

December 31, 2019



City of Milwaukee Employees' Retirement System

Investment Measurement Service Quarterly Review

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U.S. EQUITY

The fourth quarter closed out a near-historic year for equity markets, in particular the S&P 500, which ended 2019 up 31.5%—enough to claim second place behind 2013 for the strongest year of the decade (during which large cap equities only saw one down year). Both Apple (+85%) and Microsoft (+54%) reached over \$1 trillion in market cap and accounted for 15% of the S&P 500's advance for the year. For the recent quarter, investors globally were spurred by three interest rate cuts by the Fed, a potential U.S.-China trade armistice, continued low inflation, and some clarity around Brexit.

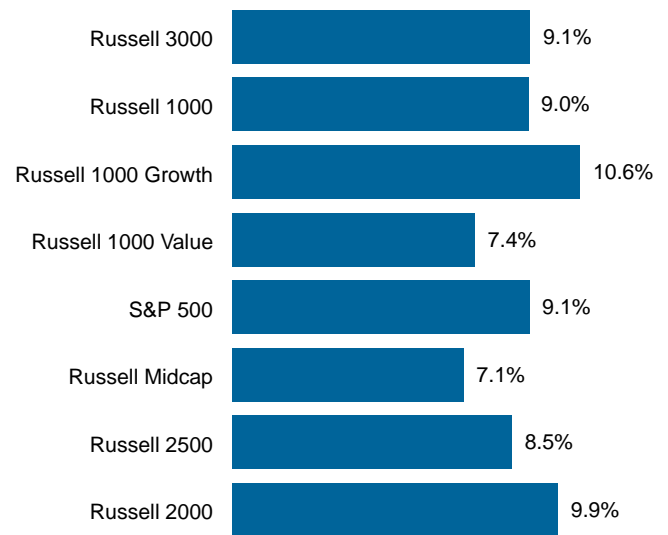
Large cap vs. small cap (Russell 2000: +9.9%; Russell 1000: +9.0%)

- Small cap trailed for most of 2019 but eclipsed large cap stocks in the fourth quarter due to notable contributions from the Health Care sector, where the biotech and pharmaceutical industries saw heightened new drug approvals and M&A activity during the quarter.
- Small growth outpaced small value for the quarter, the year, and the decade; the Russell 2000 Growth Index outpaced the Russell 2000 Value Index by 3% annualized over the past 10 years as the low interest rate environment favored growth stocks and challenged the Russell 2000 Value's heavy exposure to Financials.
- While small cap outpaced large cap in the fourth quarter, large cap stocks led for the third straight year, owing much to Tech (+50.3%) and Communication Services (+32.7%).

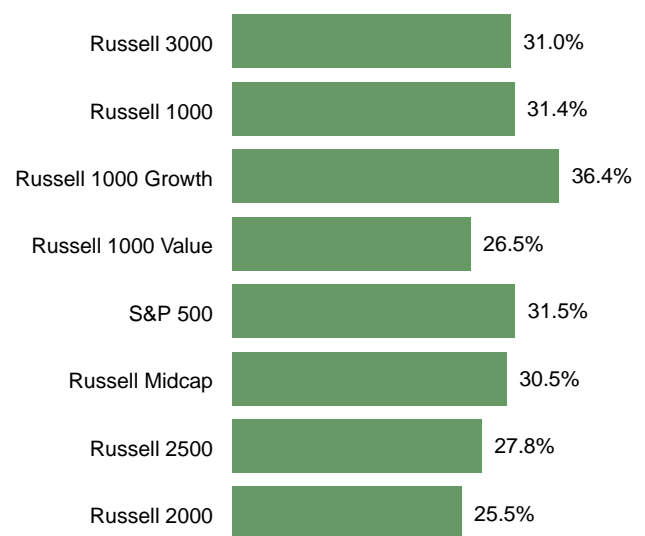
Growth vs. Value (Russell 1000 Growth: +10.6%; Russell 1000 Value: +7.4%)

- Growth continued its dominance over value during the quarter, closing out a decade-long trend.
- Tech giants Facebook, Apple, Microsoft, and Alphabet/Google remained meaningful contributors for the quarter although Health Care (+14.4%) was also among the top sector performers.
- The fourth quarter saw a rotation away from the more defensive sectors (e.g., Consumer Staples (+3.5%), Utilities (+0.8%), and Real Estate (-0.5%)) and into Cyclical, further supporting growth stocks.

U.S. Equity: Quarterly Returns

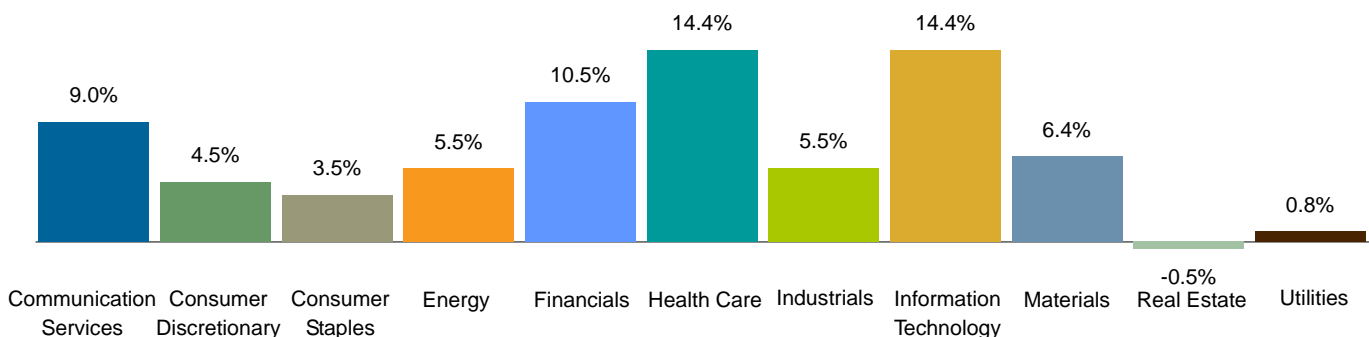


U.S. Equity: One-Year Returns



Sources: FTSE Russell, Standard & Poor's

S&P Sector Returns, Quarter Ended December 31, 2019



Source: Standard & Poor's

GLOBAL/GLOBAL EX-U.S. EQUITY

Global equity markets bounced back in the fourth quarter as uncertainties abated. De-escalation of the U.S.-China trade war coupled with some Brexit clarity boosted markets. With this backdrop, trade-related areas of the market led the rally.

Global/Developed ex-U.S. (MSCI EAFE: +8.2%; MSCI World ex USA: +7.9%; MSCI ACWI ex USA: +8.9%; MSCI Japan: +7.6%; MSCI Pacific ex Japan: +5.8%)

- Optimism catalyzed by easing tension between the U.S. and China and nearing conclusion of Brexit boosted the markets, and the U.S. dollar fell against most currencies within developed and emerging markets.
- British Prime Minister Boris Johnson gained command of the Parliament as a result of the Dec. 12 election, adding further clarity to Brexit and sparking the pound to its best quarterly results in a decade by rising 7.5% relative to the dollar.
- Accommodative policies such as a fiscal stimulus program and dovish monetary rhetoric continued to support the Japanese economy and its market.
- Despite GDP contraction of 3.2% and its first recession in a decade due to political protests, Hong Kong rose 7.3% as U.S.-China trade tensions improved.
- Every sector generated positive returns, led by Technology.

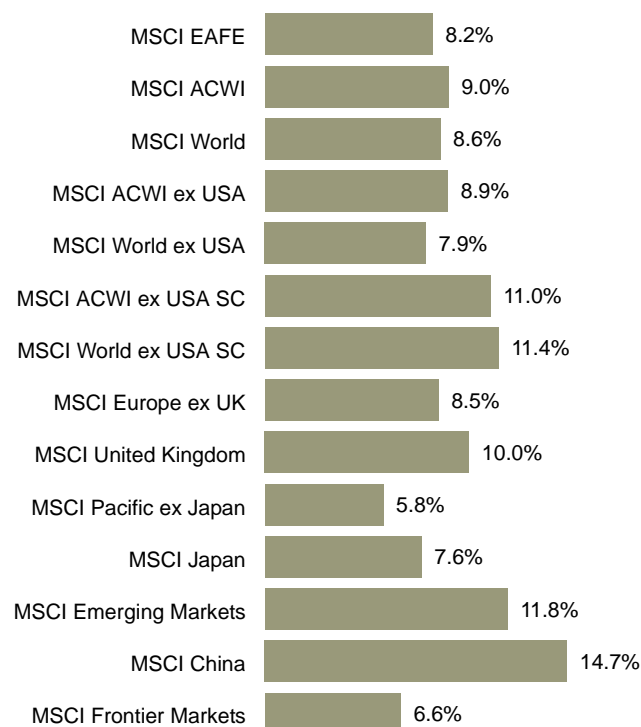
Emerging Markets (MSCI Emerging Markets Index: +11.8%)

- Emerging markets were the best-performing among the global ex-U.S. markets as trade war uncertainty receded.
- China soared 14.7% with easing trade tensions and expected fiscal and monetary stimulus packages in 2020.
- Brazil posted a 14.2% gain, its best quarter since late 2017, emboldened by President Jair Bolsonaro’s deregulation policies, the country’s 1.2% GDP growth, and pending pension reform.
- Russia was the best-performing country in 2019 (+50.9%) and a top five performer in the quarter (+16.8%) as rising oil prices over the past year helped fuel sentiment.
- Every sector generated positive returns, led by Asian technology companies, given the “phase one” trade deal, chip demands for 5G, and growth in China.

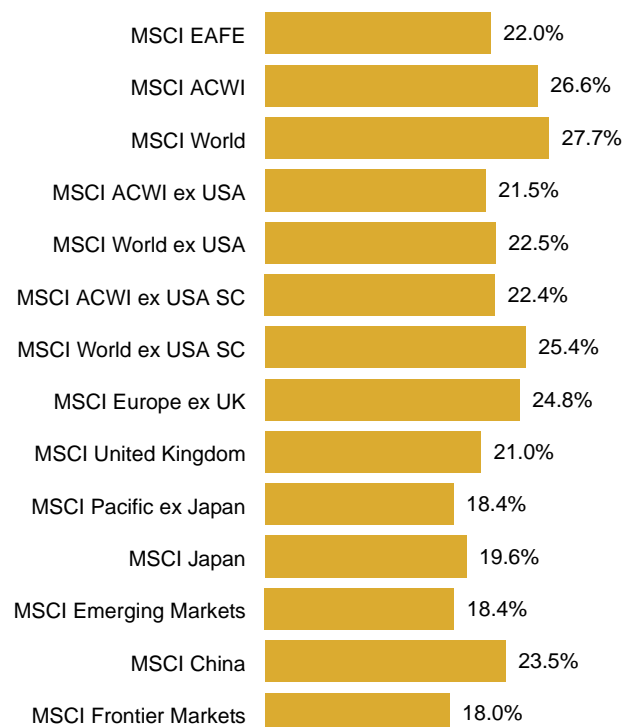
Global ex-U.S. Small Cap (MSCI World ex USA Small Cap: +11.4%; MSCI EM Small Cap: +9.5%; MSCI ACWI ex USA Small Cap: +11.0%)

- The “risk-on” market environment triggered by the U.S.-China trade war de-escalation enabled small caps to outperform large caps.
- Additional Brexit clarity drove the U.K. as the top country performer (+19.4%) within developed ex-U.S.
- Argentina (+33.5%) and Brazil (+24.8%) were two of the top EM country performers as key appointments in the Argentinian government, and deregulation and pension reform in Brazil, boosted market sentiment.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI

FIXED INCOME

The Federal Open Market Committee (FOMC) cut short-term interest rates by 25 basis points once in the fourth quarter to 1.50%-1.75%, citing weak business investment and export data, along with muted inflation. The overall economic backdrop remained strong supported by a solid labor market, which led to a pause in rate cuts at the most recent FOMC meeting. The FOMC indicated its current monetary policy stance is appropriate to sustain the economic expansion. The European Central Bank kept rates steady while continuing to purchase assets in the open market. Yield movement was mixed in the U.S. as short-term rates fell and long-term rates rose amid ongoing trade negotiations.

U.S. Fixed Income (Bloomberg Barclays US Aggregate Bond Index: +0.2%)

- Treasuries fell 0.8% as the Treasury yield curve steepened, with yields falling on the short end and rising modestly in the intermediate and long end of the curve on expectations of stronger economic growth.
- The spread between the 2-year and 10-year Treasury remained positive, ending the year at 34 bps.
- Long Treasuries fell 4.1% as the 30-year yield rose 27 bps to end the year at 2.39% as investors favored risk assets.
- TIPS outperformed nominal Treasuries as inflation expectations rose; the 10-year breakeven spread was 1.77% at quarter end, up from 1.53% as of Sept. 30.

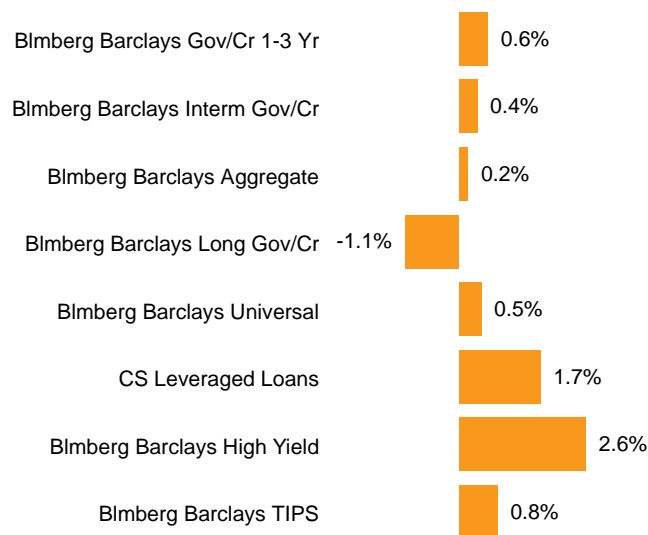
Investment Grade Corporates (Bloomberg Barclays Corporate: +1.2%)

- Investment grade corporate credit spreads narrowed in the fourth quarter and posted the best results within the Bloomberg Barclays US Aggregate Bond Index amid a risk-on market environment; BBB-rated corporates (+1.7%) outperformed single A-rated or higher corporates (+0.7%), indicating investors' willingness to extend risk down the credit spectrum.
- Issuance in the corporate bond market was \$200 billion in the fourth quarter, which was \$8 billion lower than that from a year ago. Issuance was \$140 billion lower compared to the third quarter, as is typical toward year-end; demand remained strong amid the risk-on market tone as global investors continued their hunt for positive-yielding assets.

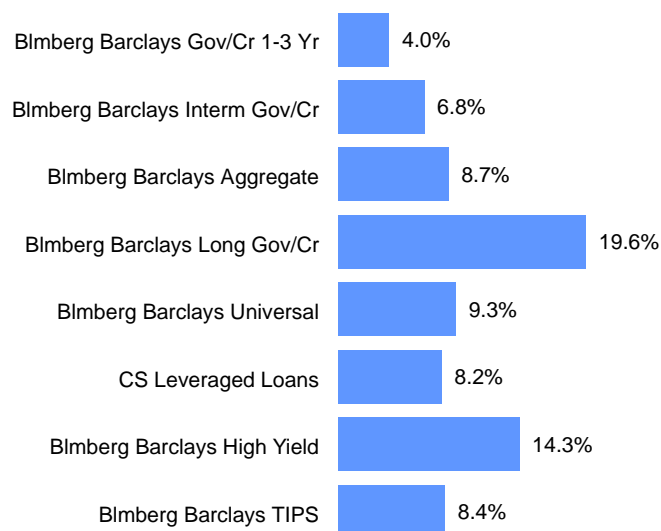
High Yield (Bloomberg Barclays Corporate High Yield: +2.6%)

- CCC-rated corporates (+3.7%) outperformed BB-rated corporates (+2.5%), as the risk-on market sentiment spurred demand for lower-rated securities.
- Spreads across credit quality buckets tightened in the fourth quarter, as the market anticipated improvements in credit fundamentals.

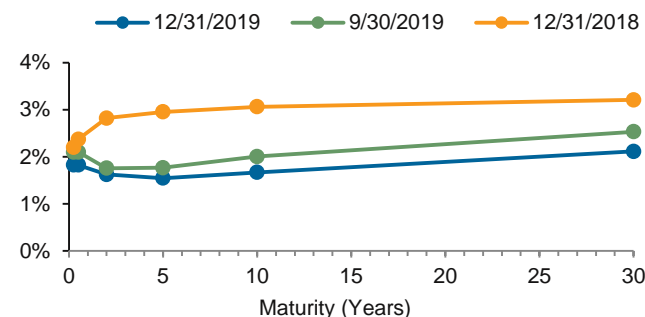
U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: One-Year Returns



U.S. Treasury Yield Curves



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse

Leveraged Loans (CS Leveraged Loans: +1.7%)

- Bank loans, which have floating-rate coupons, underperformed high yield as investors shunned loans in favor of high yield bonds.
- CLO issuance remained consistent, providing technical support for the leveraged loan market.

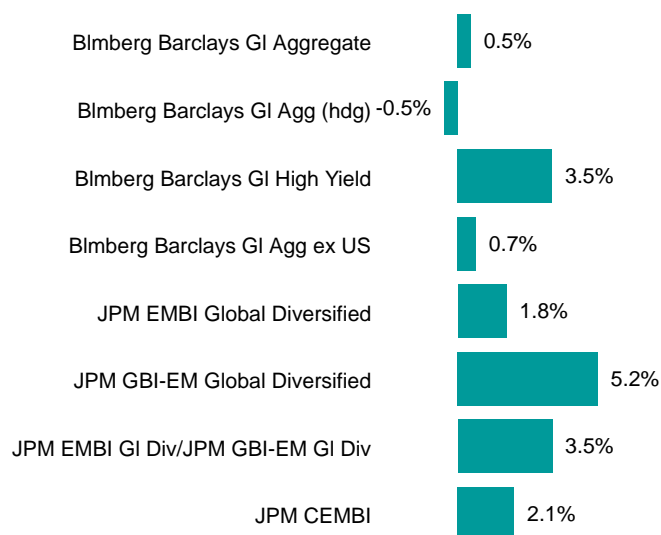
Global Fixed Income (Bloomberg Barclays Global Aggregate (unhedged): +0.5%; (hedged): -0.5%)

- Developed market sovereign bond yields rose modestly in the fourth quarter as global financial conditions improved, but ended lower on the year. The ECB kept the deposit rate steady at its December meeting; negative-yielding debt totaled less than \$12 trillion, down from \$17 trillion in the third quarter.
- The U.S. dollar declined in the fourth quarter versus the euro, Australian dollar, and British pound; however, it had a modest gain versus the Japanese yen.

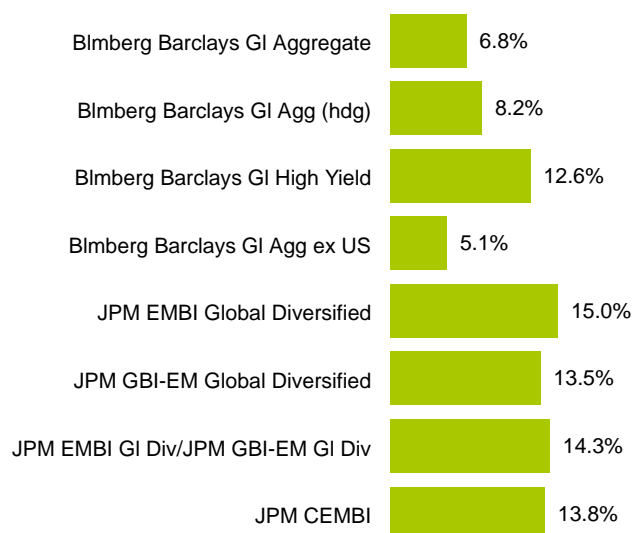
US\$ EMD (JPM EMBI Global Diversified: +1.8%), **Local Currency EMD** (JPM GBI-EM Global Diversified: +5.2%)

- Broadly, emerging market debt benefited from dovish global central banks and a risk-on environment.
- Within the dollar-denominated benchmark, which posted mixed results, Lebanon (-29.4%) was an outlier as the debt-to-GDP ratio continued to swell and anti-government protests persisted; Argentina rallied (+20.8%) to end the year down 23.6% as a new president was inaugurated. Returns in the local debt benchmark were largely positive, with only Chile (-6.2%) and the Dominican Republic (-0.7%) declining. South Africa (+10.2%) and Russia (+10.0%) were top performers.

Global Fixed Income: Quarterly Returns

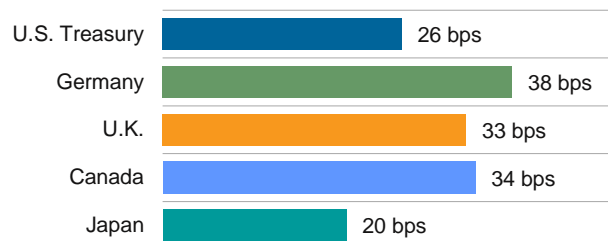


Global Fixed Income: One-Year Returns



Change in 10-Year Global Government Bond Yields

3Q19 to 4Q19



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 December 31, 2019, with the distribution as of September 30, 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.

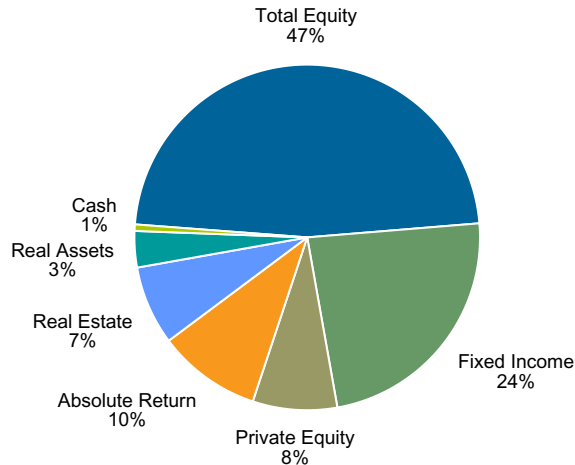
Asset Distribution Across Investment Managers

	December 31, 2019			Inv. Return	September 30, 2019	
	Market Value	Weight	Net New Inv.		Market Value	Weight
Total Domestic Equity	\$1,181,617,709	21.38%	\$(16,000,000)	\$95,392,302	\$1,102,225,407	20.65%
BlackRock Russell 1000 Value	153,305,891	2.77%	(10,000,000)	10,979,586	152,326,305	2.85%
DFA Large Cap Value	153,536,044	2.78%	(3,000,000)	13,188,167	143,347,877	2.69%
Northern Trust Global	320,789,599	5.81%	(3,000,000)	26,838,502	296,951,097	5.56%
Polen Capital Management	153,507,642	2.78%	0	14,695,447	138,812,195	2.60%
Earnest Partners LLC	127,562,502	2.31%	0	9,067,143	118,495,359	2.22%
DFA Small Cap Value	179,492,315	3.25%	0	14,293,933	165,198,382	3.10%
CastleArk Management	93,423,715	1.69%	0	6,329,523	87,094,192	1.63%
Total Global Equity	\$478,593,710	8.66%	\$(48,000,000)	\$40,559,456	\$486,034,254	9.11%
BlackRock Global Alpha Tilts	283,143,303	5.12%	(31,000,000)	23,501,886	290,641,417	5.45%
MFS Investment Management	195,450,406	3.54%	(17,000,000)	17,057,570	195,392,837	3.66%
Total International Equity	\$962,733,952	17.42%	\$(5,169,306)	\$89,154,488	\$878,748,769	16.47%
AQR Emerging Markets	105,192,883	1.90%	0	12,575,587	92,617,296	1.74%
Brandes Investment Partners	391,142,697	7.08%	0	29,800,542	361,342,155	6.77%
William Blair & Company	288,523,915	5.22%	(5,169,306)	27,984,494	265,708,726	4.98%
DFA International Small Cap	177,874,457	3.22%	0	18,793,865	159,080,592	2.98%
Total Fixed Income	\$1,300,267,726	23.53%	\$(1,430,192)	\$13,960,402	\$1,287,737,516	24.13%
Allianz US Fixed Income 250	512,719,486	9.28%	(1,430,192)	6,959,017	507,190,661	9.50%
BlackRock US Debt Idx Fd	206,322,297	3.73%	0	381,269	205,941,027	3.86%
Reams Asset Management	232,541,433	4.21%	0	136,554	232,404,879	4.35%
Loomis, Sayles & Company, L.P.	348,684,510	6.31%	0	6,483,561	342,200,949	6.41%
Total Private Equity	\$439,043,155	7.95%	\$(422,679)	\$11,845,389	\$427,620,445	8.01%
Abbott Capital Management 2010	26,546,104	0.48%	(700,000)	333,608	26,912,496	0.50%
Abbott Capital Management 2011	48,646,816	0.88%	(1,650,000)	1,194,981	49,101,835	0.92%
Abbott Capital Management 2012	38,293,069	0.69%	(800,000)	1,135,018	37,958,051	0.71%
Abbott Capital Management 2013	36,143,091	0.65%	(875,000)	1,299,696	35,718,395	0.67%
Abbott Capital Management 2014	36,927,889	0.67%	350,000	968,371	35,609,518	0.67%
Abbott Capital Management 2015	20,118,697	0.36%	1,337,500	401,309	18,379,888	0.34%
Abbott Capital Management 2016	11,832,154	0.21%	1,500,000	151,370	10,180,784	0.19%
Abbott Capital Management 2018	4,925,750	0.09%	812,500	273,050	3,840,200	0.07%
Abbott Capital Management 2019	1,645,000	0.03%	1,645,000	0	-	-
Mesirow V	57,835,390	1.05%	(5,250,000)	951,203	62,134,187	1.16%
Mesirow VI	60,742,755	1.10%	(1,800,000)	3,276,482	59,266,273	1.11%
Mesirow VII	36,848,598	0.67%	8,500,000	146,632	28,201,966	0.53%
NB Secondary Opp Fund III	13,060,620	0.24%	(3,720,652)	478,869	16,302,403	0.31%
NB Secondary Opp Fund IV	10,764,246	0.19%	981,371	283,682	9,499,193	0.18%
Private Advisors VI	20,331,050	0.37%	(2,118,569)	1,265,767	21,183,852	0.40%
Private Advisors VII	9,681,045	0.18%	1,404,785	6,139	8,270,121	0.15%
Private Advisors VIII	4,700,881	0.09%	(39,613)	(320,789)	5,061,283	0.09%
Absolute Return	\$537,531,704	9.73%	\$(1,494,982)	\$18,876,644	\$520,150,043	9.75%
Allianz SA 1000	140,188,157	2.54%	(1,494,982)	6,755,748	134,927,391	2.53%
Newton	135,281,747	2.45%	0	2,723,204	132,558,543	2.48%
UBS A & Q	262,061,800	4.74%	0	9,397,692	252,664,108	4.73%
Real Assets	\$185,728,193	3.36%	\$0	\$8,054,128	\$177,674,065	3.33%
Principal DRA	185,728,193	3.36%	0	8,054,128	177,674,065	3.33%
Total Real Estate	\$406,272,640	7.35%	\$(8,957,217)	\$8,690,490	\$406,539,367	7.62%
Real Estate	406,272,640	7.35%	(8,957,217)	8,690,490	406,539,367	7.62%
Total Cash	\$33,764,812	0.61%	\$(16,284,631)	\$230,309	\$49,819,134	0.93%
Cash	33,764,812	0.61%	(16,284,631)	230,309	49,819,134	0.93%
Total Fund	\$5,525,553,600	100.0%	\$(97,759,006)	\$286,763,607	\$5,336,549,000	100.0%

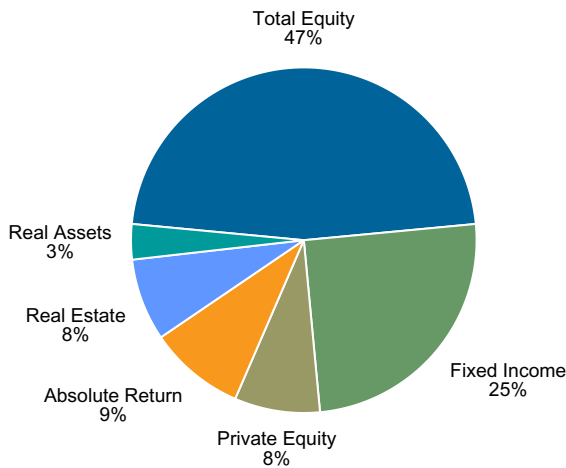
Actual vs Target Asset Allocation As of December 31, 2019

The first chart below shows the Fund's asset allocation as of December 31, 2019. 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).

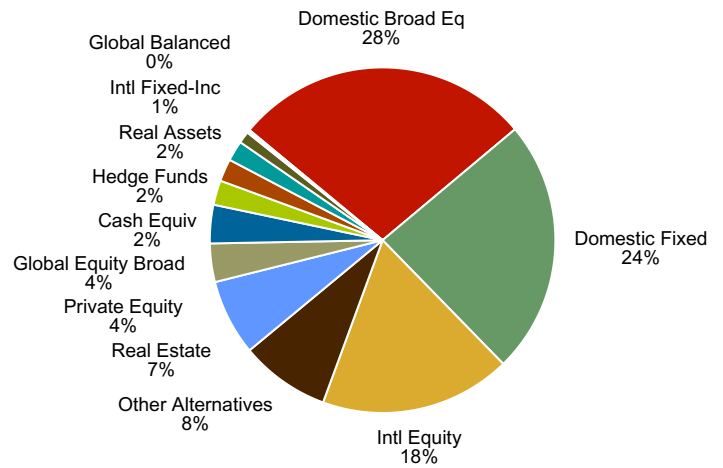
Actual Asset Allocation



Target Asset Allocation



Callan Public Fund Spons - Large (>1B)



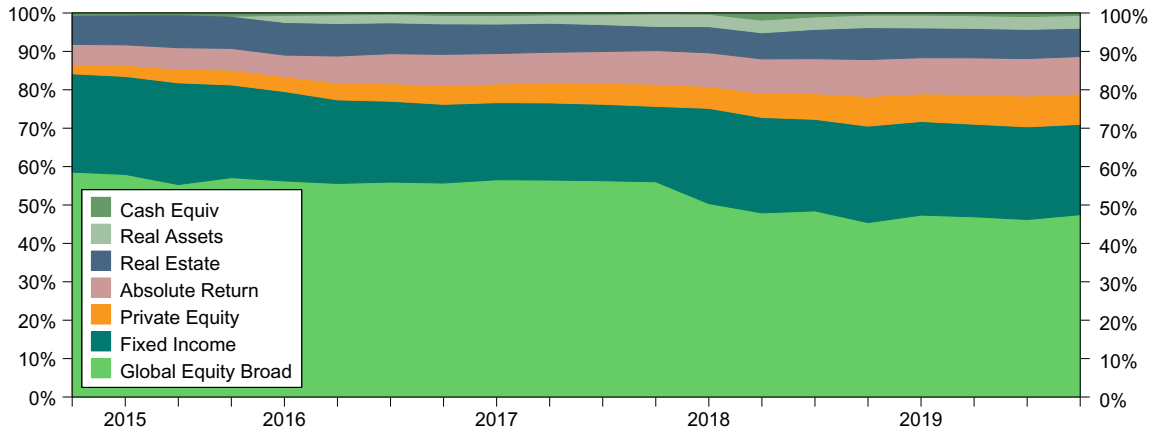
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,622,945	47.5%	47.0%	0.5%	25,935
Fixed Income	1,300,268	23.5%	25.0%	(1.5%)	(81,121)
Private Equity	439,043	7.9%	8.0%	(0.1%)	(3,001)
Absolute Return	537,532	9.7%	9.0%	0.7%	40,232
Real Estate	406,273	7.4%	7.7%	(0.3%)	(19,195)
Real Assets	185,728	3.4%	3.3%	0.1%	3,385
Cash	33,765	0.6%	0.0%	0.6%	33,765
Total	5,525,554	100.0%	100.0%		

* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

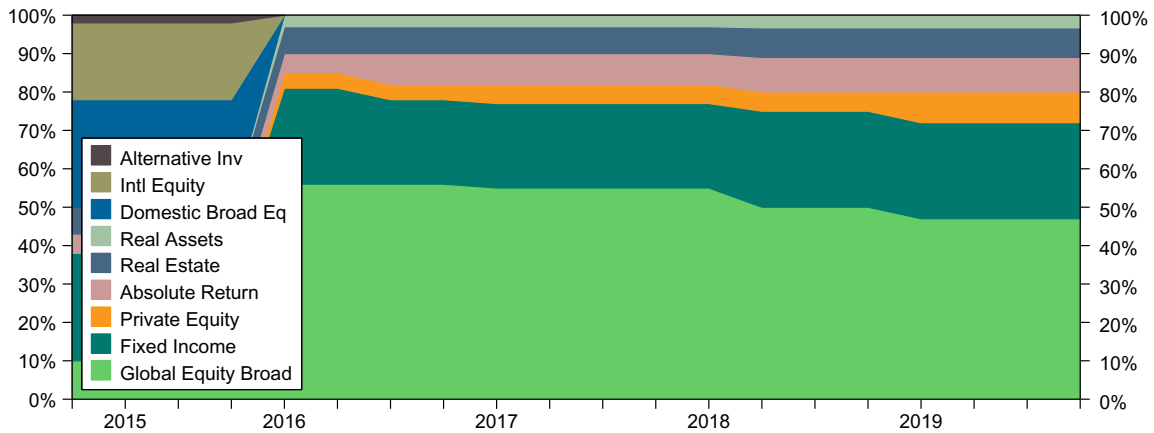
Actual vs Target Historical Asset Allocation

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.

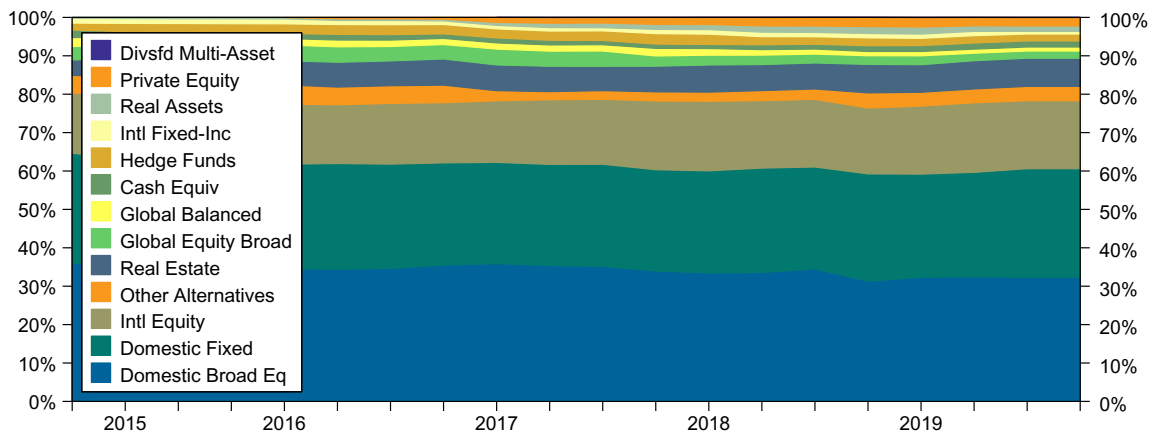
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation



* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

Total Fund

Period Ended December 31, 2019

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 = 55.0% MSCI ACWI IMI, 22.0% BB Barclays Aggregate Idx, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

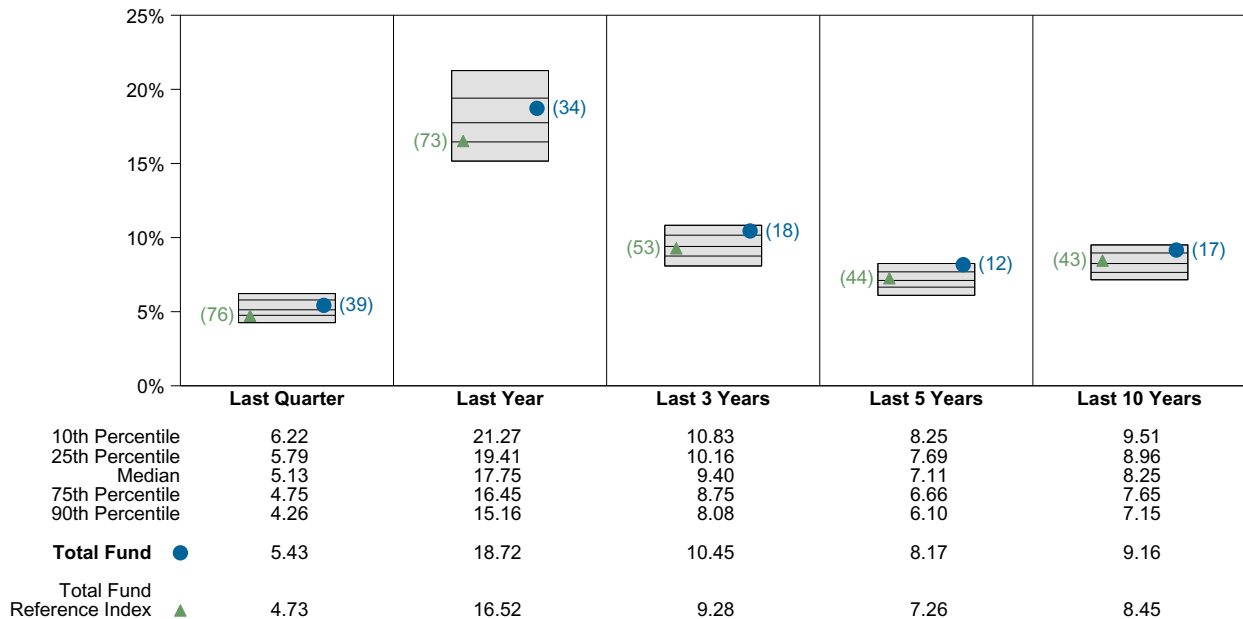
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 5.43% return for the quarter placing it in the 39 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 34 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Reference Index by 0.70% for the quarter and outperformed the Total Fund Reference Index for the year by 2.20%.

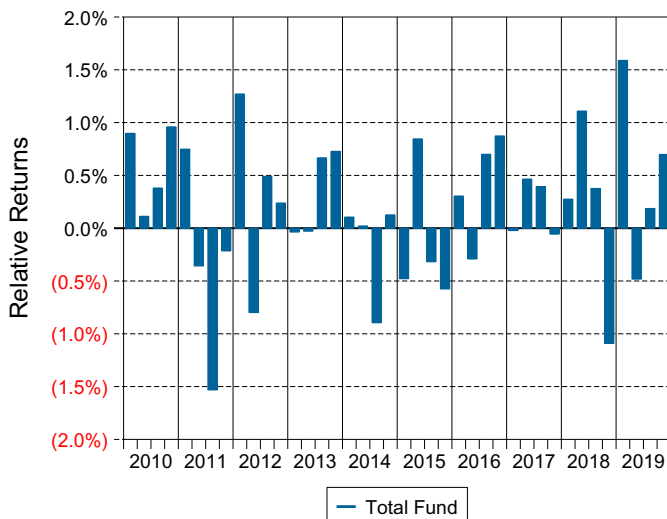
Quarterly Asset Growth

Beginning Market Value	\$5,336,549,000
Net New Investment	\$-97,759,006
Investment Gains/(Losses)	\$286,763,607
Ending Market Value	\$5,525,553,600

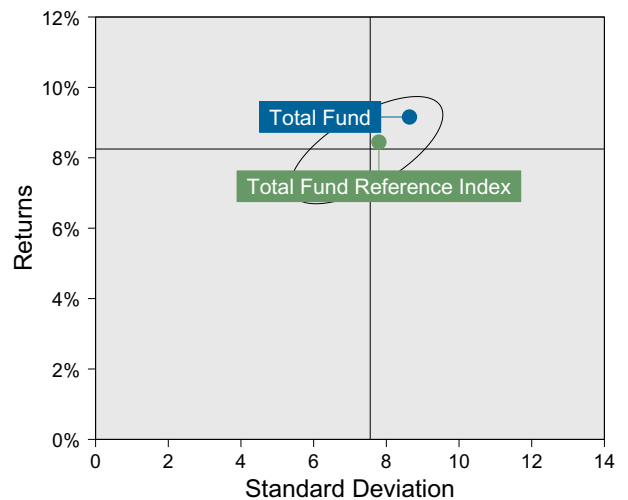
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Reference Index



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

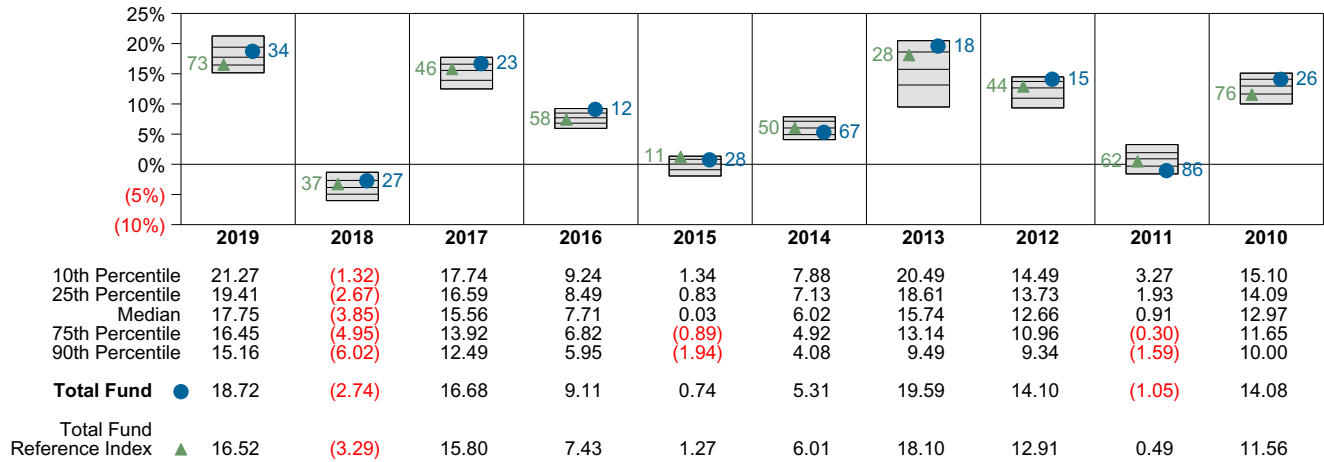


Total Fund Return Analysis Summary

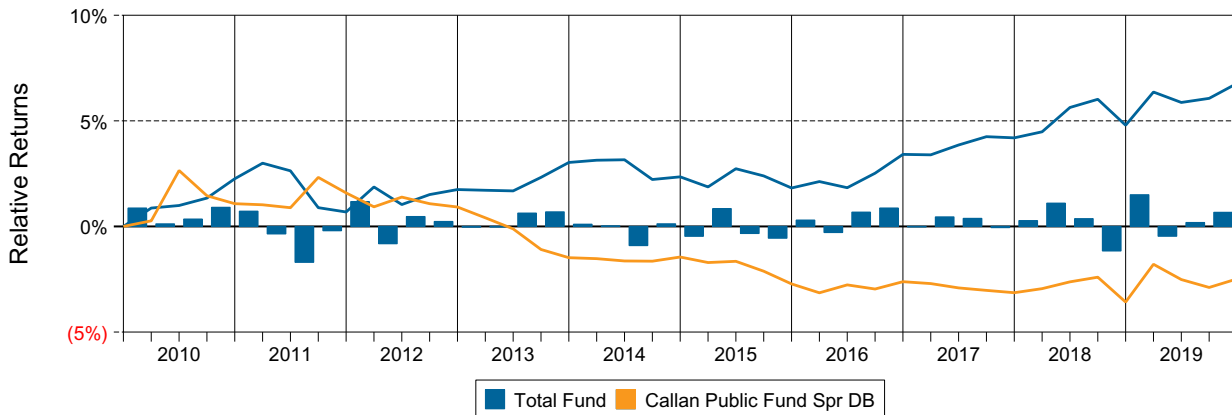
Return Analysis

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.

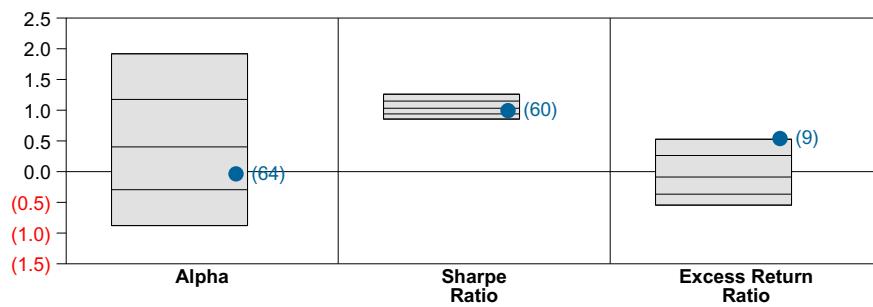
Performance vs Callan Public Fund Sponsor Database (Gross)



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 December 31, 2019



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.92	1.26	0.53
25th Percentile	1.18	1.15	0.26
Median	0.40	1.03	(0.09)
75th Percentile	(0.29)	0.94	(0.37)
90th Percentile	(0.88)	0.86	(0.54)
Total Fund	● (0.04)	0.99	0.54

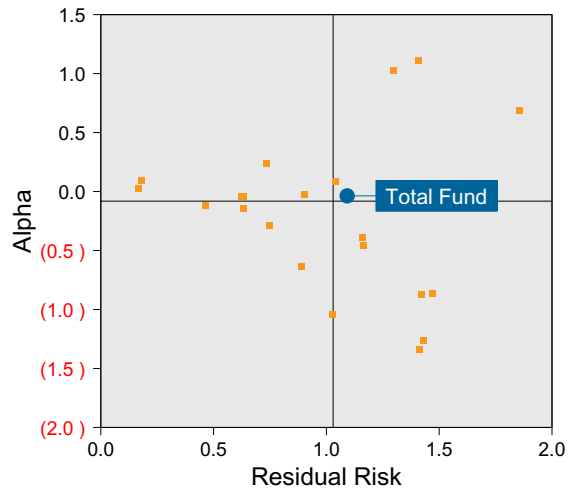
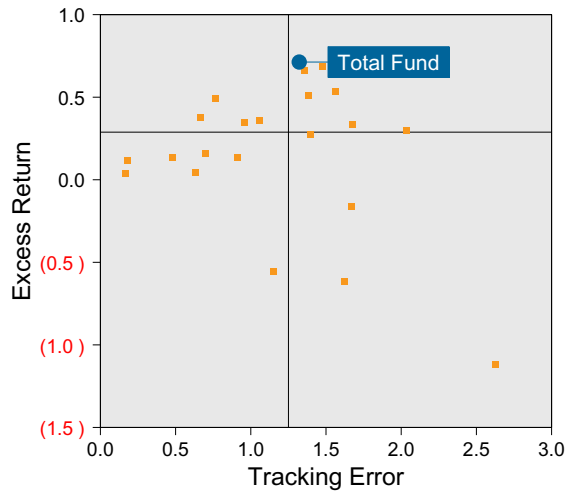
Total Fund

Total Fund vs Target Risk Analysis

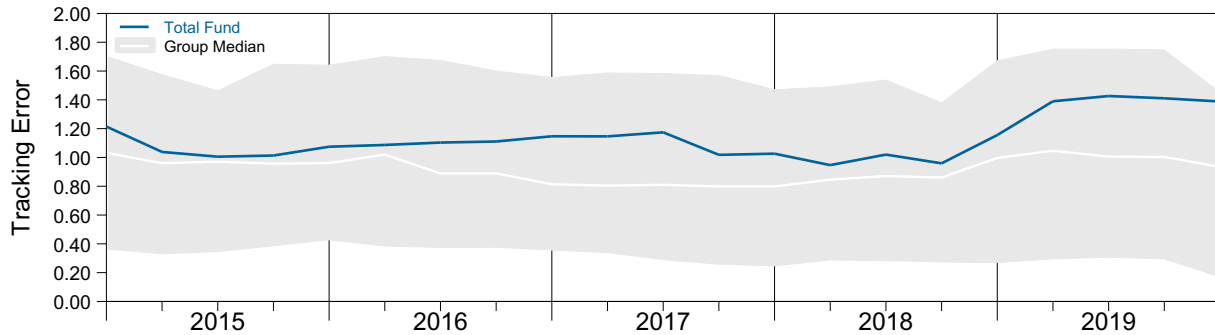
Risk Analysis

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

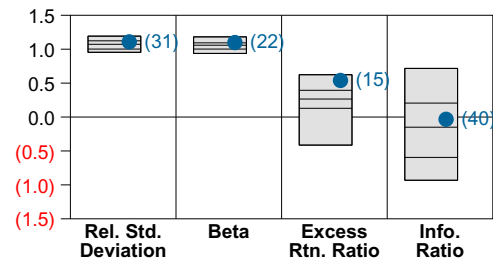
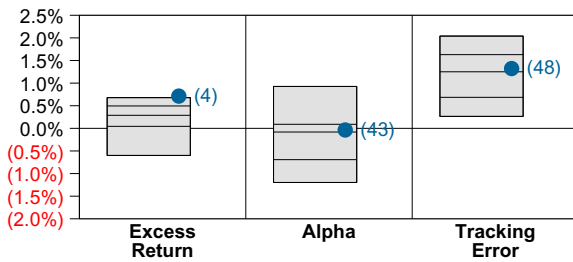
Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended December 31, 2019



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



Risk Statistics Rankings vs Targets Rankings Against Callan Public Fund Sponsor Database Ten Years Ended December 31, 2019



10th Percentile	0.68	0.93	2.04	1.19	1.18	0.62	0.72
25th Percentile	0.50	0.09	1.63	1.12	1.09	0.39	0.21
Median	0.29	(0.08)	1.25	1.07	1.06	0.27	(0.15)
75th Percentile	0.04	(0.69)	0.69	1.00	1.00	0.13	(0.60)
90th Percentile	(0.60)	(1.20)	0.26	0.95	0.94	(0.41)	(0.93)

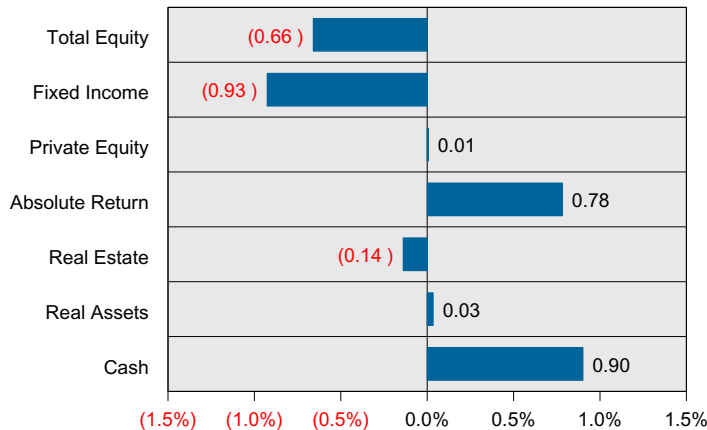
Total Fund ●

Total Fund ●

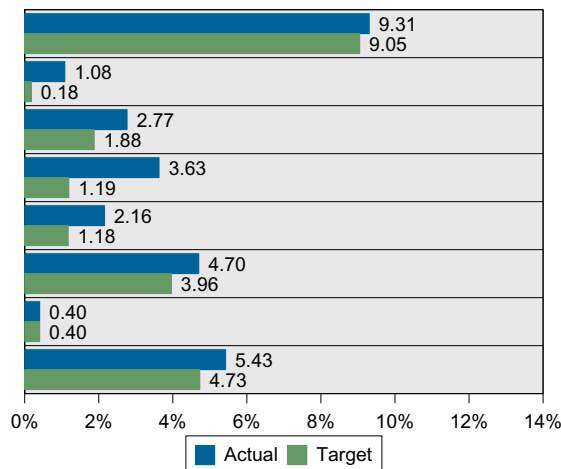
Quarterly Total Fund Relative Attribution - December 31, 2019

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.

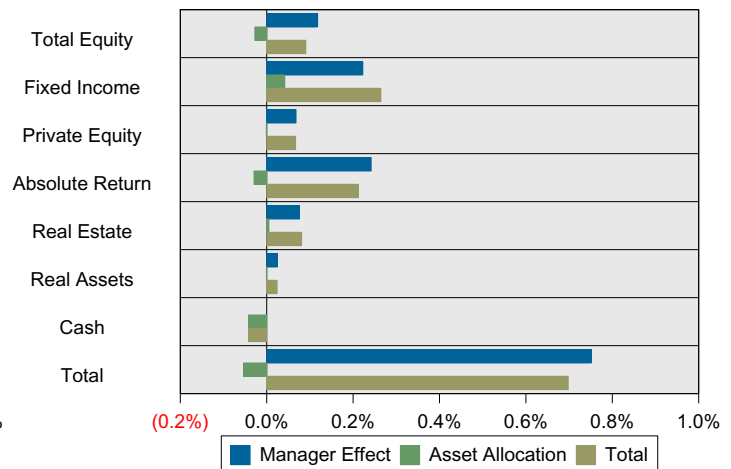
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended December 31, 2019

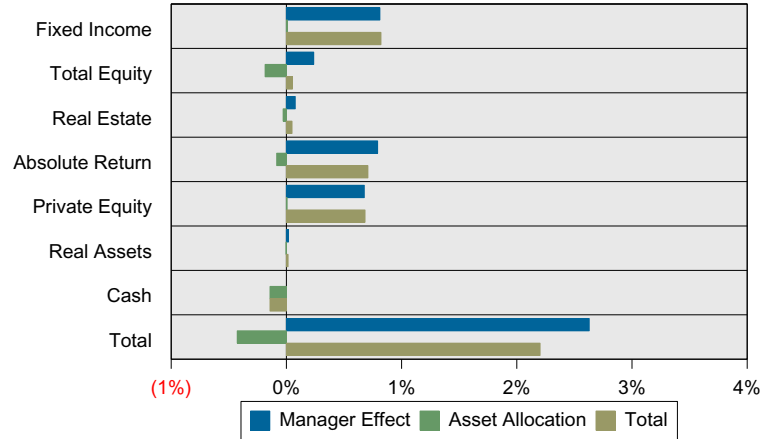
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	46%	47%	9.31%	9.05%	0.12%	(0.03%)	0.09%
Fixed Income	24%	25%	1.08%	0.18%	0.22%	0.04%	0.26%
Private Equity	8%	8%	2.77%	1.88%	0.07%	(0.00%)	0.07%
Absolute Return	10%	9%	3.63%	1.19%	0.24%	(0.03%)	0.21%
Real Estate	8%	8%	2.16%	1.18%	0.08%	0.01%	0.08%
Real Assets	3%	3%	4.70%	3.96%	0.02%	(0.00%)	0.02%
Cash	1%	0%	0.40%	0.40%	0.00%	(0.04%)	(0.04%)
Total			5.43%	4.73%	0.75%	(0.05%)	0.70%

* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

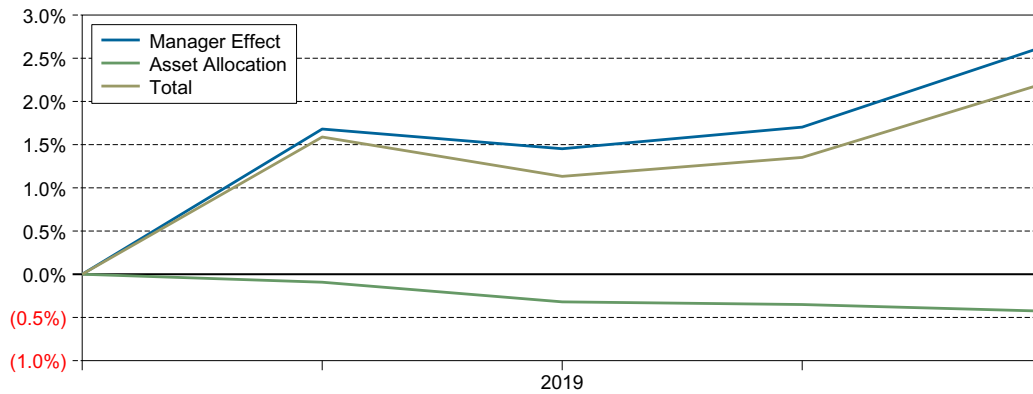
Cumulative Total Fund Relative Attribution - December 31, 2019

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
Fixed Income	24%	25%	11.95%	8.72%	0.81%	0.01%	0.82%
Total Equity	47%	47%	26.90%	26.35%	0.24%	(0.18%)	0.05%
Real Estate	8%	8%	6.21%	5.26%	0.08%	(0.03%)	0.05%
Absolute Return	10%	9%	13.10%	8.72%	0.79%	(0.08%)	0.71%
Private Equity	8%	8%	16.63%	5.26%	0.68%	0.01%	0.68%
Real Assets	3%	3%	15.39%	14.86%	0.02%	(0.00%)	0.01%
Cash	1%	0%	2.66%	2.66%	0.00%	(0.14%)	(0.14%)
Total			18.72%	16.52%	+ 2.63%	+ (0.43%)	2.20%

* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 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 December 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns and Rankings for Periods Ended December 31, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Domestic Equity	8.70%	65	29.24%	74	13.76%	53	10.87%	45	7.60%	(7/98)
Russell 3000 Index	9.10%	37	31.02%	34	14.57%	32	11.24%	25	7.24%	(7/98)
Pub Pln- Dom Equity	9.02%		30.57%		13.97%		10.83%		-	
BlackRock Russell 1000 Value	7.42%	65	26.79%	46	-		-		9.50%	(3/17)
Russell 1000 Value Index	7.41%	65	26.54%	48	9.68%	67	8.29%	60	8.64%	(3/17)
Callan Large Cap Value	7.92%		26.42%		10.28%		8.57%		-	
DFA Large Cap Value	9.25%	19	26.71%	46	-		-		8.27%	(11/17)
Russell 1000 Value Index	7.41%	65	26.54%	48	9.68%	67	8.29%	60	9.35%	(11/17)
Callan Large Cap Value	7.92%		26.42%		10.28%		8.57%		-	
Northern Trust Global	9.07%	41	31.54%	38	15.32%	31	11.76%	30	10.64%	(8/88)
S&P 500 Index	9.07%	41	31.49%	39	15.27%	31	11.70%	31	10.59%	(8/88)
Callan Large Cap Core	8.66%		30.59%		14.71%		11.10%		-	
Polen Capital Management	10.59%	26	38.85%	13	24.60%	9	17.84%	2	17.92%	(7/12)
S&P 500 Index	9.07%	63	31.49%	78	15.27%	99	11.70%	92	14.56%	(7/12)
Callan Large Cap Growth	9.73%		34.54%		20.62%		13.90%		-	
Earnest Partners LLC	7.65%	37	38.38%	12	16.34%	25	13.19%	12	11.30%	(5/05)
Russell MidCap Index	7.06%	51	30.54%	52	12.06%	48	9.33%	51	9.97%	(5/05)
Callan Mid Capitalization	7.15%		31.00%		11.82%		9.45%		-	
DFA Small Cap Value	8.65%	30	18.79%	89	2.89%	82	5.77%	84	11.49%	(11/96)
Russell 2000 Value Index	8.49%	35	22.39%	64	4.77%	53	6.99%	60	9.38%	(11/96)
Callan Small Cap Value	8.17%		24.22%		4.82%		7.56%		-	
CastleArk Management	7.27%	83	23.28%	83	16.42%	48	9.73%	77	11.74%	(9/13)
Russell 2000 Growth Index	11.39%	30	28.48%	51	12.49%	78	9.34%	82	10.75%	(9/13)
Callan Small Cap Growth	9.92%		29.62%		16.01%		11.53%		-	
Total Global Equity	8.95%	51	31.05%	27	16.47%	25	10.95%	29	9.48%	(4/10)
MSCI World	8.56%	61	27.67%	49	12.57%	55	8.74%	57	9.37%	(4/10)
Callan Global Equity	8.98%		27.41%		12.90%		9.10%		-	
BlackRock Global Alpha Tilts	8.69%	57	26.86%	53	13.60%	44	-		14.74%	(3/16)
MSCI ACWI Gross	9.07%	47	27.30%	50	13.05%	48	9.00%	53	14.46%	(3/16)
Callan Global Equity	8.98%		27.41%		12.90%		9.10%		-	
MFS Investment Management	9.30%	43	37.31%	4	20.73%	6	13.18%	9	13.60%	(12/12)
MSCI ACWI Gross	9.07%	47	27.30%	50	13.05%	48	9.00%	53	10.55%	(12/12)
Callan Global Equity	8.98%		27.41%		12.90%		9.10%		-	
Total International Equity	10.24%	22	21.68%	72	8.86%	92	6.33%	50	7.12%	(5/96)
MSCI EAFE	8.17%	96	22.01%	65	9.56%	83	5.67%	83	4.72%	(5/96)
Pub Pln- Intl Equity	9.51%		22.91%		10.57%		6.33%		-	
AQR Emerging Markets	13.79%	10	20.54%	65	10.10%	85	-		9.39%	(8/16)
MSCI EM Gross	11.93%	47	18.90%	73	11.99%	59	6.01%	72	10.34%	(8/16)
Callan Emerging Broad	11.84%		22.16%		12.82%		6.83%		-	
Brandes Investment Partners	8.25%	81	15.31%	98	7.02%	91	5.60%	71	7.99%	(2/98)
MSCI EAFE	8.17%	81	22.01%	66	9.56%	64	5.67%	70	4.81%	(2/98)
Callan NonUS Eq	9.32%		23.83%		10.22%		6.52%		-	
William Blair & Company	10.66%	20	31.58%	9	12.87%	22	7.26%	34	7.98%	(12/03)
MSCI ACWIxUS Gross	8.99%	62	22.13%	64	10.40%	48	6.01%	59	7.10%	(12/03)
Callan NonUS Eq	9.32%		23.83%		10.22%		6.52%		-	
DFA International Small Cap	12.00%	43	21.62%	81	6.08%	95	6.04%	90	4.86%	(5/06)
Blended Benchmark	11.52%	56	24.96%	45	10.92%	49	8.85%	51	3.99%	(5/06)
Callan Intl Small Cap	11.72%		24.90%		10.79%		8.90%		-	

Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended December 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns and Rankings for Periods Ended December 31, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Fixed Income	1.08%		11.95%		5.51%		4.23%		7.55% (12/87)	
Bimbg Aggregate	0.18%		8.72%		4.03%		3.05%		6.26% (12/87)	
Allianz US Fixed Income 250	1.37%	1	13.09%	1	-	-	-	-	7.59%	(2/18)
Bimbg Aggregate +2.5%	0.80%	3	11.22%	2	6.53%	1	5.55%	1	7.61%	(2/18)
Callan Core Bond FI	0.22%		9.17%		4.39%		3.40%		-	
BlackRock US Debt Idx Fd	0.19%	63	8.79%	80	4.12%	83	-	-	2.86%	(6/16)
Bimbg Aggregate	0.18%	64	8.72%	83	4.03%	89	3.05%	95	3.14%	(6/16)
Callan Core Bond FI	0.22%		9.17%		4.39%		3.40%		-	
Reams Asset Management	0.06%	95	8.82%	92	4.74%	57	3.78%	57	5.60%	(1/01)
Bimbg Aggregate	0.18%	92	8.72%	93	4.03%	95	3.05%	97	4.69%	(1/01)
Callan Core Plus FI	0.49%		10.01%		4.84%		3.85%		-	
Loomis, Sayles & Company, L.P.	1.89%	4	14.42%	1	6.71%	1	5.40%	2	9.03%	(12/87)
Bimbg Aggregate	0.18%	92	8.72%	93	4.03%	95	3.05%	97	6.26%	(12/87)
Callan Core Plus FI	0.49%		10.01%		4.84%		3.85%		-	
Total Private Equity	2.77%		16.63%		18.44%		15.28%		10.12% (6/10)	
Abbott Capital Management 2010	1.27%		16.52%		21.06%		17.21%		(3.39%)	(6/10)
Abbott Capital Management 2011	2.49%		19.64%		21.49%		16.87%		(0.22%)	(6/11)
Abbott Capital Management 2012	3.03%		17.91%		20.05%		14.17%		8.30%	(7/12)
Abbott Capital Management 2013	3.72%		21.13%		21.64%		14.13%		9.15%	(5/13)
Abbott Capital Management 2014	2.69%		19.74%		18.54%		11.46%		7.08%	(4/14)
Abbott Capital Management 2015	2.04%		15.14%		11.80%		-		8.53%	(4/15)
Abbott Capital Management 2016	1.30%		9.08%		5.68%		-		4.37%	(3/16)
Abbott Capital Management 2018	6.07%		7.26%		-		-		3.11%	(7/18)
Mesirow V	1.58%		16.29%		18.42%		17.31%		14.07%	(6/10)
Mesirow VI	5.63%		22.73%		19.91%		11.33%		8.96%	(7/13)
Mesirow VII	0.36%		3.33%		-		-		-	
NB Secondary Opp Fund III	3.81%		12.18%		16.44%		18.89%		12.49%	(12/13)
NB Secondary Opp Fund IV	2.74%		14.76%		-		-		24.62%	(4/17)
Private Advisors VI	6.61%		17.98%		15.42%		-		5.04%	(4/15)
Private Advisors VII	0.06%		11.23%		8.57%		-		8.57%	(1/17)
Private Advisors VIII	(6.32%)		(4.08%)		-		-		6.32%	(8/18)
Russell 3000 (1 Qtr in Arrears) + 3%	1.88%		6.19%		15.94%		13.53%		13.33%	(8/18)
Absolute Return	3.63%		13.10%		6.79%		6.08%		6.06% (6/14)	
Allianz SA 1000	5.01%	2	20.28%	1	9.32%	2	9.77%	1	9.82%	(6/14)
T-Bills + 10%	2.84%	12	12.28%	3	11.67%	1	11.07%	1	10.97%	(6/14)
Callan Abs Rtn Hedge FoF	1.99%		5.63%		3.16%		3.01%		-	
Newton	2.05%	44	13.15%	3	6.87%	8	5.06%	12	4.91%	(8/14)
1-month LIBOR + 4%	1.42%	69	6.26%	38	5.81%	13	5.22%	11	5.14%	(8/14)
Callan Abs Rtn Hedge FoF	1.99%		5.63%		3.16%		3.01%		-	
UBS A & Q	3.72%	5	9.53%	7	5.41%	16	4.54%	15	4.46%	(12/14)
1-month LIBOR + 4%	1.42%	69	6.26%	38	5.81%	13	5.22%	11	5.20%	(12/14)
Callan Abs Rtn Hedge FoF	1.99%		5.63%		3.16%		3.01%		-	
Real Assets	4.70%		15.39%		5.56%		-		5.92% (1/16)	
Principal DRA	4.70%	20	15.39%	11	5.56%	21	-	-	5.92%	(1/16)
Principal Blended Benchmark (1)	3.96%	31	14.86%	13	5.54%	21	-	-	5.85%	(1/16)
Callan Alternative Inv DB	1.78%		7.85%		1.27%		(0.20%)		-	
Total Real Estate	2.16%		6.21%		8.19%		9.85%		6.69% (7/86)	
Real Estate	2.16%	38	6.21%	68	8.19%	42	9.85%	22	6.69%	(7/86)
Blended Benchmark (2)	1.18%	89	5.26%	85	6.69%	73	8.68%	48	-	
Callan Tot Real Est DB	1.87%		7.30%		7.89%		8.56%		-	
Total Fund	5.43%		18.72%		10.45%		8.17%		9.59% (1/79)	
Total Fund Reference Index*	4.73%		16.52%		9.28%		7.26%		-	

* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Bimbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 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.

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.

	2019		2018		2017		2016		2015	
Total Domestic Equity	29.24%	74	(5.80%)	49	20.91%	41	13.91%	29	(0.07%)	59
Russell 3000 Index	31.02%	34	(5.24%)	34	21.13%	39	12.74%	54	0.48%	39
Pub Pln- Dom Equity	30.57%		(5.83%)		20.51%		12.86%		0.19%	
BlackRock Russell 1000 Value	26.79%	46	(8.12%)	42	-	-	-	-	-	-
Russell 1000 Value Index	26.54%	48	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70
Callan Large Cap Value	26.42%		(8.76%)		17.10%		15.27%		(2.53%)	
DFA Large Cap Value	26.71%	46	(12.40%)	83	-	-	-	-	-	-
Russell 1000 Value Index	26.54%	48	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70
Callan Large Cap Value	26.42%		(8.76%)		17.10%		15.27%		(2.53%)	
Northern Trust Global	31.54%	38	(4.34%)	33	21.87%	48	12.01%	21	1.49%	46
S&P 500 Index	31.49%	39	(4.38%)	33	21.83%	49	11.96%	21	1.38%	51
Callan Large Cap Core	30.59%		(5.33%)		21.72%		10.42%		1.40%	
Polen Capital Management	38.85%	13	9.14%	4	27.67%	65	1.70%	72	15.51%	3
S&P 500 Index	31.49%	78	(4.38%)	91	21.83%	98	11.96%	2	1.38%	93
Callan Large Cap Growth	34.54%		0.51%		28.84%		3.39%		6.43%	
Earnest Partners LLC	38.38%	12	(9.80%)	45	26.16%	23	16.52%	29	1.25%	27
Russell MidCap Index	30.54%	52	(9.06%)	41	18.52%	55	13.80%	42	(2.44%)	67
Callan Mid Capitalization	31.00%		(10.60%)		19.58%		12.23%		(0.80%)	
DFA Small Cap Value	18.79%	89	(14.84%)	52	7.68%	66	29.36%	32	(6.06%)	76
Russell 2000 Value Index	22.39%	64	(12.86%)	23	7.84%	65	31.74%	14	(7.47%)	83
Callan Small Cap Value	24.22%		(14.79%)		9.19%		27.86%		(3.73%)	
CastleArk Management	23.28%	83	3.29%	15	23.93%	59	6.01%	68	(4.90%)	78
Russell 2000 Growth Index	28.48%	51	(9.31%)	85	22.17%	70	11.32%	36	(1.38%)	50
Callan Small Cap Growth	29.62%		(3.04%)		25.74%		8.62%		(1.29%)	
Total Global Equity	31.05%	27	(8.18%)	40	31.31%	16	8.65%	27	(2.08%)	73
MSCI World	27.67%	49	(8.71%)	44	22.40%	74	7.51%	39	(0.87%)	64
Callan Global Equity	27.41%		(9.52%)		25.27%		6.21%		0.17%	
BlackRock Global Alpha Tilts	26.86%	53	(11.20%)	67	30.12%	22	-	-	-	-
MSCI ACWI Gross	27.30%	50	(8.93%)	46	24.62%	56	8.48%	28	(1.84%)	70
Callan Global Equity	27.41%		(9.52%)		25.27%		6.21%		0.17%	
MFS Investment Management	37.31%	4	(3.75%)	11	33.16%	12	6.06%	52	(0.49%)	60
MSCI ACWI Gross	27.30%	50	(8.93%)	46	24.62%	56	8.48%	28	(1.84%)	70
Callan Global Equity	27.41%		(9.52%)		25.27%		6.21%		0.17%	
Total International Equity	21.68%	72	(15.19%)	68	25.03%	94	5.78%	23	(0.41%)	11
MSCI EAFE	22.01%	65	(13.79%)	43	25.03%	94	1.00%	88	(0.81%)	17
Pub Pln- Intl Equity	22.91%		(14.09%)		29.11%		4.10%		(3.83%)	
AQR Emerging Markets	20.54%	65	(18.31%)	86	35.53%	73	-	-	-	-
MSCI EM Gross	18.90%	73	(14.24%)	28	37.75%	58	11.60%	49	(14.60%)	64
Callan Emerging Broad	22.16%		(15.34%)		39.31%		11.58%		(13.68%)	
Brandes Investment Partners	15.31%	98	(8.79%)	6	16.53%	99	8.50%	4	(1.25%)	66
MSCI EAFE	22.01%	66	(13.79%)	35	25.03%	75	1.00%	57	(0.81%)	62
Callan NonUS Eq	23.83%		(15.13%)		28.15%		1.48%		0.40%	
William Blair & Company	31.58%	9	(16.86%)	72	31.45%	22	(1.45%)	82	0.18%	53
MSCI ACWIxUS Gross	22.13%	64	(13.77%)	35	27.77%	56	5.01%	16	(5.25%)	92
Callan NonUS Eq	23.83%		(15.13%)		28.15%		1.48%		0.40%	
DFA International Small Cap	21.62%	81	(23.31%)	91	27.98%	92	8.00%	8	3.99%	86
Blended Benchmark	24.96%	45	(17.89%)	30	33.01%	74	2.18%	32	9.59%	56
Callan Intl Small Cap	24.90%		(19.66%)		35.27%		(0.03%)		10.09%	

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.

	2019		2018		2017		2016		2015	
Total Fixed Income	11.95%		(0.33%)		5.28%		7.40%		(2.49%)	
Bimbg Aggregate	8.72%		0.01%		3.54%		2.65%		0.55%	
BlackRock US Debt Idx Fd	8.79%	80	0.06%	57	3.68%	76	-	-	-	-
Bimbg Aggregate	8.72%	83	0.01%	62	3.54%	87	2.65%	87	0.55%	71
Callan Core Bond FI	9.17%		0.11%		3.96%		3.14%		0.84%	
Reams Asset Management	8.82%	92	1.91%	1	3.62%	95	4.38%	63	0.38%	49
Bimbg Aggregate	8.72%	93	0.01%	31	3.54%	95	2.65%	100	0.55%	38
Callan Core Plus FI	10.01%		(0.25%)		4.97%		4.67%		0.34%	
Loomis, Sayles & Company, L.P.	14.42%	1	(2.11%)	98	8.50%	1	13.97%	1	(6.10%)	100
Bimbg Aggregate	8.72%	93	0.01%	31	3.54%	95	2.65%	100	0.55%	38
Callan Core Plus FI	10.01%		(0.25%)		4.97%		4.67%		0.34%	
Total Private Equity	16.63%		21.48%		17.27%		9.09%		12.34%	
Abbott Capital Management 2010	16.52%		26.90%		19.98%		11.03%		12.32%	
Abbott Capital Management 2011	19.64%		25.70%		19.24%		10.43%		10.12%	
Abbott Capital Management 2012	17.91%		24.39%		17.97%		9.42%		2.45%	
Abbott Capital Management 2013	21.13%		25.17%		18.71%		5.25%		2.23%	
Abbott Capital Management 2014	19.74%		22.58%		13.50%		2.86%		0.39%	
Abbott Capital Management 2015	15.14%		13.57%		6.87%		(5.11%)		-	
Abbott Capital Management 2016	9.08%		9.43%		(1.13%)		-		-	
Abbott Capital Management 2018	7.26%		-		-		-		-	
Mesirow V	16.29%		18.01%		21.00%		12.03%		19.41%	
Mesirow VI	22.73%		24.87%		12.50%		3.32%		(3.99%)	
Mesirow VII	3.33%		(7.82%)		-		-		-	
NB Secondary Opp Fund III	12.18%		16.65%		20.63%		12.83%		33.37%	
Private Advisors VI	17.98%		15.19%		13.15%		(1.34%)		-	
Private Advisors VII	11.23%		19.02%		(3.33%)		-		-	
Private Advisors VIII	(4.08%)		-		-		-		-	
Russell 3000 (1 Qtr in Arrears) + 3%	6.19%		20.60%		21.71%		17.97%		2.56%	
Absolute Return	13.10%		1.61%		5.96%		5.16%		4.92%	
Allianz SA 1000	20.28%		(0.97%)		73		9.67%		10	
T-Bills + 10%	12.28%		11.87%		1		10.86%		5	
Callan Abs Rtn Hedge FoF	5.63%		0.51%		4.97%		3.35%		(0.75%)	
Newton	13.15%		2.18%		14		5.59%		39	
1-month LIBOR + 4%	6.26%		6.07%		2		5.11%		47	
Callan Abs Rtn Hedge FoF	5.63%		0.51%		4.97%		3.35%		(0.75%)	
UBS A & Q	9.53%		2.65%		12		4.16%		67	
1-month LIBOR + 4%	6.26%		6.07%		2		5.11%		47	
Callan Abs Rtn Hedge FoF	5.63%		0.51%		4.97%		3.35%		(0.75%)	
Real Assets	15.39%		(7.47%)		10.15%		7.00%		-	
Principal DRA	15.39%		(7.47%)		47		10.15%		15	
Principal Blended Benchmark (1)	14.86%		(7.27%)		46		10.38%		15	
Callan Alternative Inv DB	7.85%		(8.24%)		4.59%		10.52%		(18.00%)	
Total Real Estate	6.21%		9.18%		9.20%		11.38%		13.44%	
Real Estate	6.21%		9.18%		38		9.20%		39	
Blended Benchmark (2)	5.26%		7.89%		48		6.93%		58	
Callan Tot Real Est DB	7.30%		7.67%		7.73%		8.67%		14.26%	
Total Fund	18.72%		(2.74%)		16.68%		9.11%		0.74%	
Total Fund Reference Index*	16.52%		(3.29%)		15.80%		7.43%		1.27%	

* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Bimbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 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.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net of Fee Returns					
Total Domestic Equity Net	8.64%	28.94%	13.43%	10.54%	12.60%
Russell 3000 Index	9.10%	31.02%	14.57%	11.24%	13.42%
BlackRock Russell 1000 Value	7.42%	26.77%	-	-	-
Russell 1000 Value Index	7.41%	26.54%	9.68%	8.29%	11.80%
DFA Large Cap Value	9.19%	26.42%	-	-	-
Russell 1000 Value Index	7.41%	26.54%	9.68%	8.29%	11.80%
Northern Trust Global	9.07%	31.53%	15.29%	11.73%	13.60%
S&P 500 Index	9.07%	31.49%	15.27%	11.70%	13.56%
Polen Capital Management	10.48%	38.27%	24.02%	17.28%	-
S&P 500 Index	9.07%	31.49%	15.27%	11.70%	13.56%
Earnest Partners LLC	7.51%	37.65%	15.72%	12.59%	14.22%
Russell MidCap Index	7.06%	30.54%	12.06%	9.33%	13.19%
DFA Small Cap Value	8.63%	18.58%	2.46%	5.28%	11.25%
Russell 2000 Value Index	8.49%	22.39%	4.77%	6.99%	10.56%
CastleArk Management	7.09%	22.47%	15.66%	9.00%	-
Russell 2000 Growth Index	11.39%	28.48%	12.49%	9.34%	13.01%
Total Global Equity Net	8.85%	30.55%	16.05%	10.54%	-
MSCI World	8.56%	27.67%	12.57%	8.74%	9.47%
BlackRock Global Alpha Tilts	8.60%	26.48%	13.45%	-	-
MFS Investment Management	9.18%	36.74%	20.23%	12.71%	-
MSCI ACWI Gross	9.07%	27.30%	13.05%	9.00%	9.37%
Total International Equity Net	10.10%	21.08%	8.34%	5.82%	6.55%
MSCI EAFE Index	8.17%	22.01%	9.56%	5.67%	5.50%
AQR Emerging Markets	13.58%	19.64%	9.28%	-	-
MSCI EM Gross	11.93%	18.90%	11.99%	6.01%	4.04%
Brandes Investment Partners	8.15%	14.86%	6.58%	5.17%	5.14%
MSCI EAFE Index	8.17%	22.01%	9.56%	5.67%	5.50%
William Blair & Company	10.54%	31.01%	12.41%	6.83%	8.02%
MSCI ACWI ex-US Index	8.99%	22.13%	10.40%	6.01%	5.45%
DFA International Small Cap	11.81%	21.00%	5.90%	5.93%	7.17%
Blended Benchmark	11.52%	24.96%	10.92%	8.85%	8.51%
Total Fixed Income Net	0.96%	11.68%	5.32%	4.05%	4.86%
Bimbg Aggregate	0.18%	8.72%	4.03%	3.05%	3.75%
Allianz US Fixed Income 250	1.09%	12.60%	-	-	-
Bimbg Aggregate +2.5%	0.80%	11.22%	6.53%	5.55%	6.25%
BlackRock US Debt Idx Fd	0.18%	8.77%	4.10%	-	-
Reams Asset Management	0.02%	8.65%	4.58%	3.63%	4.45%
Loomis, Sayles & Company, L.P.	1.86%	14.25%	6.57%	5.26%	6.83%
Bimbg Aggregate	0.18%	8.72%	4.03%	3.05%	3.75%
Total Private Equity	2.77%	16.63%	18.44%	15.28%	-
Abbott Capital Management 2010	1.27%	16.52%	17.06%	17.21%	-
Abbott Capital Management 2011	2.49%	19.64%	21.49%	16.87%	-
Abbott Capital Management 2012	3.03%	17.91%	20.05%	14.17%	-
Abbott Capital Management 2013	3.72%	21.13%	21.64%	14.13%	-
Abbott Capital Management 2014	2.69%	19.74%	18.54%	11.46%	-
Abbott Capital Management 2015	2.04%	15.14%	11.80%	-	-
Abbott Capital Management 2016	1.30%	9.08%	5.68%	-	-
Abbott Capital Management 2018	6.07%	7.26%	-	-	-
Mesirow V	1.58%	16.29%	18.42%	17.31%	-
Mesirow IV	5.63%	22.73%	19.91%	11.33%	-
Mesirow VII	0.36%	3.33%	-	-	-
NB Secondary Opp Fund III	3.81%	12.18%	16.44%	18.89%	-
NB Secondary Opp Fund IV	2.74%	14.76%	-	-	-
Private Advisors VI	6.61%	17.98%	15.42%	-	-
Private Advisors VII	0.06%	11.23%	8.57%	-	-
Private Advisors VIII	(6.32%)	(4.08%)	-	-	-
Russell 3000 (1 Qtr in Arrears) + 3%	1.88%	6.19%	15.94%	13.53%	-
Absolute Return	3.28%	12.50%	6.60%	5.97%	-
Allianz SA 1000	3.90%	18.43%	8.75%	9.43%	-
T-Bills + 10%	2.84%	12.28%	11.67%	11.07%	10.58%
Newton	1.83%	12.57%	6.69%	4.95%	-
UBS A & Q	3.72%	9.53%	5.41%	4.54%	-
1-month LIBOR + 4%	1.42%	6.26%	5.81%	5.22%	4.72%
Real Assets	4.53%	14.84%	5.39%	-	-
Principal DRA	4.53%	14.84%	5.39%	-	-
Principal Blended Benchmark (1)	3.96%	14.86%	5.54%	-	-
Total Real Estate	2.09%	5.95%	7.92%	9.58%	10.06%
Real Estate	2.09%	5.95%	7.92%	9.58%	10.06%
Blended Benchmark (2)	1.18%	5.26%	6.69%	6.68%	9.83%
Total Fund Net	5.31%	18.34%	10.12%	7.86%	8.84%
Total Fund Reference Index	4.73%	16.52%	9.28%	7.26%	8.45%

*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.

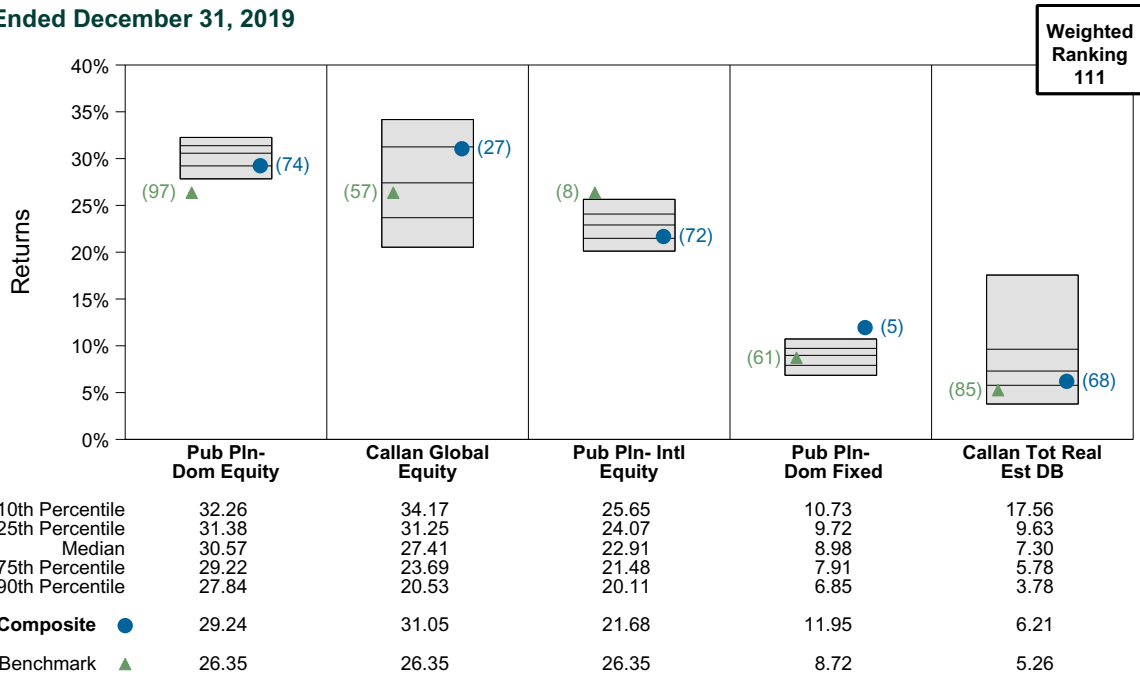
	2019	2018	2017	2016	2015
Net of Fee Returns					
Total Domestic Equity Net	28.94%	(6.10%)	20.53%	13.55%	(0.39%)
Russell 3000 Index	31.02%	(5.24%)	21.13%	12.74%	0.48%
BlackRock Russell 1000 Value	26.77%	(8.13%)	-	-	-
Russell 1000 Value Index	26.54%	(8.27%)	13.66%	17.34%	(3.83%)
DFA Large Cap Value	26.42%	(12.60%)	-	-	-
Russell 1000 Value Index	26.54%	(8.27%)	13.66%	17.34%	(3.83%)
Northern Trust Global	31.53%	(4.37%)	21.83%	11.98%	1.46%
S&P 500 Index	31.49%	(4.38%)	21.83%	11.96%	1.38%
Polen Capital Management	38.27%	8.60%	27.05%	1.19%	14.94%
S&P 500 Index	31.49%	(4.38%)	21.83%	11.96%	1.38%
Earnest Partners LLC	37.65%	(10.29%)	25.50%	15.90%	0.71%
Russell MidCap Index	30.54%	(9.06%)	18.52%	13.80%	(2.44%)
DFA Small Cap Value	18.58%	(15.30%)	7.10%	28.68%	(6.57%)
Russell 2000 Value Index	22.39%	(12.86%)	7.84%	31.74%	(7.47%)
CastleArk Management	22.47%	2.60%	23.12%	5.30%	(5.54%)
Russell 2000 Growth Index	28.48%	(9.31%)	22.17%	11.32%	(1.38%)
Total Global Equity Net	30.55%	(8.51%)	30.85%	8.26%	(2.44%)
MSCI World	27.67%	(8.71%)	22.40%	7.51%	(0.87%)
BlackRock Global Alpha Tilts	26.48%	(11.24%)	30.06%	-	-
MFS Investment Management	36.74%	(4.16%)	32.62%	5.62%	(0.89%)
MSCI ACWI Gross	27.30%	(8.93%)	24.62%	8.48%	(1.84%)
Total International Equity Net	21.08%	(15.60%)	24.44%	5.27%	(0.89%)
MSCI EAFE Index	22.01%	(13.79%)	25.03%	1.00%	(0.81%)
AQR Emerging Markets	19.64%	(18.93%)	34.55%	-	-
MSCI EM Gross	18.90%	(14.24%)	37.75%	11.60%	(14.60%)
Brandes Investment Partners	14.86%	(9.17%)	16.06%	8.05%	(1.66%)
MSCI EAFE Index	22.01%	(13.79%)	25.03%	1.00%	(0.81%)
William Blair & Company	31.01%	(17.20%)	30.94%	(1.84%)	(0.22%)
MSCI ACWI ex-US Index	22.13%	(13.77%)	27.77%	5.01%	(5.25%)
DFA International Small Cap	21.00%	(23.31%)	27.98%	8.00%	3.99%
Blended Benchmark	24.96%	(17.89%)	33.01%	2.18%	9.59%
Total Fixed Income Net	11.68%	(0.47%)	5.09%	7.21%	(2.63%)
Blmbg Aggregate	8.72%	0.01%	3.54%	2.65%	0.55%
Allianz US Fixed Income 250	12.60%	-	-	-	-
Blmbg Aggregate +2.5%	11.22%	2.51%	6.04%	5.16%	3.05%
BlackRock US Debt Idx Fd	8.77%	0.04%	3.66%	-	-
Reams Asset Management	8.65%	1.76%	3.46%	4.22%	0.23%
Loomis, Sayles & Company, L.P.	14.25%	(2.24%)	8.36%	13.82%	(6.20%)
Blmbg Aggregate	8.72%	0.01%	3.54%	2.65%	0.55%
Total Private Equity	16.63%	21.48%	17.27%	9.09%	12.34%
Abbott Capital Management 2010	16.52%	26.90%	19.98%	11.03%	12.32%
Abbott Capital Management 2011	19.64%	25.70%	19.24%	10.43%	10.12%
Abbott Capital Management 2012	17.91%	24.39%	17.97%	9.42%	2.45%
Abbott Capital Management 2013	21.13%	25.17%	18.71%	5.25%	2.23%
Abbott Capital Management 2014	19.74%	22.58%	13.50%	2.86%	0.39%
Abbott Capital Management 2015	15.14%	13.57%	6.87%	(5.11%)	-
Abbott Capital Management 2016	9.08%	9.43%	(1.13%)	-	-
Abbott Capital Management 2018	7.26%	-	-	-	-
Mesirow V	16.29%	18.01%	21.00%	12.03%	19.41%
Mesirow IV	22.73%	24.87%	12.50%	3.32%	(3.99%)
Mesirow VII	3.33%	(7.82%)	-	-	-
NB Secondary Opp Fund III	12.18%	16.65%	20.63%	12.83%	33.37%
NB Secondary Opp Fund IV	14.76%	68.26%	-	-	-
Private Advisors VI	17.98%	15.19%	13.15%	(1.34%)	-
Private Advisors VII	11.23%	19.02%	(3.33%)	-	-
Private Advisors VIII	(4.08%)	-	-	-	-
Russell 3000 (1 Qtr in Arrears) + 3%	6.19%	20.60%	21.71%	17.97%	2.56%
Absolute Return	12.50%	1.61%	5.96%	5.16%	4.92%
Allianz SA 1000	18.43%	(0.97%)	9.67%	11.15%	9.76%
T-Bills + 10%	12.28%	11.87%	10.86%	10.33%	10.05%
Newton	12.57%	2.18%	5.59%	3.31%	1.50%
UBS A & Q	9.53%	2.65%	4.16%	2.42%	4.09%
1-month LIBOR + 4%	6.26%	6.07%	5.11%	4.49%	4.19%
Real Assets	14.84%	(7.47%)	10.15%	7.00%	-
Principal DRA	14.84%	(7.47%)	10.15%	7.00%	-
Principal Blended Benchmark (1)	14.86%	(7.27%)	10.38%	6.77%	-
Total Real Estate	5.95%	8.94%	8.89%	11.09%	13.15%
Real Estate	5.95%	8.94%	8.89%	11.09%	13.15%
Blended Benchmark (2)	5.26%	7.89%	6.93%	9.69%	13.82%
Total Fund Net	18.34%	(3.01%)	16.36%	8.80%	0.46%
Total Fund Reference Index	16.52%	(3.29%)	15.80%	7.43%	1.27%

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

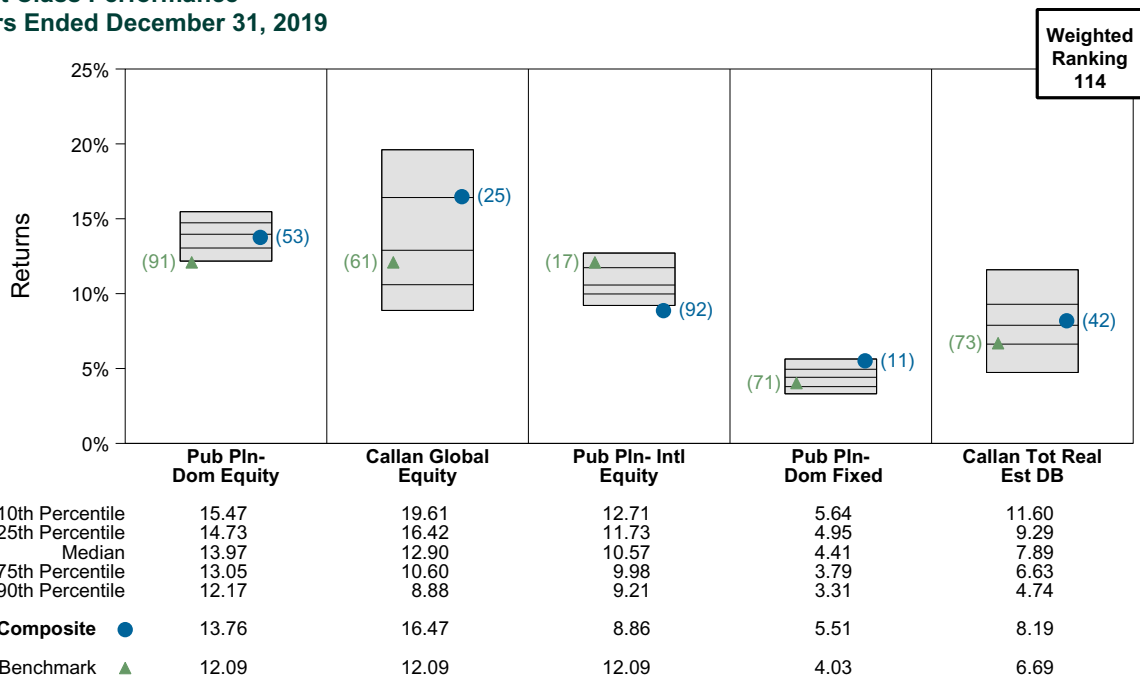
Asset Class Rankings

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 December 31, 2019



Total Asset Class Performance Three Years Ended December 31, 2019

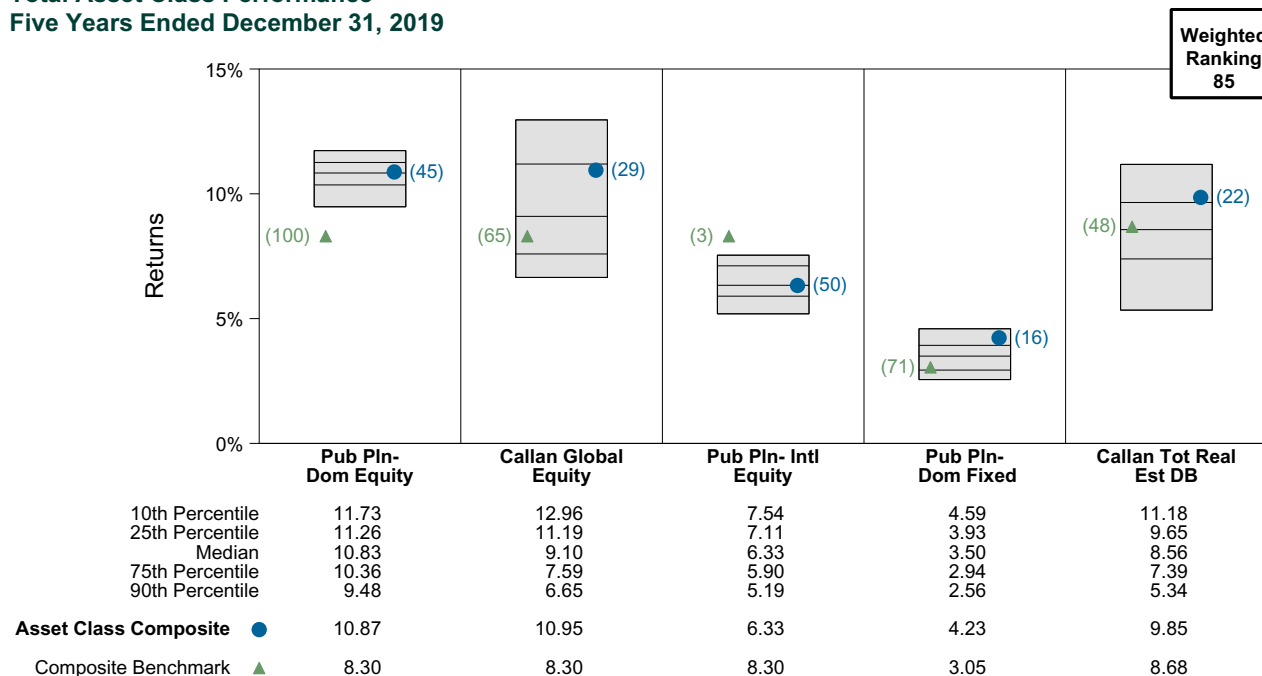


* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

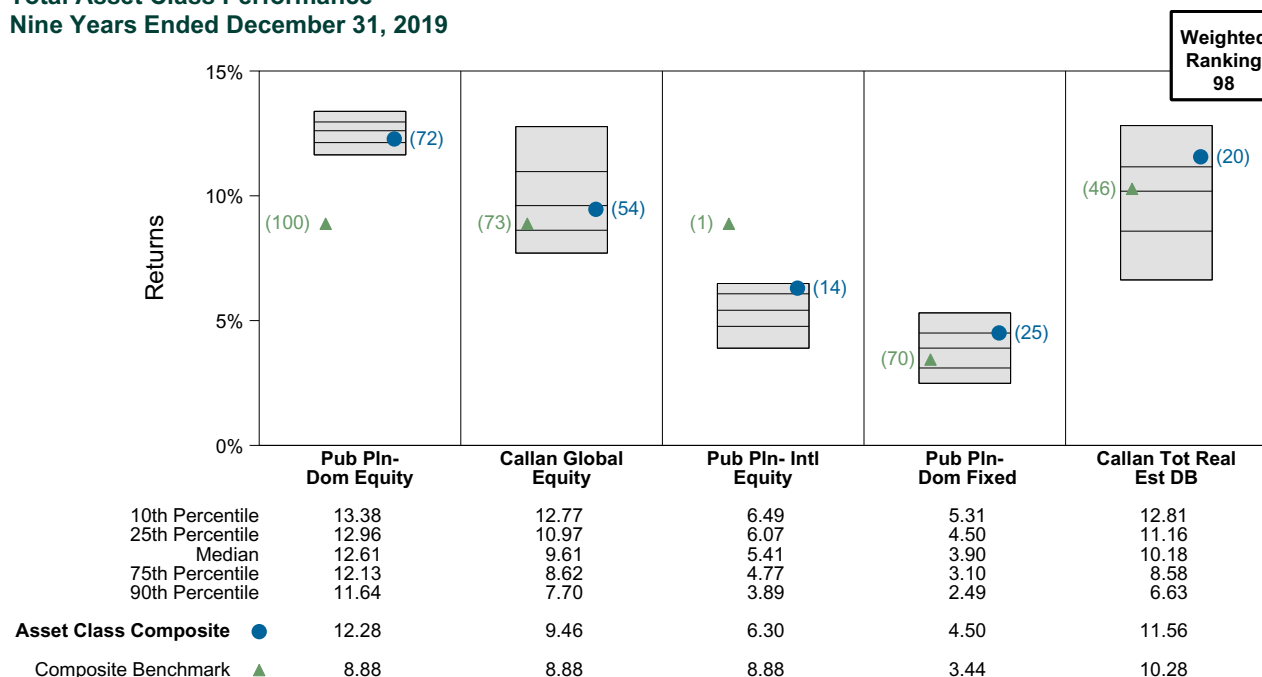
Asset Class Rankings

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 December 31, 2019



Total Asset Class Performance Nine Years Ended December 31, 2019

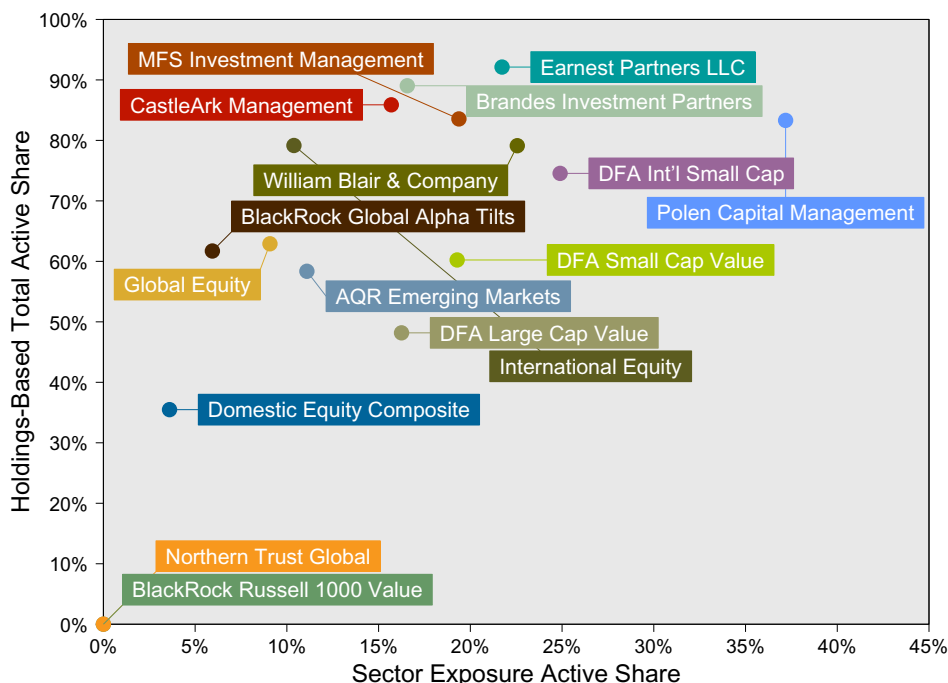


* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

Active Share Structure Analysis For One Quarter Ended December 31, 2019

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

Active Share Analysis Ended December 31, 2019



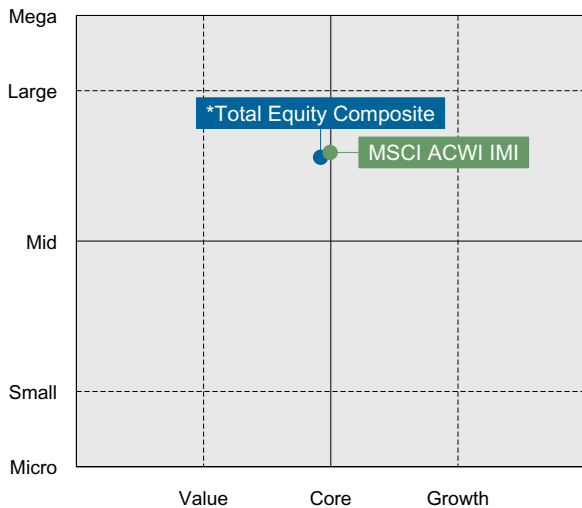
	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
*Domestic Equity Composite	Russell 3000	35.48%	0.49%	3.60%	1827	63.44
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	754	52.38
DFA Large Cap Value	Russell 1000 Value	48.18%	0.46%	16.25%	269	25.92
Northern Trust Global	S&P 500	0.01%	0.00%	0.00%	505	47.83
Polen Capital Management	S&P 500	83.31%	1.65%	37.19%	24	7.32
Earnest Partners LLC	Russell MidCap	92.13%	12.12%	21.73%	60	20.52
DFA Small Cap Value	Russell 2000 Value	60.23%	13.64%	19.28%	898	110.78
CastleArk Management	Russell 2000 Growth	85.88%	21.21%	15.69%	110	41.69
Global Equity	MSCI World	62.91%	9.07%	9.08%	862	63.85
BlackRock Global Alpha Tilts	MSCI ACWI Gross	61.71%	4.78%	5.94%	813	61.74
MFS Investment Management	MSCI ACWI Gross	83.55%	3.46%	19.38%	88	28.67
International Equity	MSCI EAFE	79.16%	26.92%	10.39%	2643	78.69
AQR Emerging Markets	MSCI EM Gross	58.36%	1.14%	11.09%	298	36.56
Brandes Investment Partners	MSCI EAFE	89.03%	10.61%	16.56%	61	19.89
William Blair & Company	MSCI ACWixUS Gross	79.12%	9.39%	22.56%	294	47.32
DFA Int'l Small Cap	MSCI World ex US Sm Cap	74.55%	8.16%	24.89%	2029	170.32

* 12/31/19 portfolio characteristics generated using most recently available holdings (9/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

Current Holdings Based Style Analysis Total Equity Composite As of December 31, 2019

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

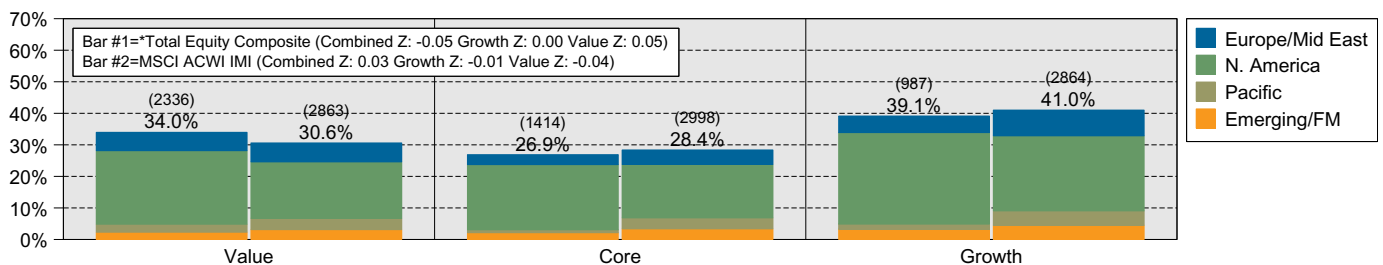
Style Map vs Callan Public Fund Spr DB Holdings as of December 31, 2019



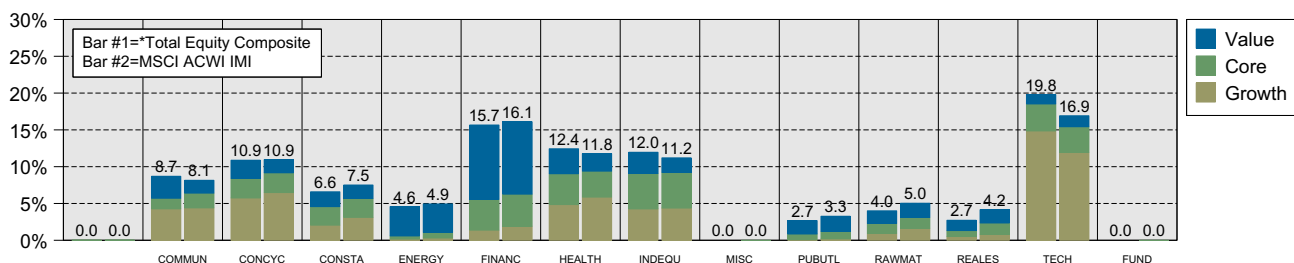
Style Exposure Matrix Holdings as of December 31, 2019

	Value	Core	Growth	Total
Europe/ Mid East	5.8% (386)	3.2% (301)	5.3% (224)	14.2% (911)
	6.0% (452)	4.6% (477)	8.2% (483)	18.7% (1412)
N. America	23.3% (902)	20.7% (650)	29.0% (438)	73.0% (1990)
	17.9% (862)	17.0% (985)	23.8% (857)	58.6% (2704)
Pacific	2.5% (873)	0.9% (304)	1.6% (163)	5.1% (1340)
	3.6% (592)	3.5% (575)	4.6% (608)	11.6% (1775)
Emerging/ FM	2.3% (175)	2.1% (159)	3.2% (162)	7.7% (496)
	3.1% (957)	3.4% (961)	4.5% (916)	11.0% (2834)
Total	34.0% (2336)	26.9% (1414)	39.1% (987)	100.0% (4737)
	30.6% (2863)	28.4% (2998)	41.0% (2864)	100.0% (8725)

Combined Z-Score Style Distribution Holdings as of December 31, 2019



Sector Weights Distribution Holdings as of December 31, 2019



* 12/31/19 portfolio characteristics generated using most recently available holdings (9/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

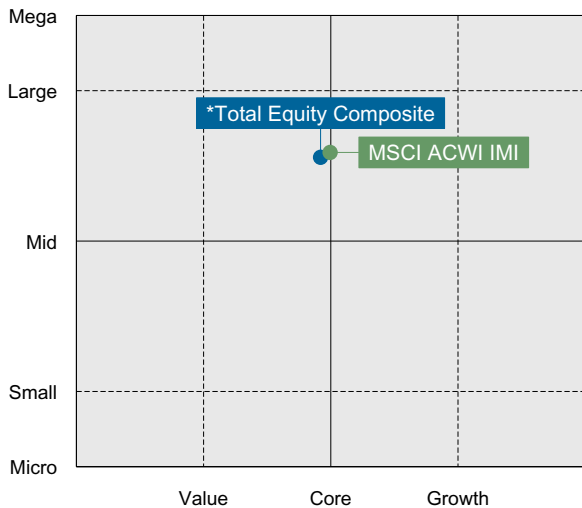
Current Holdings Based Style Analysis

Total Equity Composite

As of December 31, 2019

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

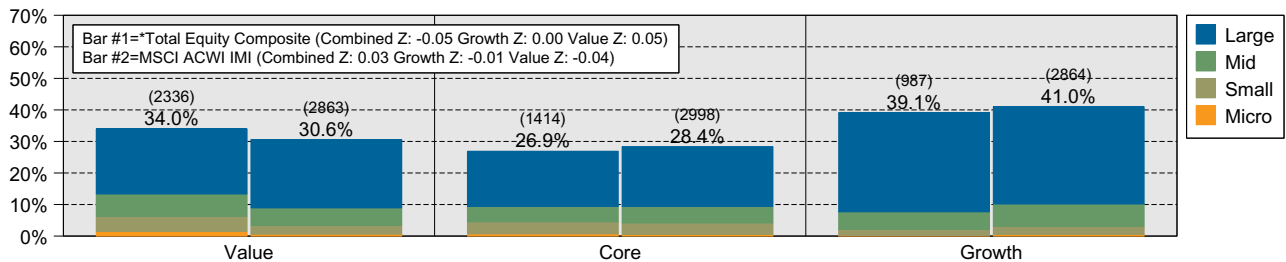
Style Map vs Callan Public Fund Spr DB Holdings as of December 31, 2019



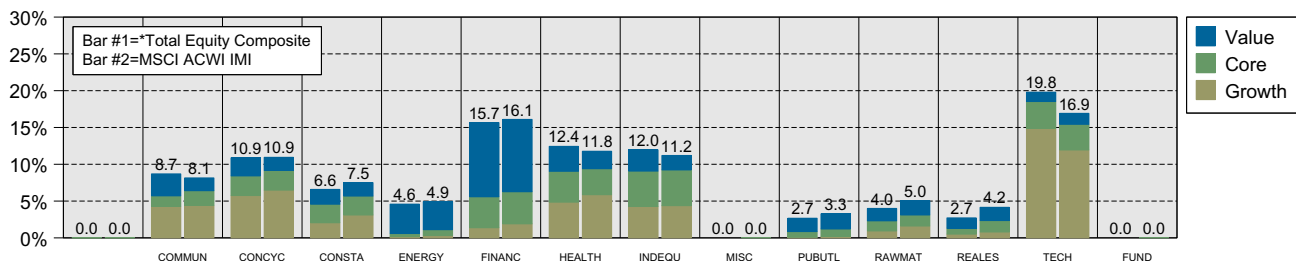
Style Exposure Matrix Holdings as of December 31, 2019

	Value	Core	Growth	Total
Large	20.6% (213)	17.5% (178)	31.4% (242)	69.5% (633)
	21.7% (296)	19.0% (251)	30.9% (325)	71.5% (872)
Mid	7.1% (305)	4.9% (262)	5.5% (312)	17.5% (879)
	5.6% (521)	5.3% (525)	7.0% (699)	17.8% (1745)
Small	4.8% (524)	3.8% (446)	1.9% (229)	10.6% (1199)
	2.8% (1098)	3.5% (1347)	2.7% (1045)	9.0% (3490)
Micro	1.4% (1294)	0.7% (528)	0.2% (204)	2.4% (2026)
	0.6% (948)	0.6% (875)	0.5% (795)	1.7% (2618)
Total	34.0% (2336)	26.9% (1414)	39.1% (987)	100.0% (4737)
	30.6% (2863)	28.4% (2998)	41.0% (2864)	100.0% (8725)

Combined Z-Score Style Distribution Holdings as of December 31, 2019



Sector Weights Distribution Holdings as of December 31, 2019

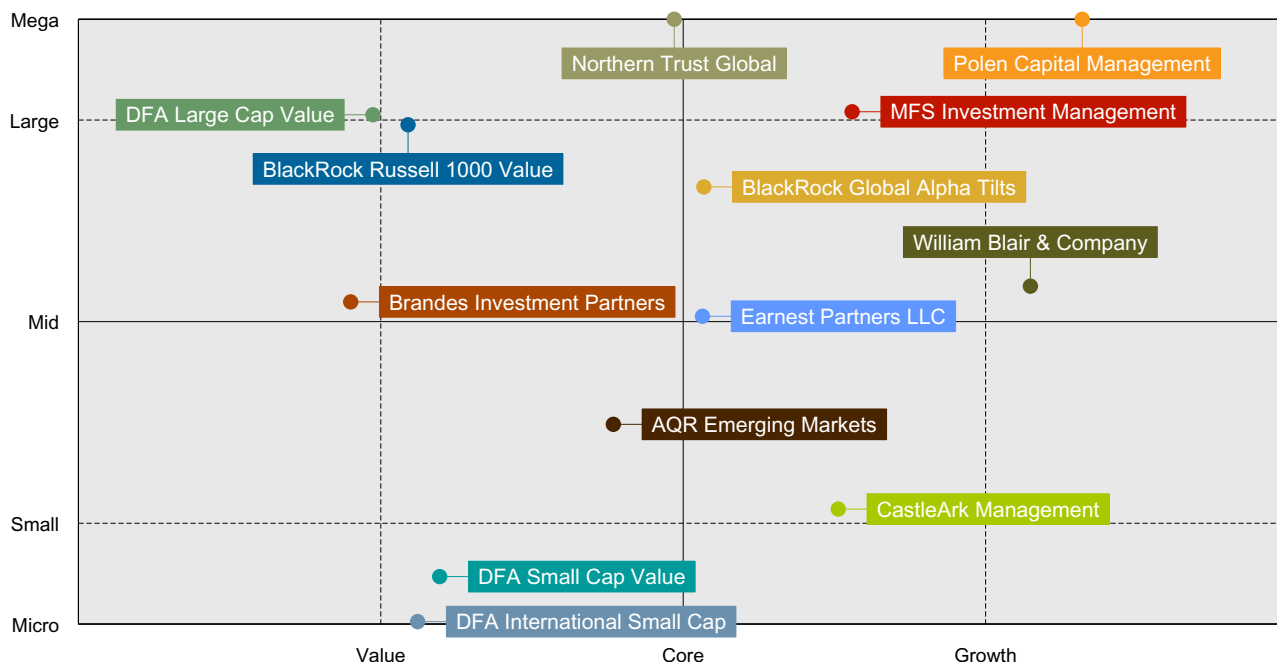


* 12/31/19 portfolio characteristics generated using most recently available holdings (9/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

Global Holdings Based Style Analysis For One Quarter Ended December 31, 2019

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

Style Map Holdings for One Quarter Ended December 31, 2019



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
BlackRock Russell 1000 Value	5.84%	67.09	(0.88)	(0.43)	0.45	754	52.38
DFA Large Cap Value	5.85%	71.34	(1.00)	(0.31)	0.69	269	25.92
Northern Trust Global	12.23%	127.09	0.00	(0.01)	(0.02)	505	47.83
Polen Capital Management	5.85%	156.34	1.35	0.60	(0.76)	24	7.32
Earnest Partners LLC	4.86%	19.41	0.10	0.02	(0.07)	60	20.52
DFA Small Cap Value	6.84%	2.22	(0.78)	(0.19)	0.59	898	110.78
CastleArk Management	3.56%	4.07	0.55	0.17	(0.37)	110	41.69
MFS Investment Management	7.45%	73.11	0.59	0.08	(0.51)	88	28.67
BlackRock Global Alpha Tilts	10.79%	51.62	0.10	0.09	(0.01)	813	61.74
AQR Emerging Markets	4.01%	10.40	(0.20)	(0.03)	0.17	298	36.56
Brandes Investment Partners	14.91%	22.99	(1.07)	(0.29)	0.78	61	19.89
William Blair & Company	11.00%	26.91	1.18	0.45	(0.73)	294	47.32
DFA International Small Cap	6.78%	1.54	(0.85)	(0.26)	0.59	2029	170.32

Research and Educational Programs

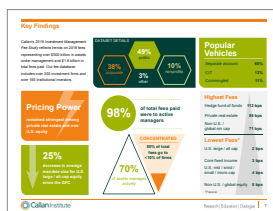
The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives."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

New Research from Callan's Experts

Long-Dated Private Equity Funds: More Illiquidity Please? |

In this paper, Ashley DeLuce of Callan's Private Equity Consulting Group analyzes long-dated private equity funds, which have terms of 15 years or more (some even have no fixed term), and tend to focus on stable, mature businesses that may not fit a traditional private equity investment profile. Although these companies may not generate the outsized internal rates of return associated with traditional private equity investments, they tend to have stronger downside protection. In evaluating a potential long-dated fund investment, investors need to be wary of the strategy's increased illiquidity and how it can impact annual commitment pacing.

Callan 2019 Investment Management Fee Study | This study using Callan's proprietary database is our eighth examination of institutional investment management



fee trends. The purpose of the study is to provide a detailed analysis on fee levels and trends across multiple asset classes and mandate sizes, for both active and passive management.

Gold: Real Asset, Risk Mitigator, or Pet Rock? | In this *Hedge Fund Monitor*, Jim McKee reviews the history of gold as a form of money, the reasons behind the recent renaissance in gold, the potential roles of gold



for institutional investors, and the alternative approaches to invest in gold-related themes. For some institutional investors, gold can play a useful role in diversifying risk or enhancing returns. For others, particularly those with higher risk tolerances and longer time horizons, a strategic gold allocation has about as much purpose as a Pet Rock.

Quarterly Periodicals

Private Equity Trends, 3Q19 | This newsletter from Callan's Private Equity Consulting Group provides a high-level summary of private equity activity in the quarter through all the investment stages, from fundraising to exits, as well as long-term performance data.

Monthly Periodic Table of Investment Returns, November 2019 |

A regular update to Callan's Periodic Table covering the major public equity and fixed income asset classes.

Active vs. Passive Report, 3Q19 | This series of charts compares active managers alongside relevant benchmarks over the long term.

Market Pulse Flipbook, 3Q19 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data for U.S. and global ex-U.S. equities and fixed income, alternatives, and defined contribution plans.

Capital Market Review, 3Q19 | This newsletter provides 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, 3Q19 | Callan's Jim McKee of our Hedge Fund Research Group provides commentary on developments for hedge funds and multi-asset class (MAC) strategies.

Real Estate Indicators: Too Hot to Touch or Cool Enough to Handle? | Callan's Real Assets Consulting Group identifies seven indicators that, combined with an understanding of prevailing market dynamics, have helped signal when the institutional real estate market is overheated or cooled.

Real Assets Reporter, 3Q19 | This newsletter from our experts offers Callan's data and insights on real estate and other real asset 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:

2020 June Regional Workshops

June 23 – San Francisco

June 25 – Chicago

2020 October Regional Workshops

October 27 – Atlanta

October 29 – Portland

Please also keep your eye out for upcoming Webinars in 2020! We will be sending invitations to register for these events and will also have registration links on our website at www.callan.com/webinarsupcoming.

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



"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

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

April 21-22, 2020 – San Francisco

July 21-22, 2020 – Chicago

October 13-14, 2020 – Chicago

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.

Learn more at www.callan.com/callan-college-intro-2/

Alternative Investments for Institutional Investors

June 16, 2020 – San Francisco

November 3, 2020 – Chicago

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 the head of Alternatives Consulting Pete Keliuotis. 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.

Learn more at: <https://www.callan.com/callan-college-alternatives-2/>

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.
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, 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
Cadence Capital Management
Cambiar Investors, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Ceredex Value Advisers

Manager Name
Camplain Investment Partners, LLC
Chartwell Investment Partners
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
Davy Asset Management Limited
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, 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 Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
Financial Engines
First Hawaiian Bank Wealth Management Division
First State Investments
FIS Group, Inc.
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
Fuller & Thaler Asset Management, Inc.
GAM (USA) Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
GMO LLC
Goldman Sachs
Green Square Capital Advisors, LLC

Manager Name
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Impax Asset Management Limited
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Iridian Asset Management LLC
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jenson Investment Management
JO Hambro Capital Management Limited
Jobs Peak Advisors
John Hancock Investment Management Services, LLC
Kayne Anderson Rudnick Investment Management, LLC
KeyCorp
Lazard Asset Management
L & B Realty Advisors LLP
Legal & General Investment Management America
Lincoln Advisors
Lincoln National Corporation
Logan Circle Partners, L.P.
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
MacKenzie Investments
Macquarie Investment Management (MIM)
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Lake Investment Management LLC
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management

Manager Name
Nuveen
OFI Global Asset Management
Osterweis Capital Management, LLC
Owl Rock
P/E Investments
Pacific Investment Management Company
Parametric Portfolio Associates LLC
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
Riverbridge Partners LLC
Robeco Institutional Asset Management, US Inc.
Rockefeller Capital Management
Rothschild & Co. Asset Management US
Russell Investments
Schroder Investment Management North America Inc.
Segall Bryant & Hamill
Smith Graham & Co. Investment Advisors, L.P.
South Texas Money Management, Ltd.
Sprucegrove Investment Management Ltd.
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
Strategic Global Advisors
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
Vulcan Value Partners, LLC
Wasatch Global Investors
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