


March 31, 2019



City of Milwaukee Employees' Retirement System

Investment Measurement Service Quarterly Review

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U.S. EQUITY

Equity markets dramatically snapped back in the first quarter, driven by the Fed’s unexpected dovish comments in January, solid corporate fundamentals, and low unemployment.

Large Cap U.S. Equity (S&P 500: +13.6%; Russell 1000: +14.0%)

- All sectors delivered double-digit gains with the exception of Financials (+8.6%) and Health Care (+6.6%).
- Consumers remain in good shape, with household debt service as a percentage of disposable income at the lowest level in decades.
- The risk-on market was highlighted by low quality (S&P ratings B or lower) outperforming high quality (B+ or higher) by 440 basis points.
- Surprisingly, Utilities and REITs produced double-digit returns; investors sought yield in the face of a flattening yield curve and the end to rate hikes in the first quarter.

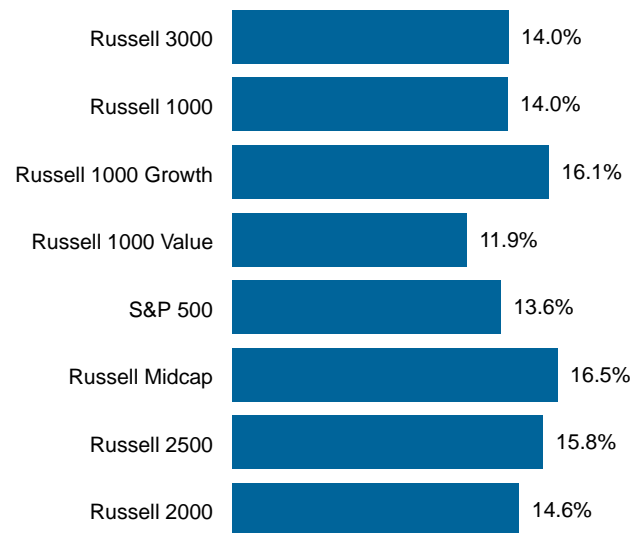
Growth vs. Value (Russell 1000 Growth: +16.1%; Russell 1000 Value: +11.9%)

- The sharp change in Fed rhetoric influenced the stronger performance of growth stocks over value stocks during the quarter. Investors favored companies with stronger earnings prospects to counter a softer economic environment.
- Technology produced strong results, while the outlook for Financials weakened as the yield curve flattened.

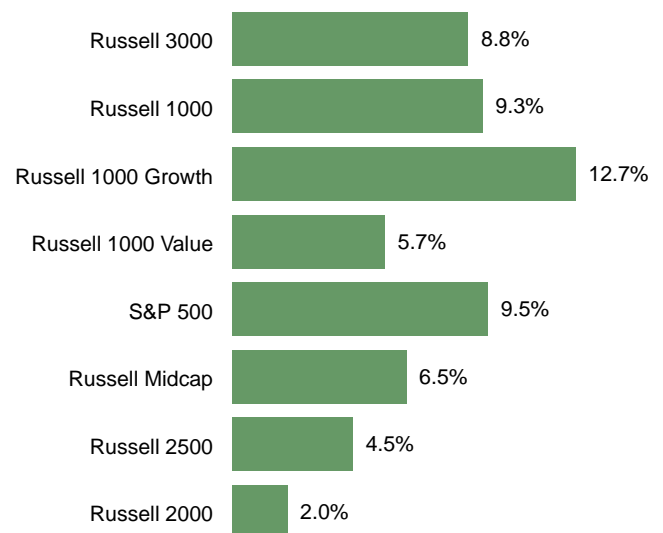
Small Cap (Russell 2000: +14.6%; Russell 2000 Growth: +17.1%; Russell 2000 Value: +11.9%)

- Within the Russell 2000 Growth Index, the three largest sectors (Health Care, Consumer Discretionary, and Technology) surged 19%, 17%, and 23%, respectively. Software and biotechnology both posted 25% gains in the quarter; combined they are more than 23% of the benchmark weight.
- Influenced by excessive fourth quarter tax-loss selling, the market experienced a strong “January effect”—where last year’s losers became January 2019’s winners.

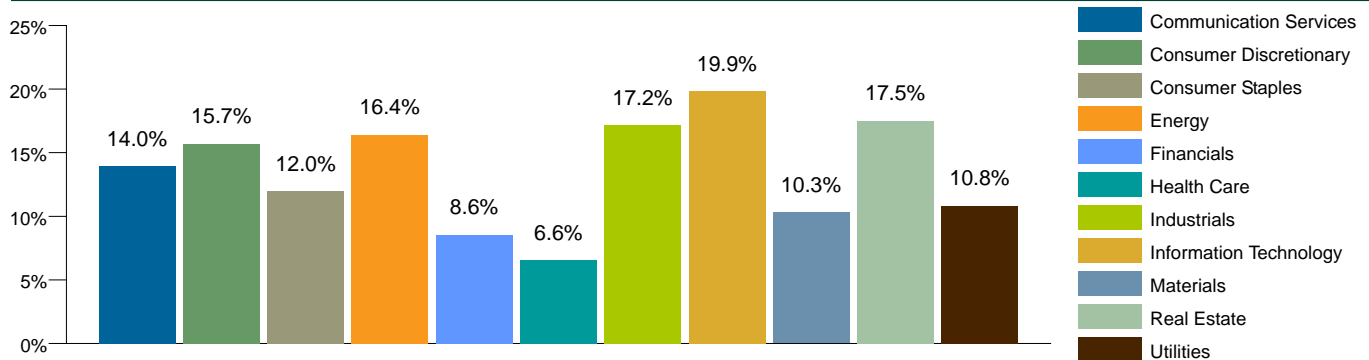
U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



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



Source: Standard & Poor’s

NON-U.S./GLOBAL EQUITY

Global equity markets were positive in the first quarter following a sharp sell-off to end 2018. Investors resumed a risk-on outlook as central banks telegraphed more accommodative positioning. Delayed outcomes regarding U.S./China trade talks and Brexit negotiations allowed markets to stabilize, although uncertain outcomes remain a future risk.

Global/Non-U.S. Developed (MSCI EAFE: +10.0%; MSCI World ex USA: +10.4%; MSCI ACWI ex USA: +10.3%; MSCI Europe: +10.8%; MSCI Japan: +6.7%)

- Developed markets rallied as central banks around the world expressed more accommodative paths with interest rates and quantitative easing.
- Brexit negotiations continue and a “no-deal” Brexit remains a possibility, but with an extended deadline. The potential for investment paralysis drags on.
- European PMI continued to deteriorate, falling to 47.7 in March from 49.4.
- The currency effect was mixed as the U.S. dollar rose against the euro and yen, by 1.8% and 0.9%, but fell against the British pound by 2.3% as a delay in Brexit allowed for a temporary bounce.
- EAFE sector performance was mixed. Information Technology (+15.3%) and Materials (+13.2%) led economically sensitive sectors; Consumer Staples (+12.4%) led defensive sectors. Interest rate-sensitive Financials (+6.9%) and Utilities (+9.0%) trailed the broad index.
- Factor performance favored growth (historical and projected) while value factors were generally negative.

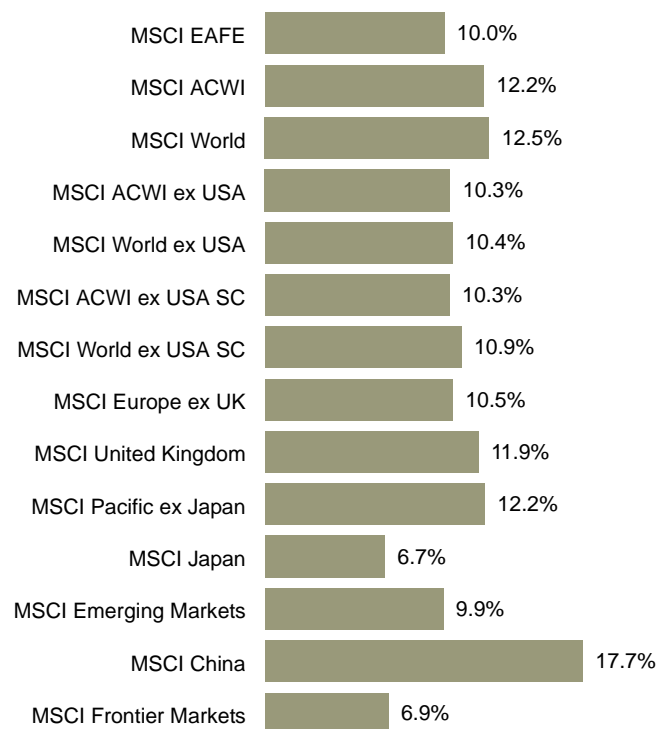
Emerging Markets (MSCI Emerging Markets Index: +9.9%)

- In a big reversal from the fourth quarter, China led emerging markets with MSCI China gaining 17.7% and MSCI China A up 30.9%.
- Trade talks continue but positive indications for a deal buoyed markets; uncertainty on the outcome remains.
- Asian Information Technology rebounded nicely with Chinese IT (+27.6%) leading the sector. An improving outlook on Chinese consumption positively influenced EM Consumer Discretionary (+20.8%), which was the top-performing sector.
- Growth led value with MSCI EM Growth gaining 12.0% and EM Value up 7.8%.

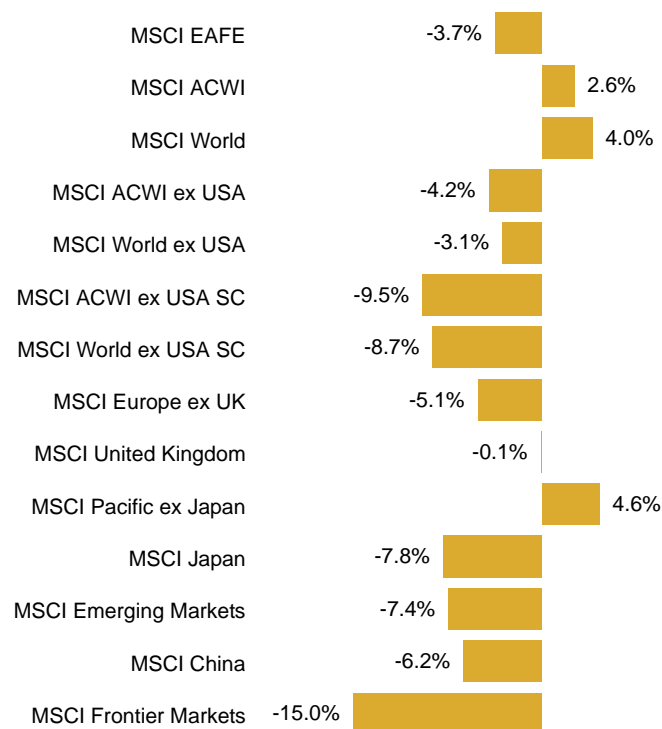
Non-U.S. Small Cap (MSCI World ex USA Small Cap: +10.9%; MSCI EM Small Cap: +7.8%; MSCI ACWI ex USA Small Cap: +10.3%)

- Within developed markets, small cap performed in line with large cap.
- EM Small Cap trailed EM as MSCI China Small Cap has less exposure to IT, which led the risk-on rally.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI

U.S. FIXED INCOME

Risk markets sharply reversed from the fourth quarter sell-off supported by the Fed’s unexpected dovish comments, relatively solid U.S. economic growth data, and tempered concern over a slowing China. This quarter’s strong results recaptured most of the loss experienced in the prior quarter.

U.S. Fixed Income (Bloomberg Barclays US Aggregate: +2.9%)

- U.S. Treasuries rose 2.1% as the yield curve shifted lower across maturities as growth and inflation expectations declined.
- The shape of the yield curve did not materially change during the quarter. The yield differential between the 10-year and 2-year key rates remained positive and traded around a range of +12 to +20 bps. However, the front-end of the curve inverted, with the 5-year offering less yield than the 2-year.
- TIPS outperformed nominal Treasuries as the Fed’s balanced stance and unexpected wage pressures stoked higher inflation expectation.

Investment-Grade Corporates (Bloomberg Barclays Corporate: +5.1%)

- Credit spreads rallied on the back of a softer Fed stance, positive economic news, and better than expected corporate earnings.
- Net new corporate issuance during the first quarter of \$117 billion was roughly on par with a year ago.
- Surprisingly, Aaa-rated corporates (+5.0%) outperformed Aa- (+3.7%) and single A-rated issuers (+4.7%). BBB-rated issuers were the best performers (+5.7%).

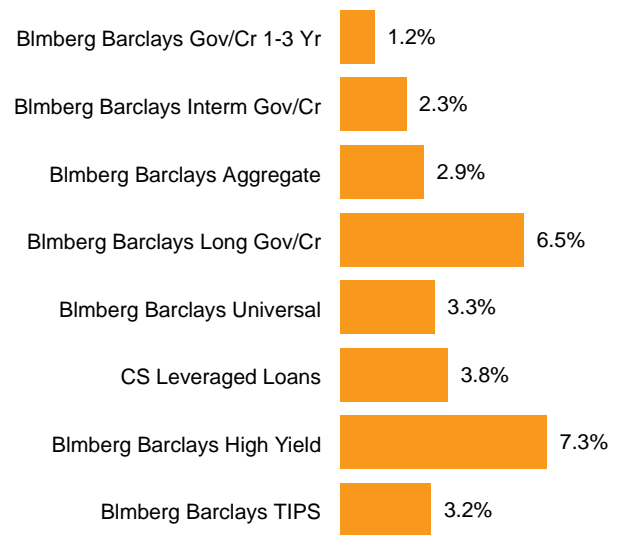
High Yield (Bloomberg Barclays Corporate High Yield: +7.3%)

- Given the risk-on environment, below-investment grade issuers were the best performers, aided by strong asset inflows.
- Ba/B sectors (+7.2%) marginally outpaced CCC by 6 bps; this was an unusual occurrence given that the dispersion between high-quality and low-quality is typically wide during these periods of absolute returns.

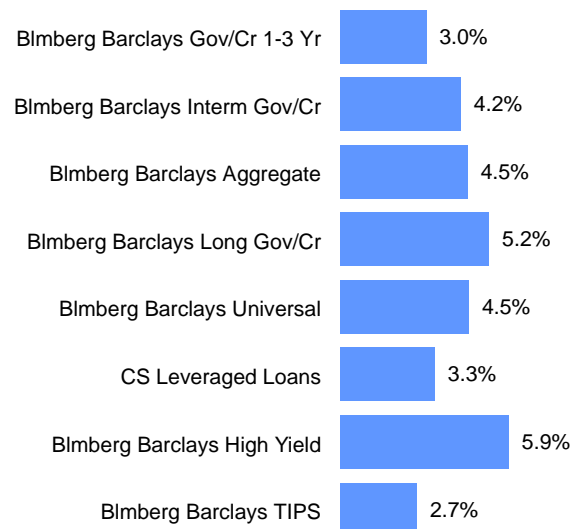
Leveraged Loans (Credit Suisse Leveraged Loans Index: +3.8%)

- Leveraged loans participated in the rally but lagged both longer duration investment grade and high yield corporates. The sector was negatively impacted by the Fed’s pause, retail outflows, and a slow-developing CLO pipeline.
- Bank loans have less sensitivity to interest rates but may have a similar spread duration profile to that of their high yield bond counterparts.

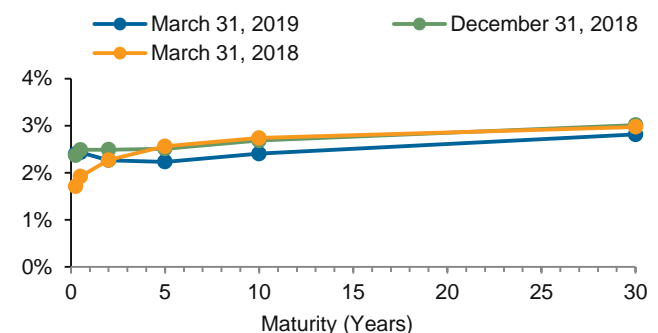
U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: One-Year Returns



U.S. Treasury Yield Curves



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse

NON-U.S. FIXED INCOME

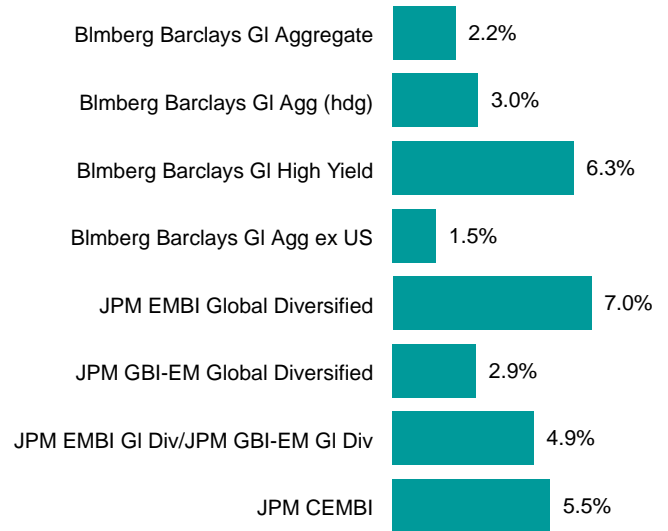
Global Fixed Income (Bloomberg Barclays Global Aggregate (unhedged): +2.2%)

- Developed market sovereign bonds rallied in tandem with Treasuries. The U.S. dollar appreciated modestly versus the euro and yen, but lost ground versus the British pound and Canadian dollar.

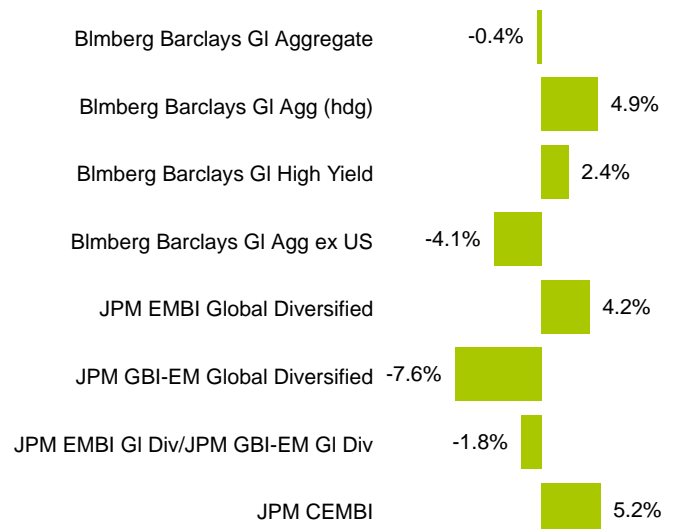
U.S. dollar-denominated emerging market debt (JPM EMBI Global Diversified: +7.0%), **Local currency-denominated EMD** (JPM GBI-EM Global Diversified: +2.9%)

- Country returns within the EMBI Global Diversified Index were all positive for the quarter.
- Turkey (-10.2%) and Argentina (-10.5%) were notable underperformers in the local currency index.
- Positive net inflows into the EM universe continued through quarter-end.

Global Fixed Income: Quarterly Returns

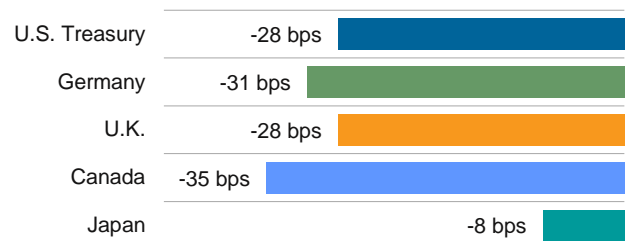


Global Fixed Income: One-Year Returns



Change in 10-Year Global Government Bond Yields

4Q18 to 1Q19



Sources: Bloomberg, Bloomberg Barclays, JP Morgan

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2019, with the distribution as of December 31, 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.

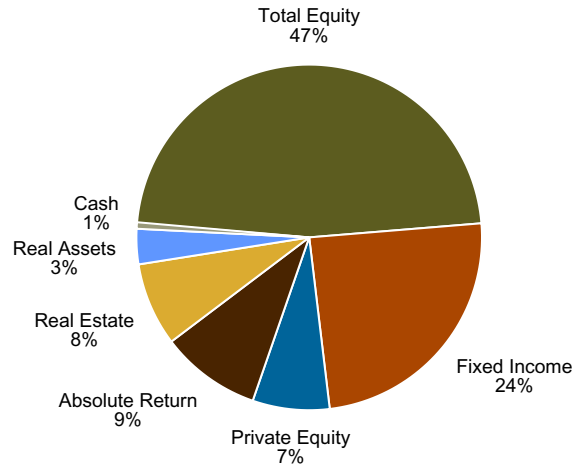
Asset Distribution Across Investment Managers

	March 31, 2019			Inv. Return	December 31, 2018	
	Market Value	Weight	Net New Inv.		Market Value	Weight
Total Domestic Equity	\$1,141,921,612	21.60%	\$(25,000,000)	\$145,118,038	\$1,021,803,574	20.63%
BlackRock Russell 1000 Value	159,785,258	3.02%	0	17,091,583	142,693,675	2.88%
DFA Large Cap Value	150,924,570	2.85%	0	15,220,496	135,704,074	2.74%
Northern Trust Global	296,591,169	5.61%	(9,000,000)	36,707,749	268,883,420	5.43%
Polen Capital Management	153,872,897	2.91%	(10,000,000)	23,845,486	140,027,411	2.83%
Earnest Partners LLC	120,141,746	2.27%	(3,000,000)	20,552,270	102,589,476	2.07%
DFA Small Cap Value	167,902,420	3.18%	0	16,802,189	151,100,231	3.05%
CastleArk Management	92,703,551	1.75%	(3,000,000)	14,898,265	80,805,286	1.63%
Total Global Equity	\$482,944,995	9.13%	\$0	\$58,858,730	\$424,086,265	8.56%
BlackRock Global Alpha Tilts	281,078,053	5.32%	0	32,056,655	249,021,398	5.03%
MFS Investment Management	201,866,942	3.82%	0	26,802,075	175,064,867	3.53%
Total International Equity	\$879,400,236	16.63%	\$0	\$75,847,405	\$803,552,831	16.22%
AQR Emerging Markets	96,499,536	1.83%	0	8,737,035	87,762,501	1.77%
Brandes Investment Partners	361,632,463	6.84%	0	22,410,452	339,222,011	6.85%
William Blair & Company	261,547,749	4.95%	0	31,985,845	229,561,904	4.64%
DFA International Small Cap	159,720,488	3.02%	0	12,714,073	147,006,414	2.97%
Total Fixed Income	\$1,289,633,597	24.39%	\$(9,000,000)	\$54,646,112	\$1,243,987,485	25.12%
Allianz US Fixed Income 250	510,306,753	9.65%	0	22,861,325	487,445,428	9.84%
BlackRock US Debt Idx Fd	207,795,619	3.93%	0	6,031,506	201,764,113	4.07%
Reams Asset Management	232,888,784	4.40%	(3,000,000)	7,159,638	228,729,146	4.62%
Loomis, Sayles & Company, L.P.	338,642,441	6.41%	(6,000,000)	18,593,643	326,048,798	6.58%
Total Private Equity	\$380,581,005	7.20%	\$(842,136)	\$(580,153)	\$382,003,294	7.71%
Abbott Capital Management 2010	26,826,481	0.51%	(1,750,000)	0	28,576,481	0.58%
Abbott Capital Management 2011	47,416,126	0.90%	(3,300,000)	0	50,716,126	1.02%
Abbott Capital Management 2012	35,811,274	0.68%	(400,000)	0	36,211,274	0.73%
Abbott Capital Management 2013	32,037,462	0.61%	0	0	32,037,462	0.65%
Abbott Capital Management 2014	30,660,729	0.58%	(875,000)	0	31,535,729	0.64%
Abbott Capital Management 2015	14,727,660	0.28%	343,750	0	14,383,910	0.29%
Abbott Capital Management 2016	7,615,131	0.14%	475,000	(25,000)	7,165,131	0.14%
Abbott Capital Management 2018	2,286,231	0.04%	512,500	(12,500)	1,786,231	0.04%
Mesirow V	59,231,606	1.12%	(2,625,000)	0	61,856,606	1.25%
Mesirow VI	51,535,539	0.97%	1,200,000	(210,277)	50,545,816	1.02%
Mesirow VII	18,843,272	0.36%	4,000,000	(176,125)	15,019,397	0.30%
NB Secondary Opp Fund III	17,374,879	0.33%	(769,555)	(1)	18,144,435	0.37%
NB Secondary Opp Fund IV	6,145,907	0.12%	970,669	(156,250)	5,331,488	0.11%
Private Advisors VI	18,898,202	0.36%	0	0	18,898,202	0.38%
Private Advisors VII	6,870,595	0.13%	874,500	0	5,996,095	0.12%
Private Advisors VIII	4,299,911	0.08%	501,000	0	3,798,911	0.08%
Absolute Return	\$496,738,850	9.40%	\$0	\$19,549,021	\$477,189,829	9.63%
Allianz SA 1000	127,189,113	2.41%	0	8,821,365	118,367,748	2.39%
Newton	125,355,229	2.37%	0	5,797,789	119,557,440	2.41%
UBS A & Q	244,194,508	4.62%	0	4,929,866	239,264,641	4.83%
Real Assets	\$175,741,074	3.32%	\$0	\$14,014,183	\$161,726,891	3.27%
Principal DRA	175,741,074	3.32%	0	14,014,183	161,726,891	3.27%
Total Real Estate	\$410,703,691	7.77%	\$(5,744,068)	\$4,584,378	\$411,863,380	8.32%
Real Estate	410,703,691	7.77%	(5,744,068)	4,584,378	411,863,380	8.32%
Total Cash	\$29,445,035	0.56%	\$2,590,767	\$382,205	\$26,472,063	0.53%
Cash	29,445,035	0.56%	2,590,767	382,205	26,472,063	0.53%
Total Fund	\$5,287,110,095	100.0%	\$(37,995,437)	\$372,419,920	\$4,952,685,613	100.0%

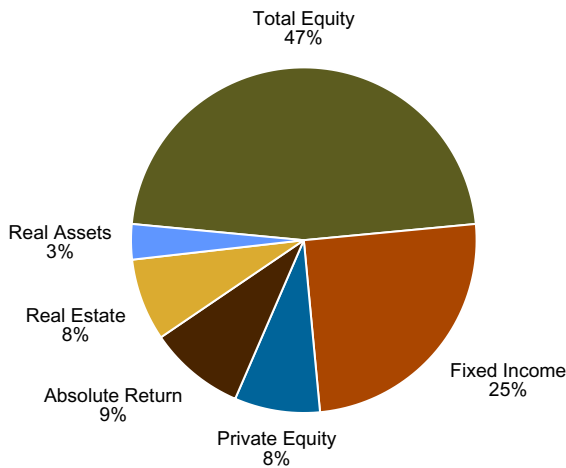
Actual vs Target Asset Allocation As of March 31, 2019

The first chart below shows the Fund's asset allocation as of March 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).

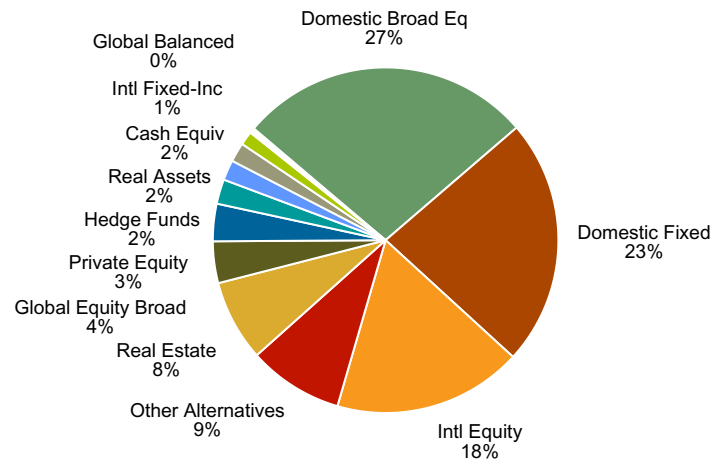
Actual Asset Allocation



Target Asset Allocation



Callan Public Fund Spons - Large (>1B)



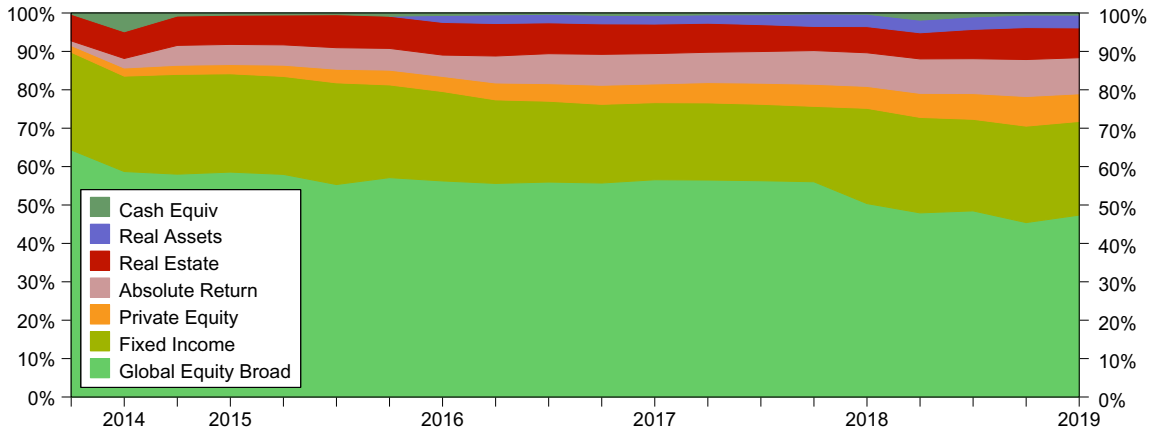
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,504,267	47.4%	47.0%	0.4%	19,325
Fixed Income	1,289,634	24.4%	25.0%	(0.6%)	(32,144)
Private Equity	380,581	7.2%	8.0%	(0.8%)	(42,388)
Absolute Return	496,739	9.4%	9.0%	0.4%	20,899
Real Estate	410,704	7.8%	7.7%	0.1%	3,596
Real Assets	175,741	3.3%	3.3%	0.0%	1,266
Cash	29,445	0.6%	0.0%	0.6%	29,445
Total	5,287,110	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.

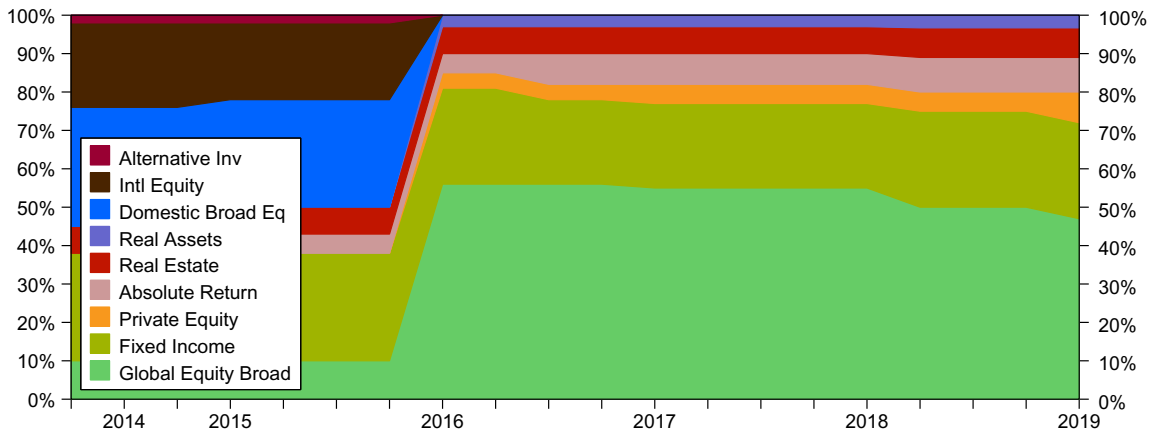
Actual vs Target Historical Asset Allocation

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.

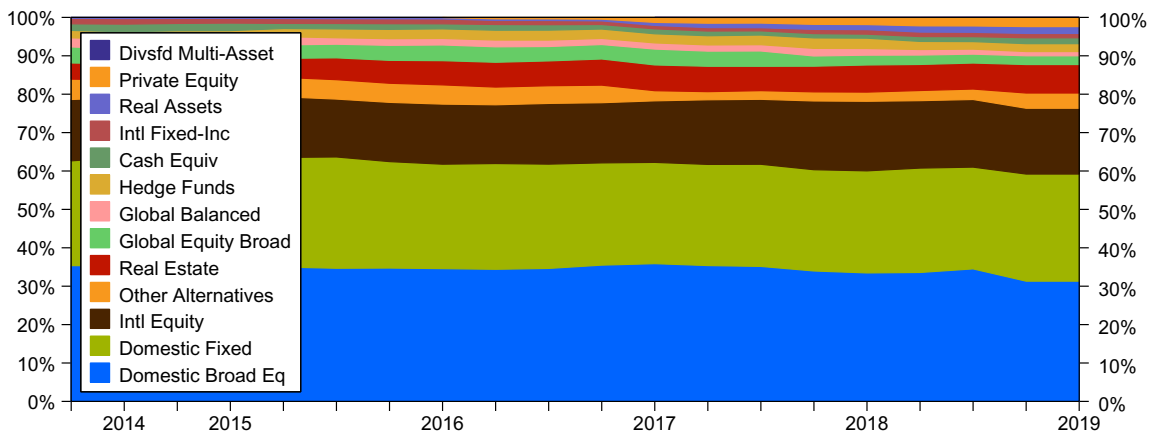
Actual Historical Asset Allocation



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 March 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.

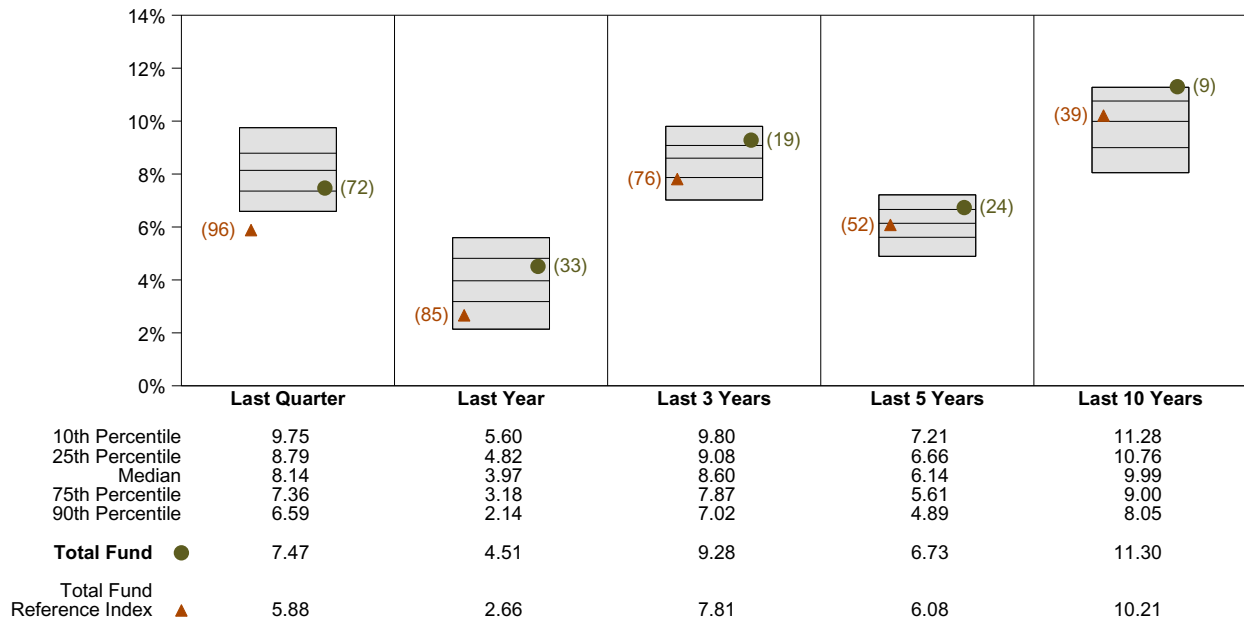
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 7.47% return for the quarter placing it in the 72 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 33 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Reference Index by 1.59% for the quarter and outperformed the Total Fund Reference Index for the year by 1.85%.

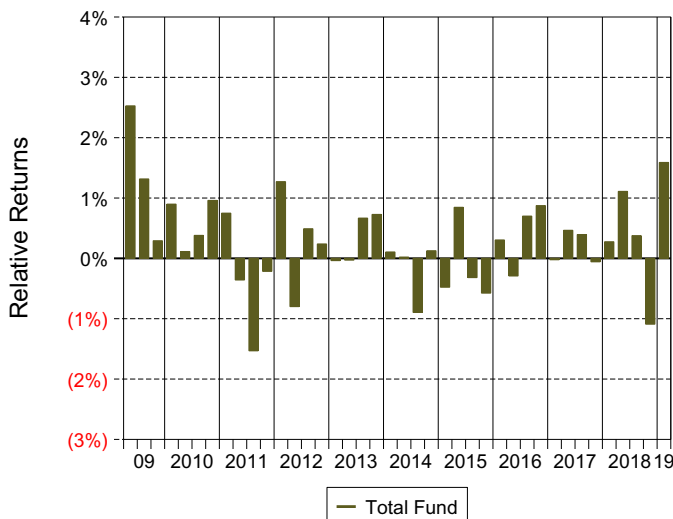
Quarterly Asset Growth

Beginning Market Value	\$4,952,685,613
Net New Investment	\$-37,995,437
Investment Gains/(Losses)	\$372,419,920
Ending Market Value	\$5,287,110,095

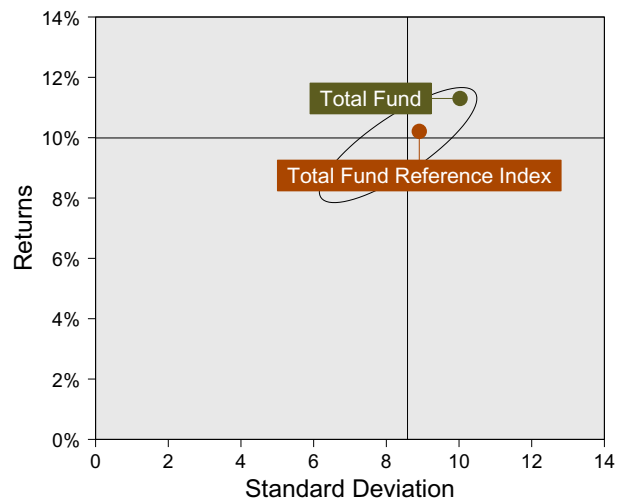
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Reference Index



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

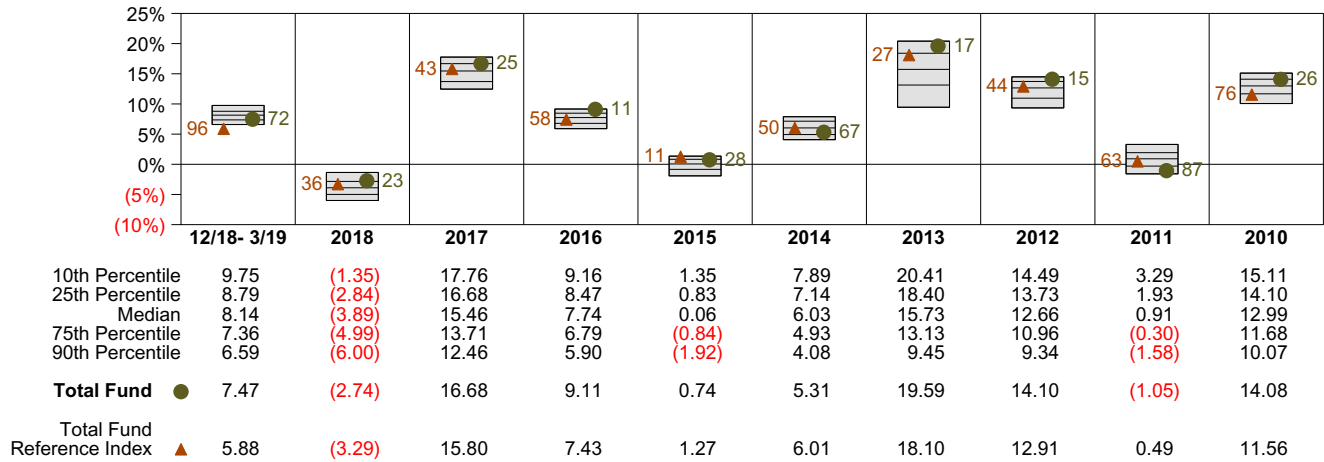


Total Fund Return Analysis Summary

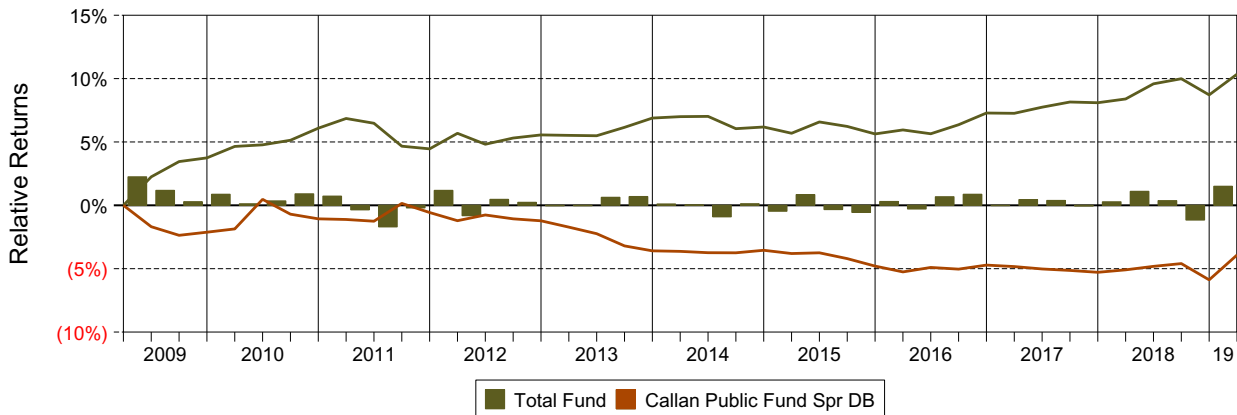
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

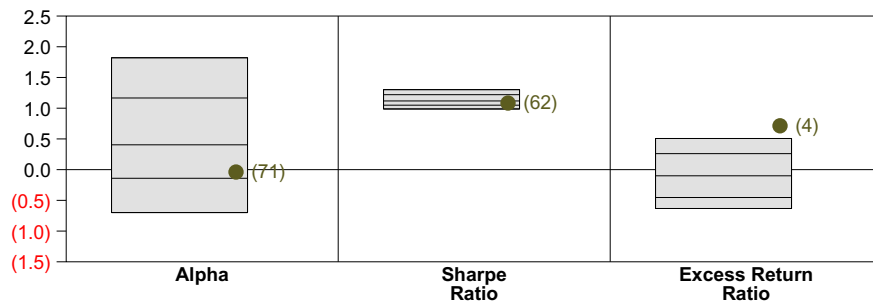
Performance vs Callan Public Fund Sponsor Database (Gross)



Cumulative and Quarterly Relative Return vs Total Fund Reference Index



Risk Adjusted Return Measures vs Total Fund Reference Index Rankings Against Callan Public Fund Sponsor Database (Gross) Ten Years Ended March 31, 2019



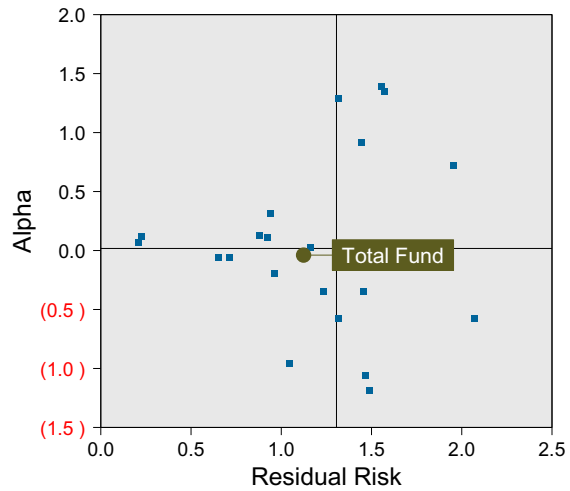
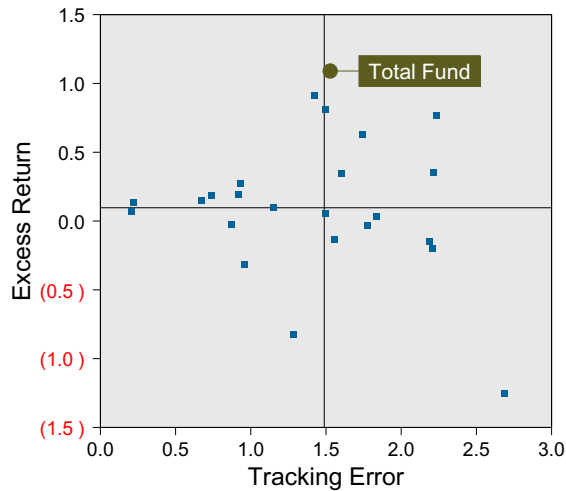
Total Fund

Total Fund vs Target Risk Analysis

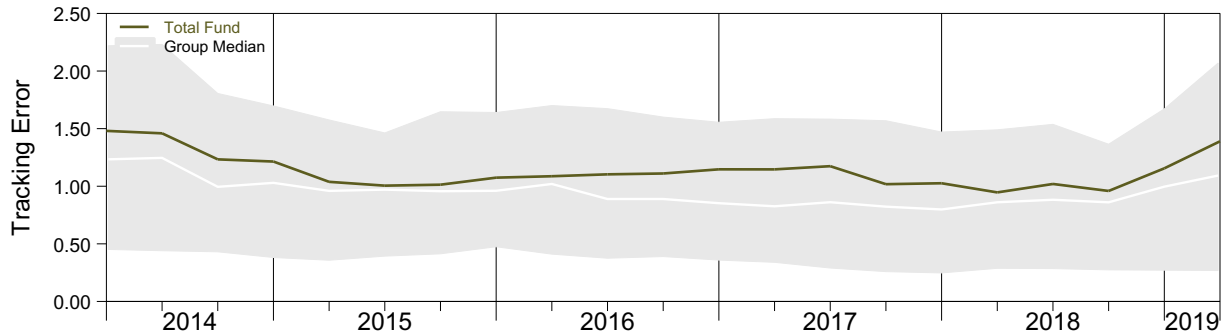
Risk Analysis

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

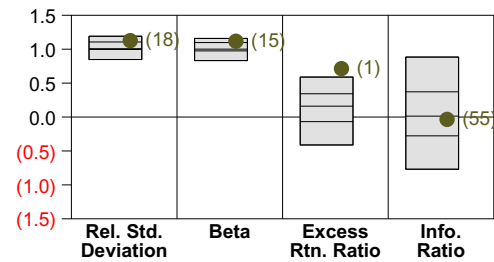
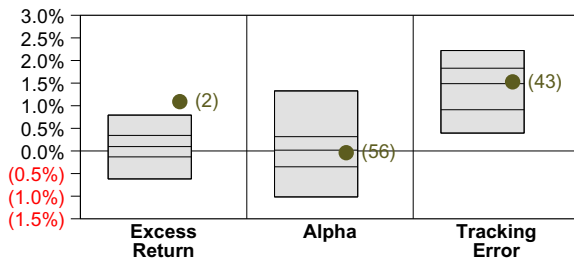
Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended March 31, 2019



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 March 31, 2019



10th Percentile 0.79
25th Percentile 0.34
Median 0.10
75th Percentile (0.13)
90th Percentile (0.62)

10th Percentile 1.33
25th Percentile 0.32
Median 0.02
75th Percentile (0.35)
90th Percentile (1.02)

10th Percentile 2.22
25th Percentile 1.83
Median 1.49
75th Percentile 0.91
90th Percentile 0.40

10th Percentile 1.19
25th Percentile 1.11
Median 1.01
75th Percentile 1.00
90th Percentile 0.85

10th Percentile 1.16
25th Percentile 1.10
Median 1.00
75th Percentile 0.98
90th Percentile 0.83

10th Percentile 0.59
25th Percentile 0.34
Median 0.16
75th Percentile (0.07)
90th Percentile (0.41)

10th Percentile 0.88
25th Percentile 0.37
Median 0.01
75th Percentile (0.28)
90th Percentile (0.77)

Total Fund ● 1.09

Total Fund ● (0.04)

Total Fund ● 1.53

Total Fund ● 1.13

Total Fund ● 1.12

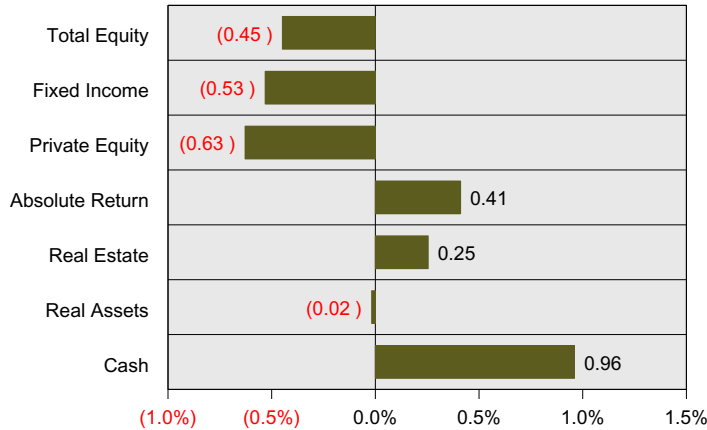
Total Fund ● 0.71

Total Fund ● (0.03)

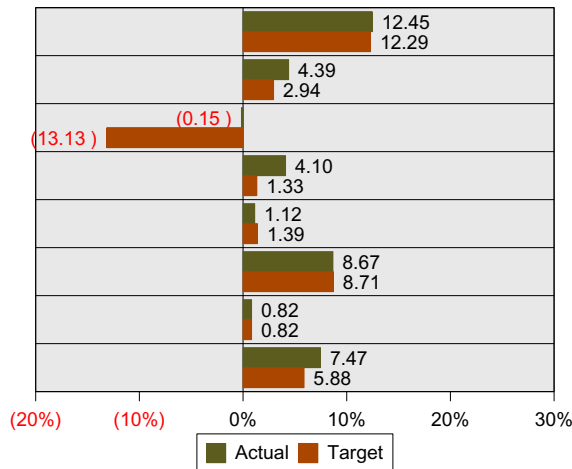
Quarterly Total Fund Relative Attribution - March 31, 2019

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.

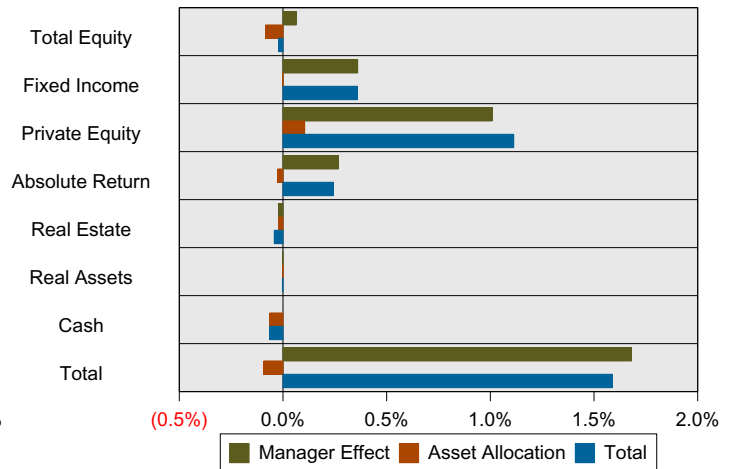
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended March 31, 2019

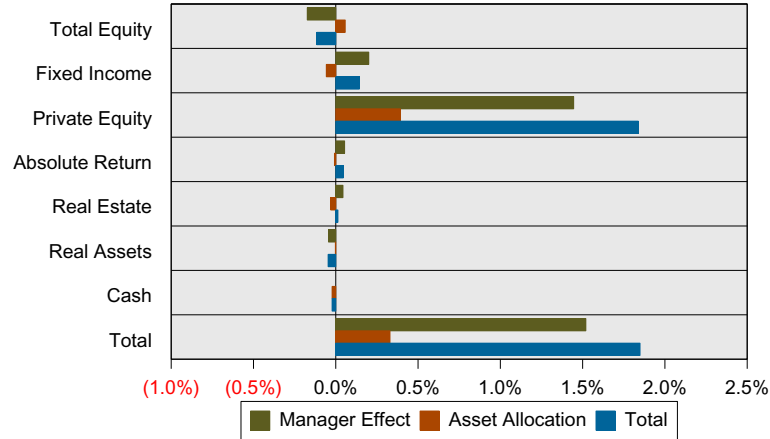
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	47%	47%	12.45%	12.29%	0.06%	(0.08%)	(0.02%)
Fixed Income	24%	25%	4.39%	2.94%	0.36%	(0.00%)	0.36%
Private Equity	7%	8%	(0.15%)	(13.13%)	1.01%	0.10%	1.11%
Absolute Return	9%	9%	4.10%	1.33%	0.27%	(0.03%)	0.24%
Real Estate	8%	8%	1.12%	1.39%	(0.02%)	(0.02%)	(0.04%)
Real Assets	3%	3%	8.67%	8.71%	(0.00%)	(0.00%)	(0.00%)
Cash	1%	0%	0.82%	0.82%	0.00%	(0.06%)	(0.06%)
Total			7.47%	5.88%	+ 1.68%	+ (0.09%)	1.59%

* 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.

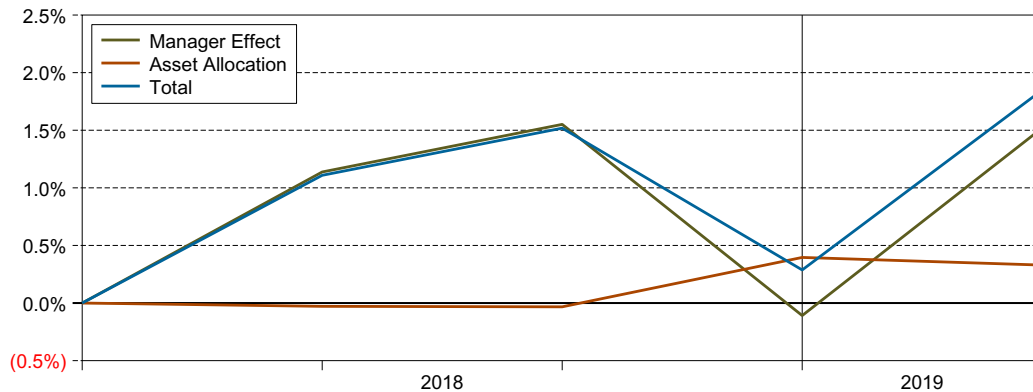
Cumulative Total Fund Relative Attribution - March 31, 2019

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
Total Equity	48%	49%	1.47%	1.89%	(0.17%)	0.06%	(0.12%)
Fixed Income	24%	25%	5.37%	4.48%	0.20%	(0.06%)	0.14%
Private Equity	7%	6%	21.46%	(2.05%)	1.45%	0.39%	1.84%
Absolute Return	9%	9%	5.88%	5.12%	0.05%	(0.01%)	0.05%
Real Estate	8%	8%	7.74%	7.30%	0.04%	(0.03%)	0.01%
Real Assets	3%	3%	1.77%	3.12%	(0.04%)	(0.00%)	(0.05%)
Cash	1%	0%	2.36%	2.36%	0.00%	(0.02%)	(0.02%)
Total			4.51%	2.66%	+ 1.52%	+ 0.33%	1.85%

* 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 March 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 March 31, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Domestic Equity	14.22%		8.12%		13.65%		10.19%		7.25% (7/98)	
Russell 3000 Index	14.04%		8.77%		13.48%		10.36%		6.80% (7/98)	
BlackRock Russell 1000 Value	11.98%	34	5.87%	29	-	-	-	-	6.58%	(3/17)
Russell 1000 Value Index	11.93%	35	5.67%	30	10.45%	68	7.72%	66	5.53%	(3/17)
Callan Large Cap Value	11.52%		4.05%		11.17%		8.07%		-	
DFA Large Cap Value	11.22%	60	(0.00%)	86	-	-	-	-	2.99%	(11/17)
Russell 1000 Value Index	11.93%	35	5.67%	30	10.45%	68	7.72%	66	5.15%	(11/17)
Callan Large Cap Value	11.52%		4.05%		11.17%		8.07%		-	
Northern Trust Global	13.69%	42	9.59%	28	13.56%	32	10.98%	26	10.39%	(8/88)
S&P 500 Index	13.65%	43	9.50%	31	13.51%	33	10.91%	27	10.34%	(8/88)
Callan Large Cap Core	13.25%		7.79%		12.90%		10.32%		-	
Polen Capital Management	17.13%	37	23.69%	3	18.33%	27	17.51%	3	17.11%	(7/12)
S&P 500 Index	13.65%	92	9.50%	81	13.51%	91	10.91%	93	13.82%	(7/12)
Callan Large Cap Growth	16.27%		13.85%		16.74%		13.23%		-	
Earnest Partners LLC	20.07%	17	8.30%	32	16.40%	13	11.34%	13	10.81%	(5/05)
Russell MidCap Index	16.54%	41	6.47%	38	11.82%	50	8.81%	44	9.64%	(5/05)
Callan Mid Capitalization	15.81%		3.79%		11.60%		8.38%		-	
DFA Small Cap Value	11.12%	90	(3.25%)	61	8.73%	71	5.19%	81	11.56%	(11/96)
Russell 2000 Value Index	11.93%	72	0.17%	26	10.86%	26	5.59%	69	9.27%	(11/96)
Callan Small Cap Value	12.46%		(2.06%)		9.44%		6.26%		-	
CastleArk Management	18.51%	48	17.90%	10	19.39%	43	9.59%	57	12.62%	(9/13)
Russell 2000 Growth Index	17.14%	59	3.85%	89	14.87%	83	8.41%	78	10.44%	(9/13)
Callan Small Cap Growth	18.45%		10.27%		18.53%		10.05%		-	
Total Global Equity	13.88%		4.11%		13.11%		8.21%		8.60% (4/10)	
MSCI World	12.48%		4.01%		10.68%		6.78%		8.64% (4/10)	
BlackRock Global Alpha Tilts	12.87%	48	0.34%	67	11.95%	35	-	-	14.24%	(3/16)
MSCI ACWI Gross	12.33%	54	3.17%	43	11.27%	46	7.03%	49	13.58%	(3/16)
Callan Global Equity	12.60%		2.28%		10.88%		6.96%		-	
MFS Investment Management	15.31%	18	9.68%	6	14.70%	14	10.36%	13	12.19%	(12/12)
MSCI ACWI Gross	12.33%	54	3.17%	43	11.27%	46	7.03%	49	9.68%	(12/12)
Callan Global Equity	12.60%		2.28%		10.88%		6.96%		-	
Total International Equity	9.44%		(7.78%)		6.97%		2.91%		6.86% (5/96)	
MSCI EAFE	9.98%		(3.71%)		7.27%		2.33%		4.41% (5/96)	
AQR Emerging Markets	9.96%	71	(12.49%)	96	-	-	-	-	8.39%	(8/16)
MSCI EM Gross	9.97%	71	(7.05%)	43	11.09%	60	4.06%	67	10.16%	(8/16)
Callan Emerging Broad	10.98%		(7.76%)		11.70%		4.68%		-	
Brandes Investment Partners	6.61%	99	(4.90%)	52	6.73%	69	2.36%	79	7.88%	(2/98)
MSCI EAFE	9.98%	70	(3.71%)	34	7.27%	59	2.33%	79	4.47%	(2/98)
Callan NonUS Eq	10.71%		(4.77%)		7.54%		3.46%		-	
William Blair & Company	13.93%	9	(5.16%)	57	7.86%	43	3.92%	35	7.38%	(12/03)
MSCI ACWIxUS Gross	10.44%	56	(3.73%)	35	8.61%	28	3.05%	59	6.76%	(12/03)
Callan NonUS Eq	10.71%		(4.77%)		7.54%		3.46%		-	
DFA International Small Cap	8.65%	84	(14.75%)	87	5.11%	86	1.41%	95	4.24%	(5/06)
Blended Benchmark	10.65%	55	(9.36%)	22	7.50%	45	4.47%	60	3.25%	(5/06)
Callan Intl Small Cap	10.90%		(11.27%)		7.28%		4.99%		-	

Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended March 31, 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 March 31, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Fixed Income	4.39%		5.37%		4.07%		3.11%		7.49%	(12/87)
Bimbg Aggregate	2.94%		4.48%		2.03%		2.74%		6.23%	(12/87)
Allianz US Fixed Income 250	4.69%	1	5.99%	1	-		-		5.55%	(2/18)
Bimbg Aggregate +2.5%	3.51%	10	6.98%	1	4.53%	1	5.25%	1	6.06%	(2/18)
Callan Core Bond FI	3.17%		4.70%		2.52%		3.05%		-	
BlackRock US Debt Idx Fd	2.99%	75	4.59%	60	-		-		1.65%	(6/16)
Bimbg Aggregate	2.94%	84	4.48%	75	2.03%	89	2.74%	91	2.00%	(6/16)
Callan Core Bond FI	3.17%		4.70%		2.52%		3.05%		-	
Reams Asset Management	3.13%	89	6.07%	1	2.93%	77	3.19%	64	5.53%	(1/01)
Bimbg Aggregate	2.94%	97	4.48%	64	2.03%	99	2.74%	97	4.58%	(1/01)
Callan Core Plus FI	3.73%		4.62%		3.32%		3.31%		-	
Loomis, Sayles & Company, L.P.	5.71%	1	4.50%	63	7.09%	1	4.26%	5	8.98%	(12/87)
Bimbg Aggregate	2.94%	97	4.48%	64	2.03%	99	2.74%	97	6.23%	(12/87)
Callan Core Plus FI	3.73%		4.62%		3.32%		3.31%		-	
Total Private Equity	(0.15%)		21.46%		15.82%		15.09%		9.09%	(6/10)
Abbott Capital Management 2010	0.00%		26.90%		19.13%		16.37%		(5.33%)	(6/10)
Abbott Capital Management 2011	0.00%		25.70%		18.29%		14.75%		(2.50%)	(6/11)
Abbott Capital Management 2012	0.00%		24.39%		17.10%		11.54%		6.63%	(7/12)
Abbott Capital Management 2013	0.00%		25.17%		16.07%		9.36%		6.85%	(5/13)
Abbott Capital Management 2014	0.00%		22.58%		12.69%		4.35%		4.35%	(4/14)
Abbott Capital Management 2015	0.00%		13.57%		4.82%		-		6.39%	(4/15)
Abbott Capital Management 2016	(0.33%)		9.73%		2.48%		-		2.42%	(3/16)
Abbott Capital Management 2018	(0.65%)		-		-		-		(3.01%)	(7/18)
Mesirow V	0.00%		18.19%		17.03%		18.25%		13.39%	(6/10)
Mesirow VI	(0.41%)		24.36%		13.42%		7.24%		6.25%	(7/13)
Mesirow VII	(0.97%)		(8.08%)		-		-		-	
NB Secondary Opp Fund III	0.00%		17.38%		16.66%		25.58%		11.93%	(12/13)
NB Secondary Opp Fund IV	(2.88%)		63.42%		-		-		24.51%	(4/17)
Private Advisors VI	0.00%		15.97%		8.75%		-		1.72%	(4/15)
Private Advisors VII	0.00%		21.30%		-		-		6.43%	(1/17)
Private Advisors VIII	0.00%		-		-		-		13.71%	(8/18)
Russell 3000 (1 Qtr in Arrears) + 3%	(13.13%)		(2.05%)		12.06%		10.98%		(2.54%)	(8/18)
Absolute Return	4.10%		5.88%		5.40%		-		5.21%	(6/14)
Allianz SA 1000	7.45%	1	10.90%	1	8.20%	2	-		8.86%	(6/14)
T-Bills + 10%	2.97%	32	12.12%	1	11.19%	1	10.75%	1	10.77%	(6/14)
Callan Abs Rtn Hedge FoF	2.44%		1.46%		4.62%		2.82%		-	
Newton	4.85%	1	8.35%	1	4.09%	58	-		4.00%	(8/14)
1-month LIBOR + 4%	1.59%	90	6.30%	1	5.40%	24	4.92%	5	4.98%	(8/14)
Callan Abs Rtn Hedge FoF	2.44%		1.46%		4.62%		2.82%		-	
UBS A & Q	2.06%	73	2.28%	29	4.39%	54	-		3.55%	(12/14)
1-month LIBOR + 4%	1.59%	90	6.30%	1	5.40%	24	4.92%	5	5.04%	(12/14)
Callan Abs Rtn Hedge FoF	2.44%		1.46%		4.62%		2.82%		-	
Real Assets	8.67%		1.77%		5.27%		-		5.36%	(1/16)
Principal DRA	8.67%	20	1.77%	35	5.27%	34	-		5.36%	(1/16)
Principal Blended Benchmark (1)	8.71%	20	3.12%	31	5.20%	35	-		5.45%	(1/16)
Callan Alternative Inv DB	4.68%		(2.05%)		3.57%		1.23%		-	
Total Real Estate	1.12%		7.74%		9.01%		10.86%		6.69%	(7/86)
Real Estate	1.12%	89	7.74%	55	9.01%	33	10.86%	31	6.69%	(7/86)
Blended Benchmark (2)	1.39%	78	7.30%	63	7.53%	57	9.65%	53	-	
Callan Tot Real Est DB	2.04%		8.05%		7.98%		9.71%		-	
Total Fund	7.47%		4.51%		9.28%		6.73%		9.51%	(1/79)
Total Fund Reference Index*	5.88%		2.66%		7.81%		6.08%		-	

(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.

	12/2018- 3/2019		2018		2017		2016		2015	
Total Domestic Equity	14.22%		(5.80%)		20.91%		13.91%		(0.07%)	
Russell 3000 Index	14.04%		(5.24%)		21.13%		12.74%		0.48%	
BlackRock Russell 1000 Value	11.98%	34	(8.12%)	42	-		-		-	
Russell 1000 Value Index	11.93%	35	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70
Callan Large Cap Value	11.52%		(8.76%)		17.10%		15.27%		(2.53%)	
DFA Large Cap Value	11.22%	60	(12.40%)	83	-		-		-	
Russell 1000 Value Index	11.93%	35	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70
Callan Large Cap Value	11.52%		(8.76%)		17.10%		15.27%		(2.53%)	
Northern Trust Global	13.69%	42	(4.34%)	32	21.87%	47	12.01%	21	1.49%	46
S&P 500 Index	13.65%	43	(4.38%)	32	21.83%	48	11.96%	21	1.38%	51
Callan Large Cap Core	13.25%		(5.35%)		21.65%		10.42%		1.40%	
Polen Capital Management	17.13%	37	9.14%	4	27.67%	65	1.70%	72	15.51%	3
S&P 500 Index	13.65%	92	(4.38%)	91	21.83%	98	11.96%	2	1.38%	93
Callan Large Cap Growth	16.27%		0.51%		28.84%		3.39%		6.43%	
Earnest Partners LLC	20.07%	17	(9.80%)	45	26.16%	23	16.52%	29	1.25%	27
Russell MidCap Index	16.54%	41	(9.06%)	41	18.52%	55	13.80%	42	(2.44%)	67
Callan Mid Capitalization	15.81%		(10.55%)		19.58%		12.23%		(0.80%)	
DFA Small Cap Value	11.12%	90	(14.84%)	52	7.68%	66	29.36%	32	(6.06%)	76
Russell 2000 Value Index	11.93%	72	(12.86%)	23	7.84%	65	31.74%	14	(7.47%)	83
Callan Small Cap Value	12.46%		(14.79%)		9.19%		27.86%		(3.73%)	
CastleArk Management	18.51%	48	3.29%	15	23.93%	59	6.01%	68	(4.90%)	78
Russell 2000 Growth Index	17.14%	59	(9.31%)	85	22.17%	70	11.32%	36	(1.38%)	50
Callan Small Cap Growth	18.45%		(3.04%)		25.74%		8.62%		(1.29%)	
Total Global Equity	13.88%		(8.18%)		31.31%		8.65%		(2.08%)	
MSCI World	12.48%		(8.71%)		22.40%		7.51%		(0.87%)	
BlackRock Global Alpha Tilts	12.87%	48	(11.20%)	67	30.12%	22	-		-	
MSCI ACWI Gross	12.33%	54	(8.93%)	46	24.62%	57	8.48%	28	(1.84%)	70
Callan Global Equity	12.60%		(9.52%)		25.31%		6.20%		0.17%	
MFS Investment Management	15.31%	18	(3.75%)	11	33.16%	13	6.06%	52	(0.49%)	60
MSCI ACWI Gross	12.33%	54	(8.93%)	46	24.62%	57	8.48%	28	(1.84%)	70
Callan Global Equity	12.60%		(9.52%)		25.31%		6.20%		0.17%	
Total International Equity	9.44%		(15.19%)		25.03%		5.78%		(0.41%)	
MSCI EAFE	9.98%		(13.79%)		25.03%		1.00%		(0.81%)	
AQR Emerging Markets	9.96%	71	(18.31%)	86	35.53%	73	-		-	
MSCI EM Gross	9.97%	71	(14.24%)	28	37.75%	58	11.60%	49	(14.60%)	64
Callan Emerging Broad	10.98%		(15.34%)		39.31%		11.58%		(13.68%)	
Brandes Investment Partners	6.61%	99	(8.79%)	6	16.53%	99	8.50%	4	(1.25%)	66
MSCI EAFE	9.98%	70	(13.79%)	35	25.03%	75	1.00%	57	(0.81%)	62
Callan NonUS Eq	10.71%		(15.13%)		28.16%		1.50%		0.40%	
William Blair & Company	13.93%	9	(16.86%)	72	31.45%	22	(1.45%)	82	0.18%	53
MSCI ACWIxUS Gross	10.44%	56	(13.77%)	35	27.77%	56	5.01%	16	(5.25%)	92
Callan NonUS Eq	10.71%		(15.13%)		28.16%		1.50%		0.40%	
DFA International Small Cap	8.65%	84	(23.31%)	91	27.98%	92	8.00%	8	3.99%	86
Blended Benchmark	10.65%	55	(17.89%)	30	33.01%	74	2.18%	32	9.59%	56
Callan Intl Small Cap	10.90%		(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.

	12/2018- 3/2019		2018		2017		2016		2015	
Total Fixed Income	4.39%		(0.33%)		5.28%		7.40%		(2.49%)	
Bimbg Aggregate	2.94%		0.01%		3.54%		2.65%		0.55%	
BlackRock US Debt Idx Fd	2.99%	75	0.06%	57	3.68%	75	-		-	
Bimbg Aggregate	2.94%	84	0.01%	62	3.54%	87	2.65%	86	0.55%	71
Callan Core Bond FI	3.17%		0.11%		3.96%		3.14%		0.84%	
Reams Asset Management	3.13%	89	1.91%	1	3.62%	95	4.38%	63	0.38%	49
Bimbg Aggregate	2.94%	97	0.01%	29	3.54%	95	2.65%	100	0.55%	38
Callan Core Plus FI	3.73%		(0.25%)		4.97%		4.66%		0.34%	
Loomis, Sayles & Company, L.P.	5.71%	1	(2.11%)	98	8.50%	1	13.97%	1	(6.10%)	100
Bimbg Aggregate	2.94%	97	0.01%	29	3.54%	95	2.65%	100	0.55%	38
Callan Core Plus FI	3.73%		(0.25%)		4.97%		4.66%		0.34%	
Total Private Equity	(0.15%)		21.48%		17.27%		9.09%		12.34%	
Abbott Capital Management 2010	0.00%		26.90%		19.98%		11.03%		12.32%	
Abbott Capital Management 2011	0.00%		25.70%		19.24%		10.43%		10.12%	
Abbott Capital Management 2012	0.00%		24.39%		17.97%		9.42%		2.45%	
Abbott Capital Management 2013	0.00%		25.17%		18.71%		5.25%		2.23%	
Abbott Capital Management 2014	0.00%		22.58%		13.50%		2.86%		0.39%	
Abbott Capital Management 2015	0.00%		13.57%		6.87%		(5.11%)		-	
Abbott Capital Management 2016	(0.33%)		9.43%		(1.13%)		-		-	
Mesirow V	0.00%		18.01%		21.00%		12.03%		19.41%	
Mesirow VI	(0.41%)		24.87%		12.50%		3.32%		(3.99%)	
Mesirow VII	(0.97%)		(7.82%)		-		-		-	
NB Secondary Opp Fund III	0.00%		16.65%		20.63%		12.83%		33.37%	
Private Advisors VI	0.00%		15.19%		13.15%		(1.34%)		-	
Private Advisors VII	0.00%		19.02%		(3.33%)		-		-	
Private Advisors VIII	0.00%		-		-		-		-	
Russell 3000 (1 Qtr in Arrears) + 3%	(13.13%)		20.60%		21.71%		17.97%		2.56%	
Absolute Return	4.10%		1.61%		5.96%		5.16%		4.92%	
Allianz SA 1000	7.45%	1	(0.97%)	73	9.67%	10	11.15%	1	9.76%	1
T-Bills + 10%	2.97%	32	11.87%	1	10.86%	5	10.33%	1	10.05%	1
Callan Abs Rtn Hedge FoF	2.44%		0.51%		4.97%		3.35%		(0.75%)	
Newton	4.85%	1	2.18%	14	5.59%	39	3.31%	52	1.50%	29
1-month LIBOR + 4%	1.59%	90	6.07%	2	5.11%	47	4.49%	23	4.19%	8
Callan Abs Rtn Hedge FoF	2.44%		0.51%		4.97%		3.35%		(0.75%)	
UBS A & Q	2.06%	73	2.65%	12	4.16%	67	2.42%	71	4.09%	9
1-month LIBOR + 4%	1.59%	90	6.07%	2	5.11%	47	4.49%	23	4.19%	8
Callan Abs Rtn Hedge FoF	2.44%		0.51%		4.97%		3.35%		(0.75%)	
Real Assets	8.67%		(7.47%)		10.15%		7.00%		-	
Principal DRA	8.67%	20	(7.47%)	47	10.15%	15	7.00%	69	-	
Principal Blended Benchmark (1)	8.71%	20	(7.27%)	46	10.38%	14	6.77%	71	-	
Callan Alternative Inv DB	4.68%		(8.24%)		4.39%		10.52%		(19.77%)	
Total Real Estate	1.12%		9.18%		9.20%		11.38%		13.44%	
Real Estate	1.12%	89	9.18%	32	9.20%	38	11.38%	29	13.44%	55
Blended Benchmark (2)	1.39%	78	7.89%	43	6.93%	58	9.69%	43	13.82%	53
Callan Tot Real Est DB	2.04%		7.42%		7.73%		8.91%		14.35%	
Total Fund	7.47%		(2.74%)		16.68%		9.11%		0.74%	
Total Fund Reference Index*	5.88%		(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 March 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 March 31, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
Net of Fee Returns					
Total Domestic Equity	14.14%	7.78%	13.29%	9.84%	6.91% (7/98)
Russell 3000 Index	14.04%	8.77%	13.48%	10.36%	6.80% (7/98)
BlackRock Russell 1000 Value	11.97%	5.85%	-	-	6.57% (3/17)
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	5.53% (3/17)
DFA Large Cap Value	11.15%	(0.24%)	-	-	2.75% (11/17)
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	5.15% (11/17)
Northern Trust Global	13.69%	9.57%	13.53%	10.95%	9.59% (9/94)
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	9.64% (9/94)
Polen Capital Management	16.99%	23.09%	17.75%	16.93%	16.53% (7/12)
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	13.82% (7/12)
Earnest Partners LLC	19.92%	7.72%	15.78%	10.74%	10.00% (5/05)
Russell MidCap Index	16.54%	6.47%	11.82%	8.81%	9.64% (5/05)
DFA Small Cap Value	10.97%	(3.78%)	8.15%	4.63%	10.90% (11/96)
Russell 2000 Value Index	11.93%	0.17%	10.86%	5.59%	9.27% (11/96)
CastleArk Management	18.32%	17.13%	18.60%	8.86%	11.88% (9/13)
Russell 2000 Growth Index	17.14%	3.85%	14.87%	8.41%	10.44% (9/13)
Total Global Equity	13.78%	3.74%	12.71%	7.82%	8.16% (4/10)
MSCI World	12.48%	4.01%	10.68%	6.78%	8.64% (4/10)
BlackRock Global Alpha Tilts	12.86%	0.28%	11.90%	-	14.18% (3/16)
MFS Investment Management	15.19%	9.22%	14.23%	9.91%	11.74% (12/12)
MSCI ACWI Gross	12.33%	3.17%	11.27%	7.03%	9.68% (12/12)
Total International Equity	9.31%	(8.22%)	6.46%	2.42%	6.10% (5/96)
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	4.41% (5/96)
AQR Emerging Markets	9.76%	(13.15%)	-	-	7.59% (8/16)
MSCI EM Gross	9.97%	(7.05%)	11.09%	4.06%	10.16% (8/16)
Brandes Investment Partners	6.50%	(5.30%)	6.29%	1.94%	7.15% (2/98)
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	4.47% (2/98)
William Blair & Company	13.82%	(5.54%)	7.43%	3.51%	6.94% (12/03)
MSCI ACWI ex-US Index	10.44%	(3.73%)	8.61%	3.05%	6.76% (12/03)
DFA International Small Cap	8.65%	(14.75%)	5.11%	1.41%	3.87% (5/06)
Blended Benchmark	10.65%	(9.36%)	7.50%	4.47%	3.25% (5/06)
Total Fixed Income	4.36%	5.23%	3.91%	2.95%	6.56% (9/94)
Bimbg Aggregate	2.94%	4.48%	2.03%	2.74%	5.38% (9/94)
Allianz US Fixed Income 250	4.63%	5.73%	-	-	5.29% (2/18)
Bimbg Aggregate +2.5%	3.51%	6.98%	4.53%	5.25%	6.06% (2/18)
BlackRock US Debt Idx Fd	2.97%	4.52%	-	-	1.59% (6/16)
Reams Asset Management	3.10%	5.92%	2.77%	3.03%	5.29% (1/01)
Loomis, Sayles & Company, L.P.	5.67%	4.36%	6.95%	4.13%	8.15% (9/94)
Bimbg Aggregate	2.94%	4.48%	2.03%	2.74%	5.38% (9/94)
Total Private Equity	(0.15%)	21.46%	15.82%	15.09%	9.09% (6/10)
Abbott Capital Management 2010	0.00%	26.90%	19.13%	16.37%	(5.33%) (6/10)
Abbott Capital Management 2011	0.00%	25.70%	18.29%	14.75%	(2.50%) (6/11)
Abbott Capital Management 2012	0.00%	24.39%	17.10%	11.54%	6.63% (7/12)
Abbott Capital Management 2013	0.00%	25.17%	16.07%	9.36%	6.85% (5/13)
Abbott Capital Management 2014	0.00%	22.58%	12.69%	4.35%	4.35% (4/14)
Abbott Capital Management 2015	0.00%	13.57%	4.82%	-	6.39% (4/15)
Abbott Capital Management 2016	(0.33%)	9.73%	2.48%	-	2.42% (3/16)
Abbott Capital Management 2018	(0.65%)	-	-	-	(3.01%) (7/18)
Mesirow V	0.00%	18.19%	17.03%	18.25%	13.39% (6/10)
Mesirow IV	(0.41%)	24.36%	13.42%	7.24%	6.25% (7/13)
Mesirow VII	(0.97%)	(8.08%)	-	-	-
NB Secondary Opp Fund III	0.00%	17.38%	16.66%	25.58%	11.93% (12/13)
NB Secondary Opp Fund IV	(2.88%)	63.42%	-	-	24.51% (4/17)
Private Advisors VI	0.00%	15.97%	8.75%	-	1.72% (4/15)
Private Advisors VII	0.00%	21.30%	-	-	6.43% (1/17)
Private Advisors VIII	0.00%	-	-	-	13.71% (8/18)
Russell 3000 (1 Qtr in Arrears) + 3%	(13.13%)	(2.05%)	12.06%	10.98%	(2.54%) (8/18)
Absolute Return	4.10%	5.88%	5.40%	-	5.21% (6/14)
Allianz SA 1000	7.45%	10.90%	8.20%	-	8.86% (6/14)
T-Bills + 10%	2.97%	12.12%	11.19%	10.75%	10.77% (6/14)
Newton	4.85%	8.35%	4.09%	-	4.00% (8/14)
UBS A & Q	2.06%	2.28%	4.39%	-	3.55% (12/14)
1-month LIBOR + 4%	1.59%	6.30%	5.40%	4.92%	5.04% (12/14)
Real Assets	8.67%	1.77%	5.27%	-	5.36% (1/16)
Principal DRA	8.67%	1.77%	5.27%	-	5.36% (1/16)
Principal Blended Benchmark (1)	8.71%	3.12%	5.20%	-	5.45% (1/16)
Total Real Estate	1.12%	7.56%	8.75%	10.59%	5.56% (7/86)
Real Estate	1.12%	7.56%	8.75%	10.59%	5.56% (7/86)
Blended Benchmark (2)	1.39%	7.30%	7.53%	9.65%	-
Total Fund	7.40%	4.22%	8.98%	6.44%	9.13% (1/79)
Total Fund Reference Index*	5.88%	2.66%	7.81%	6.08%	-

Investment Manager Returns

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

	12/2018- 3/2019	2018	2017	2016	2015
Net of Fee Returns					
Total Domestic Equity	14.14%	(6.10%)	20.53%	13.55%	(0.39%)
Russell 3000 Index	14.04%	(5.24%)	21.13%	12.74%	0.48%
BlackRock Russell 1000 Value	11.97%	(8.13%)	-	-	-
Russell 1000 Value Index	11.93%	(8.27%)	13.66%	17.34%	(3.83%)
DFA Large Cap Value	11.15%	(12.60%)	-	-	-
Russell 1000 Value Index	11.93%	(8.27%)	13.66%	17.34%	(3.83%)
Northern Trust Global	13.69%	(4.37%)	21.83%	11.98%	1.46%
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
Polen Capital Management	16.99%	8.60%	27.05%	1.19%	14.94%
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
Earnest Partners LLC	19.92%	(10.29%)	25.50%	15.90%	0.71%
Russell MidCap Index	16.54%	(9.06%)	18.52%	13.80%	(2.44%)
DFA Small Cap Value	10.97%	(15.30%)	7.10%	28.68%	(6.57%)
Russell 2000 Value Index	11.93%	(12.86%)	7.84%	31.74%	(7.47%)
CastleArk Management	18.32%	2.60%	23.12%	5.30%	(5.54%)
Russell 2000 Growth Index	17.14%	(9.31%)	22.17%	11.32%	(1.38%)
Total Global Equity	13.78%	(8.51%)	30.85%	8.26%	(2.44%)
MSCI World	12.48%	(8.71%)	22.40%	7.51%	(0.87%)
BlackRock Global Alpha Tilts	12.86%	(11.24%)	30.06%	-	-
MSCI ACWI Gross	12.33%	(8.93%)	24.62%	8.48%	(1.84%)
MFS Investment Management	15.19%	(4.16%)	32.62%	5.62%	(0.89%)
MSCI ACWI Gross	12.33%	(8.93%)	24.62%	8.48%	(1.84%)
Total International Equity	9.31%	(15.60%)	24.44%	5.27%	(0.89%)
MSCI EAFE Index	9.98%	(13.79%)	25.03%	1.00%	(0.81%)
AQR Emerging Markets	9.76%	(18.93%)	34.55%	-	-
MSCI EM Gross	9.97%	(14.24%)	37.75%	11.60%	(14.60%)
Brandes Investment Partners	6.50%	(9.17%)	16.06%	8.05%	(1.66%)
MSCI EAFE Index	9.98%	(13.79%)	25.03%	1.00%	(0.81%)
William Blair & Company	13.82%	(17.20%)	30.94%	(1.84%)	(0.22%)
MSCI ACWI ex-US Index	10.44%	(13.77%)	27.77%	5.01%	(5.25%)
DFA International Small Cap	8.65%	(23.31%)	27.98%	8.00%	3.99%
Blended Benchmark	10.65%	(17.89%)	33.01%	2.18%	9.59%
Total Fixed Income	4.36%	(0.47%)	5.10%	7.21%	(2.63%)
Blmbg Aggregate	2.94%	0.01%	3.54%	2.65%	0.55%
Allianz US Fixed Income 250	4.69%	-	-	-	-
Blmbg Aggregate +2.5%	3.51%	2.51%	6.04%	5.16%	3.05%
BlackRock US Debt Idx Fd	2.97%	(0.00%)	3.63%	-	-
Reams Asset Management	3.10%	1.76%	3.46%	4.22%	0.23%
Loomis, Sayles & Company, L.P.	5.67%	(2.24%)	8.36%	13.82%	(6.20%)
Blmbg Aggregate	2.94%	0.01%	3.54%	2.65%	0.55%
Total Private Equity	(0.15%)	21.48%	17.27%	9.09%	12.34%
Abbott Capital Management 2010	0.00%	26.90%	19.98%	11.03%	12.32%
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Abbott Capital Management 2012	0.00%	24.39%	17.97%	9.42%	2.45%
Abbott Capital Management 2013	0.00%	25.17%	18.71%	5.25%	2.23%
Abbott Capital Management 2014	0.00%	22.58%	13.50%	2.86%	0.39%
Abbott Capital Management 2015	0.00%	13.57%	6.87%	(5.11%)	-
Abbott Capital Management 2016	(0.33%)	9.43%	(1.13%)	-	-
Mesirow V	0.00%	18.01%	21.00%	12.03%	19.41%
Mesirow VI	(0.41%)	24.87%	12.50%	3.32%	(3.99%)
Mesirow VII	(0.97%)	(7.82%)	-	-	-
NB Secondary Opp Fund III	0.00%	16.65%	20.63%	12.83%	33.37%
Private Advisors VI	0.00%	15.19%	13.15%	(1.34%)	-
Private Advisors VII	0.00%	19.02%	(3.33%)	-	-
Russell 3000 (1 Qtr in Arrears) + 3%	(13.13%)	20.60%	21.71%	17.97%	2.56%
Absolute Return	4.10%	1.61%	5.96%	5.16%	4.92%
Allianz SA 1000	7.45%	(0.97%)	9.67%	11.15%	9.76%
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1-month LIBOR + 4%	1.59%	6.07%	5.11%	4.49%	4.19%
Real Assets	8.67%	(7.47%)	10.15%	7.00%	-
Principal DRA	8.67%	(7.47%)	10.15%	7.00%	-
Principal Blended Benchmark (1)	8.71%	(7.27%)	10.38%	6.77%	-
Total Real Estate	1.12%	8.94%	8.89%	11.09%	13.15%
Real Estate	1.12%	8.94%	8.89%	11.09%	13.15%
Blended Benchmark (2)	1.39%	7.89%	6.93%	9.69%	13.82%
Total Fund	7.40%	(3.01%)	16.36%	8.80%	0.46%
Total Fund Reference Index*	5.88%	(3.29%)	15.80%	7.43%	1.27%

* 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.

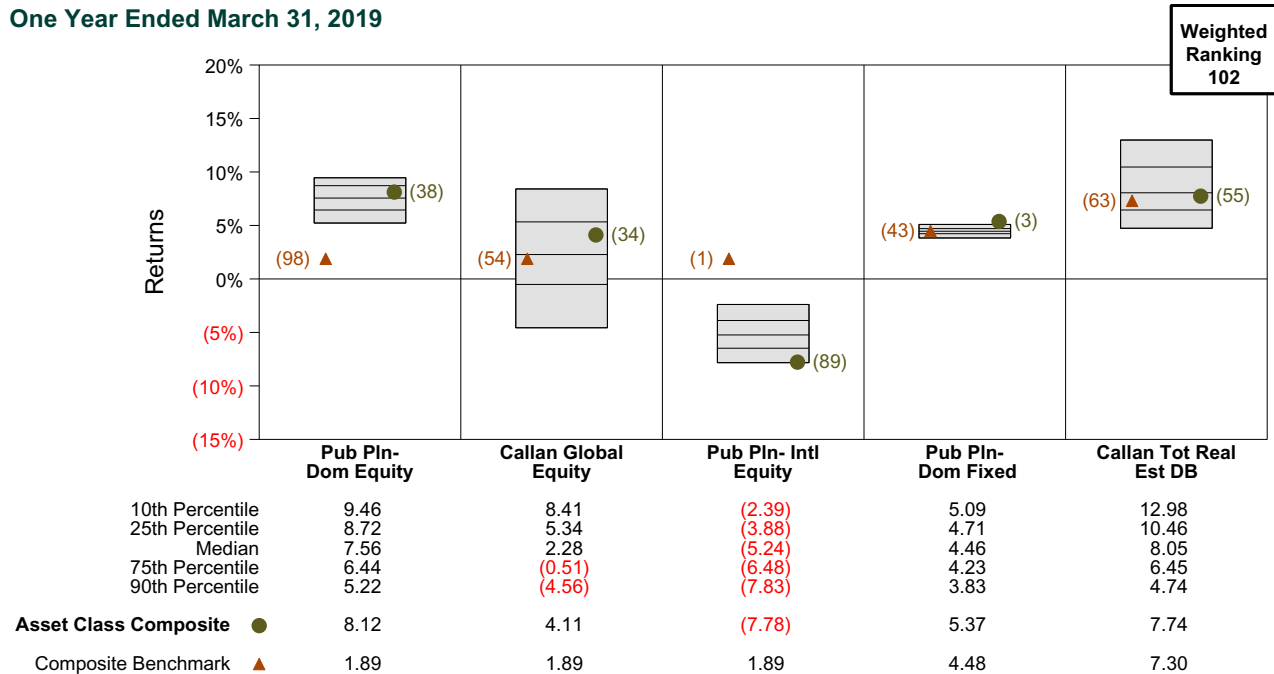
(1) Current Principal Blended Benchmark = 35% Barclays US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Infrastructure Idx, 20% S&P Global Natural Resources Idx and 10% FTSE EPRA/NAREIT Developed Market Idx.

(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.

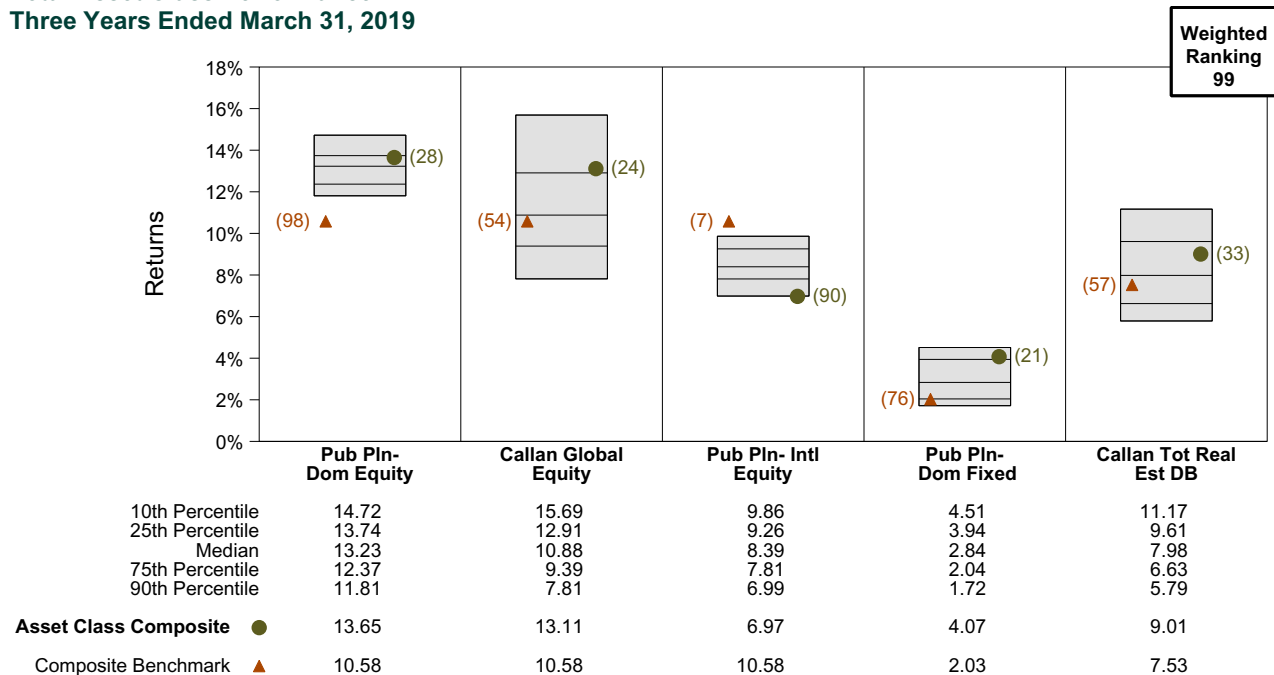
Asset Class Rankings

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 March 31, 2019



Total Asset Class Performance Three Years Ended March 31, 2019

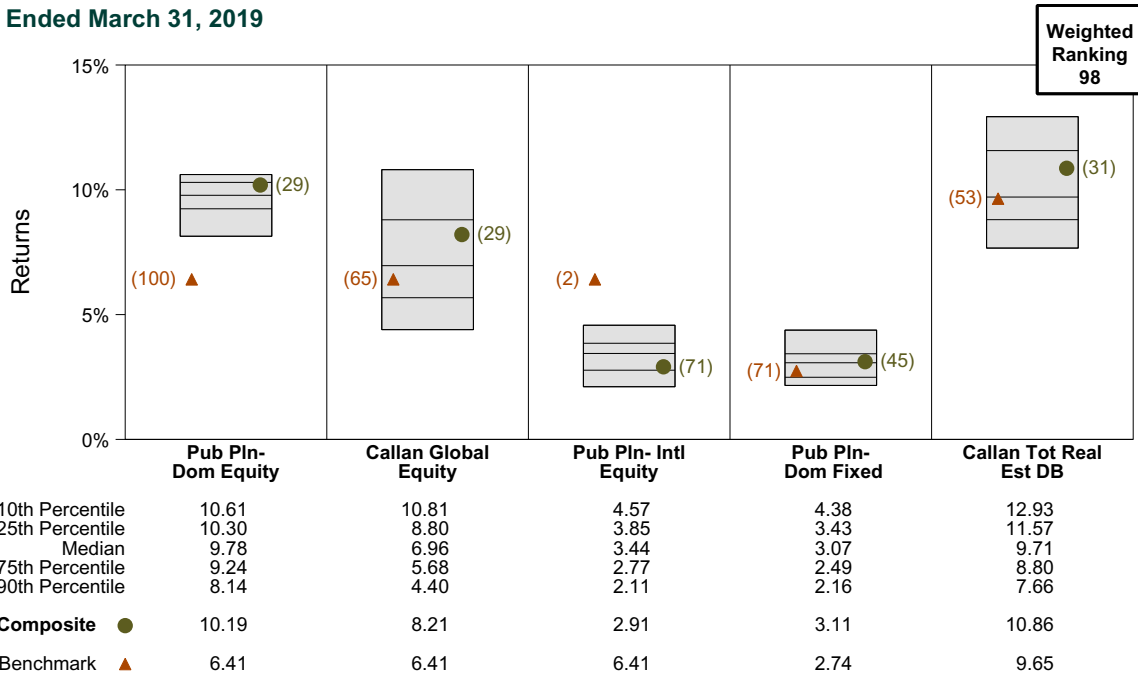


* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

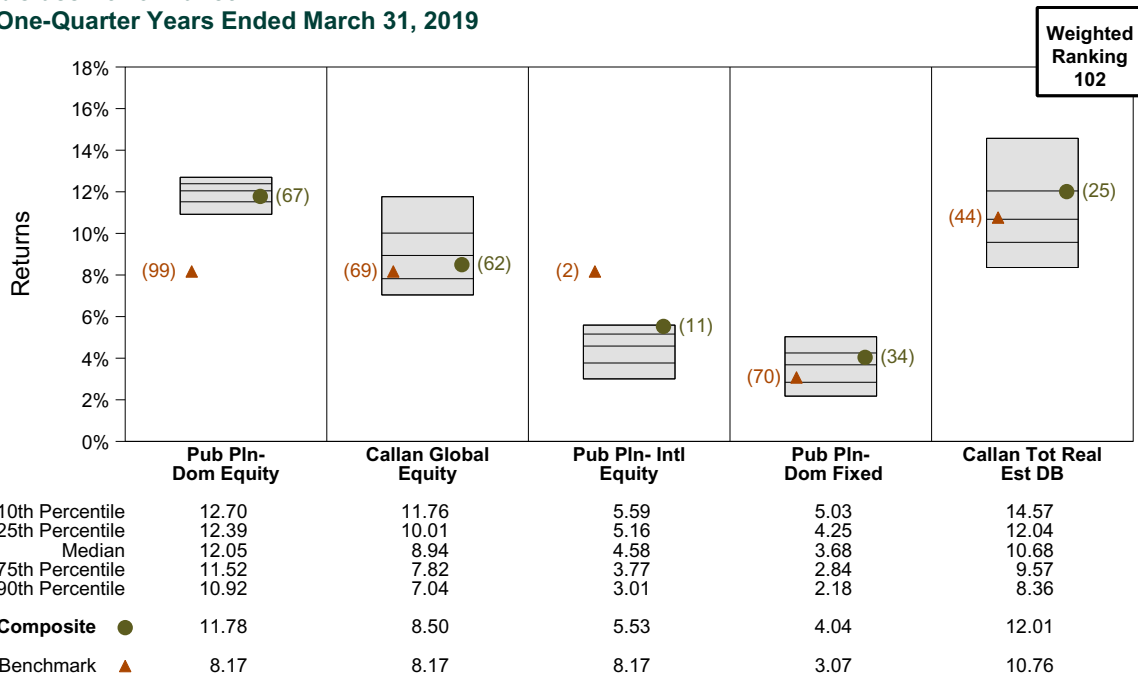
Asset Class Rankings

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 March 31, 2019



Total Asset Class Performance Eight and One-Quarter Years Ended March 31, 2019



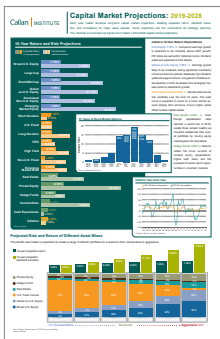
* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

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

[Callan’s 2019-2028 Capital Market Projections](#) | Callan develops long-term capital market projections at the start of each year, detailing our expectations for return, volatility, and correlation for broad



asset classes. For 2019-2028, we made gradual, evolutionary changes to our expectations from our projections last year. We increased our fixed income assumptions to reflect higher starting yields compared to one year ago, including a higher return for cash, but we held constant our equity return premium over cash. As a result, we have narrowed the equity risk premium over bonds.

[Two Questions to Help DC Plans Save on Litigation Costs](#) |

Executives can monitor whether in-house fiduciaries for their defined contribution plans are on track or need assistance by asking these questions: 1) Are plan administration costs too high? 2) Are participants getting the best “bang for their buck” from investment fees?

[The Good, the Bad, and the Ugly: Which Will Your DC Plan Be in 2019?](#) |

In this paper, we outline best practices for defined contribution (DC) plan sponsors that aspire to be the Good gunslinger, and flag traps that could ensnare them in Bad or even Ugly territory.

[2019 DC Trends Survey](#) | Callan’s 12th Annual DC Trends Survey highlights plan sponsors’ key themes from 2018 and expectations for 2019.



[2019 National Workshop Summary: DC Plans](#) | This workshop by Callan’s Ben Taylor, Jana Steele, and Gordon Weightman, “The New Face of DC Plans,” provided what plan sponsors and investment managers need to know to stay current on new developments and how they might benefit plans.

[2019 National Workshop Summary: Private Equity](#) | In their workshop, “Private Equity: Primary Investment Opportunities and Considerations,” Callan’s Pete Keliuotis, Jay Nayak, and Weston Lewis demonstrated how a thoughtful approach to program design, strategy allocation, and capital commitment pacing can lead to long-term success in private equity investing.

[2019 National Workshop Summary: Strategic Allocations](#) | In this workshop, Callan’s Ann O’Bradovich, Ho Hwang, and Gary Chang discussed the trend over the past several decades in which U.S. institutional investors have shifted their public equity portfolios to increase allocations to non-U.S. stocks.

[The Callan Periodic Table Collection: Year-End 2018](#) | The Periodic Table Collection offers versions focused on equity, fixed income, fund sponsors, and alternatives. Other tables compare the performance of key indices to zero and to inflation.

Quarterly Periodicals

[Private Equity Trends](#) | A newsletter on private equity activity, covering both the fundraising cycle and performance over time.

[Market Pulse Flipbook](#) | A 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/

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

Invitations have been sent for June and registration is available on our website at www.callan.com/events-reg-workshop-june/

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

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, 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.

“Callan College” on Alternative Investing

Chicago, October 2019—Date TBD

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

Education: By the Numbers

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

50+ Unique pieces of research the Institute generates each year

3,700 Total attendees of the “Callan College” since 1994

1980 Year the Callan Institute was founded



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

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

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

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending 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
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
AlphaSimplex Group, LLC
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
Cambiar Investors, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management

Manager Name
Chartwell Investment Partners
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Cooke & Bieler, L.P.
Credit Suisse Asset Management
CS McKee, L.P.
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
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs Asset Management
Green Square Capital LLC
Guggenheim Investments
GW&K Investment Management

Manager Name
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
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
LGT Capital Partners Ltd.
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife 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
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
Nuveen
OFI Global Asset Management
Osterweis Capital Management, LLC
P/E Investments

Manager Name
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, Inc.
Perkins Investment Management
PFM Asset Management LLC
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Record Currency Management Ltd.
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rockefeller Capital Management
Rothschild & Co. Asset Management US
Russell Investments
Schroder Investment Management North America Inc.
Silvercrest Asset Management Group
Smith Graham & Co. Investment Advisors, L.P.
Smith Group Asset Management
South Texas Money Management, Ltd.
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The Boston Company Asset Management
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
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