


March 31, 2020



City of Milwaukee Employees' Retirement System

Investment Measurement Service Quarterly Review

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U.S. EQUITY

During the 1st quarter of 2020, the COVID-19 pandemic coupled with an oil price war between Saudi Arabia and Russia spurred extreme global market volatility, which was further exacerbated by the realization that a shelter-in-place mandate was required to overcome the spread of the disease, subsequently inducing an all-but-certain global recession.

Large cap (S&P 500: -19.6%; Russell 1000: -20.2%)

- Cyclical were punished while Technology, Staples, and Health Care were more resilient.
- Energy (-50.5%) plunged as demand declined and OPEC and Russia refused to cut production, driving down oil prices globally.
- Financials (-31.9%) and Industrials (-27.1%) fell sharply as interest rates were cut by the Fed in an emergency session, and due to expectations of a steep GDP decline because of COVID-19.
- Technology fared the best (-11.9%). The FAAMG stocks had an average return of -7.9% in Q1, led by Amazon (+5.5%) and Microsoft (+0.3%); Health Care (-12.7%) and Consumer Staples (-12.7%) also held up better than the index average.

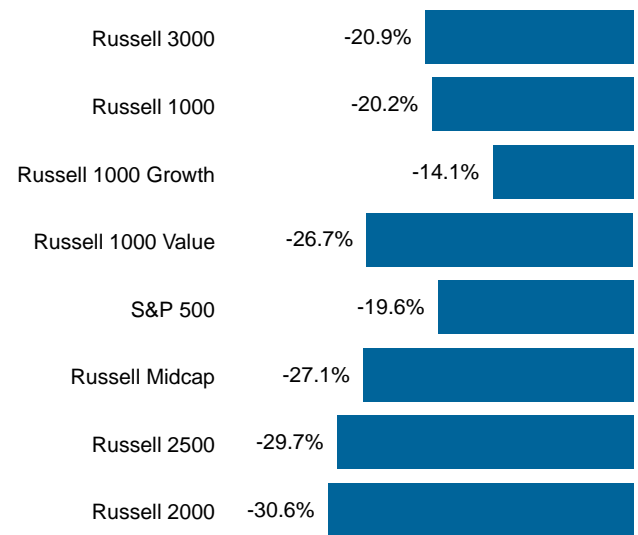
Large cap outpaced small cap for the quarter

- The Russell 2000 (-30.6%) experienced its worst quarter on record.
- The perceived safety of larger companies combined with more acute exposure to COVID-19 impact (e.g., restaurants, hotels, airlines, REITs) drove the sell-off.
- The performance of the Russell 2000 Value (-35.7%) was driven by its exposure to Energy (especially exploration and production companies) and Financials (banks).

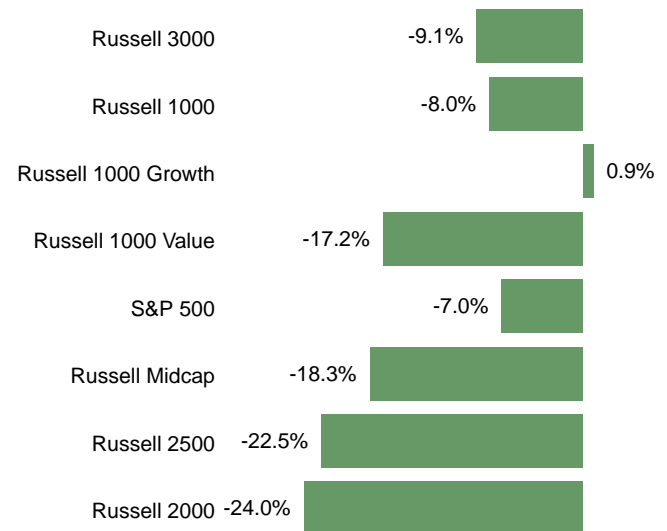
Growth outpaces value across market capitalizations

- The spread between Russell 1000 Growth (-14.1%) and Russell 2000 Value (-35.7%) was one of the widest ever.
- Russell MidCap Value (-0.8%) and Russell 2000 Value (-2.4%) now have negative annualized returns over a trailing five-year time period.

U.S. Equity: Quarterly Returns

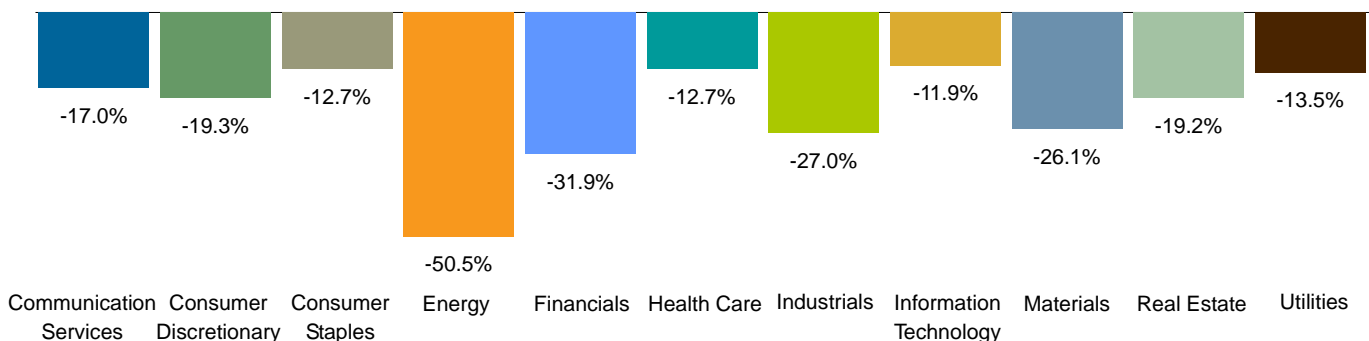


U.S. Equity: One-Year Returns



Sources: FTSE Russell, Standard & Poor's

S&P Sector Returns, Quarter Ended March 31, 2020



Source: Standard & Poor's

GLOBAL/GLOBAL EX-U.S. EQUITY

The COVID-19 pandemic coupled with the oil price war between Saudi Arabia and Russia injected significant volatility into the global equity markets, with most major indices entering bear market territory.

Global/Developed ex-U.S. (MSCI EAFE: -22.8%; MSCI World ex USA: -23.3%; MSCI ACWI ex USA: -23.4%; MSCI Japan: -16.8%; MSCI Pacific ex Japan: -27.6%)

- Fears of the pandemic and a global recession stoked the worst quarterly sell off since 2008 as economic activity halted worldwide.
- The oil price war further exacerbated the market meltdown, bidding up safe-haven assets and currencies.
- The U.S. dollar outperformed the euro, the British pound, and other major currencies, while underperforming the Swiss franc and yen.
- Every sector posted negative returns, led by cyclicals like travel-related industries, Energy, and Financials given the state of the economy and oil prices.
- Defensive sectors generally were under less pressure as demand for basic necessities to function (i.e., e-commerce and mobility) and combat the pandemic (i.e., diagnostics and treatment) helped stabilize Health Care, Consumer Staples, and Information Technology.
- Factor performance in developed ex-U.S. markets reflected risk aversion, including beta, size, and volatility.

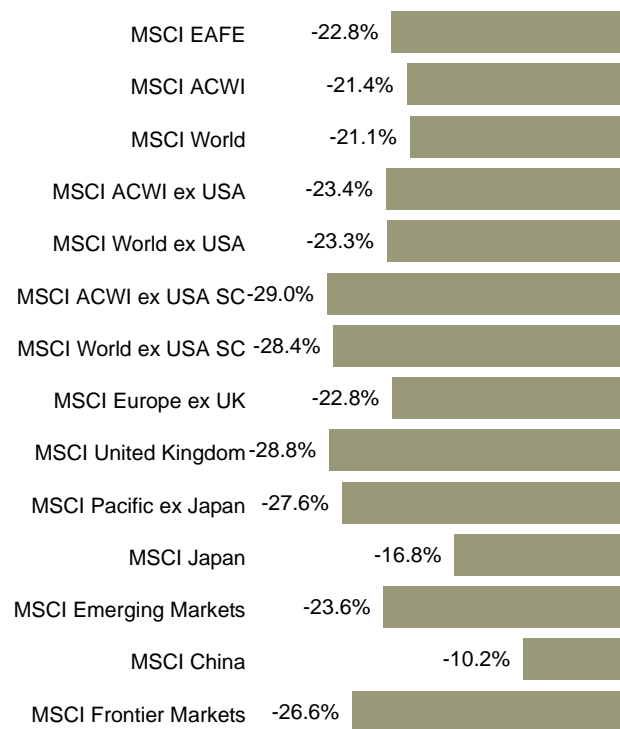
Emerging Markets (MSCI Emerging Markets Index: -23.6%)

- Decisive actions to contain the pandemic and stimulate the economy allowed China to outperform every developed and developing country.
- A looming global recession and the collapse in oil prices decimated commodities-levered economies like Brazil, South Africa, and Russia.
- Every sector posted negative returns, led by cyclicals such as travel-related industries, Energy, and Financials.
- Defensive sectors generally were under less pressure as demand for basic necessities and for diagnostics and treatment helped stabilize Health Care, Consumer Staples, and Information Technology.

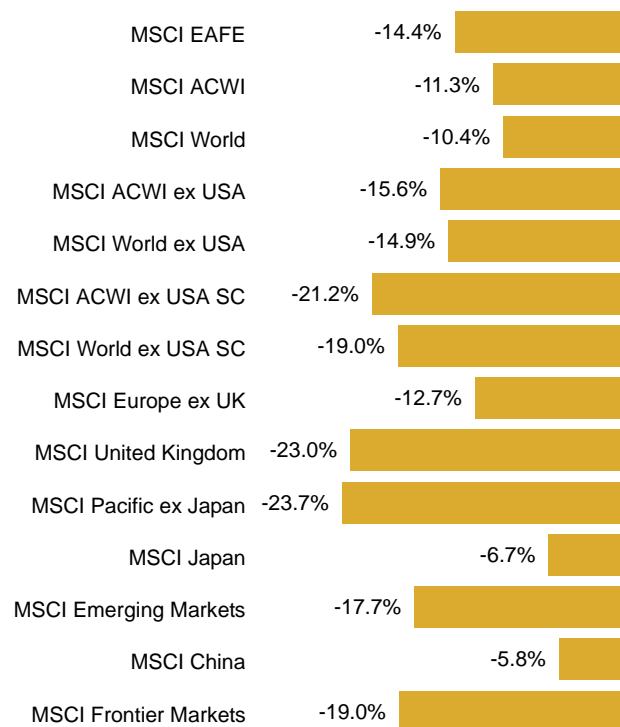
Global ex-U.S. Small Cap (MSCI World ex USA Small Cap: -28.4%; MSCI EM Small Cap: -31.4%; MSCI ACWI ex USA Small Cap: -29.0%)

- "Risk-off" market environment challenged small cap relative to large cap in both developed and emerging markets.
- Growth significantly outperformed value both within developed and emerging markets, supported by strong performance in Health Care, Consumer Staples, and Information Technology.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI

U.S. FIXED INCOME

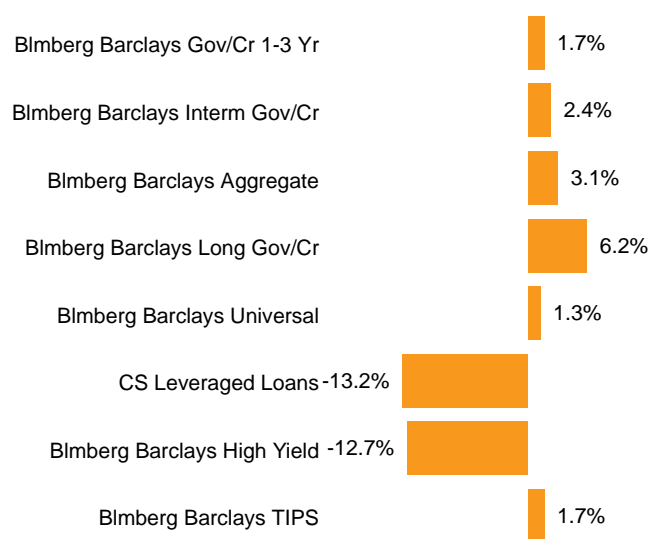
Treasuries rallied as investors sought safety

- The 10-year U.S. Treasury yield reached a low in March of 0.31% before closing the quarter at 0.70%, down sharply from the 2019 year-end level of 1.92%.
- The Treasury yield curve steepened as the Fed cut rates to 0%-0.25%.
- TIPS underperformed nominal Treasuries as expectations for inflation sank. The 10-year breakeven spread ended the quarter at 87 bps, down sharply from 177 bps at year-end.

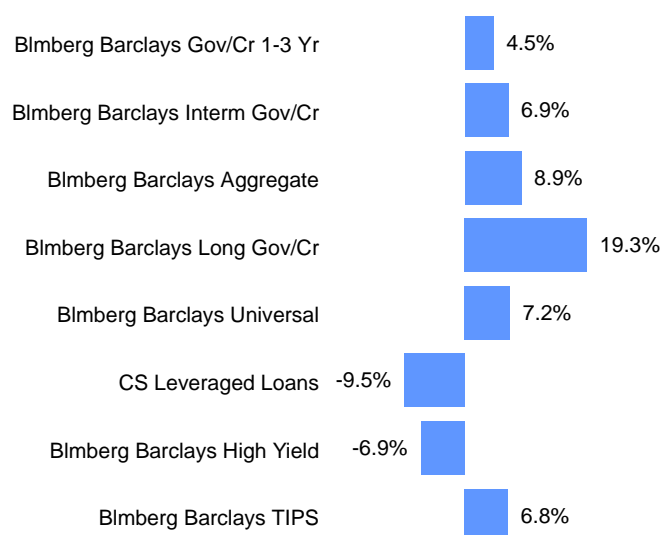
Investors spurned credit risk

- Investment grade and high yield bond funds experienced record outflows as investors flocked to cash.
- Investment grade corporate spreads widened by 149 bps to 272 bps, representing the hardest hit sector in the Bloomberg Barclays US Aggregate Bond Index, particularly within Industrials, where several well-known issuers were downgraded to below investment grade, including Occidental Petroleum and Ford.
- The quality bias was evident as BBB-rated credit (-7.4%) underperformed single A or higher (+0.5%).
- CCC-rated high yield corporates (-20.6%) lagged BB-rated corporates (-10.2%).
- Energy (-38.9%) was the lowest-performing high yield bond sub-sector as oil prices collapsed.

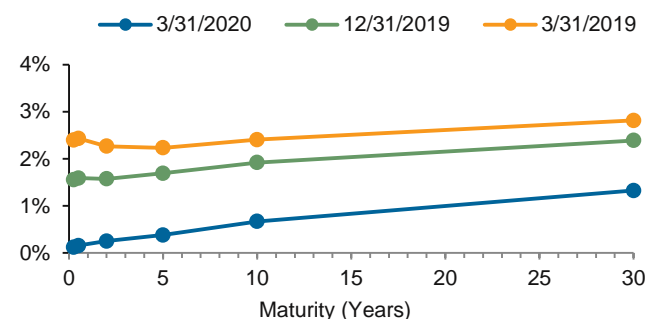
U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: One-Year Returns



U.S. Treasury Yield Curves



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse

GLOBAL FIXED INCOME

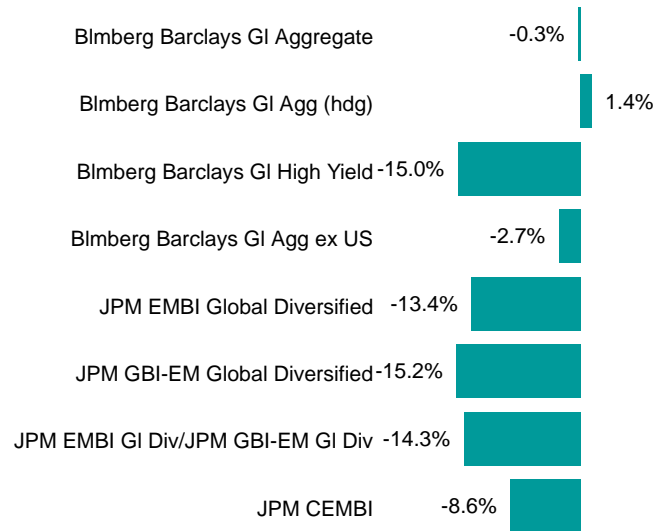
Global ex-U.S. fixed income ended slightly down

- Developed market sovereign bond yields ended the quarter slightly higher even as central banks stepped in to provide support to their economies; the European Central Bank launched a €750 billion stimulus program and the Bank of England cut interest rates.
- The U.S. dollar rose against the Australian dollar, British pound, and euro as investors sought safety within the greenback.

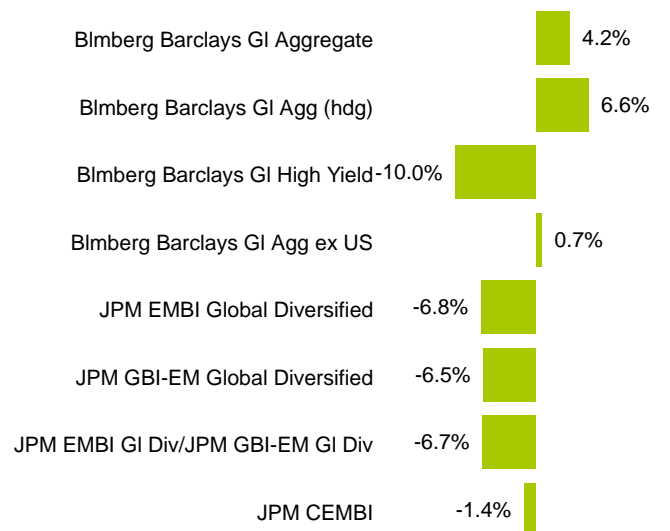
Emerging market debt plummeted in the risk-off environment

- Within the dollar-denominated benchmark, returns were mixed amongst its 60+ constituents.
- Within the local currency-denominated benchmark, several local market returns in Latin America dropped about 20% (Brazil, Mexico, and Colombia) and South Africa dropped 29% as oil-sensitive economies suffered from the drop in oil prices.

Global Fixed Income: Quarterly Returns

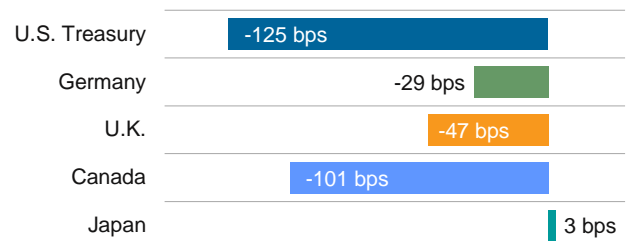


Global Fixed Income: One-Year Returns



Change in 10-Year Global Government Bond Yields

4Q19 to 1Q20



Sources: Bloomberg, Bloomberg Barclays, JP Morgan

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2020, with the distribution as of December 31, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

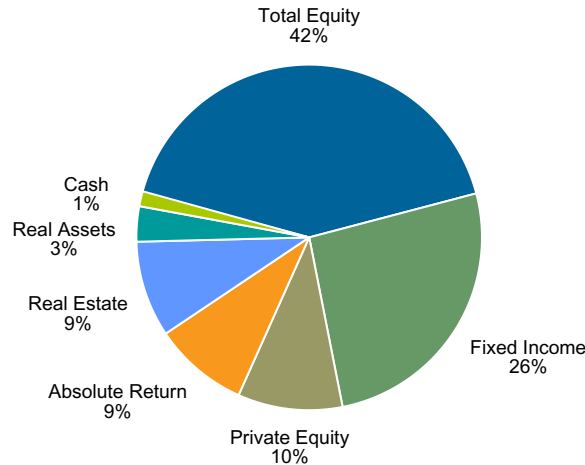
Asset Distribution Across Investment Managers

	March 31, 2020			December 31, 2019		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Domestic Equity	\$844,570,905	18.64%	\$(43,000,000)	\$(294,046,803)	\$1,181,617,709	21.38%
BlackRock Russell 1000 Value	108,591,316	2.40%	(5,000,000)	(39,714,575)	153,305,891	2.77%
DFA Large Cap Value	103,937,480	2.29%	0	(49,598,564)	153,536,044	2.78%
Northern Trust Global	242,317,560	5.35%	(19,000,000)	(59,472,039)	320,789,599	5.81%
Polen Capital Management	121,784,336	2.69%	(14,000,000)	(17,723,306)	153,507,642	2.78%
Earnest Partners LLC	89,841,118	1.98%	(10,000,000)	(27,721,384)	127,562,502	2.31%
DFA Small Cap Value	112,334,105	2.48%	5,000,000	(72,158,211)	179,492,315	3.25%
CastleArk Management	65,764,991	1.45%	0	(27,658,725)	93,423,715	1.69%
Total Global Equity	\$358,935,033	7.92%	\$(25,000,000)	\$(94,658,677)	\$478,593,710	8.66%
BlackRock Global Alpha Tilts	210,377,908	4.64%	(13,000,000)	(59,765,395)	283,143,303	5.12%
MFS Investment Management	148,557,125	3.28%	(12,000,000)	(34,893,282)	195,450,406	3.54%
Total International Equity	\$688,026,602	15.19%	\$(18,129,665)	\$(256,577,685)	\$962,733,952	17.42%
AQR Emerging Markets	79,752,469	1.76%	0	(25,440,414)	105,192,883	1.90%
Brandes Investment Partners	266,063,570	5.87%	(10,000,000)	(115,079,126)	391,142,697	7.08%
William Blair & Company	218,052,974	4.81%	(17,129,665)	(53,341,276)	288,523,915	5.22%
DFA International Small Cap	124,157,588	2.74%	9,000,000	(62,716,868)	177,874,457	3.22%
Total Fixed Income	\$1,176,759,551	25.97%	\$28,000,000	\$(151,508,175)	\$1,300,267,726	23.53%
Allianz US Fixed Income 250	374,091,206	8.26%	0	(138,628,280)	512,719,486	9.28%
BlackRock US Debt Idx Fd	219,145,658	4.84%	6,000,000	6,823,362	206,322,297	3.73%
Reams Asset Management	252,538,375	5.57%	10,000,000	9,996,942	232,541,433	4.21%
Loomis, Sayles & Company, L.P.	330,984,312	7.31%	12,000,000	(29,700,199)	348,684,510	6.31%
Total Private Equity	\$443,302,921	9.78%	\$4,488,391	\$(228,625)	\$439,043,155	7.95%
Abbott Capital Management 2010	24,971,104	0.55%	(1,575,000)	0	26,546,104	0.48%
Abbott Capital Management 2011	45,896,816	1.01%	(2,750,000)	0	48,646,816	0.88%
Abbott Capital Management 2012	37,293,069	0.82%	(1,000,000)	0	38,293,069	0.69%
Abbott Capital Management 2013	35,618,091	0.79%	(525,000)	0	36,143,091	0.65%
Abbott Capital Management 2014	36,927,889	0.82%	0	0	36,927,889	0.67%
Abbott Capital Management 2015	20,968,697	0.46%	850,000	0	20,118,697	0.36%
Abbott Capital Management 2016	12,702,154	0.28%	895,000	(25,000)	11,832,154	0.21%
Abbott Capital Management 2018	5,235,750	0.12%	328,750	(18,750)	4,925,750	0.09%
Abbott Capital Management 2019	1,645,000	0.04%	0	0	1,645,000	0.03%
Mesirow V	57,835,390	1.28%	0	0	57,835,390	1.05%
Mesirow VI	60,742,755	1.34%	0	0	60,742,755	1.10%
Mesirow VII	42,652,473	0.94%	6,000,000	(196,125)	36,848,598	0.67%
NB Secondary Opp Fund III	12,245,272	0.27%	(815,348)	0	13,060,620	0.24%
NB Secondary Opp Fund IV	11,514,246	0.25%	750,000	0	10,764,246	0.19%
Private Advisors VI	22,238,578	0.49%	1,900,028	7,500	20,331,050	0.37%
Private Advisors VII	9,826,885	0.22%	145,840	(0)	9,681,045	0.18%
Private Advisors VIII	4,988,752	0.11%	284,121	3,750	4,700,881	0.09%
Absolute Return	\$401,397,423	8.86%	\$9,000,000	\$(145,134,281)	\$537,531,704	9.73%
Allianz SA 1000	12,881,097	0.28%	0	(127,307,060)	140,188,157	2.54%
Newton	123,598,324	2.73%	0	(11,683,424)	135,281,747	2.45%
UBS A & Q	264,918,002	5.85%	9,000,000	(6,143,798)	262,061,800	4.74%
Real Assets	\$150,451,112	3.32%	\$0	\$(35,277,081)	\$185,728,193	3.36%
Principal DRA	150,451,112	3.32%	0	(35,277,081)	185,728,193	3.36%
Total Real Estate	\$405,880,620	8.96%	\$(8,149,253)	\$7,757,233	\$406,272,640	7.35%
Real Estate	405,880,620	8.96%	(8,149,253)	7,757,233	406,272,640	7.35%
Total Cash	\$61,197,431	1.35%	\$26,803,028	\$629,591	\$33,764,812	0.61%
Cash	61,197,431	1.35%	26,803,028	629,591	33,764,812	0.61%
Total Fund	\$4,530,521,597	100.0%	\$(25,987,499)	\$(969,044,504)	\$5,525,553,600	100.0%

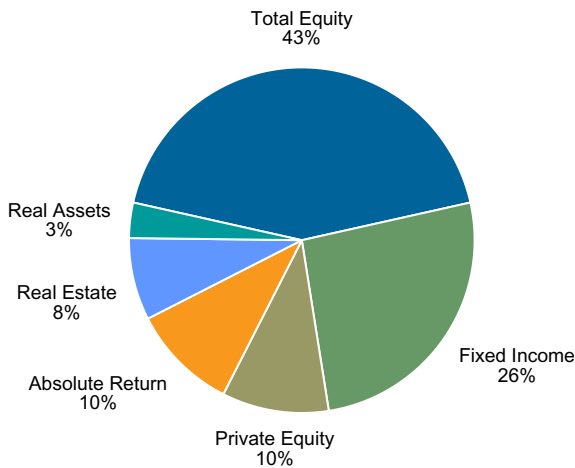
Actual vs Target Asset Allocation As of March 31, 2020

The first chart below shows the Fund's asset allocation as of March 31, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement. The last chart shows the average asset allocation for the Callan Public Fund Spons - Large (>1B).

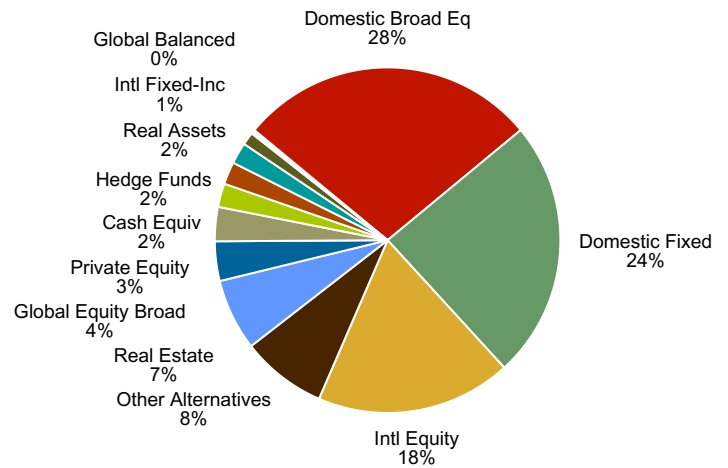
Actual Asset Allocation



Target Asset Allocation



Callan Public Fund Spons - Large (>1B)



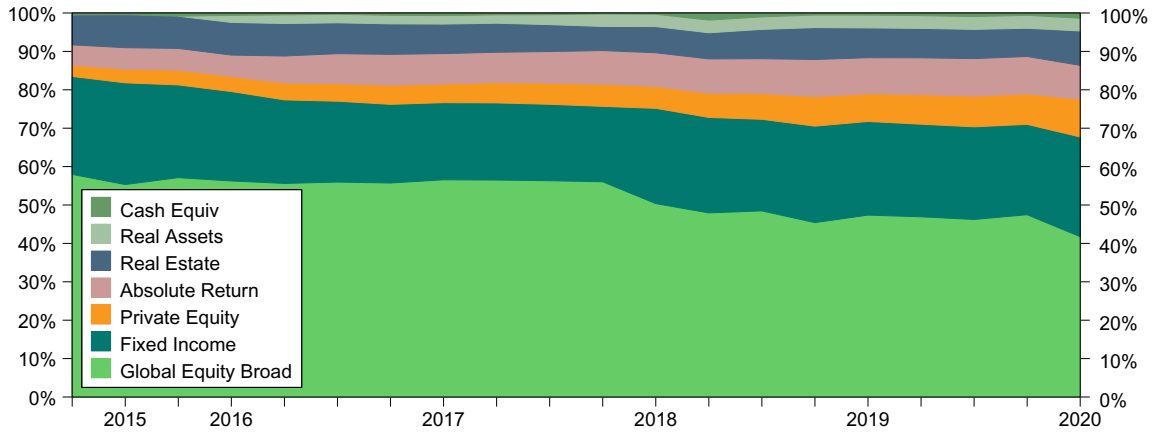
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	1,891,533	41.8%	43.0%	(1.2%)	(56,592)
Fixed Income	1,176,760	26.0%	26.0%	(0.0%)	(1,176)
Private Equity	443,303	9.8%	10.0%	(0.2%)	(9,749)
Absolute Return	401,397	8.9%	10.0%	(1.1%)	(51,655)
Real Estate	405,881	9.0%	7.7%	1.3%	57,030
Real Assets	150,451	3.3%	3.3%	0.0%	944
Cash	61,197	1.4%	0.0%	1.4%	61,197
Total	4,530,522	100.0%	100.0%		

* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

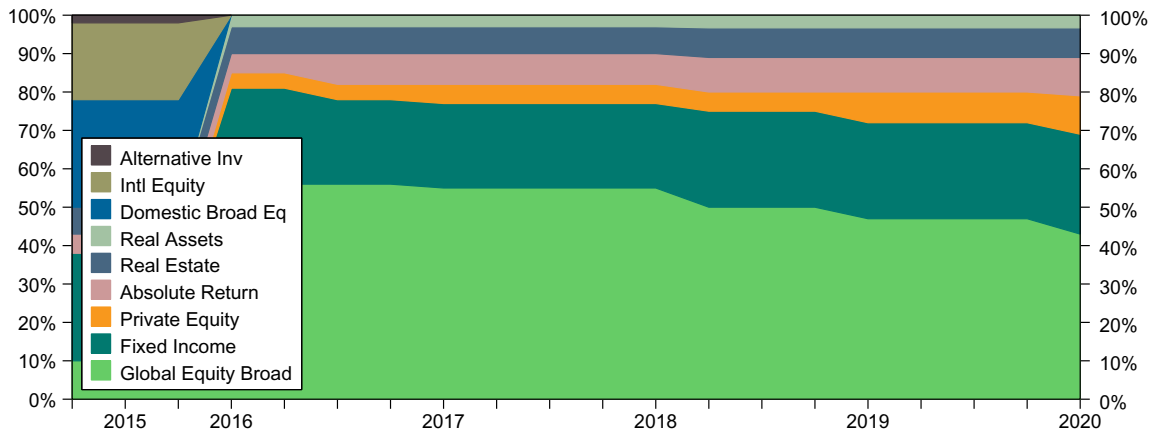
Actual vs Target Historical Asset Allocation

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.

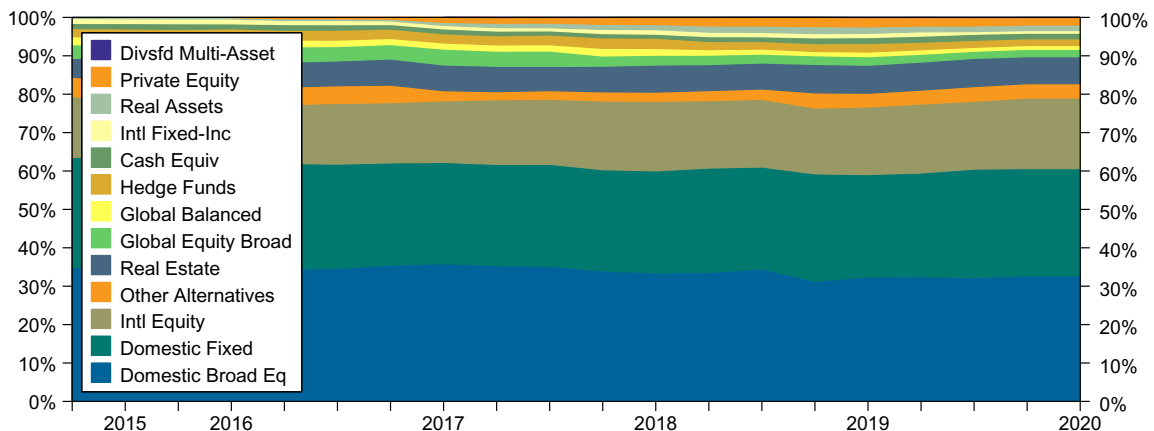
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation



* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

Total Fund

Period Ended March 31, 2020

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 = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

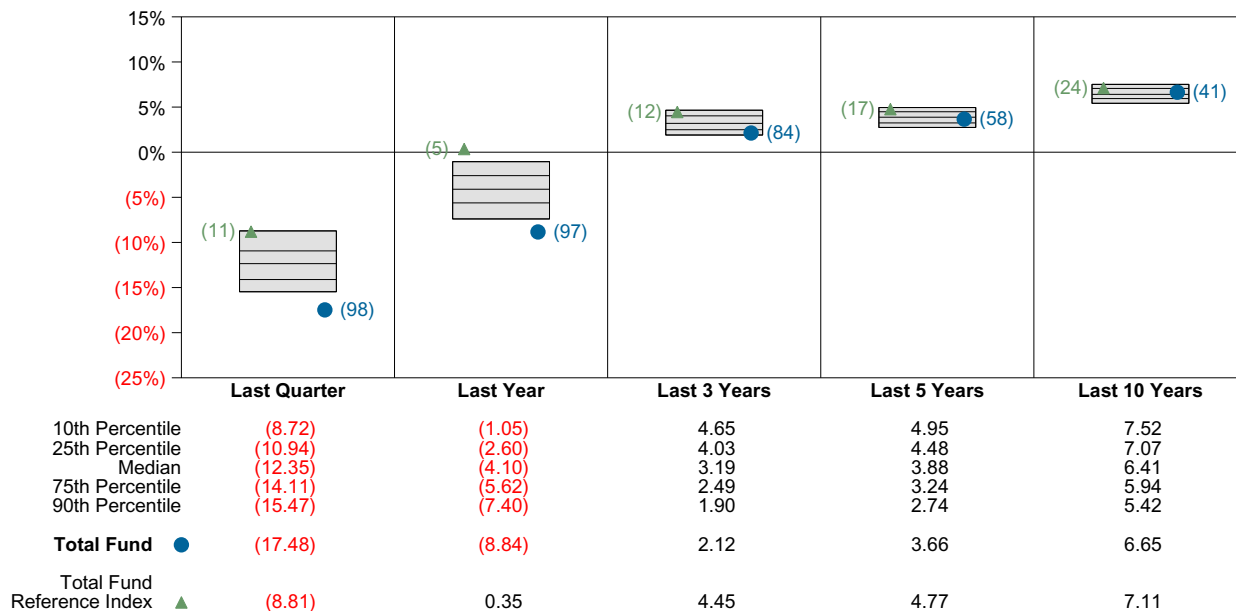
Quarterly Summary and Highlights

- Total Fund's portfolio posted a (17.48)% return for the quarter placing it in the 98 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 97 percentile for the last year.
- Total Fund's portfolio underperformed the Total Fund Reference Index by 8.67% for the quarter and underperformed the Total Fund Reference Index for the year by 9.19%.

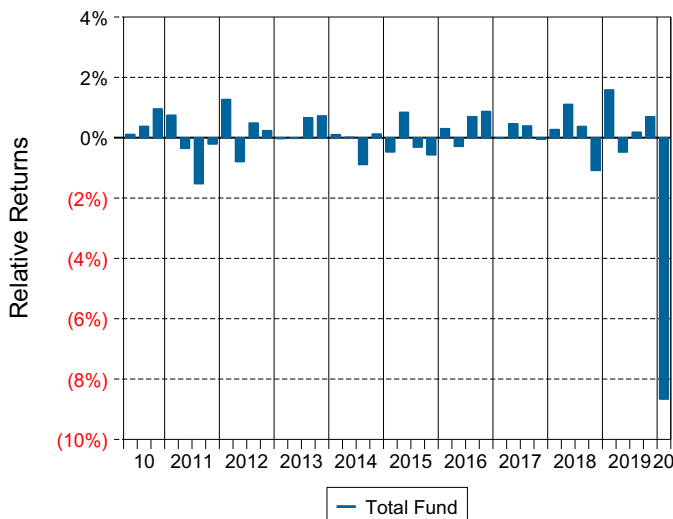
Quarterly Asset Growth

Beginning Market Value	\$5,525,553,600
Net New Investment	\$-25,987,499
Investment Gains/(Losses)	\$-969,044,504
Ending Market Value	\$4,530,521,597

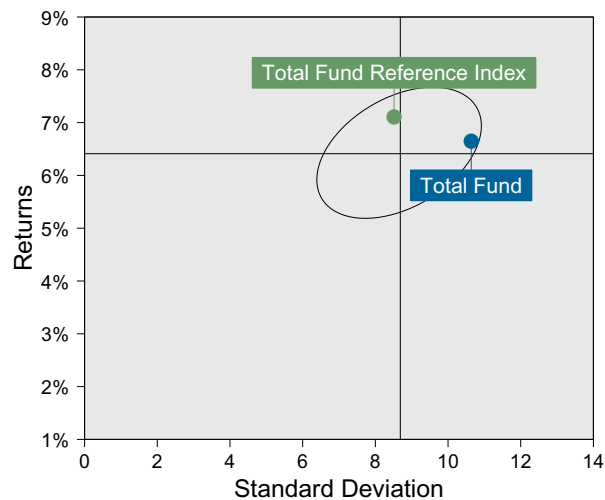
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Reference Index



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

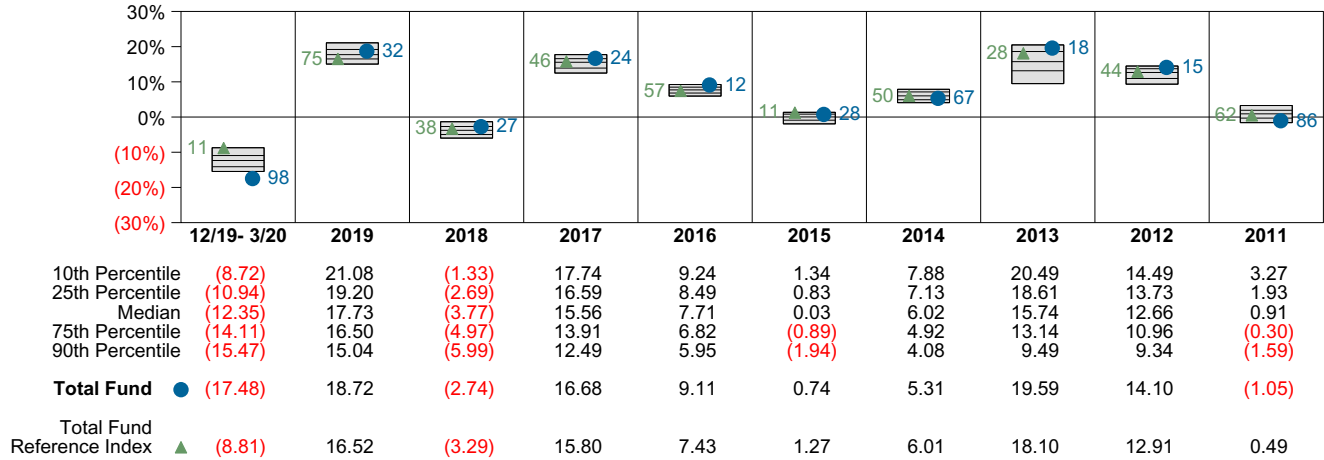


Total Fund Return Analysis Summary

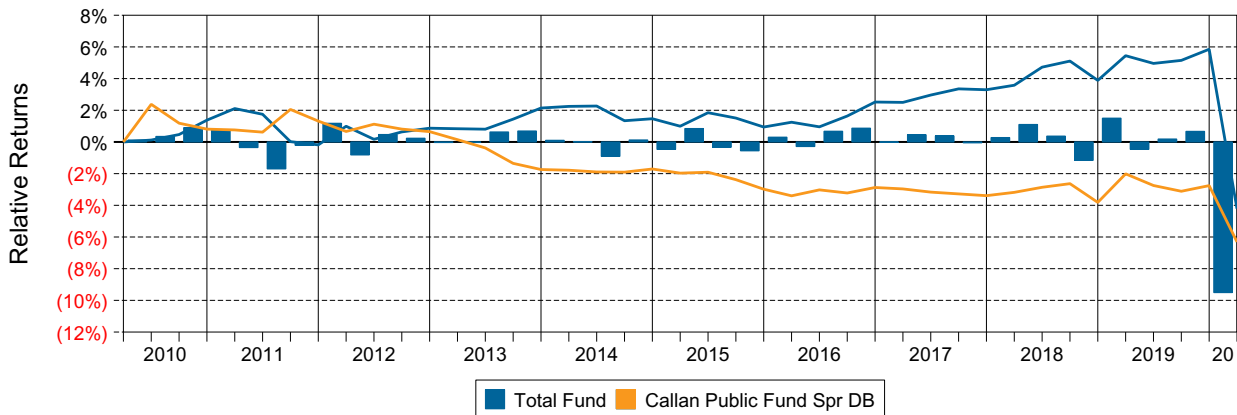
Return Analysis

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.

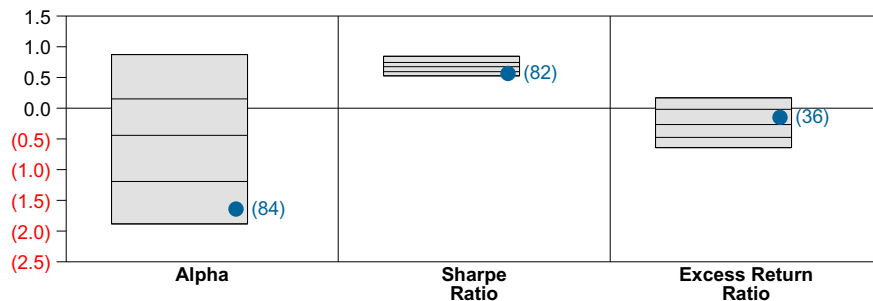
Performance vs Callan Public Fund Sponsor Database (Gross)



Cumulative and Quarterly Relative Return 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, 2020



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.87	0.84	0.17
25th Percentile	0.15	0.74	(0.02)
Median	(0.44)	0.68	(0.27)
75th Percentile	(1.19)	0.59	(0.48)
90th Percentile	(1.88)	0.53	(0.64)
Total Fund	● (1.64)	0.56	(0.15)

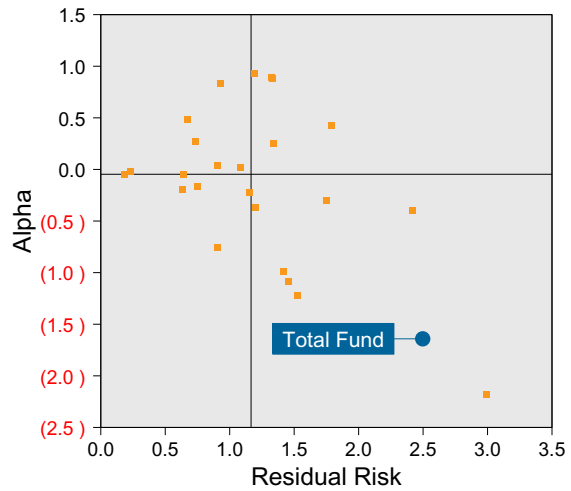
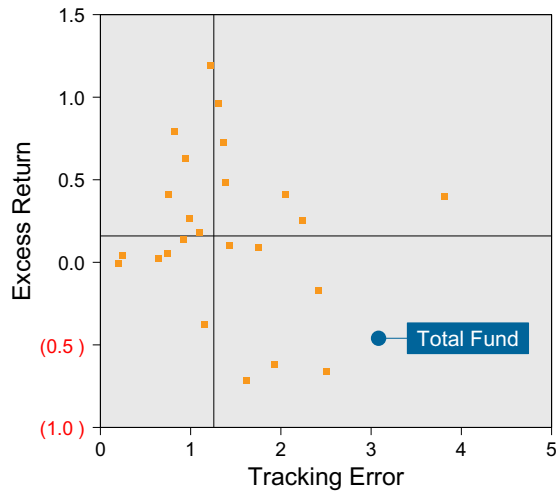
Total Fund

Total Fund vs Target Risk Analysis

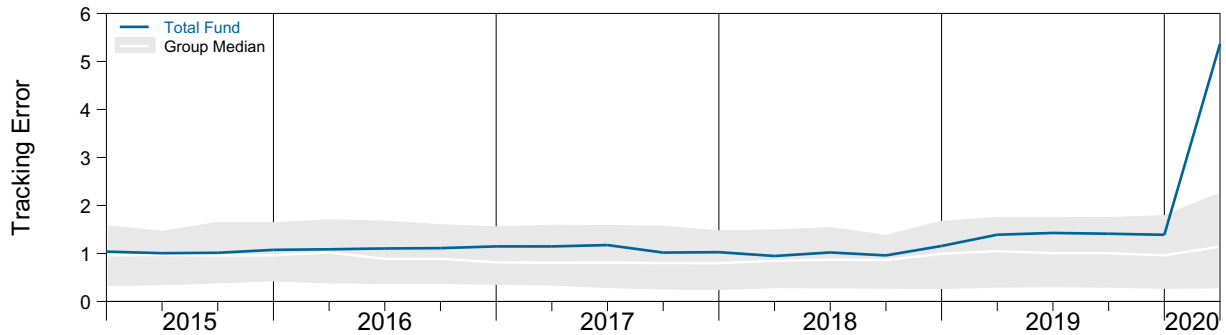
Risk Analysis

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.

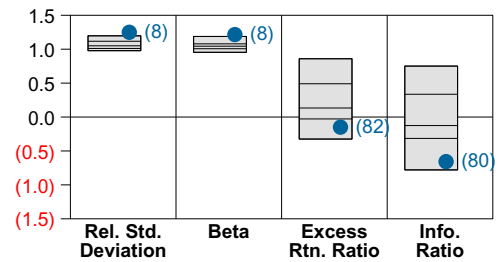
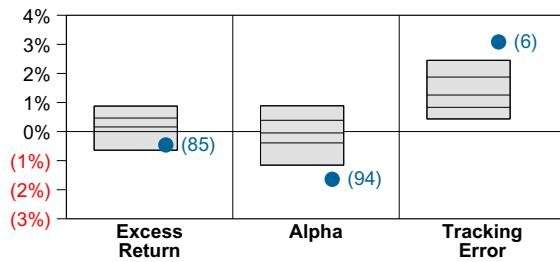
Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended March 31, 2020



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



Risk Statistics Rankings vs Targets Rankings Against Callan Public Fund Sponsor Database Ten Years Ended March 31, 2020



10th Percentile	0.88
25th Percentile	0.47
Median	0.16
75th Percentile	(0.00)
90th Percentile	(0.64)

10th Percentile	0.89
25th Percentile	0.39
Median	(0.05)
75th Percentile	(0.39)
90th Percentile	(1.15)

10th Percentile	2.45
25th Percentile	1.87
Median	1.26
75th Percentile	0.83
90th Percentile	0.43

10th Percentile	1.20
25th Percentile	1.12
Median	1.05
75th Percentile	1.01
90th Percentile	0.98

10th Percentile	1.19
25th Percentile	1.08
Median	1.04
75th Percentile	1.01
90th Percentile	0.95

10th Percentile	0.86
25th Percentile	0.49
Median	0.13
75th Percentile	(0.03)
90th Percentile	(0.32)

10th Percentile	0.75
25th Percentile	0.34
Median	(0.13)
75th Percentile	(0.31)
90th Percentile	(0.78)

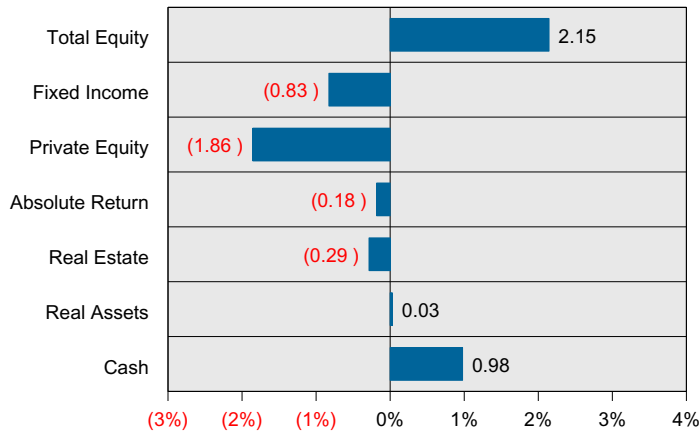
Total Fund ● (0.46) (1.64) 3.08

Total Fund ● 1.25 1.22 (0.15) (0.66)

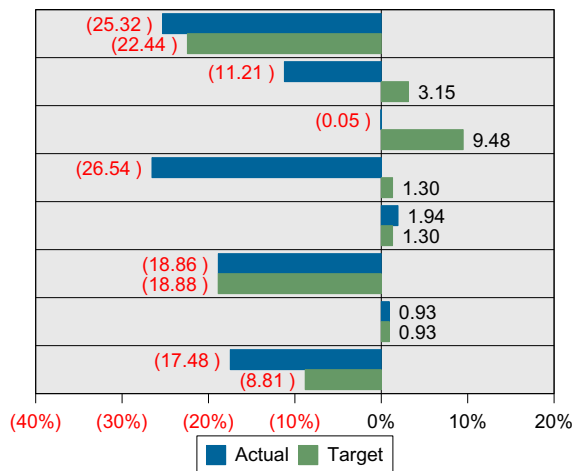
Quarterly Total Fund Relative Attribution - March 31, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

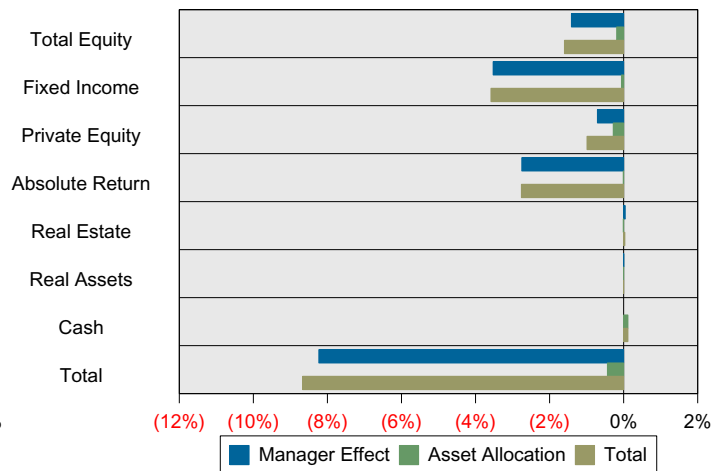
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2020

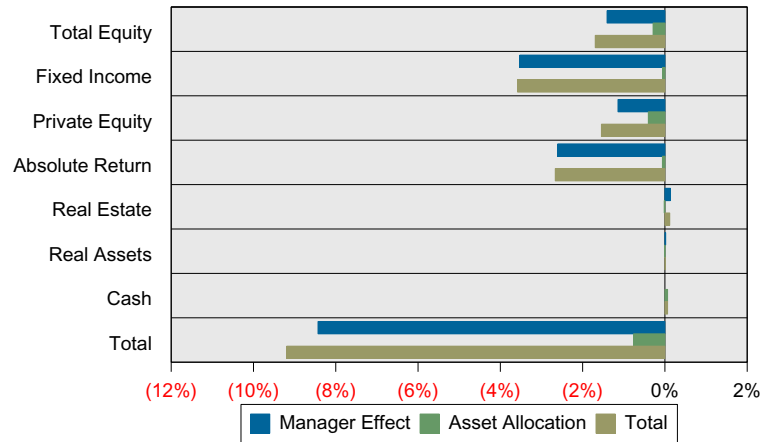
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return	
Total Equity	45%	43%	(25.32%)	(22.44%)	(1.41%)	(0.19%)	(1.60%)	
Fixed Income	25%	26%	(11.21%)	3.15%	(3.52%)	(0.06%)	(3.58%)	
Private Equity	8%	10%	(0.05%)	9.48%	(0.71%)	(0.28%)	(0.99%)	
Absolute Return	10%	10%	(26.54%)	1.30%	(2.75%)	(0.01%)	(2.76%)	
Real Estate	7%	8%	1.94%	1.30%	0.04%	(0.01%)	0.03%	
Real Assets	3%	3%	(18.86%)	(18.88%)	0.00%	(0.00%)	(0.00%)	
Cash	1%	0%	0.93%	0.93%	0.00%	0.12%	0.12%	
Total			(17.48%)		(8.81%)	(8.23%)	(0.44%)	(8.67%)

* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

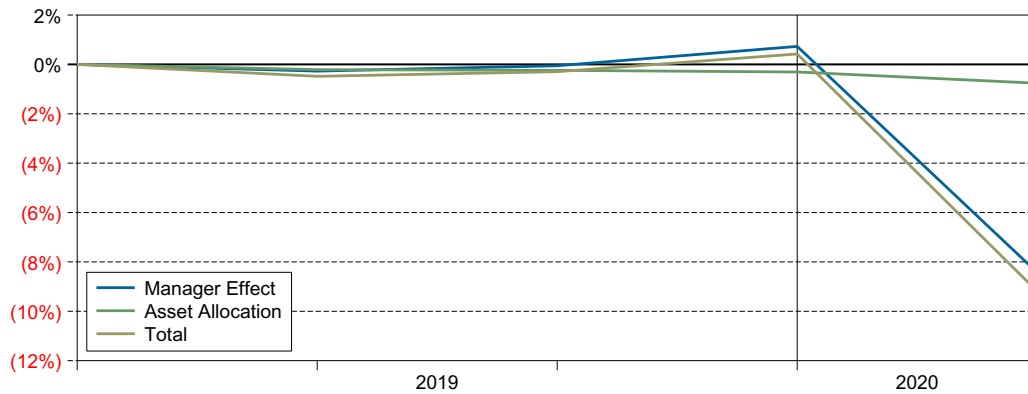
Cumulative Total Fund Relative Attribution - March 31, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	46%	46%	(15.72%)	(12.73%)	(1.41%)	(0.29%)	(1.69%)
Fixed Income	24%	25%	(4.79%)	8.93%	(3.53%)	(0.05%)	(3.58%)
Private Equity	8%	8%	16.75%	33.84%	(1.14%)	(0.40%)	(1.54%)
Absolute Return	10%	9%	(20.19%)	5.25%	(2.60%)	(0.06%)	(2.66%)
Real Estate	8%	8%	7.06%	5.18%	0.13%	(0.02%)	0.12%
Real Assets	3%	3%	(13.84%)	(14.29%)	0.02%	(0.00%)	0.01%
Cash	1%	0%	2.78%	2.78%	0.00%	0.06%	0.06%
Total			(8.84%)	0.35%	(8.43%)	(0.76%)	(9.19%)

* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended March 31, 2020. 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, 2020

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Domestic Equity	(25.69%)	95	(15.92%)	93	1.21%	84	4.20%	74	6.05%	(7/98)
Russell 3000 Index	(20.90%)	31	(9.13%)	22	4.00%	31	5.77%	24	6.01%	(7/98)
Pub Pln- Dom Equity	(21.86%)		(10.83%)		2.99%		4.86%		-	
BlackRock Russell 1000 Value	(26.49%)	36	(16.77%)	43	(1.92%)	46	-		(1.63%)	(3/17)
Russell 1000 Value Index	(26.73%)	42	(17.17%)	49	(2.18%)	50	1.90%	50	(2.44%)	(3/17)
Callan Large Cap Value	(27.20%)		(17.39%)		(2.11%)		1.87%		-	
DFA Large Cap Value	(32.30%)	89	(22.87%)	83	-		-		(8.62%)	(11/17)
Russell 1000 Value Index	(26.73%)	42	(17.17%)	49	(2.18%)	50	1.90%	50	(4.74%)	(11/17)
Callan Large Cap Value	(27.20%)		(17.39%)		(2.11%)		1.87%		-	
Northern Trust Global	(19.59%)	43	(6.96%)	40	5.15%	28	6.78%	27	9.79%	(8/88)
S&P 500 Index	(19.60%)	43	(6.98%)	40	5.10%	28	6.73%	27	9.74%	(8/88)
Callan Large Cap Core	(19.66%)		(8.11%)		4.30%		5.89%		-	
Polen Capital Management	(12.95%)	36	3.19%	13	15.52%	9	13.79%	3	15.21%	(7/12)
S&P 500 Index	(19.60%)	97	(6.98%)	94	5.10%	99	6.73%	95	10.90%	(7/12)
Callan Large Cap Growth	(14.00%)		(0.36%)		11.11%		9.41%		-	
Earnest Partners LLC	(23.52%)	38	(11.86%)	29	3.84%	32	6.47%	15	9.12%	(5/05)
Russell MidCap Index	(27.07%)	52	(18.31%)	50	(0.81%)	47	1.85%	50	7.50%	(5/05)
Callan Mid Capitalization	(26.71%)		(18.40%)		(1.73%)		1.89%		-	
DFA Small Cap Value	(39.17%)	81	(34.97%)	87	(12.38%)	80	(4.73%)	88	9.02%	(11/96)
Russell 2000 Value Index	(35.66%)	41	(29.64%)	43	(9.51%)	39	(2.42%)	48	7.24%	(11/96)
Callan Small Cap Value	(36.20%)		(30.48%)		(10.20%)		(2.51%)		-	
CastleArk Management	(29.60%)	89	(26.77%)	94	1.71%	70	1.57%	81	5.49%	(9/13)
Russell 2000 Growth Index	(25.76%)	76	(18.58%)	69	0.10%	81	1.70%	79	5.44%	(9/13)
Callan Small Cap Growth	(23.36%)		(15.58%)		4.25%		4.20%		-	
Total Global Equity	(20.75%)	50	(8.80%)	41	4.80%	32	5.50%	30	6.72%	(4/10)
MSCI World	(21.05%)	54	(10.39%)	50	1.92%	51	3.25%	55	6.57%	(4/10)
Callan Global Equity	(20.70%)		(10.28%)		2.09%		3.56%		-	
BlackRock Global Alpha Tilts	(22.05%)	66	(12.39%)	64	1.94%	51	-		7.05%	(3/16)
MSCI ACWI Gross	(21.26%)	57	(10.76%)	52	2.05%	50	3.41%	53	7.06%	(3/16)
Callan Global Equity	(20.70%)		(10.28%)		2.09%		3.56%		-	
MFS Investment Management	(18.67%)	36	(3.16%)	15	9.08%	10	8.11%	12	9.97%	(12/12)
MSCI ACWI Gross	(21.26%)	57	(10.76%)	52	2.05%	50	3.41%	53	6.64%	(12/12)
Callan Global Equity	(20.70%)		(10.28%)		2.09%		3.56%		-	
Total International Equity	(27.08%)	95	(18.92%)	92	(4.21%)	90	(1.19%)	84	5.64%	(5/96)
MSCI EAFE	(22.83%)	36	(14.38%)	45	(1.82%)	63	(0.62%)	79	3.55%	(5/96)
Pub Pln- Intl Equity	(23.20%)		(14.66%)		(1.50%)		0.13%		-	
AQR Emerging Markets	(24.04%)	40	(16.73%)	47	(3.44%)	78	-		0.87%	(8/16)
MSCI EM Gross	(23.57%)	34	(17.36%)	51	(1.25%)	47	0.01%	62	1.85%	(8/16)
Callan Emerging Broad	(24.79%)		(17.07%)		(1.50%)		0.38%		-	
Brandes Investment Partners	(30.10%)	93	(24.40%)	95	(6.60%)	94	(2.88%)	91	6.17%	(2/98)
MSCI EAFE	(22.83%)	50	(14.38%)	53	(1.82%)	61	(0.62%)	61	3.53%	(2/98)
Callan NonUS Eq	(22.85%)		(13.90%)		(1.23%)		0.17%		-	
William Blair & Company	(19.61%)	18	(7.16%)	15	2.53%	19	1.70%	25	6.43%	(12/03)
MSCI ACWIxUS Gross	(23.26%)	56	(15.14%)	58	(1.48%)	53	(0.17%)	53	5.27%	(12/03)
Callan NonUS Eq	(22.85%)		(13.90%)		(1.23%)		0.17%		-	
DFA International Small Cap	(33.58%)	89	(25.65%)	90	(9.71%)	92	(3.18%)	88	1.74%	(5/06)
Blended Benchmark	(27.52%)	46	(18.15%)	47	(2.88%)	44	0.97%	50	1.54%	(5/06)
Callan Intl Small Cap	(27.74%)		(18.29%)		(3.37%)		1.04%		-	

Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended March 31, 2020. 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, 2020

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Fixed Income	(11.21%)		(4.79%)		0.88%		1.70%		7.09%	(12/87)
Bimbg Aggregate	3.15%		8.93%		4.82%		3.36%		6.31%	(12/87)
Allianz US Fixed Income 250	(27.04%)	100	(21.19%)	100	-		-		(7.76%)	(2/18)
Bimbg Aggregate +2.5%	3.71%	9	11.44%	5	7.33%	1	5.86%	1	8.52%	(2/18)
Callan Core Bond FI	2.17%		8.13%		4.77%		3.56%		-	
BlackRock US Debt Idx Fd	3.02%	23	8.83%	25	4.86%	40	-		3.48%	(6/16)
Bimbg Aggregate	3.15%	18	8.93%	21	4.82%	41	3.36%	75	3.76%	(6/16)
Callan Core Bond FI	2.17%		8.13%		4.77%		3.56%		-	
Reams Asset Management	3.92%	2	9.65%	2	5.79%	1	4.29%	3	5.74%	(1/01)
Bimbg Aggregate	3.15%	3	8.93%	4	4.82%	15	3.36%	53	4.80%	(1/01)
Callan Core Plus FI	(0.21%)		5.77%		4.18%		3.41%		-	
Loomis, Sayles & Company, L.P.	(8.16%)	99	(0.59%)	99	2.69%	95	3.52%	42	8.67%	(12/87)
Bimbg Aggregate	3.15%	3	8.93%	4	4.82%	15	3.36%	53	6.31%	(12/87)
Callan Core Plus FI	(0.21%)		5.77%		4.18%		3.41%		-	
Total Private Equity	(0.05%)		16.75%		18.50%		15.16%		9.85%	(6/10)
Abbott Capital Management 2010	0.00%		16.52%		21.06%		17.21%		(3.31%)	(6/10)
Abbott Capital Management 2011	0.00%		19.64%		21.49%		16.87%		(0.22%)	(6/11)
Abbott Capital Management 2012	0.00%		17.91%		20.05%		14.17%		8.02%	(7/12)
Abbott Capital Management 2013	0.00%		21.13%		21.64%		14.13%		8.80%	(5/13)
Abbott Capital Management 2014	0.00%		19.74%		18.54%		11.46%		6.77%	(4/14)
Abbott Capital Management 2015	0.00%		15.14%		11.80%		8.09%		8.09%	(4/15)
Abbott Capital Management 2016	(0.20%)		9.22%		6.03%		-		4.04%	(3/16)
Abbott Capital Management 2018	(0.38%)		7.55%		-		-		2.44%	(7/18)
Abbott Capital Management 2019	0.00%		-		-		-		0.00%	(1/20)
Mesirow V	0.00%		16.29%		18.49%		17.31%		13.69%	(6/10)
Mesirow VI	0.00%		23.23%		20.09%		11.33%		8.61%	(7/13)
Mesirow VII	(0.48%)		3.83%		(13.81%)		-		-	
NB Secondary Opp Fund III	0.00%		12.18%		16.90%		16.87%		11.97%	(12/13)
NB Secondary Opp Fund IV	0.00%		18.16%		22.35%		-		22.35%	(4/17)
Private Advisors VI	0.04%		18.02%		15.68%		4.79%		4.79%	(4/15)
Private Advisors VII	0.00%		11.23%		8.57%		-		7.89%	(1/17)
Private Advisors VIII	0.08%		(4.01%)		-		-		5.40%	(8/18)
PE Blended Benchmark (3)	9.48%		33.84%		17.62%		14.29%		17.44%	(8/18)
Absolute Return	(26.54%)		(20.19%)		(4.21%)		(0.86%)		0.35%	(6/14)
Allianz SA 1000	(90.81%)	100	(89.71%)	100	(51.01%)	100	(32.45%)	100	(27.35%)	(6/14)
T-Bills + 10%	2.95%	6	12.26%	4	11.83%	1	11.19%	1	11.02%	(6/14)
Callan Abs Rtn Hedge FoF	(8.47%)		(6.70%)		0.11%		0.81%		-	
Newton	(8.64%)	51	(1.40%)	19	2.87%	11	2.56%	10	3.03%	(8/14)
1-month LIBOR + 4%	1.33%	8	5.98%	8	5.86%	2	5.28%	2	5.15%	(8/14)
Callan Abs Rtn Hedge FoF	(8.47%)		(6.70%)		0.11%		0.81%		-	
UBS A & Q	(2.24%)	14	4.91%	10	4.17%	4	3.56%	5	3.81%	(12/14)
1-month LIBOR + 4%	1.33%	8	5.98%	8	5.86%	2	5.28%	2	5.21%	(12/14)
Callan Abs Rtn Hedge FoF	(8.47%)		(6.70%)		0.11%		0.81%		-	
Real Assets	(18.86%)		(13.84%)		(2.62%)		-		0.49%	(1/16)
Principal DRA	(18.86%)	59	(13.84%)	57	(2.62%)	49	-		0.49%	(1/16)
Principal Blended Benchmark (1)	(18.88%)	59	(14.29%)	57	(2.34%)	48	-		0.43%	(1/16)
Callan Alternative Inv DB	(14.46%)		(10.69%)		(2.89%)		(4.08%)		-	
Total Real Estate	1.94%		7.06%		8.08%		9.67%		6.70%	(7/86)
Real Estate	1.94%	23	7.06%	33	8.08%	27	9.67%	19	6.70%	(7/86)
Blended Benchmark (2)	1.30%	59	5.18%	58	6.46%	57	8.34%	42	-	
Callan Tot Real Est DB	1.58%		5.85%		6.73%		8.09%		-	
Total Fund	(17.48%)		(8.84%)		2.12%		3.66%		9.02%	(1/79)
Total Fund Reference Index*	(8.81%)		0.35%		4.45%		4.77%		-	

* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Bimbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

(1) Current Principal Blended Benchmark = 35% Barclays 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 NFI-ODCE (1 Qtr Arrears) thereafter.

(3) Blended Benchmark = Russell 3000 (1 Qtr in Arrears) + 3% through 12/31/2019, Russell 3000 (1 Qtr in Arrears) + 2% 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.

	12/2019- 3/2020		2019		2018		2017		2016	
Total Domestic Equity	(25.69%)	95	29.24%	74	(5.80%)	50	20.91%	41	13.91%	29
Russell 3000 Index	(20.90%)	31	31.02%	30	(5.24%)	35	21.13%	39	12.74%	54
Pub Pln- Dom Equity	(21.86%)		30.24%		(5.81%)		20.51%		12.86%	
BlackRock Russell 1000 Value	(26.49%)	36	26.79%	46	(8.12%)	42	-	-	-	
Russell 1000 Value Index	(26.73%)	42	26.54%	49	(8.27%)	44	13.66%	91	17.34%	26
Callan Large Cap Value	(27.20%)		26.47%		(8.76%)		17.10%		15.27%	
DFA Large Cap Value	(32.30%)	89	26.71%	46	(12.40%)	83	-	-	-	
Russell 1000 Value Index	(26.73%)	42	26.54%	49	(8.27%)	44	13.66%	91	17.34%	26
Callan Large Cap Value	(27.20%)		26.47%		(8.76%)		17.10%		15.27%	
Northern Trust Global	(19.59%)	43	31.54%	39	(4.34%)	33	21.87%	48	12.01%	21
S&P 500 Index	(19.60%)	43	31.49%	39	(4.38%)	33	21.83%	49	11.96%	21
Callan Large Cap Core	(19.66%)		30.50%		(5.33%)		21.72%		10.42%	
Polen Capital Management	(12.95%)	36	38.85%	12	9.14%	4	27.67%	65	1.70%	72
S&P 500 Index	(19.60%)	97	31.49%	78	(4.38%)	91	21.83%	98	11.96%	2
Callan Large Cap Growth	(14.00%)		34.47%		0.51%		28.84%		3.39%	
Earnest Partners LLC	(23.52%)	38	38.38%	11	(9.80%)	45	26.16%	23	16.52%	29
Russell MidCap Index	(27.07%)	52	30.54%	52	(9.06%)	41	18.52%	55	13.80%	42
Callan Mid Capitalization	(26.71%)		31.00%		(10.60%)		19.58%		12.23%	
DFA Small Cap Value	(39.17%)	81	18.79%	89	(14.84%)	52	7.68%	66	29.36%	32
Russell 2000 Value Index	(35.66%)	41	22.39%	65	(12.86%)	23	7.84%	65	31.74%	14
Callan Small Cap Value	(36.20%)		24.31%		(14.79%)		9.19%		27.86%	
CastleArk Management	(29.60%)	89	23.28%	83	3.29%	15	23.93%	59	6.01%	68
Russell 2000 Growth Index	(25.76%)	76	28.48%	52	(9.31%)	85	22.17%	70	11.32%	36
Callan Small Cap Growth	(23.36%)		29.79%		(3.04%)		25.74%		8.62%	
Total Global Equity	(20.75%)	50	31.05%	27	(8.18%)	40	31.31%	16	8.65%	27
MSCI World	(21.05%)	54	27.67%	50	(8.71%)	44	22.40%	75	7.51%	39
Callan Global Equity	(20.70%)		27.60%		(9.52%)		25.27%		6.21%	
BlackRock Global Alpha Tilts	(22.05%)	66	26.86%	53	(11.20%)	67	30.12%	22	-	
MSCI ACWI Gross	(21.26%)	57	27.30%	51	(8.93%)	46	24.62%	56	8.48%	28
Callan Global Equity	(20.70%)		27.60%		(9.52%)		25.27%		6.21%	
MFS Investment Management	(18.67%)	36	37.31%	4	(3.75%)	11	33.16%	12	6.06%	52
MSCI ACWI Gross	(21.26%)	57	27.30%	51	(8.93%)	46	24.62%	56	8.48%	28
Callan Global Equity	(20.70%)		27.60%		(9.52%)		25.27%		6.21%	
Total International Equity	(27.08%)	95	21.68%	75	(15.19%)	68	25.03%	94	5.78%	23
MSCI EAFE	(22.83%)	36	22.01%	65	(13.79%)	42	25.03%	94	1.00%	88
Pub Pln- Intl Equity	(23.20%)		22.94%		(14.13%)		29.11%		4.10%	
AQR Emerging Markets	(24.04%)	40	20.54%	63	(18.31%)	86	35.53%	73	-	
MSCI EM Gross	(23.57%)	34	18.90%	72	(14.24%)	28	37.75%	58	11.60%	49
Callan Emerging Broad	(24.79%)		22.16%		(15.34%)		39.31%		11.56%	
Brandes Investment Partners	(30.10%)	93	15.31%	98	(8.79%)	6	16.53%	99	8.50%	4
MSCI EAFE	(22.83%)	50	22.01%	66	(13.79%)	35	25.03%	75	1.00%	57
Callan NonUS Eq	(22.85%)		23.49%		(15.13%)		28.15%		1.48%	
William Blair & Company	(19.61%)	18	31.58%	9	(16.86%)	72	31.45%	22	(1.45%)	82
MSCI ACWIxUS Gross	(23.26%)	56	22.13%	64	(13.77%)	35	27.77%	56	5.01%	16
Callan NonUS Eq	(22.85%)		23.49%		(15.13%)		28.15%		1.48%	
DFA International Small Cap	(33.58%)	89	21.62%	82	(23.31%)	91	27.98%	92	8.00%	8
Blended Benchmark	(27.52%)	46	24.96%	49	(17.89%)	30	33.01%	74	2.18%	32
Callan Intl Small Cap	(27.74%)		24.94%		(19.66%)		35.27%		(0.03%)	

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.

	12/2019- 3/2020		2019		2018		2017		2016	
Total Fixed Income	(11.21%)		11.95%		(0.33%)		5.28%		7.40%	
Blmbg Aggregate	3.15%		8.72%		0.01%		3.54%		2.65%	
BlackRock US Debt Idx Fd	3.02%	23	8.79%	82	0.06%	57	3.68%	76	-	-
Blmbg Aggregate	3.15%	18	8.72%	84	0.01%	62	3.54%	87	2.65%	87
Callan Core Bond FI	2.17%		9.18%		0.11%		3.96%		3.14%	
Reams Asset Management	3.92%	2	8.82%	92	1.91%	1	3.62%	95	4.38%	63
Blmbg Aggregate	3.15%	3	8.72%	93	0.01%	31	3.54%	95	2.65%	100
Callan Core Plus FI	(0.21%)		10.03%		(0.25%)		4.97%		4.67%	
Loomis, Sayles & Company, L.P.	(8.16%)	99	14.42%	1	(2.11%)	98	8.50%	1	13.97%	1
Blmbg Aggregate	3.15%	3	8.72%	93	0.01%	31	3.54%	95	2.65%	100
Callan Core Plus FI	(0.21%)		10.03%		(0.25%)		4.97%		4.67%	
Total Private Equity	(0.05%)		16.63%		21.48%		17.27%		9.09%	
Abbott Capital Management 2010	0.00%		16.52%		26.90%		19.98%		11.03%	
Abbott Capital Management 2011	0.00%		19.64%		25.70%		19.24%		10.43%	
Abbott Capital Management 2012	0.00%		17.91%		24.39%		17.97%		9.42%	
Abbott Capital Management 2013	0.00%		21.13%		25.17%		18.71%		5.25%	
Abbott Capital Management 2014	0.00%		19.74%		22.58%		13.50%		2.86%	
Abbott Capital Management 2015	0.00%		15.14%		13.57%		6.87%		(5.11%)	
Abbott Capital Management 2016	(0.20%)		9.08%		9.43%		(1.13%)		-	
Abbott Capital Management 2018	(0.38%)		7.26%		-		-		-	
Abbott Capital Management 2019	0.00%		-		-		-		-	
Mesirow V	0.00%		16.29%		18.01%		21.00%		12.03%	
Mesirow VI	0.00%		22.73%		24.87%		12.50%		3.32%	
Mesirow VII	(0.48%)		3.33%		(7.82%)		-		-	
NB Secondary Opp Fund III	0.00%		12.18%		16.65%		20.63%		12.83%	
Private Advisors VI	0.04%		17.98%		15.19%		13.15%		(1.34%)	
Private Advisors VII	0.00%		11.23%		19.02%		(3.33%)		-	
Private Advisors VIII	0.08%		(4.08%)		-		-		-	
PE Blended Benchmark (3)	9.48%		6.19%		20.60%		21.71%		17.97%	
Absolute Return	(26.54%)		13.10%		1.61%		5.96%		5.16%	
Allianz SA 1000	(90.81%)	100	20.28%	1	(0.97%)	73	9.67%	10	11.15%	1
T-Bills + 10%	2.95%	6	12.28%	2	11.87%	1	10.86%	5	10.33%	1
Callan Abs Rtn Hedge FoF	(8.47%)		4.71%		0.51%		4.97%		3.35%	
Newton	(8.64%)	51	13.15%	2	2.18%	14	5.59%	39	3.31%	52
1-month LIBOR + 4%	1.33%	8	6.26%	26	6.07%	2	5.11%	47	4.49%	23
Callan Abs Rtn Hedge FoF	(8.47%)		4.71%		0.51%		4.97%		3.35%	
UBS A & Q	(2.24%)	14	9.53%	4	2.65%	12	4.16%	67	2.42%	71
1-month LIBOR + 4%	1.33%	8	6.26%	26	6.07%	2	5.11%	47	4.49%	23
Callan Abs Rtn Hedge FoF	(8.47%)		4.71%		0.51%		4.97%		3.35%	
Real Assets	(18.86%)		15.39%		(7.47%)		10.15%		7.00%	
Principal DRA	(18.86%)	59	15.39%	13	(7.47%)	48	10.15%	15	7.00%	70
Principal Blended Benchmark (1)	(18.88%)	59	14.86%	14	(7.27%)	46	10.38%	15	6.77%	71
Callan Alternative Inv DB	(14.46%)		7.87%		(8.01%)		4.59%		10.52%	
Total Real Estate	1.94%		6.21%		9.18%		9.20%		11.38%	
Real Estate	1.94%	23	6.21%	63	9.18%	37	9.20%	39	11.38%	28
Blended Benchmark (2)	1.30%	59	5.26%	72	7.89%	48	6.93%	58	9.69%	42
Callan Tot Real Est DB	1.58%		7.42%		7.73%		7.73%		8.73%	
Total Fund	(17.48%)		18.72%		(2.74%)		16.68%		9.11%	
Total Fund Reference Index*	(8.81%)		16.52%		(3.29%)		15.80%		7.43%	

* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

(1) Current Principal Blended Benchmark = 35% Barclays 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 NFI-ODCE (1 Qtr Arrears) thereafter.

(3) Blended Benchmark = Russell 3000 (1 Qtr in Arrears) + 3% through 12/31/2019, Russell 3000 (1 Qtr in Arrears) + 2% 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, 2020. 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, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net of Fee Returns					
Total Domestic Equity Net	(25.73%)	(16.10%)	0.93%	3.89%	8.60%
Russell 3000 Index	(20.90%)	(9.13%)	4.00%	5.77%	10.15%
BlackRock Russell 1000 Value	(26.49%)	(16.78%)	(1.94%)	-	-
Russell 1000 Value Index	(26.73%)	(17.17%)	(2.18%)	1.90%	7.67%
DFA Large Cap Value	(32.35%)	(23.05%)	-	-	-
Russell 1000 Value Index	(26.73%)	(17.17%)	(2.18%)	1.90%	7.67%
Northern Trust Global	(19.59%)	(6.97%)	5.13%	6.76%	10.55%
S&P 500 Index	(19.60%)	(6.98%)	5.10%	6.73%	10.53%
Polen Capital Management	(13.04%)	2.78%	14.98%	13.25%	-
S&P 500 Index	(19.60%)	(6.98%)	5.10%	6.73%	10.53%
Earnest Partners LLC	(23.62%)	(12.33%)	3.29%	5.90%	10.30%
Russell MidCap Index	(27.07%)	(18.31%)	(0.81%)	1.85%	8.77%
DFA Small Cap Value	(39.19%)	(35.02%)	(12.72%)	(5.15%)	4.59%
Russell 2000 Value Index	(35.66%)	(29.64%)	(9.51%)	(2.42%)	4.79%
CastleArk Management	(29.76%)	(29.30%)	1.02%	0.88%	-
Russell 2000 Growth Index	(25.76%)	(18.58%)	0.10%	1.70%	8.89%
Total Global Equity Net	(20.81%)	(9.13%)	4.42%	5.12%	6.31%
MSCI World	(21.05%)	(10.39%)	1.92%	3.25%	6.57%
BlackRock Global Alpha Tilts	(22.09%)	(12.68%)	1.79%	-	-
MFS Investment Management	(18.77%)	(3.57%)	8.63%	7.66%	-
MSCI ACWI Gross	(21.26%)	(10.76%)	2.05%	3.41%	6.45%
Total International Equity Net	(27.17%)	(19.33%)	(4.68%)	(1.67%)	3.00%
MSCI EAFE Index	(22.83%)	(14.38%)	(1.82%)	(0.62%)	2.72%
AQR Emerging Markets	(24.18%)	(17.35%)	(4.17%)	-	-
MSCI EM Gross	(23.57%)	(17.36%)	(1.25%)	0.01%	1.04%
Brandes Investment Partners	(30.18%)	(24.69%)	(6.97%)	(3.27%)	1.36%
MSCI EAFE Index	(22.83%)	(14.38%)	(1.82%)	(0.62%)	2.72%
William Blair & Company	(19.71%)	(7.59%)	2.10%	1.28%	5.36%
MSCI ACWI ex-US Index	(23.26%)	(15.14%)	(1.48%)	(0.17%)	2.52%
DFA International Small Cap	(33.70%)	(26.16%)	(9.92%)	(3.32%)	2.35%
Blended Benchmark	(27.52%)	(18.15%)	(2.88%)	0.97%	4.64%
Total Fixed Income Net	(11.23%)	(5.00%)	0.70%	1.53%	3.28%
Bimbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
Allianz US Fixed Income 250	(27.04%)	(21.48%)	-	-	-
Bimbg Aggregate +2.5%	3.71%	11.44%	7.33%	5.86%	6.39%
BlackRock US Debt Idx Fd	3.02%	8.81%	4.84%	-	-
Reams Asset Management	3.88%	9.48%	5.63%	4.14%	4.54%
Loomis, Sayles & Company, L.P.	(8.19%)	(0.74%)	2.55%	3.38%	5.48%
Bimbg Aggregate	3.15%	8.93%	4.82%	3.36%	3.88%
Total Private Equity	(0.05%)	16.75%	18.50%	15.16%	-
Abbott Capital Management 2010	0.00%	16.52%	21.06%	17.21%	-
Abbott Capital Management 2011	0.00%	19.64%	21.49%	16.87%	-
Abbott Capital Management 2012	0.00%	17.91%	20.05%	14.17%	-
Abbott Capital Management 2013	0.00%	21.13%	21.64%	14.13%	-
Abbott Capital Management 2014	0.00%	19.74%	18.54%	11.46%	-
Abbott Capital Management 2015	0.00%	15.14%	11.80%	8.09%	-
Abbott Capital Management 2016	(0.20%)	9.22%	6.03%	-	-
Abbott Capital Management 2018	(0.38%)	7.55%	-	-	-
Abbott Capital Management 2019	0.00%	-	-	-	-
Mesirow V	0.00%	16.29%	18.49%	17.31%	-
Mesirow IV	0.00%	23.23%	20.09%	11.33%	-
Mesirow VII	(0.48%)	3.83%	(13.81%)	-	-
NB Secondary Opp Fund III	0.00%	12.18%	16.90%	16.87%	-
NB Secondary Opp Fund IV	0.00%	18.16%	22.35%	-	-
Private Advisors VI	0.04%	18.02%	15.68%	4.79%	-
Private Advisors VII	0.00%	11.23%	8.57%	-	-
Private Advisors VIII	0.08%	(4.01%)	-	-	-
PE Blended Benchmark (3)	9.48%	33.84%	17.62%	14.29%	-
Absolute Return	(26.58%)	(20.65%)	(4.39%)	(0.98%)	-
Allianz SA 1000	(90.81%)	(89.87%)	(51.26%)	(32.66%)	-
T-Bills + 10%	2.95%	12.26%	11.83%	11.19%	10.64%
Newton	(8.78%)	(2.07%)	2.64%	2.42%	-
UBS A & Q	(2.24%)	4.91%	4.17%	3.56%	-
1-month LIBOR + 4%	1.33%	5.98%	5.86%	5.28%	4.75%
Real Assets	(18.99%)	(14.39%)	(2.83%)	-	-
Principal DRA	(18.99%)	(14.39%)	(2.83%)	-	-
Principal Blended Benchmark (1)	(18.88%)	(14.29%)	(2.34%)	-	-
Total Real Estate	1.84%	6.71%	7.80%	9.39%	10.97%
Real Estate	1.84%	6.71%	7.80%	9.39%	10.97%
Blended Benchmark (2)	1.30%	5.18%	6.46%	8.34%	10.21%
Total Fund Net	(17.52%)	(9.12%)	1.83%	3.37%	6.34%
Total Fund Reference Index	(8.81%)	0.35%	4.45%	4.77%	7.11%

*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.

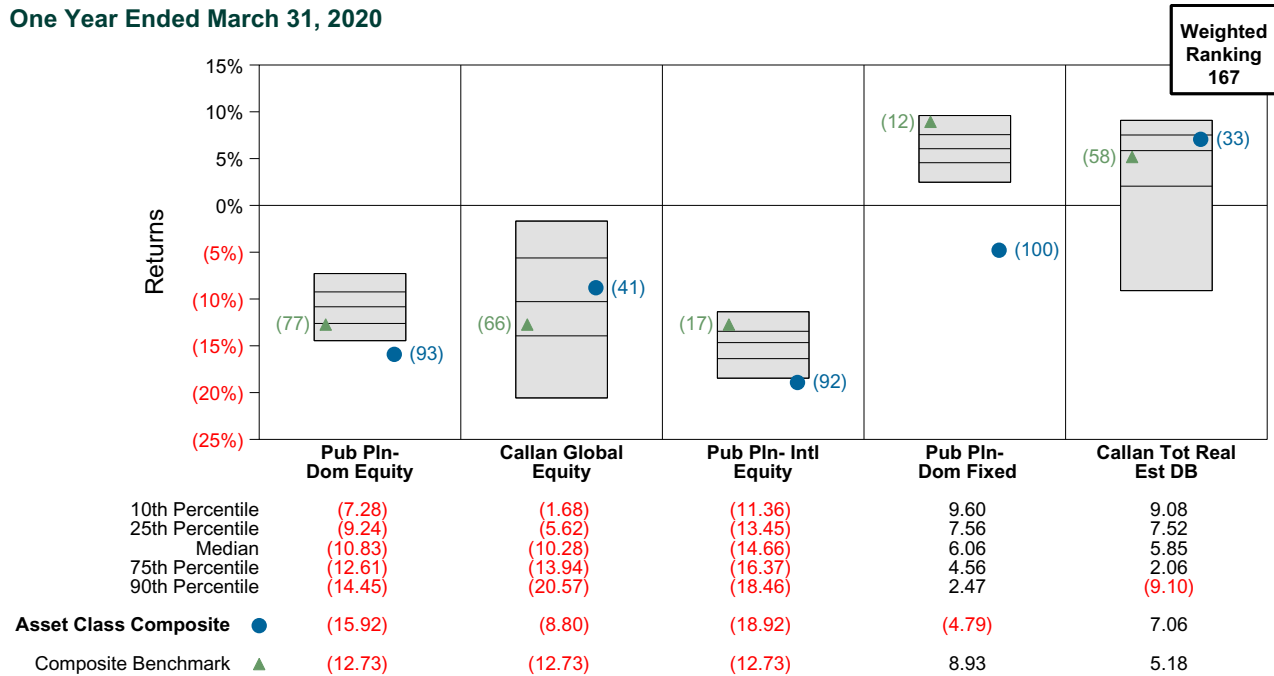
	12/2019- 3/2020	2019	2018	2017	2016
Net of Fee Returns					
Total Domestic Equity Net	(25.73%)	28.94%	(6.10%)	20.53%	13.55%
Russell 3000 Index	(20.90%)	31.02%	(5.24%)	21.13%	12.74%
BlackRock Russell 1000 Value	(26.49%)	26.77%	(8.13%)	-	-
Russell 1000 Value Index	(26.73%)	26.54%	(8.27%)	13.66%	17.34%
DFA Large Cap Value	(32.35%)	26.42%	(12.60%)	-	-
Russell 1000 Value Index	(26.73%)	26.54%	(8.27%)	13.66%	17.34%
Northern Trust Global	(19.59%)	31.53%	(4.37%)	21.83%	11.98%
S&P 500 Index	(19.60%)	31.49%	(4.38%)	21.83%	11.96%
Polen Capital Management	(13.04%)	38.27%	8.60%	27.05%	1.19%
S&P 500 Index	(19.60%)	31.49%	(4.38%)	21.83%	11.96%
Earnest Partners LLC	(23.62%)	37.65%	(10.29%)	25.50%	15.90%
Russell MidCap Index	(27.07%)	30.54%	(9.06%)	18.52%	13.80%
DFA Small Cap Value	(39.19%)	18.58%	(15.30%)	7.10%	28.68%
Russell 2000 Value Index	(35.66%)	22.39%	(12.86%)	7.84%	31.74%
CastleArk Management	(29.76%)	22.47%	2.60%	23.12%	5.30%
Russell 2000 Growth Index	(25.76%)	28.48%	(9.31%)	22.17%	11.32%
Total Global Equity Net	(20.81%)	30.55%	(8.51%)	30.85%	8.26%
MSCI World	(21.05%)	27.67%	(8.71%)	22.40%	7.51%
BlackRock Global Alpha Tilts	(22.09%)	26.48%	(11.24%)	30.06%	-
MFS Investment Management	(18.77%)	36.74%	(4.16%)	32.62%	5.62%
MSCI ACWI Gross	(21.26%)	27.30%	(8.93%)	24.62%	8.48%
Total International Equity Net	(27.17%)	21.08%	(15.60%)	24.44%	5.27%
MSCI EAFE Index	(22.83%)	22.01%	(13.79%)	25.03%	1.00%
AQR Emerging Markets	(24.18%)	19.64%	(18.93%)	34.55%	-
MSCI EM Gross	(23.57%)	18.90%	(14.24%)	37.75%	11.60%
Brandes Investment Partners	(30.18%)	14.86%	(9.17%)	16.06%	8.05%
MSCI EAFE Index	(22.83%)	22.01%	(13.79%)	25.03%	1.00%
William Blair & Company	(19.71%)	31.01%	(17.20%)	30.94%	(1.84%)
MSCI ACWI ex-US Index	(23.26%)	22.13%	(13.77%)	27.77%	5.01%
DFA International Small Cap	(33.70%)	21.00%	(23.31%)	27.98%	8.00%
Blended Benchmark	(27.52%)	24.96%	(17.89%)	33.01%	2.18%
Total Fixed Income Net	(11.23%)	11.68%	(0.47%)	5.09%	7.21%
Blmbg Aggregate	3.15%	8.72%	0.01%	3.54%	2.65%
Allianz US Fixed Income 250	(27.04%)	12.60%	-	-	-
Blmbg Aggregate +2.5%	3.71%	11.22%	2.51%	6.04%	5.16%
BlackRock US Debt Idx Fd	3.02%	8.77%	0.04%	3.66%	-
Reams Asset Management	3.88%	8.65%	1.76%	3.46%	4.22%
Loomis, Sayles & Company, L.P.	(8.19%)	14.25%	(2.24%)	8.36%	13.82%
Blmbg Aggregate	3.15%	8.72%	0.01%	3.54%	2.65%
Total Private Equity	(0.05%)	16.63%	21.48%	17.27%	9.09%
Abbott Capital Management 2010	0.00%	16.52%	26.90%	19.98%	11.03%
Abbott Capital Management 2011	0.00%	19.64%	25.70%	19.24%	10.43%
Abbott Capital Management 2012	0.00%	17.91%	24.39%	17.97%	9.42%
Abbott Capital Management 2013	0.00%	21.13%	25.17%	18.71%	5.25%
Abbott Capital Management 2014	0.00%	19.74%	22.58%	13.50%	2.86%
Abbott Capital Management 2015	0.00%	15.14%	13.57%	6.87%	(5.11%)
Abbott Capital Management 2016	(0.20%)	9.08%	9.43%	(1.13%)	-
Abbott Capital Management 2018	(0.38%)	7.26%	-	-	-
Abbott Capital Management 2019	0.00%	-	-	-	-
Mesirow V	0.00%	16.29%	18.01%	21.00%	12.03%
Mesirow IV	0.00%	22.73%	24.87%	12.50%	3.32%
Mesirow VII	(0.48%)	3.33%	(7.82%)	-	-
NB Secondary Opp Fund III	0.00%	12.18%	16.65%	20.63%	12.83%
NB Secondary Opp Fund IV	0.00%	14.76%	68.26%	-	-
Private Advisors VI	0.04%	17.98%	15.19%	13.15%	(1.34%)
Private Advisors VII	0.00%	11.23%	19.02%	(3.33%)	-
Private Advisors VIII	0.08%	(4.08%)	-	-	-
PE Blended Benchmark (3)	9.48%	6.19%	20.60%	21.71%	17.97%
Absolute Return	(26.58%)	12.50%	1.61%	5.96%	5.16%
Allianz SA 1000	(90.81%)	18.43%	(0.97%)	9.67%	11.15%
T-Bills + 10%	2.95%	12.28%	11.87%	10.86%	10.33%
Newton	(8.78%)	12.57%	2.18%	5.59%	3.31%
UBS A & Q	(2.24%)	9.53%	2.65%	4.16%	2.42%
1-month LIBOR + 4%	1.33%	6.26%	6.07%	5.11%	4.49%
Real Assets	(18.99%)	14.84%	(7.47%)	10.15%	7.00%
Principal DRA	(18.99%)	14.84%	(7.47%)	10.15%	7.00%
Principal Blended Benchmark (1)	(18.88%)	14.86%	(7.27%)	10.38%	6.77%
Total Real Estate	1.84%	5.95%	8.94%	8.89%	11.09%
Real Estate	1.84%	5.95%	8.94%	8.89%	11.09%
Blended Benchmark (2)	1.30%	5.26%	7.89%	6.93%	9.69%
Total Fund Net	(17.52%)	18.34%	(3.01%)	16.36%	8.80%
Total Fund Reference Index	(8.81%)	16.52%	(3.29%)	15.80%	7.43%

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

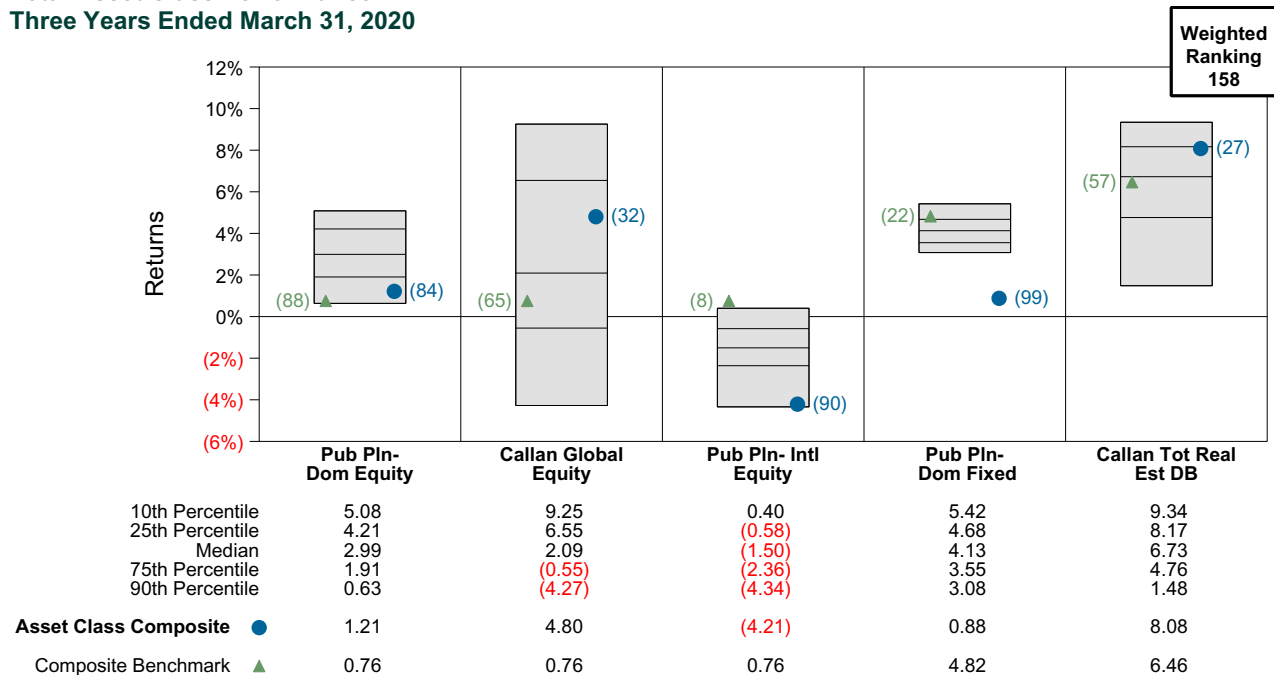
Asset Class Rankings

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.

Total Asset Class Performance One Year Ended March 31, 2020



Total Asset Class Performance Three Years Ended March 31, 2020

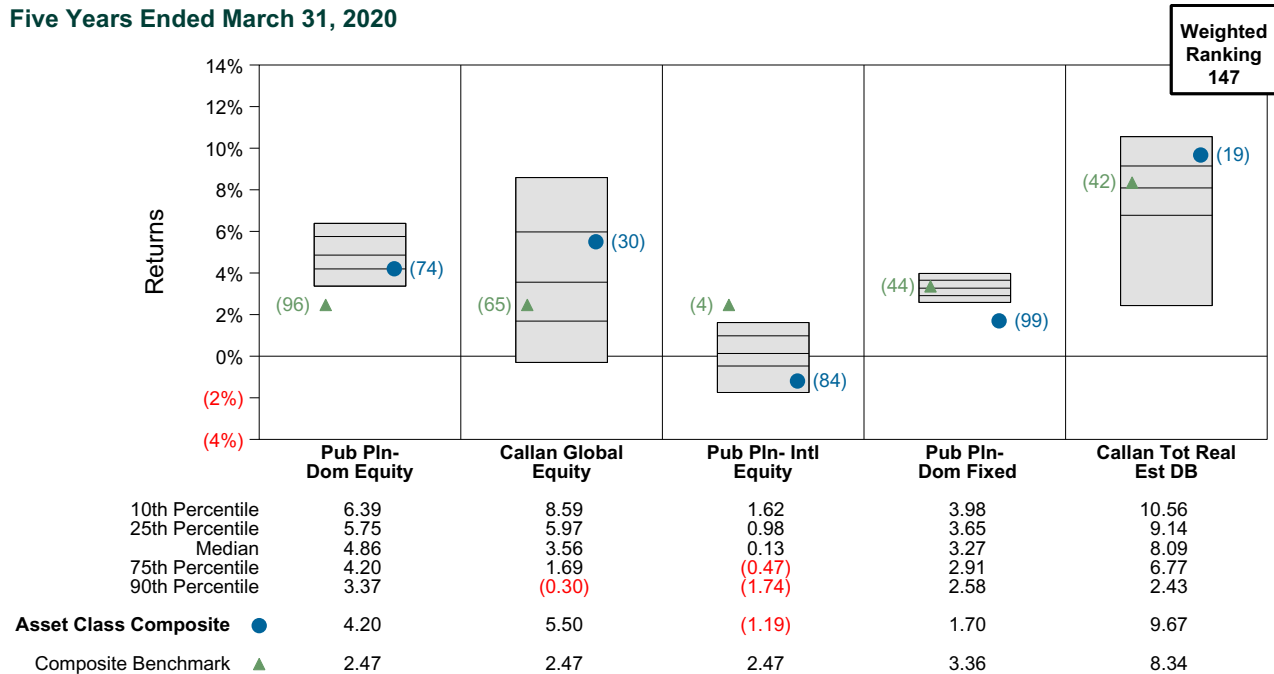


* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

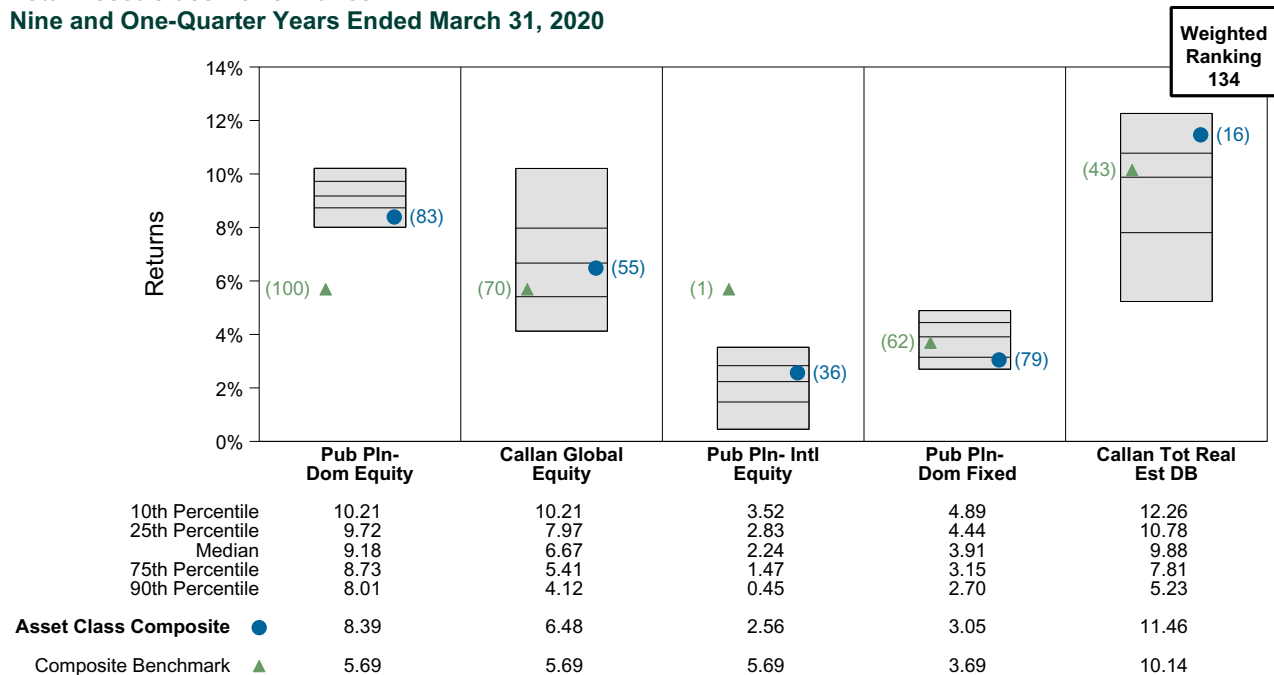
Asset Class Rankings

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.

Total Asset Class Performance Five Years Ended March 31, 2020



Total Asset Class Performance Nine and One-Quarter Years Ended March 31, 2020

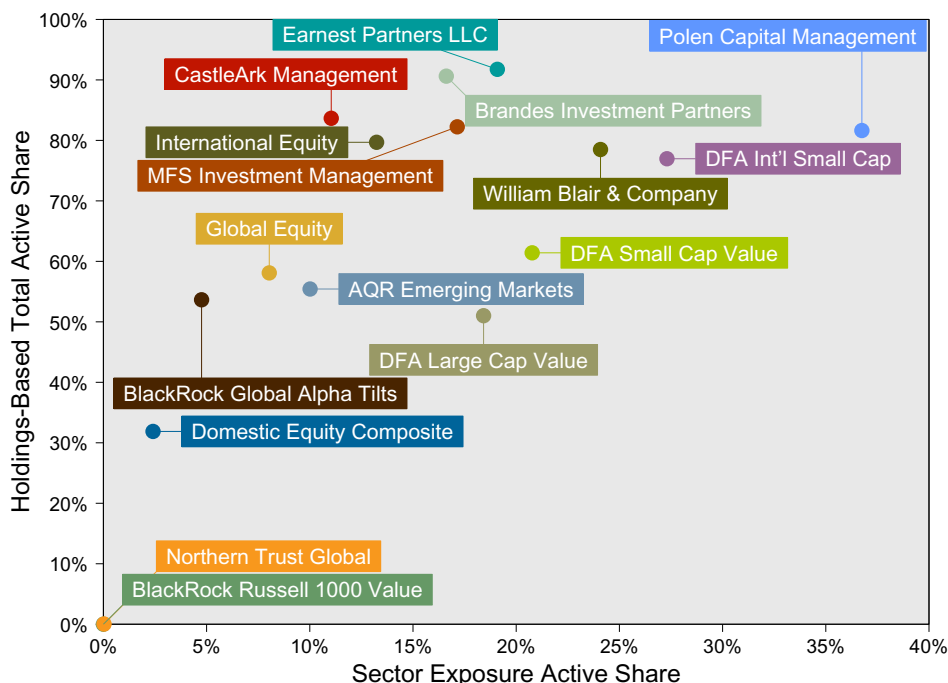


* Current Quarter Target = 43.0% MSCI ACWI IMI, 26.0% Blmbg Aggregate, 10.0% 3-month Treasury Bill+3.0%, 10.0% Russell 3000 Index lagged 3 months+2.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

Active Share Structure Analysis For One Quarter Ended March 31, 2020

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, 2020



	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
Domestic Equity Composite	Russell 3000	31.88%	0.25%	2.40%	1820	52.81
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	755	45.87
DFA Large Cap Value	Russell 1000 Value	51.02%	0.48%	18.42%	275	22.40
Northern Trust Global	S&P 500	0.04%	0.00%	0.03%	504	42.01
Polen Capital Management	S&P 500	81.63%	0.00%	36.75%	22	6.88
Earnest Partners LLC	Russell MidCap	91.75%	14.69%	19.09%	59	19.31
DFA Small Cap Value	Russell 2000 Value	61.41%	14.25%	20.77%	937	105.19
CastleArk Management	Russell 2000 Growth	83.65%	19.86%	11.04%	105	34.95
Global Equity	MSCI World	58.09%	8.40%	8.04%	921	58.82
BlackRock Global Alpha Tilts	MSCI ACWI Gross	53.65%	3.99%	4.76%	877	62.05
MFS Investment Management	MSCI ACWI Gross	82.24%	2.96%	17.14%	86	26.04
International Equity	MSCI EAFE	79.69%	27.14%	13.24%	2604	73.11
AQR Emerging Markets	MSCI EM Gross	55.43%	1.00%	10.01%	313	30.56
Brandes Investment Partners	MSCI EAFE	90.62%	10.49%	16.61%	60	20.00
William Blair & Company	MSCI ACWixUS Gross	78.49%	9.42%	24.09%	279	41.98
DFA Int'l Small Cap	MSCI World ex US Sm Cap	76.96%	9.64%	27.30%	1995	182.23

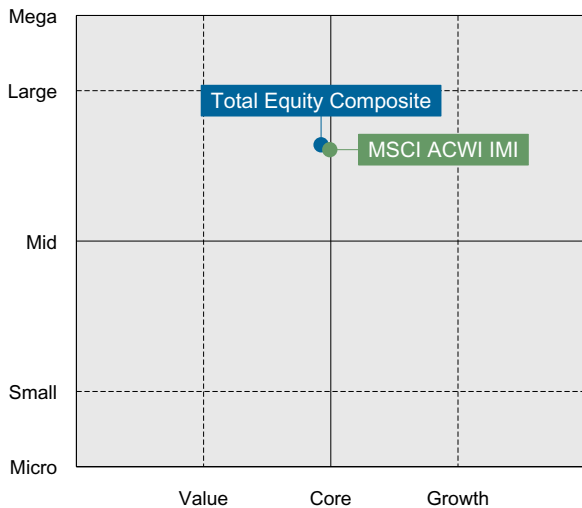
Current Holdings Based Style Analysis

Total Equity Composite

As of March 31, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

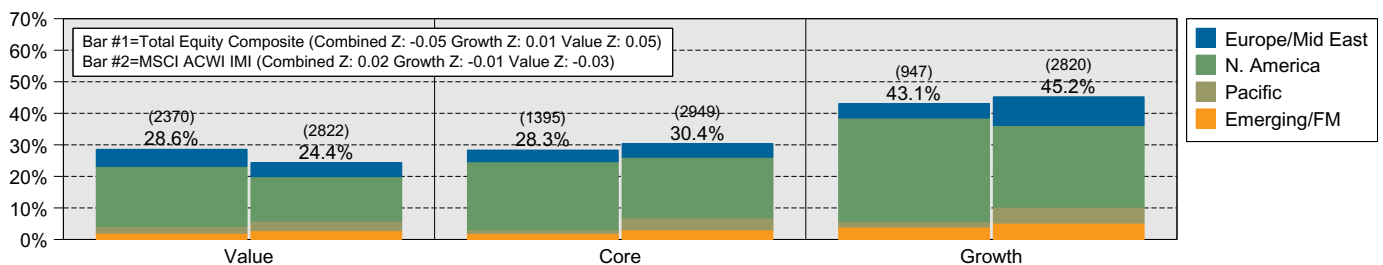
Style Map vs Callan Public Fund Spr DB Holdings as of March 31, 2020



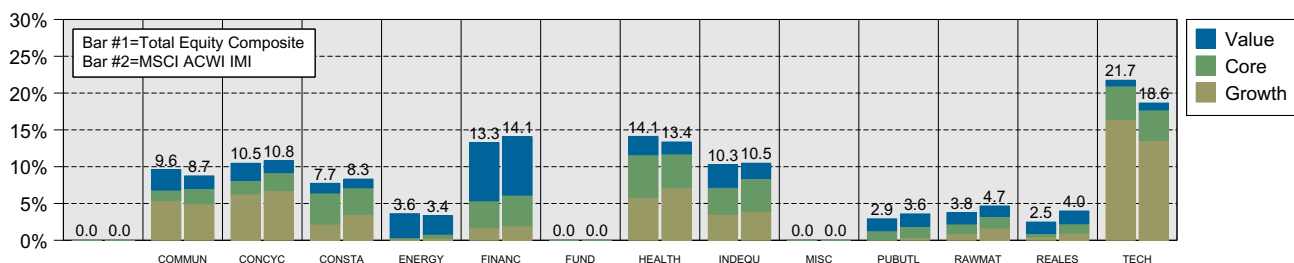
Style Exposure Matrix Holdings as of March 31, 2020

	Value	Core	Growth	Total
Europe/ Mid East	5.4% (419)	3.7% (291)	4.6% (202)	13.7% (912)
	4.5% (438)	4.3% (492)	9.1% (466)	17.9% (1396)
N. America	19.0% (957)	21.6% (613)	32.8% (408)	73.5% (1978)
	14.1% (916)	19.2% (937)	25.9% (816)	59.3% (2669)
Pacific	2.1% (826)	1.1% (343)	1.7% (151)	4.9% (1320)
	3.0% (551)	3.8% (598)	5.1% (618)	11.8% (1767)
Emerging/ FM	2.0% (168)	2.0% (148)	4.0% (186)	7.9% (502)
	2.8% (917)	3.0% (922)	5.2% (920)	11.0% (2759)
Total	28.6% (2370)	28.3% (1395)	43.1% (947)	100.0% (4712)
	24.4% (2822)	30.4% (2949)	45.2% (2820)	100.0% (8591)

Combined Z-Score Style Distribution Holdings as of March 31, 2020



Sector Weights Distribution Holdings as of March 31, 2020



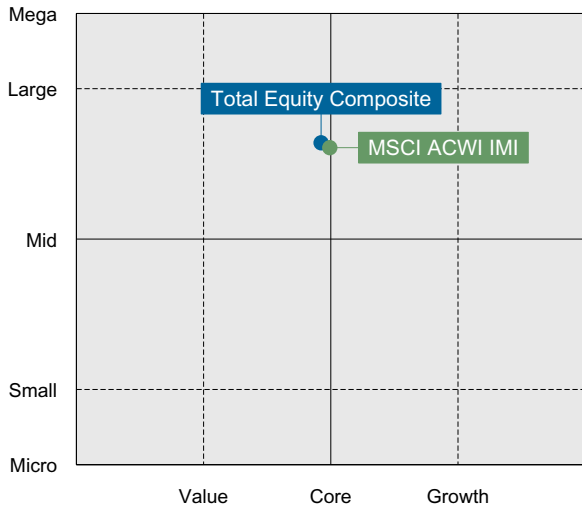
Current Holdings Based Style Analysis

Total Equity Composite

As of March 31, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

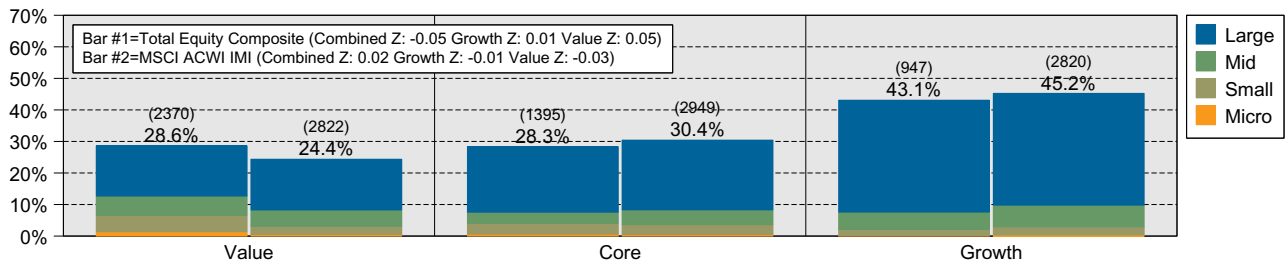
Style Map vs Callan Public Fund Spr DB Holdings as of March 31, 2020



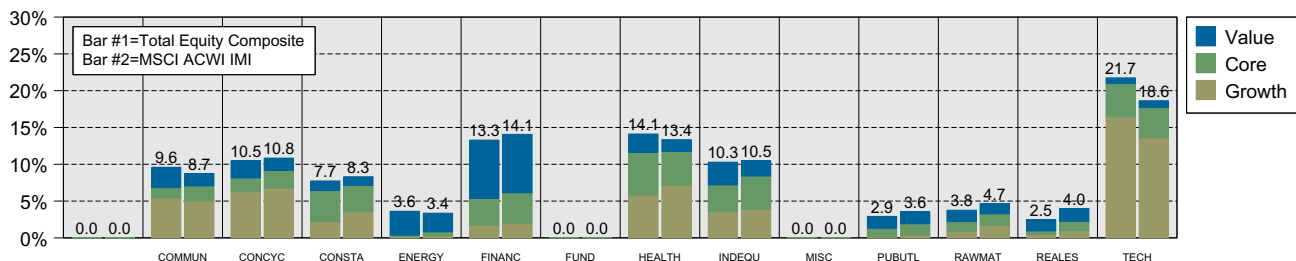
Style Exposure Matrix Holdings as of March 31, 2020

	Value	Core	Growth	Total
Large	15.9% (187)	20.8% (197)	35.5% (258)	72.1% (642)
	16.1% (243)	22.1% (261)	35.4% (355)	73.6% (859)
Mid	6.1% (286)	3.6% (231)	5.5% (300)	15.2% (817)
	5.2% (500)	4.7% (523)	6.9% (695)	16.8% (1718)
Small	5.2% (553)	3.4% (442)	1.9% (235)	10.5% (1230)
	2.6% (1046)	3.1% (1298)	2.6% (1093)	8.3% (3437)
Micro	1.4% (1344)	0.6% (525)	0.2% (154)	2.2% (2023)
	0.5% (1033)	0.5% (867)	0.4% (677)	1.4% (2577)
Total	28.6% (2370)	28.3% (1395)	43.1% (947)	100.0% (4712)
	24.4% (2822)	30.4% (2949)	45.2% (2820)	100.0% (8591)

Combined Z-Score Style Distribution Holdings as of March 31, 2020



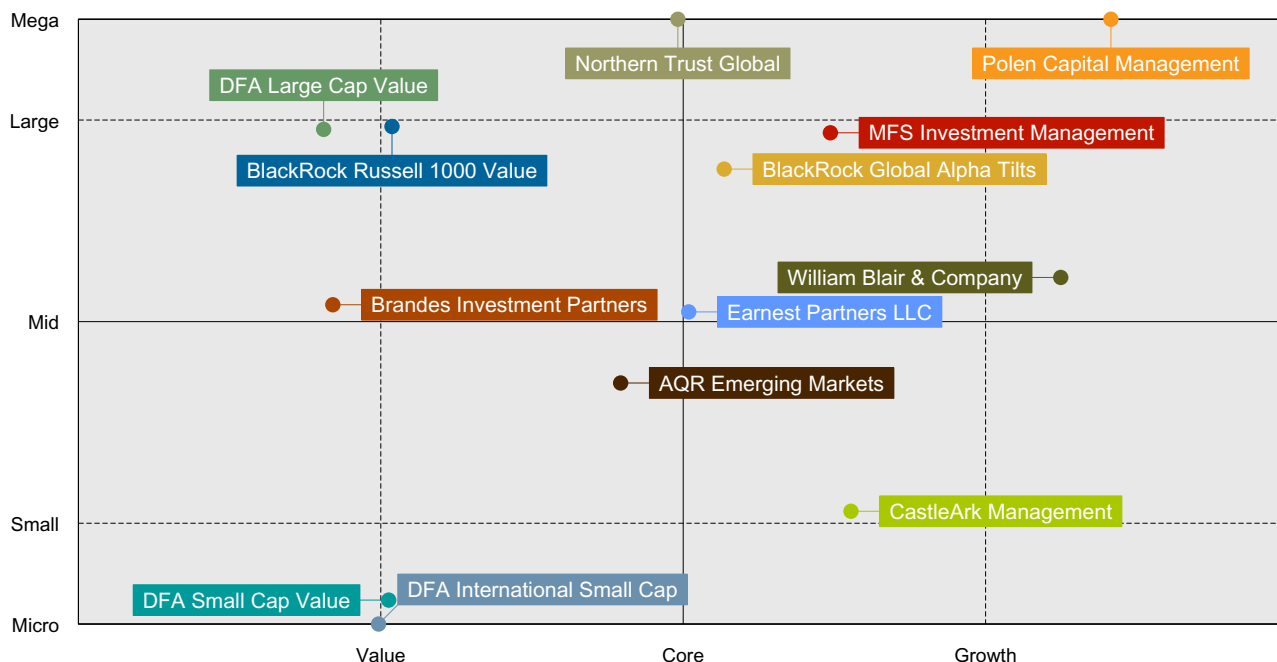
Sector Weights Distribution Holdings as of March 31, 2020



Global Holdings Based Style Analysis For One Quarter Ended March 31, 2020

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, 2020



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
BlackRock Russell 1000 Value	5.74%	58.63	(0.96)	(0.48)	0.49	755	45.87
DFA Large Cap Value	5.49%	57.96	(1.20)	(0.37)	0.82	275	22.40
Northern Trust Global	12.81%	116.92	0.01	(0.01)	(0.02)	504	42.01
Polen Capital Management	6.44%	146.24	1.27	0.61	(0.66)	22	6.88
Earnest Partners LLC	4.75%	15.57	0.05	0.02	(0.03)	59	19.31
DFA Small Cap Value	5.94%	1.37	(0.98)	(0.22)	0.76	937	105.19
CastleArk Management	3.48%	2.88	0.52	0.12	(0.40)	105	34.95
MFS Investment Management	7.85%	57.17	0.46	0.02	(0.44)	86	26.04
BlackRock Global Alpha Tilts	11.12%	48.73	0.15	0.06	(0.09)	877	62.05
AQR Emerging Markets	4.22%	9.94	(0.18)	(0.02)	0.16	313	30.56
Brandes Investment Partners	14.07%	17.23	(1.17)	(0.28)	0.89	60	20.00
William Blair & Company	11.53%	23.57	1.13	0.43	(0.69)	279	41.98
DFA International Small Cap	6.56%	0.97	(1.01)	(0.30)	0.71	1995	182.23

Research and Educational Programs

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/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

[2020 National Workshop Summary: Turbocharging DC Plans](#)

In this workshop, Connie Lee, Jana Steele, and James Veneruso described ways in which defined contribution plan sponsors can improve participant outcomes, including plan design strategies and investment implementation steps.

[2019 Nuclear Decommissioning Funding Study](#) | Callan's annual study offers insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

[2020 National Workshop Summary: Diversifying Alternatives](#)

In this workshop, presenters Pete Keliuotis, Catherine Beard, and Ashley DeLuce discussed three lesser-known alternatives strategies: specialty lending, emerging market private equity, and insurance-linked strategies.

[2020 DC Trends Survey](#) | Callan's *2020 Defined Contribution Trends Survey* is designed to provide a benchmark for sponsors to evaluate their plans compared to peers, and to offer insights to help sponsors improve their plans and the outcomes for their participants.

[How Sponsors Can Harness DC Plan Data for Better Outcomes](#)

Defined contribution (DC) plans are designed to help participants achieve the most beneficial outcomes. But participants' choices may not necessarily reflect asset allocation best practices. Sponsors can help participants by analyzing how investment options are used and make adjustments based on those observations.

[The Callan Periodic Table of Investment Returns](#) | We offer our Periodic Table Collection and the Callan Periodic Table of Investment Returns (Key Indices: 2000-2019).

[Callan's 2020-2029 Capital Market Assumptions](#) | Callan develops capital market assumptions to help clients with their long-term strategic planning. This year, we reduced our fixed income

assumptions to reflect lower starting yields following the Fed pivot in policy, but we held constant our real equity return over inflation.

[2020 National Workshop Summary: Fee Study](#) | In this 2020 workshop, presenters Butch Cliff, Mark Stahl, and Brady O'Connell discussed the major themes of our *2019 Investment Management Fee Study* and their impact on the institutional investor community.

[An Introduction to Our New Hedge Fund Peer Group](#) | The Callan Institutional Hedge Fund Peer Group is designed to help institutional investors better understand alpha-oriented solutions that can diversify their existing stock and bond exposures, and it represents the available pool of hedge fund talent that investors will want to consider, or at least compare with their existing hedge fund portfolios.

Quarterly Periodicals

[Private Equity Trends, 4Q19](#) | A high-level summary of private equity activity in the quarter through all the investment stages

[Active vs. Passive Charts, 4Q19](#) | A comparison of active managers alongside relevant benchmarks over the long term

[Market Pulse Flipbook, 4Q19](#) | 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 Market Review, 4Q19](#) | 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, 4Q19](#) | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

[Real Assets Reporter, 4Q19](#) | Data and insights on real estate and other real assets investment topics.

Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: www.callan.com/library/

Please mark your calendar and look forward to upcoming invitations:

Upcoming Webinars

May 21 – Hedge Fund Overview

July 8 – China Update

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

Through the "Callan College," the Callan Institute offers educational sessions for industry professionals involved in the investment decision-making process. It was founded in 1994 to provide both clients and non-clients with basic- to intermediate-level instruction.

Introduction to Investments for Institutional Investors

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. 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 dates and registration can be found at: www.callan.com/callan-college-intro-2/

Alternative Investments for Institutional Investors

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In this one-day session, Callan experts will provide instruction about the importance of allocations to alternatives, and how to integrate, evaluate, and monitor them.

Learn from some of Callan's senior consultants and experts, including Pete Keliuotis, the head of Alternatives Consulting. The session will cover private equity, private credit, hedge funds, real estate, and real assets; why invest in alternatives; risk/return characteristics and liquidity; designing and implementing an alternatives program; and trends and case studies.

Tuition is \$2,000 per person and includes instruction, all materials, and breakfast and lunch with the instructors.

Additional information including dates and registration can be found at: <https://www.callan.com/callan-college-alternatives-2/>



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

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going 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
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
CapFinancial Partners, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Chartwell Investment Partners
ClearBridge Investments, LLC

Manager Name
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
D.E. Shaw Investment Management, L.L.C.
DePrince, Race & Zollo, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
GCM Grosvenor
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Green Square Capital Advisors, LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
Income Research + Management, Inc.

Manager Name
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MetLife Investment Management
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Nile Capital Group LLC
Northern Trust Asset Management
Nuveen
P/E Investments
Pacific Investment Management Company
Parametric Portfolio Associates LLC

Manager Name
Pathway Capital Management
Peregrine Capital Management, LLC.
Perkins Investment Management
PFM Asset Management LLC
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Polen Capital Management
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rothschild & Co. Asset Management US
S&P Dow Jones Indices
Schroder Investment Management North America Inc.
SLC Management
Smith Graham & Co. Investment Advisors, L.P.
State Street Global Advisors
Stone Harbor Investment Partners L.P.
Strategic Global Advisors
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
USAA Real Estate
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
WCM Investment Management
WEDGE Capital Management
Wellington Management Company LLP
Wells Fargo Asset Management
Western Asset Management Company LLC
Westfield Capital Management Company, LP
William Blair & Company LLC