


December 31, 2018



City of Milwaukee Employees' Retirement System

Investment Measurement Service Quarterly Review

Information contained herein includes confidential, trade secret and proprietary information. Neither this Report nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose or disseminated to any other person without Callan's permission. Certain information herein has been compiled by Callan and is based on information provided by a variety of sources believed to be reliable for which Callan has not necessarily verified the accuracy or completeness of or updated. This content may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. This content is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation. Past performance is no guarantee of future results. For further information, please see Appendix for Important Information and Disclosures.

Table of Contents

December 31, 2018

Capital Markets Review	1
<hr/>	
Total Fund	
Investment Manager Asset Allocation	7
Actual vs. Target Asset Allocation	8
Total Fund vs. Total Public Fund Database	10
Quarterly Total Fund Attribution	13
Cumulative Total Fund Attribution	14
Investment Manager Returns - Gross of Fee	15
Investment Manager Returns - Net of Fee	19
Asset Class Rankings	21
<hr/>	
Callan Research/Education	23
<hr/>	
Disclosures	26

U.S. EQUITY

Large Cap U.S. Equity (S&P 500: -13.5%; Russell 1000: -13.8%)

- Equity markets fell drastically in the fourth quarter, with all sectors, save Utilities (+1.4%), in negative territory.
- The decline was driven by broad-based de-risking.
- Contributing factors included escalated trade tensions, rising interest rates, concern over slowing GDP/earnings growth, low oil prices, and the U.S. government shutdown.
- Anecdotal evidence suggests there was increased selling pressure to fulfill year-end tax loss harvesting goals and to meet hedge funds' redemption requests.
- Markets nosedived following Fed Chairman Jerome Powell's October comments, which noted that monetary policy is a long way from neutral.
- Defensive sectors (Utilities: +1.4%; Real Estate: -3.8%; Consumer Staples: -5.2%) fared best.
- Cyclical sectors (Energy: -23.8%; Tech: -17.3%; Industrials: -17.3%) fared the worst on end-of-cycle fears.
- 2018 marked the first time in 70 years that the S&P 500 Index finished the year in the red after rising in the first three quarters; the Index fell nearly 20% from its September peak.
- On the positive side, volatility was welcomed by active managers seeking better valuation entry points; the S&P 500 forward P/E went from 16.8 on Sept. 30 to 14.4 on Dec. 31.

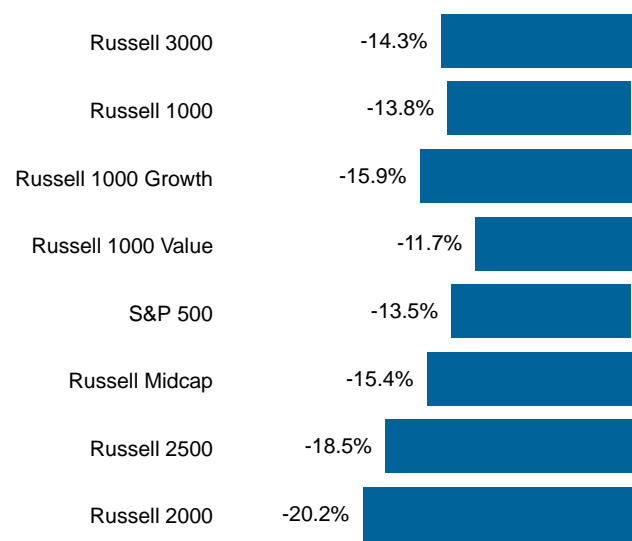
Small Cap (Russell 2000: -20.2%; Russell 2000 Growth: -21.7%; Russell 2000 Value: -18.7%)

- Small cap stocks were hardest hit as margin pressure, excess leverage, slowing growth, and earnings expectations concerned investors.
- The Russell 2000 Index fell over 22% from its Aug. 31 peak.

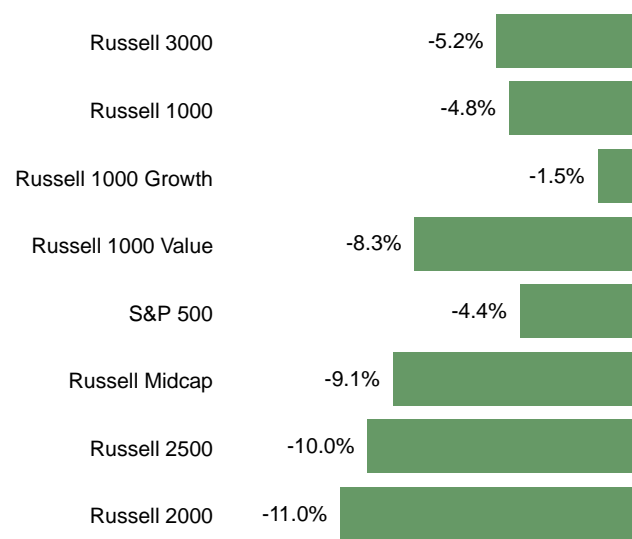
Growth vs. Value (Russell 1000 Growth: -15.9%; Russell 1000 Value: -11.7%)

- Growth fell further than value within both large and small cap due to its larger weightings in poor-performing sectors.

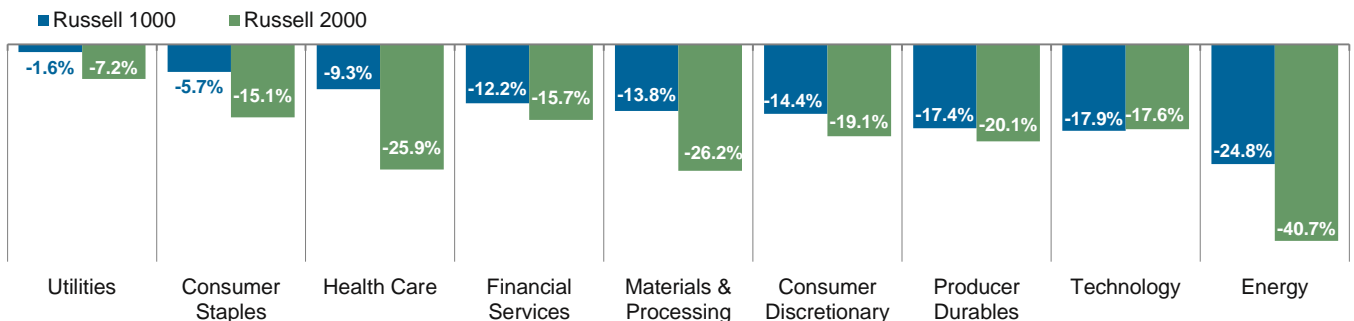
U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



Russell Sector Returns, Quarter ended December 31, 2018



Sources: FTSE Russell, Standard & Poor's

NON-U.S./GLOBAL EQUITY

Global/Non-U.S. Developed (MSCI EAFE: -12.5%; MSCI Europe: -12.7%; MSCI World ex USA: -12.8%)

- Economic deceleration fueled by the global trade dispute and Brexit impasse drove markets down.
- The dollar rallied against the euro by 1.6% on weak growth and fears of euro zone economic contraction.
- The yen gained against the dollar by 3.5% as investors sought safe haven.
- All sectors were in negative territory. Defensive sectors fared better than cyclicals given the risk-off environment.
- Utilities, Real Estate, and Communication Services fared best.
- Global growth concerns and falling oil prices challenged economically sensitive sectors.
- Energy, Information Technology, and Materials trailed.
- Value and quality outperformed growth and volatility factors as the market rewarded clear earners and stable businesses.

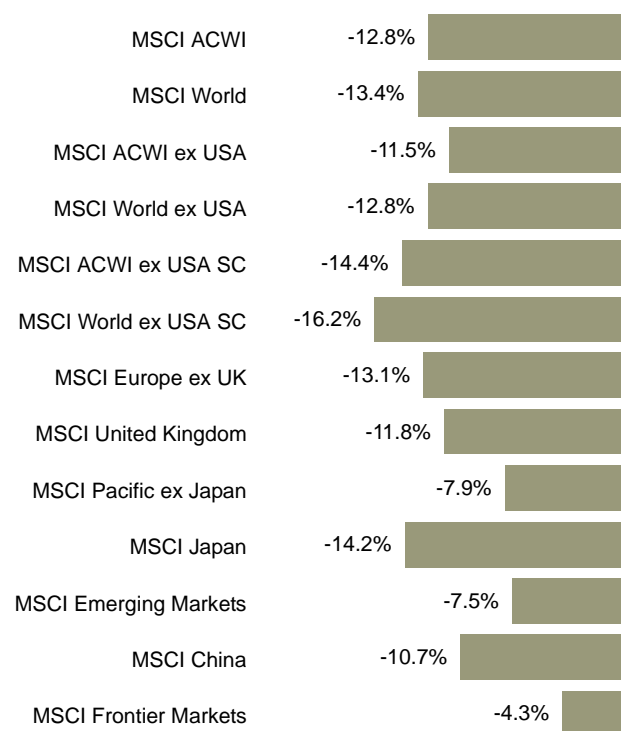
Emerging Markets (MSCI Emerging Markets Index: -7.5%)

- China (-10.7%) posted its worst quarter since 2015 on the rising dollar, U.S.-China trade tension, and the slowing economy.
- China reported GDP growth of 6.5%, the slowest since 2009.
- Brazil (+13.4%) was the best performer on shifting growth and pension reform sentiment after its presidential election.
- The Asian Tech sector faces heightened regulation and concerns of a consumption slowdown.
- Soft demand challenged Taiwan Semiconductor and Samsung Electronics.
- Defensively oriented Utilities fared best while Health Care, Discretionary, and Tech faltered on fears of a China slowdown.
- Value outpaced growth and volatility factors.

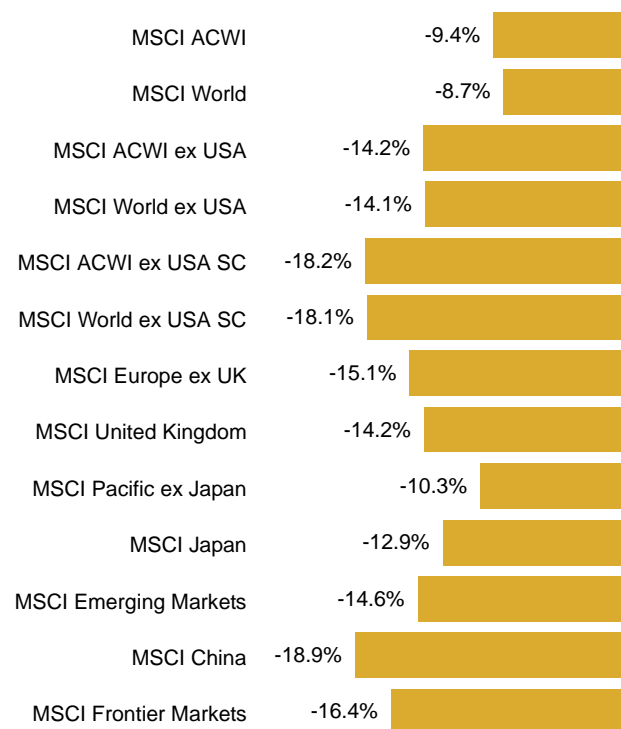
International Small Cap (MSCI World ex USA Small Cap: -16.2%; MSCI EM Small Cap: -7.2%)

- Non-U.S. developed small cap was also negatively impacted by U.S.-China trade tension and global growth fears.
- All sectors declined, with Energy, Tech, and Industrials faring the worst on falling oil prices and the risk-off environment.
- Emerging market small cap slightly outperformed EM large cap due to Utilities, coupled with the Asian large cap tech sell-off.
- Value outpaced growth.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI

U.S. FIXED INCOME

Market volatility rose in the last quarter of the year as investors grew increasingly concerned over slowing global economic growth, geo-political uncertainty, and hawkish Fed policy. Safe-haven securities, such as U.S. Treasuries and other developed market sovereign bonds, rallied while risk assets sold off.

U.S. Fixed Income (Bloomberg Barclays US Aggregate: +1.6%)

- A flight to quality lowered the bellwether 10-year Treasury yield to a level not seen since January 2018; the yield fell from a multi-year high of 3.24% in November to end the quarter at 2.69%.
- U.S. Treasuries returned 2.6%.
- The yield curve continued to flatten with long-term rates declining faster than short-term rates; the spread between the 2-year and 10-year key rates remained positive though slightly tighter than a quarter ago.
- A portion of the yield curve (two year to five year) inverted for a few weeks during the quarter.
- TIPS underperformed nominal Treasuries as inflation expectations decreased.

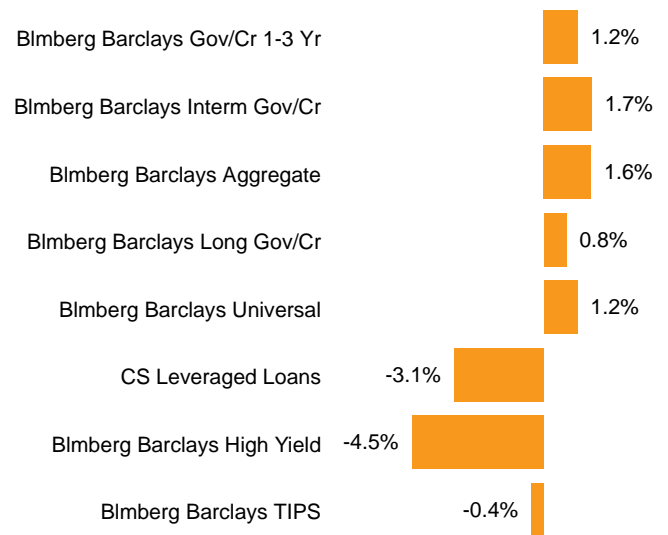
Investment-Grade Corporates (Bloomberg Barclays Corporate: -0.2%)

- Prices on investment-grade corporate bonds sank amid concerns over elevated debt leverage.
- Headline risk increased on the growing size of the BBB-rated market and the potential implications from ratings downgrades should economic growth slow.
- More than 50% of new issuance came from BBB-rated issuers in 2018.
- Investment-grade spreads widened to +153 bps, a level not seen since July 2016, as a lack of new issuance supply could not offset a lack of demand.

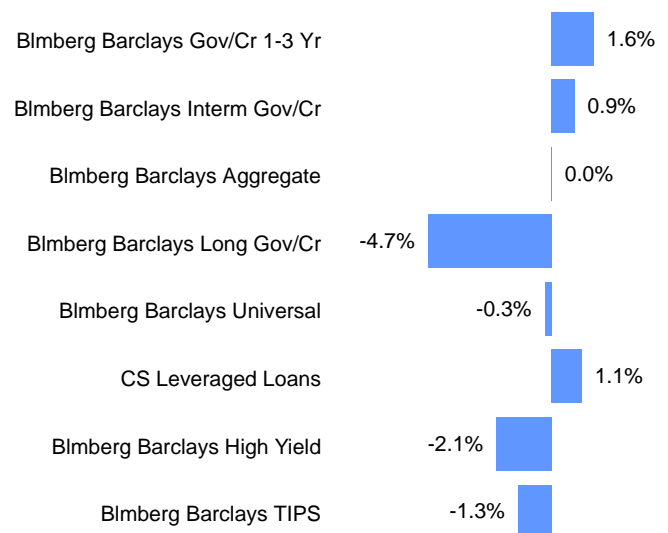
High Yield (Bloomberg Barclays Corporate High Yield: -4.5%)

- High yield bond funds experienced \$20 billion in outflows as market volatility increased.
- High yield's average yield-to-worst approached 8%.
- The Energy sector led the selloff amid volatile oil prices in the fourth quarter; the sector makes up approximately 15% of the Index.
- This was the first December in 10 years in which there was no high yield bond issuance; year-over-year, new issuance was down 40% in 2018.

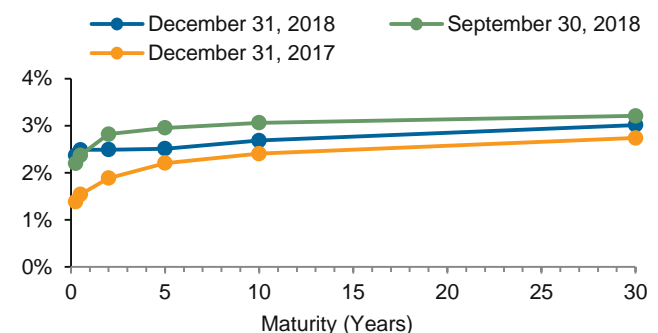
U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: One-Year Returns



U.S. Treasury Yield Curves



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse

U.S. FIXED INCOME (continued)

Leveraged Loans (S&P/LSTA U.S. Leveraged Loan: -3.5%)

- Leveraged loans experienced retail outflows (\$17 billion) as changing interest rate projections caused the floating rate feature to be less attractive.
- December was the worst monthly performance in seven years and worst December since 2008, with the Index returning -2.6%.
- Demand was weaker than earlier in the year as CLO formation decreased in December.

NON-U.S. FIXED INCOME

Global Fixed Income (Bloomberg Barclays Global Aggregate: +1.2%; Global Aggregate (hdg): +1.7%)

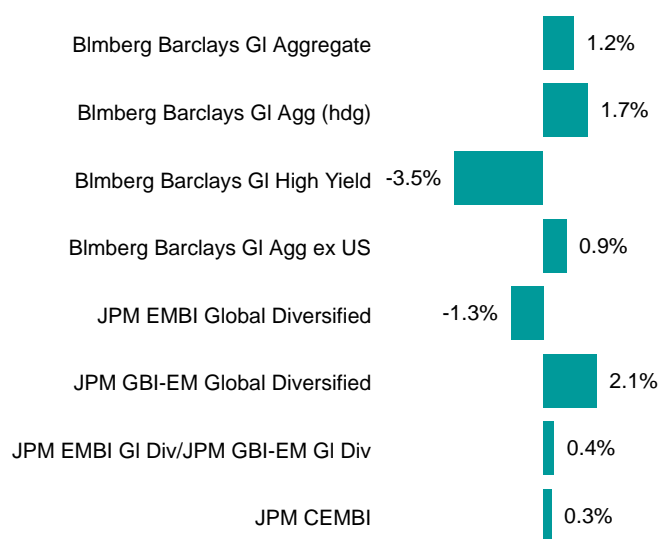
- Other developed market sovereign bonds rallied in tandem with the rally in Treasuries, though the strength in the U.S. dollar proved to be a headwind for unhedged non-U.S. developed assets.

U.S dollar-denominated emerging market debt (EMD) (JPM EMBI Global Diversified: -1.3%), **Local**

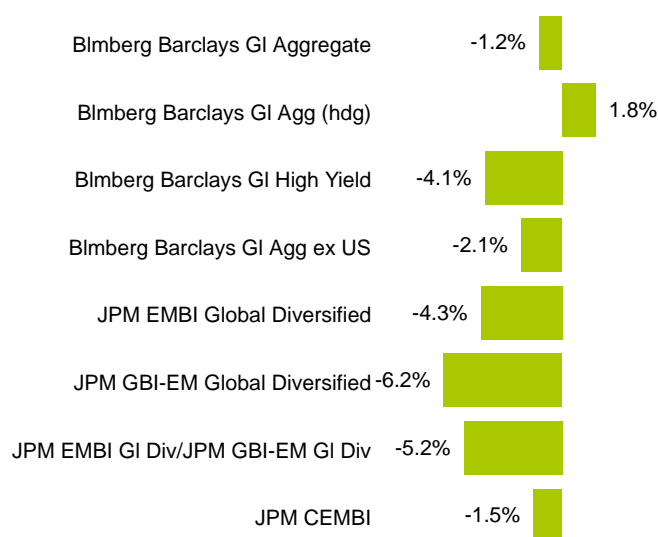
Currency-denominated EMD (JPM GBI-EM Global Diversified: +2.1%)

- Various higher-yielding emerging market currencies (Turkey, Argentina, Brazil) appreciated against the greenback, adding to a solid quarter for local emerging market debt.
- Performance was mixed across the EMBI's 60+ countries.

Global Fixed Income: Quarterly Returns

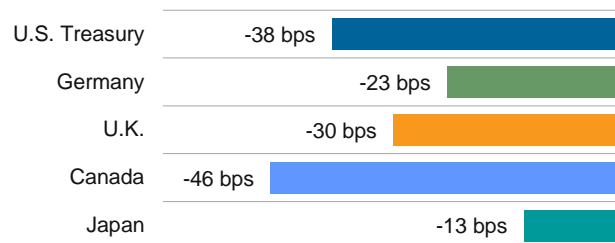


Global Fixed Income: One-Year Returns



Change in 10-Year Global Government Bond Yields

3Q18 to 4Q18



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, 2018, with the distribution as of September 30, 2018. 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.

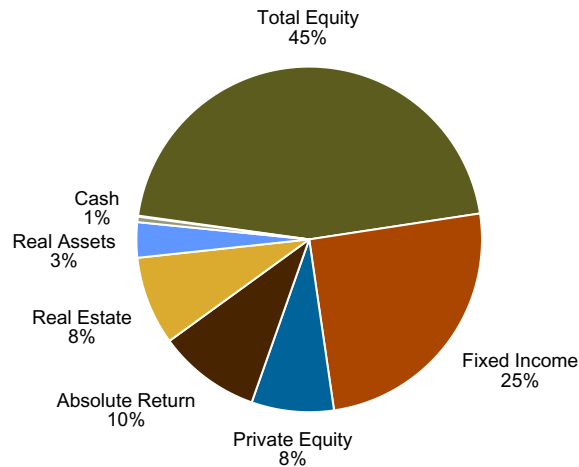
Asset Distribution Across Investment Managers

	December 31, 2018			September 30, 2018		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Domestic Equity	\$1,021,803,574	20.63%	\$0	\$(182,114,366)	\$1,203,917,940	22.23%
BlackRock Russell 1000 Value	142,693,675	2.88%	0	(18,853,517)	161,547,192	2.98%
DFA Large Cap Value	135,704,074	2.74%	0	(23,918,022)	159,622,096	2.95%
Northern Trust Global	268,883,420	5.43%	0	(41,895,552)	310,778,972	5.74%
Polen Capital Management	140,027,411	2.83%	0	(20,085,397)	160,112,808	2.96%
Earnest Partners LLC	102,589,476	2.07%	0	(20,643,772)	123,233,249	2.28%
DFA Small Cap Value	151,100,231	3.05%	0	(37,852,776)	188,953,007	3.49%
CastleArk Management	80,805,286	1.63%	0	(18,865,331)	99,670,617	1.84%
Total Global Equity	\$424,086,265	8.56%	\$0	\$(64,874,611)	\$488,960,876	9.03%
BlackRock Global Alpha Tilts	249,021,398	5.03%	0	(41,887,795)	290,909,193	5.37%
MFS Investment Management	175,064,867	3.53%	0	(22,986,816)	198,051,683	3.66%
Total International Equity	\$803,552,831	16.22%	\$0	\$(128,912,026)	\$932,464,857	17.21%
AQR Emerging Markets	87,762,501	1.77%	0	(11,521,236)	99,283,737	1.83%
Brandes Investment Partners	339,222,011	6.85%	0	(41,841,432)	381,063,444	7.03%
William Blair & Company	229,561,904	4.64%	0	(43,474,740)	273,036,643	5.04%
DFA International Small Cap	147,006,414	2.97%	0	(32,074,619)	179,081,033	3.31%
Total Fixed Income	\$1,243,987,485	25.12%	\$(46,993,575)	\$(824,032)	\$1,291,805,091	23.85%
Allianz US Fixed Income 250	487,445,428	9.84%	0	(2,889,948)	490,335,376	9.05%
BlackRock US Debt Idx Fd	201,764,113	4.07%	(16,000,000)	3,357,016	214,407,096	3.96%
Reams Asset Management	228,729,146	4.62%	(16,993,575)	6,020,232	239,702,489	4.43%
Loomis, Sayles & Company, L.P.	326,048,798	6.58%	(14,000,000)	(7,311,332)	347,360,130	6.41%
Total Private Equity	\$382,003,294	7.71%	\$1,690,226	\$17,042,418	\$363,270,650	6.71%
Abbott Capital Management 2010	28,576,481	0.58%	(2,450,000)	1,607,811	29,418,670	0.54%
Abbott Capital Management 2011	50,716,126	1.02%	(2,475,000)	2,841,633	50,349,493	0.93%
Abbott Capital Management 2012	36,211,274	0.73%	(1,400,000)	2,099,569	35,511,705	0.66%
Abbott Capital Management 2013	32,037,462	0.65%	0	1,728,711	30,308,751	0.56%
Abbott Capital Management 2014	31,535,729	0.64%	(350,000)	1,662,397	30,223,332	0.56%
Abbott Capital Management 2015	14,383,910	0.29%	993,750	635,744	12,754,416	0.24%
Abbott Capital Management 2016	7,165,131	0.14%	1,418,750	336,986	5,409,395	0.10%
Abbott Capital Management 2018	1,786,231	0.04%	325,000	(38,769)	1,500,000	0.03%
Mesirow V	61,856,606	1.25%	(4,491,281)	1,769,308	64,578,579	1.19%
Mesirow VI	50,545,816	1.02%	(593,842)	2,558,408	48,581,250	0.90%
Mesirow VII	15,019,397	0.30%	5,500,000	(498,494)	10,017,891	0.18%
NB Secondary Opp Fund III	18,144,435	0.37%	(352,636)	475,761	18,021,310	0.33%
NB Secondary Opp Fund IV	5,331,488	0.11%	1,777,745	417,946	3,135,797	0.06%
Private Advisors VI	18,898,202	0.38%	541,572	825,552	17,531,078	0.32%
Private Advisors VII	5,996,095	0.12%	796,776	167,248	5,032,071	0.09%
Private Advisors VIII	3,798,911	0.08%	2,449,392	452,608	896,912	0.02%
Absolute Return	\$477,189,829	9.63%	\$0	\$(14,352,217)	\$491,542,046	9.07%
Allianz SA 1000	118,367,748	2.39%	0	(9,609,761)	127,977,509	2.36%
Newton	119,557,440	2.41%	0	(1,141,989)	120,699,429	2.23%
UBS A & Q	239,264,641	4.83%	0	(3,600,467)	242,865,108	4.48%
Real Assets	\$161,726,891	3.27%	\$0	\$(14,819,596)	\$176,546,487	3.26%
Principal DRA	161,726,891	3.27%	0	(14,819,596)	176,546,487	3.26%
Total Real Estate	\$411,863,380	8.32%	\$(10,457,926)	\$8,725,663	\$413,595,642	7.64%
Real Estate	411,863,380	8.32%	(10,457,926)	8,725,663	413,595,642	7.64%
Total Cash	\$26,472,063	0.53%	\$(28,364,016)	\$187,918	\$54,648,161	1.01%
Cash	26,472,063	0.53%	(28,364,016)	187,918	54,648,161	1.01%
Total Fund	\$4,952,685,613	100.0%	\$(84,125,290)	\$(379,940,848)	\$5,416,751,750	100.0%

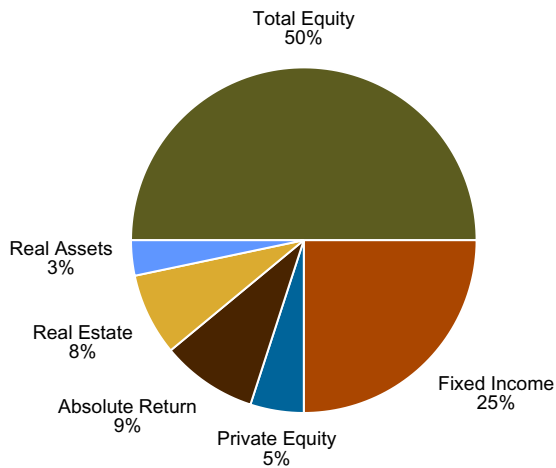
Actual vs Target Asset Allocation As of December 31, 2018

The first chart below shows the Fund's asset allocation as of December 31, 2018. 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 Sponsor - Large (>1B).

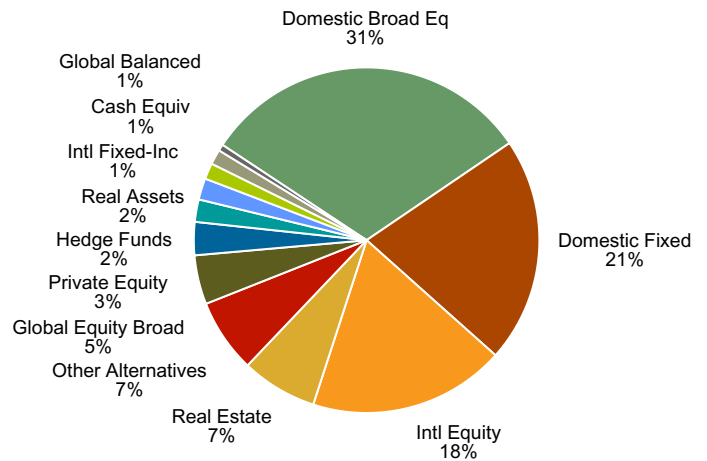
Actual Asset Allocation



Target Asset Allocation



Callan Public Fund Sponsor - Large (>1B)



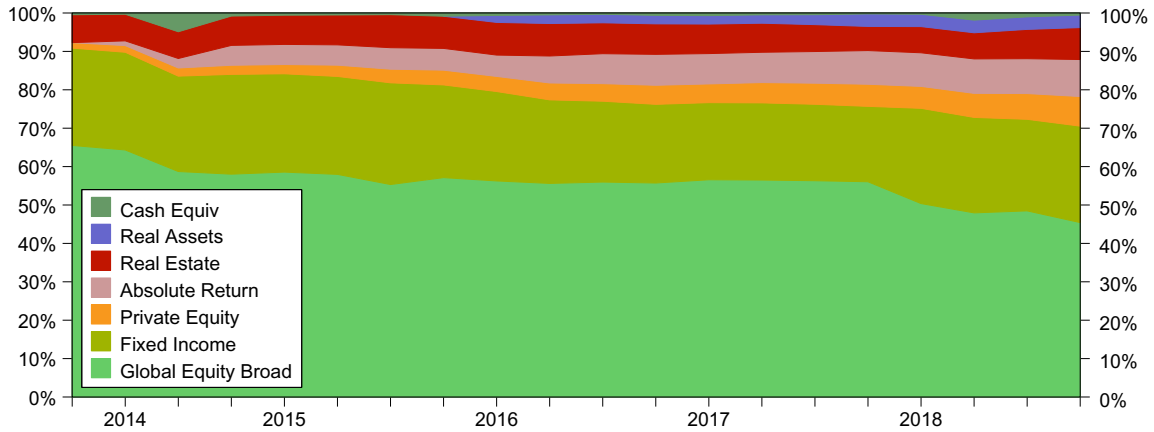
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,249,443	45.4%	50.0%	(4.6%)	(226,900)
Fixed Income	1,243,987	25.1%	25.0%	0.1%	5,816
Private Equity	382,003	7.7%	5.0%	2.7%	134,369
Absolute Return	477,190	9.6%	9.0%	0.6%	31,448
Real Estate	411,863	8.3%	7.7%	0.6%	30,507
Real Assets	161,727	3.3%	3.3%	(0.0%)	(1,712)
Cash	26,472	0.5%	0.0%	0.5%	26,472
Total	4,952,686	100.0%	100.0%		

* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.3% Principal Blended Benchmark.

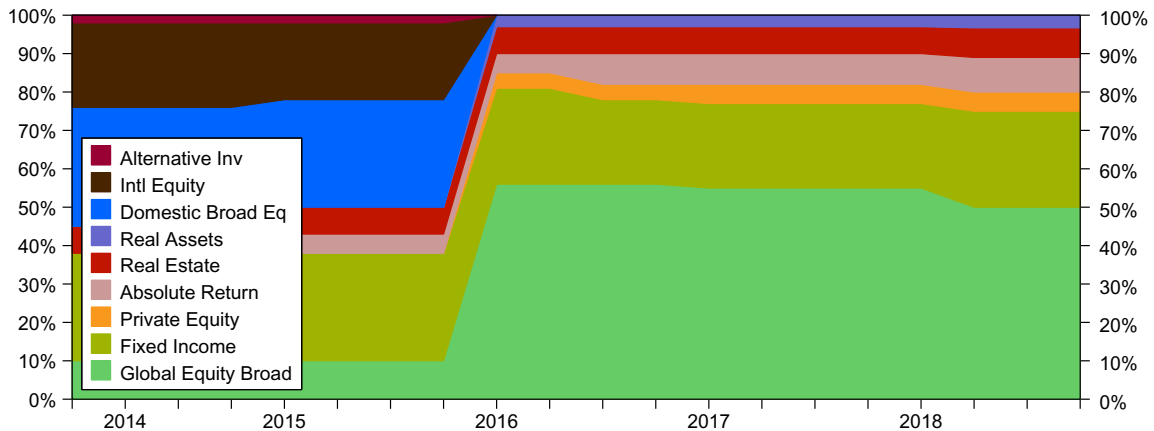
Actual vs Target Historical Asset Allocation

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.

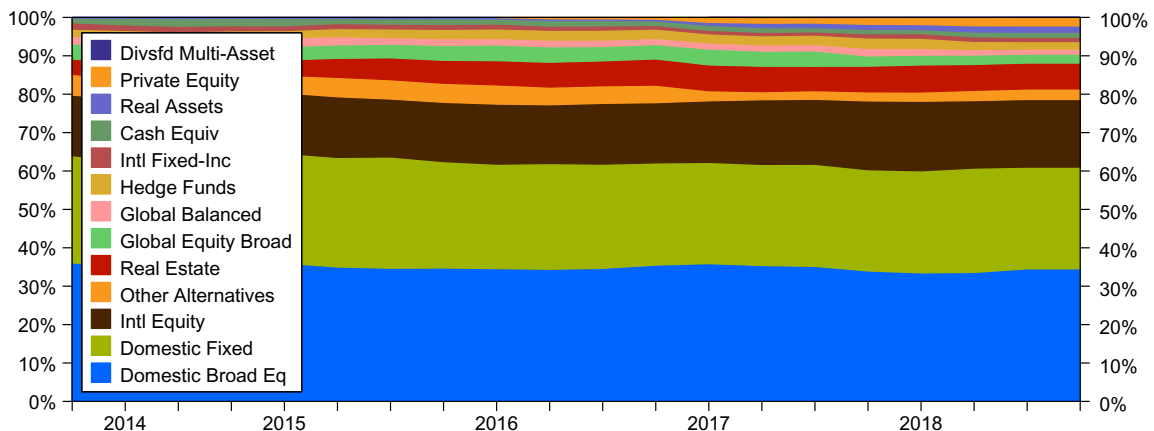
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation



* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.3% Principal Blended Benchmark.

Total Fund

Period Ended December 31, 2018

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.

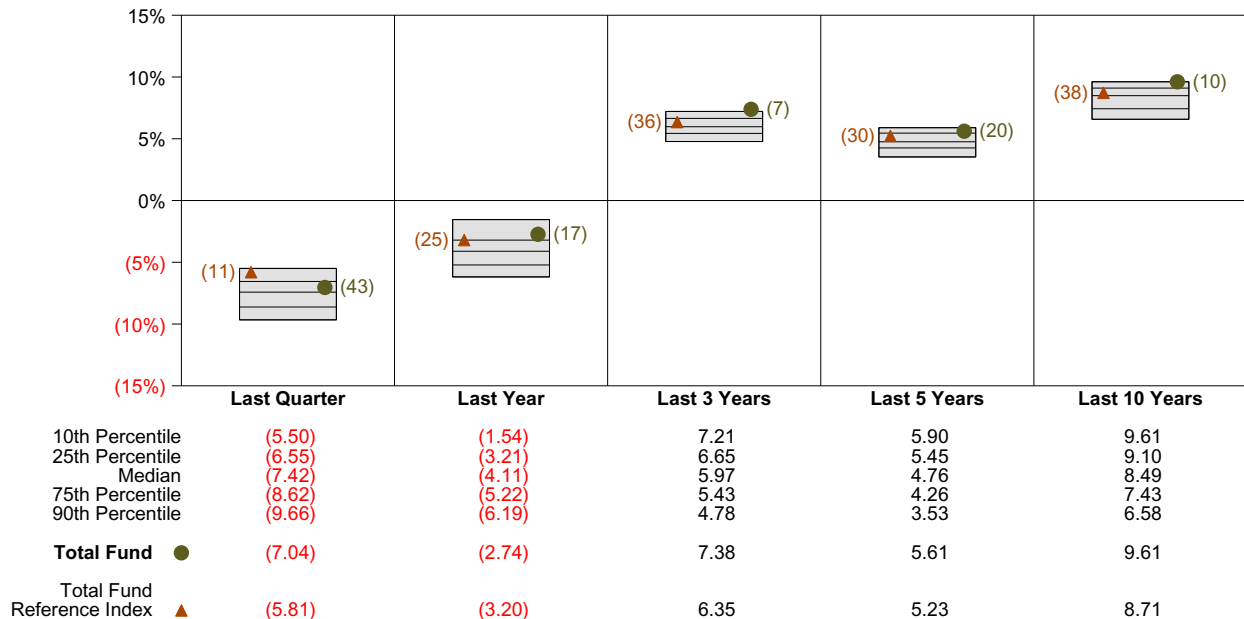
Quarterly Summary and Highlights

- Total Fund's portfolio posted a (7.04)% return for the quarter placing it in the 43 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 17 percentile for the last year.
- Total Fund's portfolio underperformed the Total Fund Reference Index by 1.24% for the quarter and outperformed the Total Fund Reference Index for the year by 0.47%.

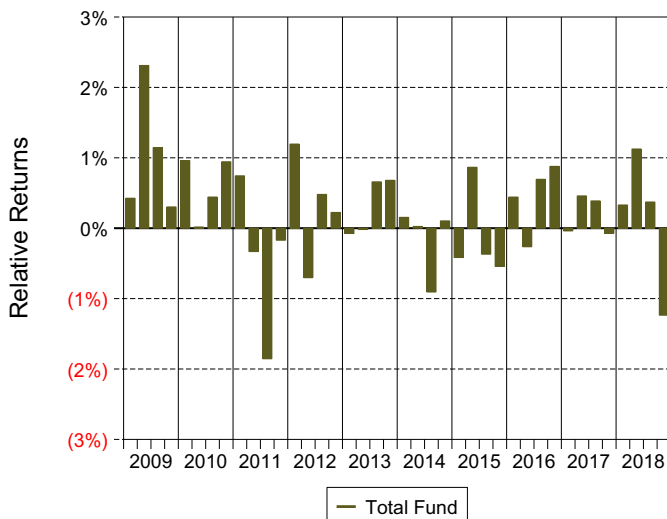
Quarterly Asset Growth

Beginning Market Value	\$5,416,751,750
Net New Investment	\$-84,125,290
Investment Gains/(Losses)	\$-379,940,848
Ending Market Value	\$4,952,685,613

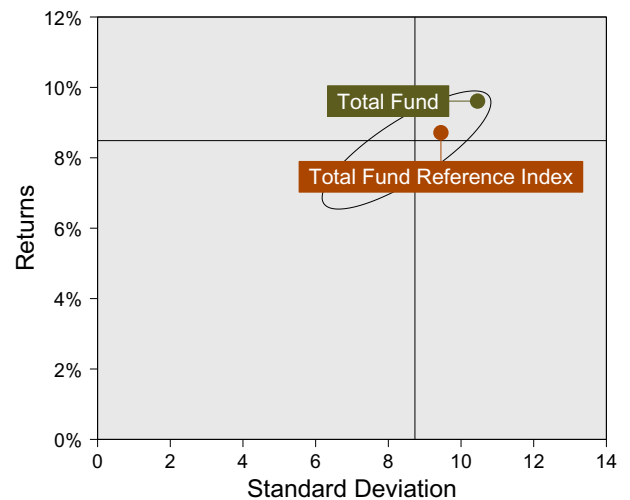
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Reference Index



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

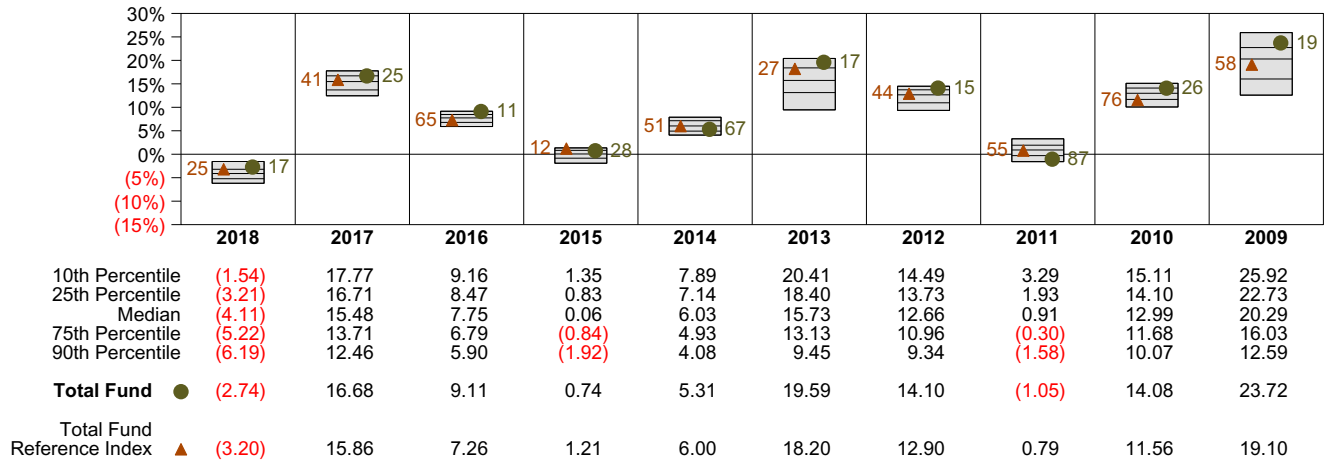


Total Fund Return Analysis Summary

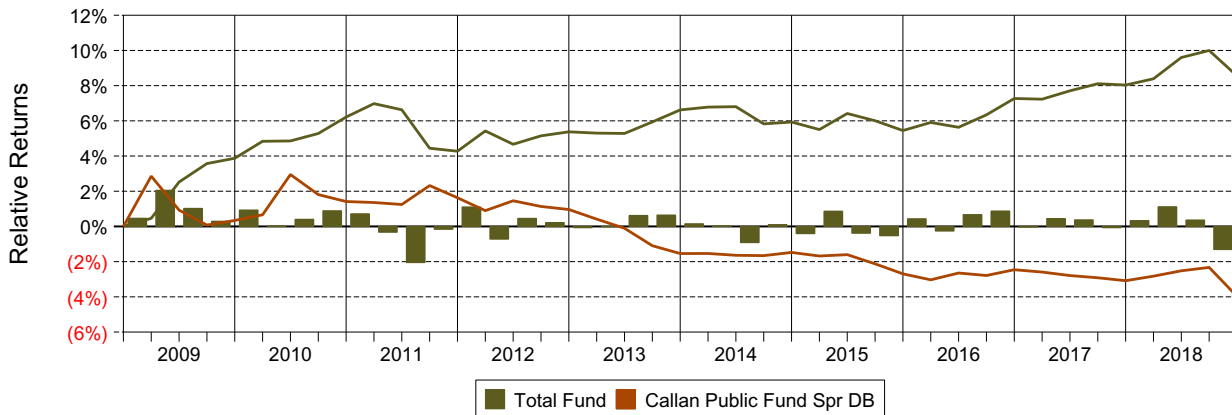
Return Analysis

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.

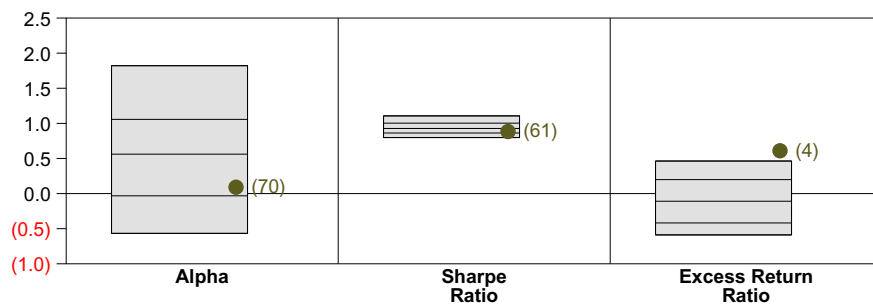
Performance vs Callan Public Fund Sponsor Database (Gross)



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, 2018



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.82	1.11	0.46
25th Percentile	1.06	1.00	0.20
Median	0.56	0.93	(0.11)
75th Percentile	(0.03)	0.86	(0.42)
90th Percentile	(0.57)	0.80	(0.59)
Total Fund	● 0.09	0.88	0.61

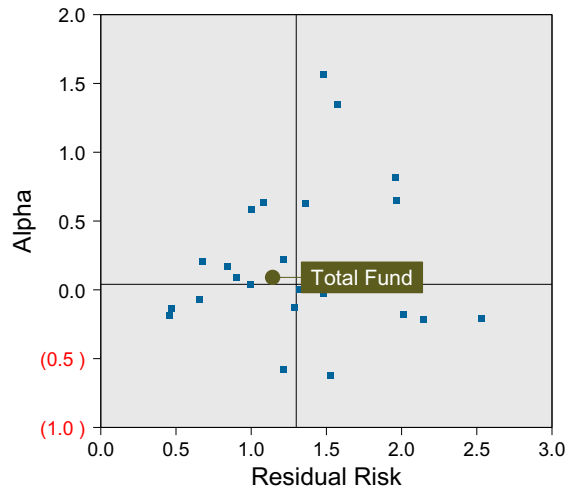
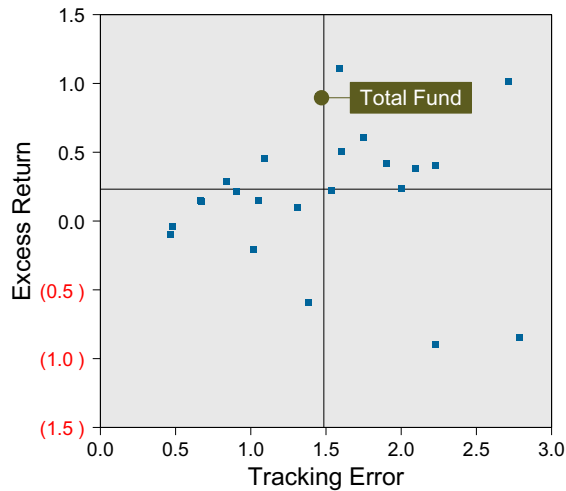
Total Fund

Total Fund vs Target Risk Analysis

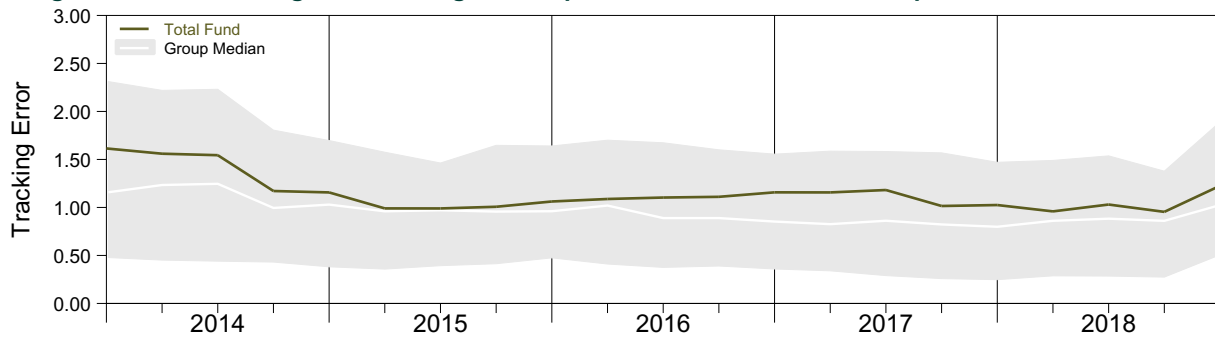
Risk Analysis

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.

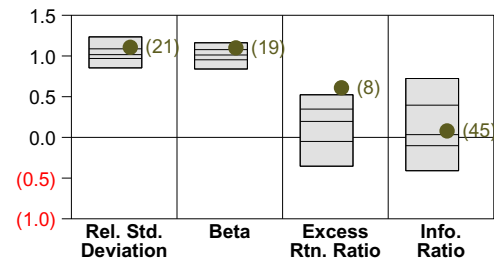
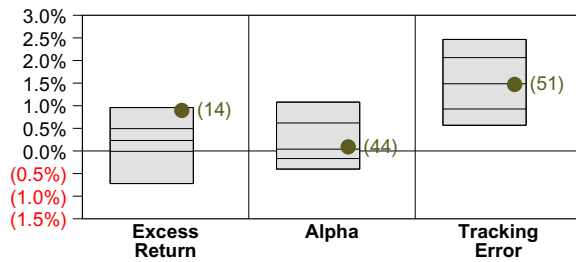
Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended December 31, 2018



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, 2018



10th Percentile 0.96
25th Percentile 0.49
Median 0.23
75th Percentile (0.01)
90th Percentile (0.72)

10th Percentile 1.08
25th Percentile 0.62
Median 0.04
75th Percentile (0.17)
90th Percentile (0.40)

10th Percentile 2.47
25th Percentile 2.06
Median 1.49
75th Percentile 0.93
90th Percentile 0.57

Total Fund ● 0.90

0.09

1.47

10th Percentile 1.23
25th Percentile 1.09
Median 1.02
75th Percentile 0.97
90th Percentile 0.85

10th Percentile 1.16
25th Percentile 1.08
Median 1.01
75th Percentile 0.95
90th Percentile 0.84

10th Percentile 0.52
25th Percentile 0.35
Median 0.20
75th Percentile (0.05)
90th Percentile (0.35)

10th Percentile 0.72
25th Percentile 0.40
Median 0.03
75th Percentile (0.10)
90th Percentile (0.41)

Total Fund ● 1.11

1.10

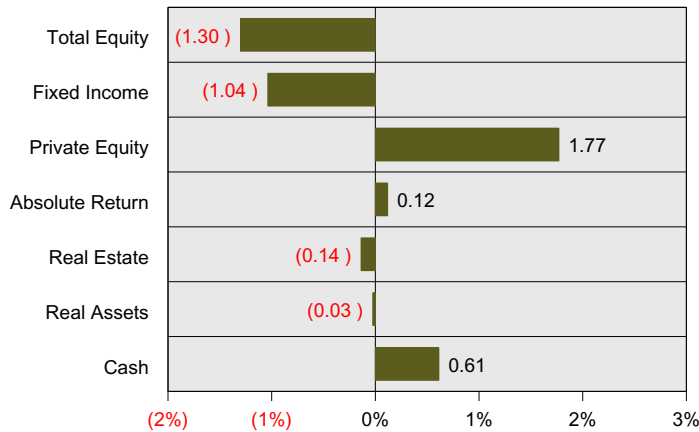
0.61

0.08

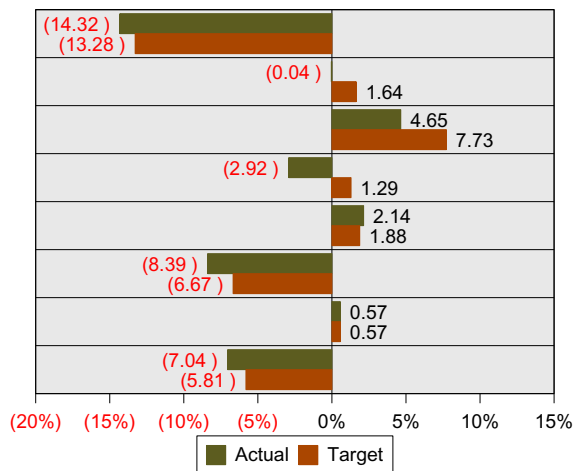
Quarterly Total Fund Relative Attribution - December 31, 2018

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.

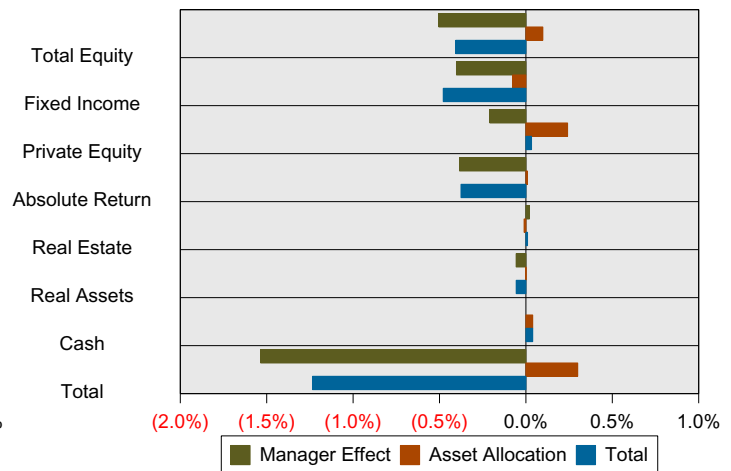
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended December 31, 2018

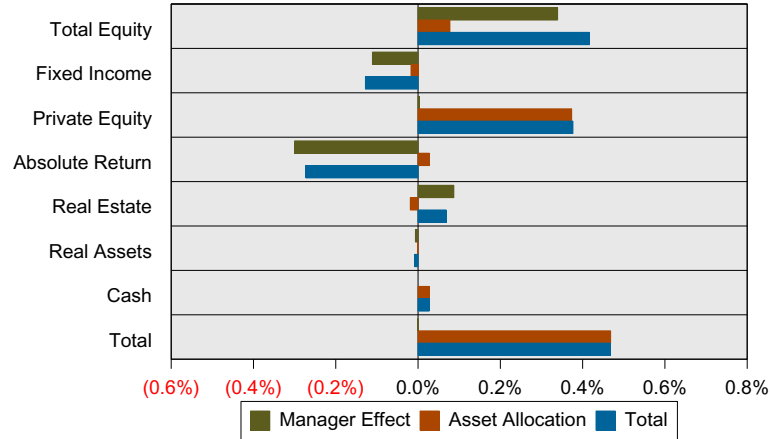
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	49%	50%	(14.32%)	(13.28%)	(0.50%)	0.10%	(0.41%)
Fixed Income	24%	25%	(0.04%)	1.64%	(0.40%)	(0.08%)	(0.48%)
Private Equity	7%	5%	4.65%	7.73%	(0.21%)	0.24%	0.03%
Absolute Return	9%	9%	(2.92%)	1.29%	(0.38%)	0.01%	(0.38%)
Real Estate	8%	8%	2.14%	1.88%	0.02%	(0.01%)	0.01%
Real Assets	3%	3%	(8.39%)	(6.67%)	(0.06%)	0.00%	(0.06%)
Cash	1%	0%	0.57%	0.57%	0.00%	0.04%	0.04%
Total			(7.04%)	(5.81%)	(1.53%)	0.30%	(1.24%)

* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.3% Principal Blended Benchmark.

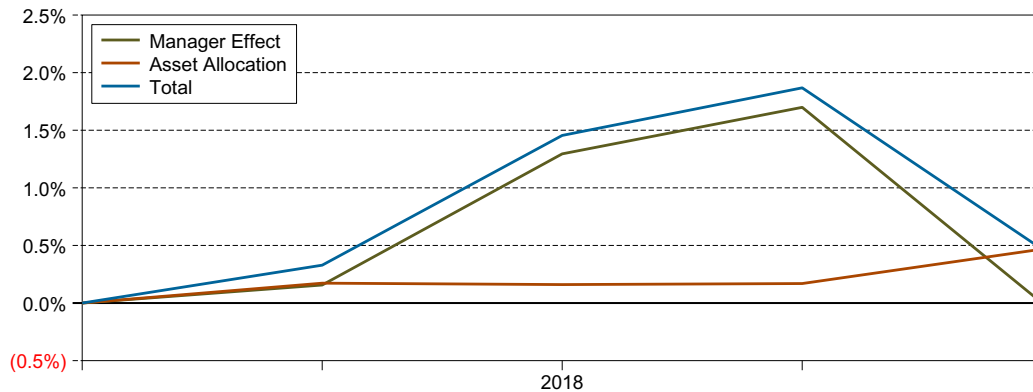
Cumulative Total Fund Relative Attribution - December 31, 2018

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	51%	51%	(9.67%)	(10.08%)	0.34%	0.08%	0.42%
Fixed Income	23%	24%	(0.33%)	0.01%	(0.11%)	(0.02%)	(0.13%)
Private Equity	6%	5%	21.48%	20.60%	0.00%	0.37%	0.38%
Absolute Return	9%	9%	1.61%	4.87%	(0.30%)	0.03%	(0.27%)
Real Estate	7%	8%	9.18%	7.89%	0.09%	(0.02%)	0.07%
Real Assets	3%	3%	(7.47%)	(7.27%)	(0.01%)	(0.00%)	(0.01%)
Cash	1%	0%	1.90%	1.90%	0.00%	0.03%	0.03%
Total			(2.74%)	(3.20%)	(0.00%)	0.47%	0.47%

* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% 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, 2018. 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, 2018

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Domestic Equity	(15.13%)		(5.80%)		9.07%		7.67%		6.65%	(7/98)
Russell 3000 Index	(14.30%)		(5.24%)		8.97%		7.91%		6.20%	(7/98)
BlackRock Russell 1000 Value	(11.67%)	18	(8.12%)	42	-		-		1.08%	(3/17)
Russell 1000 Value Index	(11.72%)	18	(8.27%)	44	6.95%	59	5.95%	61	(0.03%)	(3/17)
Callan Large Cap Value	(13.35%)		(8.76%)		7.30%		6.23%		-	
DFA Large Cap Value	(14.98%)	83	(12.40%)	82	-		-		(5.38%)	(11/17)
Russell 1000 Value Index	(11.72%)	18	(8.27%)	44	6.95%	59	5.95%	61	(3.51%)	(11/17)
Callan Large Cap Value	(13.35%)		(8.76%)		7.30%		6.23%		-	
Northern Trust Global	(13.48%)	25	(4.34%)	30	9.30%	28	8.56%	29	10.01%	(8/88)
S&P 500 Index	(13.52%)	25	(4.38%)	30	9.26%	29	8.49%	31	9.96%	(8/88)
Callan Large Cap Core	(14.18%)		(5.44%)		8.45%		7.97%		-	
Polen Capital Management	(12.54%)	18	9.14%	3	12.32%	16	13.99%	3	14.99%	(7/12)
S&P 500 Index	(13.52%)	23	(4.38%)	91	9.26%	74	8.49%	84	12.16%	(7/12)
Callan Large Cap Growth	(15.38%)		0.62%		10.41%		9.88%		-	
Earnest Partners LLC	(16.75%)	50	(9.80%)	46	9.86%	11	8.19%	12	9.54%	(5/05)
Russell MidCap Index	(15.37%)	24	(9.06%)	41	7.04%	48	6.26%	40	8.60%	(5/05)
Callan Mid Capitalization	(16.83%)		(10.41%)		6.73%		5.95%		-	
DFA Small Cap Value	(20.03%)	69	(14.84%)	51	5.86%	52	3.20%	76	11.17%	(11/96)
Russell 2000 Value Index	(18.67%)	30	(12.86%)	23	7.37%	27	3.61%	71	8.83%	(11/96)
Callan Small Cap Value	(19.63%)		(14.81%)		6.04%		4.23%		-	
CastleArk Management	(18.93%)	11	3.29%	15	10.71%	43	6.50%	53	9.70%	(9/13)
Russell 2000 Growth Index	(21.65%)	60	(9.31%)	86	7.24%	82	5.13%	77	7.71%	(9/13)
Callan Small Cap Growth	(20.94%)		(3.04%)		9.80%		6.61%		-	
Total Global Equity	(13.27%)		(8.18%)		9.42%		5.59%		7.25%	(4/10)
MSCI World	(13.42%)		(8.71%)		6.30%		4.56%		7.45%	(4/10)
BlackRock Global Alpha Tilts	(14.40%)	64	(11.20%)	68	-		-		10.75%	(3/16)
MSCI ACWI Gross	(12.65%)	37	(8.93%)	46	7.18%	36	4.82%	51	10.24%	(3/16)
Callan Global Equity	(13.42%)		(9.52%)		6.55%		4.87%		-	
MFS Investment Management	(11.61%)	21	(3.75%)	11	10.77%	6	7.39%	14	10.12%	(12/12)
MSCI ACWI Gross	(12.65%)	37	(8.93%)	46	7.18%	36	4.82%	51	8.01%	(12/12)
Callan Global Equity	(13.42%)		(9.52%)		6.55%		4.87%		-	
Total International Equity	(13.82%)		(15.19%)		3.90%		1.48%		6.52%	(5/96)
MSCI EAFE	(12.54%)		(13.79%)		2.87%		0.53%		4.02%	(5/96)
AQR Emerging Markets	(11.60%)	99	(18.31%)	85	-		-		5.09%	(8/16)
MSCI EM Gross	(7.39%)	46	(14.24%)	29	9.65%	44	2.03%	66	6.98%	(8/16)
Callan Emerging Broad	(7.45%)		(15.40%)		9.47%		2.36%		-	
Brandes Investment Partners	(10.98%)	13	(8.79%)	5	4.87%	24	1.70%	42	7.65%	(2/98)
MSCI EAFE	(12.54%)	29	(13.79%)	35	2.87%	57	0.53%	74	4.05%	(2/98)
Callan NonUS Eq	(13.51%)		(15.13%)		3.24%		1.43%		-	
William Blair & Company	(15.92%)	87	(16.86%)	73	2.51%	66	1.17%	57	6.58%	(12/03)
MSCI ACWIxUS Gross	(11.40%)	17	(13.77%)	35	4.98%	23	1.14%	57	6.17%	(12/03)
Callan NonUS Eq	(13.51%)		(15.13%)		3.24%		1.43%		-	
DFA International Small Cap	(17.91%)	63	(23.31%)	91	1.96%	74	0.93%	90	3.64%	(5/06)
Blended Benchmark	(16.05%)	37	(17.89%)	30	3.73%	36	3.06%	59	2.49%	(5/06)
Callan Intl Small Cap	(16.98%)		(19.66%)		3.20%		3.42%		-	

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, 2018. 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, 2018

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Fixed Income	(0.04%)		(0.33%)		4.06%		2.71%		7.41%	(12/87)
Bimbg Aggregate	1.64%		0.01%		2.06%		2.52%		6.18%	(12/87)
Allianz US Fixed Income 250	(0.59%)	100	-		-		-		1.73%	(2/18)
Bimbg Aggregate +2.5%	2.23%	5	2.51%	1	4.56%	1	5.02%	1	3.47%	(2/18)
Callan Core Bond FI	1.44%		0.14%		2.46%		2.86%		-	
BlackRock US Debt Idx Fd	1.63%	26	0.06%	59	-		-		0.66%	(6/16)
Bimbg Aggregate	1.64%	25	0.01%	62	2.06%	90	2.52%	88	1.05%	(6/16)
Callan Core Bond FI	1.44%		0.14%		2.46%		2.86%		-	
Reams Asset Management	2.59%	2	1.91%	1	3.30%	37	2.86%	70	5.42%	(1/01)
Bimbg Aggregate	1.64%	8	0.01%	33	2.06%	99	2.52%	97	4.47%	(1/01)
Callan Core Plus FI	0.72%		(0.25%)		3.08%		2.97%		-	
Loomis, Sayles & Company, L.P.	(2.11%)	100	(2.11%)	98	6.58%	1	3.79%	7	8.86%	(12/87)
Bimbg Aggregate	1.64%	8	0.01%	33	2.06%	99	2.52%	97	6.18%	(12/87)
Callan Core Plus FI	0.72%		(0.25%)		3.08%		2.97%		-	
Total Private Equity	4.65%		21.48%		15.83%		15.04%		9.39%	(6/10)
Abbott Capital Management 2010	5.94%		26.90%		19.13%		16.37%		(5.48%)	(6/10)
Abbott Capital Management 2011	5.92%		25.70%		18.29%		14.75%		(2.58%)	(6/11)
Abbott Capital Management 2012	6.08%		24.39%		17.10%		11.54%		6.89%	(7/12)
Abbott Capital Management 2013	5.70%		25.17%		16.07%		9.36%		7.16%	(5/13)
Abbott Capital Management 2014	5.56%		22.58%		12.69%		-		4.59%	(4/14)
Abbott Capital Management 2015	4.66%		13.57%		4.82%		-		6.83%	(4/15)
Abbott Capital Management 2016	5.13%		9.43%		-		-		2.75%	(3/16)
Abbott Capital Management 2018	(2.38%)		-		-		-		-	
Mesirow V	2.88%		18.01%		16.95%		18.25%		13.81%	(6/10)
Mesirow VI	5.27%		24.87%		13.22%		7.33%		6.63%	(7/13)
Mesirow VII	(3.30%)		(7.82%)		-		-		-	
NB Secondary Opp Fund III	2.64%		16.65%		16.66%		20.46%		12.55%	(12/13)
NB Secondary Opp Fund IV	10.03%		68.26%		-		-		30.63%	(4/17)
Private Advisors VI	4.49%		15.19%		8.75%		-		1.84%	(4/15)
Private Advisors VII	2.87%		19.02%		-		-		7.26%	(1/17)
Private Advisors VIII	13.71%		-		-		-		13.71%	(8/18)
Russell 3000 (1 Qtr in Arrears) + 3%	7.73%		20.60%		20.08%		16.49%		11.96%	(8/18)
Absolute Return	(2.92%)		1.61%		4.23%		-		4.59%	(6/14)
Allianz SA 1000	(7.51%)	97	(0.97%)	74	6.48%	3	-		7.66%	(6/14)
T-Bills + 10%	2.94%	4	11.87%	1	11.02%	1	10.63%	1	10.68%	(6/14)
Callan Abs Rtn Hedge FoF	(2.42%)		0.71%		3.41%		2.84%		-	
Newton	(0.95%)	11	2.18%	19	3.68%	36	-		3.12%	(8/14)
1-month LIBOR + 4%	1.58%	5	6.07%	4	5.22%	9	4.80%	7	4.89%	(8/14)
Callan Abs Rtn Hedge FoF	(2.42%)		0.71%		3.41%		2.84%		-	
UBS A & Q	(1.48%)	12	2.65%	16	3.07%	60	-		3.26%	(12/14)
1-month LIBOR + 4%	1.58%	5	6.07%	4	5.22%	9	4.80%	7	4.95%	(12/14)
Callan Abs Rtn Hedge FoF	(2.42%)		0.71%		3.41%		2.84%		-	
Real Assets	(8.39%)		(7.47%)		2.93%		-		2.93%	(1/16)
Principal DRA	(8.39%)	66	(7.47%)	53	2.93%	37	-		2.93%	(1/16)
Principal Blended Benchmark (1)	(6.67%)	61	(7.27%)	50	3.00%	36	-		3.00%	(1/16)
Callan Alternative Inv DB	(5.30%)		(7.19%)		2.12%		(0.82%)		-	
Total Real Estate	2.14%		9.18%		9.92%		11.40%		6.71%	(7/86)
Real Estate	2.14%	34	9.18%	31	9.92%	27	11.40%	31	6.71%	(7/86)
Blended Benchmark (2)	1.88%	46	7.89%	47	8.17%	45	9.89%	52	-	
Callan Tot Real Est DB	1.79%		7.75%		8.02%		10.10%		-	
Total Fund	(7.04%)		(2.74%)		7.38%		5.61%		9.37%	(1/79)
Total Fund Reference Index*	(5.81%)		(3.20%)		6.35%		5.23%		-	

(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.

	2018		2017		2016		2015		2014	
Total Domestic Equity	(5.80%)		20.91%		13.91%		(0.07%)		11.63%	
Russell 3000 Index	(5.24%)		21.13%		12.74%		0.48%		12.56%	
BlackRock Russell 1000 Value	(8.12%)	42	-		-		-		-	
Russell 1000 Value Index	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70	13.45%	32
Callan Large Cap Value	(8.76%)		17.10%		15.27%		(2.53%)		12.63%	
DFA Large Cap Value	(12.40%)	82	-		-		-		-	
Russell 1000 Value Index	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70	13.45%	32
Callan Large Cap Value	(8.76%)		17.10%		15.27%		(2.53%)		12.63%	
Northern Trust Global	(4.34%)	30	21.87%	47	12.01%	21	1.49%	46	13.77%	47
S&P 500 Index	(4.38%)	30	21.83%	48	11.96%	21	1.38%	51	13.69%	48
Callan Large Cap Core	(5.44%)		21.65%		10.42%		1.40%		13.63%	
Polen Capital Management	9.14%	3	27.67%	65	1.70%	72	15.51%	3	17.60%	6
S&P 500 Index	(4.38%)	91	21.83%	98	11.96%	2	1.38%	93	13.69%	25
Callan Large Cap Growth	0.62%		28.84%		3.39%		6.43%		11.82%	
Earnest Partners LLC	(9.80%)	46	26.16%	23	16.52%	29	1.25%	27	10.38%	46
Russell MidCap Index	(9.06%)	41	18.52%	55	13.80%	42	(2.44%)	67	13.22%	23
Callan Mid Capitalization	(10.41%)		19.58%		12.23%		(0.80%)		9.88%	
DFA Small Cap Value	(14.84%)	51	7.68%	66	29.36%	32	(6.06%)	76	5.04%	67
Russell 2000 Value Index	(12.86%)	23	7.84%	65	31.74%	14	(7.47%)	83	4.22%	82
Callan Small Cap Value	(14.81%)		9.19%		27.86%		(3.73%)		5.81%	
CastleArk Management	3.29%	15	23.93%	59	6.01%	68	(4.90%)	78	6.15%	31
Russell 2000 Growth Index	(9.31%)	86	22.17%	70	11.32%	36	(1.38%)	50	5.60%	32
Callan Small Cap Growth	(3.04%)		25.74%		8.62%		(1.29%)		3.40%	
Total Global Equity	(8.18%)		31.31%		8.65%		(2.08%)		2.32%	
MSCI World	(8.71%)		22.40%		7.51%		(0.87%)		4.94%	
BlackRock Global Alpha Tilts	(11.20%)	68	30.12%	22	-		-		-	
MSCI ACWI Gross	(8.93%)	46	24.62%	57	8.48%	28	(1.84%)	70	4.71%	48
Callan Global Equity	(9.52%)		25.31%		6.20%		0.17%		4.60%	
MFS Investment Management	(3.75%)	11	33.16%	13	6.06%	52	(0.49%)	60	5.59%	34
MSCI ACWI Gross	(8.93%)	46	24.62%	57	8.48%	28	(1.84%)	70	4.71%	48
Callan Global Equity	(9.52%)		25.31%		6.20%		0.17%		4.60%	
Total International Equity	(15.19%)		25.03%		5.78%		(0.41%)		(3.63%)	
MSCI EAFE	(13.79%)		25.03%		1.00%		(0.81%)		(4.90%)	
AQR Emerging Markets	(18.31%)	85	35.53%	73	-		-		-	
MSCI EM Gross	(14.24%)	29	37.75%	58	11.60%	49	(14.60%)	64	(1.82%)	62
Callan Emerging Broad	(15.40%)		39.31%		11.58%		(13.68%)		(1.09%)	
Brandes Investment Partners	(8.79%)	5	16.53%	99	8.50%	4	(1.25%)	66	(4.45%)	56
MSCI EAFE	(13.79%)	35	25.03%	75	1.00%	57	(0.81%)	62	(4.90%)	62
Callan NonUS Eq	(15.13%)		28.16%		1.50%		0.40%		(3.85%)	
William Blair & Company	(16.86%)	73	31.45%	22	(1.45%)	82	0.18%	53	(1.77%)	23
MSCI ACWIxUS Gross	(13.77%)	35	27.77%	56	5.01%	16	(5.25%)	92	(3.44%)	47
Callan NonUS Eq	(15.13%)		28.16%		1.50%		0.40%		(3.85%)	
DFA International Small Cap	(23.31%)	91	27.98%	92	8.00%	8	3.99%	86	(4.99%)	67
Blended Benchmark	(17.89%)	30	33.01%	74	2.18%	32	9.59%	56	(4.95%)	67
Callan Intl Small Cap	(19.66%)		35.27%		(0.03%)		10.09%		(3.42%)	

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.

	2018		2017		2016		2015		2014	
Total Fixed Income	(0.33%)		5.28%		7.40%		(2.49%)		4.00%	
Bimbg Aggregate	0.01%		3.54%		2.65%		0.55%		5.97%	
BlackRock US Debt Idx Fd	0.06%	59	3.68%	75	-	-	-	-	-	-
Bimbg Aggregate	0.01%	62	3.54%	87	2.65%	86	0.55%	71	5.97%	70
Callan Core Bond FI	0.14%		3.96%		3.14%		0.84%		6.19%	
Reams Asset Management	1.91%	1	3.62%	95	4.38%	63	0.38%	49	4.09%	97
Bimbg Aggregate	0.01%	33	3.54%	95	2.65%	100	0.55%	38	5.97%	61
Callan Core Plus FI	(0.25%)		4.97%		4.66%		0.34%		6.18%	
Loomis, Sayles & Company, L.P.	(2.11%)	98	8.50%	1	13.97%	1	(6.10%)	100	5.94%	62
Bimbg Aggregate	0.01%	33	3.54%	95	2.65%	100	0.55%	38	5.97%	61
Callan Core Plus FI	(0.25%)		4.97%		4.66%		0.34%		6.18%	
Total Private Equity	21.48%		17.27%		9.09%		12.34%		15.40%	
Abbott Capital Management 2010	26.90%		19.98%		11.03%		12.32%		12.36%	
Abbott Capital Management 2011	25.70%		19.24%		10.43%		10.12%		9.17%	
Abbott Capital Management 2012	24.39%		17.97%		9.42%		2.45%		4.97%	
Abbott Capital Management 2013	25.17%		18.71%		5.25%		2.23%		(2.17%)	
Abbott Capital Management 2014	22.58%		13.50%		2.86%		0.39%		-	
Abbott Capital Management 2015	13.57%		6.87%		(5.11%)		-		-	
Abbott Capital Management 2016	9.43%		(1.13%)		-		-		-	
Mesirow V	18.01%		21.00%		12.03%		19.41%		21.07%	
Mesirow VI	24.87%		12.50%		3.32%		(3.99%)		2.22%	
Mesirow VII	(7.82%)		-		-		-		-	
NB Secondary Opp Fund III	16.65%		20.63%		12.83%		33.37%		19.77%	
Private Advisors VI	15.19%		13.15%		(1.34%)		-		-	
Private Advisors VII	19.02%		(3.33%)		-		-		-	
Russell 3000 (1 Qtr in Arrears) + 3%	20.60%		21.71%		17.97%		2.56%		20.79%	
Absolute Return	1.61%		5.96%		5.16%		4.92%		-	
Allianz SA 1000	(0.97%)	74	9.67%	10	11.15%	1	9.76%	1	-	-
T-Bills + 10%	11.87%	1	10.86%	5	10.33%	1	10.05%	1	10.03%	1
Callan Abs Rtn Hedge FoF	0.71%		4.97%		3.35%		(0.75%)		3.78%	
Newton	2.18%	19	5.59%	39	3.31%	52	1.50%	29	-	-
1-month LIBOR + 4%	6.07%	4	5.11%	47	4.49%	23	4.19%	8	4.16%	39
Callan Abs Rtn Hedge FoF	0.71%		4.97%		3.35%		(0.75%)		3.78%	
UBS A & Q	2.65%	16	4.16%	67	2.42%	71	4.09%	9	-	-
1-month LIBOR + 4%	6.07%	4	5.11%	47	4.49%	23	4.19%	8	4.16%	39
Callan Abs Rtn Hedge FoF	0.71%		4.97%		3.35%		(0.75%)		3.78%	
Real Assets	(7.47%)		10.15%		7.00%		-		-	
Principal DRA	(7.47%)	53	10.15%	13	7.00%	69	-	-	-	-
Principal Blended Benchmark (1)	(7.27%)	50	10.38%	12	6.77%	70	-	-	-	-
Callan Alternative Inv DB	(7.19%)		4.35%		10.65%		(20.31%)		(2.44%)	
Total Real Estate	9.18%		9.20%		11.38%		13.44%		13.87%	
Real Estate	9.18%	31	9.20%	40	11.38%	30	13.44%	55	13.87%	46
Blended Benchmark (2)	7.89%	47	6.93%	58	9.69%	43	13.82%	53	11.26%	62
Callan Tot Real Est DB	7.75%		7.73%		8.91%		14.35%		13.30%	
Total Fund	(2.74%)		16.68%		9.11%		0.74%		5.31%	
Total Fund Reference Index*	(3.20%)		15.86%		7.26%		1.21%		6.00%	

* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Bimbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% 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, 2018. 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, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
Net of Fee Returns					
Total Domestic Equity	(15.20%)	(6.10%)	8.72%	7.33%	6.31% (7/98)
Russell 3000 Index	(14.30%)	(5.24%)	8.97%	7.91%	6.20% (7/98)
BlackRock Russell 1000 Value	(11.67%)	(8.13%)	-	-	1.07% (3/17)
Russell 1000 Value Index	(11.72%)	(8.27%)	6.95%	5.95%	(0.03%) (3/17)
DFA Large Cap Value	(15.04%)	(12.60%)	-	-	(5.60%) (11/17)
Russell 1000 Value Index	(11.72%)	(8.27%)	6.95%	5.95%	(3.51%) (11/17)
Northern Trust Global	(13.49%)	(4.37%)	9.28%	8.53%	9.14% (9/94)
S&P 500 Index	(13.52%)	(4.38%)	9.26%	8.49%	9.16% (9/94)
Polen Capital Management	(12.66%)	8.60%	11.76%	13.43%	14.42% (7/12)
S&P 500 Index	(13.52%)	(4.38%)	9.26%	8.49%	12.16% (7/12)
Earnest Partners LLC	(16.87%)	(10.29%)	9.27%	7.61%	8.73% (5/05)
Russell MidCap Index	(15.37%)	(9.06%)	7.04%	6.26%	8.60% (5/05)
DFA Small Cap Value	(20.15%)	(15.30%)	5.29%	2.64%	10.51% (11/96)
Russell 2000 Value Index	(18.67%)	(12.86%)	7.37%	3.61%	8.83% (11/96)
CastleArk Management	(19.07%)	2.60%	9.98%	5.79%	8.97% (9/13)
Russell 2000 Growth Index	(21.65%)	(9.31%)	7.24%	5.13%	7.71% (9/13)
Total Global Equity	(13.35%)	(8.51%)	9.03%	5.21%	6.81% (4/10)
MSCI World	(13.42%)	(8.71%)	6.30%	4.56%	7.45% (4/10)
BlackRock Global Alpha Tilts	(14.41%)	(11.24%)	-	-	10.69% (3/16)
MFS Investment Management	(11.71%)	(4.16%)	10.31%	6.95%	9.67% (12/12)
MSCI ACWI Gross	(12.65%)	(8.93%)	7.18%	4.82%	8.01% (12/12)
Total International Equity	(13.93%)	(15.60%)	3.40%	1.00%	5.75% (5/96)
MSCI EAFE Index	(12.54%)	(13.79%)	2.87%	0.53%	4.02% (5/96)
AQR Emerging Markets	(11.78%)	(18.93%)	-	-	4.31% (8/16)
MSCI EM Gross	(7.39%)	(14.24%)	9.65%	2.03%	6.98% (8/16)
Brandes Investment Partners	(11.08%)	(9.17%)	4.44%	1.29%	6.92% (2/98)
MSCI EAFE Index	(12.54%)	(13.79%)	2.87%	0.53%	4.05% (2/98)
William Blair & Company	(16.01%)	(17.20%)	2.10%	0.77%	6.14% (12/03)
MSCI ACWI ex-US Index	(11.40%)	(13.77%)	4.98%	1.14%	6.17% (12/03)
DFA International Small Cap	(17.91%)	(23.31%)	1.96%	0.93%	3.27% (5/06)
Blended Benchmark	(16.05%)	(17.89%)	3.73%	3.06%	2.49% (5/06)
Total Fixed Income	(0.08%)	(0.47%)	3.90%	2.55%	6.44% (9/94)
Bimbg Aggregate	1.64%	0.01%	2.06%	2.52%	5.31% (9/94)
Allianz US Fixed Income 250	(0.65%)	-	-	-	1.50% (2/18)
Bimbg Aggregate +2.5%	2.23%	2.51%	4.56%	5.02%	3.47% (2/18)
BlackRock US Debt Idx Fd	1.61%	(0.00%)	-	-	0.59% (6/16)
Reams Asset Management	2.55%	1.76%	3.14%	2.71%	5.19% (1/01)
Loomis, Sayles & Company, L.P.	(2.15%)	(2.24%)	6.43%	3.66%	7.99% (9/94)
Bimbg Aggregate	1.64%	0.01%	2.06%	2.52%	5.31% (9/94)
Total Private Equity	4.65%	21.48%	15.83%	15.04%	9.39% (6/10)
Abbott Capital Management 2010	5.94%	26.90%	19.13%	16.37%	(5.48%) (6/10)
Abbott Capital Management 2011	5.92%	25.70%	18.29%	14.75%	(2.58%) (6/11)
Abbott Capital Management 2012	6.08%	24.39%	17.10%	11.54%	6.89% (7/12)
Abbott Capital Management 2013	5.70%	25.17%	16.07%	9.36%	7.16% (5/13)
Abbott Capital Management 2014	5.56%	22.58%	12.69%	-	4.59% (4/14)
Abbott Capital Management 2015	4.66%	13.57%	4.82%	-	6.83% (4/15)
Abbott Capital Management 2016	5.13%	9.43%	-	-	2.75% (3/16)
Abbott Capital Management 2018	(2.38%)	-	-	-	-
Mesirow V	2.88%	18.01%	16.95%	18.25%	13.81% (6/10)
Mesirow IV	5.27%	24.87%	13.22%	7.33%	6.63% (7/13)
Mesirow VII	(3.30%)	(7.82%)	-	-	-
NB Secondary Opp Fund III	2.64%	16.65%	16.66%	20.46%	12.55% (12/13)
NB Secondary Opp Fund IV	10.03%	68.26%	-	-	30.63% (4/17)
Private Advisors VI	4.49%	15.19%	8.75%	-	1.84% (4/15)
Private Advisors VII	2.87%	19.02%	-	-	7.26% (1/17)
Private Advisors VIII	13.71%	-	-	-	13.71% (8/18)
Russell 3000 (1 Qtr in Arrears) + 3%	7.73%	20.60%	20.08%	16.49%	11.96% (8/18)
Absolute Return	(2.92%)	1.61%	4.23%	-	4.59% (6/14)
Allianz SA 1000	(7.51%)	(0.97%)	6.48%	-	7.66% (6/14)
T-Bills + 10%	2.94%	11.87%	11.02%	10.63%	10.68% (6/14)
Newton	(0.95%)	2.18%	3.68%	-	3.12% (8/14)
UBS A & Q	(1.48%)	2.65%	3.07%	-	3.26% (12/14)
1-month LIBOR + 4%	1.58%	6.07%	5.22%	4.80%	4.95% (12/14)
Real Assets	(8.39%)	(7.47%)	2.93%	-	2.93% (1/16)
Principal DRA	(8.39%)	(7.47%)	2.93%	-	2.93% (1/16)
Principal Blended Benchmark (1)	(6.67%)	(7.27%)	3.00%	-	3.00% (1/16)
Total Real Estate	2.08%	8.94%	9.64%	11.10%	5.57% (7/86)
Real Estate	2.08%	8.94%	9.64%	11.10%	5.57% (7/86)
Blended Benchmark (2)	1.88%	7.89%	8.17%	9.89%	-
Total Fund	(7.11%)	(3.01%)	7.08%	5.32%	9.00% (1/79)
Total Fund Reference Index*	(5.81%)	(3.20%)	6.35%	5.23%	-

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.

	2018	2017	2016	2015	2014
Net of Fee Returns					
Total Domestic Equity	(6.10%)	20.53%	13.55%	(0.39%)	11.28%
Russell 3000 Index	(5.24%)	21.13%	12.74%	0.48%	12.56%
BlackRock Russell 1000 Value	(8.13%)	-	-	-	-
Russell 1000 Value Index	(8.27%)	13.66%	17.34%	(3.83%)	13.45%
DFA Large Cap Value	(12.60%)	-	-	-	-
Russell 1000 Value Index	(8.27%)	13.66%	17.34%	(3.83%)	13.45%
Northern Trust Global	(4.37%)	21.84%	11.99%	1.47%	13.75%
S&P 500 Index	(4.38%)	21.83%	11.96%	1.38%	13.69%
Polen Capital Management	8.60%	27.05%	1.19%	14.94%	17.02%
S&P 500 Index	(4.38%)	21.83%	11.96%	1.38%	13.69%
Earnest Partners LLC	(10.29%)	25.50%	15.90%	0.71%	9.79%
Russell MidCap Index	(9.06%)	18.52%	13.80%	(2.44%)	13.22%
DFA Small Cap Value	(15.30%)	7.10%	28.68%	(6.57%)	4.47%
Russell 2000 Value Index	(12.86%)	7.84%	31.74%	(7.47%)	4.22%
CastleArk Management	2.60%	23.12%	5.30%	(5.54%)	5.45%
Russell 2000 Growth Index	(9.31%)	22.17%	11.32%	(1.38%)	5.60%
Total Global Equity	(8.51%)	30.85%	8.26%	(2.44%)	1.95%
MSCI World	(8.71%)	22.40%	7.51%	(0.87%)	4.94%
BlackRock Global Alpha Tilts	(11.24%)	30.06%	-	-	-
MSCI ACWI Gross	(8.93%)	24.62%	8.48%	(1.84%)	4.71%
MFS Investment Management	(4.16%)	32.62%	5.62%	(0.89%)	5.17%
MSCI ACWI Gross	(8.93%)	24.62%	8.48%	(1.84%)	4.71%
Total International Equity	(15.60%)	24.44%	5.27%	(0.89%)	(4.09%)
MSCI EAFE Index	(13.79%)	25.03%	1.00%	(0.81%)	(4.90%)
AQR Emerging Markets	(18.93%)	34.55%	-	-	-
MSCI EM Gross	(14.24%)	37.75%	11.60%	(14.60%)	(1.82%)
Brandes Investment Partners	(9.17%)	16.06%	8.05%	(1.66%)	(4.84%)
MSCI EAFE Index	(13.79%)	25.03%	1.00%	(0.81%)	(4.90%)
William Blair & Company	(17.20%)	30.94%	(1.84%)	(0.22%)	(2.17%)
MSCI ACWI ex-US Index	(13.77%)	27.77%	5.01%	(5.25%)	(3.44%)
DFA International Small Cap	(23.31%)	27.98%	8.00%	3.99%	(4.99%)
Blended Benchmark	(17.89%)	33.01%	2.18%	9.59%	(4.95%)
Total Fixed Income	(0.47%)	5.10%	7.21%	(2.63%)	3.85%
Bimbg Aggregate	0.01%	3.54%	2.65%	0.55%	5.97%
BlackRock US Debt Idx Fd	(0.00%)	3.63%	-	-	-
Reams Asset Management	1.76%	3.46%	4.22%	0.23%	3.94%
Loomis, Sayles & Company, L.P.	(2.24%)	8.36%	13.82%	(6.20%)	5.82%
Bimbg Aggregate	0.01%	3.54%	2.65%	0.55%	5.97%
Total Private Equity	21.48%	17.27%	9.09%	12.34%	15.40%
Abbott Capital Management 2010	26.90%	19.98%	11.03%	12.32%	12.36%
Abbott Capital Management 2011	25.70%	19.24%	10.43%	10.12%	9.17%
Abbott Capital Management 2012	24.39%	17.97%	9.42%	2.45%	4.97%
Abbott Capital Management 2013	25.17%	18.71%	5.25%	2.23%	(2.17%)
Abbott Capital Management 2014	22.58%	13.50%	2.86%	0.39%	-
Abbott Capital Management 2015	13.57%	6.87%	(5.11%)	-	-
Abbott Capital Management 2016	9.43%	(1.13%)	-	-	-
Mesirow V	18.01%	21.00%	12.03%	19.41%	21.07%
Mesirow VI	24.87%	12.50%	3.32%	(3.99%)	2.22%
Mesirow VII	(7.82%)	-	-	-	-
NB Secondary Opp Fund III	16.65%	20.63%	12.83%	33.37%	19.77%
Private Advisors VI	15.19%	13.15%	(1.34%)	-	-
Private Advisors VII	19.02%	(3.33%)	-	-	-
Russell 3000 (1 Qtr in Arrears) + 3%	20.60%	21.71%	17.97%	2.56%	20.79%
Absolute Return	1.61%	5.96%	5.16%	4.92%	-
Allianz SA 1000	(0.97%)	9.67%	11.15%	9.76%	-
T-Bills + 10%	11.87%	10.86%	10.33%	10.05%	10.03%
Newton	2.18%	5.59%	3.31%	1.50%	-
UBS A & Q	2.65%	4.16%	2.42%	4.09%	-
1-month LIBOR + 4%	6.07%	5.11%	4.49%	4.19%	4.16%
Real Assets	(7.47%)	10.15%	7.00%	-	-
Principal DRA	(7.47%)	10.15%	7.00%	-	-
Principal Blended Benchmark (1)	(7.27%)	10.38%	6.77%	-	-
Total Real Estate	8.94%	8.89%	11.09%	13.15%	13.54%
Real Estate	8.94%	8.89%	11.09%	13.15%	13.54%
Blended Benchmark (2)	7.89%	6.93%	9.69%	13.82%	11.26%
Total Fund	(3.01%)	16.36%	8.80%	0.46%	5.02%
Total Fund Reference Index*	(3.20%)	15.86%	7.26%	1.21%	6.00%

* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Bimbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7%

NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.3% Principal Blended Benchmark.

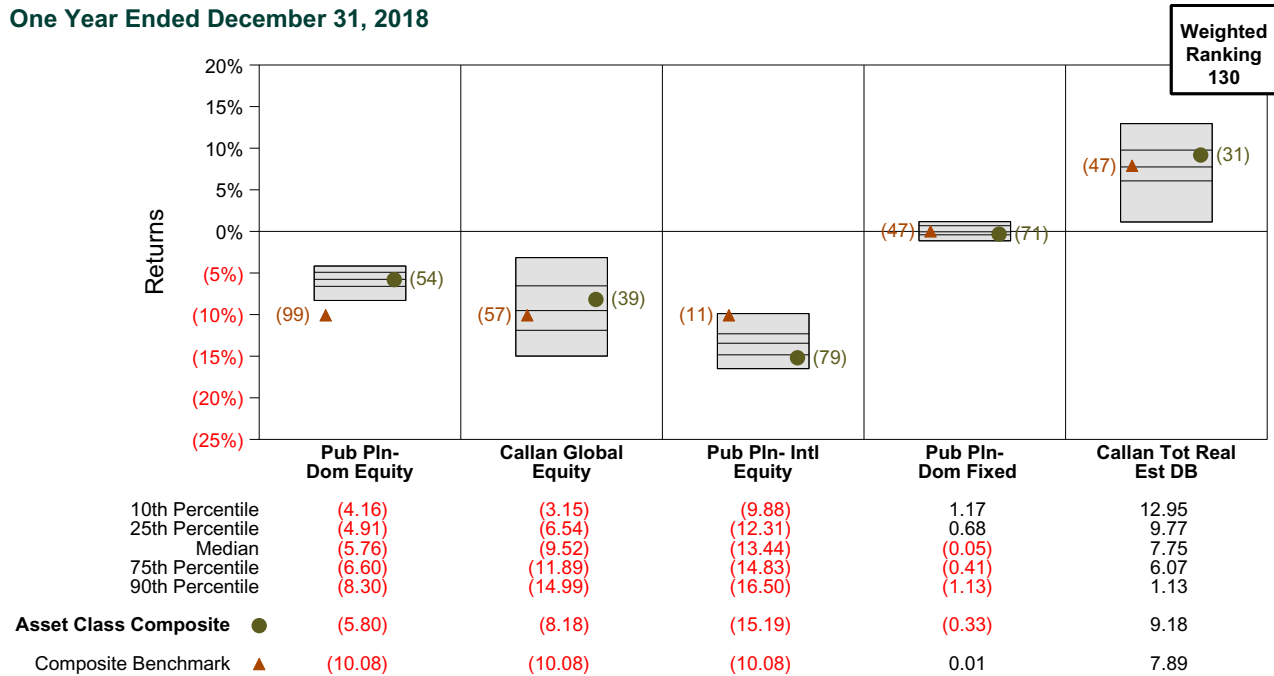
(1) Current Principal Blended Benchmark = 35% Barclays US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Infrastructure Idx, 20% S&P Global Natural Resources Idx and 10% FTSE EPRA/NAREIT Developed Market Idx.

(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.

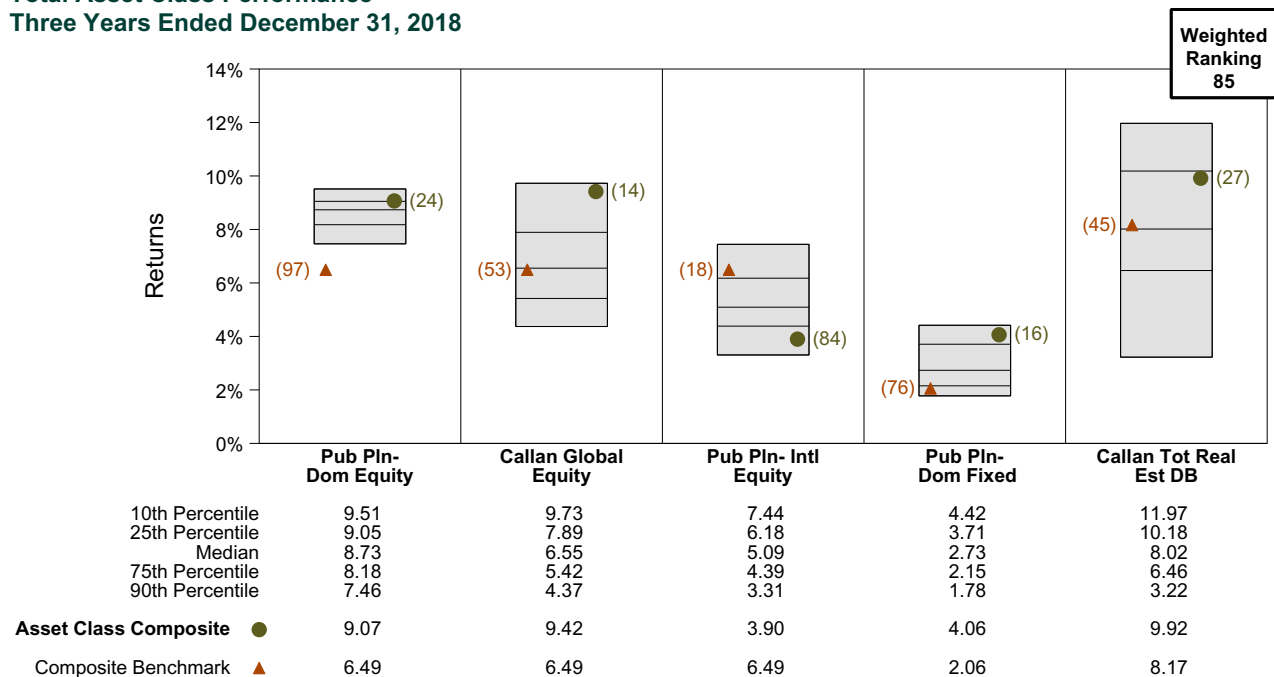
Asset Class Rankings

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, 2018



Total Asset Class Performance Three Years Ended December 31, 2018

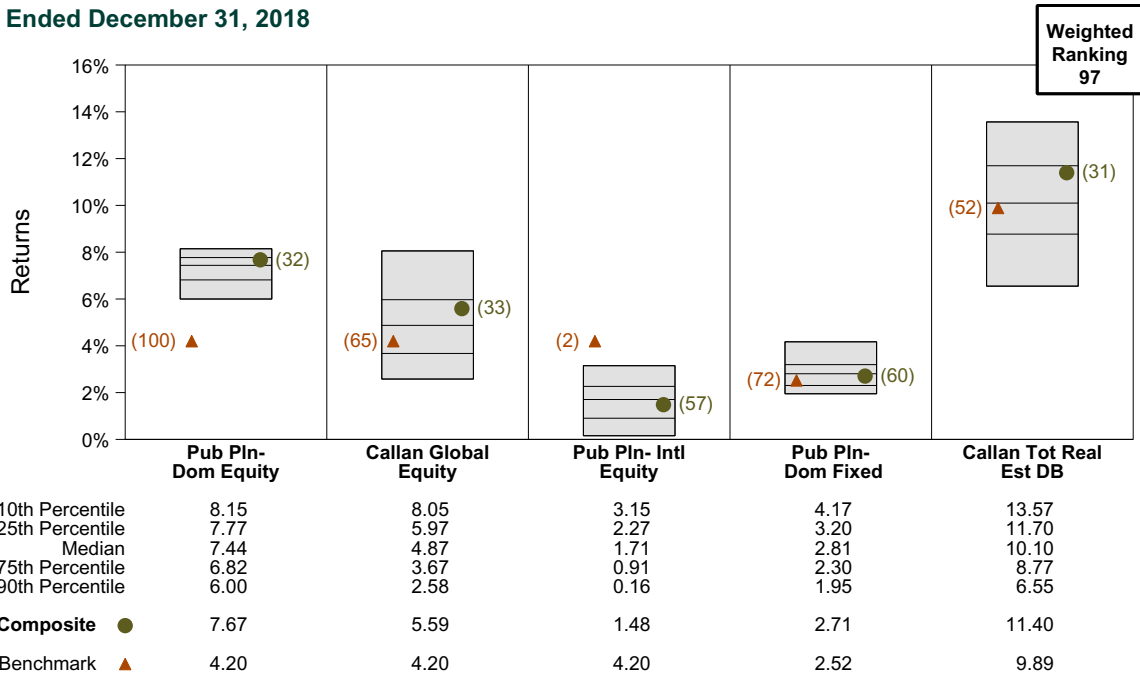


* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.3% Principal Blended Benchmark.

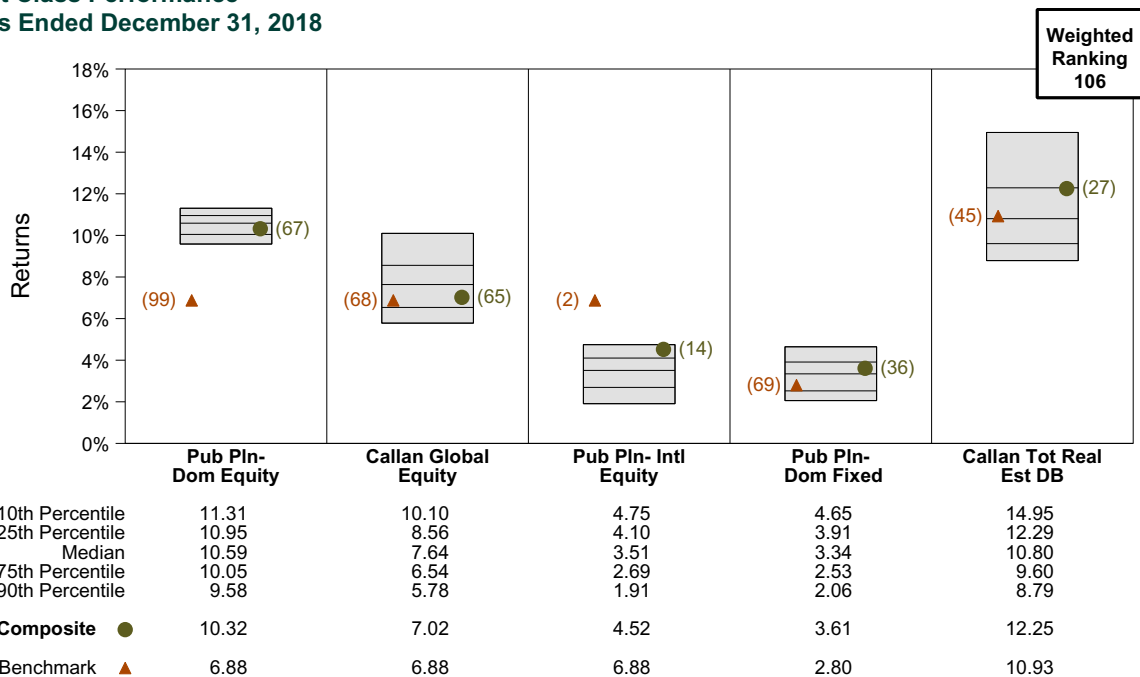
Asset Class Rankings

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, 2018



Total Asset Class Performance Eight Years Ended December 31, 2018



* Current Quarter Target = 50.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 7.7% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.3% Principal Blended Benchmark.

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 Corry Walsh at 312.346.3536 / institute@callan.com.

New Research from Callan’s Experts

Puttin’ on the Risk | For hedge funds, other multi-asset managers, and fund-of-funds, managing investor expectations is just as important as managing returns. That’s why Callan believes standardized risk reporting is an important tool to help managers, especially those with complex strategies, communicate better with their investors and thereby avoid misunderstandings. In this quarter’s *Hedge Fund Monitor*, Callan’s Jim McKee describes and discusses a standardized risk template called Open Protocol, which can help managers explain their strategies to investors.



Reflecting on 30 Years at Callan | Greg Allen, Callan’s chief executive officer and chief research officer, was interviewed by Executive Vice President Millie Viqueira, head of Callan’s Fund Sponsor Consulting Group, to mark Greg’s 30th anniversary with the firm. They discussed his start at Callan, what has changed in the industry and how he has changed over the last 30 years, his passion for research and education, and his thoughts on maintaining Callan’s distinctive culture and on ensuring the firm continues to be an attractive place to work.

2018 Nuclear Decommissioning Funding Study | Callan’s annual Nuclear Decommissioning Funding Study offers key insights into the status of nuclear decommissioning funding in the U.S. to make peer comparisons more accurate and relevant. The 2017 study covers 27 investor-owned and 26 public power utilities (excluding public power owners with small shares) with an ownership interest in the 99 operating nuclear reactors and 10 of the non-operating reactors in the U.S.



Considering Currency Hedging: 10 Charts to Think About | In considering equity currency hedging, institutional investors should consider context and rely upon a documented currency policy to guide decisions.

Workshop Summary | Callan’s 2018 October Regional Workshop, “Looking Beyond the Valley: Disciplined Risk Mitigation for the Long Term,” focused on how investors should consider their options for managing risk—or profiting from it. Among the questions it addressed: Are modern portfolios insufficiently diversified to truly manage and mitigate risk? What tools and strategies should investors be considering, and how do we measure effectiveness and cost? This paper summarizes the workshop.

Quarterly Periodicals

Private Equity Trends | Quarterly newsletter on private equity activity, covering both the fundraising cycle (investments to exits) and performance over time.

Market Pulse Flipbook | A quarterly market reference guide covering trends in the U.S. economy, developments for fund sponsors, and the latest data for U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution plans.

Active vs. Passive Charts | This series of charts compares active managers alongside relevant benchmarks over the long term.

Capital Market Review | Provides analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes.

Events

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

Callan's 2019 Regional Workshop dates are set! Please mark your calendar and look forward to upcoming invitations.

June Regional Workshops:

June 4, 2019 – Atlanta

June 5, 2019 – San Francisco

October Regional Workshops:

October 22, 2019 – Denver

October 24, 2019 – Chicago

Please also keep your eye out for upcoming Webinars in 2019! We will be sending invitations for these and also will have registration links on our website at www.callan.com/events.

For more information about events, please contact Barb Gerraty: 415.274.3093 / gerraty@callan.com

Education: By the Numbers

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

3,700 Total attendees of the "Callan College" since 1994

50+ Unique pieces of research the Institute generates each year

1980 Year the Callan Institute was founded

The Center for Investment Training Educational Sessions

The Center for Investment Training, better known as the "Callan College," provides a foundation of knowledge for industry professionals who are involved in the investment decision-making process. It was founded in 1994 to provide clients and non-clients alike with basic- to intermediate-level instruction. Our next sessions are:

Introduction to Investments

San Francisco, April 16-17, 2019

San Francisco, July 16-17, 2019

Chicago, October 22-23, 2019

This program familiarizes fund sponsor trustees, staff, and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals who have less than two years of experience with asset-management oversight and/or support responsibilities. Tuition for the Introductory "Callan College" session is \$2,350 per person. Tuition includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Customized Sessions

The "Callan College" is equipped to customize a curriculum to meet the training and educational needs of a specific organization. These tailored sessions range from basic to advanced and can take place anywhere—even at your office.

Learn more at www.callan.com/events/callan-college-intro or contact Kathleen Cunnie: 415.274.3029 / cunnie@callan.com



"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 dialog to raise the bar across the industry."

Greg Allen, Chief Executive Officer 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 and 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
Acadian Asset Management LLC
ACR – Alpine Capital Research
AEGON USA Investment Management
Aether Investment Partners
AEW Capital Management
Affiliated Managers Group, Inc.
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
Altrinsic Global Advisors, LLC
American Century Investments
Amundi Pioneer Asset Management
Apollo Global Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management
Artisan Partners Limited Partnership
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
Bentall Kennedy (U.S.) Limited Partnership
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

Manager Name
Bridgeway Capital Management, Inc.
BrightSphere Investment Group (FKA Old Mutual Asset)
Brown Brothers Harriman & Company
Cambiar Investors, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management
Chartwell Investment Partners
Christian Brothers Investment Services
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS (Formerly Deutsche Asset Management)
EAM Investors, LLC
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Eagle Investment Management, LLC
First Hawaiian Bank Wealth Management Division
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.

Manager Name
Fulcrum Asset Management LLP
Galliard Capital Management
GAM (USA) Inc.
GlobeFlex Capital, L.P.
GMO LLC
Goldman Sachs Asset Management
Green Square Capital LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Funds
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
IFM Investors
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Invesco
Investec Asset Management
Ivy Investments
J O Hambro Capital Management Limited
J.P. Morgan
Janus
Jennison Associates LLC
Jensen Investment Management
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
LMCG Investments, LLC
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 Asset Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Lake Investment Management LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management
Nuveen Investments, Inc.
OFI Global Asset Management
O'Shaughnessy Asset Management, LLC
P/E Investments

Manager Name
PFM Asset Management LLC
PGIM
PGIM Fixed Income
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, Inc.
Perkins Investment Management
PineBridge Investments
PNC Capital Advisors, LLC
Principal Global Investors
Private Advisors, LLC
Putnam Investments, LLC
QMA
RBC Global Asset Management
Regions Financial Corporation
Riverbridge Partners LLC
Robeco Institutional Asset Management, US Inc.
Rockefeller Capital Management
Rothschild Asset Management Inc.
Russell Investments
Santander Global Facilities
Schroder Investment Management North America Inc.
Securian Asset Management
Shenkman Capital Management, Inc.
Silvercrest Asset Management Group
Smith Graham & Co. Investment Advisors, L.P.
Smith Group Asset Management
South Texas Money Management, Ltd.
Standard Life Investments Limited
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The Boston Company Asset Management, LLC
The London Company
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
VanEck
Velanne Asset Management Ltd.
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
Wasatch Advisors, Inc.
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
Windhaven Investment Management
WisdomTree Asset Management