarter of positive performance, gaining 8.7%; large cap growth led all styles, advancing 12.8%.
- All U.S. equity indices produced positive returns; small value and low volatility produced the lowest 2Q returns.
- Nine of the 11 S&P Index sectors produced a positive 2Q23 return.
- Similar to 1Q23, small caps (Russell 2000) underperformed large caps (Russell 1000) and growth outperformed value during the quarter, a reversal of trend from 2022.
- Financials (-1.1%) detracted from returns for the Russell 2000 (+5.2%) while Health Care was the only small cap sector to produce double-digit returns (+11.2%).

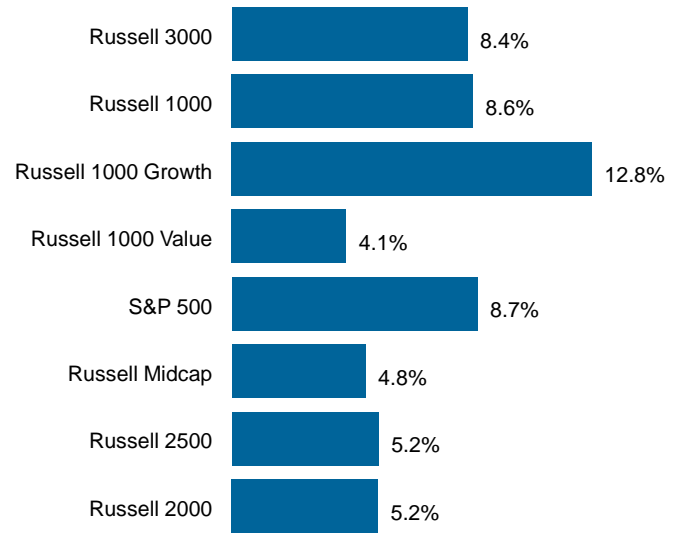
Index concentration is a significant 2Q theme

- 10 stocks within the S&P 500 Index contributed 80% of the 16.9% return YTD through 6/30; average appreciation is 82%, and these stocks had an average forward price/earnings ratio of 36x.
- 2Q return for the S&P 500 Index was 8.7%; the equal weight S&P 500 Index returned 4%.
- The YTD return difference is nearly 10 percentage points; if this gap holds through year-end, it would be the largest since 1998.

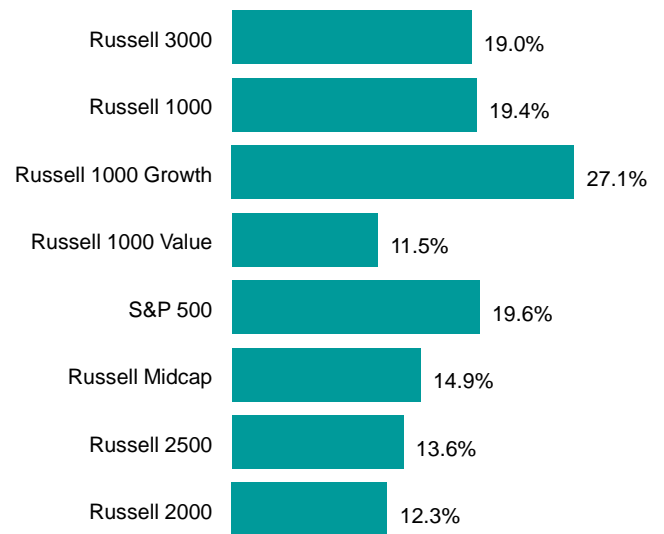
Small cap valuations point to potential opportunity

- Small cap continues to trade at a meaningful discount to its historical valuations; large cap (particularly growth) continues to trade at a premium to its historical valuations.
- Favorable developments in the inflation data could give the small cap market a boost in performance.
- One recent issue that caused this relative valuation gap is debt; on average, small cap companies have a higher exposure to variable rate debt than large cap counterparts.

U.S. Equity: Quarterly Returns

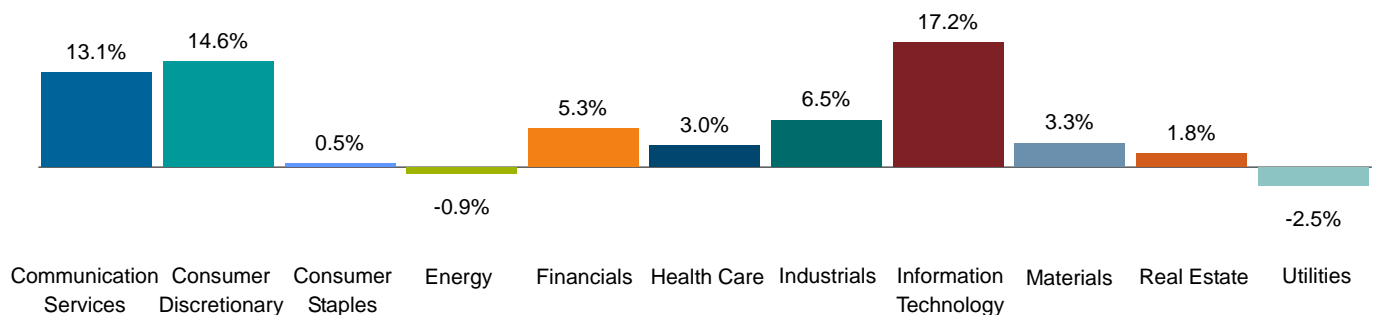


U.S. Equity: One-Year Returns



Sources: FTSE Russell, S&P Dow Jones Indices

S&P Sector Returns, Quarter Ended 6/30/23



Source: S&P Dow Jones Indices

GLOBAL EQUITY

2Q23 continued global and global ex-U.S. equity markets' positive performance from the prior quarter.

Technology stocks lead markets higher

- 2Q23 saw global markets led higher by mega cap technology stocks, in part due to increased optimism around artificial intelligence advancements.
- Market expectations of a recession decreased as inflation showed signs of abating while the Fed kept rates unchanged in June.
- Japan outperformed other regions in local currency as valuations continued to be attractive alongside the Bank of Japan's easy monetary policy.

Developed vs. emerging markets

- Developed markets outperformed emerging markets as China weighed on EM indices.

Growth vs. value

- Mega cap technology companies, which are primarily U.S.-based, led markets higher and resulted in large dispersions between U.S. growth and value indices. However, outside of the U.S., growth and value index returns were relatively balanced.

Japan's turn

- Valuation below historical levels
- Economic recovery; in 1Q Japan transitioned out of a recession as GDP grew 2.7%.
- Next 12 months consensus earnings estimates show Japan outpacing China, EM, and Europe, and only trailing the U.S.

India vs. China

Economics

- Chinese geopolitical tensions have, in part, driven outside investment elsewhere compared to India, with Prime Minister Modi's visit to the U.S. highlighting its place in the world economy.
- China's New Espionage Law (effective July 2023) likely contributing to less foreign investment; \$20 billion ended 1Q23 versus \$100 billion ended 1Q22.

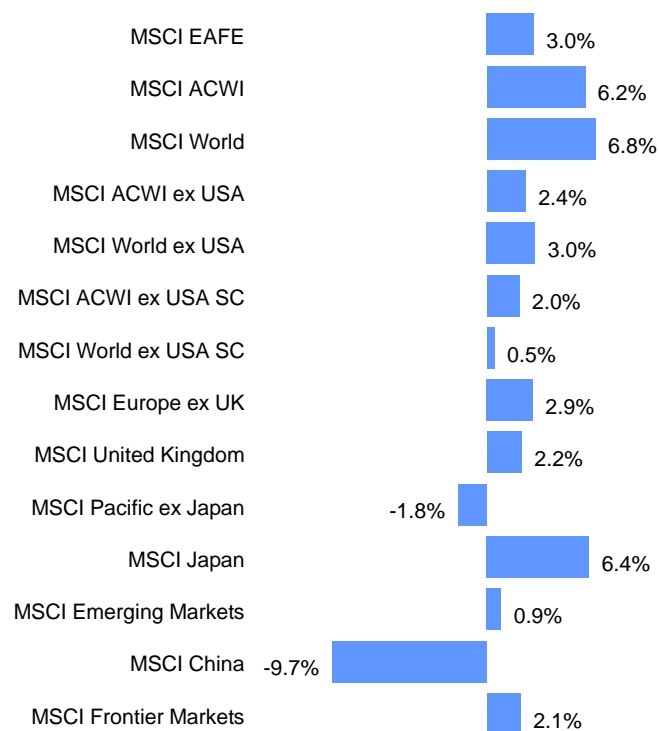
Asset flows

- India's equity market has more than doubled since 2010.

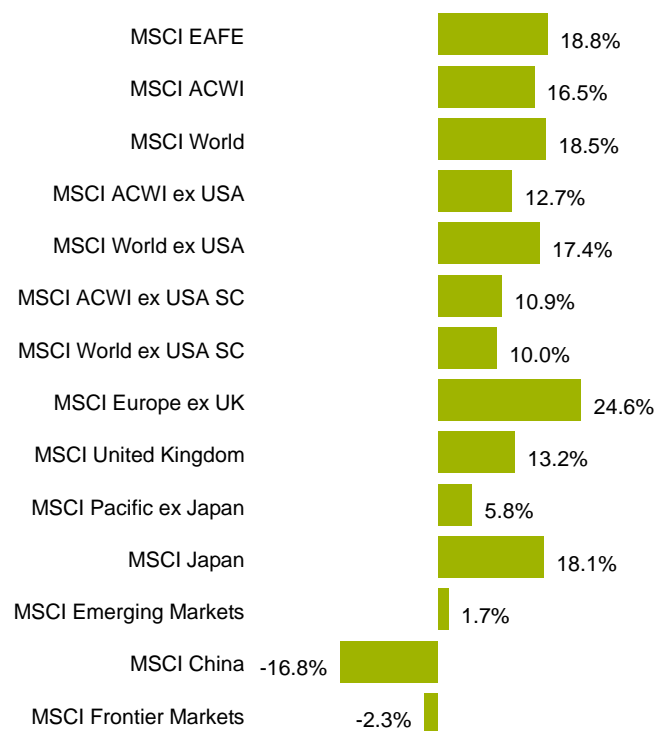
Growth

- India surpassing China with % of population in the middle class in 2030, and from 2023 to 2030 will contribute twice as much growth from this group than China in the Asia Pacific region.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI

U.S. FIXED INCOME

Bloomberg Aggregate down as rates rose

Risk appetite and solid economic news spurred returns for spread sectors and lower quality.

- Corporate excess return: +131 bps
- Mortgage excess return: +76 bps
- High yield corporates excess return: +279 bps
- AA excess return: +84 bps
- BBB excess return: +157 bps

Yield curve inversion steepened

- 2- year U.S. Treasury: 4.87%; 10-year: 3.81%

TIPS performed in line with nominal U.S. Treasuries

- Five-year breakeven spreads narrowed to 2.18% from 2.40% on 3/31
- Fed and markets expect inflation to trend down over longer periods

Fed Funds target raised to 5.00% - 5.25%

- Paused at June meeting but suggested that further hikes are likely
- Median expectation from Fed: 5.6% for year-end 2023
- Market expectations are similar at 5.4%; up sharply from expectations for cuts at the end of 1Q.

Valuations fair

- Credit spreads have not widened materially and are close to historical averages.
- Demand has remained robust with muted issuance.

MUNICIPAL BONDS

Municipal bonds outperformed U.S. Treasuries in 2Q

- Bloomberg Municipal Bond Index: -0.1%; Bloomberg U.S. Treasury Index: -1.4%
- Lower quality munis outperformed (AAA: -0.4%; AA: -0.2%; A: +0.2%; BBB: +0.7%)

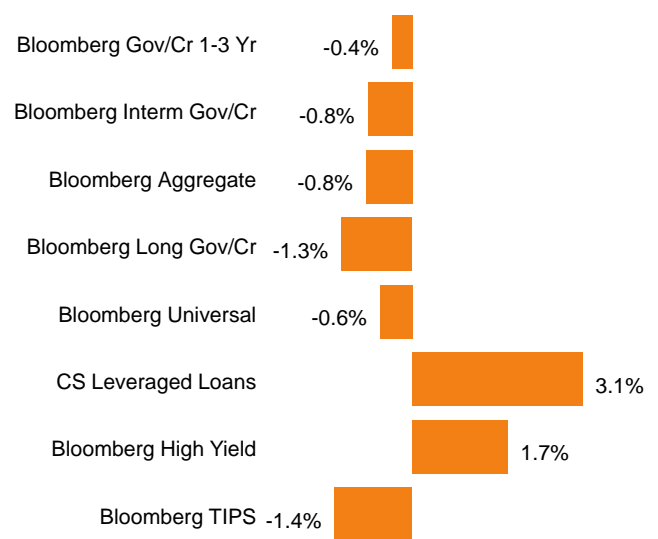
Muni curve inverted; less so than U.S. Treasury curve

- 2-year AAA Muni yield: 2.93%; 10-year AAA Muni yield: 2.56%

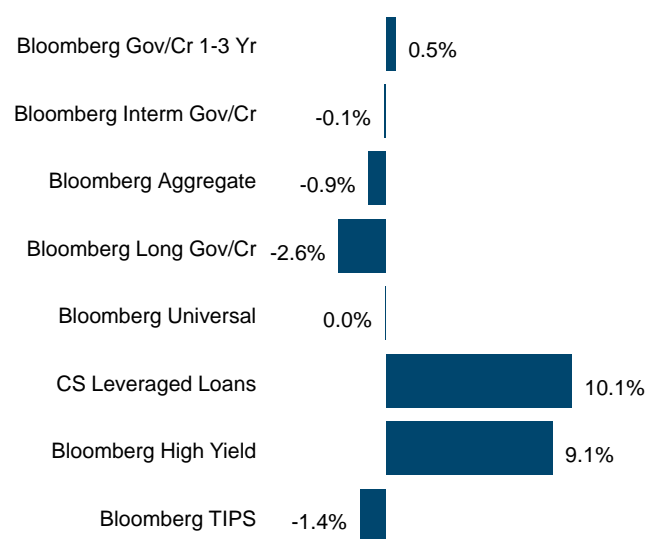
Valuations relative to U.S. Treasuries remain rich

- 10-year AAA Muni/10-year U.S. Treasury yield ratio 67%; below 10-year median of 87%
- After-tax yield 5.95% (Bloomberg Municipal Bond Index)

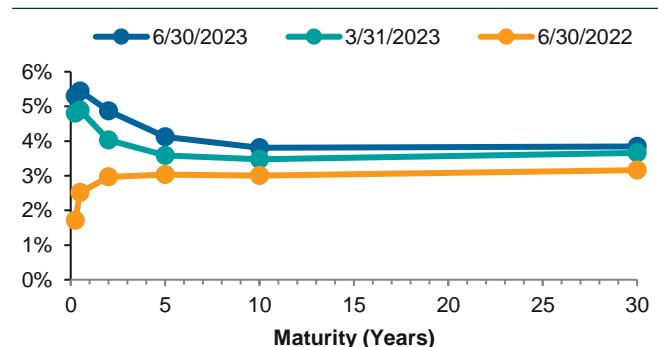
U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: One-Year Returns



U.S. Treasury Yield Curves



Sources: Bloomberg, Credit Suisse

MUNICIPAL BONDS (continued)

Supply/demand

- Outflows of roughly \$8 billion YTD, mostly from short-term bond funds (record was \$122 billion in 2022)
- Supply remained muted; YTD about 25% below 2022

Fundamentals remain sound

- “Rainy Day” fund balances and state tax revenues continued to be robust
- Upgrades continued to significantly outpace downgrades in 1Q

Source: Eaton Vance

GLOBAL FIXED INCOME

Global Aggregate down unhedged but up hedged

- Rates mixed; up in the U.S., Great Britain, and Australia and flat to slightly down across other developed markets
- Japan (-8%) worst performer on sharp yen depreciation
- Bank of England surprised markets with 50 bp increase to combat sticky inflation.

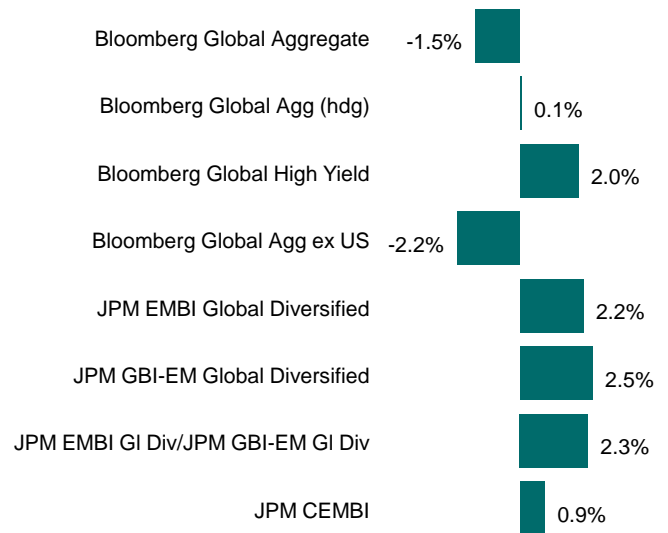
U.S. dollar mixed

- Euro: +0.4% vs dollar
- British pound: +2.8% vs dollar
- Canadian dollar: +2.3% vs dollar
- Japanese yen: -7.9% vs dollar
- Australian dollar: -0.6% vs dollar
- Chinese yuan: -5.4% vs dollar
- Mexican peso: +5.3% vs dollar
- Brazilian real: +5.1% vs dollar

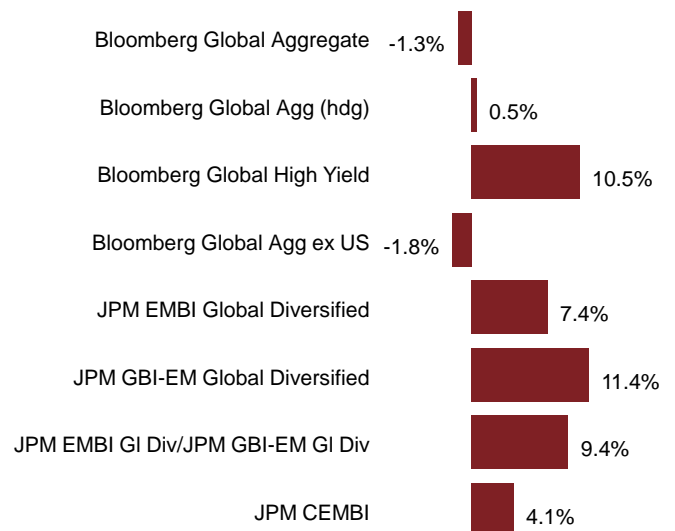
Emerging market debt delivered solid results

- Growth differentials have improved as inflation has peaked in many markets

Global Fixed Income: Quarterly Returns

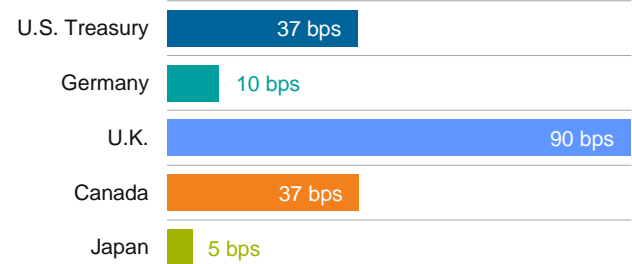


Global Fixed Income: One-Year Returns



Change in 10-Year Global Government Bond Yields

1Q23 to 2Q23



Sources: Bloomberg, JP Morgan

Investment Manager Asset Allocation

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

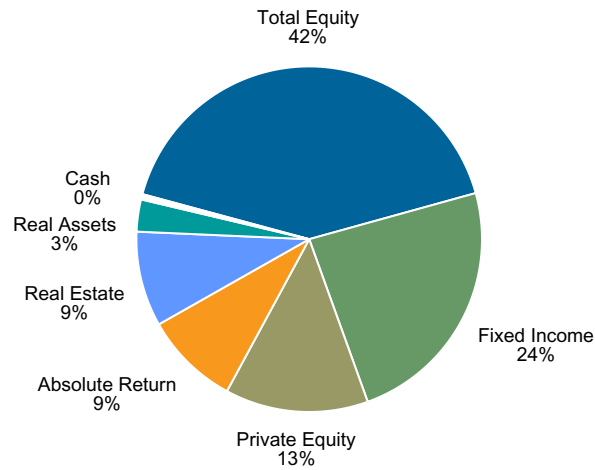
Asset Distribution Across Investment Managers

	June 30, 2023			Inv. Return	March 31, 2023	
	Market Value	Weight	Net New Inv.		Market Value	Weight
Total Domestic Equity	\$1,043,274,649	18.45%	\$(118,900,000)	\$59,253,237	\$1,102,921,412	19.54%
BlackRock Russell 1000 Value	196,812,142	3.48%	(20,600,000)	8,012,876	209,399,266	3.71%
DFA Large Cap Value	145,130,285	2.57%	(13,600,000)	4,837,997	153,892,289	2.73%
Northern Trust Global	196,053,805	3.47%	(43,700,000)	17,163,837	222,589,968	3.94%
Polen Capital Management	127,299,751	2.25%	(17,300,000)	11,841,706	132,758,045	2.35%
Earnest Partners LLC	108,085,419	1.91%	(6,700,000)	4,419,653	110,365,766	1.96%
DFA Small Cap Value	184,304,459	3.26%	(11,700,000)	8,422,637	187,581,822	3.32%
CastleArk Management	85,588,788	1.51%	(5,300,000)	4,554,531	86,334,257	1.53%
Total Global Equity	\$479,794,665	8.49%	\$(64,300,000)	\$29,065,396	\$515,029,268	9.12%
BlackRock Global Alpha Tilts	263,174,618	4.65%	(33,900,000)	15,803,799	281,270,819	4.98%
MFS Investment Management	216,620,046	3.83%	(30,400,000)	13,261,597	233,758,449	4.14%
Total International Equity	\$826,346,553	14.61%	\$(116,477,233)	\$29,029,974	\$913,793,812	16.19%
AQR Emerging Markets	97,347,551	1.72%	(176,541)	1,941,602	95,582,490	1.69%
Brandes Investment Partners	333,090,442	5.89%	(48,000,000)	17,108,737	363,981,705	6.45%
William Blair & Company	235,054,431	4.16%	(34,101,692)	8,140,310	261,015,812	4.62%
DFA International Small Cap	160,854,130	2.84%	(34,199,000)	1,839,324	193,213,805	3.42%
Total Fixed Income	\$1,342,963,859	23.75%	\$285,000,000	\$(7,745,629)	\$1,065,709,488	18.88%
BlackRock US Govt Bond	329,949,091	5.84%	109,000,000	(4,312,193)	225,261,284	3.99%
Reams Asset Management	638,855,953	11.30%	141,000,000	(2,791,482)	500,647,435	8.87%
Loomis, Sayles & Company, L.P.	374,158,815	6.62%	35,000,000	(641,953)	339,800,768	6.02%
Total Private Equity	\$756,784,797	13.38%	\$25,088,391	\$18,904,321	\$712,792,085	12.63%
Abbott Capital Management 2010	20,217,203	0.36%	(525,000)	(140,742)	20,882,945	0.37%
Abbott Capital Management 2011	41,065,031	0.73%	(1,375,000)	(761,259)	43,201,290	0.77%
Abbott Capital Management 2012	37,672,199	0.67%	(1,000,000)	231	38,671,968	0.69%
Abbott Capital Management 2013	36,242,857	0.64%	(1,575,000)	100,372	37,717,485	0.67%
Abbott Capital Management 2014	40,436,281	0.72%	(700,000)	(165,296)	41,301,577	0.73%
Abbott Capital Management 2015	32,008,767	0.57%	(1,725,000)	679,778	33,053,989	0.59%
Abbott Capital Management 2016	27,432,956	0.49%	(1,185,000)	820,896	27,797,060	0.49%
Abbott Capital Management 2018	22,439,496	0.40%	795,000	629,120	21,015,376	0.37%
Abbott Capital Management 2019	19,314,734	0.34%	1,450,000	324,408	17,540,326	0.31%
Abbott Capital Management 2020	23,244,567	0.41%	2,980,000	(27,457)	20,292,024	0.36%
Abbott Capital Management 2021	7,789,998	0.14%	1,127,500	(28,642)	6,691,140	0.12%
Abbott Capital Management 2022	8,181,565	0.14%	0	435,497	7,746,068	0.14%
Mesirow V	40,095,043	0.71%	(2,175,000)	547,814	41,722,229	0.74%
Mesirow VI	67,813,816	1.20%	(2,160,000)	1,419,841	68,553,975	1.21%
Mesirow VII	124,188,523	2.20%	0	4,260,512	119,928,011	2.12%
Mesirow VIII	57,222,836	1.01%	14,400,000	178,510	42,644,326	0.76%
NB Secondary Opp Fund III	7,825,308	0.14%	(159,463)	1,092,535	6,892,236	0.12%
NB Secondary Opp Fund IV	17,935,762	0.32%	(145,453)	1,059,201	17,022,014	0.30%
NB Secondary Opp Fund V	31,407,163	0.56%	8,861,048	3,325,679	19,220,436	0.34%
Private Advisors VI	21,065,641	0.37%	(393,691)	130,535	21,328,797	0.38%
Private Advisors VII	14,754,279	0.26%	(429,738)	413,985	14,770,032	0.26%
Private Advisors VIII	18,550,423	0.33%	182,262	820,013	17,548,148	0.31%
Private Advisors IX	32,403,557	0.57%	2,235,756	2,917,168	27,250,633	0.48%
Apogem Capital X	7,476,792	0.13%	6,605,170	871,622	-	-
Absolute Return	\$503,607,200	8.91%	\$(88,738,000)	\$5,142,250	\$587,202,949	10.40%
Aptitude	165,381,331	2.92%	6,262,000	1,813,858	157,305,473	2.79%
UBS A & Q	338,225,868	5.98%	(95,000,000)	3,328,392	429,897,476	7.62%
Real Assets	\$170,737,718	3.02%	\$(264,977)	\$(1,142,905)	\$172,145,601	3.05%
Principal DRA	170,737,718	3.02%	(264,977)	(1,142,905)	172,145,601	3.05%
Total Real Estate	\$504,244,149	8.92%	\$(4,393,571)	\$(10,262,612)	\$518,900,332	9.19%
Real Estate	504,244,149	8.92%	(4,393,571)	(10,262,612)	518,900,332	9.19%
Total Cash	\$26,817,645	0.47%	\$(29,702,057)	\$757,592	\$55,762,110	0.99%
Cash	26,817,645	0.47%	(29,702,057)	757,592	55,762,110	0.99%
Total Fund	\$5,654,571,235	100.0%	\$(112,687,447)	\$123,001,624	\$5,644,257,058	100.0%

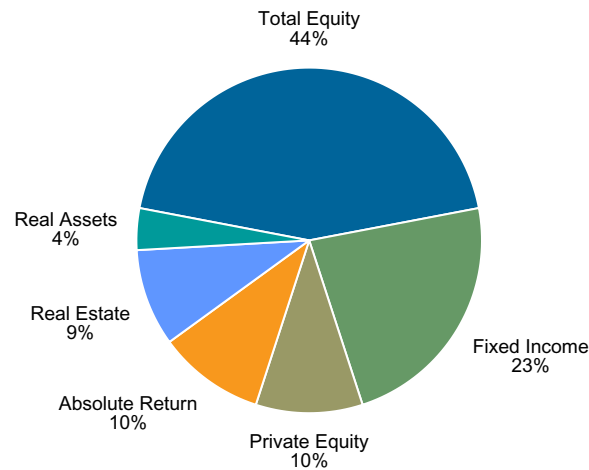
Actual vs Target Asset Allocation As of June 30, 2023

The first chart below shows the Fund's asset allocation as of June 30, 2023. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



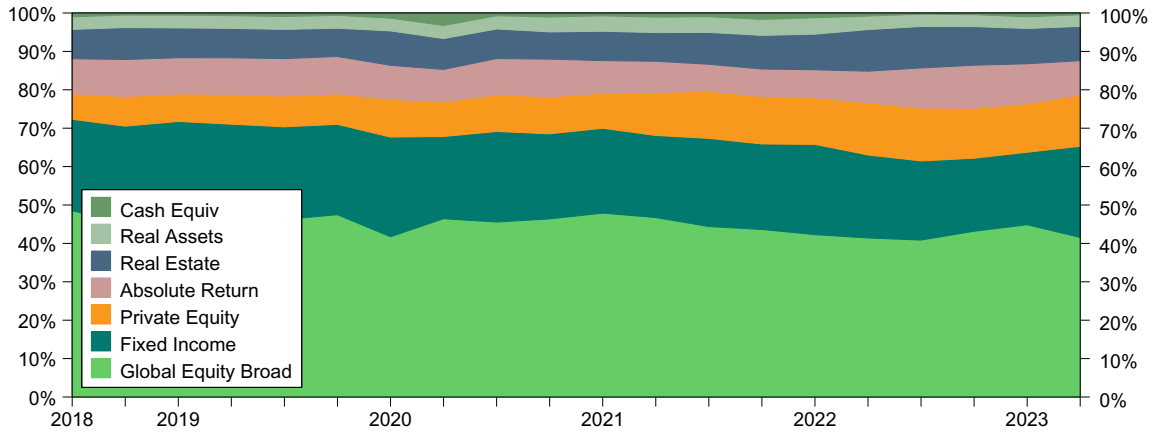
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,349,416	41.5%	44.0%	(2.5%)	(138,595)
Fixed Income	1,342,964	23.8%	23.0%	0.8%	42,412
Private Equity	756,785	13.4%	10.0%	3.4%	191,328
Absolute Return	503,607	8.9%	10.0%	(1.1%)	(61,850)
Real Estate	504,244	8.9%	9.1%	(0.2%)	(10,322)
Real Assets	170,738	3.0%	3.9%	(0.9%)	(49,791)
Cash	26,818	0.5%	0.0%	0.5%	26,818
Total	5,654,571	100.0%	100.0%		

* Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Blmbg:Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal DRA Blend Index.

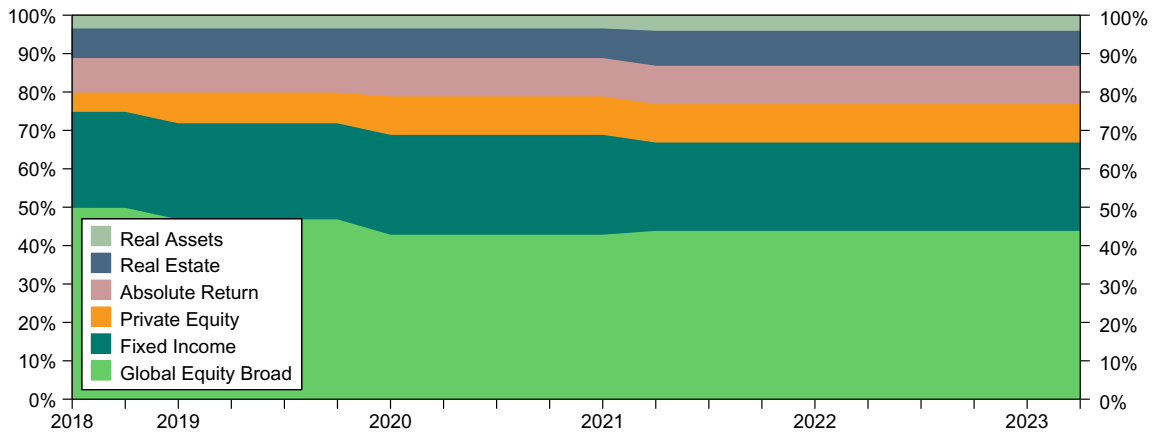
Actual vs Target Historical Asset Allocation

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.

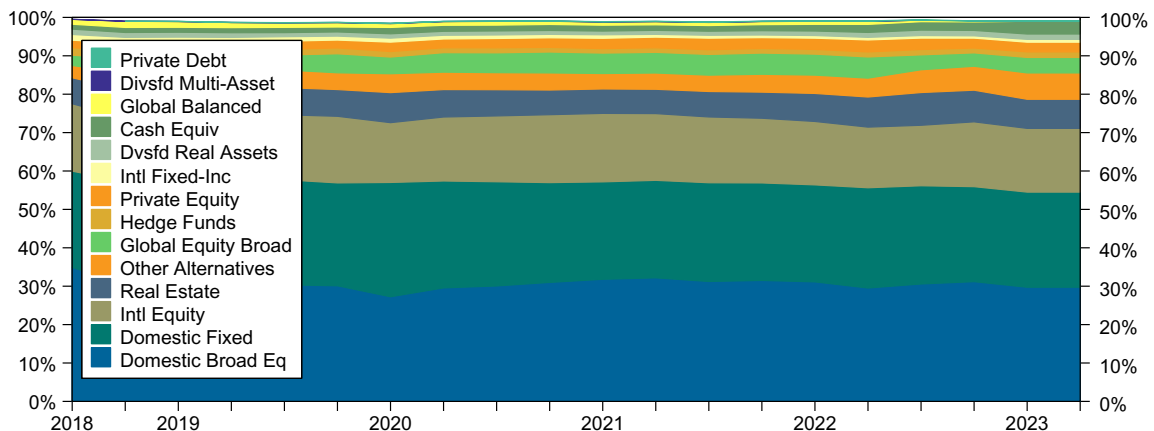
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation



* Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Blmbg:Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal DRA Blend Index.

Total Fund

Period Ended June 30, 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 = 44.0% MSCI ACWI IMI, 23.0% Blmbg Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal Blended Benchmark.

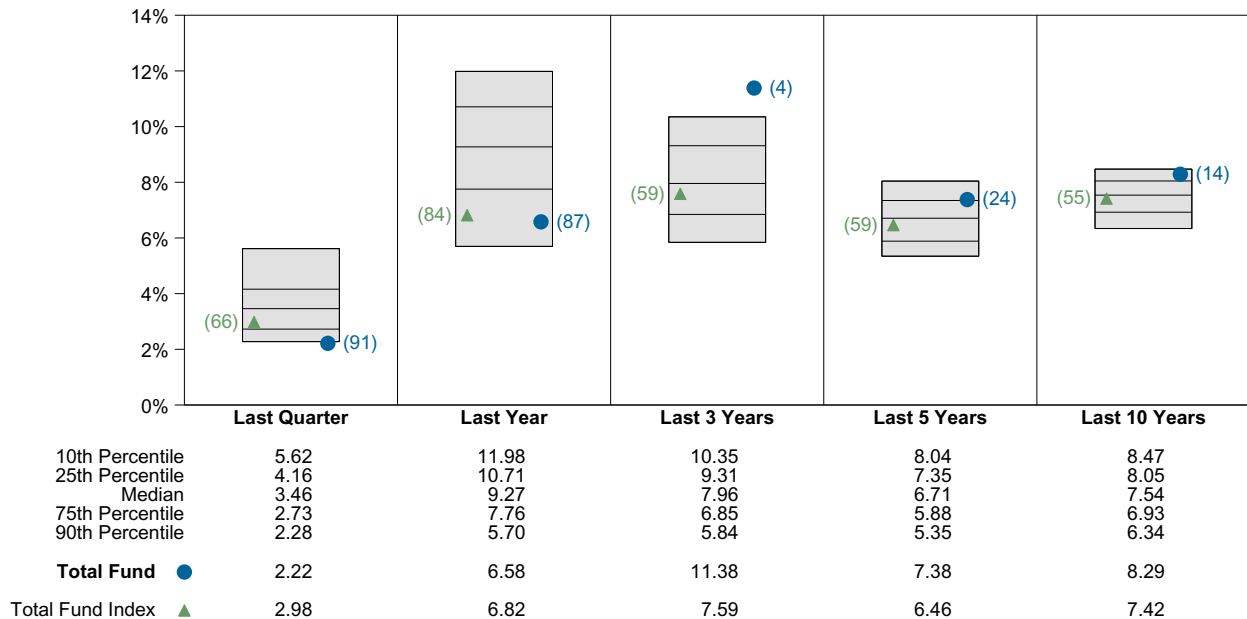
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 2.22% return for the quarter placing it in the 91 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 87 percentile for the last year.
- Total Fund's portfolio underperformed the Total Fund Index by 0.76% for the quarter and underperformed the Total Fund Index for the year by 0.24%.

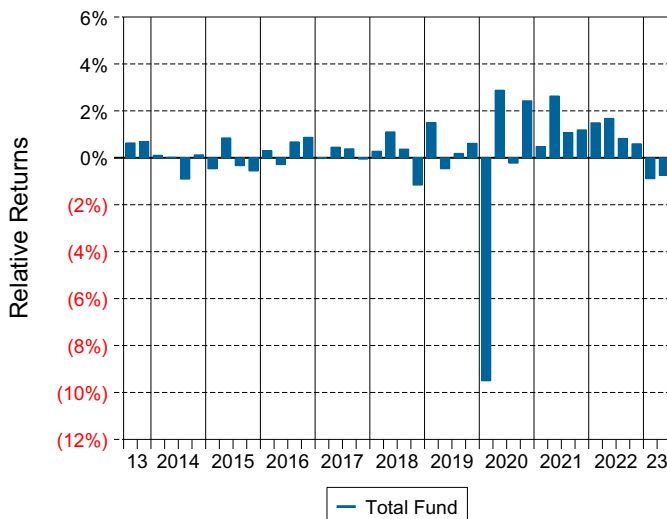
Quarterly Asset Growth

Beginning Market Value	\$5,644,257,058
Net New Investment	\$-112,687,447
Investment Gains/(Losses)	\$123,001,624
Ending Market Value	\$5,654,571,235

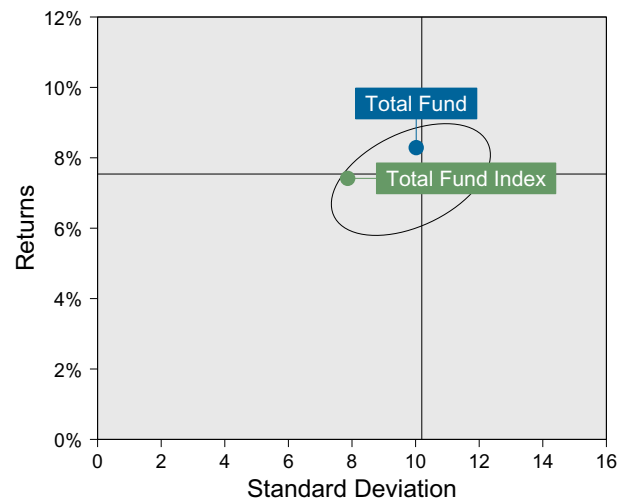
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Index



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

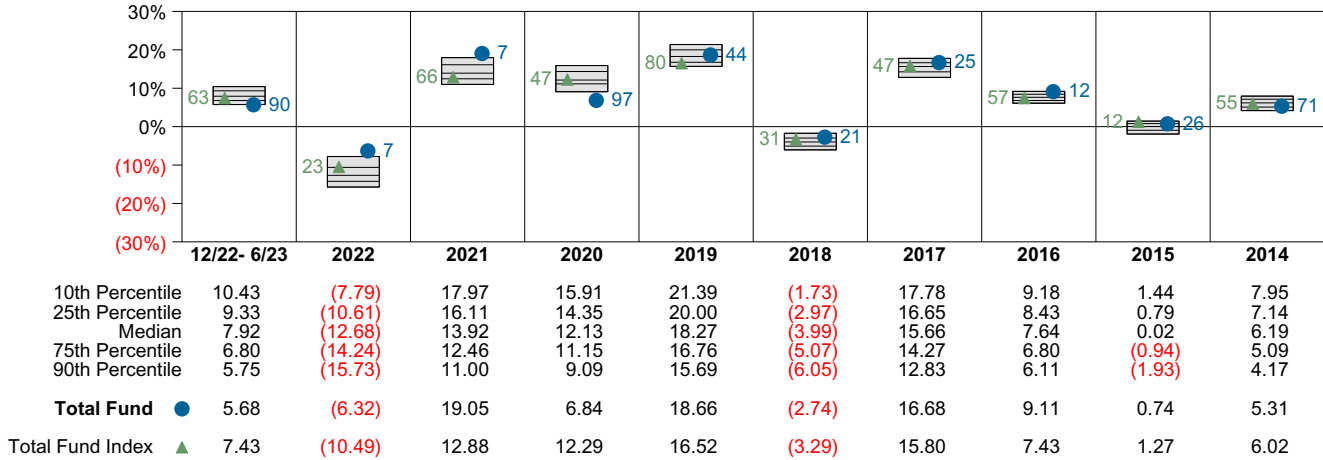


Total Fund Return Analysis Summary

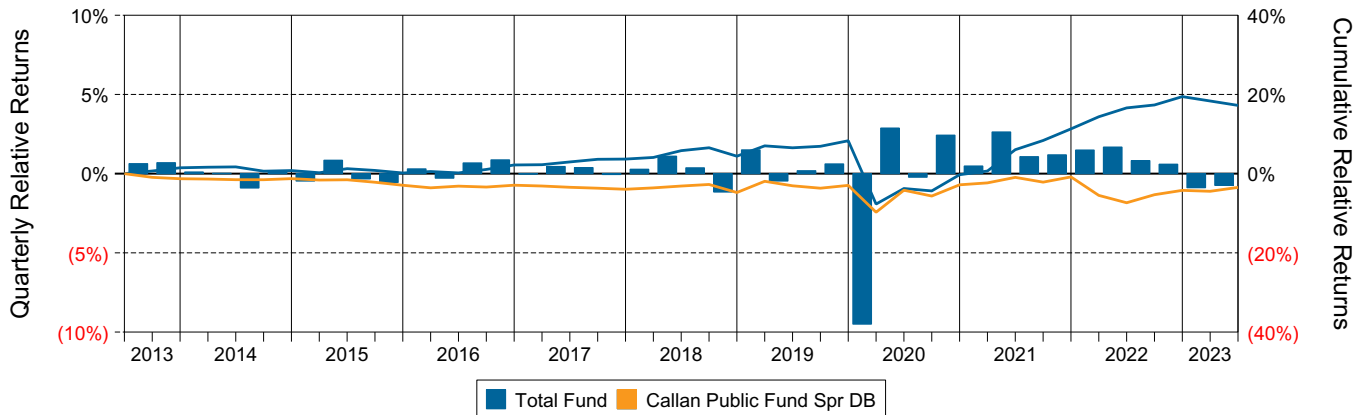
Return Analysis

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.

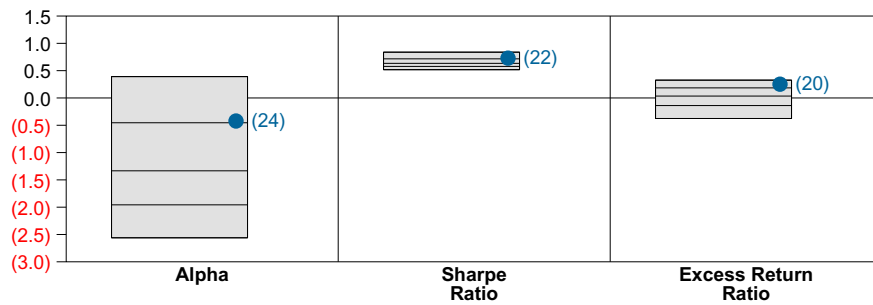
Performance vs Callan Public Fund Sponsor Database (Gross)



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 June 30, 2023



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.39	0.84	0.33
25th Percentile	(0.45)	0.72	0.18
Median	(1.33)	0.63	0.03
75th Percentile	(1.96)	0.58	(0.14)
90th Percentile	(2.56)	0.52	(0.38)
Total Fund	● (0.42)	0.73	0.25

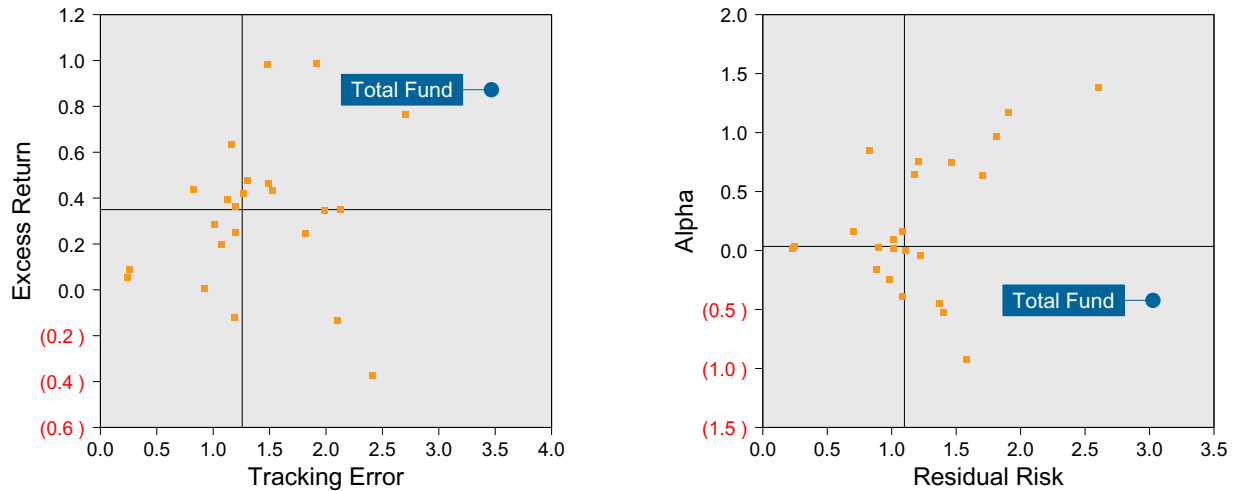
Total Fund

Total Fund vs Target Risk Analysis

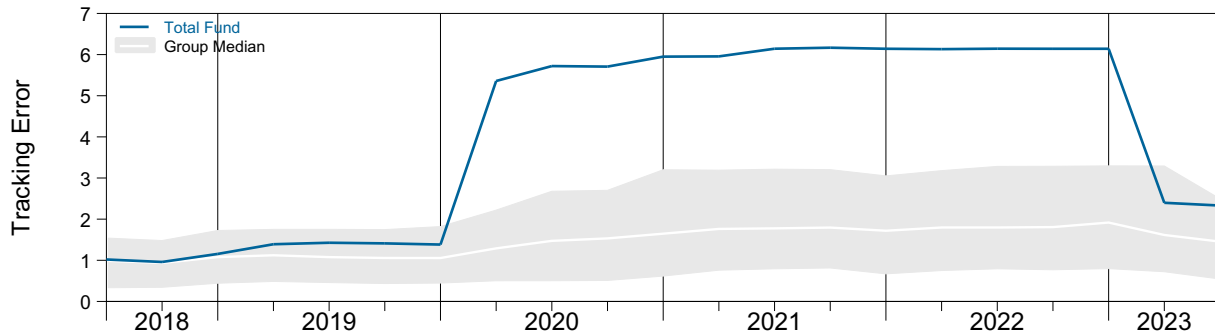
Risk Analysis

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.

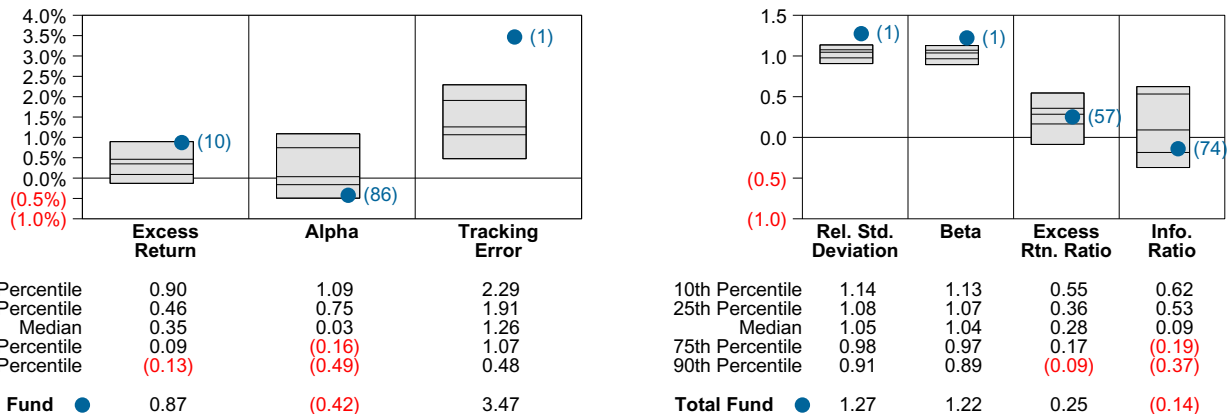
Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended June 30, 2023



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 June 30, 2023



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 June 30, 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 June 30, 2023

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Public Equity	4.94%		16.84%		13.35%		8.14%		10.04% (1/16)	
MSCI ACWI IMI	5.89%		16.14%		10.97%		7.65%		9.22% (1/16)	
Total Domestic Equity	5.73%	97	15.22%	89	15.22%	10	10.15%	66	7.91%	(7/98)
Russell 3000 Index	8.39%	14	18.95%	23	13.89%	57	11.39%	13	7.72%	(7/98)
Pub Pln- Dom Equity	7.69%		18.39%		14.07%		10.67%		-	
BlackRock Russell 1000 Value	4.05%	52	11.54%	62	14.34%	81	8.28%	67	7.94%	(4/17)
Russell 1000 Value Index	4.07%	52	11.54%	62	14.30%	82	8.11%	71	7.79%	(4/17)
Callan Large Cap Value	4.22%		12.34%		16.40%		8.77%		-	
DFA Large Cap Value	3.39%	71	13.06%	39	16.47%	48	7.09%	93	7.19%	(11/17)
Russell 1000 Value Index	4.07%	52	11.54%	62	14.30%	82	8.11%	71	7.64%	(11/17)
Callan Large Cap Value	4.22%		12.34%		16.40%		8.77%		-	
Northern Trust Global	8.74%	34	19.62%	29	14.61%	46	12.34%	34	10.72%	(8/88)
S&P 500 Index	8.74%	34	19.59%	30	14.60%	46	12.31%	34	10.67%	(8/88)
Callan Large Cap Core	8.44%		18.14%		14.38%		11.72%		-	
Polen Capital Management	9.73%	82	19.38%	87	5.82%	91	12.06%	70	14.72%	(7/12)
S&P 500 Index	8.74%	87	19.59%	86	14.60%	7	12.31%	66	13.54%	(7/12)
Callan Large Cap Growth	12.29%		25.13%		11.31%		12.98%		-	
Earnest Partners LLC	4.10%	79	10.80%	83	14.41%	46	11.59%	8	11.14%	(5/05)
Russell MidCap Index	4.76%	58	14.92%	58	12.50%	56	8.46%	60	9.52%	(5/05)
Callan Mid Capitalization	5.00%		15.75%		14.23%		9.07%		-	
DFA Small Cap Value	4.59%	27	16.83%	18	26.42%	6	7.72%	19	11.63%	(11/96)
Russell 2000 Value Index	3.18%	62	6.01%	85	15.43%	82	3.54%	91	8.76%	(11/96)
Callan Small Cap Value	3.63%		11.39%		18.35%		5.89%		-	
CastleArk Management	5.28%	59	16.67%	51	10.91%	24	7.77%	51	10.27%	(9/13)
Russell 2000 Growth Index	7.05%	27	18.53%	36	6.10%	71	4.22%	95	8.40%	(9/13)
Callan Small Cap Growth	5.46%		16.97%		8.52%		7.92%		-	
Total Global Equity	6.10%		17.78%		11.89%		9.74%		9.27% (4/10)	
MSCI World	6.83%		18.51%		12.18%		9.07%		9.13% (4/10)	
Callan Global Equity	5.93%		17.79%		11.54%		8.71%		-	
BlackRock Global Alpha Tilts	6.06%	48	17.73%	51	11.68%	47	8.27%	56	11.52%	(3/16)
MSCI ACWI Gross	6.35%	42	17.13%	56	11.51%	50	8.64%	51	11.27%	(3/16)
Callan Global Equity	5.93%		17.79%		11.54%		8.71%		-	
MFS Investment Management	6.15%	46	17.75%	51	12.20%	42	11.97%	7	12.27%	(12/12)
MSCI ACWI Gross	6.35%	42	17.13%	56	11.51%	50	8.64%	51	9.65%	(12/12)
Callan Global Equity	5.93%		17.79%		11.54%		8.71%		-	
Total International Equity	3.26%		17.88%		11.45%		4.63%		6.87% (5/96)	
MSCI EAFE	2.95%		18.77%		8.93%		4.39%		4.63% (5/96)	
Pub Pln- Intl Equity	2.65%		14.50%		7.80%		4.16%		-	
AQR Emerging Markets	2.03%	43	3.53%	64	4.71%	35	1.85%	47	5.02%	(8/16)
MSCI EM Gross	1.04%	69	2.22%	76	2.72%	55	1.32%	61	4.66%	(8/16)
Callan Emerging Broad	1.91%		4.66%		3.22%		1.72%		-	
Brandes Investment Partners	4.86%	6	24.67%	3	16.04%	3	4.93%	49	7.72%	(2/98)
MSCI EAFE	2.95%	64	18.77%	43	8.93%	51	4.39%	65	4.69%	(2/98)
Callan NonUS Eq	3.21%		18.10%		9.01%		4.90%		-	
William Blair & Company	3.15%	53	15.65%	79	5.98%	84	5.70%	29	7.47%	(12/03)
MSCI ACWIxUS Gross	2.67%	71	13.33%	92	7.75%	69	4.01%	74	6.39%	(12/03)
Callan NonUS Eq	3.21%		18.10%		9.01%		4.90%		-	
DFA International Small Cap	0.99%	36	15.75%	22	13.23%	7	2.65%	39	4.72%	(5/06)
MSCI EAFE Small	0.58%	54	10.18%	77	5.70%	64	1.31%	61	3.92%	(5/06)
Callan Intl Small Cap	0.62%		12.38%		7.41%		2.07%		-	

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 June 30, 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 June 30, 2023

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Fixed Income	(0.69%)	83	1.47%	26	(0.09%)	11	1.08%	86	6.58%	(12/87)
Bimbg Aggregate	(0.84%)	94	(0.94%)	93	(3.96%)	96	0.77%	95	5.44%	(12/87)
Pub Pln- Dom Fixed	(0.33%)		0.54%		(2.28%)		1.47%		-	
BlackRock US Govt Bond	(1.33%)	97	(1.99%)	100	-		-		(7.17%)	(12/21)
Bimbg Government	(1.35%)	97	(2.08%)	100	(4.71%)	100	0.46%	100	(7.35%)	(12/21)
Callan Core Bond FI	(0.64%)		(0.34%)		(3.39%)		1.28%		-	
Reams Asset Management	(0.59%)	69	2.08%	9	(2.14%)	28	3.43%	2	4.99%	(1/01)
Bimbg Aggregate	(0.84%)	88	(0.94%)	89	(3.96%)	98	0.77%	98	3.66%	(1/01)
Callan Core Plus FI	(0.48%)		0.41%		(2.60%)		1.56%		-	
Loomis, Sayles & Company, L.P.	(0.23%)	22	3.04%	3	0.13%	4	2.34%	11	8.08%	(12/87)
Bimbg Aggregate	(0.84%)	88	(0.94%)	89	(3.96%)	98	0.77%	98	5.44%	(12/87)
Callan Core Plus FI	(0.48%)		0.41%		(2.60%)		1.56%		-	
Total Private Equity	2.61%		(4.13%)		27.20%		20.66%		13.14%	(6/10)
Private Equity Benchmark (3)	7.62%		(5.92%)		20.97%		13.34%		-	
Abbott Capital Management 2010	(0.66%)		(13.64%)		21.86%		17.57%		1.55%	(6/10)
Abbott Capital Management 2011	(1.74%)		(16.05%)		24.03%		19.49%		4.88%	(6/11)
Abbott Capital Management 2012	0.02%		(11.66%)		26.12%		20.59%		12.13%	(7/12)
Abbott Capital Management 2013	0.29%		(10.32%)		26.09%		20.84%		12.93%	(5/13)
Abbott Capital Management 2014	(0.39%)		(8.61%)		27.77%		21.44%		12.48%	(4/14)
Abbott Capital Management 2015	2.13%		(2.87%)		28.26%		20.75%		14.54%	(4/15)
Abbott Capital Management 2016	3.02%		(0.83%)		29.35%		20.54%		13.70%	(3/16)
Abbott Capital Management 2018	2.93%		1.23%		24.17%		15.88%		15.88%	(7/18)
Abbott Capital Management 2019	1.83%		(0.30%)		28.60%		-		20.03%	(1/20)
Abbott Capital Management 2020	(0.08%)		(2.92%)		-		-		22.64%	(1/21)
Abbott Capital Management 2021	(0.37%)		(2.64%)		-		-		5.13%	(2/21)
Abbott Capital Management 2022	5.62%		(0.86%)		-		-		(1.35%)	(2/22)
Mesirow V	1.40%		(12.01%)		22.87%		17.42%		15.02%	(6/10)
Mesirow VI	2.12%		(9.95%)		28.72%		24.06%		14.14%	(7/13)
Mesirow VII	3.55%		(0.80%)		25.37%		13.32%		3.70%	(6/17)
Mesirow VIII	0.43%		(4.21%)		-		-		(2.02%)	(9/20)
NB Secondary Opp Fund III	15.94%		8.89%		20.54%		12.54%		12.51%	(12/13)
NB Secondary Opp Fund IV	6.23%		(0.22%)		23.96%		22.84%		21.07%	(4/17)
NB Secondary Opp Fund V	13.08%		(11.89%)		-		-		101.73%	(3/22)
Private Advisors VI	0.62%		1.38%		33.53%		24.27%		14.21%	(4/15)
Private Advisors VII	2.82%		11.68%		27.49%		18.02%		15.41%	(1/17)
Private Advisors VIII	4.60%		22.63%		30.95%		-		20.32%	(8/18)
Private Advisors IX	9.88%		30.52%		24.82%		-		27.77%	(2/20)
Absolute Return	0.96%		5.67%		15.27%		6.10%		5.78%	(6/14)
90 Day T-Bill + 3%	1.89%		6.59%		4.27%		4.55%		4.08%	(6/14)
Aptitude	1.14%	52	-		-		-		4.26%	(9/22)
1-month LIBOR + 4%	2.25%	2	8.10%	10	5.49%	83	5.70%	25	7.03%	(9/22)
Callan Abs Rtn Hedge FoF	1.20%		3.83%		6.97%		4.06%		-	
UBS A & Q	0.85%	57	5.90%	13	9.01%	31	7.84%	1	6.20%	(12/14)
1-month LIBOR + 4%	2.25%	2	8.10%	10	5.49%	83	5.70%	25	5.30%	(12/14)
Callan Abs Rtn Hedge FoF	1.20%		3.83%		6.97%		4.06%		-	
Real Assets	(0.66%)		0.06%		9.43%		4.50%		5.43%	(1/16)
Principal DRA	(0.66%)	62	0.06%	47	9.43%	68	4.50%	68	5.43%	(1/16)
Principal DRA Blend Index (1)	(1.19%)	66	(0.53%)	48	7.93%	74	3.61%	79	4.67%	(1/16)
Callan Alternative Inv DB	1.62%		(1.03%)		14.09%		5.56%		-	
Total Real Estate	(1.98%)		(6.09%)		10.75%		8.59%		6.91%	(7/86)
Real Estate	(1.98%)	87	(6.09%)	50	10.75%	22	8.59%	16	6.91%	(7/86)
Blended Benchmark (2)	(3.50%)	95	(3.69%)	37	8.17%	38	7.13%	30	-	
Callan Tot Real Est DB	(0.78%)		(6.00%)		7.35%		6.14%		-	
Total Fund	2.22%	91	6.58%	87	11.38%	4	7.38%	24	-	
Total Fund Index*	2.98%	66	6.82%	84	7.59%	59	6.46%	59	-	
Callan Public Fund Spr DB	3.46%		9.27%		7.96%		6.71%		-	

* Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Bimbg:Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal DRA Blend Index.

(1) Current Principal DRA Blend Index = 15% Bloomberg US TIPS Idx, 15% Bloomberg Commodity Idx, 30% S&P Global Infrastructure Idx, 15% S&P Global Natural Resources Idx and 25% FTSE EPRA/NAREIT Developed Market Idx.

(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

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

Investment Manager Returns and Peer Group Rankings

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

	12/2022- 6/2023		2022		2021		2020		2019	
Total Public Equity	12.02%		(15.78%)		20.92%		14.78%		26.90%	
MSCI ACWI IMI	13.25%		(18.40%)		18.22%		16.25%		26.35%	
Total Domestic Equity	10.41%	97	(15.68%)	11	28.12%	14	16.35%	74	29.24%	75
Russell 3000 Index	16.17%	12	(19.21%)	77	25.66%	54	20.89%	26	31.02%	26
Pub Pln- Dom Equity	14.74%		(17.97%)		25.82%		18.63%		30.20%	
BlackRock Russell 1000 Value	5.12%	43	(7.54%)	80	25.18%	80	3.28%	47	26.79%	46
Russell 1000 Value Index	5.12%	43	(7.54%)	79	25.16%	80	2.80%	52	26.54%	50
Callan Large Cap Value	4.76%		(5.04%)		28.39%		3.04%		26.52%	
DFA Large Cap Value	4.56%	52	(4.95%)	49	27.52%	65	(1.56%)	90	26.71%	47
Russell 1000 Value Index	5.12%	43	(7.54%)	79	25.16%	80	2.80%	52	26.54%	50
Callan Large Cap Value	4.76%		(5.04%)		28.39%		3.04%		26.52%	
Northern Trust Global	16.90%	30	(18.08%)	55	28.69%	53	18.42%	53	31.54%	39
S&P 500 Index	16.89%	30	(18.11%)	56	28.71%	53	18.40%	53	31.49%	39
Callan Large Cap Core	15.72%		(17.69%)		28.98%		19.19%		30.50%	
Polen Capital Management	25.23%	62	(37.72%)	89	24.84%	43	35.13%	54	38.85%	11
S&P 500 Index	16.89%	89	(18.11%)	6	28.71%	20	18.40%	98	31.49%	76
Callan Large Cap Growth	26.80%		(30.09%)		24.28%		35.54%		34.49%	
Earnest Partners LLC	8.97%	53	(15.13%)	52	26.09%	48	21.61%	41	38.38%	12
Russell MidCap Index	9.01%	53	(17.32%)	58	22.58%	58	17.10%	48	30.54%	52
Callan Mid Capitalization	9.27%		(14.34%)		25.38%		16.17%		31.00%	
DFA Small Cap Value	5.45%	40	(1.69%)	10	40.61%	16	3.85%	45	18.79%	89
Russell 2000 Value Index	2.50%	79	(14.48%)	84	28.27%	64	4.63%	37	22.39%	64
Callan Small Cap Value	4.64%		(10.51%)		31.82%		2.88%		24.31%	
CastleArk Management	10.69%	73	(28.21%)	62	12.30%	42	45.10%	46	23.28%	86
Russell 2000 Growth Index	13.55%	46	(26.36%)	44	2.83%	80	34.63%	73	28.48%	54
Callan Small Cap Growth	13.38%		(27.10%)		10.91%		44.48%		30.25%	
Total Global Equity	14.56%	40	(17.35%)	47	19.03%	54	18.78%	43	31.05%	27
MSCI World	15.09%	36	(18.14%)	52	21.82%	28	15.90%	55	27.67%	49
Callan Global Equity	13.86%		(17.81%)		19.46%		17.02%		27.49%	
BlackRock Global Alpha Tilts	14.08%	49	(16.80%)	43	18.73%	56	16.53%	52	26.86%	53
MSCI ACWI Gross	14.26%	46	(17.96%)	51	19.04%	54	16.82%	51	27.30%	51
Callan Global Equity	13.86%		(17.81%)		19.46%		17.02%		27.49%	
MFS Investment Management	15.15%	35	(18.14%)	52	19.56%	49	22.42%	32	37.31%	4
MSCI ACWI Gross	14.26%	46	(17.96%)	51	19.04%	54	16.82%	51	27.30%	51
Callan Global Equity	13.86%		(17.81%)		19.46%		17.02%		27.49%	
Total International Equity	12.51%	6	(15.36%)	20	13.08%	13	10.84%	71	21.68%	72
MSCI EAFE	11.67%	15	(14.45%)	15	11.26%	23	7.82%	90	22.01%	63
Pub Pln- Intl Equity	10.26%		(16.98%)		8.41%		12.74%		22.89%	
AQR Emerging Markets	8.22%	33	(20.29%)	38	1.23%	36	18.26%	49	20.54%	63
MSCI EM Gross	5.10%	83	(19.74%)	35	(2.22%)	55	18.69%	44	18.90%	71
Callan Emerging Broad	6.81%		(22.16%)		(0.60%)		18.17%		22.12%	
Brandes Investment Partners	16.63%	5	(6.79%)	4	14.42%	18	(1.30%)	96	15.31%	98
MSCI EAFE	11.67%	63	(14.45%)	43	11.26%	52	7.82%	65	22.01%	66
Callan NonUS Eq	12.45%		(15.29%)		11.50%		11.19%		23.78%	
William Blair & Company	12.02%	58	(28.57%)	95	13.27%	30	31.44%	6	31.58%	10
MSCI ACWIxUS Gross	9.86%	87	(15.57%)	51	8.29%	71	11.13%	50	22.13%	64
Callan NonUS Eq	12.45%		(15.29%)		11.50%		11.19%		23.78%	
DFA International Small Cap	7.70%	42	(9.42%)	5	16.47%	14	1.47%	89	21.62%	81
MSCI EAFE Small	5.53%	81	(21.39%)	52	10.10%	72	12.34%	45	24.96%	50
Callan Intl Small Cap	7.07%		(20.63%)		12.78%		11.08%		24.96%	

Investment Manager Returns and Peer Group Rankings

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

	12/2022- 6/2023		2022		2021		2020		2019	
Total Fixed Income	2.90%	35	(6.83%)	8	(0.36%)	40	(1.82%)	98	11.82%	5
Blmbg Aggregate	2.09%	85	(13.01%)	67	(1.54%)	90	7.51%	66	8.72%	58
Pub Plin- Dom Fixed	2.74%		(12.32%)		(0.80%)		8.37%		8.98%	
BlackRock US Govt Bond	1.82%	94	(12.43%)	23	-	-	-	-	-	-
Blmbg Government	1.59%	96	(12.32%)	19	(2.28%)	100	7.94%	85	6.83%	100
Callan Core Bond FI	2.50%		(12.89%)		(1.04%)		8.69%		9.17%	
Reams Asset Management	3.40%	6	(11.39%)	13	(1.23%)	91	17.28%	2	8.82%	92
Blmbg Aggregate	2.09%	89	(13.01%)	42	(1.54%)	97	7.51%	93	8.72%	93
Callan Core Plus FI	2.79%		(13.26%)		(0.25%)		9.27%		10.01%	
Loomis, Sayles & Company, L.P.	3.03%	30	(12.12%)	18	2.13%	5	7.14%	94	14.42%	1
Blmbg Aggregate	2.09%	89	(13.01%)	42	(1.54%)	97	7.51%	93	8.72%	93
Callan Core Plus FI	2.79%		(13.26%)		(0.25%)		9.27%		10.01%	
Total Private Equity	2.49%		(4.88%)		67.66%		22.14%		16.63%	
Private Equity Benchmark (3)	15.92%		(15.10%)		34.08%		17.99%		6.65%	
Abbott Capital Management 2010	(0.66%)		(16.87%)		65.55%		24.43%		16.52%	
Abbott Capital Management 2011	(1.74%)		(18.97%)		76.29%		29.13%		19.64%	
Abbott Capital Management 2012	0.02%		(13.14%)		72.85%		29.04%		17.91%	
Abbott Capital Management 2013	0.29%		(12.51%)		70.21%		28.65%		21.13%	
Abbott Capital Management 2014	(0.39%)		(9.41%)		75.52%		26.51%		19.74%	
Abbott Capital Management 2015	2.13%		(0.79%)		75.81%		16.62%		15.14%	
Abbott Capital Management 2016	3.02%		2.90%		71.04%		20.02%		9.08%	
Abbott Capital Management 2018	2.93%		7.44%		47.06%		22.73%		7.26%	
Abbott Capital Management 2019	1.83%		7.54%		57.22%		10.04%		-	
Abbott Capital Management 2020	(0.08%)		0.81%		65.36%		-		-	
Abbott Capital Management 2021	(0.37%)		1.72%		-		-		-	
Abbott Capital Management 2022	5.27%		-		-		-		-	
Mesirov V	1.40%		(19.60%)		78.52%		21.39%		16.29%	
Mesirov VI	2.12%		(13.41%)		88.26%		29.10%		22.73%	
Mesirov VII	3.55%		(0.68%)		60.27%		16.43%		3.33%	
Mesirov VIII	0.43%		(2.15%)		10.14%		-		-	
NB Secondary Opp Fund III	13.96%		(2.34%)		30.34%		4.23%		12.18%	
NB Secondary Opp Fund IV	5.31%		0.29%		48.73%		14.80%		14.76%	
NB Secondary Opp Fund V	9.61%		-		-		-		-	
Private Advisors VI	0.62%		9.97%		83.78%		16.54%		17.98%	
Private Advisors VII	2.82%		21.61%		52.55%		3.97%		11.23%	
Private Advisors VIII	4.65%		27.61%		47.25%		15.78%		(4.08%)	
Private Advisors IX	9.83%		24.00%		37.25%		-		-	
Absolute Return	1.65%		26.46%		8.87%		(14.04%)		12.79%	
90 Day T-Bill + 3%	3.71%		4.46%		3.05%		3.67%		5.28%	
Aptitude	1.33%	46	-		-		-		-	
1-month LIBOR + 4%	4.43%	2	5.80%	21	4.11%	77	4.63%	45	6.32%	30
Callan Abs Rtn Hedge FoF	1.31%		3.34%		6.76%		4.03%		4.71%	
UBS A & Q	1.72%	24	8.85%	13	8.08%	45	12.18%	14	9.53%	4
1-month LIBOR + 4%	4.43%	2	5.80%	21	4.11%	77	4.63%	45	6.32%	30
Callan Abs Rtn Hedge FoF	1.31%		3.34%		6.76%		4.03%		4.71%	
Real Assets	0.76%		(5.29%)		18.24%		4.69%		15.39%	
Principal DRA	0.76%	46	(5.29%)	84	18.24%	44	4.69%	23	15.39%	16
Principal DRA Blend Index (1)	(0.09%)	47	(5.07%)	84	15.87%	47	2.08%	32	14.86%	17
Callan Alternative Inv DB	(0.58%)		9.37%		13.64%		(0.47%)		7.84%	
Total Real Estate	(4.95%)		13.88%		23.85%		0.76%		6.21%	
Real Estate	(4.95%)	73	13.88%	24	23.85%	34	0.76%	53	6.21%	65
Blended Benchmark (2)	(8.40%)	89	21.68%	12	14.83%	58	0.89%	52	5.26%	73
Callan Tot Real Est DB	(3.13%)		8.21%		18.95%		1.17%		7.71%	
Total Fund	5.68%	90	(6.32%)	7	19.05%	7	6.84%	97	18.66%	44
Total Fund Index*	7.43%	63	(10.49%)	23	12.88%	66	12.29%	47	16.52%	80
Callan Public Fund Spr DB	7.92%		(12.68%)		13.92%		12.13%		18.27%	

* Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Blmbg:Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% 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 June 30, 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 June 30, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net of Fee Returns					
Total Domestic Equity	5.66%	14.94%	14.96%	9.89%	11.59%
Russell 3000 Index	8.39%	18.95%	13.89%	11.39%	12.34%
BlackRock Russell 1000 Value	4.05%	11.53%	14.33%	8.26%	-
Russell 1000 Value Index	4.07%	11.54%	14.30%	8.11%	9.22%
DFA Large Cap Value	3.35%	12.86%	16.27%	6.88%	-
Russell 1000 Value Index	4.07%	11.54%	14.30%	8.11%	9.22%
Northern Trust Global	8.74%	19.61%	14.60%	12.32%	12.88%
S&P 500 Index	8.74%	19.59%	14.60%	12.31%	12.86%
Polen Capital Management	9.70%	18.99%	5.41%	11.61%	14.86%
S&P 500 Index	8.74%	19.59%	14.60%	12.31%	12.86%
Earnest Partners LLC	3.96%	10.21%	13.85%	11.02%	12.62%
Russell MidCap Index	4.76%	14.92%	12.50%	8.46%	10.32%
DFA Small Cap Value	4.42%	16.27%	26.01%	7.40%	9.34%
Russell 2000 Value Index	3.18%	6.01%	15.43%	3.54%	7.29%
CastleArk Management	5.11%	16.08%	10.23%	7.08%	-
Russell 2000 Growth Index	7.05%	18.53%	6.10%	4.22%	8.83%
Total Global Equity	6.02%	17.42%	11.62%	9.43%	10.06%
MSCI World	6.83%	18.51%	12.18%	9.07%	9.50%
BlackRock Global Alpha Tilts	6.01%	17.48%	11.55%	8.10%	-
MSCI ACWI Gross	6.35%	17.13%	11.51%	8.64%	9.32%
MFS Investment Management	6.05%	17.26%	11.72%	11.49%	11.70%
MSCI ACWI Gross	6.35%	17.13%	11.51%	8.64%	9.32%
Total International Equity	3.14%	17.34%	10.94%	4.13%	5.96%
MSCI EAFE Index	2.95%	18.77%	8.93%	4.39%	5.41%
AQR Emerging Markets	1.85%	2.72%	3.92%	1.08%	-
MSCI EM Gross	1.04%	2.22%	2.72%	1.32%	3.33%
Brandes Investment Partners	4.76%	24.19%	15.60%	4.52%	5.93%
MSCI EAFE Index	2.95%	18.77%	8.93%	4.39%	5.41%
William Blair & Company	3.03%	15.11%	5.49%	5.22%	6.47%
MSCI ACWI ex-US Index	2.67%	13.33%	7.75%	4.01%	5.24%
DFA International Small Cap	0.87%	15.25%	12.68%	2.18%	6.06%
MSCI EAFE Small	0.58%	10.18%	5.70%	1.31%	6.19%

*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 June 30, 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 June 30, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net of Fee Returns					
Total Fixed Income	(0.71%)	1.35%	(0.20%)	0.97%	1.86%
Blmbg Aggregate	(0.84%)	(0.94%)	(3.96%)	0.77%	1.52%
BlackRock US Govt Bond Blmbg Government	(1.34%) (1.35%)	(2.00%) (2.08%)	- (4.71%)	- 0.46%	- 0.97%
Reams Asset Management Blmbg Aggregate	(0.62%) (0.84%)	1.95% (0.94%)	(2.27%) (3.96%)	3.29% 0.77%	2.81% 1.52%
Loomis, Sayles & Company, L.P. Blmbg Aggregate	(0.27%) (0.84%)	2.88% (0.94%)	(0.01%) (3.96%)	2.19% 0.77%	3.32% 1.52%
Total Private Equity	2.61%	(4.13%)	27.20%	20.66%	17.28%
Private Equity Benchmark	7.62%	(5.92%)	20.97%	13.34%	-
Abbott Capital Management 2010	(0.66%)	(13.64%)	21.86%	17.57%	16.05%
Abbott Capital Management 2011	(1.74%)	(16.05%)	24.03%	19.49%	15.95%
Abbott Capital Management 2012	0.02%	(11.66%)	26.12%	20.59%	14.89%
Abbott Capital Management 2013	0.29%	(10.32%)	26.09%	20.84%	13.16%
Abbott Capital Management 2014	(0.39%)	(8.61%)	27.77%	21.44%	-
Abbott Capital Management 2015	2.13%	(2.87%)	28.26%	20.75%	-
Abbott Capital Management 2016	3.02%	(0.83%)	29.35%	20.54%	-
Abbott Capital Management 2018	2.93%	1.23%	24.17%	15.88%	-
Abbott Capital Management 2019	1.83%	(0.30%)	28.60%	-	-
Abbott Capital Management 2020	(0.08%)	(2.92%)	-	-	-
Abbott Capital Management 2021	(0.37%)	(2.64%)	-	-	-
Abbott Capital Management 2022	5.62%	(0.86%)	-	-	-
Mesirow V	1.40%	(12.01%)	22.87%	17.42%	17.79%
Mesirow IV	2.12%	(9.95%)	28.72%	24.06%	14.14%
Mesirow VII	3.55%	(0.80%)	25.37%	13.32%	-
Mesirow VIII	0.43%	(4.21%)	-	-	-
NB Secondary Opp Fund III	15.94%	8.89%	20.54%	12.54%	-
NB Secondary Opp Fund IV	6.23%	(0.22%)	23.96%	22.84%	-
NB Secondary Opp Fund V	13.08%	(11.89%)	-	-	-
Private Advisors VI	0.62%	1.38%	33.53%	24.27%	-
Private Advisors VII	2.82%	11.68%	27.49%	18.02%	-
Private Advisors VIII	4.60%	22.63%	30.95%	-	-
Private Advisors IX	9.88%	30.52%	24.82%	-	-
Absolute Return	0.96%	5.67%	15.19%	5.99%	-
90 Day T-Bill + 3%	1.89%	6.59%	4.27%	4.55%	3.99%
Aptitude	1.14%	-	-	-	-
1-month LIBOR + 4%	2.25%	8.10%	5.49%	5.70%	5.14%
UBS A & Q	0.85%	5.90%	9.01%	7.84%	-
1-month LIBOR + 4%	2.25%	8.10%	5.49%	5.70%	5.14%
Real Assets	(0.82%)	(0.58%)	8.74%	3.94%	-
Principal DRA	(0.82%)	(0.58%)	8.74%	3.94%	-
Principal DRA Blend Index	(1.19%)	(0.53%)	7.93%	3.61%	-
Total Real Estate	(2.08%)	(6.41%)	10.40%	8.27%	9.87%
Real Estate	(2.08%)	(6.41%)	10.40%	8.27%	9.87%
Blended Benchmark	(3.50%)	(3.69%)	8.17%	7.13%	8.68%
Total Fund	2.16%	6.35%	11.14%	7.13%	8.01%
Total Fund Index	2.98%	6.82%	7.59%	6.46%	7.42%

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

Investment Manager Returns

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

	12/2022- 6/2023	2022	2021	2020	2019
Net of Fee Returns					
Total Domestic Equity	10.26%	(15.89%)	27.88%	16.09%	28.94%
Russell 3000 Index	16.17%	(19.21%)	25.66%	20.89%	31.02%
BlackRock Russell 1000 Value	5.11%	(7.55%)	25.17%	3.27%	26.77%
Russell 1000 Value Index	5.12%	(7.54%)	25.16%	2.80%	26.54%
DFA Large Cap Value	4.47%	(5.12%)	27.35%	(1.78%)	26.42%
Russell 1000 Value Index	5.12%	(7.54%)	25.16%	2.80%	26.54%
Northern Trust Global	16.89%	(18.09%)	28.68%	18.41%	31.53%
S&P 500 Index	16.89%	(18.11%)	28.71%	18.40%	31.49%
Polen Capital Management	25.07%	(37.97%)	24.34%	34.59%	38.27%
S&P 500 Index	16.89%	(18.11%)	28.71%	18.40%	31.49%
Earnest Partners LLC	8.69%	(15.58%)	25.59%	20.96%	37.65%
Russell MidCap Index	9.01%	(17.32%)	22.58%	17.10%	30.54%
DFA Small Cap Value	5.12%	(2.12%)	40.38%	3.74%	18.58%
Russell 2000 Value Index	2.50%	(14.48%)	28.27%	4.63%	22.39%
CastleArk Management	10.32%	(28.58%)	11.55%	44.12%	22.47%
Russell 2000 Growth Index	13.55%	(26.36%)	2.83%	34.63%	28.48%
Total Global Equity	14.37%	(17.55%)	18.80%	18.48%	30.55%
MSCI World	15.09%	(18.14%)	21.82%	15.90%	27.67%
BlackRock Global Alpha Tilts	13.93%	(16.89%)	18.67%	16.39%	26.48%
MSCI ACWI Gross	14.26%	(17.96%)	19.04%	16.82%	27.30%
MFS Investment Management	14.92%	(18.50%)	19.05%	21.88%	36.74%
MSCI ACWI Gross	14.26%	(17.96%)	19.04%	16.82%	27.30%
Total International Equity	12.25%	(15.75%)	12.57%	10.28%	21.08%
MSCI EAFE Index	11.67%	(14.45%)	11.26%	7.82%	22.01%
AQR Emerging Markets	7.83%	(20.93%)	0.47%	17.38%	19.64%
MSCI EM Gross	5.10%	(19.74%)	(2.22%)	18.69%	18.90%
Brandes Investment Partners	16.41%	(7.15%)	14.00%	(1.69%)	14.86%
MSCI EAFE Index	11.67%	(14.45%)	11.26%	7.82%	22.01%
William Blair & Company	11.77%	(28.91%)	12.77%	30.84%	31.01%
MSCI ACWI ex-US Index	9.86%	(15.57%)	8.29%	11.13%	22.13%
DFA International Small Cap	7.46%	(9.80%)	15.89%	0.81%	21.00%
MSCI EAFE Small	5.53%	(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.

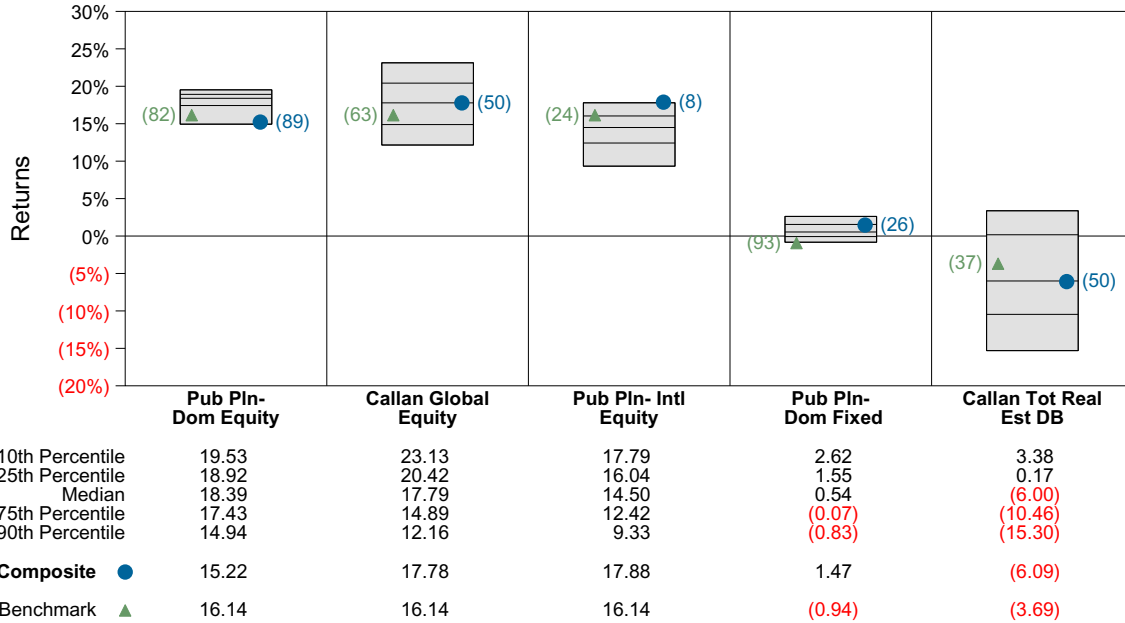
	12/2022- 6/2023	2022	2021	2020	2019
Net of Fee Returns					
Total Fixed Income	2.84%	(6.93%)	(0.45%)	(1.91%)	11.68%
Blmbg Aggregate	2.09%	(13.01%)	(1.54%)	7.51%	8.72%
BlackRock US Govt Bond Blmbg Government	1.81% 1.59%	(12.44%) (12.32%)	- (2.28%)	- 7.94%	- 6.83%
Reams Asset Management Blmbg Aggregate	3.34% 2.09%	(11.50%) (13.01%)	(1.36%) (1.54%)	17.11% 7.51%	8.65% 8.72%
Loomis, Sayles & Company, L.P. Blmbg Aggregate	2.95% 2.09%	(12.26%) (13.01%)	1.98% (1.54%)	6.99% 7.51%	14.25% 8.72%
Total Private Equity	2.49%	(4.88%)	67.66%	22.14%	16.63%
Private Equity Benchmark	15.92%	(15.10%)	34.08%	17.99%	6.65%
Abbott Capital Management 2010	(0.66%)	(16.87%)	65.55%	24.43%	16.52%
Abbott Capital Management 2011	(1.74%)	(18.97%)	76.29%	29.13%	19.64%
Abbott Capital Management 2012	0.02%	(13.14%)	72.85%	29.04%	17.91%
Abbott Capital Management 2013	0.29%	(12.51%)	70.21%	28.65%	21.13%
Abbott Capital Management 2014	(0.39%)	(9.41%)	75.52%	26.51%	19.74%
Abbott Capital Management 2015	2.13%	(0.79%)	75.81%	16.62%	15.14%
Abbott Capital Management 2016	3.02%	2.90%	71.04%	20.02%	9.08%
Abbott Capital Management 2018	2.93%	7.44%	47.06%	22.73%	7.26%
Abbott Capital Management 2019	1.83%	7.54%	57.22%	10.04%	-
Abbott Capital Management 2020	(0.08%)	0.81%	65.36%	-	-
Abbott Capital Management 2021	(0.37%)	1.72%	-	-	-
Abbott Capital Management 2022	5.27%	-	-	-	-
Mesirow V	1.40%	(19.60%)	78.52%	21.39%	16.29%
Mesirow IV	2.12%	(13.41%)	88.26%	29.10%	22.73%
Mesirow VII	3.55%	(0.68%)	60.27%	16.43%	3.33%
Mesirow VIII	0.43%	(2.15%)	10.14%	-	-
NB Secondary Opp Fund III	13.96%	(2.34%)	30.34%	4.23%	12.18%
NB Secondary Opp Fund IV	5.31%	0.29%	48.73%	14.80%	14.76%
NB Secondary Opp Fund V	9.61%	-	-	-	-
Private Advisors VI	0.62%	9.97%	83.78%	16.54%	17.98%
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Private Advisors VIII	4.65%	27.61%	47.25%	15.78%	(4.08%)
Private Advisors IX	9.83%	24.00%	37.25%	-	-
Absolute Return	1.65%	26.46%	8.77%	(14.21%)	12.52%
90 Day T-Bill + 3%	3.71%	4.46%	3.05%	3.67%	5.28%
Aptitude	1.33%	-	-	-	-
1-month LIBOR + 4%	4.43%	5.80%	4.11%	4.63%	6.32%
UBS A & Q	1.72%	8.85%	8.08%	12.18%	9.53%
1-month LIBOR + 4%	4.43%	5.80%	4.11%	4.63%	6.32%
Real Assets	0.45%	(5.91%)	17.51%	4.02%	14.84%
Principal DRA	0.45%	(5.91%)	17.51%	4.02%	14.84%
Principal DRA Blend Index	(0.09%)	(5.07%)	15.87%	2.08%	14.86%
Total Real Estate	(5.14%)	13.58%	23.45%	0.39%	5.95%
Real Estate	(5.14%)	13.58%	23.45%	0.39%	5.95%
Blended Benchmark	(8.40%)	21.68%	14.83%	0.89%	5.26%
Total Fund	5.56%	(6.51%)	18.80%	6.59%	18.34%
Total Fund Index	7.43%	(10.49%)	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.

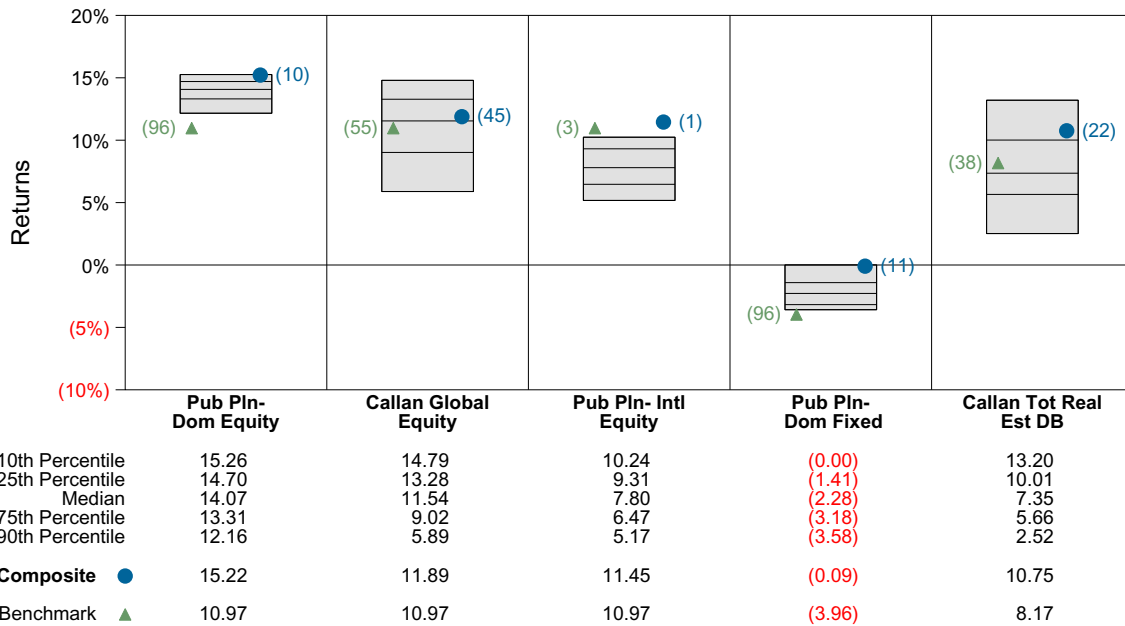
Asset Class Rankings

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 June 30, 2023



Total Asset Class Performance Three Years Ended June 30, 2023

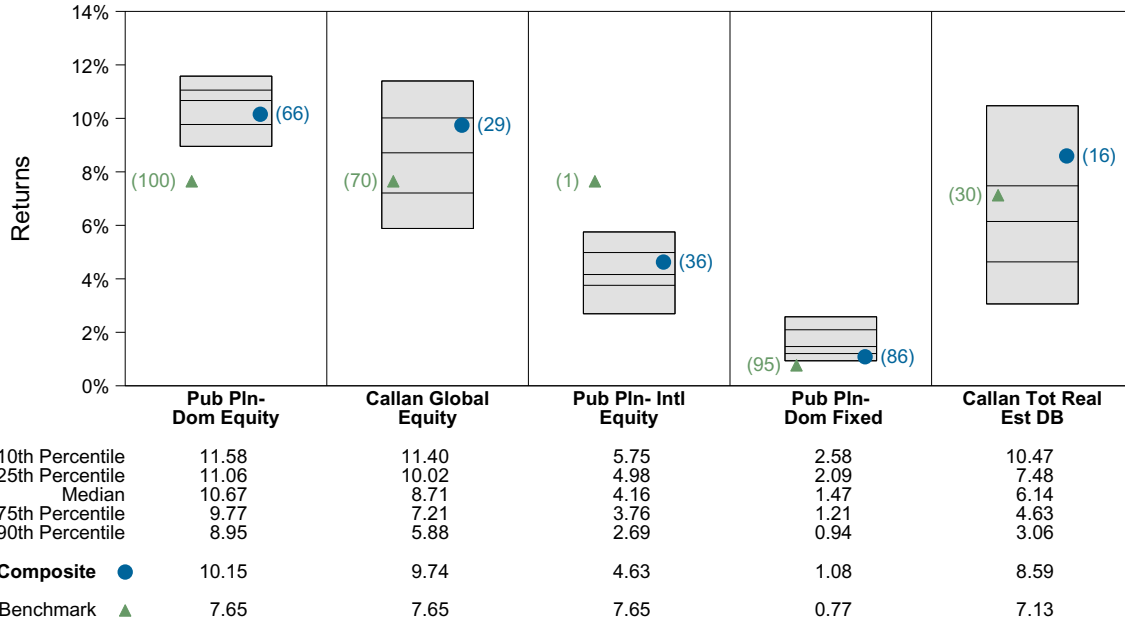


* Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Blmbg:Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal DRA Blend Index.

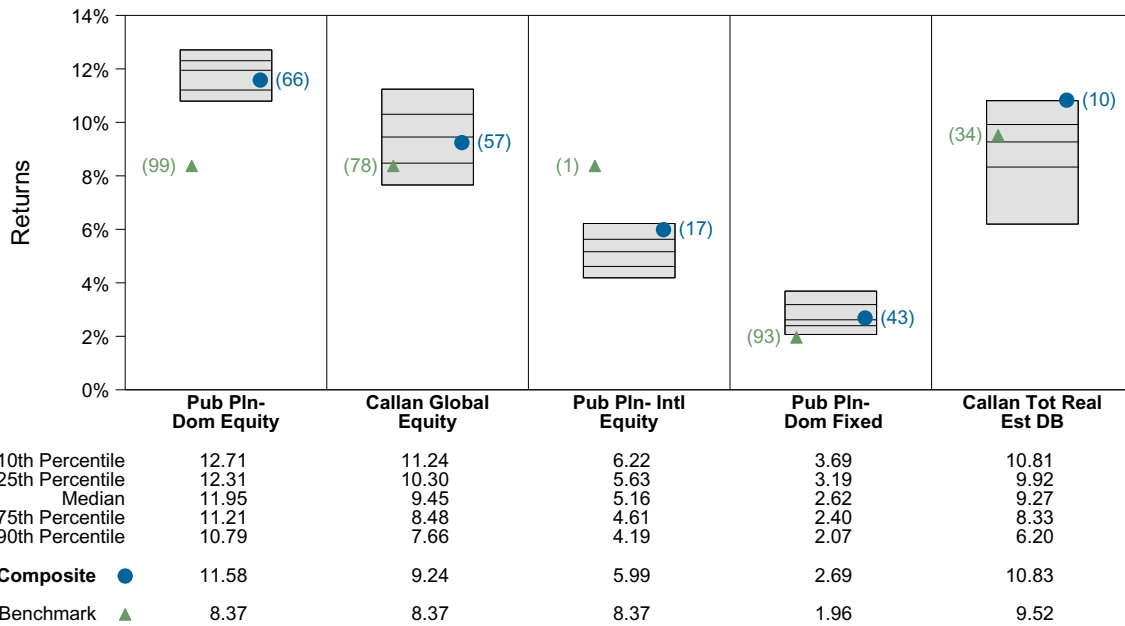
Asset Class Rankings

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 June 30, 2023



Total Asset Class Performance Twelve and One-Half Years Ended June 30, 2023

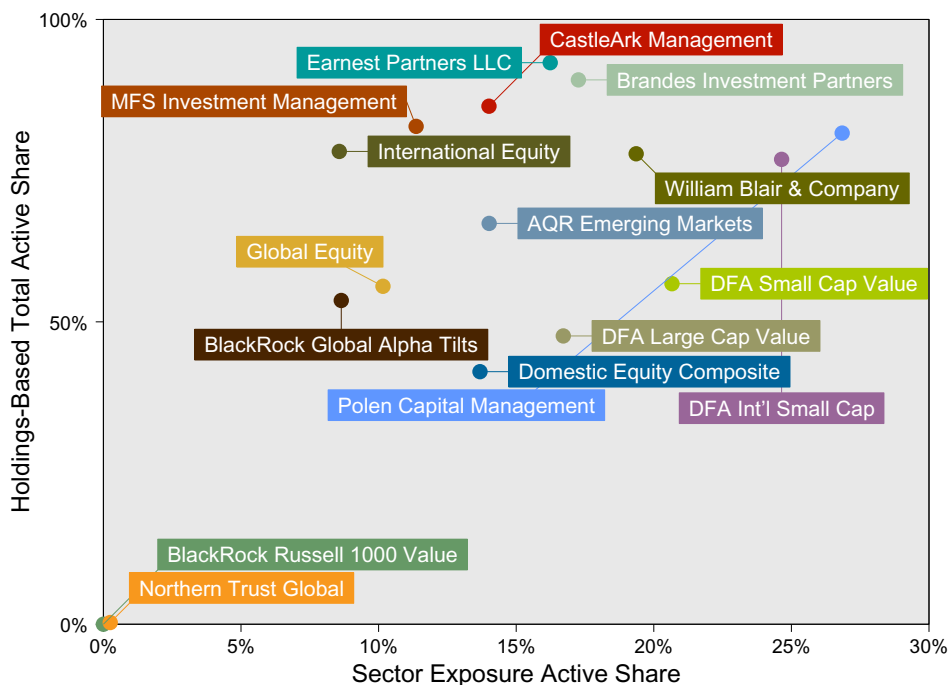


* Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Blmbg:Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal DRA Blend Index.

Active Share Structure Analysis For One Quarter Ended June 30, 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 June 30, 2023



	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
Domestic Equity Composite	Russell 3000	41.76%	0.62%	13.68%	1863	128.76
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	844	70.61
DFA Large Cap Value	Russell 1000 Value	47.67%	2.10%	16.71%	330	43.36
Northern Trust Global	S&P 500	0.28%	0.00%	0.25%	502	35.94
Polen Capital Management	S&P 500	81.21%	3.81%	26.84%	23	7.00
Earnest Partners LLC	Russell MidCap	92.85%	10.26%	16.24%	59	23.26
DFA Small Cap Value	Russell 2000 Value	56.30%	14.85%	20.66%	948	116.14
CastleArk Management	Russell 2000 Growth	85.65%	24.86%	14.01%	110	37.61
Global Equity	MSCI World	55.88%	5.76%	10.16%	686	45.71
BlackRock Global Alpha Tilts	MSCI ACWI GD	53.53%	2.84%	8.64%	645	44.11
MFS Investment Management	MSCI ACWI GD	82.32%	2.92%	11.36%	73	21.35
International Equity	MSCI EAFE	78.17%	28.75%	8.57%	2537	80.22
AQR Emerging Markets	MSCI EM GD	66.27%	2.67%	14.02%	359	32.78
Brandes Investment Partners	MSCI EAFE	90.00%	16.31%	17.26%	65	22.93
William Blair & Company	MSCI ACWI xUS GD	77.79%	11.65%	19.36%	271	41.67
DFA Int'l Small Cap	MSCI EAFE Small	76.87%	16.16%	24.64%	1876	159.00

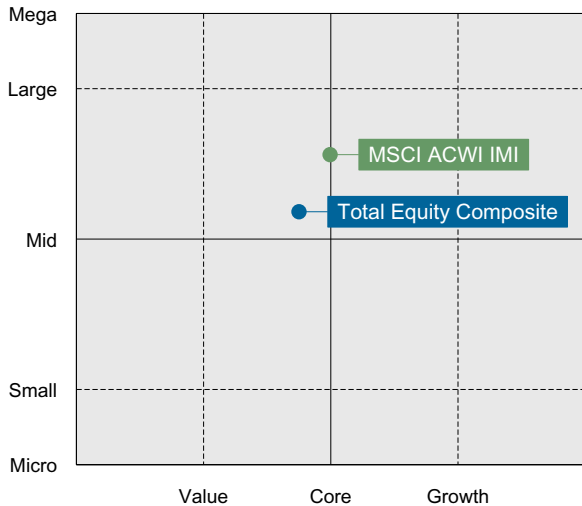
Current Holdings Based Style Analysis

Total Equity Composite

As of June 30, 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 chart 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.

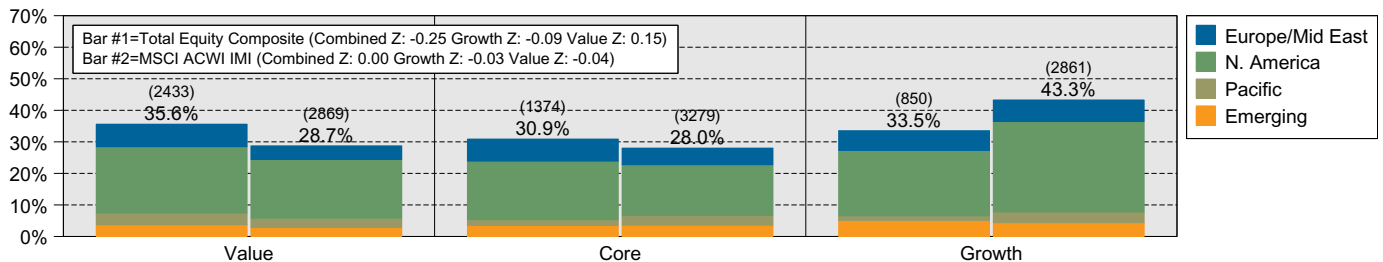
Style Map vs Callan Public Fund Spr DB Holdings as of June 30, 2023



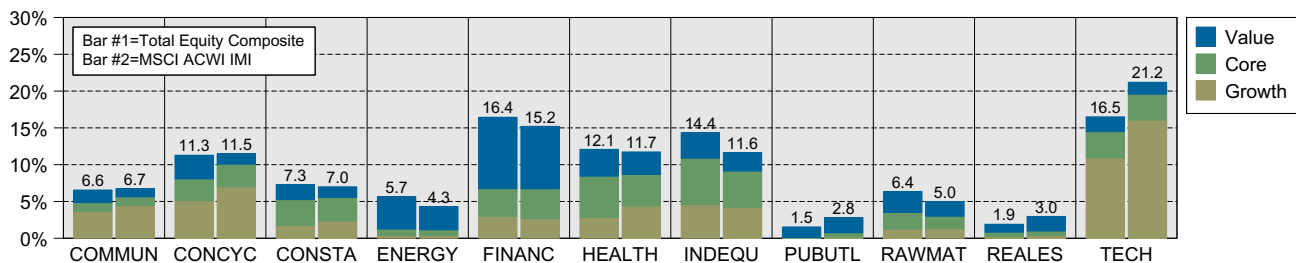
Style Exposure Matrix Holdings as of June 30, 2023

	Value	Core	Growth	Total
Europe/Mid East	7.1% (425)	7.0% (282)	6.2% (151)	20.3% (858)
N. America	4.3% (472)	5.3% (514)	6.8% (510)	16.3% (1496)
Pacific	21.0% (965)	18.6% (674)	20.8% (353)	60.4% (1992)
Emerging	18.7% (892)	16.1% (1109)	28.7% (741)	63.6% (2742)
Total	35.6% (2433)	30.9% (1374)	33.5% (850)	100.0% (4657)
	28.7% (2869)	28.0% (3279)	43.3% (2861)	100.0% (9009)

Combined Z-Score Style Distribution Holdings as of June 30, 2023



Sector Weights Distribution Holdings as of June 30, 2023



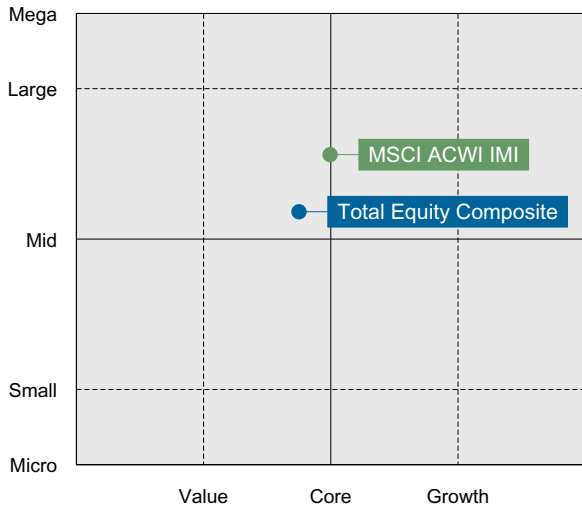
Current Holdings Based Style Analysis

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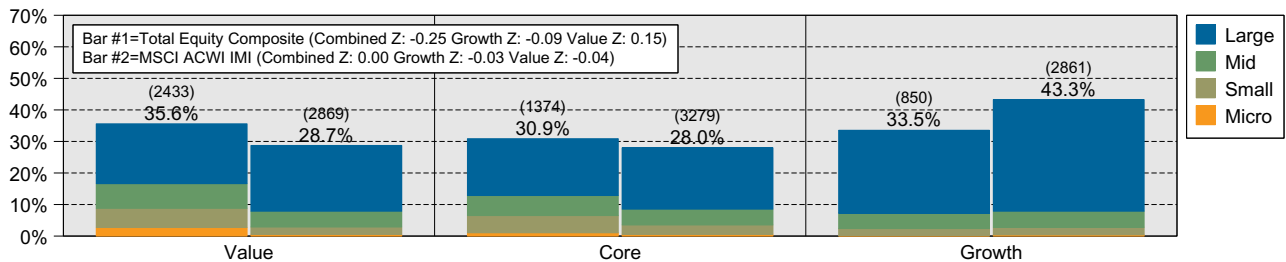
Style Map vs Callan Public Fund Spr DB Holdings as of June 30, 2023



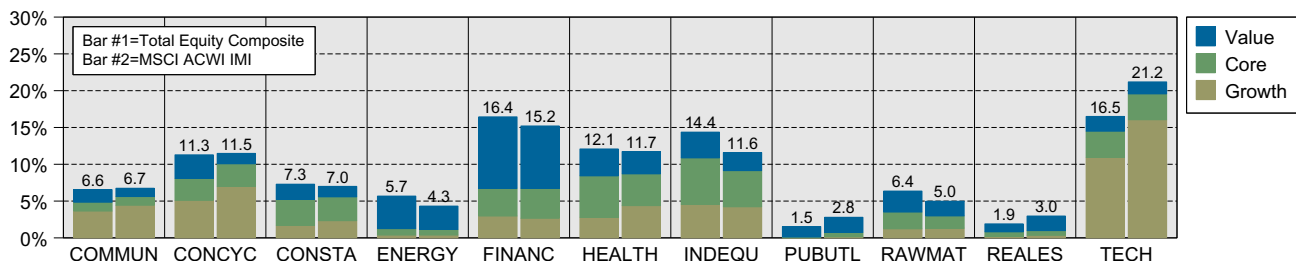
Style Exposure Matrix Holdings as of June 30, 2023

	Value	Core	Growth	Total
Large	19.0% (238)	18.0% (196)	26.3% (231)	63.3% (665)
	20.8% (319)	19.5% (256)	35.4% (326)	75.7% (901)
Mid	7.8% (322)	6.4% (306)	4.8% (289)	19.0% (917)
	5.0% (527)	5.0% (617)	5.1% (658)	15.1% (1802)
Small	6.1% (463)	5.5% (440)	2.2% (217)	13.8% (1120)
	2.3% (1063)	2.9% (1364)	2.4% (1177)	7.6% (3604)
Micro	2.7% (1410)	1.0% (432)	0.1% (113)	3.9% (1955)
	0.5% (960)	0.6% (1042)	0.4% (700)	1.6% (2702)
Total	35.6% (2433)	30.9% (1374)	33.5% (850)	100.0% (4657)
	28.7% (2869)	28.0% (3279)	43.3% (2861)	100.0% (9009)

Combined Z-Score Style Distribution Holdings as of June 30, 2023



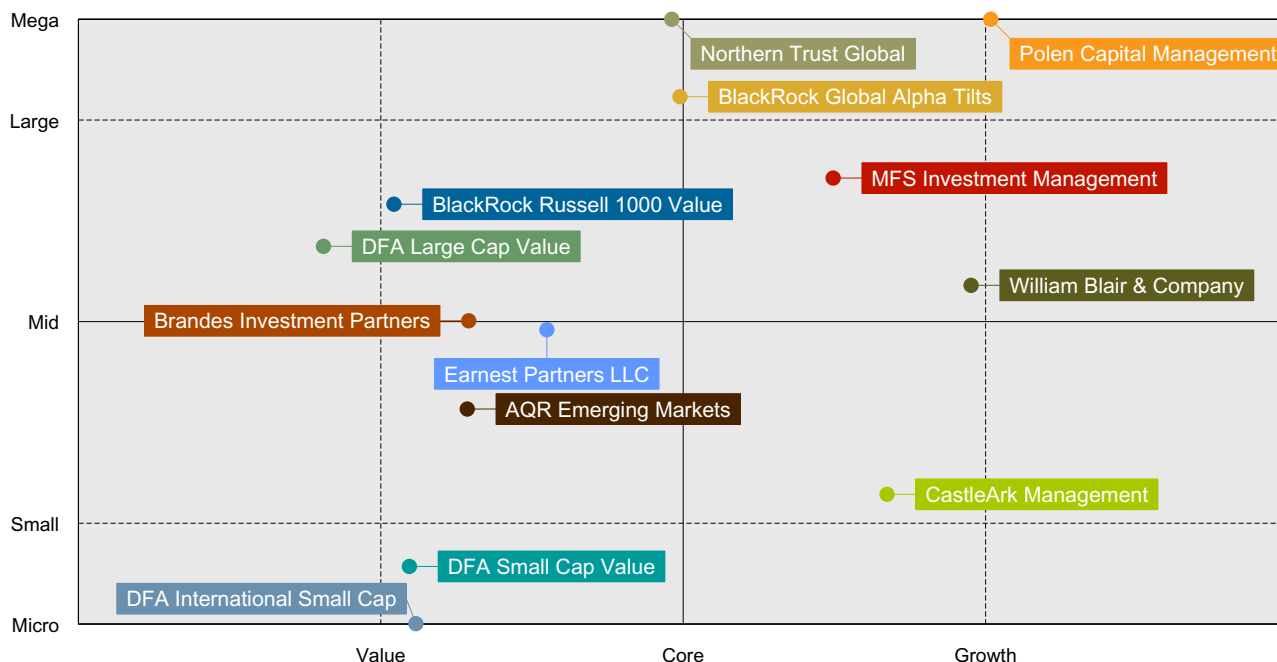
Sector Weights Distribution Holdings as of June 30, 2023



Global Holdings Based Style Analysis For One Quarter Ended June 30, 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 June 30, 2023



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
BlackRock Russell 1000 Value	8.38%	69.40	(0.97)	(0.44)	0.53	844	70.61
DFA Large Cap Value	6.18%	51.63	(1.21)	(0.40)	0.81	330	43.36
Northern Trust Global	8.34%	195.97	(0.03)	(0.04)	(0.01)	502	35.94
Polen Capital Management	5.42%	205.39	0.96	0.37	(0.59)	23	7.00
Earnest Partners LLC	4.60%	19.21	(0.45)	(0.26)	0.19	59	23.26
DFA Small Cap Value	7.84%	2.60	(0.92)	(0.20)	0.72	948	116.14
CastleArk Management	3.64%	5.69	0.64	0.15	(0.49)	110	37.61
MFS Investment Management	9.22%	80.43	0.47	0.04	(0.43)	73	21.35
BlackRock Global Alpha Tilts	11.20%	125.59	(0.00)	(0.03)	(0.03)	645	44.11
AQR Emerging Markets	4.14%	12.70	(0.72)	(0.11)	0.61	359	32.78
Brandes Investment Partners	14.18%	20.22	(0.72)	(0.23)	0.49	65	22.93
William Blair & Company	10.00%	35.19	0.90	0.25	(0.65)	271	41.67
DFA International Small Cap	6.85%	1.66	(0.90)	(0.15)	0.74	1876	159.00

Quarterly Highlights

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

New Research from Callan's Experts

[2023 Private Credit Fees and Terms Study](#) | Catherine Beard and Jared Ungar assess private credit partnerships in our first fees and terms study for this asset class.

[2Q23 Real Assets Reporter: Life Sciences Investments](#) | Christine Mays describes life sciences investments and the role they can play in institutional portfolios.

[The Critical Underlying Technology Behind Digital Assets: A Primer for Institutional Investors](#) | This paper provides background on key concepts around digital assets: blockchains and distributed ledgers; cryptography; validation protocols; smart contracts; and tokenization.

Blog Highlights

[Biodiversity: A Relatively New Theme for ESG-Focused Investors](#) | Biodiversity investments include companies that support the sustainable use of natural resources and ecosystem services or technologies, or products or services that reduce biodiversity threats or restore natural habitats.

[Higher Interest Rates Meet Lower Valuations: Implications for the CRE Industry](#) | The commercial real estate (CRE) industry, already facing challenges with economic uncertainty, the shift to remote work, and recent layoffs by many major office tenants, now confronts higher interest rates and plummeting pricing.

[How to Improve DC Plans with DEI](#) | For defined contribution (DC) plan sponsors, understanding the diversity within the employee population supports inclusiveness and equality in access and opportunities.

Webinar Replays

[Research Cafe: ESG Interview Series](#) | During this interview, Aaron Quach, Callan ESG team member, interviews Jan Mende, Callan real assets specialist and author of our white paper on energy transition. They will discuss the growing opportunities for investment within the energy transition space and how they can be incorporated into the portfolios of institutional investors.

Quarterly Periodicals

[Private Equity Update, 1Q23](#) | A high-level summary of private equity activity in the quarter through all the investment stages

[Active vs. Passive Charts, 1Q23](#) | A comparison of active managers alongside relevant benchmarks over the long term

[Market Pulse, 1Q23](#) | 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, 1Q23](#) | 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, 1Q23](#) | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

[Real Assets Update, 1Q23](#) | A summary of market activity for real assets and private real estate during the quarter

[Private Credit Update, 1Q23](#) | A review of performance and fundraising activity for private credit during the quarter

Events

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

Please mark your calendar and look forward to upcoming invitations:

Webinar: The End of the Low-Yield Environment
Aug 9, 2023 – Virtual

2023 October Workshops
Oct. 24, 2023 – New York
Oct. 26, 2023 – Chicago

2024 National Conference
April 8-10, 2024 – San Francisco

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

Education: By the Numbers

50+

Unique pieces of research the Institute generates each year

525

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

3,700

Total attendees of the "Callan College" since 1994

Education

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

Introduction to Investments
Sept. 26-28 – 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.

Alternative Investments
Aug. 23-24 – 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.

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

Additional information including registration can be found at: callan.com/events-education



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

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

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

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

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

Manager Name

abrdrn (Aberdeen Standard Investments)

ABS Global Investments

Acadian Asset Management LLC

Adams Street Partners, LLC

Aegon Asset Management

AllianceBernstein

Allspring Global Investments, LLC

AlphaSimplex Group, LLC

Altrinsic Global Advisors, LC

American Capital Management, Inc.

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

Manager Name

Atlanta Capital Management Co., LLC

AXA Investment Managers

Baillie Gifford International, LLC

Baird Advisors

Barings LLC

Baron Capital Management, Inc.

Barrow, Hanley, Mewhinney & Strauss, LLC

BentallGreenOak

Beutel, Goodman & Company Ltd.

Bissell Ballantyne LLC

BlackRock

Blackstone Group (The)

Blue Owl Capital, Inc.

BNY Mellon Asset Management

Boston Partners

Brandes Investment Partners, L.P.

Brandywine Global Investment Management, LLC

Brightwood Capital Advisors, LLC

Manager Name

Brookfield Asset Management Inc.

Brown Brothers Harriman & Company

Capital Group

Cardinal Capital, LLC

CastleArk Management, LLC

CIBC Asset Management Inc.

ClearBridge Investments, LLC

Cohen & Steers Capital Management, Inc.

Columbia Threadneedle Investments North America

Comvest Partners

CQS

Credit Suisse Asset Management, LLC

D.E. Shaw Investment Management, LLC

DePrince, Race & Zollo, Inc.

Diamond Hill Capital, Inc.

Dimensional Fund Advisors L.P.

Doubleline

DWS

EARNEST Partners, LLC

Epoch Investment Partners , Inc. * (See new name)

Fayez Sarofim & 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.

Glenmede Investment Management, LP

GlobeFlex Capital, L.P.

GoldenTree Asset Management, LP

Goldman Sachs

Golub Capital

Great Lakes Advisors, LLC

Guggenheim Investments

GW&K Investment Management

Harbor Capital Advisors

Manager Name

Hardman Johnston Global Advisors LLC

Heitman LLC

Hotchkis & Wiley Capital Management, LLC

Impax Asset Management LLC

Income Research + Management

Insight Investment

Intech Investment Management LLC

Intercontinental Real Estate Corporation

Invesco

J.P. Morgan

Janus

Jarislowsky Fraser Global Investment Management

Jennison Associates LLC

Jobs Peak Advisors

KeyCorp

Kohlberg Kravis Roberts & Co. (KKR)

Lazard Asset Management

LGIM America

Lincoln National Corporation

Longview Partners

Loomis, Sayles & Company, L.P.

Lord, Abbett & Company

LSV Asset Management

MacKay Shields LLC

Macquarie Asset Management (MAM)

Manulife Investment Management

Marathon Asset Management, L.P.

MetLife Investment Management

MFS Investment Management

MidFirst Bank

Mondrian Investment Partners Limited

Montag & 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.

Manager Name

P/E Investments

Pacific Investment Management Company

Pacific Ridge Capital Partners, LLC

Pantheon Ventures

Parametric Portfolio Associates LLC

Partners Group (USA) Inc.

Pathway Capital Management, LP

PFM Asset Management LLC

PGIM

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.

S&P Dow Jones Indices

Sands Capital Management

Schroder Investment Management North America Inc.

Segall Bryant & Hamill

Manager Name

Silvercrest Asset Management Group

SLC Management

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

Sprucegrove Investment Management Ltd

State Street Global Advisors

Strategic Global Advisors, LLC

*TD Global Investment Solutions – TD Epoch

T. Rowe Price Associates, Inc.

The TCW Group, Inc.

Thompson, Siegel & Walmsley LLC

Tri-Star Trust Bank

UBS Asset Management

VanEck

Vanguard Group, Inc. (The)

Versus Capital Group

Victory Capital Management Inc.

Virtus Investment Partners, Inc.

Vontobel Asset Management

Voya

Walter Scott & Partners Limited

WCM Investment Management

Wellington Management Company, LLP

Western Asset Management Company LLC

Westfield Capital Management Company, LP

William Blair & Company LLC

Xponance, Inc.

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