


September 30, 2019



City of Milwaukee Employees' Retirement System

Investment Measurement Service Quarterly Review

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U.S. EQUITY

U.S. equity markets posted mixed results amid a market that saw 30-year Treasury yields hit historic lows and the most meaningful, albeit short-lived, factor rotation among equities since the Global Financial Crisis (GFC). Large cap (+1.4%) and mid cap stocks (+0.5%) posted modest gains for the quarter while small caps declined (Russell 2000: -2.4%). Ongoing U.S.-China trade tension, earnings and interest rate uncertainty, and the global political landscape continued to drive investor uncertainty.

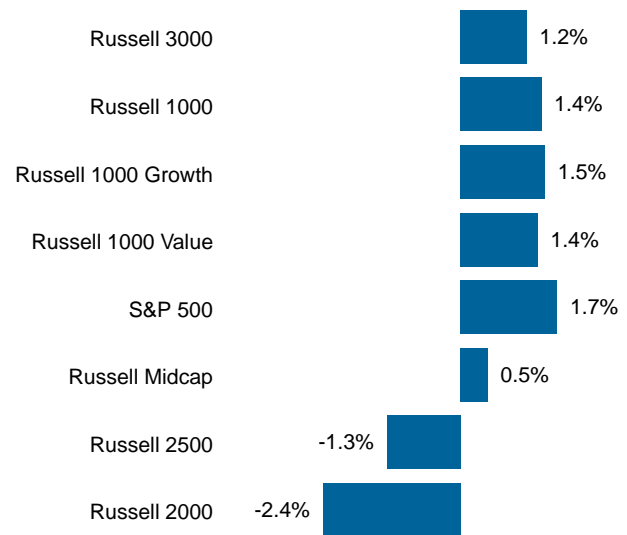
Large Cap U.S. Equity (S&P 500: +1.7%; Russell 1000: +1.4%)

- Top sectors were in defensive areas including Utilities (+9.3%), Real Estate (+7.7%), and Consumer Staples (+6.1%) in response to investors' continued flight to quality.
- Energy, hurt by falling oil prices, fell 6.3%; Health Care lagged (-2.2%) amid discussions around price transparency and pricing reform by U.S. presidential candidates.
- Cyclical sector exposure has been volatile given uncertainty around the trade deal (and continued sideways movement of markets) along with slowed global growth.
- Up to September, momentum stocks (which have shifted to include many of the market's least volatile stocks) outperformed as investors shunned the cheapest quintile of value (and more volatile) stocks. This trend sharply reversed in early September as the 10-year Treasury yield rose from 1.46% to 1.73% and momentum stocks fell precipitously while value stocks traded up over the course of two days. The magnitude of the reversal gave a boost to value stocks across market capitalizations for the quarter.

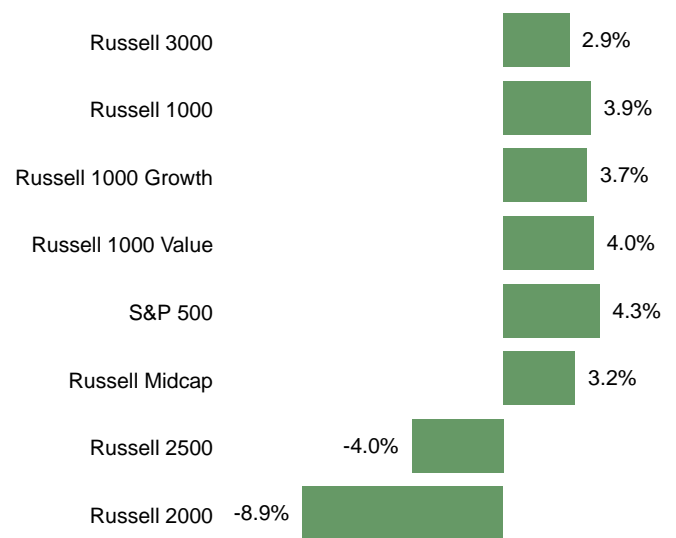
Growth vs. Value (Russell 1000 Value: +1.4%, Russell 1000 Growth: +1.5%; Russell 2000 Value: -0.6%, Russell 2000 Growth: -4.2%)

- While value continues to trail growth year-to-date, it gained ground during September's factor reversal, finishing the quarter essentially in line with growth within large caps.
- Within small cap, value benefited as investors favored the cheapest 20% of small caps while the most expensive quintile within the Russell 2000 declined double digits.

U.S. Equity: Quarterly Returns

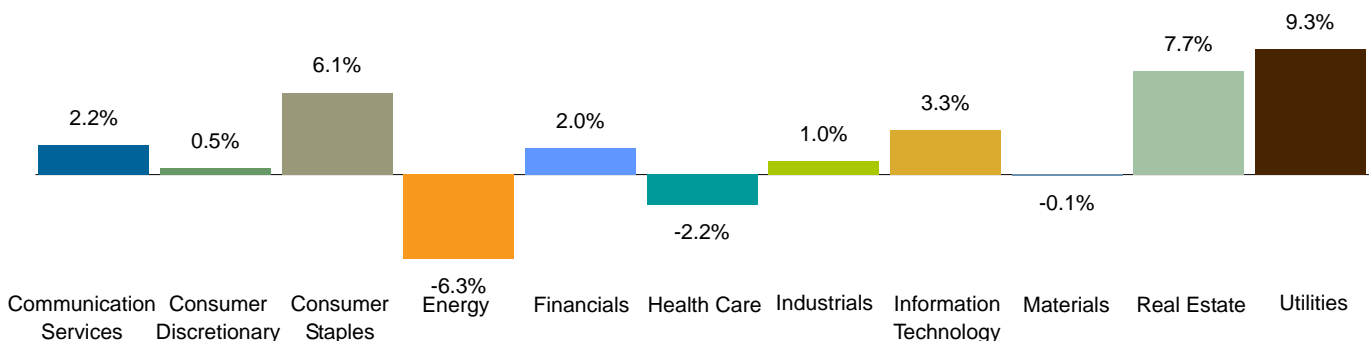


U.S. Equity: One-Year Returns



Sources: FTSE Russell, Standard & Poor's

S&P Sector Returns, Quarter Ended September 30, 2019



Source: Standard & Poor's

NON-U.S./GLOBAL EQUITY

Global equity markets turned negative in the third quarter. After more modest positive results in the second quarter, fears over continued trade war impacts, a no-deal Brexit, and a potential global slowdown impacted investor behavior. Given this backdrop, more defensive areas of the market outperformed.

Global/Non-U.S. Developed (MSCI EAFE: -1.1%; MSCI World ex USA: -0.9%; MSCI ACWI ex USA: -1.8%; MSCI Hong Kong: -11.9%; MSCI Japan: +3.1%)

- Boris Johnson's attempted suspension of Parliament and no-deal Brexit proclamations weighed on U.K. stocks (-2.5%).
- Germany (-4.0%) experienced recession fears; industrial production dropped 1.5% in June from the prior month, while the estimate was -0.5%.
- Hong Kong protests proved to be a headwind as the market fell -11.9% over the three-month period.
- Japan was one of the few bright spots within developed markets as low short-term interest rates remain unchanged and a resolution to the Japan/South Korea trade war looked more promising.
- Cyclical sectors trailed as investors were positioned defensively; Energy (-6.5%) had the worst performance.
- For the quarter, factor performance reflected cautious investor behavior as quality and low volatility did well. However, the month of September saw a brief recovery in value across all markets as trade talks improved and central banks eased.

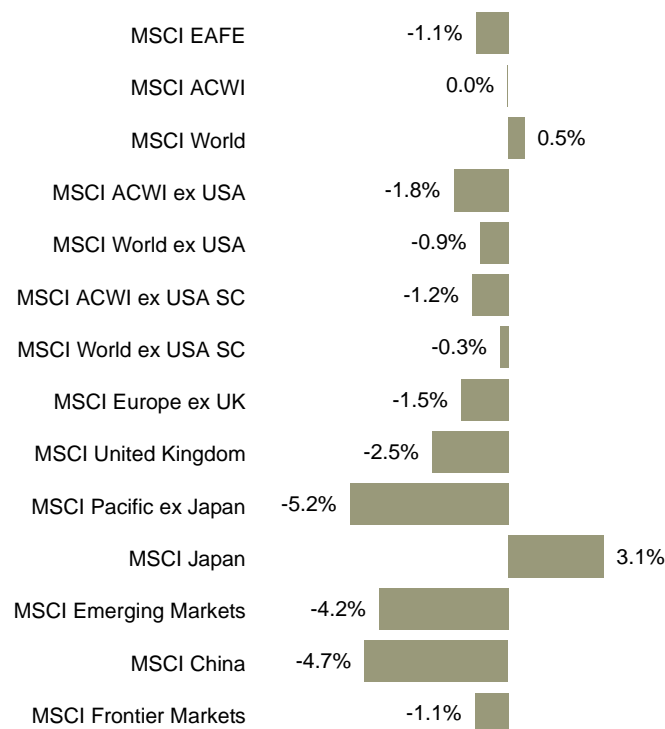
Emerging Markets (MSCI Emerging Markets Index: -4.2%)

- Emerging markets fared worst among global markets; uncertainty weighed heavily on these volatile countries.
- Though most emerging market countries fell during the quarter, Turkey (+11.7%) had strong results as its central bank cut rates two times in less than two months.
- Factor performance in emerging markets favored quality and price momentum as investors moved toward safe assets.

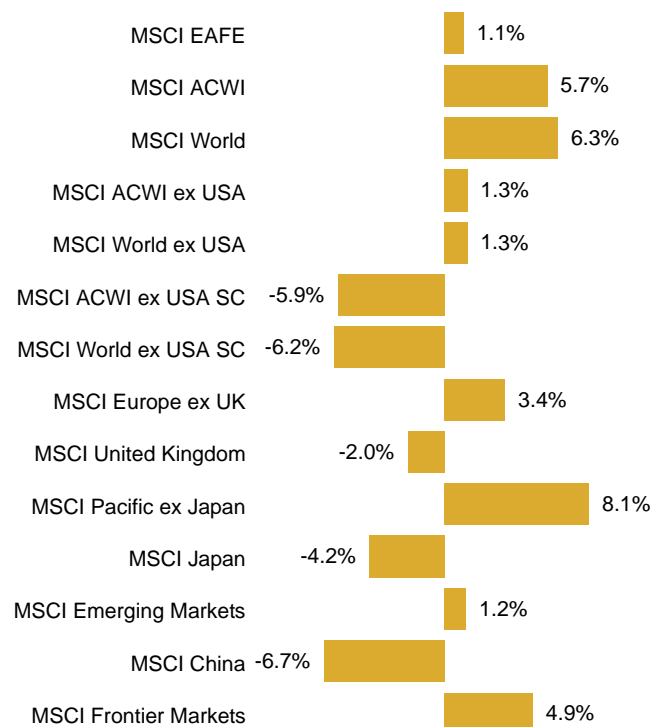
Non-U.S. Small Cap (MSCI World ex USA Small Cap: -0.3%; MSCI EM Small Cap: -4.6%; MSCI ACWI ex USA Small Cap: -1.2%)

- Small cap marginally outperformed large cap, both in developed and all country ex-U.S. markets; despite overall defensive posturing, idiosyncratic businesses pushed past global market issues.
- Japan (+4.0%) helped drive developed returns as small cap companies also benefited from low rates and resolved trade tensions; Hong Kong (-7.6%) detracted as local businesses were hurt by the protests.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI

FIXED INCOME

The Federal Open Market Committee (FOMC) cut short-term interest rates by 25 basis points twice in the third quarter amid an economic backdrop that has been supported by strong consumer spending and a solid labor market, but challenged by weakening manufacturing data and business investment. The Fed chair stated that the FOMC would act as “appropriate to sustain the expansion,” and the European Central Bank and other central banks around the world also moved in the direction of easing monetary policy. Yields fell in the U.S. and abroad given global growth headwinds fueled by mounting trade tensions as well as geopolitical uncertainty.

U.S. Fixed Income (Bloomberg Barclays US Aggregate Bond Index: +2.3%)

- Treasuries returned 2.4% as rates fell across the yield curve.
- While the widely monitored 2- and 10-year key rates remained positive, the spread between the 3-month and 10-year key rates remained inverted.
- Long Treasuries soared (+7.9%) as 30-year yields fell roughly 40 bps.
- Nominal Treasuries outperformed TIPS as inflation expectations continued to fall; 10-year breakeven spreads were 1.53% as of quarter-end, down from 1.69% as of June 30. The 10-year real yield dipped briefly into negative territory in early September.

Investment Grade Corporates (Bloomberg Barclays Corporate: +3.1%)

- Investment grade corporate credit spreads were range-bound, but their yield advantage was enough to generate positive excess returns versus like-duration Treasuries.
- Issuance in the corporate bond market was \$320 billion in the quarter, \$50 billion higher than a year ago; demand remained solid. BBB-rated corporates (+3.1%) modestly outperformed A-rated or higher corporates (+3.0%).

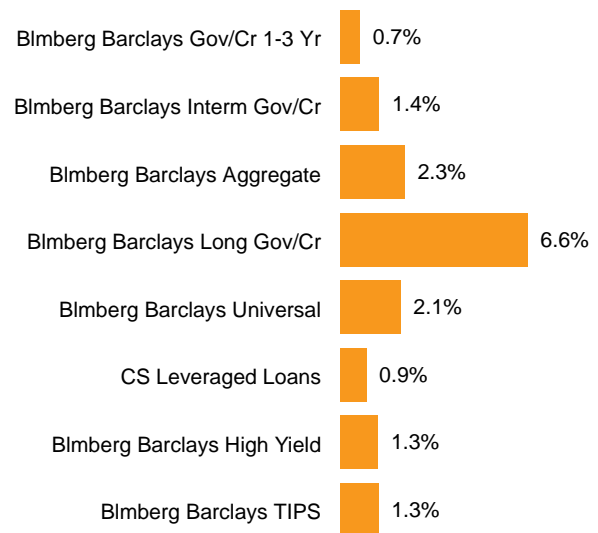
High Yield (Bloomberg Barclays Corporate High Yield: +1.3%)

- BB-rated corporates (+2.0%) outperformed CCC-rated corporates (-1.8%). BB- and B-rated spreads narrowed slightly, but the rally in rates helped drive outperformance as a result of higher quality bonds’ greater sensitivity to interest rate movements.
- CCC-rated bond spreads widened significantly, representing some concern about deteriorating quality at the lower-end of the spectrum.

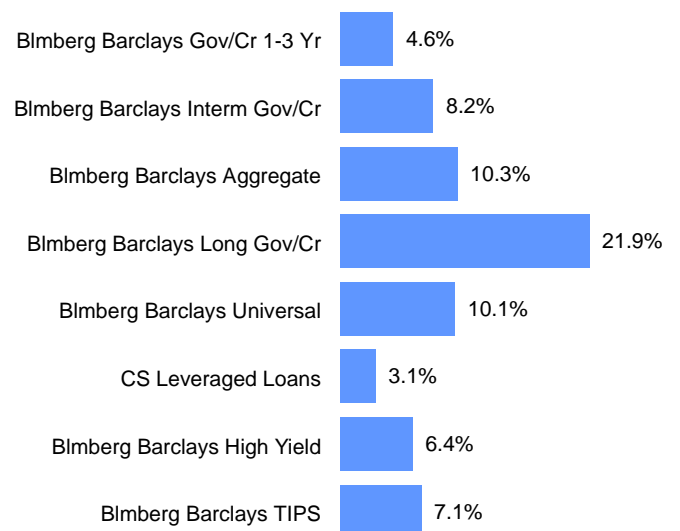
Leveraged Loans (CS Leveraged Loans: +0.9%)

- Bank loans, which have floating rate coupons, underperformed high yield bonds as rates rallied and investors worried about deteriorating credit quality.
- CLO issuance continued to exceed expectations, providing positive technical support to the leveraged loan market.

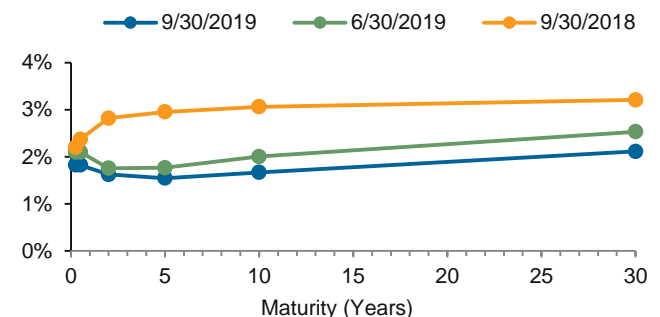
U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: One-Year Returns



U.S. Treasury Yield Curves



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse

NON-U.S. FIXED INCOME

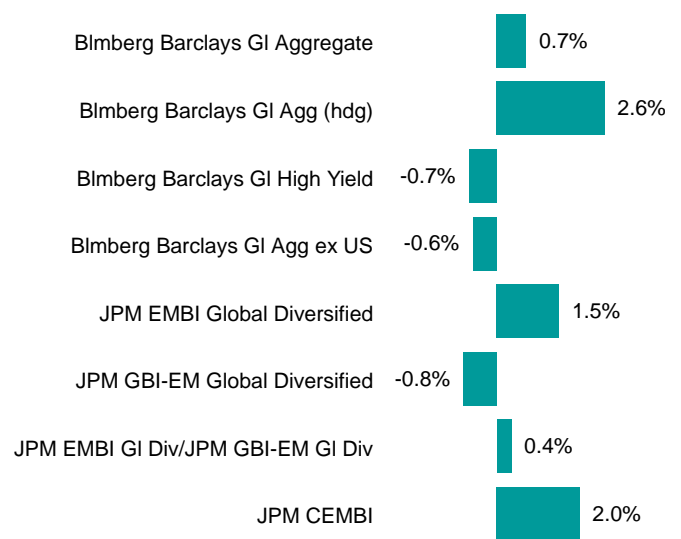
Global Fixed Income (Bloomberg Barclays Global Aggregate (unhedged): +0.7%; (hedged): +2.6%)

- Developed market sovereign bond yields rallied, pushing European sovereigns further into negative territory as the ECB reduced its deposit rate and announced a new bond purchasing stimulus program.
- Negative yielding debt totals nearly \$17 trillion, a record high.
- The U.S. dollar was up 3.4% versus a basket of trade partner currencies and up 4.3% vs the beleaguered euro.

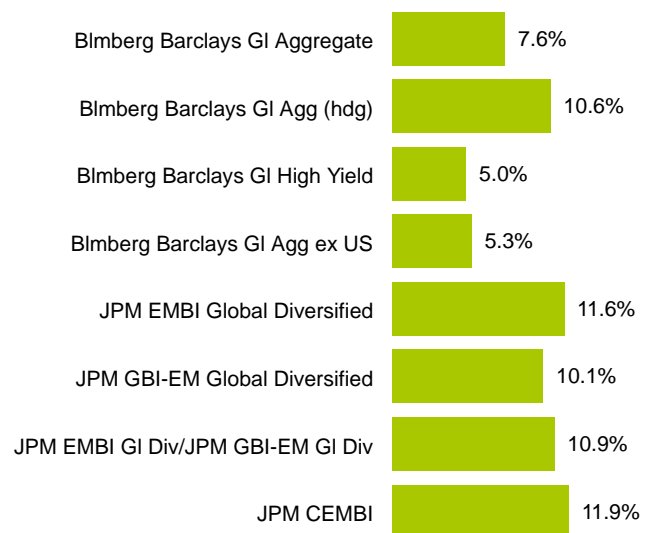
US\$ EMD (JPM EMBI Global Diversified: +1.5%), **Local Currency EMD** (JPM GBI-EM Global Diversified: -0.8%)

- Broadly, emerging market currencies depreciated versus the U.S. dollar, hampering local currency returns.
- Within the dollar-denominated benchmark, Argentina (-42%) and Venezuela (-51%) were among the few to post negative returns. Conversely, returns in the local debt benchmark were more mixed with Turkey (+19%) and Argentina (-60%) being outliers.

Global Fixed Income: Quarterly Returns

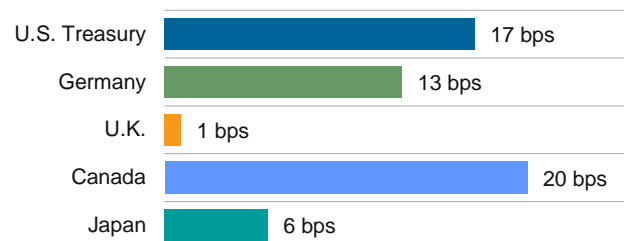


Global Fixed Income: One-Year Returns



Change in 10-Year Global Government Bond Yields

2Q19 to 3Q19



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 September 30, 2019, with the distribution as of June 30, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

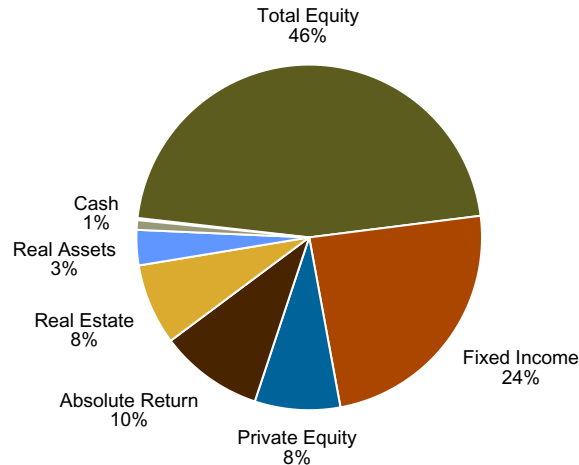
Asset Distribution Across Investment Managers

	September 30, 2019			Inv. Return	June 30, 2019	
	Market Value	Weight	Net New Inv.		Market Value	Weight
Total Domestic Equity	\$1,102,225,407	20.66%	\$(35,000,000)	\$4,149,475	\$1,133,075,932	21.11%
BlackRock Russell 1000 Value	152,326,305	2.85%	(16,000,000)	2,391,316	165,934,990	3.09%
DFA Large Cap Value	143,347,877	2.69%	(5,000,000)	1,270,348	147,077,529	2.74%
Northern Trust Global	296,951,097	5.56%	0	4,971,103	291,979,994	5.44%
Polen Capital Management	138,812,195	2.60%	(8,000,000)	1,588,321	145,223,874	2.71%
Earnest Partners LLC	118,495,359	2.22%	(6,000,000)	1,543,457	122,951,901	2.29%
DFA Small Cap Value	165,198,382	3.10%	0	(1,837,094)	167,035,477	3.11%
CastleArk Management	87,094,192	1.63%	0	(5,777,975)	92,872,168	1.73%
Total Global Equity	\$486,034,254	9.11%	\$(12,000,000)	\$3,262,293	\$494,771,960	9.22%
BlackRock Global Alpha Tilts	290,641,417	5.45%	0	(1,879,381)	292,520,798	5.45%
MFS Investment Management	195,392,837	3.66%	(12,000,000)	5,141,674	202,251,162	3.77%
Total International Equity	\$878,748,769	16.47%	\$(4,148,630)	\$(8,518,862)	\$891,416,261	16.60%
AQR Emerging Markets	92,617,296	1.74%	0	(4,275,929)	96,893,225	1.80%
Brandes Investment Partners	361,342,155	6.77%	0	(229,637)	361,571,792	6.74%
William Blair & Company	265,708,726	4.98%	(4,148,630)	(3,127,689)	272,985,045	5.09%
DFA International Small Cap	159,080,592	2.98%	0	(885,607)	159,966,199	2.98%
Total Fixed Income	\$1,287,737,516	24.13%	\$(38,486,839)	\$31,721,288	\$1,294,503,067	24.11%
Allianz US Fixed Income 250	507,190,661	9.50%	(15,486,839)	14,225,003	508,452,497	9.47%
BlackRock US Debt Idx Fd	205,941,027	3.86%	(8,000,000)	4,811,329	209,129,698	3.90%
Reams Asset Management	232,404,879	4.36%	(8,000,000)	5,585,639	234,819,240	4.37%
Loomis, Sayles & Company, L.P.	342,200,949	6.41%	(7,000,000)	7,099,317	342,101,632	6.37%
Total Private Equity	\$427,620,445	8.01%	\$(11,908,505)	\$25,661,009	\$413,867,941	7.71%
Abbott Capital Management 2010	26,912,496	0.50%	(2,450,000)	2,321,108	27,041,388	0.50%
Abbott Capital Management 2011	49,101,835	0.92%	(3,575,000)	4,343,188	48,333,647	0.90%
Abbott Capital Management 2012	37,958,051	0.71%	(2,800,000)	2,802,629	37,955,422	0.71%
Abbott Capital Management 2013	35,718,395	0.67%	(1,575,000)	2,546,438	34,746,957	0.65%
Abbott Capital Management 2014	35,609,518	0.67%	(1,225,000)	2,392,428	34,442,090	0.64%
Abbott Capital Management 2015	18,379,888	0.34%	537,500	645,195	17,197,193	0.32%
Abbott Capital Management 2016	10,180,784	0.19%	600,000	218,486	9,362,298	0.17%
Abbott Capital Management 2018	3,840,200	0.07%	437,500	20,219	3,382,481	0.06%
Mesirow V	62,134,187	1.16%	(1,875,000)	3,613,877	60,395,310	1.13%
Mesirow VI	59,266,273	1.11%	(1,800,000)	4,240,248	56,826,025	1.06%
Mesirow VII	28,201,966	0.53%	4,000,000	176,402	24,025,564	0.45%
NB Secondary Opp Fund III	16,302,403	0.31%	(358,552)	276,077	16,384,878	0.31%
NB Secondary Opp Fund IV	9,499,193	0.18%	605,455	284,566	8,609,172	0.16%
Private Advisors VI	21,183,852	0.40%	(1,494,118)	1,213,142	21,464,828	0.40%
Private Advisors VII	8,270,121	0.15%	(468,245)	518,195	8,220,171	0.15%
Private Advisors VIII	5,061,283	0.09%	(468,046)	48,812	5,480,517	0.10%
Absolute Return	\$520,150,043	9.75%	\$(659,439)	\$6,632,130	\$514,177,352	9.58%
Allianz SA 1000	134,927,391	2.53%	(659,439)	4,237,154	131,349,676	2.45%
Newton	132,558,543	2.48%	0	1,581,215	130,977,328	2.44%
UBS A & Q	252,664,108	4.73%	0	813,761	251,850,348	4.69%
Real Assets	\$177,674,065	3.33%	\$0	\$(483,248)	\$178,157,313	3.32%
Principal DRA	177,674,065	3.33%	0	(483,248)	178,157,313	3.32%
Total Real Estate	\$406,302,500	7.61%	\$(10,252,268)	\$4,977,291	\$411,577,477	7.67%
Real Estate	406,302,500	7.61%	(10,252,268)	4,977,291	411,577,477	7.67%
Total Cash	\$49,819,134	0.93%	\$12,598,470	\$379,427	\$36,841,236	0.69%
Cash	49,819,134	0.93%	12,598,470	379,427	36,841,236	0.69%
Total Fund	\$5,336,312,133	100.0%	\$(99,857,211)	\$67,780,805	\$5,368,388,539	100.0%

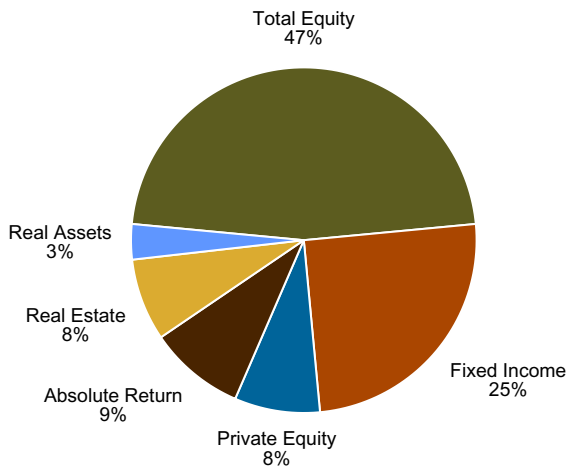
Actual vs Target Asset Allocation As of September 30, 2019

The first chart below shows the Fund's asset allocation as of September 30, 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).

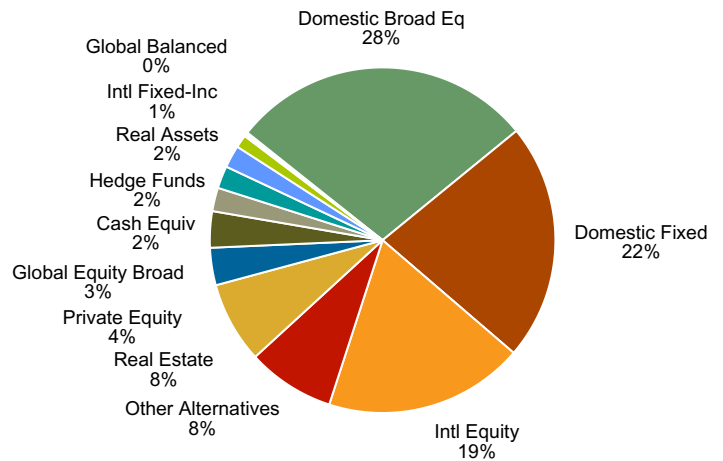
Actual Asset Allocation



Target Asset Allocation



Callan Public Fund Spons - Large (>1B)



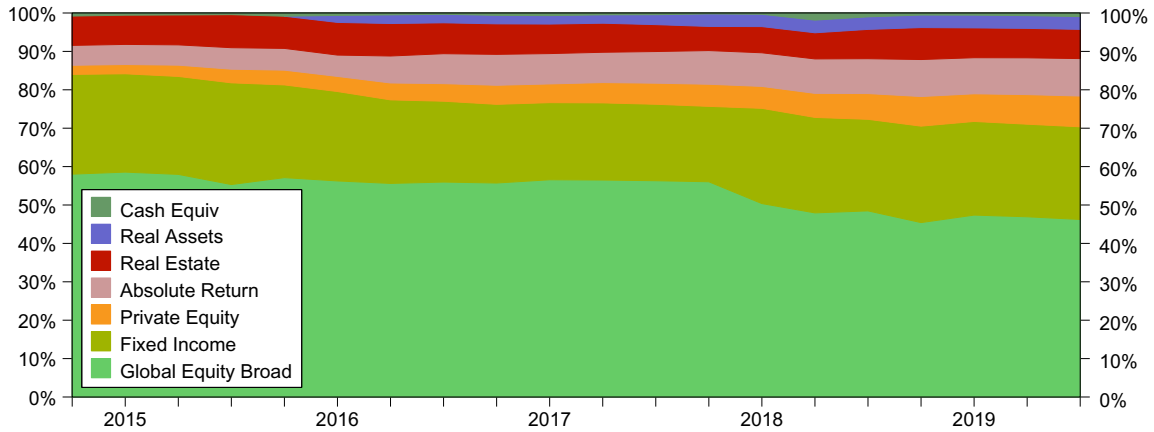
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,467,008	46.2%	47.0%	(0.8%)	(41,058)
Fixed Income	1,287,738	24.1%	25.0%	(0.9%)	(46,341)
Private Equity	427,620	8.0%	8.0%	0.0%	715
Absolute Return	520,150	9.7%	9.0%	0.7%	39,882
Real Estate	406,302	7.6%	7.7%	(0.1%)	(4,594)
Real Assets	177,674	3.3%	3.3%	0.0%	1,576
Cash	49,819	0.9%	0.0%	0.9%	49,819
Total	5,336,312	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.

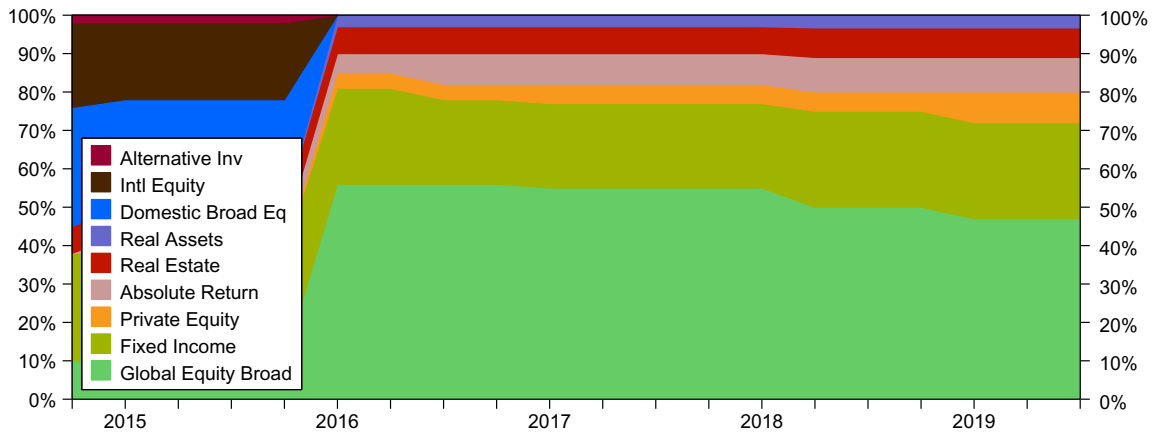
Actual vs Target Historical Asset Allocation

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.

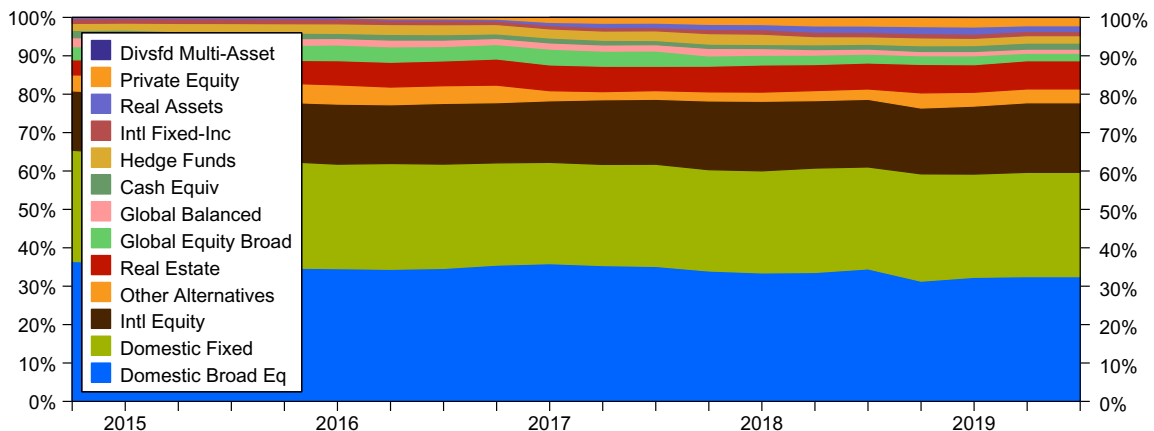
Actual Historical Asset Allocation



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 September 30, 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.

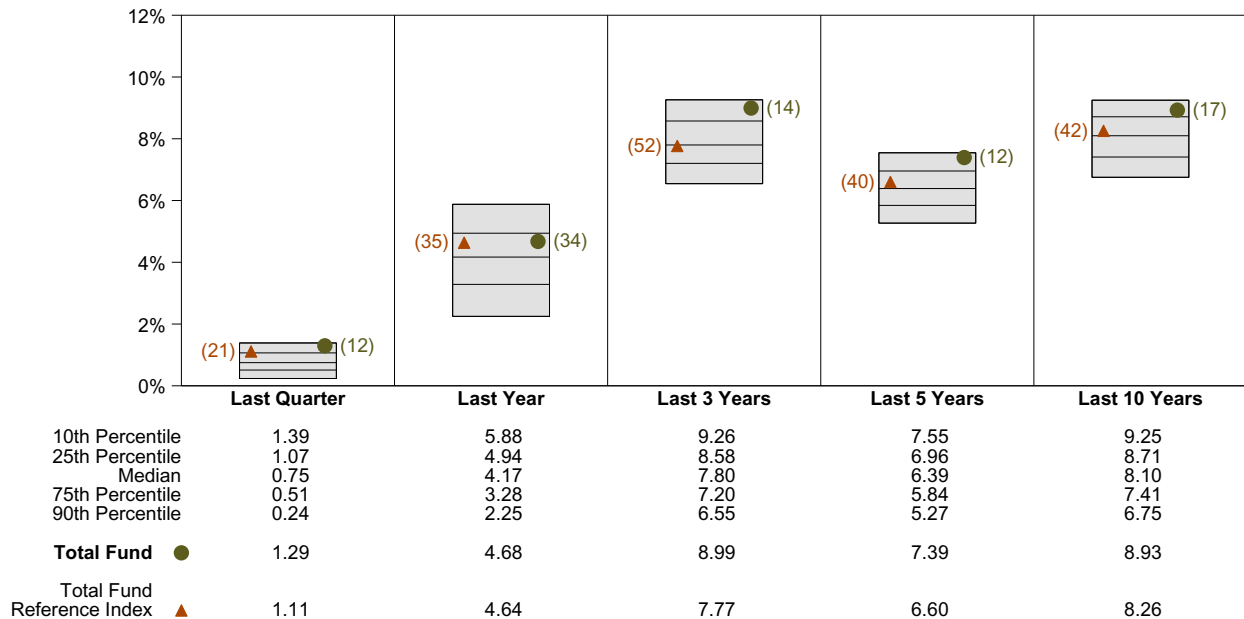
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 1.29% return for the quarter placing it in the 12 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 34 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Reference Index by 0.18% for the quarter and outperformed the Total Fund Reference Index for the year by 0.04%.

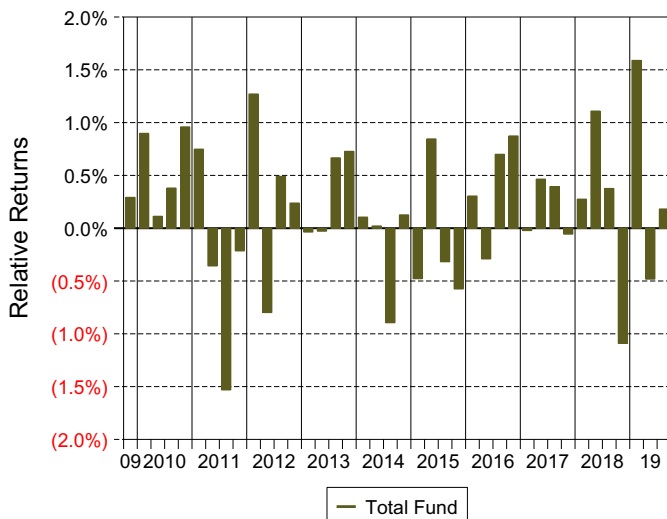
Quarterly Asset Growth

Beginning Market Value	\$5,368,388,539
Net New Investment	\$-99,857,211
Investment Gains/(Losses)	\$67,780,805
Ending Market Value	\$5,336,312,133

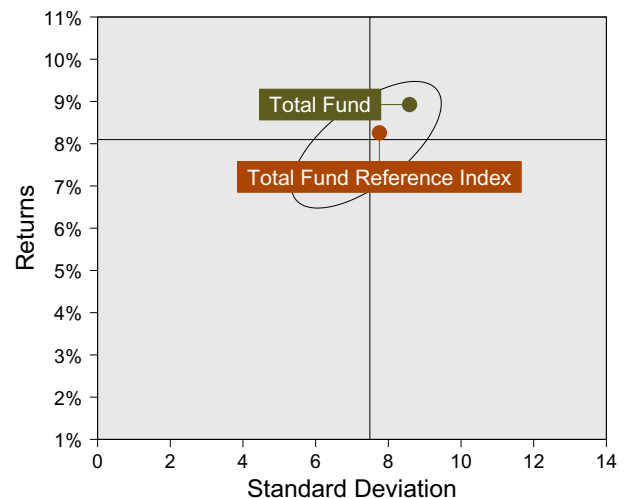
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Reference Index



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

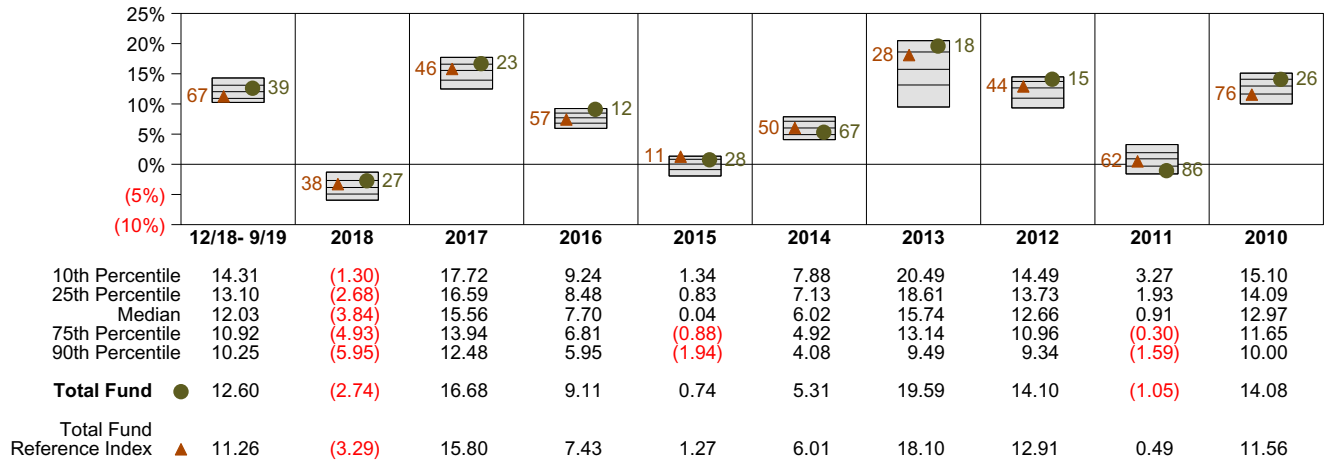


Total Fund Return Analysis Summary

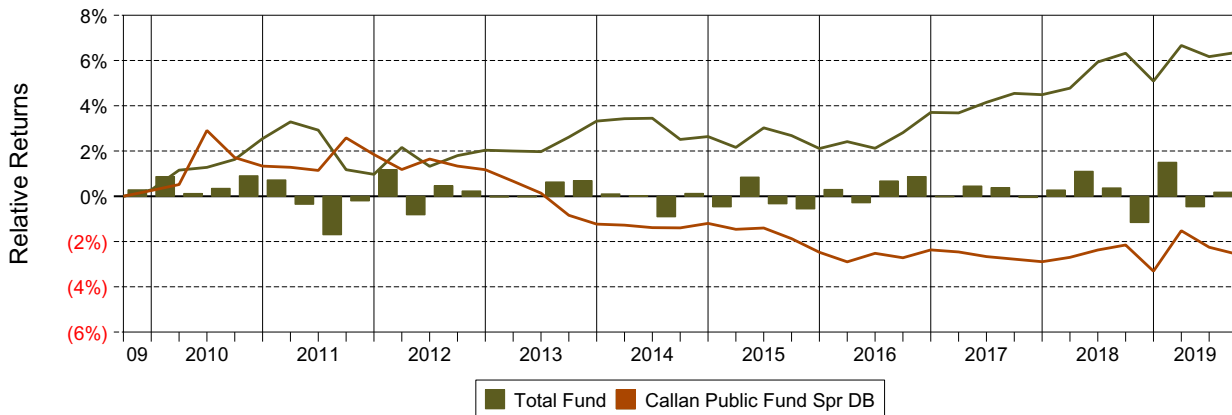
Return Analysis

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.

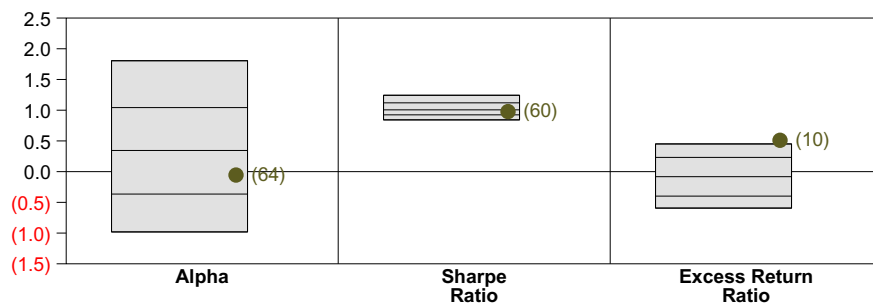
Performance vs Callan Public Fund Sponsor Database (Gross)



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 September 30, 2019



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.80	1.24	0.45
25th Percentile	1.04	1.12	0.23
Median	0.34	1.01	(0.08)
75th Percentile	(0.37)	0.92	(0.40)
90th Percentile	(0.98)	0.84	(0.59)
Total Fund	● (0.06)	0.98	0.51

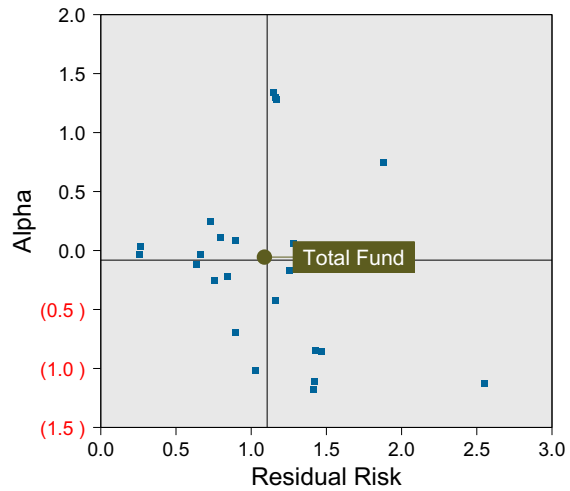
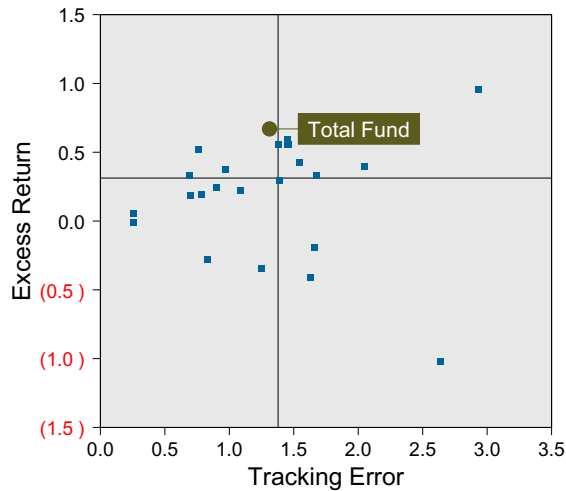
Total Fund

Total Fund vs Target Risk Analysis

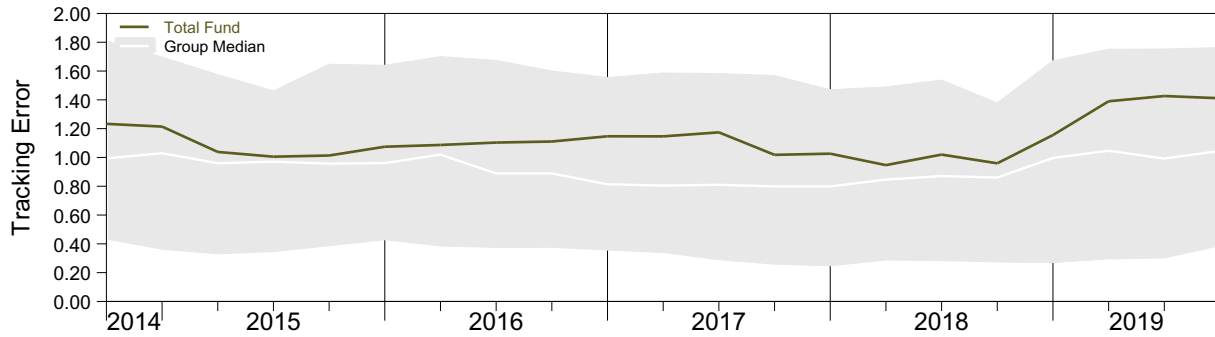
Risk Analysis

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.

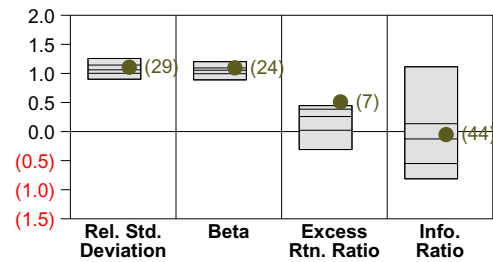
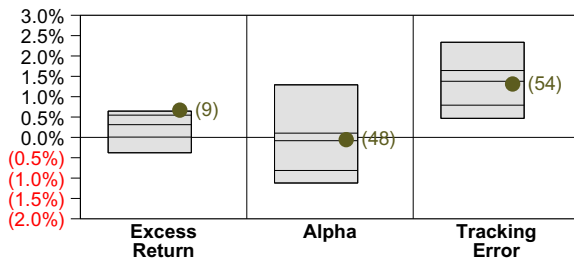
Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended September 30, 2019



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 September 30, 2019



10th Percentile	0.65	1.29	2.34
25th Percentile	0.55	0.10	1.64
Median	0.31	(0.08)	1.38
75th Percentile	0.01	(0.81)	0.79
90th Percentile	(0.38)	(1.12)	0.47

Total Fund ● 0.67 (0.06) 1.31

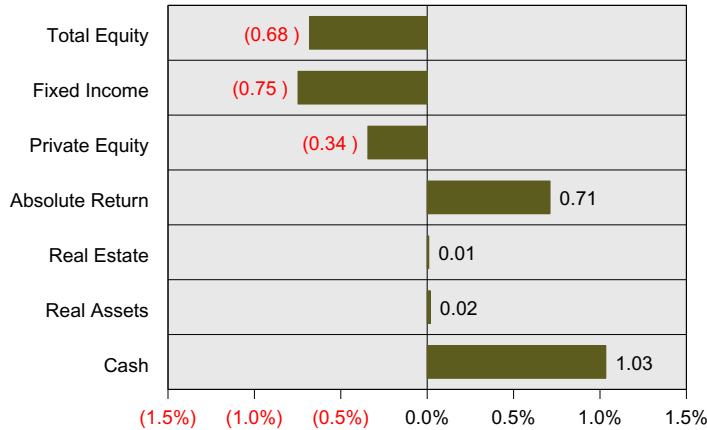
10th Percentile	1.26	1.20	0.45	1.12
25th Percentile	1.14	1.09	0.38	0.14
Median	1.06	1.05	0.26	(0.13)
75th Percentile	1.00	1.00	0.02	(0.55)
90th Percentile	0.90	0.89	(0.31)	(0.81)

Total Fund ● 1.11 1.10 0.51 (0.05)

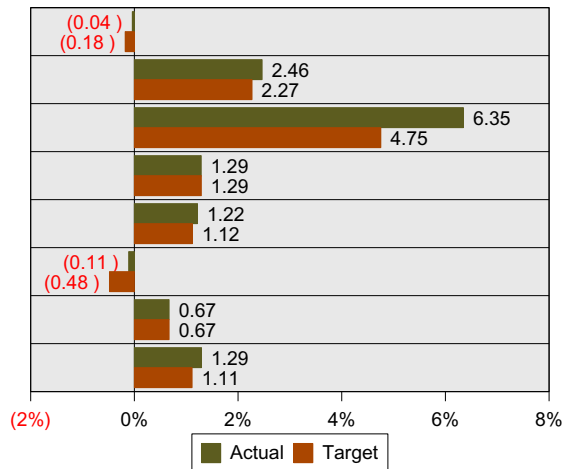
Quarterly Total Fund Relative Attribution - September 30, 2019

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.

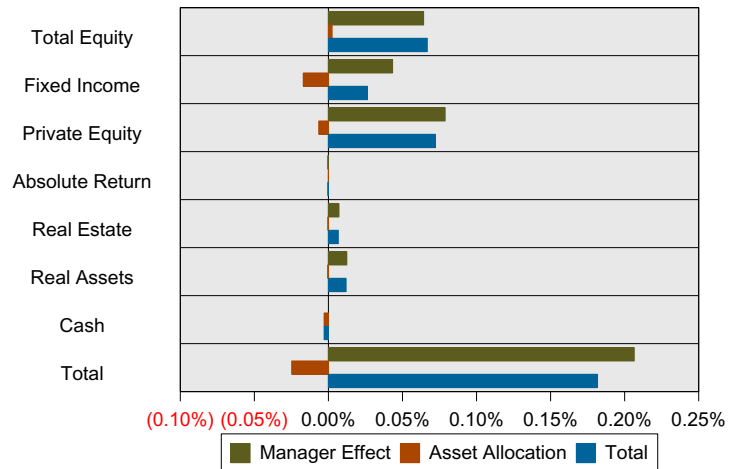
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2019

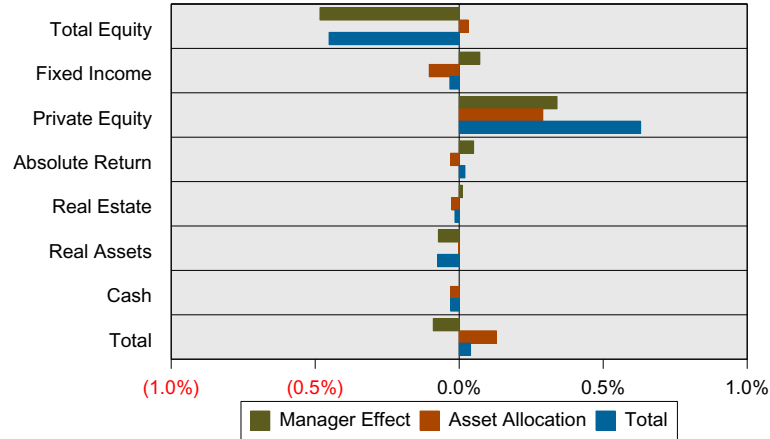
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	46%	47%	(0.04%)	(0.18%)	0.06%	0.00%	0.07%
Fixed Income	24%	25%	2.46%	2.27%	0.04%	(0.02%)	0.03%
Private Equity	8%	8%	6.35%	4.75%	0.08%	(0.01%)	0.07%
Absolute Return	10%	9%	1.29%	1.29%	(0.00%)	0.00%	(0.00%)
Real Estate	8%	8%	1.22%	1.12%	0.01%	(0.00%)	0.01%
Real Assets	3%	3%	(0.11%)	(0.48%)	0.01%	(0.00%)	0.01%
Cash	1%	0%	0.67%	0.67%	0.00%	(0.00%)	(0.00%)
Total			1.29%	1.11%	0.21%	(0.02%)	0.18%

* 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.

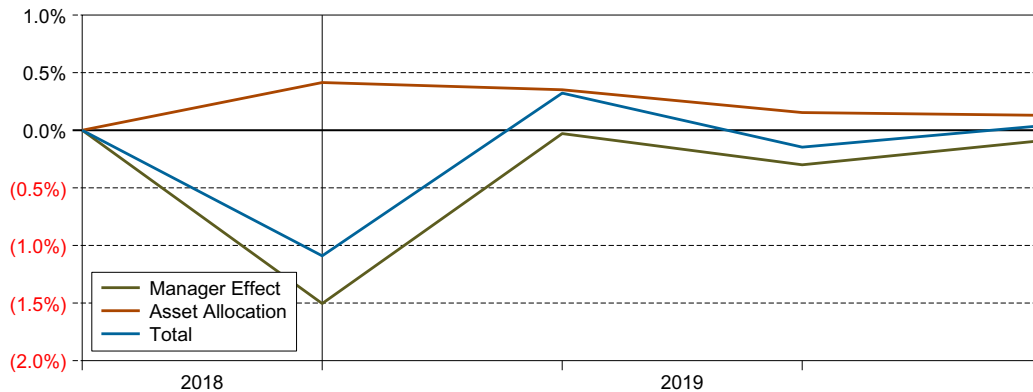
Cumulative Total Fund Relative Attribution - September 30, 2019

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	47%	48%	(0.53%)	0.48%	(0.48%)	0.03%	(0.45%)
Fixed Income	24%	25%	10.70%	10.30%	0.07%	(0.10%)	(0.03%)
Private Equity	7%	7%	18.77%	12.29%	0.34%	0.29%	0.63%
Absolute Return	9%	9%	5.95%	5.39%	0.05%	(0.03%)	0.02%
Real Estate	8%	8%	6.13%	5.99%	0.01%	(0.03%)	(0.01%)
Real Assets	3%	3%	0.96%	3.11%	(0.07%)	(0.00%)	(0.07%)
Cash	1%	0%	2.83%	2.83%	0.00%	(0.03%)	(0.03%)
Total			4.68%	4.64%	(0.09%)	0.13%	0.04%

* 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 September 30, 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 September 30, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Domestic Equity	0.34%		0.91%		12.69%		10.43%		7.27% (7/98)	
Russell 3000 Index	1.16%		2.92%		12.83%		10.44%		6.89% (7/98)	
BlackRock Russell 1000 Value	1.50%	49	4.25%	27	-	-	-	-	7.44%	(3/17)
Russell 1000 Value Index	1.36%	55	4.00%	28	9.43%	71	7.79%	55	6.53%	(3/17)
Callan Large Cap Value	1.49%		1.02%		10.02%		7.93%		-	
DFA Large Cap Value	0.82%	74	(1.39%)	77	-	-	-	-	4.47%	(11/17)
Russell 1000 Value Index	1.36%	55	4.00%	28	9.43%	71	7.79%	55	6.59%	(11/17)
Callan Large Cap Value	1.49%		1.02%		10.02%		7.93%		-	
Northern Trust Global	1.70%	28	4.34%	27	13.44%	30	10.91%	25	10.42%	(8/88)
S&P 500 Index	1.70%	28	4.25%	28	13.39%	31	10.84%	27	10.37%	(8/88)
Callan Large Cap Core	1.21%		2.34%		12.80%		10.28%		-	
Polen Capital Management	0.94%	42	9.81%	8	20.25%	7	17.75%	2	16.95%	(7/12)
S&P 500 Index	1.70%	20	4.25%	47	13.39%	96	10.84%	91	13.73%	(7/12)
Callan Large Cap Growth	0.30%		4.09%		16.59%		13.05%		-	
Earnest Partners LLC	1.24%	36	7.01%	18	15.46%	16	12.66%	10	10.94%	(5/05)
Russell MidCap Index	0.48%	49	3.19%	35	10.69%	50	9.10%	46	9.63%	(5/05)
Callan Mid Capitalization	0.45%		1.13%		10.60%		8.84%		-	
DFA Small Cap Value	(1.10%)	66	(12.57%)	89	4.95%	81	5.72%	80	11.22%	(11/96)
Russell 2000 Value Index	(0.57%)	55	(8.24%)	56	6.54%	58	7.17%	60	9.10%	(11/96)
Callan Small Cap Value	(0.29%)		(7.79%)		6.70%		7.68%		-	
CastleArk Management	(6.22%)	69	(6.83%)	52	14.19%	43	10.54%	67	10.96%	(9/13)
Russell 2000 Growth Index	(4.17%)	42	(9.63%)	76	9.79%	84	9.08%	81	9.26%	(9/13)
Callan Small Cap Growth	(4.51%)		(6.39%)		13.42%		11.33%		-	
Total Global Equity	0.64%		4.33%		12.92%		9.45%		8.76% (4/10)	
MSCI World	0.53%		1.83%		10.21%		7.18%		8.68% (4/10)	
BlackRock Global Alpha Tilts	(0.64%)	59	(0.09%)	63	10.98%	41	-	-	13.19%	(3/16)
MSCI ACWI Gross	0.10%	41	1.95%	48	10.30%	46	7.23%	58	12.78%	(3/16)
Callan Global Equity	(0.21%)		1.79%		10.09%		7.52%		-	
MFS Investment Management	2.60%	4	11.05%	3	15.69%	6	12.09%	8	12.66%	(12/12)
MSCI ACWI Gross	0.10%	41	1.95%	48	10.30%	46	7.23%	58	9.55%	(12/12)
Callan Global Equity	(0.21%)		1.79%		10.09%		7.52%		-	
Total International Equity	(0.91%)		(4.88%)		5.35%		3.49%		6.75% (5/96)	
MSCI EAFE	(1.07%)		(1.34%)		6.48%		3.27%		4.43% (5/96)	
AQR Emerging Markets	(4.23%)	76	(6.36%)	96	4.70%	90	-	-	5.77%	(8/16)
MSCI EM Gross	(4.11%)	72	(1.62%)	73	6.38%	62	2.71%	69	7.31%	(8/16)
Callan Emerging Broad	(3.37%)		1.85%		7.08%		3.92%		-	
Brandes Investment Partners	(0.06%)	13	(5.18%)	82	5.12%	81	2.79%	79	7.69%	(2/98)
MSCI EAFE	(1.07%)	35	(1.34%)	43	6.48%	52	3.27%	68	4.48%	(2/98)
Callan NonUS Eq	(1.44%)		(2.10%)		6.59%		4.15%		-	
William Blair & Company	(1.16%)	39	(0.03%)	29	7.61%	29	4.83%	35	7.43%	(12/03)
MSCI ACWIxUS Gross	(1.70%)	62	(0.72%)	37	6.85%	43	3.39%	65	6.64%	(12/03)
Callan NonUS Eq	(1.44%)		(2.10%)		6.59%		4.15%		-	
DFA International Small Cap	(0.38%)	16	(10.86%)	81	2.73%	91	2.83%	91	4.07%	(5/06)
Blended Benchmark	(0.44%)	16	(5.93%)	35	5.94%	42	6.02%	56	3.22%	(5/06)
Callan Intl Small Cap	(1.55%)		(6.84%)		5.48%		6.16%		-	

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 September 30, 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 September 30, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
Total Fixed Income	2.46%		10.70%		4.41%		4.08%		7.57%	(12/87)
Bimbg Aggregate	2.27%		10.30%		2.92%		3.38%		6.30%	(12/87)
Allianz US Fixed Income 250	2.86%	1	10.90%	18	-		-		7.89%	(2/18)
Bimbg Aggregate +2.5%	2.85%	1	12.80%	1	5.43%	1	5.88%	1	8.29%	(2/18)
Callan Core Bond FI	2.36%		10.52%		3.32%		3.71%		-	
BlackRock US Debt Idx Fd	2.29%	77	10.37%	63	3.01%	86	-		3.03%	(6/16)
Bimbg Aggregate	2.27%	83	10.30%	69	2.92%	94	3.38%	93	3.32%	(6/16)
Callan Core Bond FI	2.36%		10.52%		3.32%		3.71%		-	
Reams Asset Management	2.37%	38	11.56%	5	3.76%	56	4.01%	41	5.67%	(1/01)
Bimbg Aggregate	2.27%	58	10.30%	58	2.92%	96	3.38%	97	4.75%	(1/01)
Callan Core Plus FI	2.34%		10.41%		3.82%		3.95%		-	
Loomis, Sayles & Company, L.P.	2.08%	79	9.91%	76	5.91%	1	5.05%	4	9.04%	(12/87)
Bimbg Aggregate	2.27%	58	10.30%	58	2.92%	96	3.38%	97	6.30%	(12/87)
Callan Core Plus FI	2.34%		10.41%		3.82%		3.95%		-	
Total Private Equity	6.35%		18.77%		18.66%		14.98%		10.09%	(6/10)
Abbott Capital Management 2010	9.10%		21.89%		22.08%		17.24%		(3.61%)	(6/10)
Abbott Capital Management 2011	9.50%		23.65%		21.82%		16.57%		(0.52%)	(6/11)
Abbott Capital Management 2012	7.97%		21.39%		20.14%		13.49%		8.15%	(7/12)
Abbott Capital Management 2013	7.68%		23.44%		21.30%		13.40%		8.90%	(5/13)
Abbott Capital Management 2014	7.20%		23.09%		18.15%		9.96%		6.89%	(4/14)
Abbott Capital Management 2015	3.64%		18.11%		11.20%		-		8.54%	(4/15)
Abbott Capital Management 2016	2.21%		13.20%		4.75%		-		4.30%	(3/16)
Abbott Capital Management 2018	0.59%		(1.29%)		-		-		(1.03%)	(7/18)
Mesirow V	6.11%		17.78%		19.33%		17.39%		14.28%	(6/10)
Mesirow VI	7.65%		22.32%		18.28%		9.60%		8.38%	(7/13)
Mesirow VII	0.61%		(0.44%)		-		-		-	
NB Secondary Opp Fund III	1.68%		10.92%		17.64%		19.60%		12.34%	(12/13)
NB Secondary Opp Fund IV	3.31%		22.90%		-		-		26.02%	(4/17)
Private Advisors VI	5.87%		15.63%		13.80%		-		3.84%	(4/15)
Private Advisors VII	6.57%		14.35%		-		-		9.36%	(1/17)
Private Advisors VIII	0.93%		16.43%		-		-		13.92%	(8/18)
Russell 3000 (1 Qtr in Arrears) + 3%	4.75%		12.29%		17.14%		13.27%		14.55%	(8/18)
Absolute Return	1.29%		5.95%		5.70%		5.71%		5.65%	(6/14)
Allianz SA 1000	3.23%	1	5.95%	1	8.62%	2	9.45%	1	9.30%	(6/14)
T-Bills + 10%	2.94%	1	12.39%	1	11.54%	1	10.98%	1	10.92%	(6/14)
Callan Abs Rtn Hedge FoF	0.07%		0.80%		3.60%		2.32%		-	
Newton	1.21%	1	9.83%	1	4.52%	18	4.64%	7	4.74%	(8/14)
1-month LIBOR + 4%	1.51%	1	6.42%	1	5.71%	8	5.14%	5	5.11%	(8/14)
Callan Abs Rtn Hedge FoF	0.07%		0.80%		3.60%		2.32%		-	
UBS A & Q	0.32%	34	4.03%	3	4.66%	16	-		3.91%	(12/14)
1-month LIBOR + 4%	1.51%	1	6.42%	1	5.71%	8	5.14%	5	5.17%	(12/14)
Callan Abs Rtn Hedge FoF	0.07%		0.80%		3.60%		2.32%		-	
Real Assets	(0.11%)		0.96%		3.64%		-		5.03%	(1/16)
Principal DRA	(0.11%)	55	0.96%	40	3.64%	28	-		5.03%	(1/16)
Principal Blended Benchmark (1)	(0.48%)	57	3.11%	28	3.98%	26	-		5.15%	(1/16)
Callan Alternative Inv DB	0.24%		(1.34%)		0.79%		0.59%		-	
Total Real Estate	1.22%		6.13%		8.42%		9.92%		6.68%	(7/86)
Real Estate	1.22%	83	6.13%	64	8.42%	35	9.92%	28	6.68%	(7/86)
Blended Benchmark (2)	1.12%	86	5.99%	68	6.97%	67	8.99%	52	-	
Callan Tot Real Est DB	1.81%		6.99%		7.60%		9.15%		-	
Total Fund	1.29%		4.68%		8.99%		7.39%		9.51%	(1/79)
Total Fund Reference Index*	1.11%		4.64%		7.77%		6.60%		-	

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

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

(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

Investment Manager Returns and Peer Group Rankings

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

	12/2018- 9/2019		2018		2017		2016		2015	
Total Domestic Equity	18.90%		(5.80%)		20.91%		13.91%		(0.07%)	
Russell 3000 Index	20.09%		(5.24%)		21.13%		12.74%		0.48%	
BlackRock Russell 1000 Value	18.03%	39	(8.12%)	42	-		-		-	
Russell 1000 Value Index	17.81%	43	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70
Callan Large Cap Value	17.31%		(8.76%)		17.10%		15.27%		(2.53%)	
DFA Large Cap Value	15.98%	68	(12.40%)	83	-		-		-	
Russell 1000 Value Index	17.81%	43	(8.27%)	44	13.66%	91	17.34%	26	(3.83%)	70
Callan Large Cap Value	17.31%		(8.76%)		17.10%		15.27%		(2.53%)	
Northern Trust Global	20.60%	33	(4.34%)	33	21.87%	48	12.01%	21	1.49%	46
S&P 500 Index	20.55%	34	(4.38%)	33	21.83%	49	11.96%	21	1.38%	51
Callan Large Cap Core	19.88%		(5.33%)		21.72%		10.42%		1.40%	
Polen Capital Management	25.56%	24	9.14%	4	27.67%	65	1.70%	72	15.51%	3
S&P 500 Index	20.55%	76	(4.38%)	91	21.83%	98	11.96%	2	1.38%	93
Callan Large Cap Growth	23.01%		0.51%		28.84%		3.39%		6.43%	
Earnest Partners LLC	28.55%	13	(9.80%)	45	26.16%	23	16.52%	29	1.25%	27
Russell MidCap Index	21.93%	50	(9.06%)	41	18.52%	55	13.80%	42	(2.44%)	67
Callan Mid Capitalization	21.79%		(10.60%)		19.58%		12.23%		(0.80%)	
DFA Small Cap Value	9.33%	93	(14.84%)	52	7.68%	66	29.36%	32	(6.06%)	76
Russell 2000 Value Index	12.82%	67	(12.86%)	23	7.84%	65	31.74%	14	(7.47%)	83
Callan Small Cap Value	15.27%		(14.79%)		9.19%		27.86%		(3.73%)	
CastleArk Management	14.93%	70	3.29%	15	23.93%	59	6.01%	68	(4.90%)	78
Russell 2000 Growth Index	15.34%	68	(9.31%)	85	22.17%	70	11.32%	36	(1.38%)	50
Callan Small Cap Growth	19.49%		(3.04%)		25.74%		8.62%		(1.29%)	
Total Global Equity	20.29%		(8.18%)		31.31%		8.65%		(2.08%)	
MSCI World	17.61%		(8.71%)		22.40%		7.51%		(0.87%)	
BlackRock Global Alpha Tilts	16.71%	56	(11.20%)	67	30.12%	22	-		-	
MSCI ACWI Gross	16.71%	56	(8.93%)	46	24.62%	56	8.48%	28	(1.84%)	70
Callan Global Equity	17.09%		(9.52%)		25.27%		6.21%		0.17%	
MFS Investment Management	25.63%	4	(3.75%)	11	33.16%	12	6.06%	52	(0.49%)	60
MSCI ACWI Gross	16.71%	56	(8.93%)	46	24.62%	56	8.48%	28	(1.84%)	70
Callan Global Equity	17.09%		(9.52%)		25.27%		6.21%		0.17%	
Total International Equity	10.38%		(15.19%)		25.03%		5.78%		(0.41%)	
MSCI EAFE	12.80%		(13.79%)		25.03%		1.00%		(0.81%)	
AQR Emerging Markets	5.93%	77	(18.31%)	86	35.53%	73	-		-	
MSCI EM Gross	6.23%	76	(14.24%)	28	37.75%	58	11.60%	49	(14.60%)	64
Callan Emerging Broad	9.67%		(15.34%)		39.31%		11.58%		(13.68%)	
Brandes Investment Partners	6.52%	95	(8.79%)	6	16.53%	99	8.50%	4	(1.25%)	66
MSCI EAFE	12.80%	56	(13.79%)	35	25.03%	75	1.00%	57	(0.81%)	62
Callan NonUS Eq	13.23%		(15.13%)		28.16%		1.48%		0.40%	
William Blair & Company	18.90%	9	(16.86%)	72	31.45%	22	(1.45%)	82	0.18%	53
MSCI ACWIxUS Gross	12.06%	66	(13.77%)	35	27.77%	56	5.01%	16	(5.25%)	92
Callan NonUS Eq	13.23%		(15.13%)		28.16%		1.48%		0.40%	
DFA International Small Cap	8.58%	81	(23.31%)	91	27.98%	92	8.00%	8	3.99%	86
Blended Benchmark	12.05%	49	(17.89%)	30	33.01%	74	2.18%	32	9.59%	56
Callan Intl Small Cap	11.86%		(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.

	12/2018-9/2019		2018		2017		2016		2015	
Total Fixed Income	10.75%		(0.33%)		5.28%		7.40%		(2.49%)	
Bimbg Aggregate	8.52%		0.01%		3.54%		2.65%		0.55%	
BlackRock US Debt Idx Fd	8.59%	79	0.06%	57	3.68%	76	-		-	
Bimbg Aggregate	8.52%	85	0.01%	62	3.54%	87	2.65%	87	0.55%	71
Callan Core Bond FI	8.95%		0.11%		3.96%		3.14%		0.84%	
Reams Asset Management	8.75%	90	1.91%	1	3.62%	95	4.38%	63	0.38%	49
Bimbg Aggregate	8.52%	92	0.01%	31	3.54%	95	2.65%	100	0.55%	38
Callan Core Plus FI	9.51%		(0.25%)		4.97%		4.66%		0.34%	
Loomis, Sayles & Company, L.P.	12.29%	1	(2.11%)	98	8.50%	1	13.97%	1	(6.10%)	100
Bimbg Aggregate	8.52%	92	0.01%	31	3.54%	95	2.65%	100	0.55%	38
Callan Core Plus FI	9.51%		(0.25%)		4.97%		4.66%		0.34%	
Total Private Equity	13.49%		21.48%		17.27%		9.09%		12.34%	
Abbott Capital Management 2010	15.06%		26.90%		19.98%		11.03%		12.32%	
Abbott Capital Management 2011	16.74%		25.70%		19.24%		10.43%		10.12%	
Abbott Capital Management 2012	14.44%		24.39%		17.97%		9.42%		2.45%	
Abbott Capital Management 2013	16.78%		25.17%		18.71%		5.25%		2.23%	
Abbott Capital Management 2014	16.60%		22.58%		13.50%		2.86%		0.39%	
Abbott Capital Management 2015	12.84%		13.57%		6.87%		(5.11%)		-	
Abbott Capital Management 2016	7.68%		9.43%		(1.13%)		-		-	
Abbott Capital Management 2018	1.12%		-		-		-		-	
Mesirow V	14.48%		18.01%		21.00%		12.03%		19.41%	
Mesirow VI	16.19%		24.87%		12.50%		3.32%		(3.99%)	
Mesirow VII	2.96%		(7.82%)		-		-		-	
NB Secondary Opp Fund III	8.07%		16.65%		20.63%		12.83%		33.37%	
Private Advisors VI	10.67%		15.19%		13.15%		(1.34%)		-	
Private Advisors VII	11.16%		19.02%		(3.33%)		-		-	
Private Advisors VIII	2.39%		-		-		-		-	
Russell 3000 (1 Qtr in Arrears) + 3%	4.23%		20.60%		21.71%		17.97%		2.56%	
Absolute Return	9.14%		1.61%		5.96%		5.16%		4.92%	
Allianz SA 1000	14.55%	1	(0.97%)	73	9.67%	10	11.15%	1	9.76%	1
T-Bills + 10%	9.18%	2	11.87%	1	10.86%	5	10.33%	1	10.05%	1
Callan Abs Rtn Hedge FoF	3.48%		0.51%		4.97%		3.35%		(0.75%)	
Newton	10.87%	1	2.18%	14	5.59%	39	3.31%	52	1.50%	29
1-month LIBOR + 4%	4.77%	9	6.07%	2	5.11%	47	4.49%	23	4.19%	8
Callan Abs Rtn Hedge FoF	3.48%		0.51%		4.97%		3.35%		(0.75%)	
UBS A & Q	5.60%	6	2.65%	12	4.16%	67	2.42%	71	4.09%	9
1-month LIBOR + 4%	4.77%	9	6.07%	2	5.11%	47	4.49%	23	4.19%	8
Callan Abs Rtn Hedge FoF	3.48%		0.51%		4.97%		3.35%		(0.75%)	
Real Assets	10.21%		(7.47%)		10.15%		7.00%		-	
Principal DRA	10.21%	20	(7.47%)	48	10.15%	16	7.00%	69	-	
Principal Blended Benchmark (1)	10.48%	19	(7.27%)	46	10.38%	15	6.77%	71	-	
Callan Alternative Inv DB	4.20%		(8.24%)		4.44%		10.65%		(19.23%)	
Total Real Estate	3.90%		9.18%		9.20%		11.38%		13.44%	
Real Estate	3.90%	80	9.18%	35	9.20%	39	11.38%	29	13.44%	54
Blended Benchmark (2)	4.04%	79	7.89%	46	6.93%	58	9.69%	42	13.82%	53
Callan Tot Real Est DB	5.39%		7.55%		7.73%		8.73%		14.30%	
Total Fund	12.60%		(2.74%)		16.68%		9.11%		0.74%	
Total Fund Reference Index*	11.26%		(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 September 30, 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 September 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net of Fee Returns					
Total Domestic Equity Net	0.29%	0.65%	12.36%	10.09%	12.25%
Russell 3000 Index	1.16%	2.92%	12.83%	10.44%	13.08%
BlackRock Russell 1000 Value	1.49%	4.24%	-	-	-
Russell 1000 Value Index	1.36%	4.00%	9.43%	7.79%	11.46%
DFA Large Cap Value	0.76%	(1.63%)	-	-	-
Russell 1000 Value Index	1.36%	4.00%	9.43%	7.79%	11.46%
Northern Trust Global	1.70%	4.33%	13.41%	10.88%	13.29%
S&P 500 Index	1.70%	4.25%	13.39%	10.84%	13.24%
Polen Capital Management	0.84%	9.31%	19.68%	17.18%	-
S&P 500 Index	1.70%	4.25%	13.39%	10.84%	13.24%
Earnest Partners LLC	1.11%	6.44%	14.84%	12.06%	14.06%
Russell MidCap Index	0.48%	3.19%	10.69%	9.10%	13.07%
DFA Small Cap Value	(1.12%)	(12.83%)	4.48%	5.20%	10.69%
Russell 2000 Value Index	(0.57%)	(8.24%)	6.54%	7.17%	10.06%
CastleArk Management	(6.38%)	(7.45%)	13.44%	9.81%	-
Russell 2000 Growth Index	(4.17%)	(9.63%)	9.79%	9.08%	12.25%
Total Global Equity Net	0.54%	3.93%	12.51%	9.06%	-
MSCI World	0.53%	1.83%	10.21%	7.18%	9.01%
BlackRock Global Alpha Tilts	(0.73%)	(0.31%)	10.86%	-	-
MFS Investment Management	2.49%	10.58%	15.21%	11.63%	-
MSCI ACWI Gross	0.10%	1.95%	10.30%	7.23%	8.93%
Total International Equity Net	(1.03%)	(5.35%)	4.85%	3.00%	5.79%
MSCI EAFE Index	(1.07%)	(1.34%)	6.48%	3.27%	4.90%
AQR Emerging Markets	(4.41%)	(7.07%)	3.92%	-	-
MSCI EM Gross	(4.11%)	(1.62%)	6.38%	2.71%	3.73%
Brandes Investment Partners	(0.16%)	(5.56%)	4.70%	2.37%	4.43%
MSCI EAFE Index	(1.07%)	(1.34%)	6.48%	3.27%	4.90%
William Blair & Company	(1.27%)	(0.46%)	7.18%	4.41%	7.42%
MSCI ACWI ex-US Index	(1.70%)	(0.72%)	6.85%	3.39%	4.93%
DFA International Small Cap	(0.55%)	(11.17%)	2.61%	2.75%	5.77%
Blended Benchmark	(0.44%)	(5.93%)	5.94%	6.02%	7.20%
Total Fixed Income Net	2.41%	10.54%	4.25%	3.92%	4.99%
Bimbg Aggregate	2.27%	10.30%	2.92%	3.38%	3.75%
Allianz US Fixed Income 250	2.76%	10.66%	-	-	-
Bimbg Aggregate +2.5%	2.85%	12.80%	5.43%	5.88%	6.25%
BlackRock US Debt Idx Fd	2.28%	10.32%	2.96%	-	-
Reams Asset Management	2.33%	11.40%	3.61%	3.85%	4.54%
Loomis, Sayles & Company, L.P.	2.05%	9.76%	5.76%	4.92%	7.04%
Bimbg Aggregate	2.27%	10.30%	2.92%	3.38%	3.75%
Total Private Equity	6.35%	18.77%	18.66%	14.98%	-
Abbott Capital Management 2010	9.10%	21.89%	22.08%	17.24%	-
Abbott Capital Management 2011	9.50%	23.65%	21.82%	16.57%	-
Abbott Capital Management 2012	7.97%	21.39%	20.14%	13.49%	-
Abbott Capital Management 2013	7.68%	23.44%	21.30%	13.40%	-
Abbott Capital Management 2014	7.20%	23.09%	18.15%	9.96%	-
Abbott Capital Management 2015	3.64%	18.11%	11.20%	-	-
Abbott Capital Management 2016	2.21%	13.20%	4.75%	-	-
Abbott Capital Management 2018	0.59%	(1.29%)	-	-	-
Mesirow V	6.11%	17.78%	19.33%	17.39%	-
Mesirow IV	7.65%	22.32%	18.28%	9.60%	-
Mesirow VII	0.61%	(0.44%)	-	-	-
NB Secondary Opp Fund III	1.68%	10.92%	17.64%	19.60%	-
NB Secondary Opp Fund IV	3.31%	22.90%	-	-	-
Private Advisors VI	5.87%	15.63%	13.80%	-	-
Private Advisors VII	6.57%	14.35%	-	-	-
Private Advisors VIII	0.93%	16.43%	-	-	-
Russell 3000 (1 Qtr in Arrears) + 3%	4.75%	12.29%	17.14%	13.27%	-
Absolute Return	1.12%	5.74%	5.62%	5.66%	-
Allianz SA 1000	2.72%	5.43%	8.44%	9.34%	-
T-Bills + 10%	2.94%	12.39%	11.54%	10.98%	10.54%
Newton	1.06%	9.50%	4.42%	4.57%	-
UBS A & Q	0.32%	4.03%	4.66%	-	-
1-month LIBOR + 4%	1.51%	6.42%	5.71%	5.14%	4.68%
Real Assets	(0.27%)	0.64%	3.53%	-	-
Principal DRA	(0.27%)	0.64%	3.53%	-	-
Principal Blended Benchmark (1)	(0.48%)	3.11%	3.98%	-	-
Total Real Estate	1.13%	5.88%	8.15%	9.64%	9.01%
Real Estate	1.13%	5.88%	8.15%	9.64%	9.01%
Blended Benchmark (2)	1.12%	5.99%	6.97%	8.99%	9.33%
Total Fund Net	1.21%	4.38%	8.69%	7.09%	8.61%
Total Fund Reference Index	1.11%	4.64%	7.77%	6.60%	8.26%

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

Investment Manager Returns

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

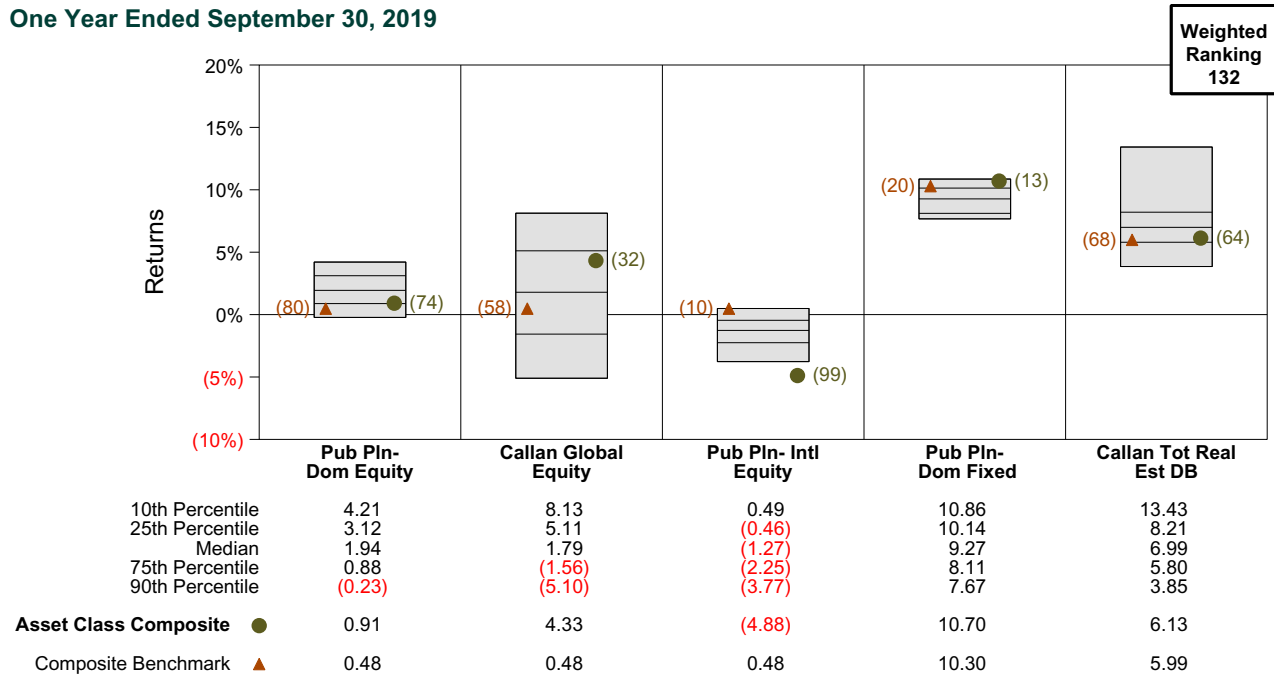
	12/2018- 9/2019	2018	2017	2016	2015
Net of Fee Returns					
Total Domestic Equity Net	18.68%	(6.10%)	20.53%	13.55%	(0.39%)
Russell 3000 Index	20.09%	(5.24%)	21.13%	12.74%	0.48%
BlackRock Russell 1000 Value	18.01%	(8.13%)	-	-	-
Russell 1000 Value Index	17.81%	(8.27%)	13.66%	17.34%	(3.83%)
DFA Large Cap Value	15.78%	(12.60%)	-	-	-
Russell 1000 Value Index	17.81%	(8.27%)	13.66%	17.34%	(3.83%)
Northern Trust Global	20.59%	(4.37%)	21.83%	11.98%	1.46%
S&P 500 Index	20.55%	(4.38%)	21.83%	11.96%	1.38%
Polen Capital Management	25.16%	8.60%	27.05%	1.19%	14.94%
S&P 500 Index	20.55%	(4.38%)	21.83%	11.96%	1.38%
Earnest Partners LLC	28.04%	(10.29%)	25.50%	15.90%	0.71%
Russell MidCap Index	21.93%	(9.06%)	18.52%	13.80%	(2.44%)
DFA Small Cap Value	9.16%	(15.30%)	7.10%	28.68%	(6.57%)
Russell 2000 Value Index	12.82%	(12.86%)	7.84%	31.74%	(7.47%)
CastleArk Management	14.36%	2.60%	23.12%	5.30%	(5.54%)
Russell 2000 Growth Index	15.34%	(9.31%)	22.17%	11.32%	(1.38%)
Total Global Equity Net	19.94%	(8.51%)	30.85%	8.26%	(2.44%)
MSCI World	17.61%	(8.71%)	22.40%	7.51%	(0.87%)
BlackRock Global Alpha Tilts	16.47%	(11.24%)	30.06%	-	-
MFS Investment Management	25.24%	(4.16%)	32.62%	5.62%	(0.89%)
MSCI ACWI Gross	16.71%	(8.93%)	24.62%	8.48%	(1.84%)
Total International Equity Net	9.97%	(15.60%)	24.44%	5.27%	(0.89%)
MSCI EAFE Index	12.80%	(13.79%)	25.03%	1.00%	(0.81%)
AQR Emerging Markets	5.34%	(18.93%)	34.55%	-	-
MSCI EM Gross	6.23%	(14.24%)	37.75%	11.60%	(14.60%)
Brandes Investment Partners	6.21%	(9.17%)	16.06%	8.05%	(1.66%)
MSCI EAFE Index	12.80%	(13.79%)	25.03%	1.00%	(0.81%)
William Blair & Company	18.52%	(17.20%)	30.94%	(1.84%)	(0.22%)
MSCI ACWI ex-US Index	12.06%	(13.77%)	27.77%	5.01%	(5.25%)
DFA International Small Cap	8.21%	(23.31%)	27.98%	8.00%	3.99%
Blended Benchmark	12.05%	(17.89%)	33.01%	2.18%	9.59%
Total Fixed Income Net	10.63%	(0.47%)	5.09%	7.21%	(2.63%)
Blmbg Aggregate	8.52%	0.01%	3.54%	2.65%	0.55%
Allianz US Fixed Income 250	11.38%	-	-	-	-
Blmbg Aggregate +2.5%	10.34%	2.51%	6.04%	5.16%	3.05%
BlackRock US Debt Idx Fd	8.56%	(0.00%)	3.63%	-	-
Reams Asset Management	8.63%	1.76%	3.46%	4.22%	0.23%
Loomis, Sayles & Company, L.P.	12.17%	(2.24%)	8.36%	13.82%	(6.20%)
Blmbg Aggregate	8.52%	0.01%	3.54%	2.65%	0.55%
Total Private Equity	13.49%	21.48%	17.27%	9.09%	12.34%
Abbott Capital Management 2010	15.06%	26.90%	19.98%	11.03%	12.32%
Abbott Capital Management 2011	16.74%	25.70%	19.24%	10.43%	10.12%
Abbott Capital Management 2012	14.44%	24.39%	17.97%	9.42%	2.45%
Abbott Capital Management 2013	16.78%	25.17%	18.71%	5.25%	2.23%
Abbott Capital Management 2014	16.60%	22.58%	13.50%	2.86%	0.39%
Abbott Capital Management 2015	12.84%	13.57%	6.87%	(5.11%)	-
Abbott Capital Management 2016	7.68%	9.43%	(1.13%)	-	-
Abbott Capital Management 2018	1.12%	-	-	-	-
Mesirov V	14.48%	18.01%	21.00%	12.03%	19.41%
Mesirov IV	16.19%	24.87%	12.50%	3.32%	(3.99%)
Mesirov VII	2.96%	(7.82%)	-	-	-
NB Secondary Opp Fund III	8.07%	16.65%	20.63%	12.83%	33.37%
NB Secondary Opp Fund IV	11.70%	68.26%	-	-	-
Private Advisors VI	10.67%	15.19%	13.15%	(1.34%)	-
Private Advisors VII	11.16%	19.02%	(3.33%)	-	-
Private Advisors VIII	2.39%	-	-	-	-
Russell 3000 (1 Qtr in Arrears) + 3%	4.23%	20.60%	21.71%	17.97%	2.56%
Absolute Return	8.92%	1.61%	5.96%	5.16%	4.92%
Allianz SA 1000	13.99%	(0.97%)	9.67%	11.15%	9.76%
T-Bills + 10%	9.18%	11.87%	10.86%	10.33%	10.05%
Newton	10.54%	2.18%	5.59%	3.31%	1.50%
UBS A & Q	5.60%	2.65%	4.16%	2.42%	4.09%
1-month LIBOR + 4%	4.77%	6.07%	5.11%	4.49%	4.19%
Real Assets	9.86%	(7.47%)	10.15%	7.00%	-
Principal DRA	9.86%	(7.47%)	10.15%	7.00%	-
Principal Blended Benchmark (1)	10.48%	(7.27%)	10.38%	6.77%	-
Total Real Estate	3.72%	8.94%	8.89%	11.09%	13.15%
Real Estate	3.72%	8.94%	8.89%	11.09%	13.15%
Blended Benchmark (2)	4.04%	7.89%	6.93%	9.69%	13.82%
Total Fund Net	12.37%	(3.01%)	16.36%	8.80%	0.46%
Total Fund Reference Index	11.26%	(3.29%)	15.80%	7.43%	1.27%

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

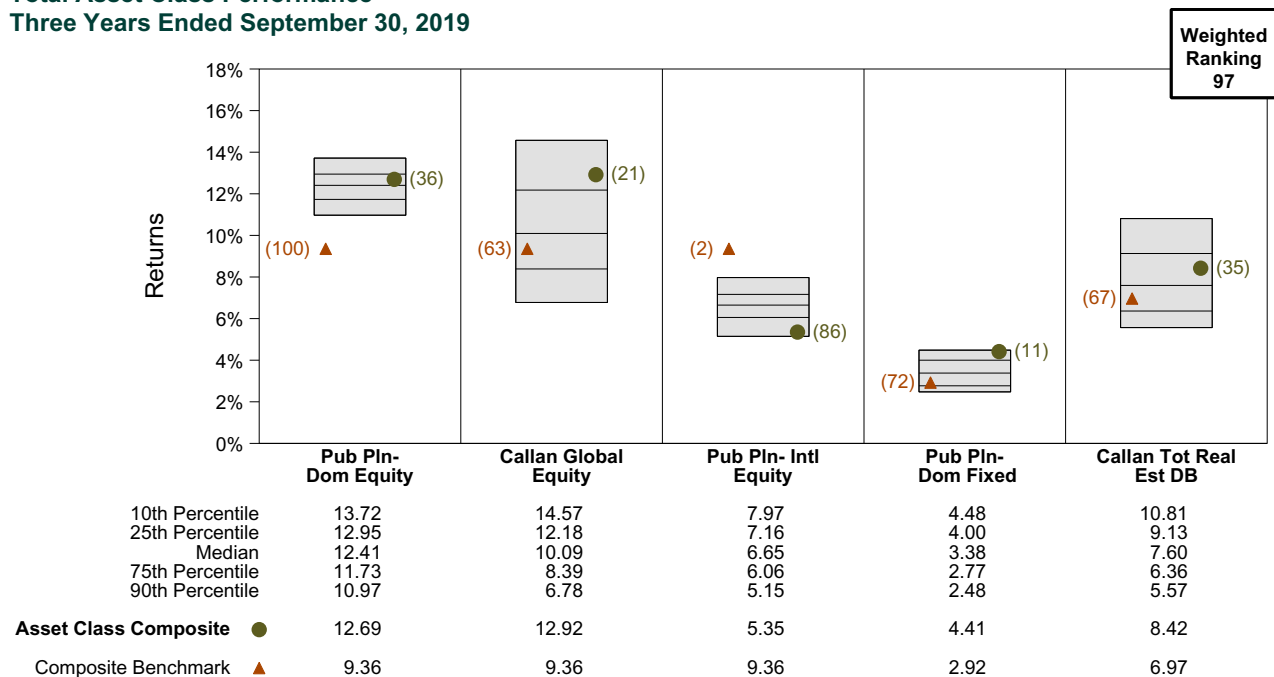
Asset Class Rankings

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

Total Asset Class Performance One Year Ended September 30, 2019



Total Asset Class Performance Three Years Ended September 30, 2019

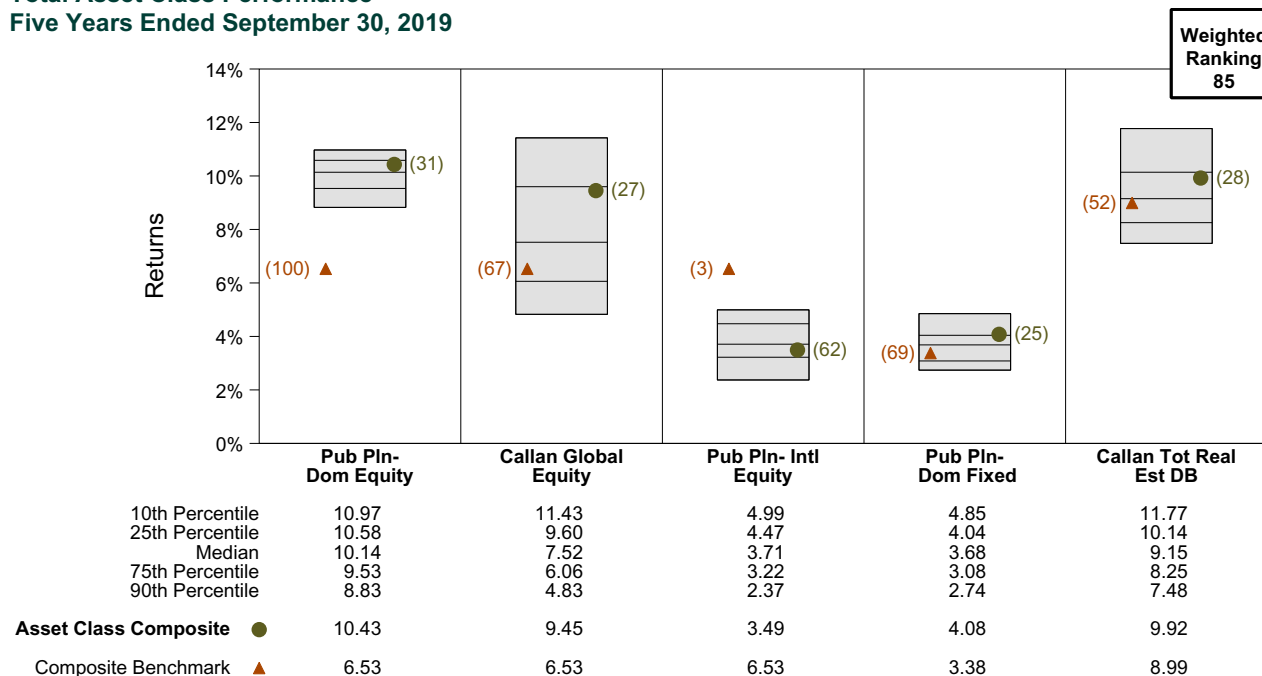


* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

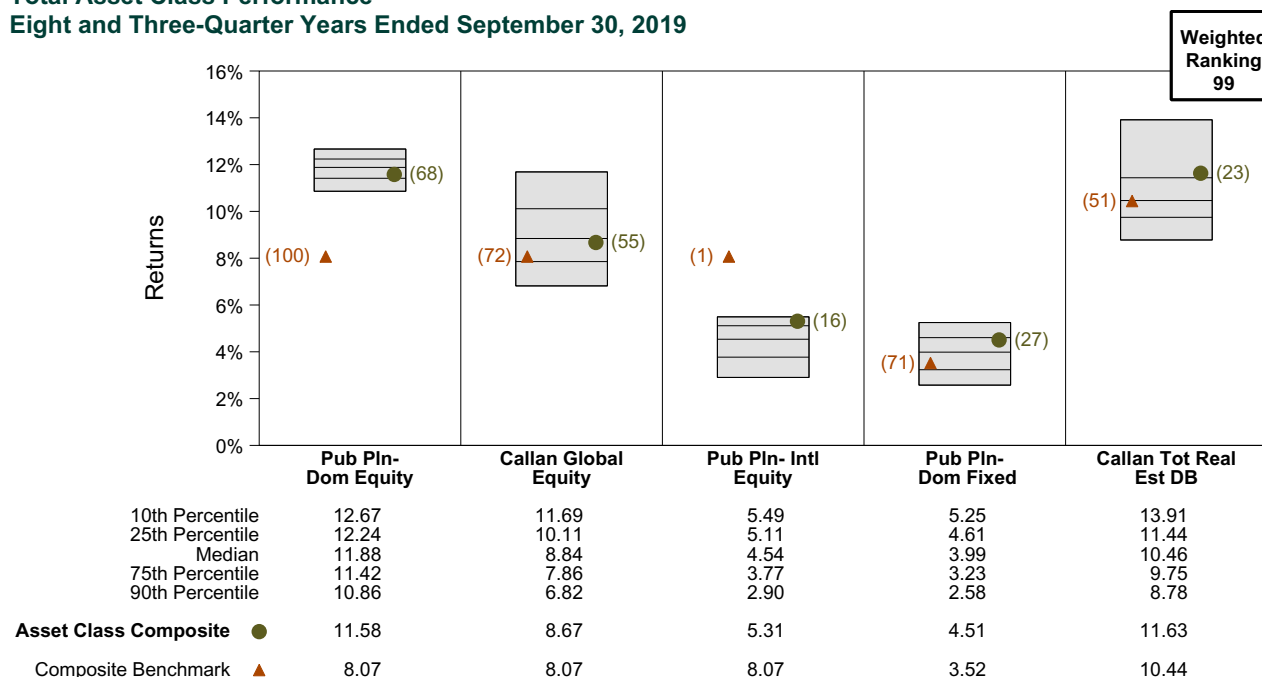
Asset Class Rankings

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 September 30, 2019



Total Asset Class Performance Eight and Three-Quarter Years Ended September 30, 2019

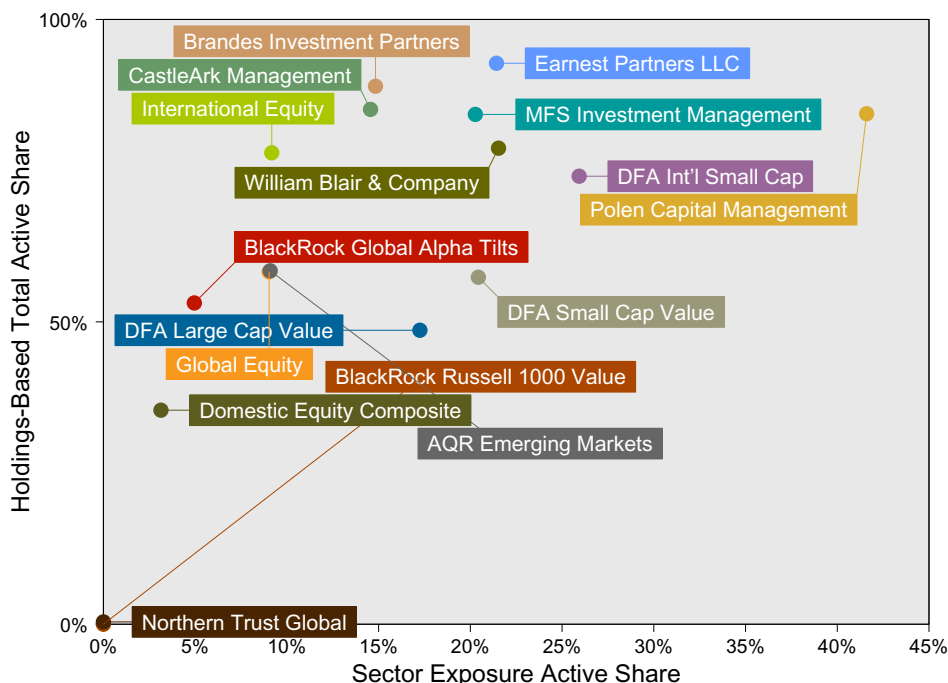


* Current Quarter Target = 47.0% MSCI ACWI IMI, 25.0% Blmbg Aggregate, 9.0% 3-month Treasury Bill+3.0%, 8.0% Russell 3000 Index lagged 3 months+3.0%, 7.7% NCREIF NFI-ODCE Eq Wt Net lagged 3 months and 3.3% Principal Blended Benchmark.

Active Share Structure Analysis For One Quarter Ended September 30, 2019

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

Active Share Analysis Ended September 30, 2019



	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
Domestic Equity Composite	Russell 3000	35.39%	0.29%	3.14%	1917	65.11
BlackRock Russell 1000 Value	Russell 1000 Value	0.00%	0.00%	0.00%	756	53.82
DFA Large Cap Value	Russell 1000 Value	48.61%	0.52%	17.25%	261	27.81
Northern Trust Global	S&P 500	0.38%	0.03%	0.00%	505	49.04
Polen Capital Management	S&P 500	84.41%	1.87%	41.60%	22	6.92
Earnest Partners LLC	Russell MidCap	92.75%	13.42%	21.43%	59	20.07
DFA Small Cap Value	Russell 2000 Value	57.37%	11.65%	20.44%	991	107.43
CastleArk Management	Russell 2000 Growth	85.12%	18.23%	14.56%	110	40.46
Global Equity	MSCI World	58.28%	9.28%	9.03%	992	70.24
BlackRock Global Alpha Tilts	MSCI ACWI Gross	53.12%	5.01%	4.96%	953	82.69
MFS Investment Management	MSCI ACWI Gross	84.29%	4.20%	20.27%	86	28.48
International Equity	MSCI EAFE	77.95%	25.72%	9.18%	2689	78.54
AQR Emerging Markets	MSCI EM Gross	58.44%	0.76%	9.09%	281	36.06
Brandes Investment Partners	MSCI EAFE	88.96%	10.17%	14.83%	60	20.37
William Blair & Company	MSCI ACWIxUS Gross	78.71%	7.63%	21.54%	284	48.02
DFA Int'l Small Cap	MSCI World ex US Sm Cap	74.08%	8.25%	25.93%	2111	173.97

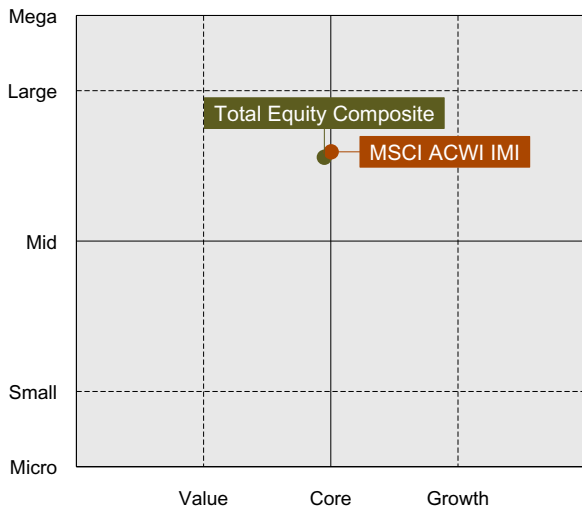
Current Holdings Based Style Analysis

Total Equity Composite

As of September 30, 2019

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

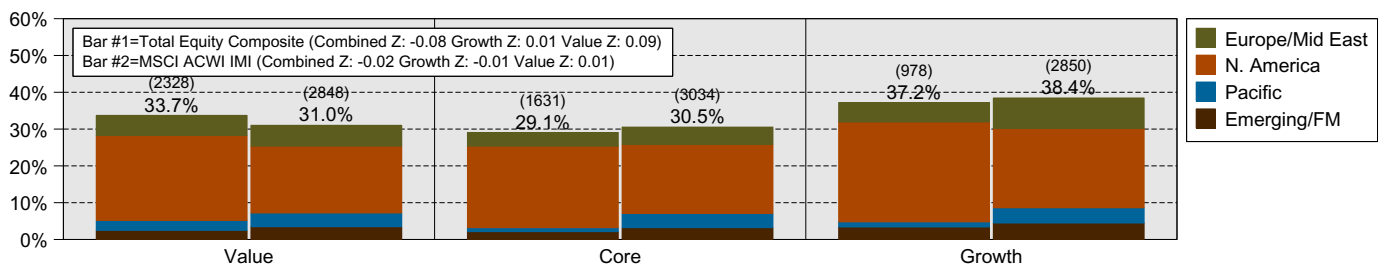
Style Map vs Callan Public Fund Spr DB Holdings as of September 30, 2019



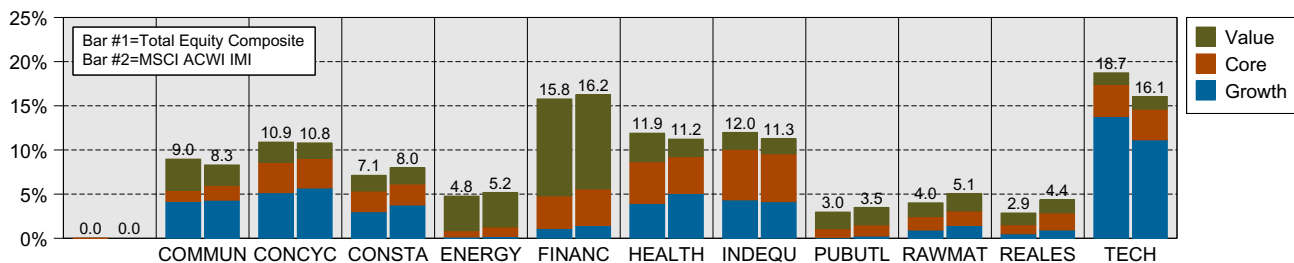
Style Exposure Matrix Holdings as of September 30, 2019

	Value	Core	Growth	Total
Europe/ Mid East	5.5% (416)	3.7% (303)	5.3% (240)	14.4% (959)
N. America	5.6% (476)	4.6% (502)	8.2% (511)	18.5% (1489)
Pacific	23.1% (850)	22.2% (835)	27.2% (411)	72.4% (2096)
Emerging/ FM	18.2% (797)	18.8% (1054)	21.6% (866)	58.6% (2717)
Total	33.7% (2328)	29.1% (1631)	37.2% (978)	100.0% (4937)
	31.0% (2848)	30.5% (3034)	38.4% (2850)	100.0% (8732)

Combined Z-Score Style Distribution Holdings as of September 30, 2019



Sector Weights Distribution Holdings as of September 30, 2019



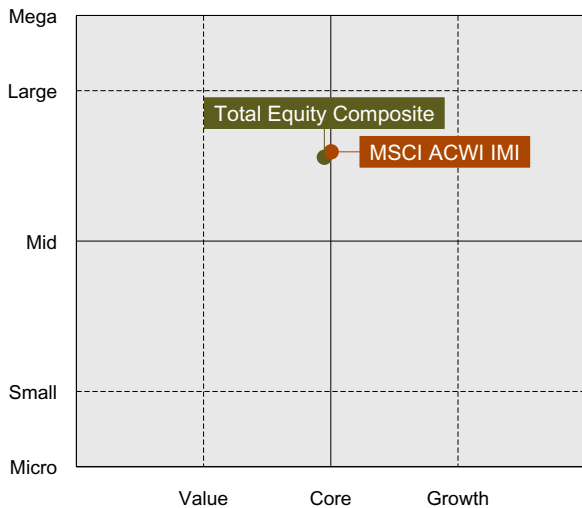
Current Holdings Based Style Analysis

Total Equity Composite

As of September 30, 2019

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

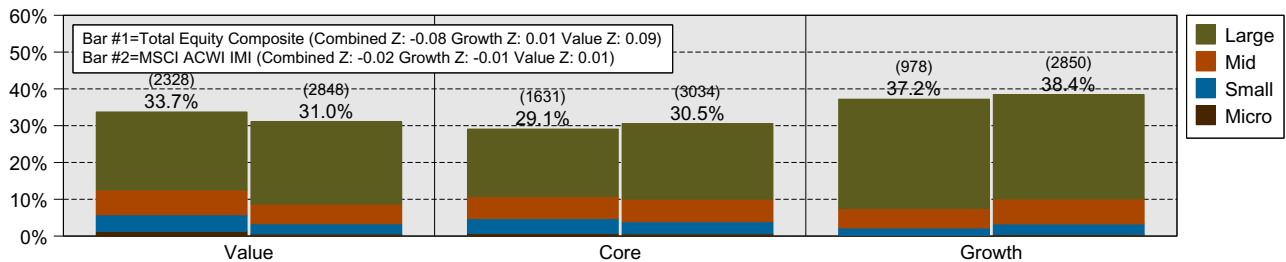
Style Map vs Callan Public Fund Spr DB Holdings as of September 30, 2019



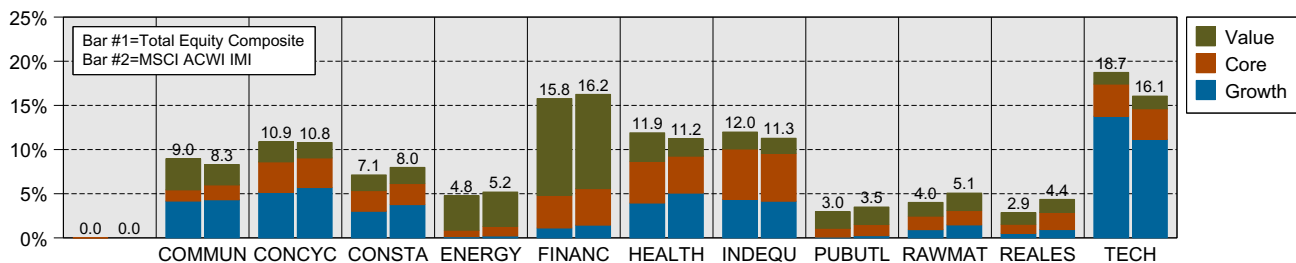
Style Exposure Matrix Holdings as of September 30, 2019

	Value	Core	Growth	Total
Large	21.2% (209)	18.3% (208)	29.6% (241)	69.2% (658)
	22.3% (282)	20.5% (276)	28.4% (315)	71.2% (873)
Mid	6.8% (282)	6.0% (313)	5.4% (289)	18.1% (884)
	5.4% (512)	6.1% (575)	6.8% (659)	18.3% (1746)
Small	4.5% (573)	4.0% (460)	2.0% (217)	10.6% (1250)
	2.8% (1084)	3.3% (1285)	2.9% (1125)	8.9% (3494)
Micro	1.2% (1264)	0.7% (650)	0.2% (231)	2.2% (2145)
	0.6% (970)	0.6% (898)	0.4% (751)	1.6% (2619)
Total	33.7% (2328)	29.1% (1631)	37.2% (978)	100.0% (4937)
	31.0% (2848)	30.5% (3034)	38.4% (2850)	100.0% (8732)

Combined Z-Score Style Distribution Holdings as of September 30, 2019



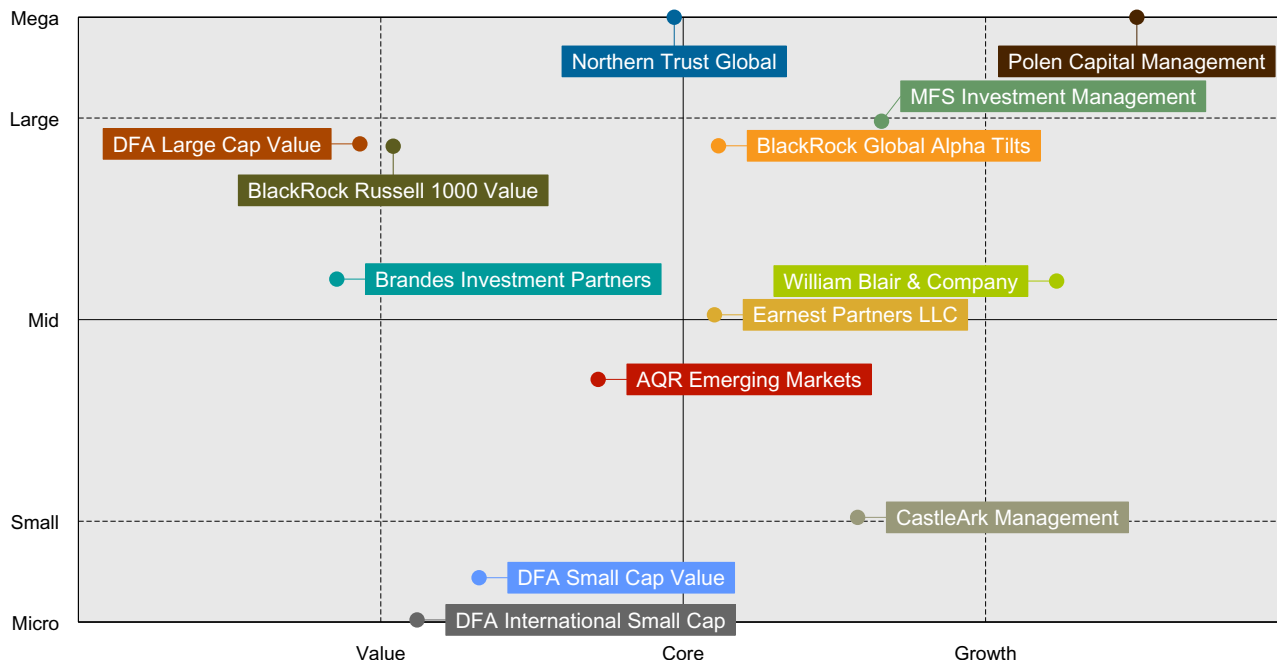
Sector Weights Distribution Holdings as of September 30, 2019



Global Holdings Based Style Analysis For One Quarter Ended September 30, 2019

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

Style Map Holdings for One Quarter Ended September 30, 2019



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
BlackRock Russell 1000 Value	6.17%	56.98	(1.00)	(0.45)	0.55	756	53.82
DFA Large Cap Value	5.81%	57.52	(1.11)	(0.32)	0.79	261	27.81
Northern Trust Global	12.04%	115.91	(0.06)	(0.02)	0.04	505	49.04
Polen Capital Management	5.63%	167.85	1.48	0.72	(0.75)	22	6.92
Earnest Partners LLC	4.80%	17.85	0.08	0.04	(0.04)	59	20.07
DFA Small Cap Value	6.70%	2.01	(0.71)	(0.12)	0.59	991	107.43
CastleArk Management	3.53%	3.06	0.55	0.11	(0.44)	110	40.46
MFS Investment Management	7.92%	62.78	0.63	0.12	(0.51)	86	28.48
BlackRock Global Alpha Tilts	11.78%	57.08	0.09	0.10	0.01	953	82.69
AQR Emerging Markets	3.75%	12.60	(0.31)	(0.06)	0.26	281	36.06
Brandes Investment Partners	14.65%	26.14	(1.19)	(0.38)	0.81	60	20.37
William Blair & Company	10.77%	25.69	1.21	0.45	(0.76)	284	48.02
DFA International Small Cap	6.45%	1.42	(0.92)	(0.22)	0.70	2111	173.97

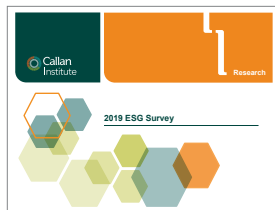
Research and Educational Programs

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

New Research from Callan’s Experts

DTS Offers Some Key Advantages for Evaluating Fixed Income Portfolios

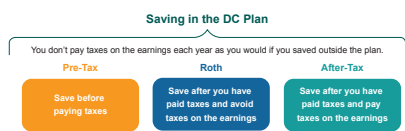
This paper describes duration times spread (DTS), which measures systematic credit-spread risk exposure. DTS estimates the return of any bond, by percentage, if its spread were to change from the current level, all else equal. DTS offers several advantages for monitoring risk in credit portfolios over other methods.



2019 ESG Survey | Callan’s seventh annual survey assessing the status of environmental, social, and governance (ESG) investing in the U.S. institutional investment market.

Callan’s DC Index in Detail | A video about the Callan DC Index™: why we started it, what it measures, and how it can benefit defined contribution plan sponsors.

DC Plan Hacks: Tips for an Efficient Design



plan sponsors should regularly evaluate their plans to make sure they serve the organization’s

benefits philosophy. When evaluating changes, the sponsor should consider its demographics, cost of benefits, vendor capabilities, impact on nondiscrimination testing, communication capabilities, and legal requirements.

2019 June Workshop Summary: In the Age of Illiquidity | For many nonprofits and defined benefit plans, the shift to higher-returning but less liquid asset classes has myriad implications. This summary discusses how consultants, institutional investors, and investment managers can work together to identify solutions tailored to each plan.

The Keys to Unlocking Private Equity Portfolio Assessment

Private equity performance evaluation has some unique considerations, so return calculations and benchmarking methodologies differ from public securities. Closed-end private equity vehicles are assessed using ratio analyses and internal rate of return (IRR) measures. Using performance metrics, private equity portfolios can be evaluated at the partnership level, at the vintage year level, and then at the total portfolio level.

Survivorship Bias and the Walking Dead

Survivorship bias, the predisposition to evaluate a data set by focusing on the “survivors” rather than also examining the record of non-survivors, is important to understand for hedge fund peer groups, which tend to have a relatively large number of constituents that disappear. Using a proprietary approach, Callan is able to adjust peer group comparisons for survivorship bias. This better-informed perspective enables a more honest assessment in considering performance relative to other opportunities.

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 institutional investors, 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 | A newsletter providing 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.

2020 National Conference

Celebrating the 40th anniversary of the Callan Institute
January 27-29, 2020 – San Francisco

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

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

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.

Introduction to Investments

April 21-22, 2020

July 21-22, 2020

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals 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.

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

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 an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance Department.

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management Inc.
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Atlanta Capital Management Co., LLC
Aurelius Capital Management
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 LLC
Chartwell Investment Partners

Manager Name
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Corbin Capital Partners, L.P.
Cooke & Bieler, L.P.
Credit Suisse Asset Management
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
Green Square Capital Advisors, LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.

Manager Name
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Ivy Investments
J.P. Morgan
Janus
Jarislowsky Fraser Global Investment Management
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
LMCG Investments, LLC
Logan Circle Partners, L.P.
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Lake Investment Management LLC
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management
Nuveen
OFI Global Asset Management

Manager Name
Osterweis Capital Management, LLC
P/E Investments
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, LLC.
Perkins Investment Management
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Polen Capital Management
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rockefeller Capital Management
Rothschild & Co. Asset Management US
Russell Investments
Schroder Investment Management North America Inc.
Smith Graham & Co. Investment Advisors, L.P.
South Texas Money Management, Ltd.
State Street Global Advisors
Strategic Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
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