# Callan

March 31, 2022 City of Milwaukee Employes' Retirement System

Investment Measurement Service Quarterly Review

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Capital Markets Review

#### **U.S. EQUITY**

- The S&P 500 Index fell 4.6% in 1Q22, but was down more than 12% early in March before rallying into quarter-end.
- Value stocks sharply outpaced growth across capitalizations, with the spread exceeding 10% in both mid and small caps and just over 8% in large caps.
- Energy (+39%) was the best-performing sector given a 33% spike in WTI crude oil prices. Commodity-linked Materials and Utilities sectors also performed well on a relative basis.
- Communication Services (-12%), Consumer Discretionary (-9%), and Information Technology (-8%) were the worstperforming sectors.
- Uncertainty over rates, inflation, and geopolitical tensions all contributed to a volatile and risk-averse environment.
- Interestingly, the Russell Dynamic Index (-4.3%) outperformed the Russell Defensive Index (-5.9%) during the 1Q downturn.

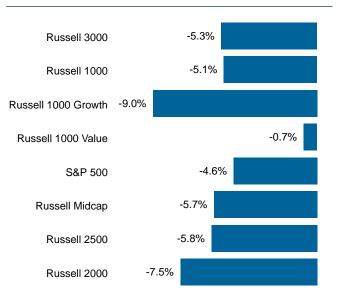
#### Historical small cap discount relative to large cap

 The Russell 2000 Index continues to underperform the Russell 1000 Index; the small cap index now trails large cap by almost 1,660 basis points cumulatively on a three-year basis and over 2,360 bps on a five-year basis.

#### Index concentration

- Index concentration continues despite negative 1Q core index returns and falling earnings contribution.
- Among mega cap tech stocks, Apple and Microsoft now seen as providing downside protection
- Index concentration continues to cause active managers significant headwinds in the large cap growth space—the Russell 1000 Growth Index has nearly 50% of its capitalization in just the top 10 names (Apple and Microsoft are greater than 10% weights).

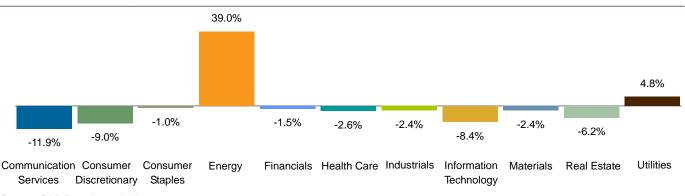
### **U.S. Equity: Quarterly Returns**



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



Sources: FTSE Russell, S&P Dow Jones Indices



# S&P Sector Returns, Quarter Ended 3/31/22

Source: S&P Dow Jones Indices



#### **GLOBAL EQUITY**

#### War in Ukraine stoked market volatility

- In the aftermath of invading Ukraine, Russia faced condemnation and sanctions that crippled its stocks, bonds, and currency and shocked the global markets.
- The fog of war exacerbated inflationary concerns and led to a surge in energy prices, as Russia is the second-largest natural gas provider and third-largest oil producer in the world.
- Energy exporters notably outperformed importers given the soaring prices.

#### Fears of COVID-19

- A resurgence of COVID-19 cases in Europe and Asia, specifically in China, weighed on the global recovery.
- China's zero-COVID policy has injected doubt into its 2022 projected GDP growth of 5.5%, which is already its lowest annual target in more than 25 years.

#### Growth vs. value

- Value sectors such as Energy, Materials, and Financials were in favor relative to growth sectors like Consumer Discretionary and Information Technology, due to recession fears and a tightening monetary cycle.
- However, Energy was the worst performer within emerging markets due to the removal of Russia from indices.

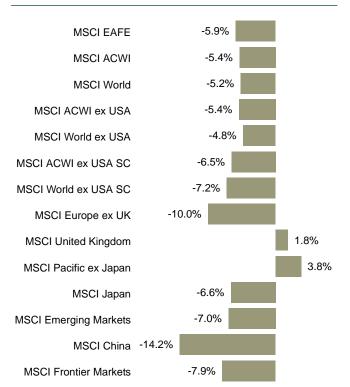
#### U.S. dollar vs. other currencies

 With the uncertainty of war, the U.S. dollar strengthened against other major currencies, including the yen, as the Bank of Japan maintained an easing policy.

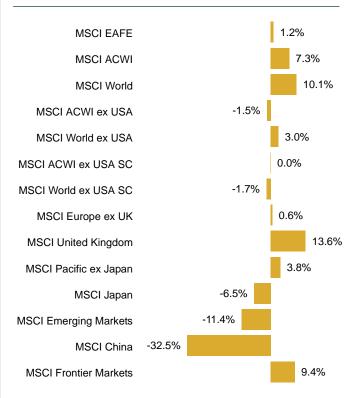
#### Value is attractive relative to history

- There are attractive valuations in multiple regions.
- Growth relative to value is more vulnerable as interest rates normalize.
- Global recovery from COVID and deficit in Energy should support value.
- Value sectors are underexposed in international indices relative to history.
- Value outperforms in "heating up" inflationary environments.

#### **Global Equity: Quarterly Returns**



#### **Global Equity: One-Year Returns**



Source: MSCI



#### **U.S. FIXED INCOME**

#### Bonds hit hard as rates rose sharply

- Bloomberg Aggregate worst quarterly return since 1980
- Curve flattened; as of 3/31 5-year U.S. Treasury yield was 10 bps higher than 10-year UST yield (2.42% vs. 2.32%).
- TIPS topped nominal Treasuries, and 10-year breakeven spread widened to 2.84% from 2.56% at year-end.
- Fed raised rates by 25 bps, with many more hikes expected this year.

#### Credit sectors underperformed

- Investment-grade corporates underperformed durationmatched U.S. Treasuries by 145 bps, RMBS by 71 bps.
- High yield "benefited" from less interest rate sensitivity and relatively higher exposure to the energy sector; excess return vs. U.S. Treasuries was 92 bps.
- Defaults remain low (less than 1%) and yield breeched 6%.

#### Leveraged loans performed relatively well

- Helped by floating rate coupons/low duration

#### Securitized sectors also performed well

- Consumer ABS was the best within the sector due to its shorter duration profile and solid consumer spending.
- Conduit CMBS traded in line as the economy re-opens.
- Agency MBS saw duration extend by 0.4 year due to higher rates.
- The U.S. yield curve "bear-flattened" as the Fed pivoted to focus on higher-than-expected inflation.
- The U.S. yield curve (2Y/10Y) inverted on the last (intra) day of the quarter, which has not been seen since Aug. 2019.
- Despite rates moving higher this year, could the recent backup indicate a new regime of higher rates, or is the market simply trading to the higher end of this secular range that has persisted for nearly 40 years?

#### **MUNICIPAL BONDS**

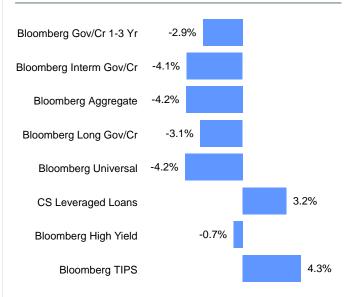
#### Municipal bond returns hurt by rising rates

- Bloomberg Municipal Bond Index suffered its worst quarterly return since 3Q81.
- Lower quality underperformed: BBB -7.1%; AAA -6.1%
- As with U.S. Treasuries, the muni yield curve flattened with 2-year yields rising more than 10-year and 30-year yields

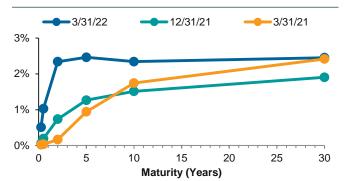
#### **U.S. Fixed Income: Quarterly Returns**



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



#### U.S. Treasury Yield Curves



Sources: Bloomberg, Credit Suisse



#### **MUNICIPAL BONDS (cont.)**

#### Valuations relatively attractive

- 10-year AAA Muni/10-year U.S. Treasury ratio = 94%
- Up from 68% at year-end; 10-year median = 90%
- Municipal Bond Index after-tax yield = 4.4% (tax rate of 37%)

#### Supply/demand

- Heavy outflows in 1Q22 following record inflows in 2021
- \$22 billion in outflows in 1Q (one-fifth of 2021 inflows)
- Supply down modestly vs. 1Q21

#### Credit quality remains stable to improving

- Tax revenues continued to rise and reserve levels are high
- Upgrades outpaced downgrades

### **GLOBAL FIXED INCOME**

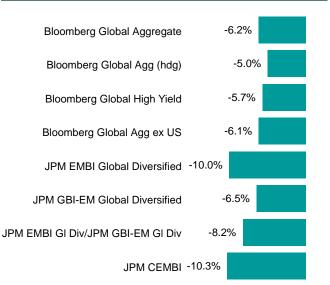
#### Negative returns driven by broad interest rate increases

 U.S. dollar appreciated against the Japanese yen, euro, and British pound.

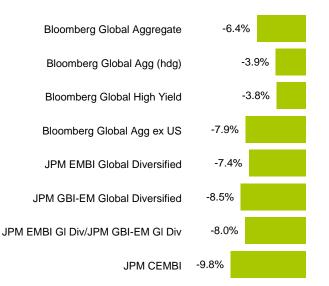
#### Emerging market debt was not spared

- JPM Global Diversified hurt by rising rates in the U.S.
- GBI-EM hurt by rising local rates, but currency appreciation helped in Latin America and Africa.
- Russia removed from indices at a price of \$0 (-100% return).

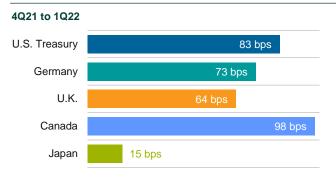
#### **Global Fixed Income: Quarterly Returns**



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



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



Sources: Bloomberg, JP Morgan

Total Fund

# **Investment Manager Asset Allocation**

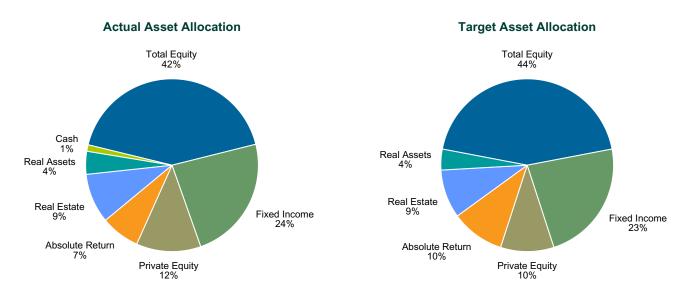
The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2022, with the distribution as of December 31, 2021.

#### **Asset Distribution Across Investment Managers**

	March 31, 2	022	December 31, 2021			
	Market Value	Weight	Market Value	Weight		
otal Domestic Equity	\$1,218,780,744	19.80%	\$1,225,055,592	19.70%		
BlackRock Russell 1000 Value	161,110,859	2.62%	162,342,754	2.61%		
DFA Large Cap Value	160,609,212	2.61%	160,098,792	2.57%		
Northern Trust Global	332,088,512	5.39%	329,597,979	5.30%		
		2.51%		2.51%		
Polen Capital Management	154,641,096		155,925,522			
Earnest Partners LLC	117,395,530	1.91%	124,222,736	2.00%		
DFA Small Cap Value	198,062,605	3.22%	198,175,261	3.19%		
CastleArk Management	94,872,932	1.54%	94,692,549	1.52%		
otal Global Equity	\$480,157,017	7.80%	\$514,044,092	8.27%		
BlackRock Global Alpha Tilts	289,018,287	4.69%	310,576,017	4.99%		
MFS Investment Management	191,138,731	3.10%	203,468,075	3.27%		
MFS Investment Management	191,130,731	3.10%	203,408,075	3.2770		
otal International Equity	\$903,955,073	14.68%	\$973,838,505	15.66%		
AQR Emerging Markets	91,162,238	1.48%	94,625,993	1.52%		
Brandes Investment Partners	364,701,775	5.92%	386,359,448	6.21%		
William Blair & Company	262,240,277	4.26%	294,789,424	4.74%		
DFA International Small Cap	185,850,783	3.02%	198,063,639	3.19%		
otal Fixed Income	\$1,446,956,245	23.50%	\$1,384,433,408	22.26%		
BlackRock US Govt Bond	401,669,346	6.52%	424,668,206	6.83%		
Reams Asset Management	594,119,824	9.65%	516,683,840	8.31%		
Loomis, Sayles & Company, L.P.	451,167,075	7.33%	443,081,362	7.13%		
		10.100/		10.005		
otal Private Equity	\$746,031,706	12.12%	\$770,114,625	12.39%		
Abbott Capital Management 2010	28,305,063	0.46%	29,880,063	0.48%		
Abbott Capital Management 2011	58,339,194	0.95%	61,089,194	0.98%		
Abbott Capital Management 2012	49,026,793	0.80%	51,626,793	0.83%		
Abbott Capital Management 2013	47,754,822	0.78%	50,204,822	0.81%		
Abbott Capital Management 2014	51,945,588	0.84%	54,745,588	0.88%		
Abbott Capital Management 2015	36,205,084	0.59%		0.61%		
			38,092,584			
Abbott Capital Management 2016	27,699,416	0.45%	28,579,416	0.46%		
Abbott Capital Management 2018	17,962,563	0.29%	17,222,563	0.28%		
Abbott Capital Management 2019	13,385,148	0.22%	13,385,148	0.22%		
Abbott Capital Management 2020	11,889,608	0.19%	11,889,608	0.19%		
Abbott Capital Management 2021	4,642,156	0.08%	2,982,156	0.05%		
Abbott Capital Management 2022	1,225,000	0.02%	2,002,100	-		
Mesirow V		0.97%	62 601 204	1.02%		
	59,416,304		63,691,304			
Mesirow VI	90,118,955	1.46%	94,498,955	1.52%		
Mesirow VII	113,397,816	1.84%	114,916,758	1.85%		
Mesirow VIII	35,825,430	0.58%	35,825,430	0.58%		
NB Secondary Opp Fund III	8,555,192	0.14%	9,092,478	0.15%		
NB Secondary Opp Fund IV	17,861,084	0.29%	19,525,286	0.31%		
NB Secondary Opp Fund V	3,125,000	0.05%				
2 11			- 26 546 570	- 120/		
Private Advisors VI	22,511,350	0.37%	26,546,578	0.43%		
Private Advisors VII	14,696,819	0.24%	15,765,520	0.25%		
Private Advisors VIII	13,748,774	0.22%	13,462,488	0.22%		
Private Advisors IX	18,394,547	0.30%	17,091,893	0.27%		
osolute Return	\$449,877,178	7.31%	\$443,410,582	7.13%		
UBS A & Q	449,877,178	7.31%	440 440 500	7.13%		
		1.01/0	443,410,582	1.1070		
eal Assets	\$264,014,036	4.29%	\$258,013,600	4.15%		
Principal DRA	264,014,036	4.29%	258,013,600	4.15%		
otal Real Estate	\$570,720,678	9.27%	\$545,009,761	8.76%		
Real Estate	570,720,678	9.27%	545,009,761	8.76%		
		4.00%	\$404 400 CC4	4.07%		
o <b>tal Cash</b> Cash	<b>\$75,577,264</b> 75,577,264	<b>1.23%</b> 1.23%	<b>\$104,133,681</b> 104,133,681	<b>1.67%</b> 1.67%		
Odali	10,011,204	1.2370	104,133,001	1.07 %		

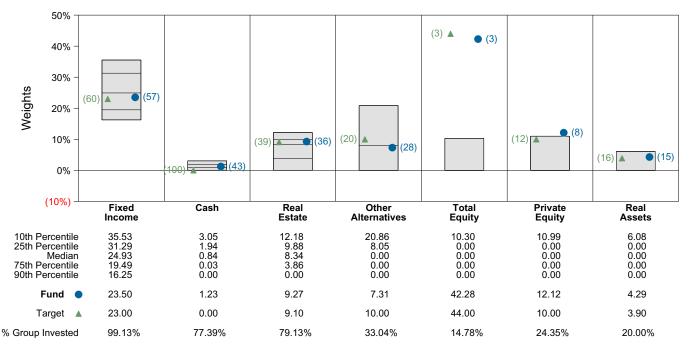
# Actual vs Target Asset Allocation As of March 31, 2022

The top left chart shows the Fund's asset allocation as of March 31, 2022. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,602,893	42.3%	44.0%	(1.7%)	(105,778)
Fixed Income	1,446,956	23.5%	23.0%	0.5%	31,060
Private Equity	746,032	12.1%	10.0%	2.1%	130,425
Absolute Return	449,877	7.3%	10.0%	(2.7%)	(165,730)
Real Estate	570,721	9.3%	9.1%	0.2%	10,518
Real Assets	264,014	4.3%	3.9%	0.4%	23,927
Cash	75,577	1.2%	0.0%	1.2%	75,577
Total	6,156,070	100.0%	100.0%		

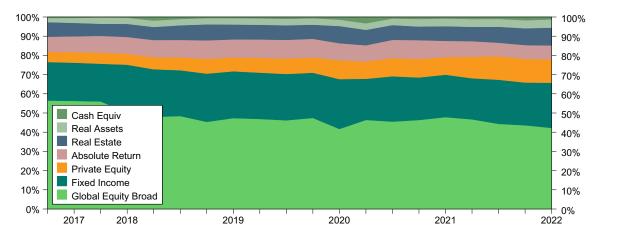
Asset Class Weights vs Callan Public Fund Sponsor Database



\* 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.

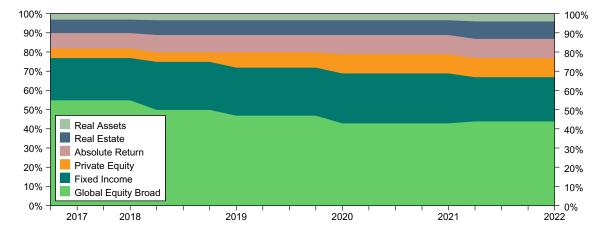
# **Actual vs Target Historical Asset Allocation**

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.

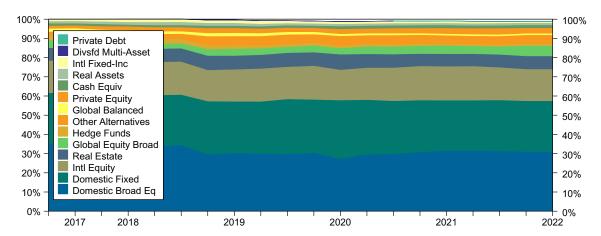


### **Actual Historical Asset Allocation**

#### **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 Blended Benchmark.



## Total Fund Period Ended March 31, 2022

#### **Investment Philosophy**

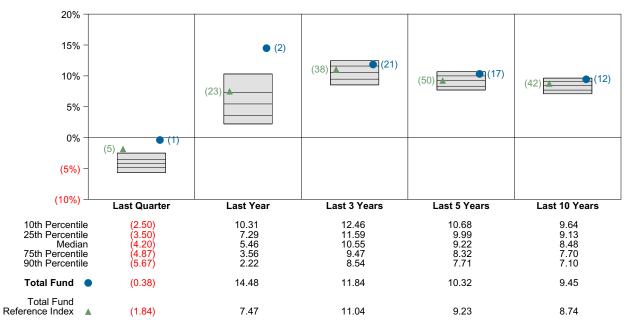
The Public Fund Sponsor Database consists of public employee pension total funds including both Callan Associates client and surveyed non-client funds. Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Blmbg Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal Blended Benchmark.

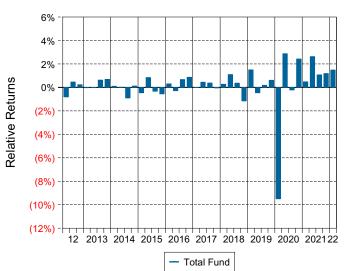
#### **Quarterly Summary and Highlights**

- Total Fund's portfolio posted a (0.38)% return for the quarter placing it in the 1 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 2 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Reference Index by 1.46% for the quarter and outperformed the Total Fund Reference Index for the year by 7.01%.

Quarterly Asset Growth								
Beginning Market Value	\$6,218,053,846							
Net New Investment	\$-34,808,218							
Investment Gains/(Losses)	\$-27,175,687							
Ending Market Value	\$6,156,069,941							

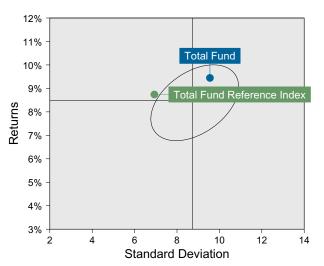






**Relative Return vs Total Fund Reference Index** 

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

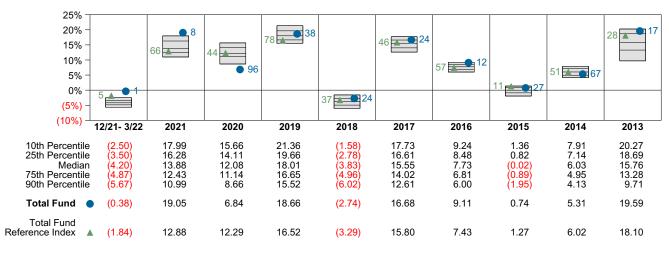


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# Total Fund Return Analysis Summary

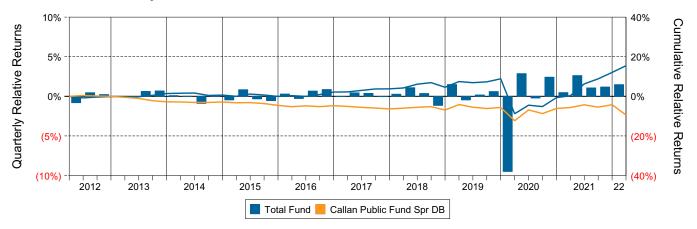
#### **Return Analysis**

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.

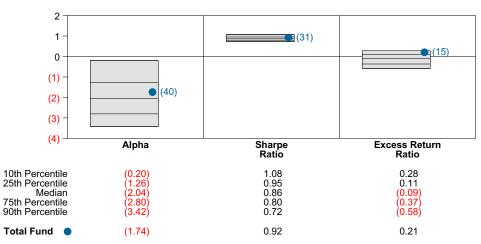


Performance vs Callan Public Fund Sponsor Database (Gross)

**Cumulative and Quarterly Relative Returns vs Total Fund Reference Index** 



Risk Adjusted Return Measures vs Total Fund Reference Index Rankings Against Callan Public Fund Sponsor Database (Gross) Ten Years Ended March 31, 2022



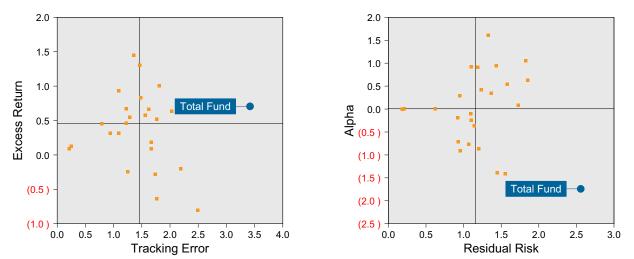


# **Total Fund Total Fund vs Target Risk Analysis**

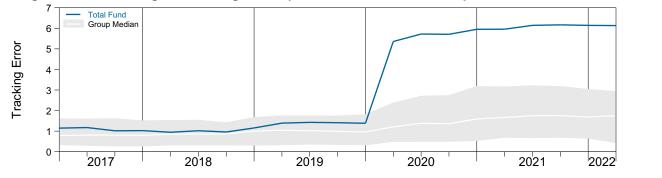
#### **Risk Analysis**

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

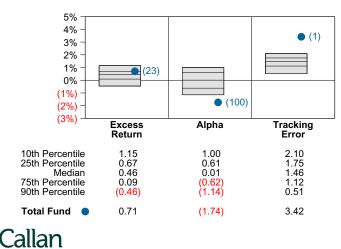
#### **Risk Analysis vs Callan Public Fund Sponsor Database** Ten Years Ended March 31, 2022

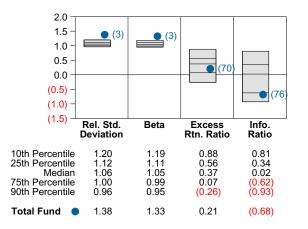






#### **Risk Statistics Rankings vs Targets Rankings Against Callan Public Fund Sponsor Database** Ten Years Ended March 31, 2022





The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended March 31, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

#### Returns and Rankings for Periods Ended March 31, 2022

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	1
Total Domestic Equity Russell 3000 Index Pub Pln- Dom Equity	(4.58%) (5.28%) (5.14%)	<b>28</b> 59	<b>10.04%</b> 11.92% 11.11%	<b>69</b> 35	<b>17.19%</b> 18.24% 17.25%	<b>54</b> 18	<b>14.69%</b> 15.40% 14.60%	<b>46</b> 19	8.46%	(7/98) (7/98)
BlackRock Russell 1000 Value Russell 1000 Value Index Callan Large Cap Value	(0.76%) (0.74%) 0.45%	79 79	11.64% 11.67% 14.04%	83 83	13.26% 13.02% 14.59%	72 78	10.49% 10.29% 11.56%	72 82	10.47% 9.89% -	(3/17) (3/17)
DFA Large Cap Value Russell 1000 Value Index Callan Large Cap Value	0.32% (0.74%) 0.45%	52 79	11.20% 11.67% 14.04%	85 83	12.79% 13.02% 14.59%	81 78	- 10.29% 11.56%	82	9.55% 10.43% -	(11/17) (11/17)
Northern Trust Global S&P 500 Index Callan Large Cap Core	(4.59%) (4.60%) (4.59%)	53 53	15.64% 15.65% 13.91%	30 30	18.93% 18.92% 18.61%	47 48	16.02% 15.99% 15.70%	34 34	11.12% 11.07% -	(8/88) (8/88)
Polen Capital Management S&P 500 Index Callan Large Cap Growth	(13.10%) (4.60%) (10.01%)	81 1	6.57% 15.65% 9.25%	65 11	20.23% 18.92% 20.04%	45 71	21.02% 15.99% 19.42%	17 93	18.06% 15.37% -	(7/12) (7/12)
Earnest Partners LLC Russell MidCap Index Callan Mid Capitalization	(5.50%) (5.68%) (4.99%)	52 53	8.70% 6.92% 7.26%	42 54	18.64% 14.89% 15.83%	12 65	16.23% 12.62% 12.74%	21 50	12.16% 10.55% -	(5/05) (5/05)
DFA Small Cap Value Russell 2000 Value Index Callan Small Cap Value	0.99% (2.40%) (2.25%)	9 54	11.97% 3.32% 7.67%	17 79	16.38% 12.73% 13.92%	26 71	10.27% 8.57% 9.41%	34 71	12.12% 9.68% -	(11/96) (11/96)
CastleArk Management Russell 2000 Growth Index Callan Small Cap Growth	(14.66%) (12.63%) (12.62%)	74 50	(9.93%) (14.33%) (7.81%)	63 79	13.10% 9.88% 15.16%	72 94	15.76% 10.33% 16.44%	54 96	12.78% 10.24% -	(9/13) (9/13)
<b>Total Global Equity</b> MSCI World Callan Global Equity	<b>(6.12%)</b> (5.15%) (6.30%)	<b>49</b> 36	<b>6.89%</b> 10.12% 5.95%	<b>41</b> 14	<b>15.17%</b> 14.98% 14.18%	<b>35</b> 36	<b>14.03%</b> 12.42% 12.38%	<b>33</b> 50	<b>10.21%</b> 10.19% -	(4/10) (4/10)
BlackRock Global Alpha Tilts MSCI ACWI Gross Callan Global Equity	(5.22%) (5.26%) (6.30%)	38 39	7.09% 7.73% 5.95%	38 31	13.80% 14.30% 14.18%	55 48	12.25% 12.20% 12.38%	53 54	14.02% 13.93% -	(3/16) (3/16)
MFS Investment Management MSCI ACWI Gross Callan Global Equity	(7.42%) (5.26%) (6.30%)	56 39	6.67% 7.73% 5.95%	43 31	17.29% 14.30% 14.18%	14 48	16.68% 12.20% 12.38%	9 54	13.81% 11.14% -	(12/12) (12/12)
<b>Total International Equity</b> MSCI EAFE Pub Pln- Intl Equity	<b>(6.33%)</b> (5.91%) (6.98%)	<b>38</b> 30	<b>0.28%</b> 1.16% (2.08%)	<b>18</b> 14	<b>9.29%</b> 7.78% 8.94%	<b>35</b> 76	<b>7.19%</b> 6.72% 7.77%	<b>67</b> 80	<b>7.14%</b> 4.79% -	(5/96) (5/96)
AQR Emerging Markets MSCI EM Gross Callan Emerging Broad	(3.48%) (6.92%) (8.86%)	15 35	(7.47%) (11.08%) (13.32%)	25 42	8.20% 5.31% 5.68%	18 59	6.49% 6.36% 6.38%	49 51	8.29% 7.56% -	(8/16) (8/16)
Brandes Investment Partners MSCI EAFE Callan NonUS Eq	(2.64%) (5.91%) (6.66%)	15 44	2.16% 1.16% (1.00%)	24 34	5.95% 7.78% 8.93%	89 66	5.09% 6.72% 7.72%	88 66	7.64% 4.87% -	(2/98) (2/98)
William Blair & Company MSCI ACWIxUS Gross Callan NonUS Eq	(14.72%) (5.33%) (6.66%)	94 35	(2.83%) (1.04%) (1.00%)	67 50	13.61% 8.01% 8.93%	5 63	11.23% 7.26% 7.72%	7 55	8.37% 6.96% -	(12/03) (12/03)
DFA International Small Cap Blended Benchmark Callan Intl Small Cap	(2.57%) (8.53%) (10.40%)	9 37	4.81% (3.63%) (3.24%)	7 51	8.83% 8.51% 8.77%	49 57	4.99% 7.42% 6.91%	88 39	5.09% 4.22% -	(5/06) (5/06)

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended March 31, 2022. 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.

Return	is and Ranking	gs for	Periods E	nded	March 31	, 2022				
	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inceptio	n
Total Fixed Income Blmbg Aggregate Pub Pln- Dom Fixed	<b>(0.31%)</b> (5.93%) (4.98%)	<b>1</b> 80	<b>2.03%</b> (4.15%) (3.33%)	<b>1</b> 94	<b>1.47%</b> 1.69% 2.36%	<b>90</b> 83	<b>2.41%</b> 2.14% 2.76%	<b>64</b> 78	<b>6.95%</b> 5.82%	(12/87) (12/87)
BlackRock US Govt Bond Blmbg Aggregate Callan Core Bond Fl	(5.42%) (5.93%) (5.81%)	7 69	(4.15%) (3.79%)	82	- 1.69% 2.33%	96	- 2.14% 2.70%	95	-	
Reams Asset Management Blmbg Aggregate Callan Core Plus Fl	(5.49%) (5.93%) (5.83%)	30 58	(3.21%) (4.15%) (3.29%)	43 89	4.92% 1.69% 2.83%	2 98	4.52% 2.14% 3.11%	2 99	5.44% 4.17% -	(1/01) (1/01)
Loomis, Sayles & Company, L.P. Blmbg Aggregate Callan Core Plus Fl	(5.70%) (5.93%) (5.83%)	35 58	(2.89%) (4.15%) (3.29%)	18 89	3.75% 1.69% 2.83%	10 98	4.00% 2.14% 3.11%	7 99	8.51% 5.82% -	(12/87) (12/87)
Total Private Equity Russell 3000 (1 Qtr in Arrears) + 3% Abbott Capital Management 2010 Abbott Capital Management 2011 Abbott Capital Management 2012 Abbott Capital Management 2013 Abbott Capital Management 2015 Abbott Capital Management 2016 Abbott Capital Management 2016 Abbott Capital Management 2018 Abbott Capital Management 2019 Abbott Capital Management 2020 Abbott Capital Management 2020 Abbott Capital Management 2020 Mesirow VI Mesirow VI Mesirow VII Mesirow VII NB Secondary Opp Fund III NB Secondary Opp Fund IV Private Advisors VII Private Advisors VII Private Advisors VIII Private Advisors VIII Private Advisors VIII Private Advisors VIII Private Advisors VIII	$(0.05\%) \\ 9.85\% \\ 0.00\% \\ 0.00\% \\ 0.00\% \\ 0.00\% \\ 0.00\% \\ 0.00\% \\ (0.09\%) \\ (0.14\%) \\ 0.00\% \\ (0.28\%) \\ 0.00\% \\ (0.28\%) \\ 0.00\% \\ (1.28\%) \\ 0.00\% \\ (1.29\%) \\ 0.03\% \\ (0.00\%) \\ 0.00\% \\ (1.29\%) \\ 0.03\% \\ (0.00\%) \\ 0.00\% \\ 0.25\% \\ (0.00\%) \\ 0.25\% \\ (0.00\%) \\ 0.00\% \\ 0.25\% \\ (0.00\%) \\ 0.00\% \\ 0.25\% \\ (0.00\%) \\ 0.00\% \\ (0.25\%) \\ (0.00\%) \\ (0.00\%) \\ (0.25\%) \\ (0.00\%) \\ (0.00\%) \\ (0.25\%) \\ (0.00\%) \\ (0.00\%) \\ (0.25\%) \\ (0.00\%) \\ (0.00\%) \\ (0.25\%) \\ (0.00\%) \\ (0.00\%) \\ (0.25\%) \\ (0.00\%) \\ (0.00\%) \\ (0.25\%) \\ (0.00\%) \\ (0.00\%) \\ (0.00\%) \\ (0.25\%) \\ (0.00\%) $		$\begin{array}{c} 67.78\%\\ 28.69\%\\ 65.55\%\\ 76.29\%\\ 72.85\%\\ 70.21\%\\ 75.52\%\\ 75.81\%\\ 70.89\%\\ 47.29\%\\ 57.98\%\\ 65.36\%\\ 11.05\%\\ 11.05\%\\ 11.05\%\\ 11.05\%\\ 10.14\%\\ 28.46\%\\ 49.17\%\\ 83.78\%\\ 60.24\%\\ 49.17\%\\ 83.78\%\\ 52.55\%\\ 47.25\%\\ 37.43\%\end{array}$		33.71% 29.11% 33.89% 39.65% 38.03% 38.43% 38.53% 30.93% 24.84% - - - - - - - - - - - - - - - - - - -		27.78% 21.21% 29.59% 32.49% 31.01% 31.56% 29.90% 23.43% 19.63% - - - 29.23% 33.30% - - - 29.23% 33.30% - - - - - - - - - - - - -		14.87% 3.37% 7.70% 15.44% 16.57% 16.05% 17.13% 15.60% 17.13% 49.53% 9.40% 18.45% 0.40% 17.97% 4.07% (2.51%) 12.86% 25.29% 15.28% 14.43% 18.43% 27.76%	(6/10) (6/10) (7/12) (5/13) (4/15) (3/16) (7/18) (1/20) (1/21) (2/21) (6/17) (9/20) (12/13) (6/17) (4/17) (4/15) (1/17) (4/15) (1/17)
Absolute Return UBS A & Q	<b>18.04%</b> 1.46%	57	<b>25.58%</b> 7.23%	44	<b>6.17%</b> 9.70%	15	<b>5.68%</b> 7.30%	15	<b>5.58%</b> 6.03%	(6/14) (12/14)
1-month LIBOR + 4% Callan Abs Rtn Hedge FoF	1.40% 1.05% 1.49%	63	4.14% 6.51%	61	4.76% 5.96%	79	5.18% 4.42%	41	4.92%	(12/14) (12/14)
Real Assets	5.99%		20.21%		11.70%		8.35%		8.36%	(1/16)
Principal DRA Principal Blended Benchmark (1) Callan Alterntive Inv DB	5.99% 6.84% 5.76%	49 49	20.21% 19.04% 14.79%	48 49	11.70% 10.11% 7.92%	36 43	8.35% 7.73% 6.60%	41 42	8.36% 7.66% -	(1/16) (1/16)
Total Real Estate	7.57%		29.59%		12.13%		10.70%		7.14%	(7/86)
Real Estate Blended Benchmark (2) Callan Tot Real Est DB	7.57% 7.38% 4.91%	4 6	29.59% 21.88% 21.34%	14 48	12.13% 8.90% 9.43%	19 61	10.70% 8.18% 9.18%	15 67	7.14% - -	(7/86)
<b>Total Fund</b> Total Fund Reference Index* Callan Public Fund Spr DB	<b>(0.38%)</b> (1.84%) (4.20%)	<b>1</b> 5	<b>14.48%</b> 7.47% 5.46%	<b>2</b> 23	<b>11.84%</b> 11.04% 10.55%	<b>21</b> 38	<b>10.32%</b> 9.23% 9.22%	<b>17</b> 50	9.67% - -	(1/79)

#### Returns and Rankings for Periods Ended March 31, 2022

\* 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 Blended Benchmark.

(1) Current Principal Blended Benchmark = 35% Bloomberg US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Natural Resources Idx and 10% 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.



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.

	12/2021-									
	3/2022		2021		2020		2019		2018	
Total Domestic Equity Russell 3000 Index Pub Pln- Dom Equity	<b>(4.58%)</b> (5.28%) (5.14%)	<b>28</b> 59	<b>28.12%</b> 25.66% 25.75%	<b>13</b> 53	<b>16.35%</b> 20.89% 18.62%	<b>76</b> 25	<b>29.24%</b> 31.02% 30.26%	<b>75</b> 29	<b>(5.80%)</b> (5.24%) (5.84%)	<b>48</b> 33
BlackRock Russell 1000 Value Russell 1000 Value Index Callan Large Cap Value	(0.76%) (0.74%) 0.45%	79 79	25.18% 25.16% 28.39%	79 79	3.28% 2.80% 3.04%	46 52	26.79% 26.54% 26.52%	46 50	(8.12%) (8.27%) (8.70%)	43 45
DFA Large Cap Value Russell 1000 Value Index Callan Large Cap Value	0.32% (0.74%) 0.45%	52 79	27.52% 25.16% 28.39%	65 79	<mark>(1.56%)</mark> 2.80% 3.04%	90 52	26.71% 26.54% 26.52%	47 50	(12.40%) (8.27%) (8.70%)	84 45
Northern Trust Global S&P 500 Index Callan Large Cap Core	(4.59%) (4.60%) (4.59%)	53 53	28.69% 28.71% 28.98%	53 53	18.42% 18.40% 19.19%	53 53	31.54% 31.49% 30.50%	39 39	(4.34%) (4.38%) (5.33%)	33 33
Polen Capital Management S&P 500 Index Callan Large Cap Growth	(13.10%) (4.60%) (10.01%)	81 1	24.84% 28.71% 24.26%	43 20	35.13% 18.40% 35.55%	55 98	38.85% 31.49% 34.55%	11 76	9.14% (4.38%) 0.51%	4 91
Earnest Partners LLC Russell MidCap Index Callan Mid Capitalization	(5.50%) (5.68%) (4.99%)	52 53	26.09% 22.58% 25.38%	48 58	21.61% 17.10% 16.17%	41 48	38.38% 30.54% 31.00%	12 52	(9.80%) (9.06%) (10.60%)	45 41
DFA Small Cap Value Russell 2000 Value Index Callan Small Cap Value	0.99% (2.40%) (2.25%)	9 54	40.61% 28.27% 31.82%	16 64	3.85% 4.63% 2.88%	45 37	18.79% 22.39% 24.31%	89 64	(14.84%) (12.86%) (14.79%)	53 23
CastleArk Management Russell 2000 Growth Index Callan Small Cap Growth	(14.66%) (12.63%) (12.62%)	74 50	12.30% 2.83% 10.73%	42 80	45.10% 34.63% 44.48%	46 73	23.28% 28.48% 30.25%	86 54	3.29% (9.31%) (2.91%)	15 84
<b>Total Global Equity</b> MSCI World Callan Global Equity	<b>(6.12%)</b> (5.15%) (6.30%)	<b>49</b> 36	<b>19.03%</b> 21.82% 19.47%	<b>54</b> 28	<b>18.78%</b> 15.90% 17.13%	<b>43</b> 55	<b>31.05%</b> 27.67% 27.49%	<b>27</b> 49	<b>(8.18%)</b> (8.71%) (9.52%)	<b>40</b> 44
BlackRock Global Alpha Tilts MSCI ACWI Gross Callan Global Equity	(5.22%) (5.26%) (6.30%)	38 39	18.73% 19.04% 19.47%	57 54	16.53% 16.82% 17.13%	52 51	26.86% 27.30% 27.49%	53 51	(11.20%) (8.93%) (9.52%)	67 46
MFS Investment Management MSCI ACWI Gross Callan Global Equity	(7.42%) (5.26%) (6.30%)	56 39	19.56% 19.04% 19.47%	49 54	22.42% 16.82% 17.13%	32 51	37.31% 27.30% 27.49%	4 51	(3.75%) (8.93%) (9.52%)	11 46
<b>Total International Equity</b> MSCI EAFE Pub Pln- Intl Equity	<b>(6.33%)</b> (5.91%) (6.98%)	<b>38</b> 30	<b>13.08%</b> 11.26% 8.89%	<b>12</b> 22	<b>10.84%</b> 7.82% 13.20%	<b>73</b> 90	<b>21.68%</b> 22.01% 22.93%	<b>74</b> 64	<b>(15.19%)</b> (13.79%) (14.03%)	<b>69</b> 42
AQR Emerging Markets MSCI EM Gross Callan Emerging Broad	(3.48%) (6.92%) (8.86%)	15 35	1.23% (2.22%) (0.75%)	36 55	18.26% 18.69% 18.17%	49 44	20.54% 18.90% 22.12%	63 71	(18.31%) (14.24%) (15.34%)	86 28
Brandes Investment Partners MSCI EAFE Callan NonUS Eq	(2.64%) (5.91%) (6.66%)	15 44	14.42% 11.26% 11.45%	18 52	<mark>(1.30%)</mark> 7.82% 11.48%	96 66	15.31% 22.01% 23.78%	98 66	(8.79%) (13.79%) (15.13%)	6 36
William Blair & Company MSCI ACWIxUS Gross Callan NonUS Eq	(14.72%) (5.33%) (6.66%)	94 35	13.27% 8.29% 11.45%	30 71	31.44% 11.13% 11.48%	6 51	31.58% 22.13% 23.78%	9 64	(16.86%) (13.77%) (15.13%)	73 35
DFA International Small Cap Blended Benchmark Callan Intl Small Cap	(2.57%) (8.53%) (10.40%)	9 37	16.47% 10.10% 12.78%	14 72	1.47% 12.34% 11.08%	89 45	21.62% 24.96% 24.96%	81 50	(23.31%) (17.89%) (19.67%)	91 30

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.

	12/2021-									
	3/2022		2021		2020		2019		2018	
Total Fixed Income Blmbg Aggregate Pub Pln- Dom Fixed	<b>(0.31%)</b> (5.93%) (4.98%)	<b>1</b> 80	<b>(0.36%)</b> (1.54%) (0.70%)	<b>41</b> 90	<mark>(1.82%)</mark> 7.51% 8.37%	<b>98</b> 65	<b>11.82%</b> 8.72% 8.97%	<b>6</b> 58	<mark>(0.33%)</mark> 0.01% 0.11%	<b>72</b> 57
BlackRock US Govt Bond Blmbg Aggregate Callan Core Bond Fl	(5.42%) (5.93%) (5.81%)	7 69	(1.54%) (1.04%)	88	- 7.51% 8.70%	94	- 8.72% 9.17%	82	- 0.01% 0.11%	62
Reams Asset Management Blmbg Aggregate Callan Core Plus Fl	(5.49%) (5.93%) (5.83%)	30 58	(1.23%) (1.54%) (0.26%)	91 97	17.28% 7.51% 9.25%	2 91	8.82% 8.72% 10.03%	92 93	1.91% 0.01% (0.24%)	1 30
Loomis, Sayles & Company, L.P. Blmbg Aggregate Callan Core Plus Fl	(5.70%) (5.93%) (5.83%)	35 58	2.13% (1.54%) (0.26%)	5 97	7.14% 7.51% 9.25%	92 91	14.42% 8.72% 10.03%	1 93	(2.11%) 0.01% (0.24%)	98 30
Total Private Equity Russell 3000 (1 Qtr in Arrears) + 3% Abbott Capital Management 2010 Abbott Capital Management 2011 Abbott Capital Management 2012 Abbott Capital Management 2013 Abbott Capital Management 2014 Abbott Capital Management 2016 Abbott Capital Management 2018 Abbott Capital Management 2019 Abbott Capital Management 2020 Abbott Capital Management 2020 Abbott Capital Management 2020 Abbott Capital Management 2020 Abbott Capital Management 2021 Mesirow VI Mesirow VII Mesirow VIII NB Secondary Opp Fund III NB Secondary Opp Fund IV Private Advisors VII Private Advisors VII Private Advisors VIII Private Advisors IX	(0.05%) 9.85% 0.00% 0.00% 0.00% 0.00% (0.9%) (0.14%) 0.00% (0.28%) 0.00% (0.22%) 0.00% (1.44%) (1.29%) 0.03% (0.00%) 0.03% (0.00%) 0.00%		67.66% 34.93% 65.55% 76.29% 72.85% 70.21% 75.52% 75.81% 71.04% 47.06% 57.22% 65.36% 88.26% 60.27% 10.14% 30.34% 48.73% 83.78% 52.55% 47.25% 37.25%		<b>22.14%</b> 18.77% 24.43% 29.13% 29.04% 28.65% 26.51% 16.62% 20.02% 22.73% 10.04% 		16.63% 6.19% 16.52% 17.91% 21.13% 19.74% 19.74% 19.74% 9.08% 7.26% - - - - - - - - - - - - - - - - - - -		<b>21.48%</b> 20.60% 26.90% 24.39% 25.17% 22.58% 13.57% 9.43% - - - - - - - - - - - - - - - - - - -	
Absolute Return	18.04%		8.87%		(14.04%)		12.79%		1.61%	
UBS A & Q 1-month LIBOR + 4% Callan Abs Rtn Hedge FoF	1.46% 1.05% 1.49%	57 63	8.08% 4.10% 6.85%	47 75	12.18% 4.49% 4.03%	11 45	9.53% 6.26% 4.71%	4 31	2.65% 6.07% 0.58%	12 2
Real Assets	5.99%		18.26%		4.69%		15.39%		(7.47%)	
Principal DRA Principal Blended Benchmark (1) Callan Alterntive Inv DB	5.99% 6.84% 5.76%	49 49	18.26% 15.87% 13.57%	42 45	4.69% 2.08% (0.39%)	25 34	15.39% 14.86% 7.90%	15 17	(7.47%) (7.27%) (7.42%)	51 49
Total Real Estate	7.57%		23.85%		0.76%		6.21%		9.18%	
Real Estate Blended Benchmark (2) Callan Tot Real Est DB	7.57% 7.38% 4.91%	4 6	23.85% 14.83% 18.95%	31 59	0.76% 0.89% 1.25%	54 52	6.21% 5.26% 7.78%	65 72	9.18% 7.89% 7.95%	40 51
<b>Total Fund</b> Total Fund Reference Index* Callan Public Fund Spr DB	<b>(0.38%)</b> (1.84%) (4.20%)	<b>1</b> 5	<b>19.05%</b> 12.88% 13.88%	<b>8</b> 66	<b>6.84%</b> 12.29% 12.08%	<b>96</b> 44	<b>18.66%</b> 16.52% 18.01%	<b>38</b> 78	<b>(2.74%)</b> (3.29%) (3.83%)	<b>24</b> 37

\* 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.
(1) Current Principal Blended Benchmark = 35% Bloomberg US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Infrastructure Idx, 20% S&P Global Natural Resources Idx and 10% 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 NEL ODCE (1 Otr Arrears) through 12/31/13 and

NFI-ODCE (1 Qtr Arrears) thereafter.



## **Investment Manager Returns**

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

#### **Returns for Periods Ended March 31, 2022**

			JII 31, 2022		
	Last	Last	Last 3	Last 5	Last 10
	Quarter	Year	Years	Years	Years
t of Fee Returns Total Domestic Equity Net Russell 3000 Index BlackRock Russell 1000 Value Russell 1000 Value Index DFA Large Cap Value Russell 1000 Value Index	(4.65%) (5.28%) (0.76%) (0.74%) 0.27% (0.74%)	9.81% 11.92% 11.63% 11.67% 11.05% 11.67%	16.94% 18.24% 13.24% 13.02% 12.57% 13.02%	14.40% 15.40% 10.47% 10.29% 10.29%	13.47% 14.28% 11.70% 11.70%
Northern Trust Global S&P 500 Index Polen Capital Management S&P 500 Index Earnest Partners LLC Russell MidCap Index DFA Small Cap Value Russell 2000 Value Index CastleArk Management	(4.60%) (4.60%) (13.19%) (4.60%) (5.62%) (5.68%) 0.87% (2.40%) (14.80%)	15.63% 15.65% 6.15% 15.65% 8.27% 6.92% 11.69% 3.32% (10.53%)	18.92% 18.92% 19.75% 18.92% 18.06% 14.89% 16.22% 12.73% 12.34%	16.00% 15.99% 20.49% 15.99% 15.65% 12.62% 9.94% 8.57% 14.99%	14.66% 14.64% 
Russell 2000 Growth Index	(14.60%)	(14.33%)	9.88%	10.33%	- 11.21%
Total Global Equity Net MSCI World BlackRock Global Alpha Tilts MFS Investment Management MSCI ACWI Gross	(6.17%) (5.15%) (5.23%) (7.52%) (5.26%)	6.68% 10.12% 7.03% 6.22% 7.73%	14.86% 14.98% 13.62% 16.79% 14.30%	13.69% 12.42% 12.12% 16.19% 12.20%	10.78% 10.88% - 10.57%
Total International Equity Net MSCI EAFE Index AQR Emerging Markets MSCI EM Gross Brandes Investment Partners MSCI EAFE Index William Blair & Company MSCI ACWI ex-US Index	(6.43%) (5.91%) (3.66%) (6.92%) (2.73%) (5.91%) (14.82%) (5.33%)	(0.17%) 1.16% (8.16%) (11.08%) 1.78% 1.16% (3.26%) (1.04%)	8.77% 7.78% 7.39% 5.31% 5.54% 7.78% 13.10% 8.01%	6.68% 6.72% 5.69% 6.36% 4.68% 6.72% 10.75% 7.26%	6.87% 6.27% 
DFA International Small Cap Blended Benchmark Total Fixed Income Net	(2.67%) (8.53%) (0.33%)	4.31% (3.63%) 1.93%	8.19% 8.51% 1.37%	4.62% 7.42% 2.28%	7.17% 8.30% 2.64%
Blmbg Aggregate	(5.93%)	(4.15%)	1.69%	2.14%	2.24%
BlackRock US Govt Bond Reams Asset Management Loomis, Sayles & Company, L.P. Blmbg Aggregate	(5.42%) (5.52%) (5.73%) (5.93%)	(3.35%) (3.03%) (4.15%)	4.78% 3.60% 1.69%	4.37% 3.85% 2.14%	3.48% 4.67% 2.24%
Total Private Equity Russell 3000 (1 Qtr in Arrears) + 3% Abbott Capital Management 2010 Abbott Capital Management 2011 Abbott Capital Management 2012 Abbott Capital Management 2013 Abbott Capital Management 2015 Abbott Capital Management 2016 Abbott Capital Management 2016 Abbott Capital Management 2018 Abbott Capital Management 2019 Abbott Capital Management 2020 Abbott Capital Management 2021 Mesirow V Mesirow VII Mesirow VIII NB Secondary Opp Fund III NB Secondary Opp Fund IV Private Advisors VII Private Advisors VII Private Advisors VII Private Advisors IX	$(0.05\%) \\ 9.85\% \\ 0.00\% \\ 0.00\% \\ 0.00\% \\ 0.00\% \\ 0.00\% \\ (0.09\%) \\ (0.14\%) \\ 0.00\% \\ (0.28\%) \\ 0.00\% \\ (0.28\%) \\ 0.00\% \\ (0.22\%) \\ 0.00\% \\ (1.44\%) \\ (1.29\%) \\ 0.00\% \\ (1.44\%) \\ (1.29\%) \\ 0.03\% \\ (0.00\%) \\ 0.03\% \\ (0.00\%) \\ 0.00\% \\ 0.25\% \\ 10.04\% \\ 0.00\% \\ 0.25\% \\ 10.04\% \\ 0.00\% \\ 0.25\% \\ 10.04\% \\ 0.00\% \\ 0.00\% \\ 0.25\% \\ 10.04\% \\ 0.00\% \\ $	67.78% 28.69% 65.55% 76.29% 72.85% 70.21% 75.52% 75.81% 70.89% 47.29% 57.98% 65.36% 11.05% 79.27% 88.78% 60.24% 10.14% 28.46% 49.17% 83.78% 52.55% 47.25% 37.43%	33.71% 29.11% 33.89% 39.65% 38.03% 38.43% 38.53% 33.15% 30.93% 24.84% - - - - - - - - - - - - - - - - - - -	27.78% 21.21% 29.59% 31.01% 31.56% 29.90% 23.43% 19.63% - - - 29.23% 33.30% - - 16.42% 25.29% 27.09% 15.21%	18.38% 19.45% 18.38% 17.87% - - - - 21.65% - - - - - - - - - - - - - - - - - - -
Absolute Return UBS A & Q 1-month LIBOR + 4%	18.04% 1.46% 1.05%	25.52% 7.23% 4.14%	5.99% 9.70% 4.76%	5.57% 7.30% 5.18%	- 4.73%
Real Assets Principal DRA Principal Blended Benchmark (1)	5.82% 5.82% 6.84%	19.45% 19.45% 19.04%	10.99% 10.99% 10.11%	7.94% 7.94% 7.73%	-
Total Real Estate Real Estate	7.48% 7.48%	29.17% 29.17% 21.88%	11.75% 11.75% 8.90%	10.38% 10.38% 8.18%	11.30% 11.30% 9.64%
Blended Benchmark (2)	7.38%	21.00%	0.90%	0.10%	9.04 /0

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

## **Investment Manager Returns**

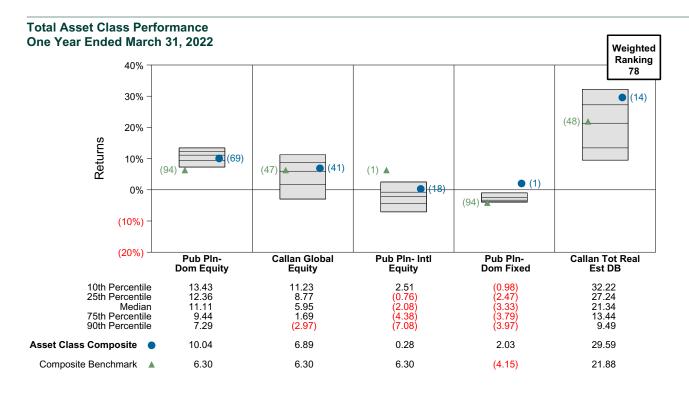
The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all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

	12/2021- 3/2022	2021	2020	2019	2018
of Fee Returns					
Total Domestic Equity Net	(4.65%)	27.88%	16.09%	28.94%	(6.10%)
Russell 3000 Index	(5.28%)	25.66%	20.89%	31.02%	(5.24%)
BlackRock Russell 1000 Value Russell 1000 Value Index	(0.76%) (0.74%)	25.17% 25.16%	3.27% 2.80%	26.77% 26.54%	(8.13%) (8.27%)
DFA Large Cap Value	0.27%	27.35%	(1.78%)	26.34%	(12.60%)
Russell 1000 Value Index	(0.74%)	25.16%	2.80%	26.54%	(8.27%)
Northern Trust Global	(4.60%)	28.68%	18.41%	31.53%	(4.37%)
S&P 500 Index	(4.60%)	28.71%	18.40%	31.49%	(4.38%)
Polen Capital Management	(13.19%)	24.34%	34.59%	38.27%	8.60%
S&P 500 Index	(4.60%)	28.71%	18.40%	31.49%	(4.38%)
Earnest Partners LLC	(5.62%)	25.59%	20.96%	37.65%	(10.29%)
Russell MidCap Index	(5.68%)	22.58%	17.10%	30.54%	(9.06%)
DFA Small Cap Value	0.87%	40.38%	3.74%	18.58%	(15.30%)
Russell 2000 Value Index	(2.40%)	28.27%	4.63% 44.12%	22.39%	(12.86%)
CastleArk Management Russell 2000 Growth Index	(14.80%) (12.63%)	11.55% 2.83%	34.63%	22.47% 28.48%	2.60% (9.31%)
Total Global Equity Net	(6.17%)	18.80%	18.48%	30.55%	(8.51%)
MSCI World	(5.15%)	21.82%	15.90%	27.67%	(8.71%)
BlackRock Global Alpha Tilts	(5.23%)	18.67%	16.39%	26.48%	(11.24%)
MFS Investment Management	(7.52%)	19.05%	21.88%	36.74%	`(4.16%)
MSCI ACWI Gross	(5.26%)	19.04%	16.82%	27.30%	(8.93%)
Total International Equity Net	(6.43%)	12.57%	10.28%	21.08%	(15.60%)
MSCI EAFE Index	(5.91%)	11.26%	7.82%	22.01%	(13.79%)
AQR Emerging Markets	(3.66%)	0.47%	17.38%	19.64%	(18.93%)
MSCI EM Gross	(6.92%)	(2.22%)	18.69%	18.90%	(14.24%)
Brandes Investment Partners MSCI EAFE Index	(2.73%) (5.91%)	14.00% 11.26%	(1.69%) 7.82%	14.86% 22.01%	(9.17%)
William Blair & Company	(14.82%)	12.77%	30.84%	31.01%	(13.79%) (17.20%)
MSCI ACWI ex-US Index	(5.33%)	8.29%	11.13%	22.13%	(17.20%)
DFA International Small Cap	(2.67%)	15.89%	0.81%	21.00%	(23.31%)
Blended Benchmark	(8.53%)	10.10%	12.34%	24.96%	(17.89%)
Total Fixed Income Net	(0.33%)	(0.45%)	(1.91%)	11.68%	(0.47%)
Blmbg Aggregate	(5.93%)	(1.54%)	7.51%	8.72%	0.01%
BlackRock US Govt Bond	(5.42%)	· - · ·	-	-	-
Reams Asset Management	(5.52%)	(1.36%)	17.11%	8.65%	1.76%
Loomis, Sayles & Company, L.P.	(5.73%)	1.98%	6.99%	14.25%	(2.24%)
Blmbg Aggregate	(5.93%)	(1.54%)	7.51%	8.72%	0.01%
Total Private Equity	(0.05%)	67.66%	22.14%	16.63%	21.48%
Russell 3000 (1 Qtr in Arrears) + 3%	9.85%	34.93%	18.77%	6.19%	20.60%
Abbott Capital Management 2010	0.00%	65.55%	24.43%	16.52%	26.90%
Abbott Capital Management 2011	0.00%	76.29%	29.13%	19.64%	25.70%
Abbott Capital Management 2012	0.00%	72.85%	29.04%	17.91%	24.39%
Abbott Capital Management 2013	0.00%	70.21%	28.65%	21.13%	25.17%
Abbott Capital Management 2014 Abbott Capital Management 2015	0.00% 0.00%	75.52% 75.81%	26.51% 16.62%	19.74% 15.14%	22.58% 13.57%
Abbott Capital Management 2015	(0.09%)	71.04%	20.02%	9.08%	9.43%
Abbott Capital Management 2018	(0.14%)	47.06%	22.73%	7.26%	9.45%
Abbott Capital Management 2019	0.00%	57.22%	10.04%	-	-
Abbott Capital Management 2020	0.00%	65.36%	-	-	-
Abbott Capital Management 2021	(0.28%)	-	-	-	-
Mesirow V	0.00%	78.52%	21.39%	16.29%	18.01%
Mesirow IV	0.00%	88.26%	29.10%	22.73%	24.87%
Mesirow VII	(0.02%)	60.27%	16.43%	3.33%	(7.82%)
Mesirow VIII	0.00%	10.14%	-	-	-
NB Secondary Opp Fund III	(1.44%)	30.34%	4.23%	12.18%	16.65%
NB Secondary Opp Fund IV Private Advisors VI	(1.29%) 0.03%	48.73% 83.78%	14.80% 16.54%	14.76% 17.98%	68.26% 15.19%
Private Advisors VI Private Advisors VII	(0.00%)	83.78% 52.55%	3.97%	11.23%	19.02%
Private Advisors VIII	0.00%	47.25%	15.78%	(4.08%)	-
Private Advisors IX	0.25%	37.25%	-	-	-
Absolute Return	18.04%	8.77%	(14.21%)	12.52%	1.61%
UBS A & Q	1.46%	8.08%	12.18%	9.53%	2.65%
1-month LIBOR + 4%	1.05%	4.10%	4.49%	6.26%	6.07%
Real Assets	5.82%	17.51%	4.02%	14.84%	(7.47%)
Principal DRA	5.82%	17.51%	4.02%	14.84%	(7.47%)
Principal Blended Benchmark (1)	6.84%	15.87%	2.08%	14.86%	(7.27%)
Total Real Estate	7.48%	23.45%	0.39%	5.95%	8.94%
	7.48%	23.45%	0.39%	5.95%	8.94%
Real Estate	1,40 %				
Real Estate Blended Benchmark (2)	7.38%	14.83%	0.89%		7.89%
Real Estate Blended Benchmark (2) Total Fund Net				5.26%	

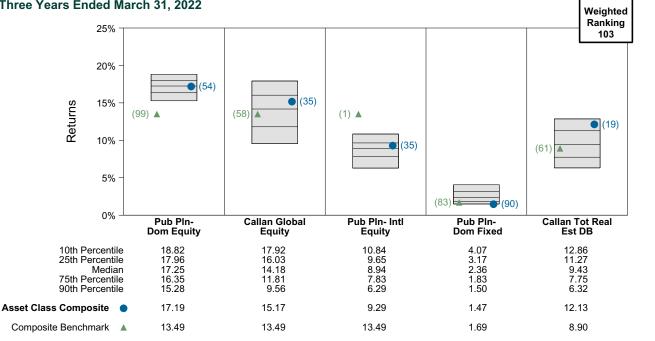
\*Net returns are simulated with the use of fee schedules through March 31, 2019. Actual fees paid are used thereafter.

# **Asset Class Rankings**

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.



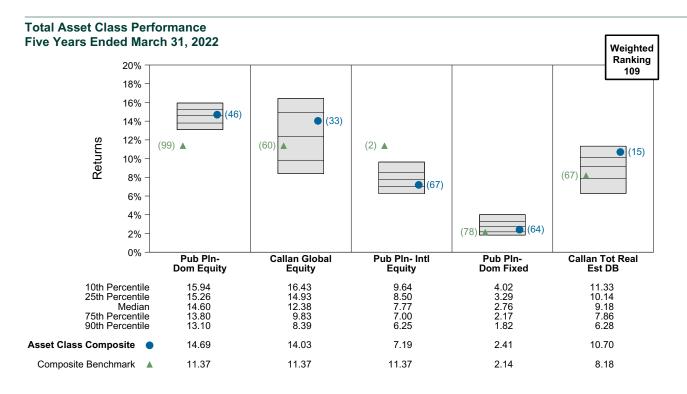


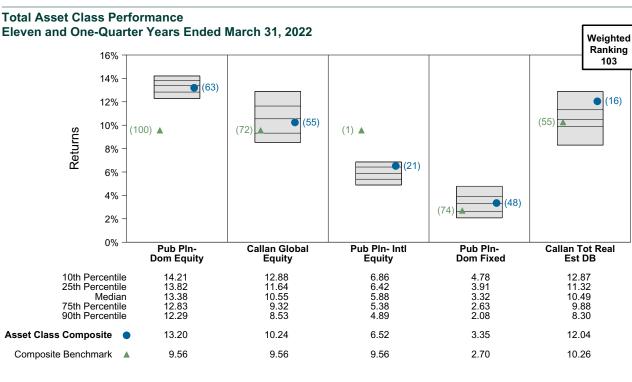


\* Current Quarter Target = 44.0% MSCI ACWI IMI, 23.0% Blmbg Aggregate, 10.0% Russell 3000 Index lagged 3 months+2.0%, 10.0% 3-month Treasury Bill+3.0%, 9.1% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.9% Principal Blended Benchmark.

# **Asset Class Rankings**

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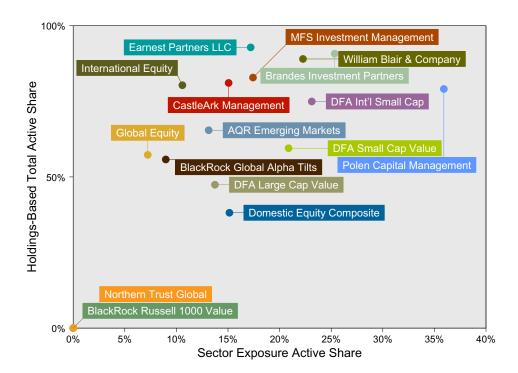
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# Active Share Structure Analysis For One Quarter Ended March 31, 2022

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

#### Active Share Analysis Ended March 31, 2022



	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
Domestic Equity Composite	Russell 3000	38.15%	1.04%	15.14%	1897	114.27
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	846	64.54
DFA Large Cap Value	Russell 1000 Value	47.40%	1.08%	13.73%	312	41.95
Northern Trust Global	S&P 500	0.06%	0.00%	0.02%	505	39.48
Polen Capital Management	S&P 500	79.08%	3.00%	35.91%	24	7.28
Earnest Partners LLC	Russell MidCap	92.83%	10.01%	17.20%	57	22.49
DFA Small Cap Value	Russell 2000 Value	59.49%	14.58%	20.87%	977	118.92
CastleArk Management	Russell 2000 Growth	81.08%	16.16%	15.06%	110	35.01
Global Equity	MSCI World	57.29%	8.18%	7.23%	857	55.84
BlackRock Global Alpha Tilts	MSCI ACWI Gross	55.77%	5.04%	8.97%	818	51.53
MFS Investment Management	MSCI ACWI Gross	82.86%	3.79%	17.42%	77	22.81
International Equity	MSCI EAFE	80.32%	28.18%	10.58%	2440	63.19
AQR Emerging Markets	MSCI EM Gross	65.44%	3.12%	13.13%	291	33.01
Brandes Investment Partners	MSCI EAFE	90.74%	15.58%	25.34%	61	19.49
William Blair & Company	MSCI ACWIxUS Gross	89.01%	20.24%	22.27%	264	44.61
DFA Int'l Small Cap MS	SCI World ex US Sm Cap	74.95%	9.16%	23.12%	1967	164.17



# Current Holdings Based Style Analysis Total Equity Composite As of March 31, 2022

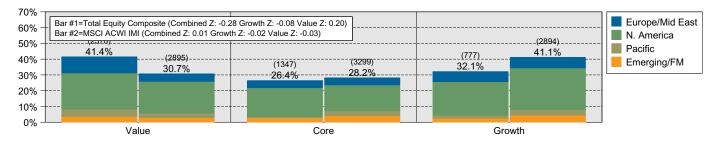
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are 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 Exposure Matrix** 

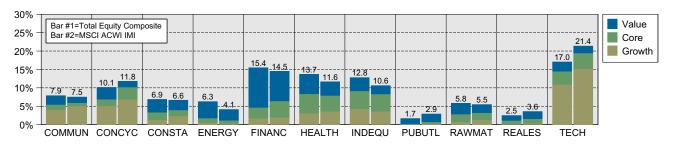


#### Style Map vs Callan Public Fund Spr DB Holdings as of March 31, 2022

#### Combined Z-Score Style Distribution Holdings as of March 31, 2022







# Callan

# Current Holdings Based Style Analysis Total Equity Composite As of March 31, 2022

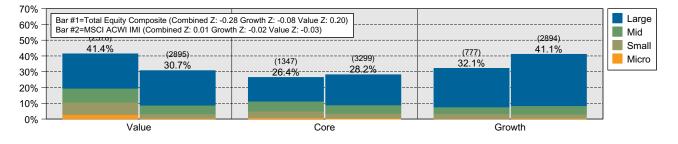
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**Style Exposure Matrix** 

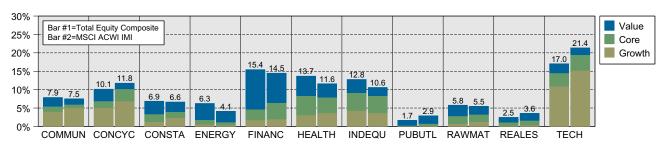


#### Style Map vs Callan Public Fund Spr DB Holdings as of March 31, 2022

#### Combined Z-Score Style Distribution Holdings as of March 31, 2022



### Sector Weights Distribution Holdings as of March 31, 2022



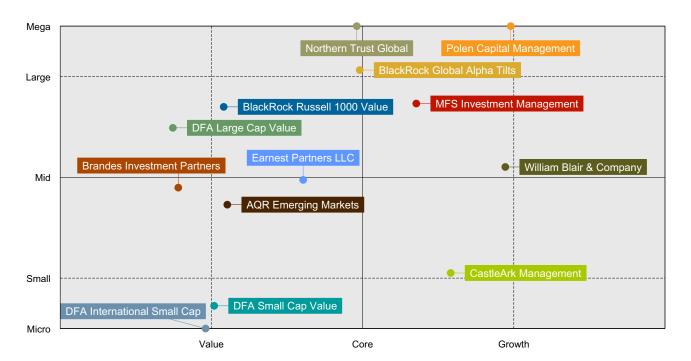
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# Global Holdings Based Style Analysis For One Quarter Ended March 31, 2022

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

#### Style Map

#### Holdings for One Quarter Ended March 31, 2022



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities D	Security Diversification
BlackRock Russell 1000 Value	e 6.19%	77.10	(0.81)	(0.35)	0.47	846	64.54
DFA Large Cap Value	6.17%	60.78	(1.12)	(0.30)	0.81	312	41.95
Northern Trust Global	12.76%	203.56	(0.02)	(0.02)	(0.00)	505	39.48
Polen Capital Management	5.94%	224.88	0.97	0.33	(0.64)	24	7.28
Earnest Partners LLC	4.51%	21.81	(0.34)	(0.12)	0.22	57	22.49
DFA Small Cap Value	7.61%	2.69	(0.87)	(0.18)	0.69	977	118.92
CastleArk Management	3.64%	4.66	0.59	0.10	(0.48)	110	35.01
MFS Investment Management	7.34%	79.69	0.36	(0.03)	(0.39)	77	22.81
BlackRock Global Alpha Tilts	11.10%	113.86	(0.00)	0.01	0.01	818	51.53
AQR Emerging Markets	3.50%	17.24	(0.79)	(0.12)	0.67	291	33.01
Brandes Investment Partners	14.01%	20.38	(1.09)	(0.30)	0.79	61	19.49
William Blair & Company	10.07%	30.34	0.94	0.27	(0.67)	264	44.61
DFA International Small Cap	7.14%	1.81	(0.92)	(0.20)	0.72	1967	164.17

Callan Research/Education



# Education

1st Quarter 2022

# **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

Alternatives Focus: Outlook for Hedge Funds | Joe McGuane analyzes hedge fund performance in 2021 and provides his outlook for the asset class in 2022.

**2022-2031 Capital Markets Assumptions** | A white paper detailing the process involved in creating our 2022-2031 Capital Markets Assumptions and the reasoning behind them. You can also view our interactive webpage and charticle featuring this year's assumptions.

**2022 Defined Contribution Trends Survey** | This survey provides extensive information for DC plan sponsors to use in improving and benchmarking their plans.

**Callan Periodic Table of Investment Returns & Collection** | The Periodic Table of Investment Returns depicts annual returns for key asset classes, ranked from best to worst performance for each calendar year. Expanding upon our Classic Periodic Table, the Collection offers additional versions focused on equity, fixed income, institutional investors, and alternatives such as real estate, private equity, and hedge funds. Other tables compare the performance of key indices to zero and to inflation.

#### **Blog Highlights**

**DOL Weighs in on Cryptocurrencies in DC Plans** | The U.S. Department of Labor issued a compliance assistance bulletin, which does not carry the force of law, regarding offering cryptocurrency investments in a defined contribution plan, with a number of stern warnings about the potential fiduciary challenges.

Hedge Funds and Ukraine: A Guide for Institutional Investors | This post provides an analysis of the performance of hedge funds through the end of February, categorized by strategy type, and how they have been grappling with the Ukraine crisis. Why It Was a Tough 4Q21 for Large Cap Growth Managers | With rising case counts stemming from the Omicron variant, and concerns about interest rates and inflation, volatility in the markets spiked in 4Q21. For large cap growth investment managers, pro-cyclical positioning generally hurt portfolios given those fears. More than 90% of large cap growth managers underperformed the benchmark for the quarter.

**Risky Business Update: Rising Inflation and Continued Uncertainty Challenge Investors** | Using our proprietary Capital Markets Assumptions, we found that investors in 2022 needed to take on over five times as much risk as they did 30 years ago to earn the same nominal return.

#### **Quarterly Periodicals**

**Private Equity Trends, 4Q21** | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 4Q21 | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse Flipbook, 4Q21 | 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, 4Q21** | Analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes

Hedge Fund Quarterly, 4Q21 | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

**<u>Real Assets Reporter, 4Q21</u>** | A summary of market activity for real assets and private real estate 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:

Research Café: How to Navigate Private Equity Fees and Terms (webinar) May 11, 2022 at 9:30am PT

June Regional Workshop June 7, 2022 – Atlanta June 9, 2022 – Portland

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

# **Education: By the Numbers**

**525**Attendees (on average) of the<br/>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 July 26-27, 2022 – San Francisco September 20-22 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. Our virtual session is held over three days with virtual modules of 2.5-3 hours, while the in-person session lasts one-and-a-half days. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. 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/



"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

**Callan** Institute

Disclosures

# Callan

# 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	Manager Name
abrdn (Aberdeen Standard Investments)	Barings LLC
Acadian Asset Management LLC	Baron Capital Management, Inc.
Adams Street Partners, LLC	Barrow, Hanley, Mewhinney & Strauss, LLC
AEGON USA Investment Management Inc.	BentallGreenOak
AllianceBernstein	BlackRock
Allianz	Blackstone Group (The)
Allspring Global Investments	BNY Mellon Asset Management
American Century Investments	Boston Partners
Amundi US, Inc.	Brandes Investment Partners, L.P.
Antares Capital LP	Brandywine Global Investment Management, LLC
QR Capital Management	Brookfield Asset Management
res Management LLC	Brown Brothers Harriman & Company
riel Investments, LLC	Burgundy Asset Management
ristotle Capital Management, LLC	Capital Group
tlanta Capital Management Co., LLC	Carillon Tower Advisers
XA Investment Managers	CastleArk Management, LLC
Baillie Gifford International, LLC	Chartwell Investment Partners
Baird Advisors	ClearBridge Investments, LLC

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Manager Name	Manager Name
Cohen & Steers Capital Management, Inc.	J.P. Morgan
Columbia Threadneedle Investments North America	Janus
Comgest	Jennison Associates LLC
Credit Suisse Asset Management, LLC	Jobs Peak Advisors
Crescent Capital Group LP	Jupiter Asset Management
DePrince, Race & Zollo, Inc.	KeyCorp
Dimensional Fund Advisors L.P.	Lazard Asset Management
Doubleline	LGIM America
Duff & Phelps Investment Management Co.	Lincoln National Corporation
DWS	Longview Partners
EARNEST Partners, LLC	Loomis, Sayles & Company, L.P.
Epoch Investment Partners, Inc.	Lord Abbett & Company
Fayez Sarofim & Company	LSV Asset Management
Federated Hermes, Inc.	MacKay Shields LLC
Fidelity Institutional Asset Management	Macquarie Asset Management
Fiera Capital Corporation	Manning & Napier Advisors, LLC
First Hawaiian Bank Wealth Management Division	Manulife Investment Management
First Sentier Investors	Marathon Asset Management, L.P.
Fisher Investments	McKinley Capital Management, LLC
Franklin Templeton	Mellon
Fred Alger Management, LLC	MetLife Investment Management
GAM (USA) Inc.	MFS Investment Management
Garrett Investment Advisors, LLC	MidFirst Bank
GlobeFlex Capital, L.P.	MLC Asset Management
GoldenTree Asset Management, LP	Mondrian Investment Partners Limited
Goldman Sachs	Montag & Caldwell, LLC
Golub Capital	Morgan Stanley Investment Management
Guggenheim Investments	MUFG Union Bank, N.A.
GW&K Investment Management	Natixis Investment Managers
Harbor Capital Group Trust	Neuberger Berman
Hardman Johnston Global Advisors LLC	Newton Investment Management
Heitman LLC	Ninety One North America, Inc.
Hotchkis & Wiley Capital Management, LLC	Northern Trust Asset Management
Impax Asset Management LLC	Nuveen
Income Research + Management Inc.	P/E Investments
Insight Investment	Pacific Investment Management Company
Intech Investment Management LLC	Pantheon Ventures
Intercontinental Real Estate Corporation	Parametric Portfolio Associates LLC
Invesco	Partners Group (USA) Inc.
J O Hambro Capital Management Limited	Pathway Capital Management, LP

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Manager Name Peregrine Capital Management, LLC	Manager Name T. Rowe Price Associates. Inc.
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PFM Asset Management LLC	The TCW Group, Inc.
PGIM Fixed Income	Thompson, Siegel & Walmsley LLC
PGIM Quantitative Solutions LLC	Thornburg Investment Management, Inc.
Pictet Asset Management	Timberland Investment Resources, LLC
PineBridge Investments	Tri-Star Trust Bank
Polen Capital Management, LLC	UBS Asset Management
Principal Global Investors	VanEck
Putnam Investments, LLC	Versus Capital Group
RBC Global Asset Management	Victory Capital Management Inc.
Regions Financial Corporation	Virtus Investment Partners, Inc.
Richard Bernstein Advisors LLC	Vontobel Asset Management
Robeco Institutional Asset Management, US Inc.	Voya
Rothschild & Co. Asset Management US	Vulcan Value Partners, LLC
S&P Dow Jones Indices	Walter Scott & Partners Limited
Schroder Investment Management North America Inc.	WCM Investment Management
Segall Bryant & Hamill	Wellington Management Company, LLP
SLC Management	Western Asset Management Company LLC
Smith Graham & Co. Investment Advisors, L.P.	Westfield Capital Management Company, LP
State Street Global Advisors	William Blair & Company LLC
Strategic Global Advisors, LLC	