

March 31, 2019



## **Mendocino County Employees' Retirement Association**

**Investment Measurement Service  
Quarterly Review**

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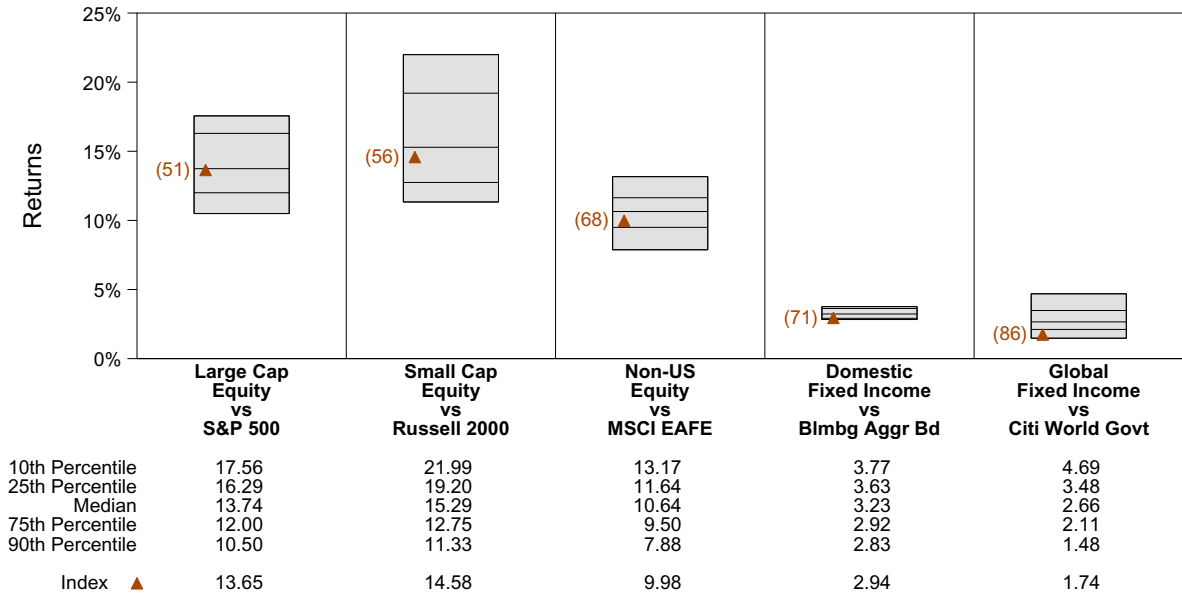
## Market Overview

### Active Management vs Index Returns

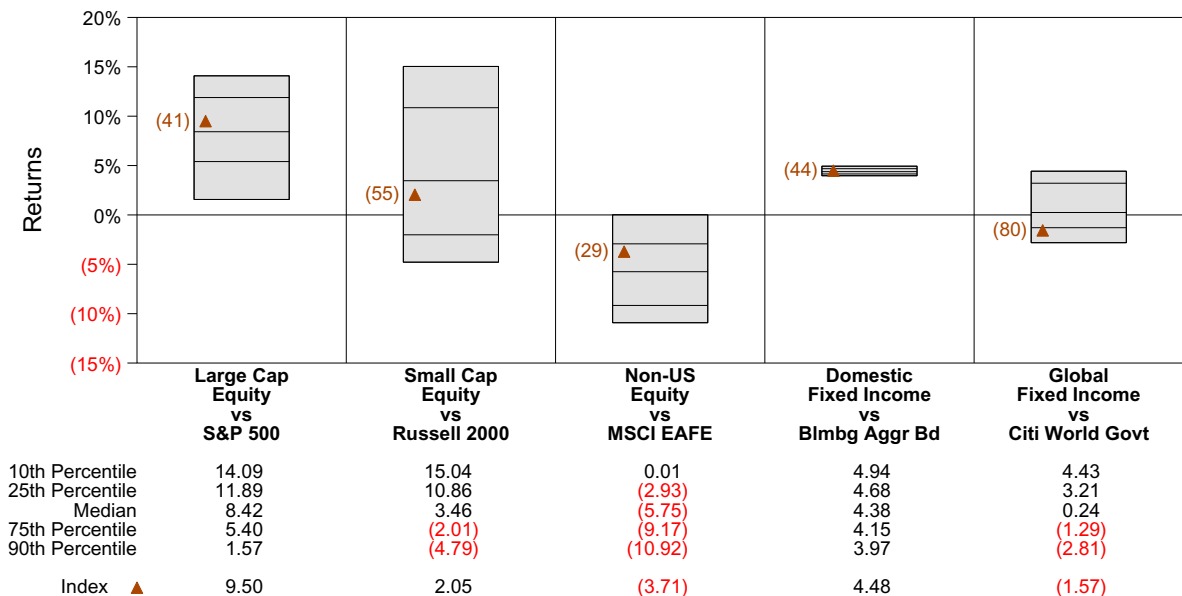
#### Market Overview

The charts below illustrate the range of returns across managers in Callan's Mutual Fund database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

#### Range of Mutual Fund Returns by Asset Class One Quarter Ended March 31, 2019



#### Range of Mutual Fund Returns by Asset Class One Year Ended March 31, 2019

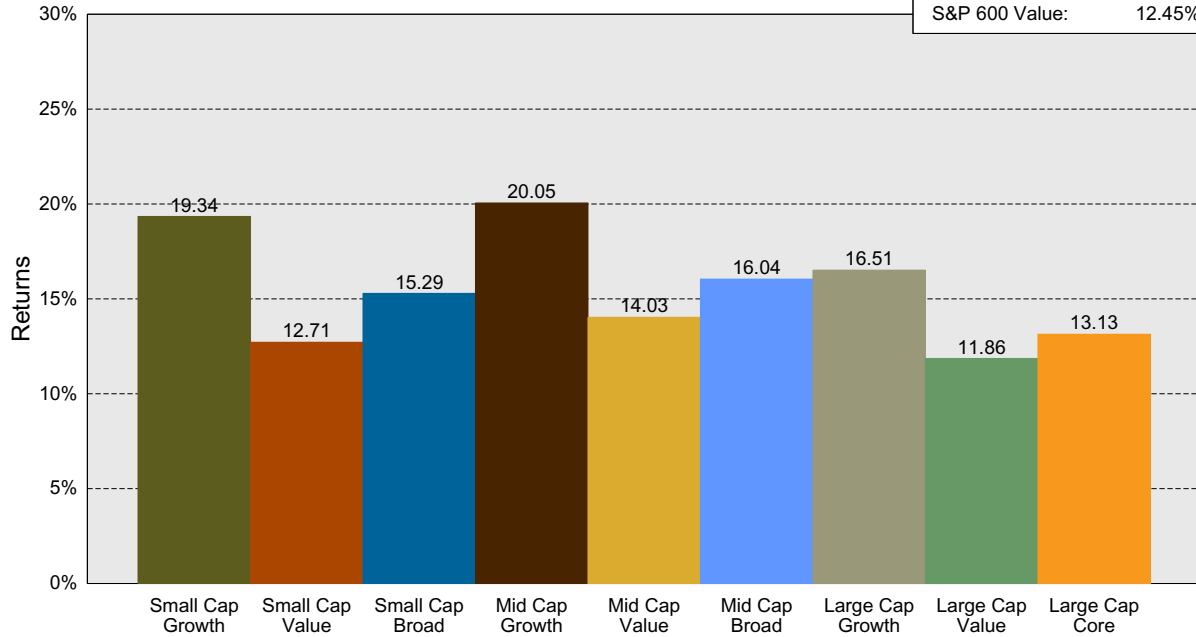


## Domestic Equity Active Management Overview

U.S. equity markets had no problem erasing the pain of the fourth quarter as the S&P 500 rose 13.7% with double-digit gains across cap and style spectrums. On a relative basis, Growth outperformed Value (R1000 Growth: +16.1% vs. R1000 Value: +11.9%), Small Cap outperformed Large Cap (R2000: +14.6% vs. R1000: +14.0%), and virtually all sectors delivered double-digit results with the exceptions being Financials (+8.6%) and Health Care (+6.6%). Volatility returned to more normalized levels, with just a few trading days seeing market movement of more than 2% in either direction (versus nearly 20% in the fourth quarter.)

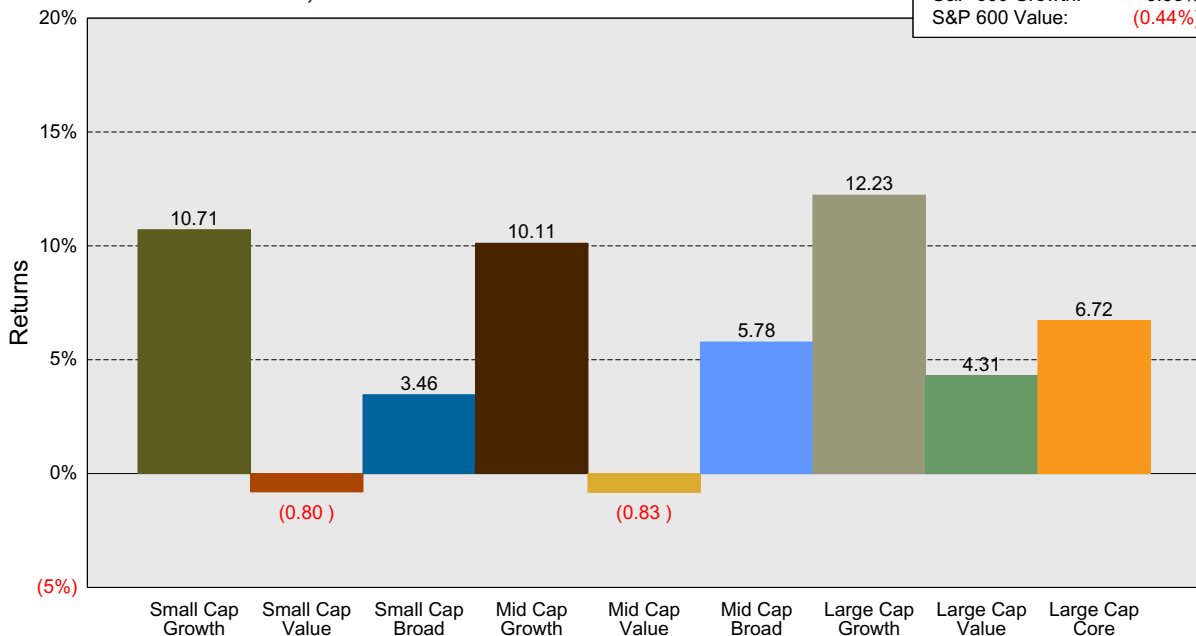
S&P 500:	13.65%
S&P 500 Growth:	14.95%
S&P 500 Value:	12.19%
S&P Mid Cap:	14.49%
S&P 600:	11.61%
S&P 600 Growth:	10.84%
S&P 600 Value:	12.45%

### Mutual Fund Style Group Median Returns for Quarter Ended March 31, 2019



S&P 500:	9.50%
S&P 500 Growth:	12.77%
S&P 500 Value:	5.93%
S&P Mid Cap:	2.59%
S&P 600:	1.57%
S&P 600 Growth:	3.83%
S&P 600 Value:	(0.44%)

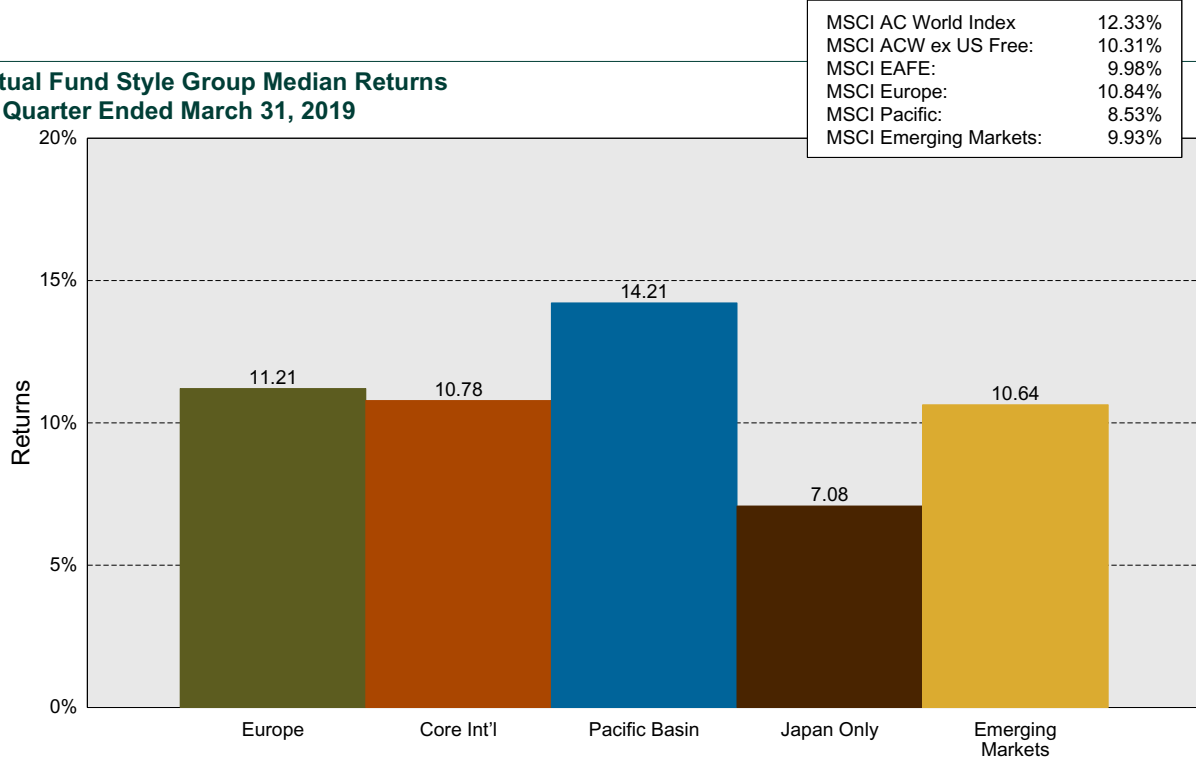
### Mutual Fund Style Group Median Returns for One Year Ended March 31, 2019



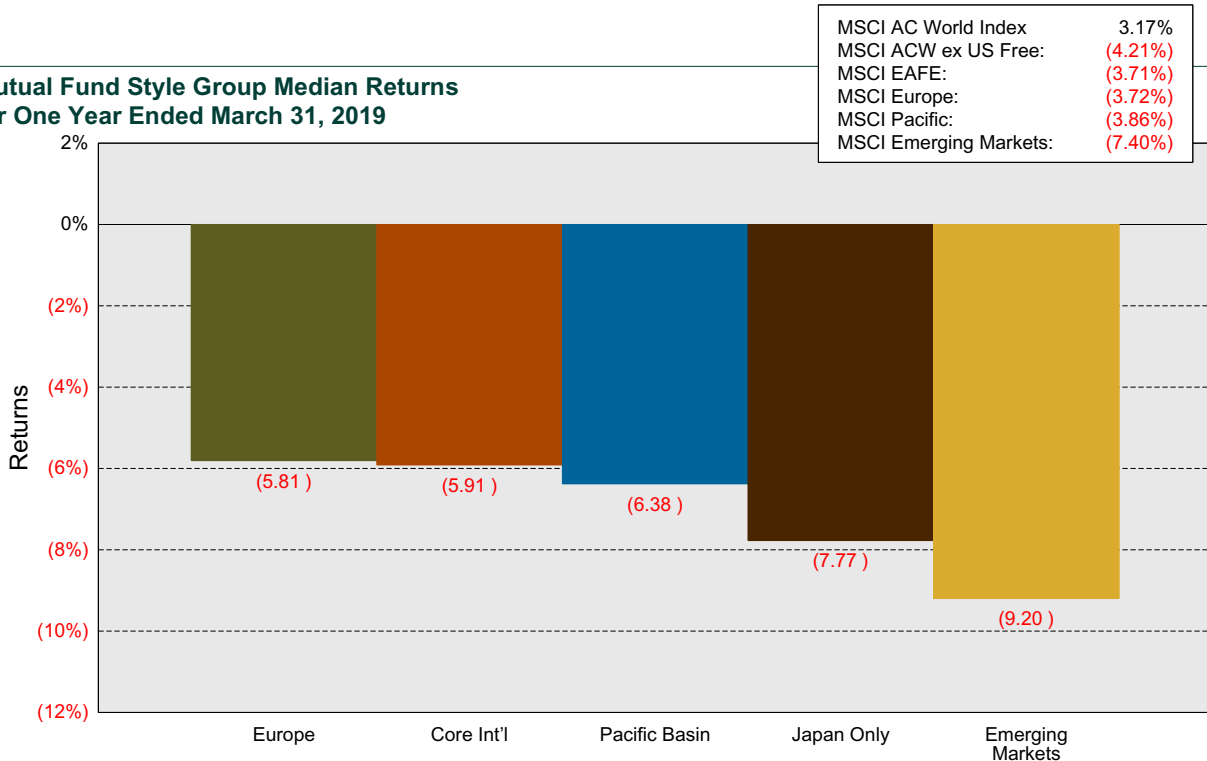
## International Equity Active Management Overview

Non-U.S. developed (MSCI EAFE: 10.0%) and emerging market equities (MSCI Emg Mkts: +9.9%) also rebounded strongly in the first quarter, but trailed their U.S. counterparts (and failed to make up for the pain felt in the fourth quarter). The U.K. (+11.9%), Canada (+15.4%), and Italy (+14.6%) were among the standout performers, while Japan (+6.7%) was a laggard but positive nonetheless. Similarly, emerging market performance was robust across the board with all the BRIC countries up strongly: China (+17.7%), India (+7.2%), Russia (+12.2%), and Brazil (+8.1%). Turkey's GDP dropped 3% y-o-y in the fourth quarter amid economic and political woes and was the worst-performing country (-3.2%).

**Mutual Fund Style Group Median Returns  
for Quarter Ended March 31, 2019**



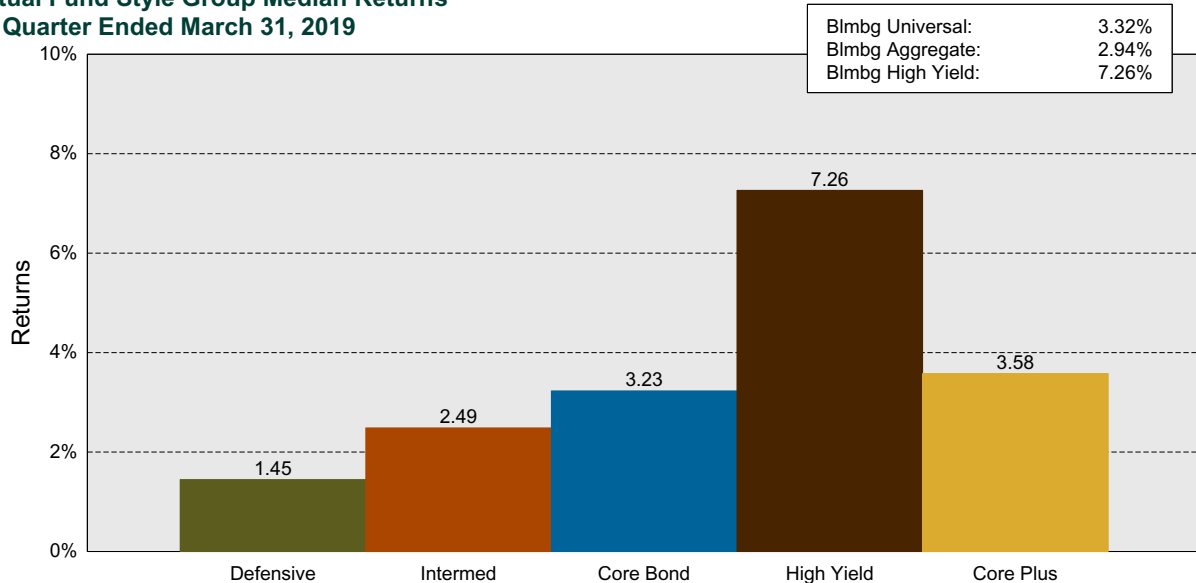
**Mutual Fund Style Group Median Returns  
for One Year Ended March 31, 2019**



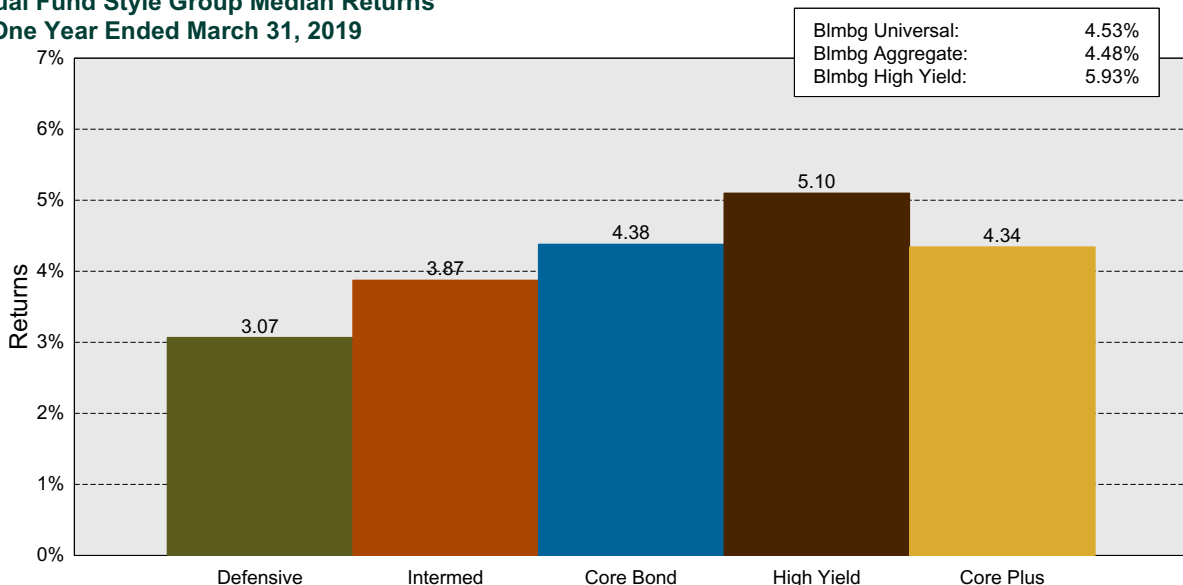
## Domestic Fixed Income Active Management Overview

In the U.S., the Bloomberg Barclays US Aggregate Bond Index rose 2.9% for the quarter, with investment grade corporates (Bloomberg Barclays Corporate: +5.1%) up the most. Yields fell sharply in March as the market digested unexpectedly dovish comments from the Fed. The 10-year U.S. Treasury returned 2.8% and its yield closed the quarter at 2.41%, down nearly 30 bps from year-end and significantly from the multi-year high of 3.24% hit in early November. Portions of the yield curve inverted, but the widely watched spread between the 2- and 10-year Treasury note remained positive at 14 bps. The high yield corporate bond market (Bloomberg Barclays High Yield: +7.3%) soared and the sector's yield-to-worst ended the quarter at 6.4% after surging to nearly 8% in the fourth quarter. Similarly, leveraged loans were up 4.0% after falling 3.5% (S&P LSTA) in the fourth quarter. While the fundamental picture for corporations remains intact, these returns were driven primarily by a strong technical tailwind on the back of a very weak December. Municipal bonds (Bloomberg Barclays Municipal Bond: +2.9%) outperformed U.S. Treasuries and were also helped by a favorable supply/demand backdrop. Municipal mutual funds absorbed roughly \$24 billion in inflow, the best first quarter since data collection began in 1992.

### Mutual Fund Style Group Median Returns for Quarter Ended March 31, 2019



### Mutual Fund Style Group Median Returns for One Year Ended March 31, 2019







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## ASSET ALLOCATION AND PERFORMANCE

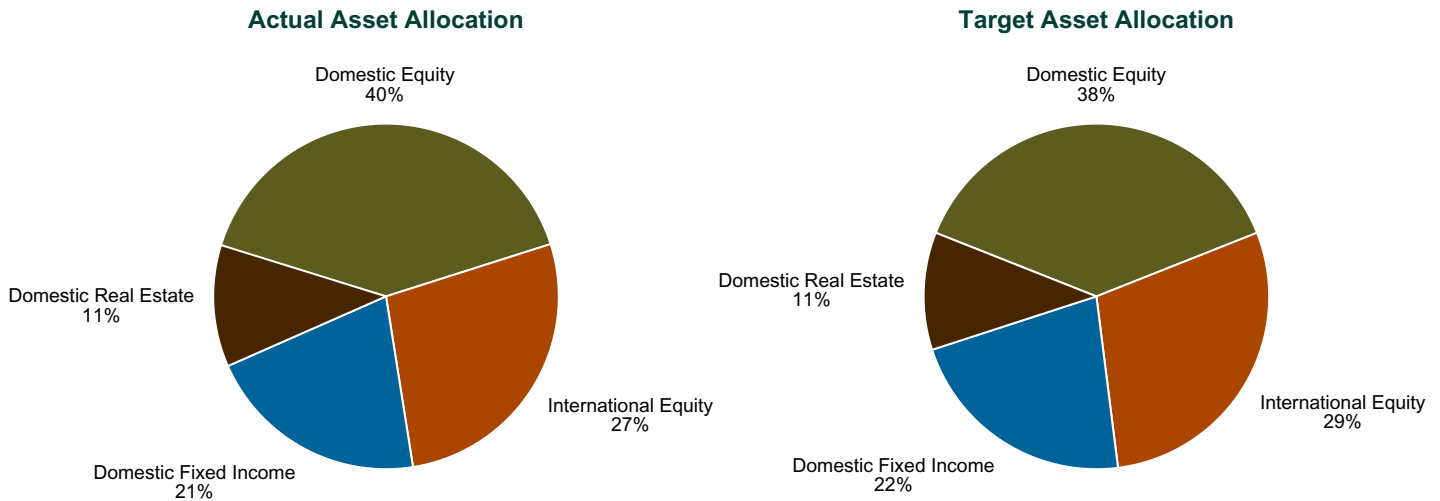
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### **Asset Allocation and Performance**

This section begins with an overview of the fund's asset allocation at the broad asset class level. This is followed by a top down performance attribution analysis which analyzes the fund's performance relative to the performance of the fund's policy target asset allocation. The fund's historical performance is then examined relative to funds with similar objectives. Performance of each asset class is then shown relative to the asset class performance of other funds. Finally, a summary is presented of the holdings of the fund's investment managers, and the returns of those managers over various recent periods.

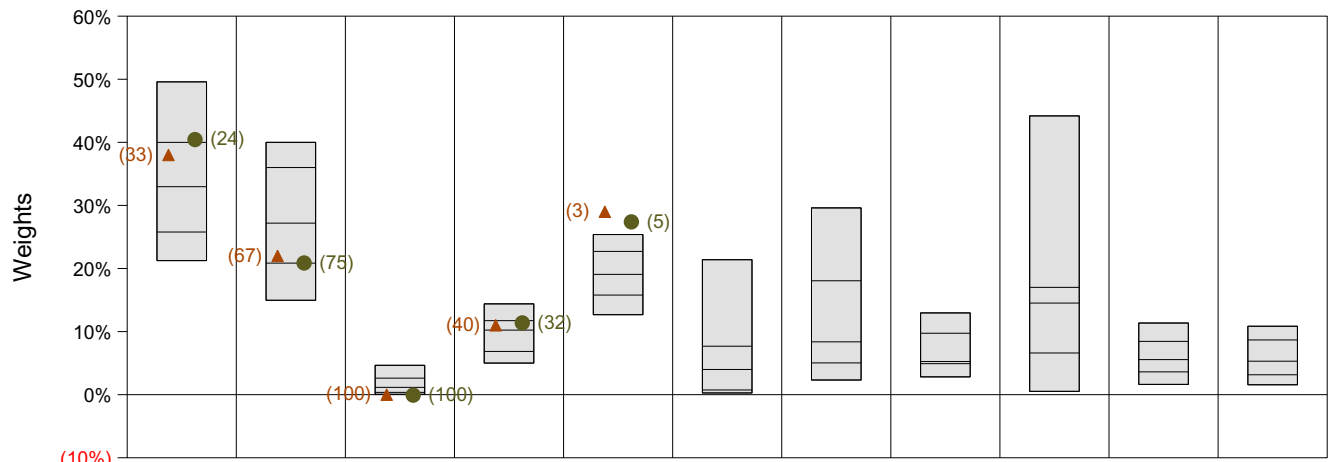
## Actual vs Target Asset Allocation As of March 31, 2019

The top left chart shows the Fund's asset allocation as of March 31, 2019. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



Asset Class	\$Dollars Actual	Weight Actual	Target	Percent Difference	Difference
Domestic Equity	210,033,715	40.4%	38.0%	2.4%	12,654,571
International Equity	142,266,688	27.4%	29.0%	(1.6%)	(8,364,762)
Domestic Fixed Income	108,419,439	20.9%	22.0%	(1.1%)	(5,852,698)
Domestic Real Estate	59,090,710	11.4%	11.0%	0.4%	1,954,642
Cash	-391,744	-0.1%	0.0%	(0.1%)	(391,744)
Total	519,418,808	100.0%	100.0%		

### Asset Class Weights vs Callan Public Fund Sponsor Database



	Domestic Equity	Domestic Fixed Income	Cash	Domestic Real Estate	International Equity	Intl Fixed-Inc	Alternative	Global Balanced	Global Equity Broad	Private Equity	Real Assets
10th Percentile	49.59	40.00	4.66	14.40	25.38	21.39	29.61	12.96	44.19	11.36	10.85
25th Percentile	39.99	36.00	2.62	11.73	22.71	7.68	18.06	9.73	17.01	8.45	8.67
Median	32.97	27.19	1.16	10.23	19.07	4.00	8.37	5.25	14.52	5.56	5.31
75th Percentile	25.78	20.85	0.37	6.85	15.79	0.75	5.04	4.92	6.61	3.61	3.16
90th Percentile	21.25	14.96	0.06	5.01	12.68	0.27	2.32	2.82	0.53	1.63	1.57
<b>Fund</b>	40.44	20.87	(0.08)	11.38	27.39	-	-	-	-	-	-
<b>Target</b>	38.00	22.00	0.00	11.00	29.00	-	-	-	-	-	-
% Group Invested	98.57%	96.43%	78.57%	76.43%	96.43%	15.71%	40.69%	17.14%	11.43%	30.00%	24.29%

\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

## 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		Net New Inv.	Inv. Return	December 31, 2018	
	Market Value	Weight			Market Value	Weight
<b>Domestic Equities</b>	<b>\$210,033,715</b>	<b>40.44%</b>	<b>\$(1,000,000)</b>	<b>\$26,633,852</b>	<b>\$184,399,863</b>	<b>38.72%</b>
<b>Large Cap Equities</b>	<b>\$146,628,432</b>	<b>28.23%</b>	<b>\$(500,000)</b>	<b>\$17,908,944</b>	<b>\$129,219,488</b>	<b>27.14%</b>
Vanguard S&P 500 Index	36,675,176	7.06%	(500,000)	4,439,217	32,735,958	6.87%
SSGA S&P Equal Weighted NL CTF	36,809,300	7.09%	0	4,798,312	32,010,988	6.72%
Boston Partners	35,592,531	6.85%	0	3,054,947	32,537,584	6.83%
Harbor Cap Appreciation	37,551,426	7.23%	0	5,616,468	31,934,958	6.71%
<b>Mid Cap Equities</b>	<b>\$32,474,257</b>	<b>6.25%</b>	<b>\$(500,000)</b>	<b>\$4,102,471</b>	<b>\$28,871,786</b>	<b>6.06%</b>
Fidelity Low Priced Stock	15,116,855	2.91%	0	1,426,178	13,690,677	2.87%
Janus Enterprise	17,357,403	3.34%	(500,000)	2,676,293	15,181,110	3.19%
<b>Small Cap Equities</b>	<b>\$30,931,026</b>	<b>5.95%</b>	<b>\$0</b>	<b>\$4,622,437</b>	<b>\$26,308,589</b>	<b>5.52%</b>
Prudential Small Cap Value	12,667,287	2.44%	0	1,343,038	11,324,250	2.38%
AB US Small Growth	18,263,738	3.52%	0	3,279,399	14,984,339	3.15%
<b>International Equities</b>	<b>\$142,266,688</b>	<b>27.39%</b>	<b>\$0</b>	<b>\$13,775,357</b>	<b>\$128,491,331</b>	<b>26.98%</b>
EuroPacific	25,999,176	5.01%	0	3,032,301	22,966,876	4.82%
Harbor International	27,963,442	5.38%	0	2,493,894	25,469,548	5.35%
Oakmark International	26,134,324	5.03%	0	2,162,841	23,971,484	5.03%
Mondrian International	26,161,556	5.04%	0	2,240,990	23,920,566	5.02%
T. Rowe Price Intl Small Cap	21,145,814	4.07%	0	2,311,878	18,833,937	3.96%
Investec	14,862,374	2.86%	0	1,533,454	13,328,920	2.80%
<b>Domestic Fixed Income</b>	<b>\$108,419,439</b>	<b>20.87%</b>	<b>\$0</b>	<b>\$3,400,299</b>	<b>\$105,019,140</b>	<b>22.05%</b>
Dodge & Cox Income	54,525,456	10.50%	0	1,943,398	52,582,058	11.04%
PIMCO	53,893,983	10.38%	0	1,456,901	52,437,082	11.01%
<b>Real Estate</b>	<b>\$59,090,710</b>	<b>11.38%</b>	<b>\$(22,445)</b>	<b>\$999,508</b>	<b>\$58,113,647</b>	<b>12.20%</b>
RREEF Private Fund	30,316,406	5.84%	0	479,461	29,836,945	6.27%
Barings Core Property Fund	27,624,305	5.32%	0	497,603	27,126,702	5.70%
625 Kings Court	1,150,000	0.22%	(22,445)	22,445	1,150,000	0.24%
<b>Cash</b>	<b>\$-391,744</b>	<b>(0.08%)</b>	<b>\$(565,348)</b>	<b>\$0</b>	<b>\$173,604</b>	<b>0.04%</b>
<b>Total Fund</b>	<b>\$519,418,808</b>	<b>100.0%</b>	<b>\$(1,587,793)</b>	<b>\$44,809,017</b>	<b>\$476,197,584</b>	<b>100.0%</b>

## 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	Last 10 Years
<b>Domestic Equities</b>	<b>14.47%</b>	<b>6.82%</b>	<b>14.59%</b>	<b>9.72%</b>	<b>16.33%</b>
Russell 3000 Index	14.04%	8.77%	13.48%	10.36%	16.00%
<b>Large Cap Equities</b>					
Vanguard S&P 500 Index	13.65%	9.47%	13.48%	10.88%	-
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	15.92%
SSGA S&P Eq Weighted NL CTF	14.98%	7.09%	-	-	-
S&P 500 Eq Weighted	14.91%	7.22%	12.03%	9.52%	17.75%
Boston Partners	9.39%	1.26%	10.71%	6.73%	-
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	15.92%
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	14.52%
Harbor Cap Appreciation (1)	17.59%	11.60%	18.57%	13.99%	17.23%
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	15.92%
Russell 1000 Growth Index	16.10%	12.75%	16.53%	13.50%	17.52%
<b>Mid Cap Equities</b>					
Fidelity Low Priced Stock	10.42%	(0.40%)	8.60%	6.30%	14.91%
Russell MidCap Value Idx	14.37%	2.89%	9.50%	7.22%	16.39%
Janus Enterprise (2)	17.88%	11.39%	17.33%	13.52%	18.84%
Russell MidCap Growth Idx	19.62%	11.51%	15.06%	10.89%	17.60%
<b>Small Cap Equities</b>					
Prudential Small Cap Value (3)	11.86%	(6.23%)	8.19%	4.71%	-
US Small Cap Value Idx	12.90%	0.79%	9.82%	6.25%	15.53%
Russell 2000 Value Index	11.93%	0.17%	10.86%	5.59%	14.12%
AB US Small Growth (4)	21.89%	15.12%	23.83%	11.07%	20.22%
Russell 2000 Growth Index	17.14%	3.85%	14.87%	8.41%	16.52%

(1) Switched share class in June 2016.

(2) Switched share class in July 2016.

(3) Switched share class in September 2015.

(4) Switched to a mutual fund in September 2015.

## 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	Last 10 Years
<b>International Equities</b>	<b>10.62%</b>	<b>(8.50%)</b>	<b>6.53%</b>	<b>1.35%</b>	<b>9.23%</b>
MSCI ACWI ex-US Index	10.44%	(3.73%)	8.61%	3.05%	9.35%
EuroPacific	13.20%	(4.66%)	9.33%	4.27%	9.95%
Harbor International (1)	9.79%	(9.34%)	3.41%	(0.28%)	8.61%
Oakmark International (2)	9.02%	(14.32%)	6.59%	1.18%	11.89%
Mondrian International	9.16%	(3.31%)	6.23%	1.62%	-
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	8.96%
MSCI ACWI ex-US Index	10.44%	(3.73%)	8.61%	3.05%	9.35%
T. Rowe Price Intl Small Cap	11.99%	(10.88%)	-	-	-
MSCI ACWI ex US Small Cap	10.26%	(9.48%)	7.01%	3.26%	11.86%
Investec	11.29%	(7.40%)	-	-	-
MSCI Emerging Markets Index	9.93%	(7.40%)	10.68%	3.68%	8.95%
<b>Domestic Fixed Income</b>	<b>3.24%</b>	<b>4.07%</b>	<b>3.21%</b>	<b>3.00%</b>	<b>4.98%</b>
Blmbg Aggregate Index	2.94%	4.48%	2.03%	2.74%	3.77%
Dodge & Cox Income	3.70%	4.31%	3.64%	3.15%	5.56%
PIMCO	2.78%	3.83%	2.79%	2.85%	4.84%
Blmbg Aggregate Index	2.94%	4.48%	2.03%	2.74%	3.77%
<b>Real Estate</b>	<b>1.72%</b>	<b>6.76%</b>	<b>6.63%</b>	<b>9.05%</b>	<b>11.37%</b>
Real Estate Custom Benchmark (3)	1.48%	6.80%	7.11%	9.35%	12.90%
RREEF Private	1.61%	6.86%	7.22%	9.59%	8.90%
Barings Core Property Fund	1.83%	6.61%	6.88%	8.72%	-
NFI-ODCE Equal Weight Net	1.48%	6.80%	7.26%	9.42%	7.52%
625 Kings Court	1.95%	7.75%	13.99%	12.45%	9.06%
<b>Total Fund</b>	<b>9.39%</b>	<b>1.66%</b>	<b>8.92%</b>	<b>5.88%</b>	<b>10.61%</b>
Total Fund Benchmark*	9.17%	4.33%	8.93%	6.63%	10.66%

\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

(1) Switched share class in June 2016.

(2) Switched to CIT in November 2015.

(3) Real Estate Custom Benchmark is 50% NAREIT Composite Index and 50% NFI-ODCE Equal Wt Net through 12/31/2011; 20% NAREIT Composite Index and 80% NFI-ODCE Equal Wt Net through 12/31/2016 and NFI-ODCE Equal Wt Net 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- 3/2019	2018	2017	2016	2015
<b>Domestic Equities</b>	<b>14.47%</b>	<b>(6.04%)</b>	<b>23.74%</b>	<b>10.90%</b>	<b>(0.15%)</b>
Russell 3000 Index	14.04%	(5.24%)	21.13%	12.74%	0.48%
<b>Large Cap Equities</b>					
Vanguard S&P 500 Index	13.65%	(4.42%)	21.79%	11.93%	1.37%
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
SSGA S&P Eq Weighted NL CTF	14.98%	(7.83%)	-	-	-
S&P 500 Eq Weighted	14.91%	(7.64%)	18.90%	14.80%	(2.20%)
Boston Partners	9.39%	(8.95%)	19.23%	13.76%	(4.99%)
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
Russell 1000 Value Index	11.93%	(8.27%)	13.66%	17.34%	(3.83%)
Harbor Cap Appreciation (1)	17.59%	(0.96%)	36.68%	(1.04%)	10.99%
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
Russell 1000 Growth Index	16.10%	(1.51%)	30.21%	7.08%	5.67%
<b>Mid Cap Equities</b>					
Fidelity Low Priced Stock	10.42%	(10.75%)	20.67%	8.79%	(0.56%)
Russell MidCap Value Idx	14.37%	(12.29%)	13.34%	20.00%	(4.78%)
Janus Enterprise (2)	17.88%	(0.81%)	26.65%	12.13%	3.49%
Russell MidCap Growth Idx	19.62%	(4.75%)	25.27%	7.33%	(0.20%)
<b>Small Cap Equities</b>					
Prudential Small Cap Value (3)	11.86%	(18.82%)	6.43%	33.99%	(7.00%)
US Small Cap Value Idx	12.90%	(12.94%)	9.22%	27.64%	(5.14%)
Russell 2000 Value Index	11.93%	(12.86%)	7.84%	31.74%	(7.47%)
AB US Small Growth (4)	21.89%	(0.60%)	35.03%	6.91%	(0.66%)
Russell 2000 Growth Index	17.14%	(9.31%)	22.17%	11.32%	(1.38%)

(1) Switched share class in June 2016.

(2) Switched share class in July 2016.

(3) Switched share class in September 2015.

(4) Switched to a mutual fund in September 2015.

## 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
<b>International Equities</b>	<b>10.62%</b>	<b>(17.49%)</b>	<b>27.94%</b>	<b>2.84%</b>	<b>(4.62%)</b>
MSCI ACWI ex-US Index	10.44%	(13.77%)	27.77%	5.01%	(5.25%)
EuroPacific	13.20%	(14.91%)	31.18%	1.01%	(0.48%)
Harbor International (1)	9.79%	(17.89%)	22.98%	0.27%	(3.82%)
Oakmark International (2)	9.02%	(23.51%)	30.47%	8.19%	(3.99%)
Mondrian International	9.16%	(12.71%)	22.29%	4.50%	(6.33%)
MSCI EAFE Index	9.98%	(13.79%)	25.03%	1.00%	(0.81%)
MSCI ACWI ex-US Index	10.44%	(13.77%)	27.77%	5.01%	(5.25%)
T. Rowe Price Intl Small Cap	11.99%	(18.49%)	-	-	-
MSCI ACWI ex US Small Cap	10.26%	(18.20%)	31.65%	3.91%	2.60%
Investec	11.29%	(15.80%)	-	-	-
MSCI Emerging Markets Index	9.93%	(14.57%)	37.28%	11.19%	(14.92%)
<b>Domestic Fixed Income</b>	<b>3.24%</b>	<b>(0.28%)</b>	<b>4.74%</b>	<b>4.10%</b>	<b>0.07%</b>
Blmbg Aggregate Index	2.94%	0.01%	3.54%	2.65%	0.55%
Dodge & Cox Income	3.70%	(0.31%)	4.36%	5.61%	(0.59%)
PIMCO	2.78%	(0.26%)	5.12%	2.59%	0.73%
Blmbg Aggregate Index	2.94%	0.01%	3.54%	2.65%	0.55%
<b>Real Estate</b>	<b>1.72%</b>	<b>6.90%</b>	<b>6.88%</b>	<b>7.02%</b>	<b>12.14%</b>
Real Estate Custom Benchmark (3)	1.48%	7.30%	6.92%	8.62%	11.81%
RREEF Private	1.61%	7.41%	6.43%	7.95%	15.63%
Barings Core Property Fund	1.83%	6.34%	6.59%	8.62%	12.99%
NFI-ODCE Equal Weight Net	1.48%	7.30%	6.92%	8.36%	14.18%
625 Kings Court	1.95%	7.51%	26.09%	10.01%	9.85%
<b>Total Fund</b>	<b>9.39%</b>	<b>(6.92%)</b>	<b>18.89%</b>	<b>6.67%</b>	<b>0.01%</b>
Total Fund Benchmark*	9.17%	(5.07%)	17.34%	7.78%	0.21%

\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

(1) Switched share class in June 2016.

(2) Switched to CIT in November 2015.

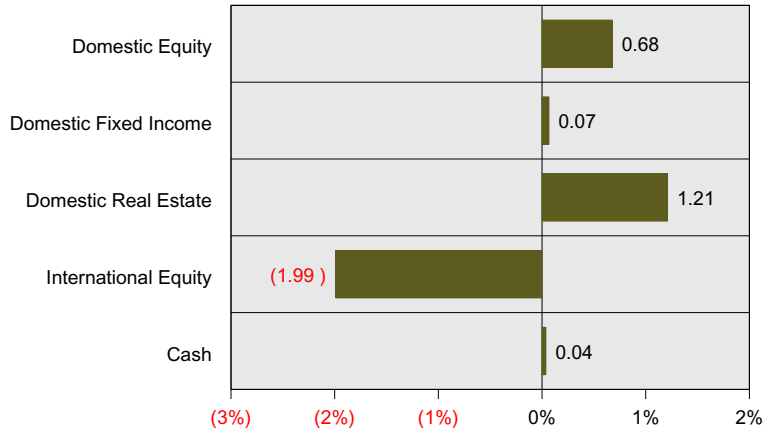
(3) Real Estate Custom Benchmark is 50% NAREIT Composite Index and 50% NFI-ODCE Equal Wt Net through 12/31/2011; 20% NAREIT Composite Index and 80% NFI-ODCE Equal Wt Net through 12/31/2016 and NFI-ODCE Equal Wt Net thereafter.



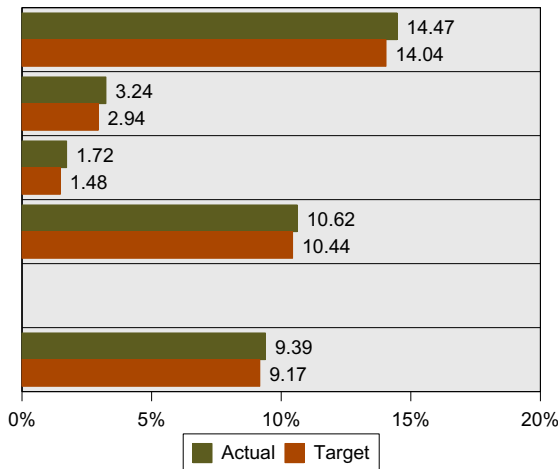
## Quarterly Total Fund Relative Attribution - March 31, 2019

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.

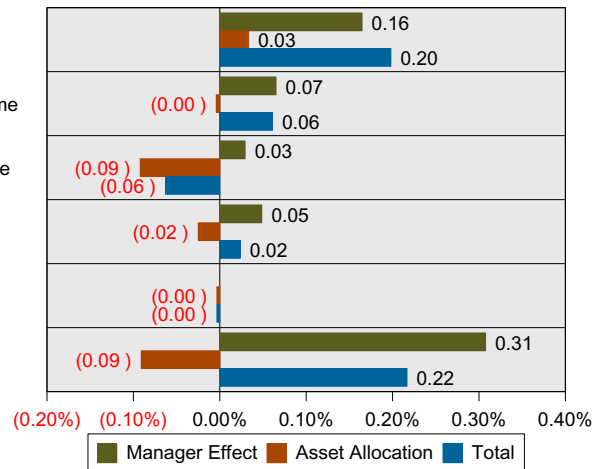
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended March 31, 2019

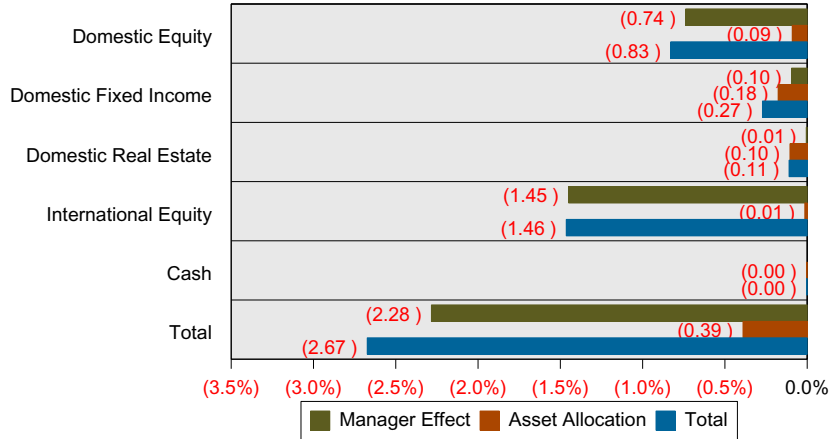
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	38%	14.47%	14.04%	0.16%	0.03%	0.20%
Domestic Fixed Income	22%	22%	3.24%	2.94%	0.07%	(0.00%)	0.06%
Domestic Real Estate	12%	11%	1.72%	1.48%	0.03%	(0.09%)	(0.06%)
International Equity	27%	29%	10.62%	10.44%	0.05%	(0.02%)	0.02%
Cash	0%	0%	0.00%	0.00%	0.00%	(0.00%)	(0.00%)
<b>Total</b>			<b>9.39%</b>	<b>9.17%</b>	<b>+ 0.31%</b>	<b>+ (0.09%)</b>	<b>0.22%</b>

\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

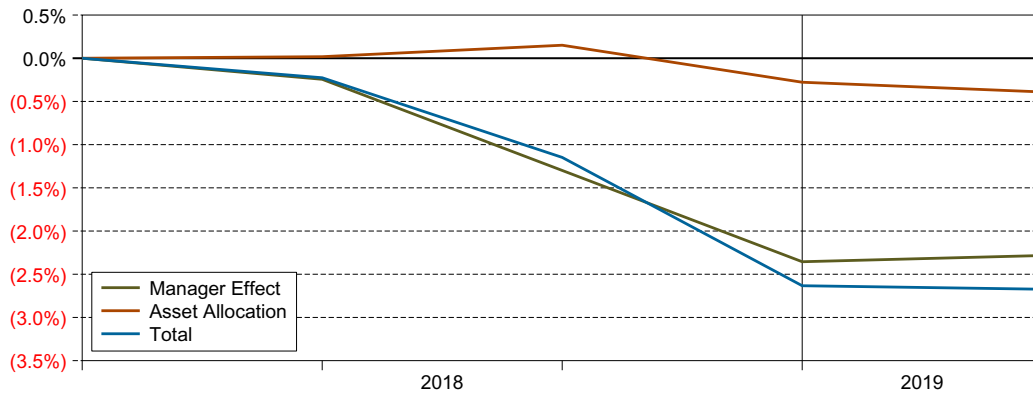
## Cumulative Total Fund Relative Attribution - March 31, 2019

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

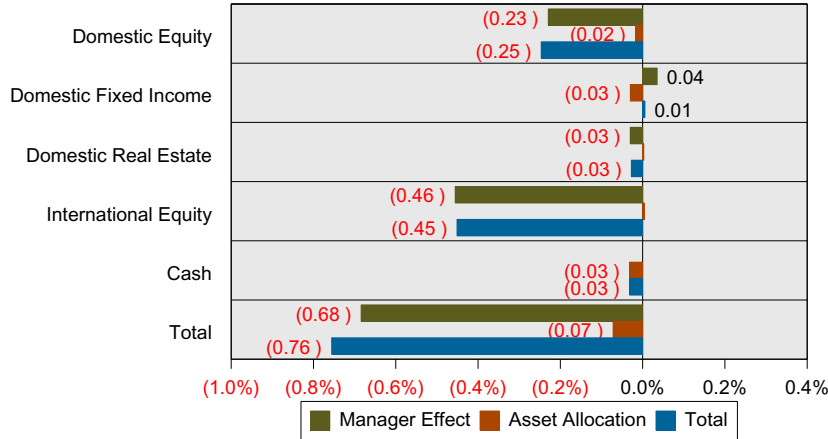
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	40%	38%	6.82%	8.77%	(0.74%)	(0.09%)	(0.83%)
Domestic Fixed Income	20%	22%	4.07%	4.48%	(0.10%)	(0.18%)	(0.27%)
Domestic Real Estate	11%	11%	6.76%	6.80%	(0.01%)	(0.10%)	(0.11%)
International Equity	28%	29%	(8.50%)	(3.73%)	(1.45%)	(0.01%)	(1.46%)
Cash	0%	0%	0.00%	0.00%	0.00%	(0.00%)	(0.00%)
<b>Total</b>			<b>1.66%</b>	<b>4.33%</b>	<b>+ (2.28%)</b>	<b>+ (0.39%)</b>	<b>(2.67%)</b>

\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

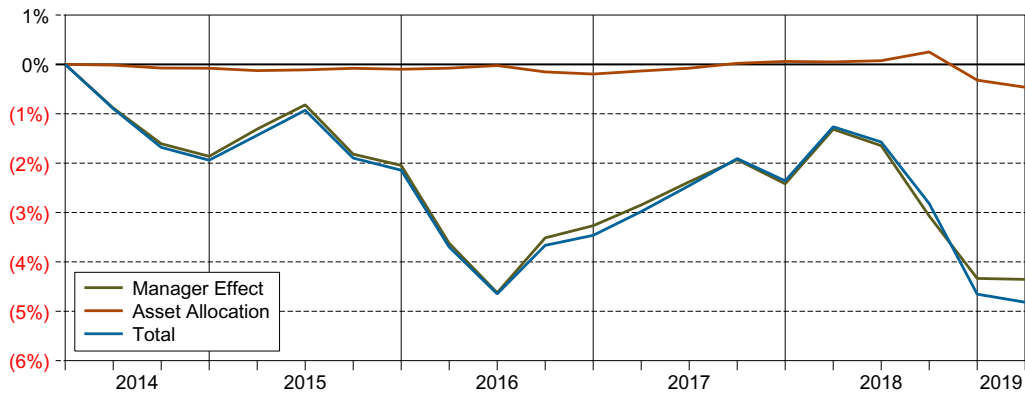
## Cumulative Total Fund Relative Attribution - March 31, 2019

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.

### Five Year Annualized Relative Attribution Effects



### Cumulative Relative Attribution Effects



### Five Year Annualized Relative Attribution Effects

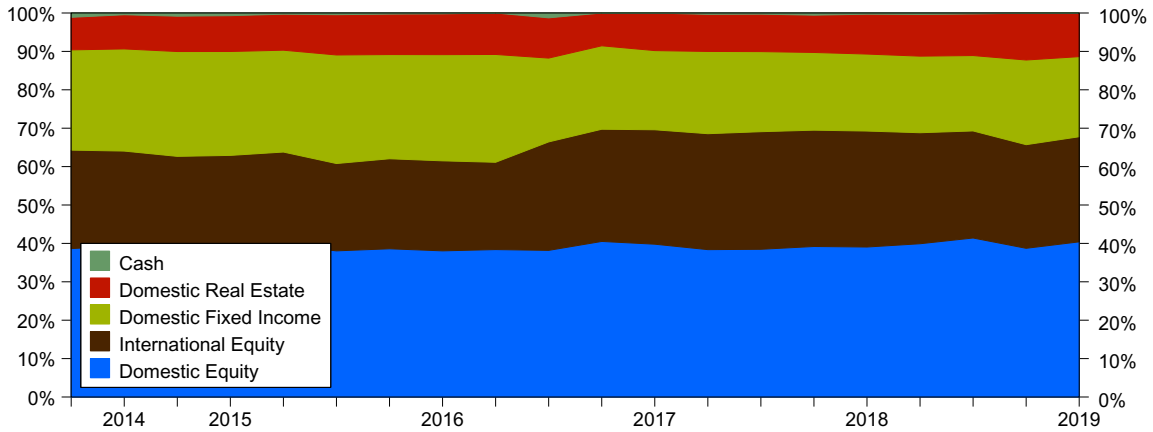
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	38%	9.72%	10.36%	(0.23%)	(0.02%)	(0.25%)
Domestic Fixed Income	24%	25%	3.00%	2.74%	0.04%	(0.03%)	0.01%
Domestic Real Estate	10%	10%	9.05%	9.35%	(0.03%)	0.00%	(0.03%)
International Equity	27%	27%	1.35%	3.05%	(0.46%)	0.00%	(0.45%)
Cash	0%	0%	0.00%	0.00%	0.00%	(0.03%)	(0.03%)
<b>Total</b>			<b>5.88%</b>	<b>6.63%</b>	<b>+ (0.68%)</b>	<b>+ (0.07%)</b>	<b>(0.76%)</b>

\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

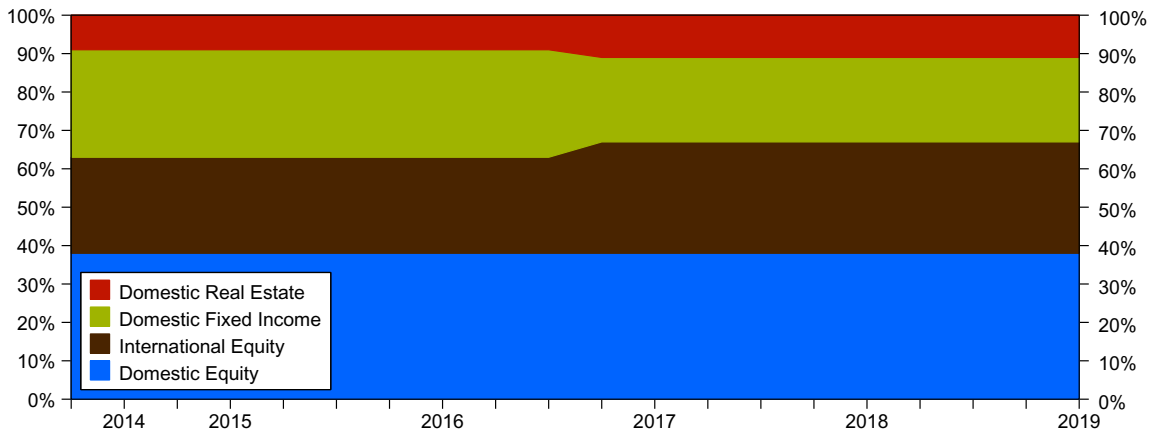
## Actual vs Target Historical Asset Allocation

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.

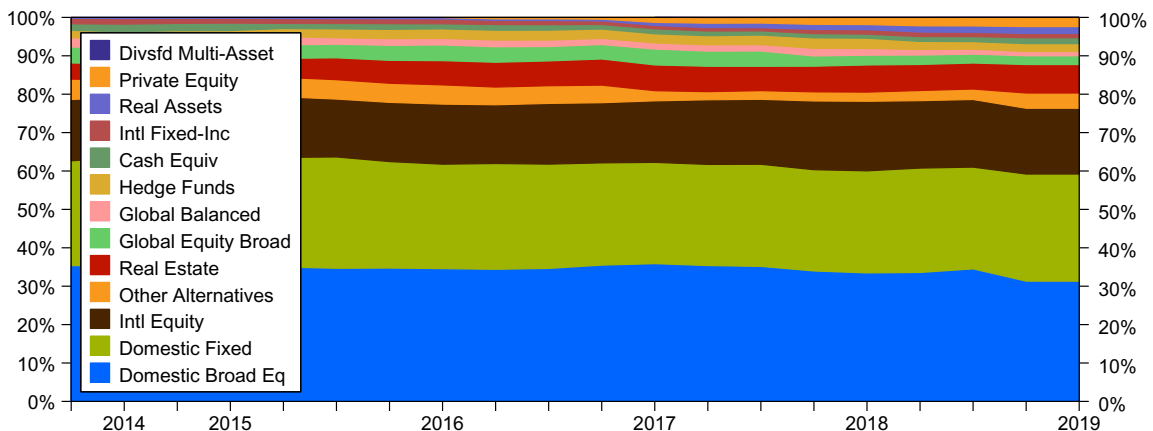
### Actual Historical Asset Allocation



### Target Historical Asset Allocation



### Average Callan Public Fund Sponsor Database Historical Asset Allocation

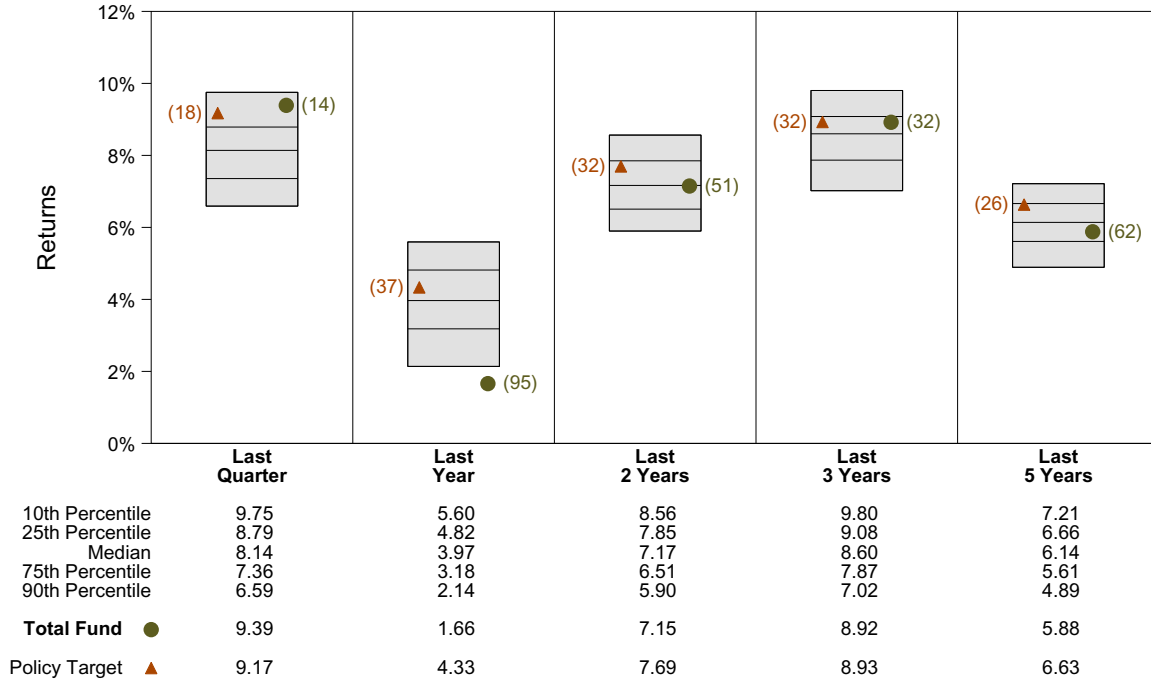


\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

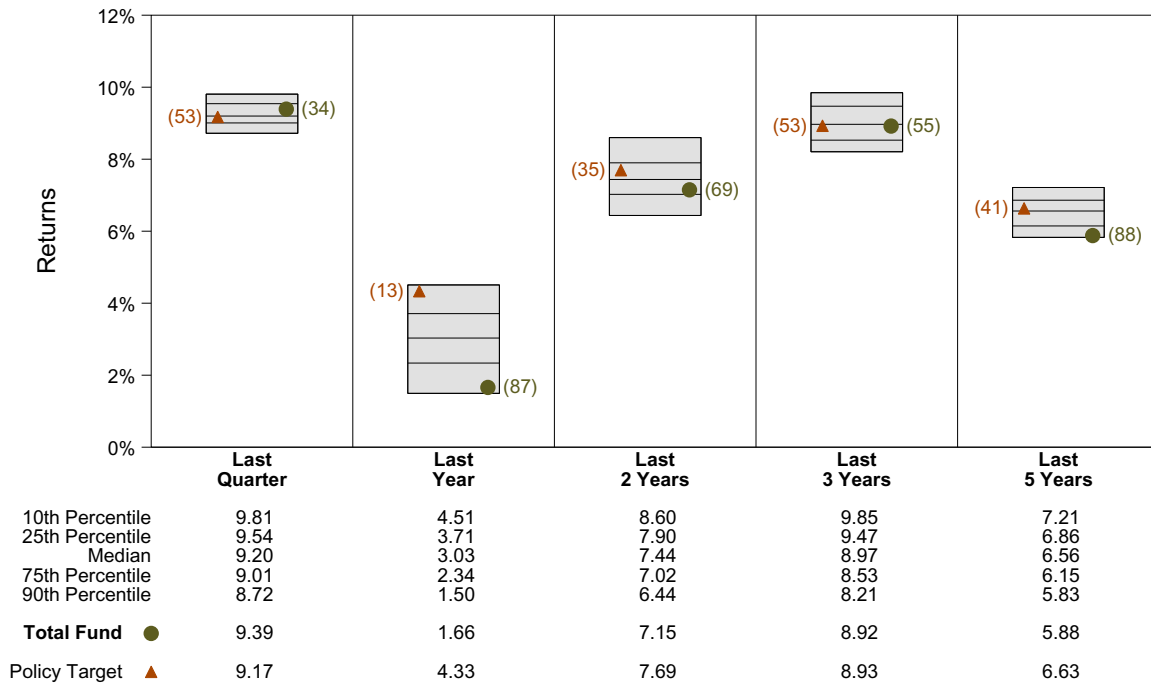
## Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended March 31, 2019. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

### Callan Public Fund Sponsor Database



### Asset Allocation Adjusted Ranking



\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

# Total Fund

## Period Ended March 31, 2019

### Investment Philosophy

The Public Fund Sponsor Database consists of public employee pension total funds including both Callan LLC client and surveyed non-client funds.

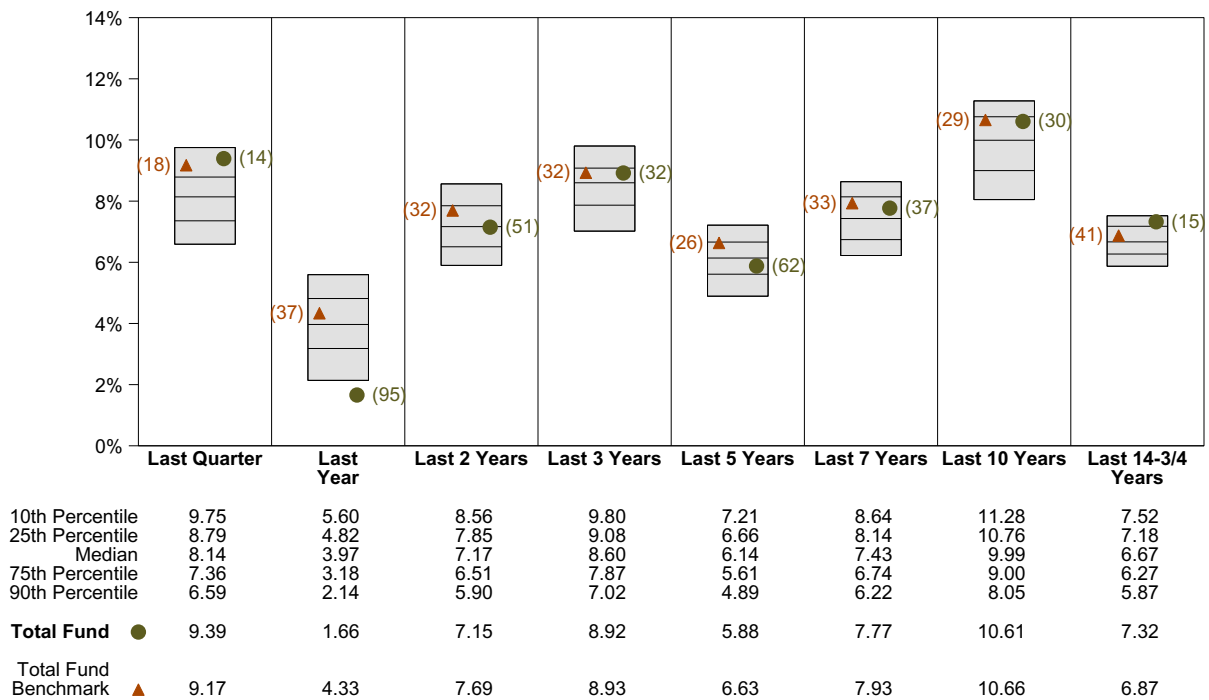
### Quarterly Summary and Highlights

- Total Fund's portfolio posted a 9.39% return for the quarter placing it in the 14 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 95 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Benchmark by 0.22% for the quarter and underperformed the Total Fund Benchmark for the year by 2.67%.

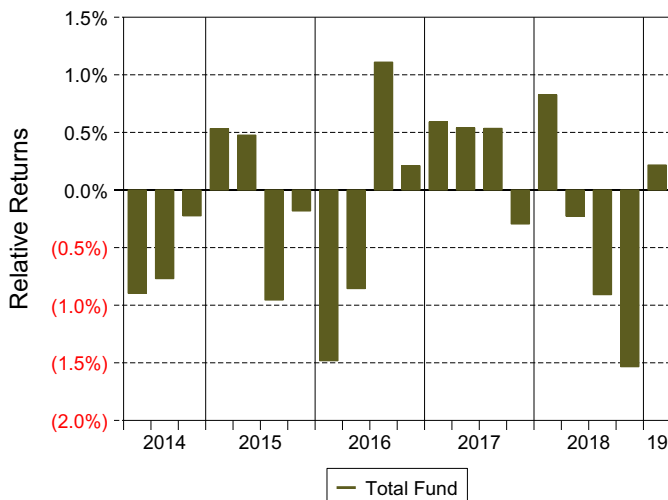
### Quarterly Asset Growth

Beginning Market Value	\$476,197,584
Net New Investment	\$-1,587,793
Investment Gains/(Losses)	\$44,809,017
Ending Market Value	\$519,418,808

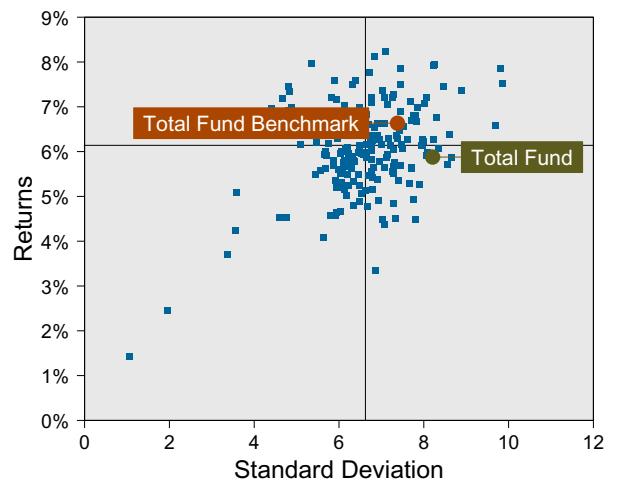
### Performance vs Callan Public Fund Sponsor Database (Gross)



### Relative Return vs Total Fund Benchmark



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

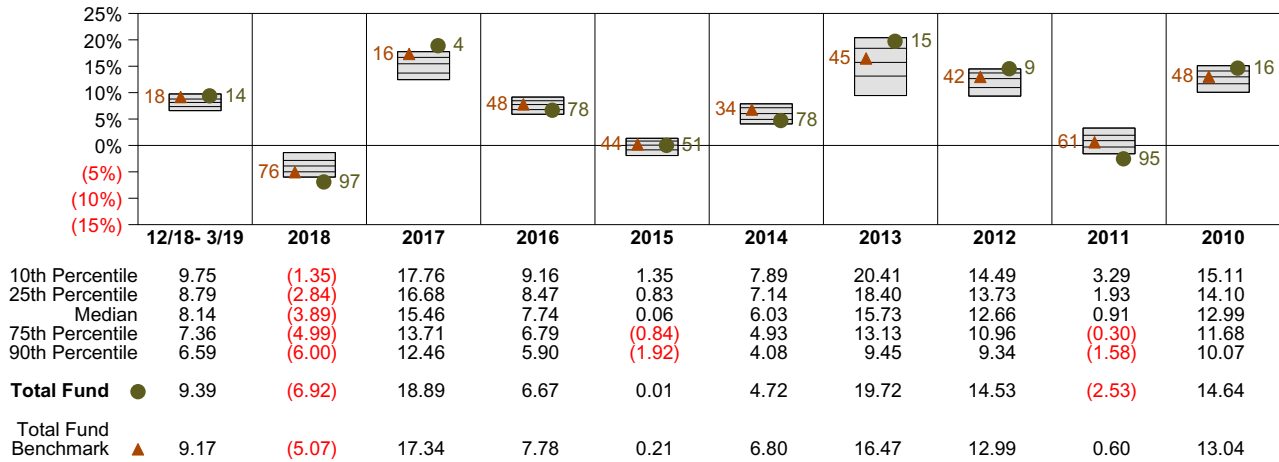


# Total Fund Return Analysis Summary

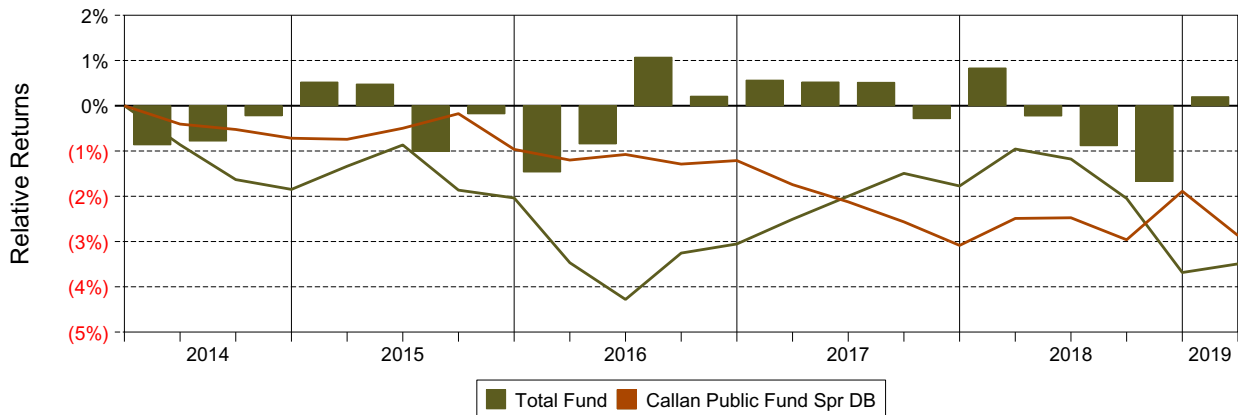
## Return Analysis

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.

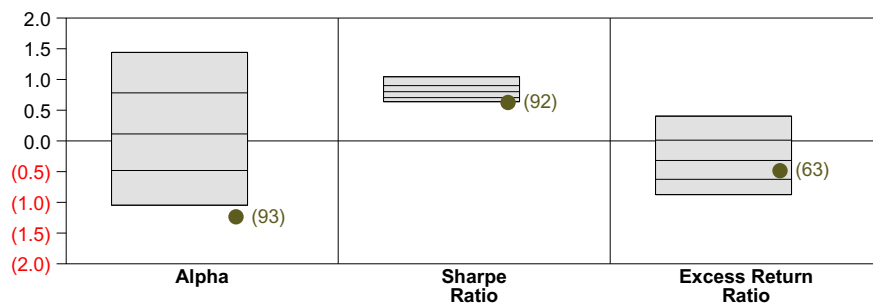
### Performance vs Callan Public Fund Sponsor Database (Gross)



### Cumulative and Quarterly Relative Return vs Total Fund Benchmark



### Risk Adjusted Return Measures vs Total Fund Benchmark Rankings Against Callan Public Fund Sponsor Database (Gross) Five Years Ended March 31, 2019

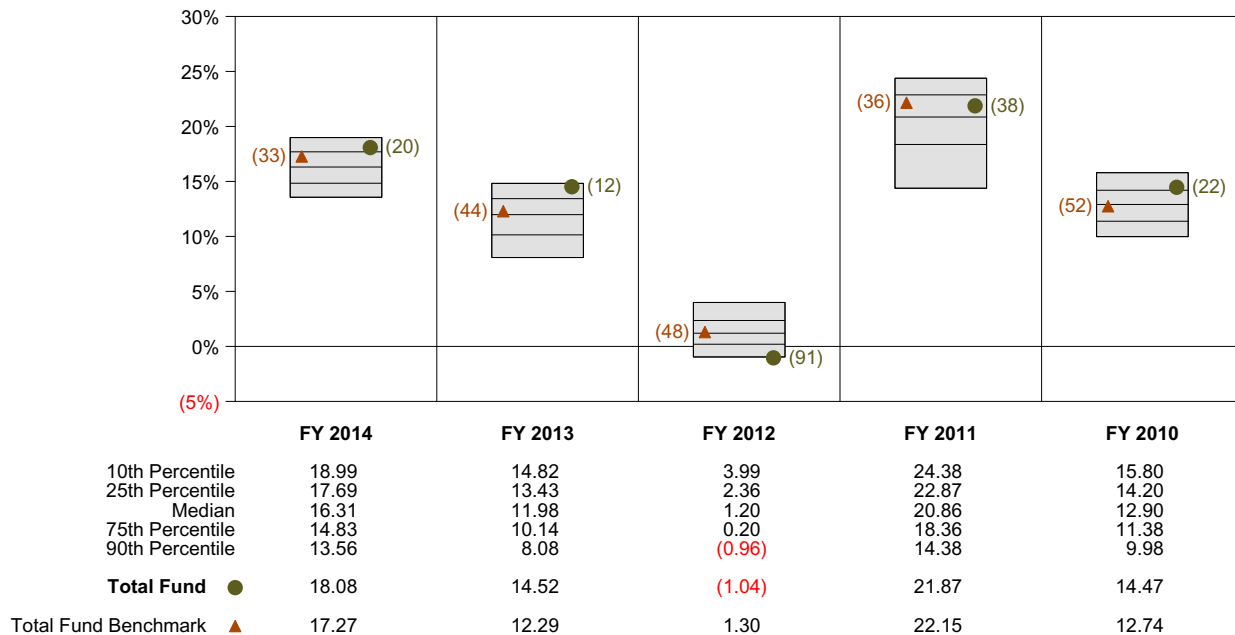
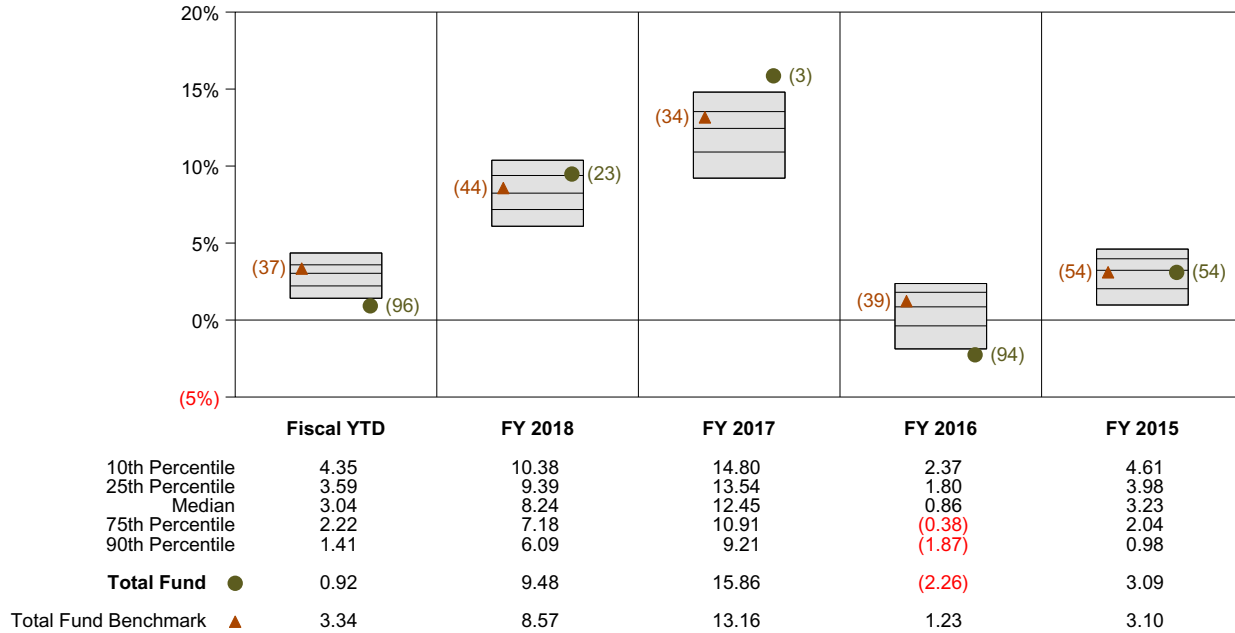


	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.44	1.04	0.40
25th Percentile	0.78	0.90	0.01
Median	0.11	0.80	(0.32)
75th Percentile	(0.48)	0.70	(0.62)
90th Percentile	(1.05)	0.64	(0.87)
<b>Total Fund</b>	● (1.24)	0.63	(0.49)

# Mendocino County Employees' Retirement Association Performance vs Callan Public Fund Sponsor Database Periods Ended March 31, 2019

## Return Ranking

The chart below illustrates fund rankings over various periods versus the Callan Public Fund Sponsor Database. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Public Fund Sponsor Database. The numbers to the right of the bar represent the percentile rankings of the fund being analyzed. The table below the chart details the rates of return plotted in the graph above.



\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.





# Domestic Equity Composite Period Ended March 31, 2019

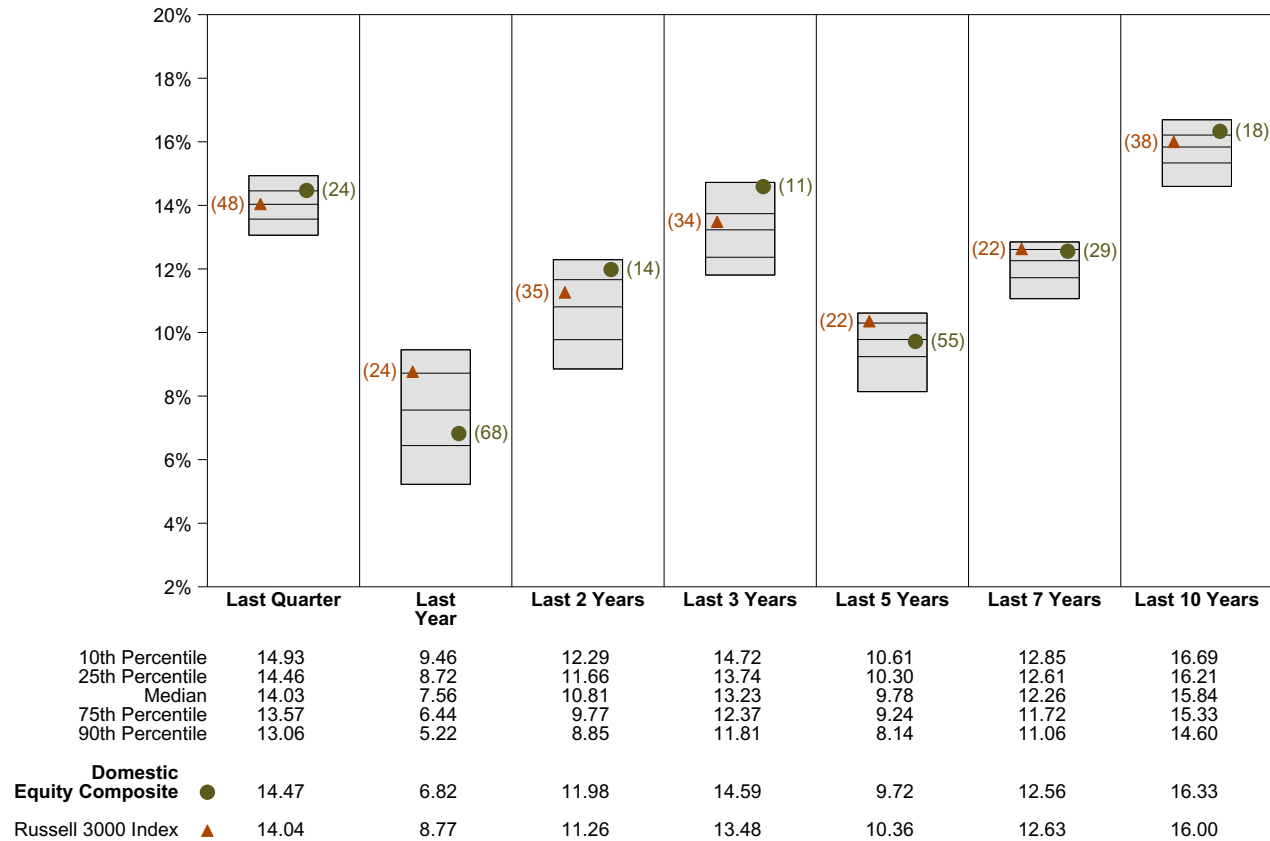
## Quarterly Summary and Highlights

- Domestic Equity Composite's portfolio posted a 14.47% return for the quarter placing it in the 24 percentile of the Public Fund - Domestic Equity group for the quarter and in the 68 percentile for the last year.
- Domestic Equity Composite's portfolio outperformed the Russell 3000 Index by 0.43% for the quarter and underperformed the Russell 3000 Index for the year by 1.94%.

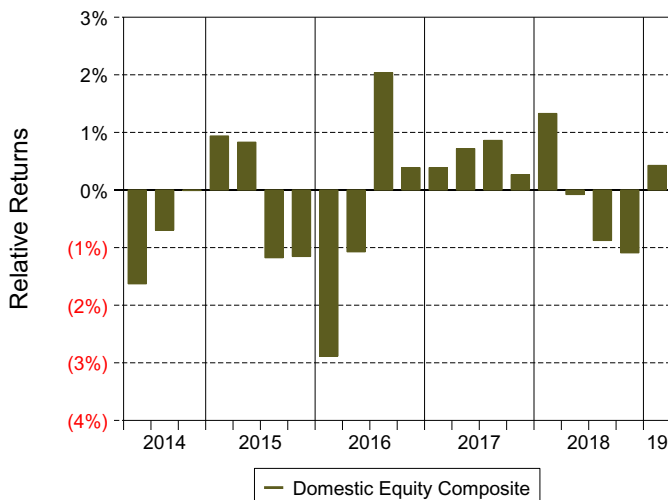
## Quarterly Asset Growth

Beginning Market Value	\$184,399,863
Net New Investment	\$-1,000,000
Investment Gains/(Losses)	\$26,633,852
Ending Market Value	\$210,033,715

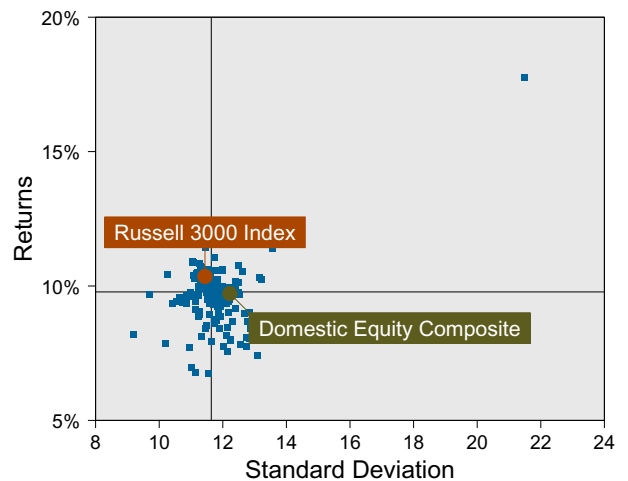
## Performance vs Public Fund - Domestic Equity (Gross)



## Relative Return vs Russell 3000 Index



## Public Fund - Domestic Equity (Gross) Annualized Five Year Risk vs Return

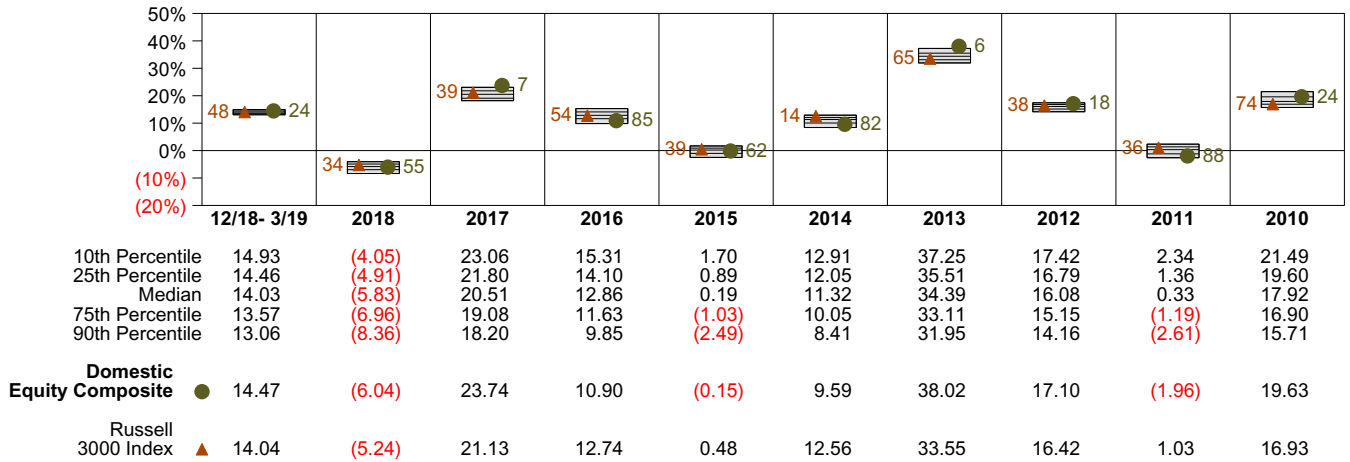


# Domestic Equity Composite Return Analysis Summary

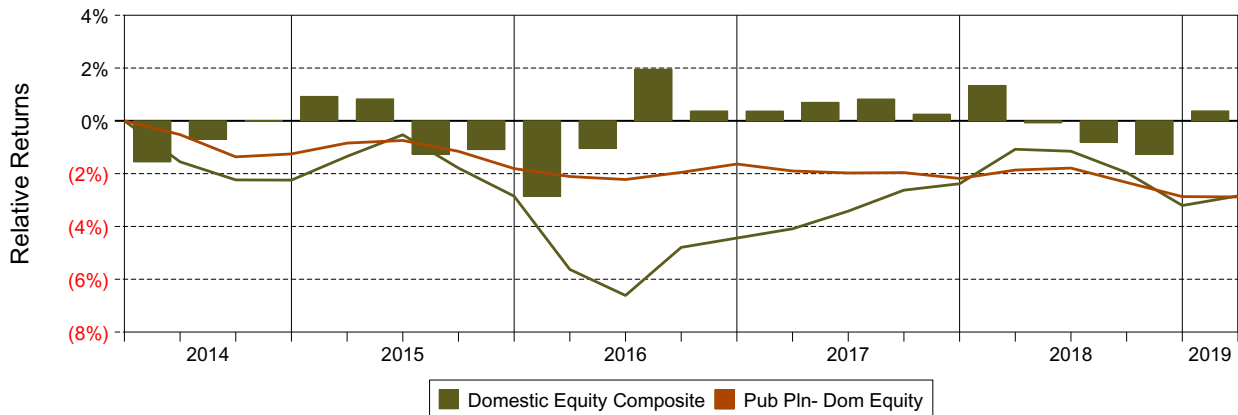
## Return Analysis

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.

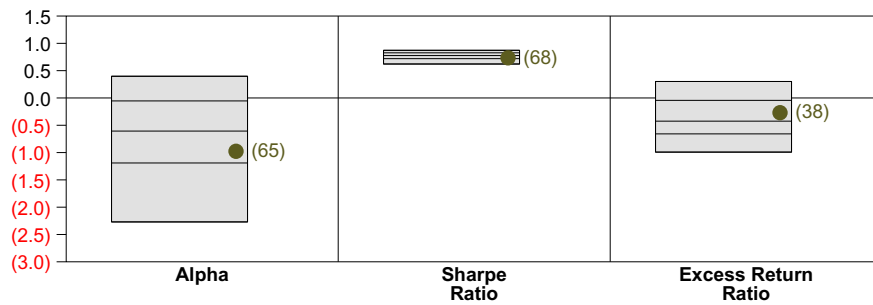
### Performance vs Public Fund - Domestic Equity (Gross)



### Cumulative and Quarterly Relative Return vs Russell 3000 Index



### Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against Public Fund - Domestic Equity (Gross) Five Years Ended March 31, 2019



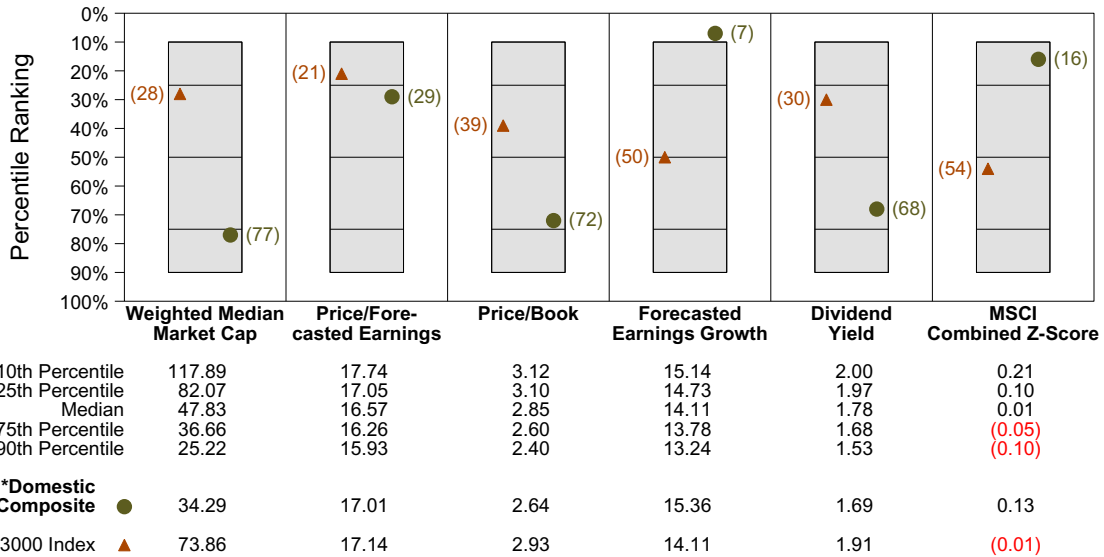
10th Percentile	0.40	0.87	0.30
25th Percentile	(0.05)	0.83	(0.04)
Median	(0.61)	0.78	(0.42)
75th Percentile	(1.19)	0.72	(0.66)
90th Percentile	(2.27)	0.62	(0.99)
<b>Domestic Equity Composite</b>	<b>(0.98)</b>	<b>0.73</b>	<b>(0.27)</b>

# Domestic Equity Composite Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

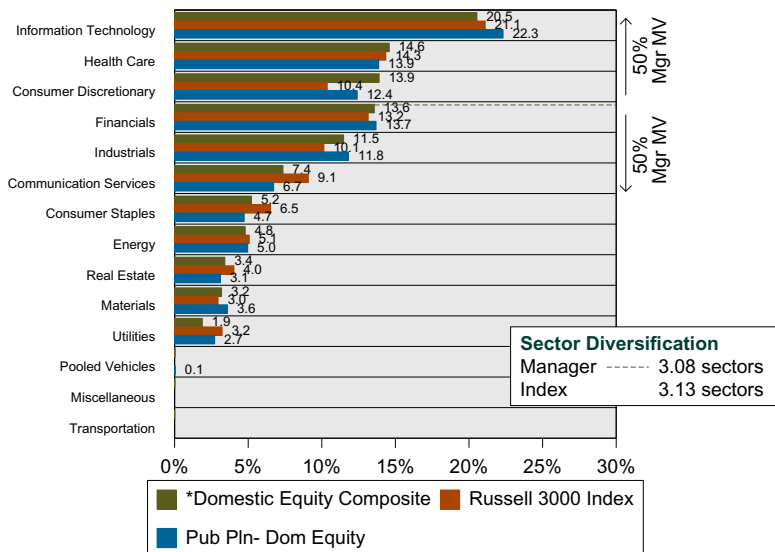
## Portfolio Characteristics Percentile Rankings Rankings Against Public Fund - Domestic Equity as of March 31, 2019



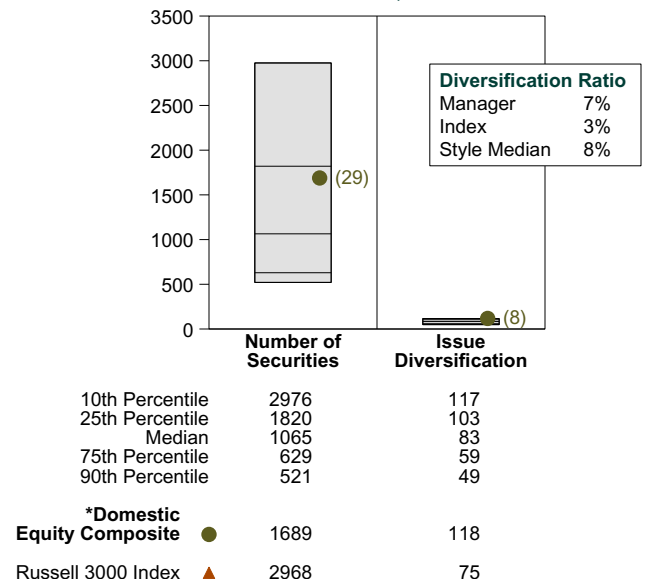
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



### Diversification March 31, 2019

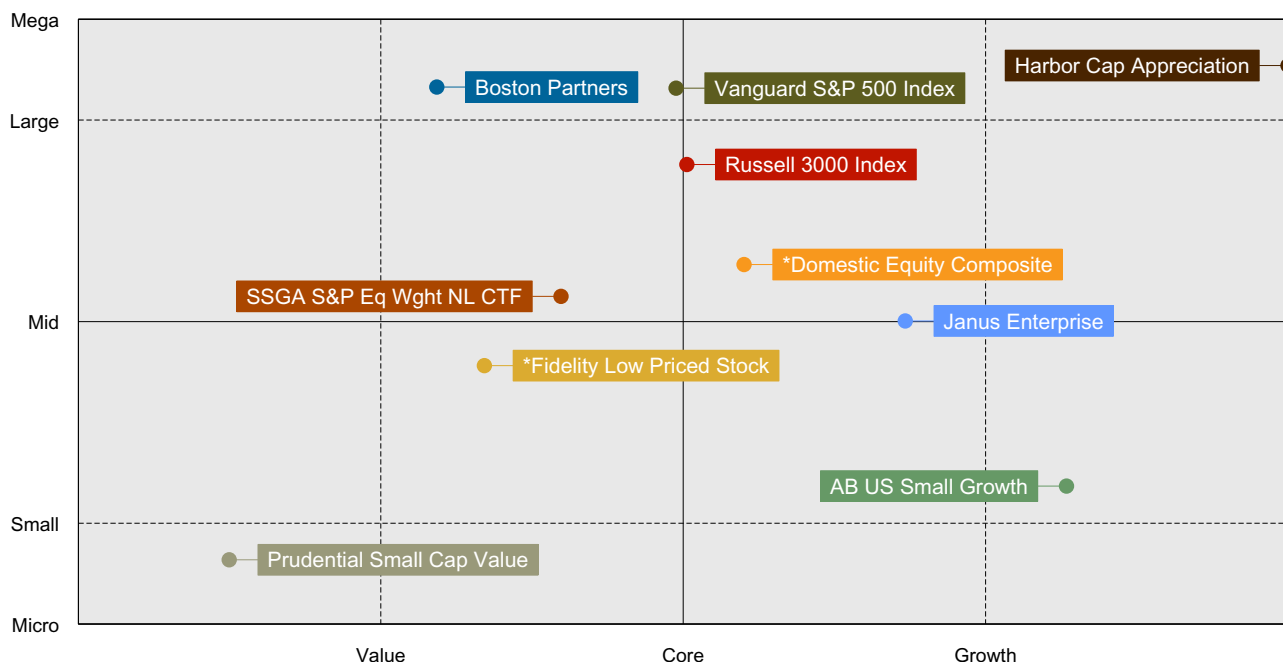


\*3/31/19 portfolio characteristics generated using most recently available holdings (1/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

## Holdings Based Style Analysis For One Quarter Ended March 31, 2019

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

### Style Map Holdings for One Quarter Ended March 31, 2019



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
Vanguard S&P 500 Index	17.46%	118.02	(0.04)	(0.01)	0.03	507	48.96
SSGA S&P Eq Wght NL CTF	17.53%	21.70	(0.32)	(0.14)	0.18	509	237.67
Boston Partners	16.95%	118.96	(0.63)	(0.19)	0.44	81	18.43
Harbor Cap Appreciation	17.88%	136.88	1.59	0.75	(0.84)	55	13.82
*Fidelity Low Priced Stock	7.20%	9.60	(0.51)	(0.10)	0.41	824	25.69
Janus Enterprise	8.26%	11.97	0.53	0.17	(0.35)	87	26.06
Prudential Small Cap Value	6.03%	1.51	(1.15)	(0.18)	0.97	324	73.02
AB US Small Growth	8.70%	3.85	0.92	0.33	(0.60)	97	32.70
*Domestic Equity Composite	100.00%	34.29	0.13	0.10	(0.03)	1689	117.95
Russell 3000 Index	-	73.86	(0.01)	0.00	0.01	2968	74.80

\*3/31/19 portfolio characteristics generated using most recently available holdings (1/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

# Vanguard S&P 500 Index Period Ended March 31, 2019

## Investment Philosophy

Vanguard's Institutional Index Fund is passively administered using a "full replication" approach. Under this method, the fund holds all of the 500 underlying securities in proportion to their weighting in the index. The fund remains fully invested in equities at all times and does not make judgement calls on the direction of the S&P 500 Index. Portfolio was funded September 2013. Historical returns are that of the manager's composite.

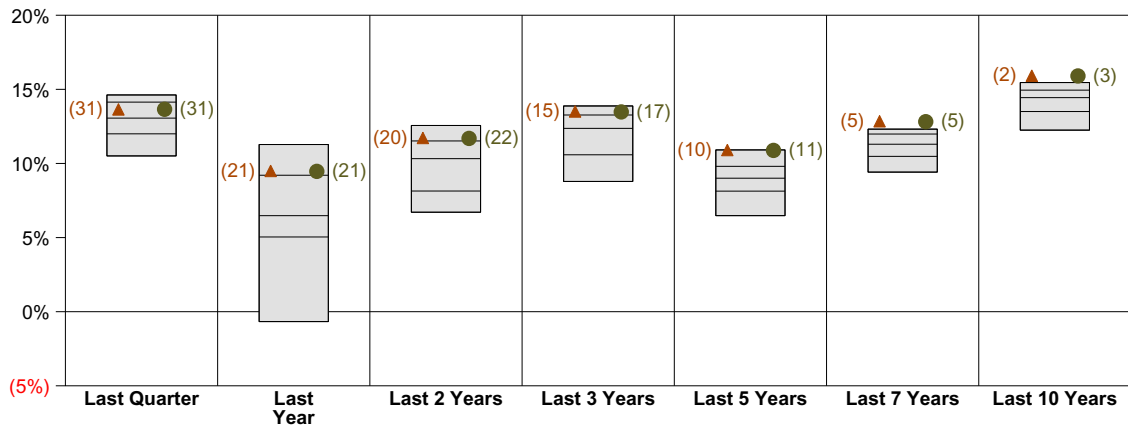
## Quarterly Summary and Highlights

- Vanguard S&P 500 Index's portfolio posted a 13.65% return for the quarter placing it in the 31 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 21 percentile for the last year.
- Vanguard S&P 500 Index's portfolio outperformed the S&P 500 Index by 0.01% for the quarter and underperformed the S&P 500 Index for the year by 0.03%.

## Quarterly Asset Growth

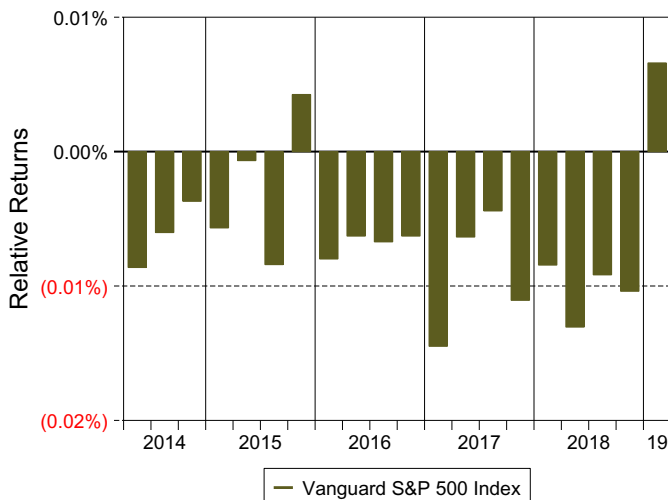
Beginning Market Value	\$32,735,958
Net New Investment	\$-500,000
Investment Gains/(Losses)	\$4,439,217
Ending Market Value	\$36,675,176

## Performance vs Callan Large Cap Core Mutual Funds (Net)

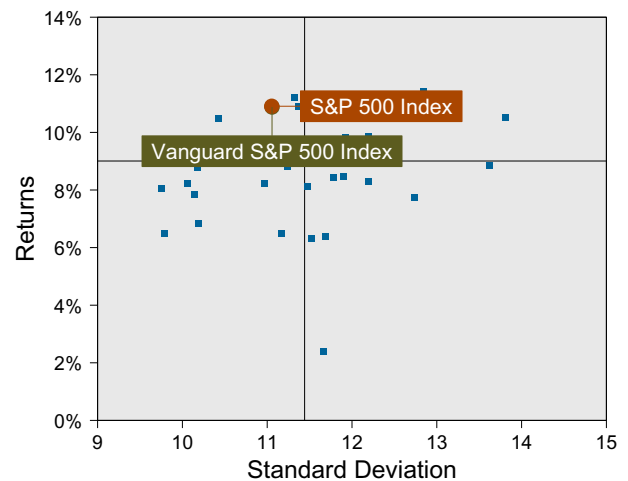


10th Percentile	14.62	11.28	12.56	13.88	10.91	12.32	15.46
25th Percentile	14.14	9.21	11.52	13.27	9.81	11.99	14.95
Median	13.06	6.48	10.33	12.37	9.01	11.30	14.44
75th Percentile	12.00	5.04	8.14	10.59	8.13	10.48	13.50
90th Percentile	10.51	(0.67)	6.71	8.79	6.48	9.42	12.25
<b>Vanguard S&amp;P 500 Index</b>	● 13.65	9.47	11.69	13.48	10.88	12.82	15.90
S&P 500 Index	▲ 13.65	9.50	11.72	13.51	10.91	12.85	15.92

## Relative Return vs S&P 500 Index



## Callan Large Cap Core Mutual Funds (Net) Annualized Five Year Risk vs Return

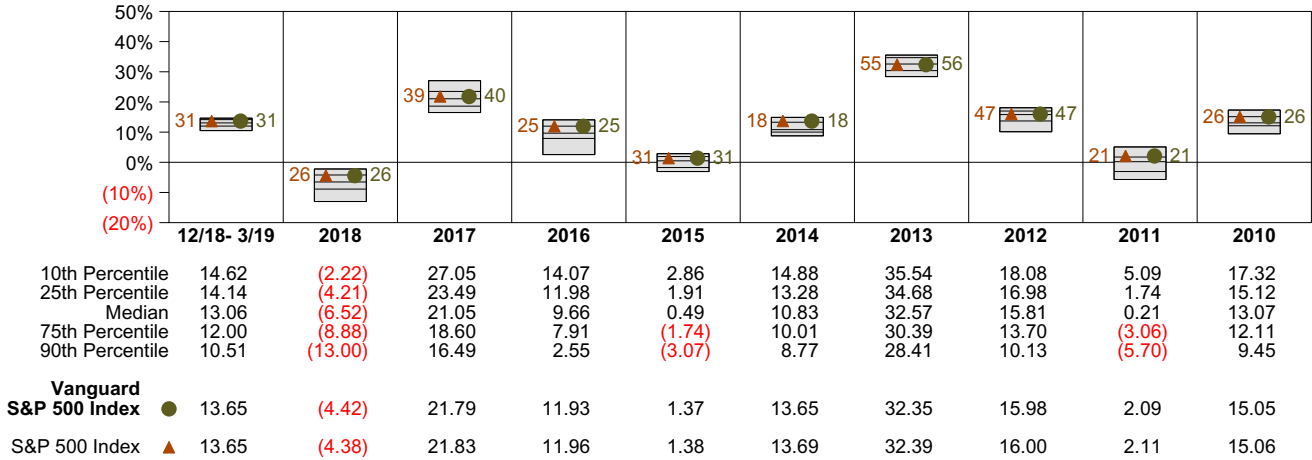


# Vanguard S&P 500 Index Return Analysis Summary

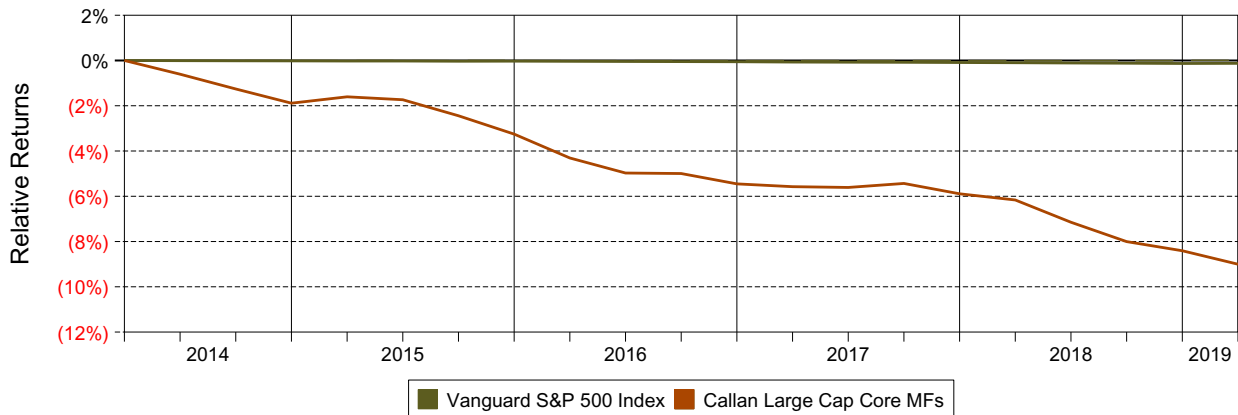
## Return Analysis

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.

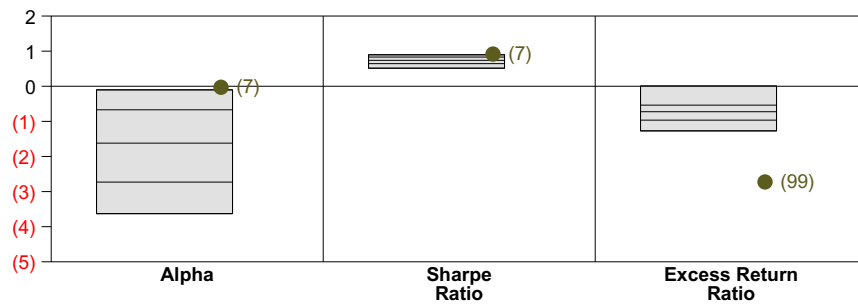
### Performance vs Callan Large Cap Core Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs S&P 500 Index



### Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Cap Core Mutual Funds (Net) Five Years Ended March 31, 2019

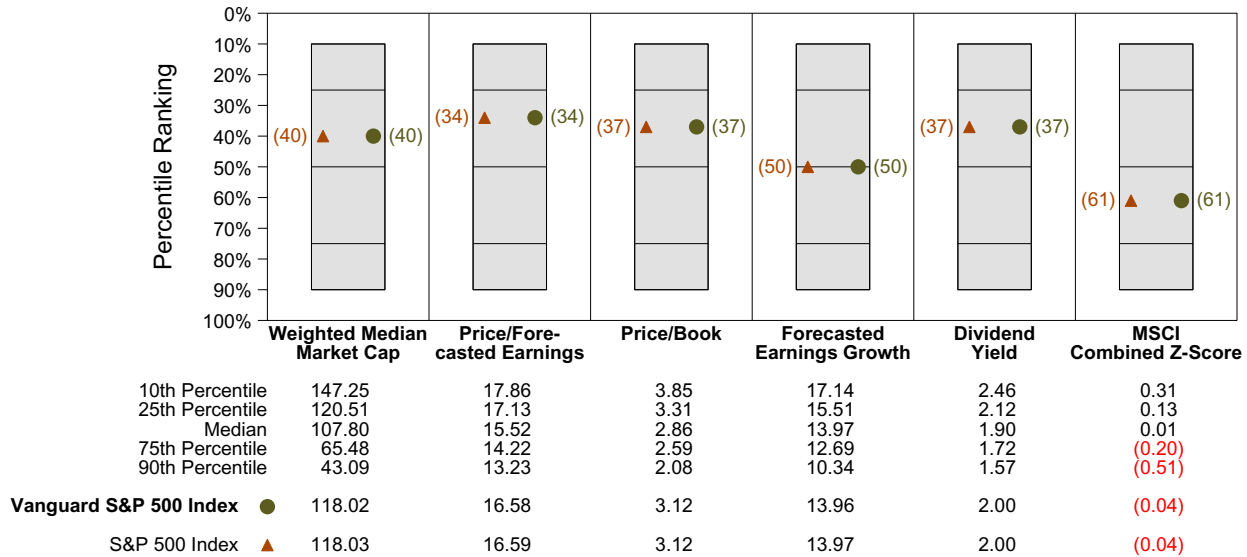


# Vanguard S&P 500 Index Equity Characteristics Analysis Summary

## Portfolio Characteristics

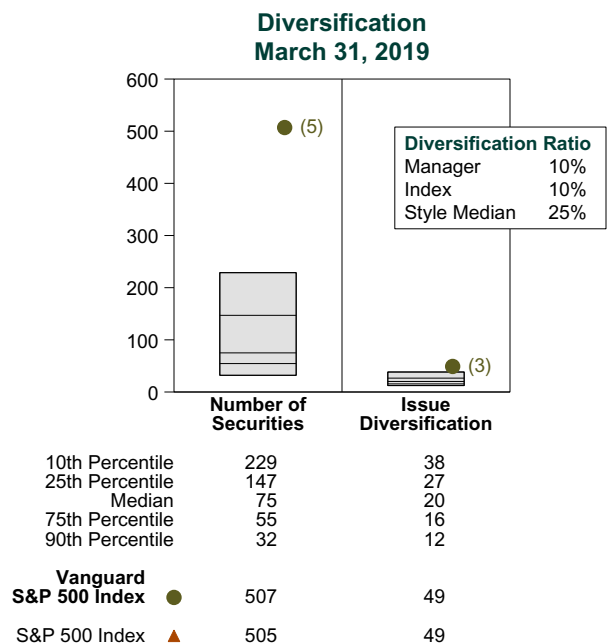
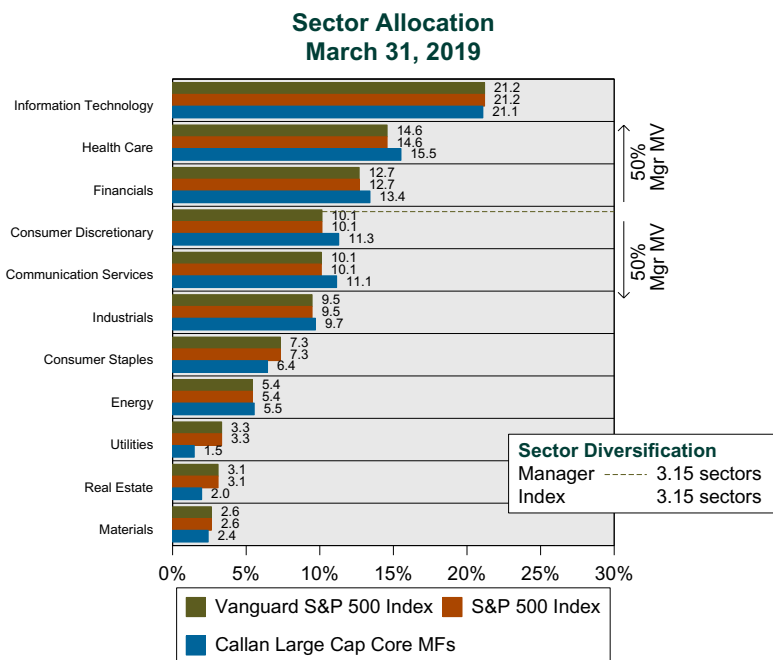
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Core Mutual Funds as of March 31, 2019



## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.





# SSGA S&P Eq Weighted NL CTF Period Ended March 31, 2019

## Investment Philosophy

SSGA believes that their passive investment strategy can provide market-like returns with minimal transaction costs. Portfolio was funded December 2017. Historical returns are that of the manager's composite.

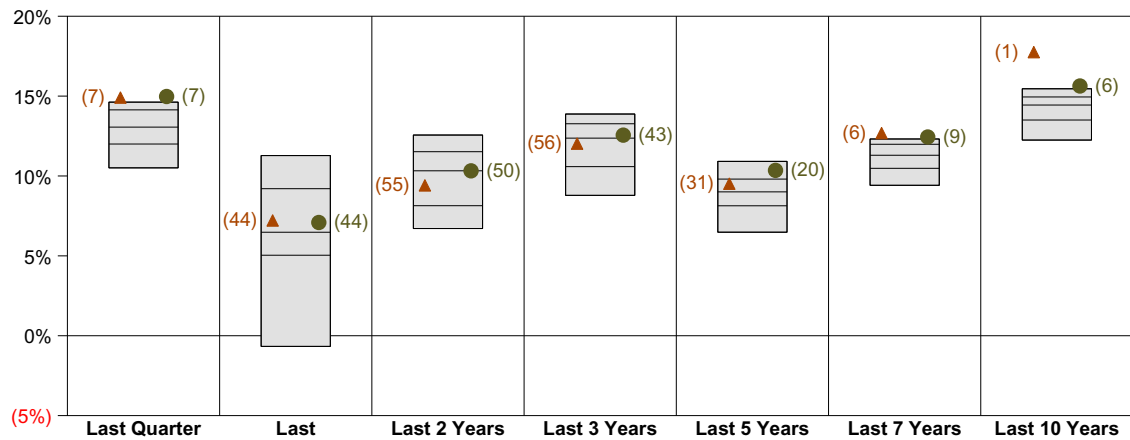
## Quarterly Summary and Highlights

- SSGA S&P Eq Weighted NL CTF's portfolio posted a 14.98% return for the quarter placing it in the 7 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 44 percentile for the last year.
- SSGA S&P Eq Weighted NL CTF's portfolio outperformed the S&P 500 Eq Weighted by 0.07% for the quarter and underperformed the S&P 500 Eq Weighted for the year by 0.13%.

## Quarterly Asset Growth

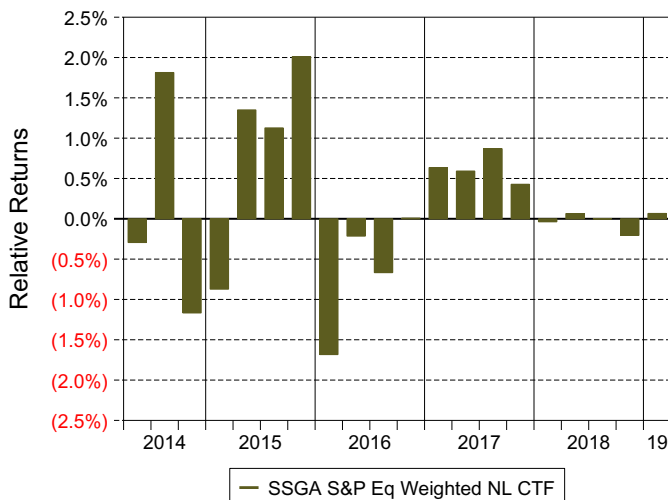
Beginning Market Value	\$32,010,988
Net New Investment	\$0
Investment Gains/(Losses)	\$4,798,312
Ending Market Value	\$36,809,300

## Performance vs Callan Large Cap Core Mutual Funds (Net)

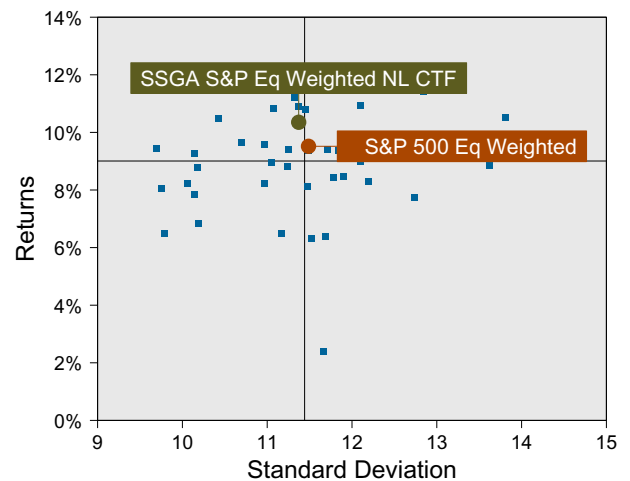


10th Percentile	14.62	11.28	12.56	13.88	10.91	12.32	15.46
25th Percentile	14.14	9.21	11.52	13.27	9.81	11.99	14.95
Median	13.06	6.48	10.33	12.37	9.01	11.30	14.44
75th Percentile	12.00	5.04	8.14	10.59	8.13	10.48	13.50
90th Percentile	10.51	(0.67)	6.71	8.79	6.48	9.42	12.25
<b>SSGA S&amp;P Eq Weighted NL CTF</b>	● 14.98	7.09	10.32	12.56	10.35	12.44	15.63
S&P 500 Eq Weighted	▲ 14.91	7.22	9.41	12.03	9.52	12.69	17.75

## Relative Return vs S&P 500 Eq Weighted



## Callan Large Cap Core Mutual Funds (Net) Annualized Five Year Risk vs Return

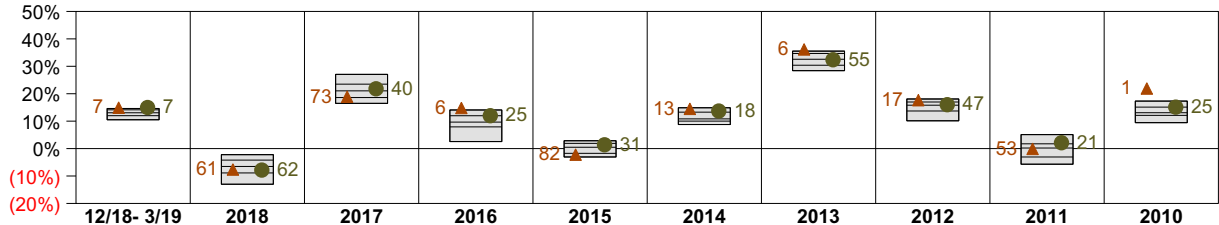


# SSGA S&P Eq Weighted NL CTF Return Analysis Summary

## Return Analysis

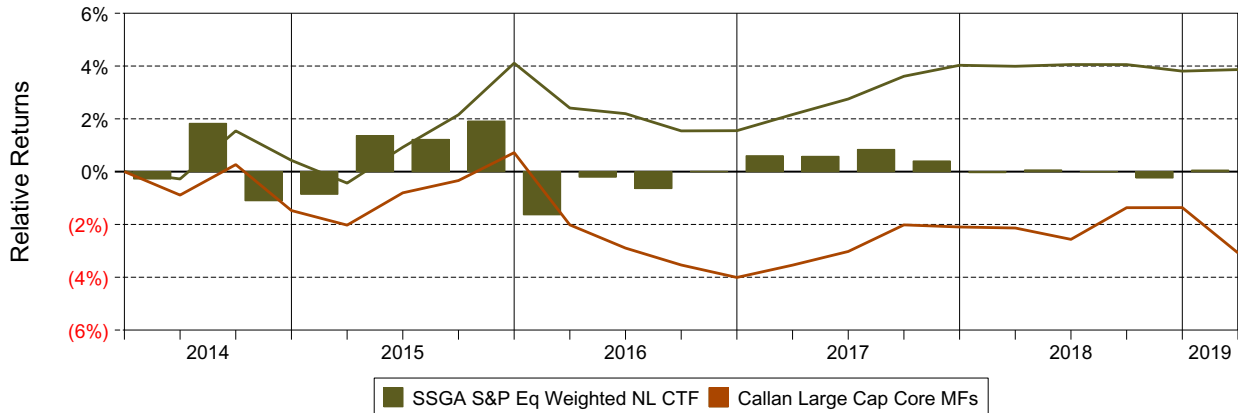
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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

### Performance vs Callan Large Cap Core Mutual Funds (Net)

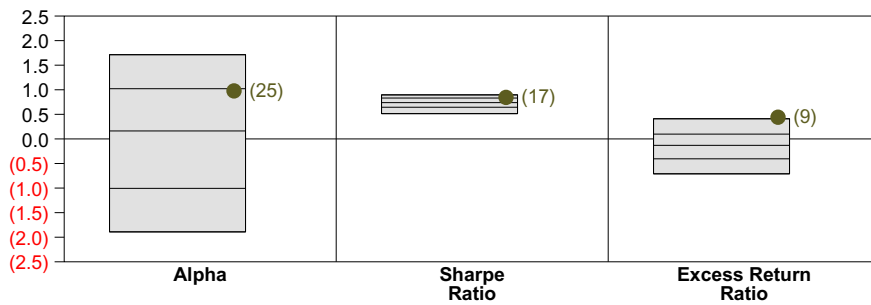


	12/18- 3/19	2018	2017	2016	2015	2014	2013	2012	2011	2010
10th Percentile	14.62	(2.22)	27.05	14.07	2.86	14.88	35.54	18.08	5.09	17.32
25th Percentile	14.14	(4.21)	23.49	11.98	1.91	13.28	34.68	16.98	1.74	15.12
Median	13.06	(6.52)	21.05	9.66	0.49	10.83	32.57	15.81	0.21	13.07
75th Percentile	12.00	(8.88)	18.60	7.91	(1.74)	10.01	30.39	13.70	(3.06)	12.11
90th Percentile	10.51	(13.00)	16.49	2.55	(3.07)	8.77	28.41	10.13	(5.70)	9.45
<b>SSGA S&amp;P Eq Weighted NL CTF</b>	● 14.98	(7.83)	21.80	11.98	1.38	13.69	32.38	16.00	2.13	15.11
S&P 500 Eq Weighted	▲ 14.91	(7.64)	18.90	14.80	(2.20)	14.49	36.16	17.65	(0.11)	21.91

### Cumulative and Quarterly Relative Return vs S&P 500 Eq Weighted



### Risk Adjusted Return Measures vs S&P 500 Eq Weighted Rankings Against Callan Large Cap Core Mutual Funds (Net) Five Years Ended March 31, 2019



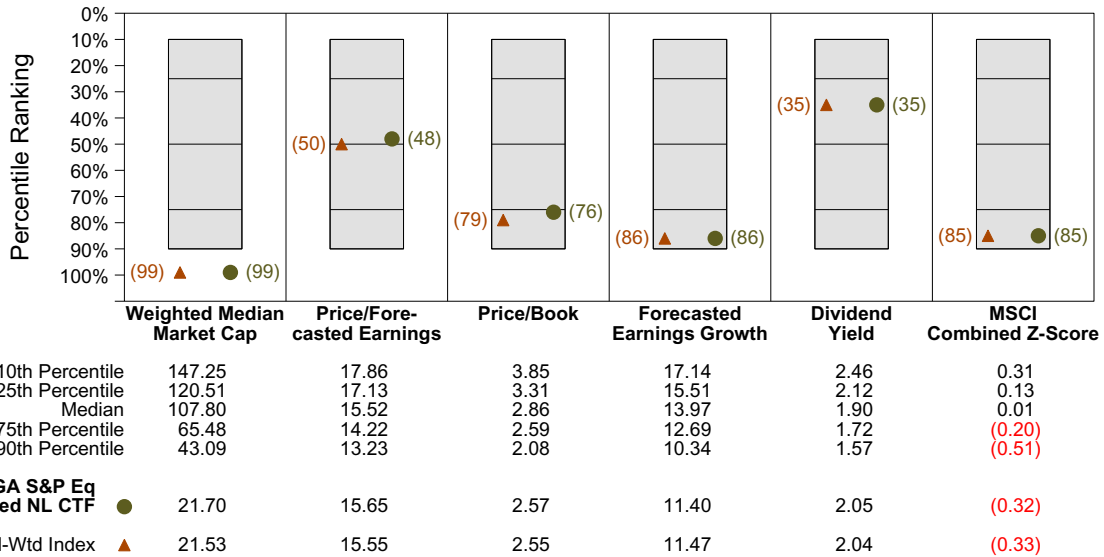
10th Percentile	1.71	0.90	0.41
25th Percentile	1.02	0.83	0.10
Median	0.16	0.74	(0.13)
75th Percentile	(1.01)	0.64	(0.40)
90th Percentile	(1.89)	0.51	(0.71)
<b>SSGA S&amp;P Eq Weighted NL CTF</b>	● 0.98	0.84	0.44

# SSGA S&P Eq Weighted NL CTF Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

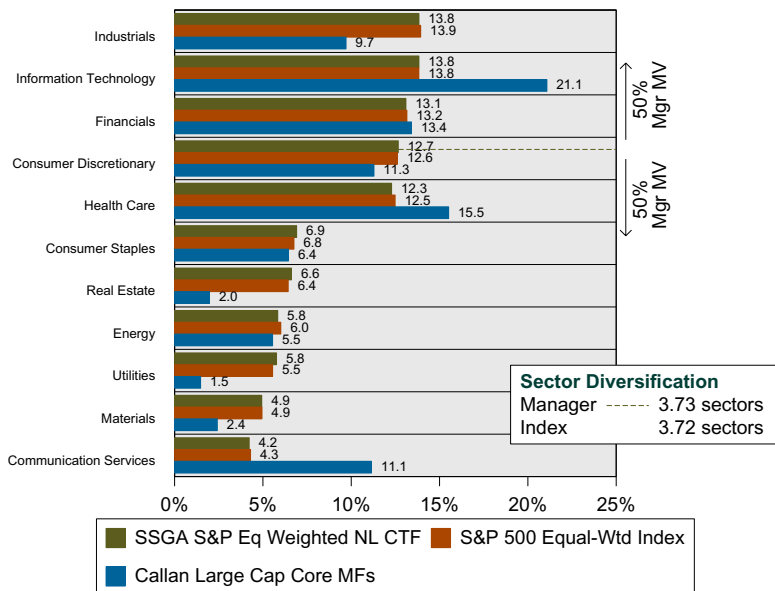
## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Core Mutual Funds as of March 31, 2019



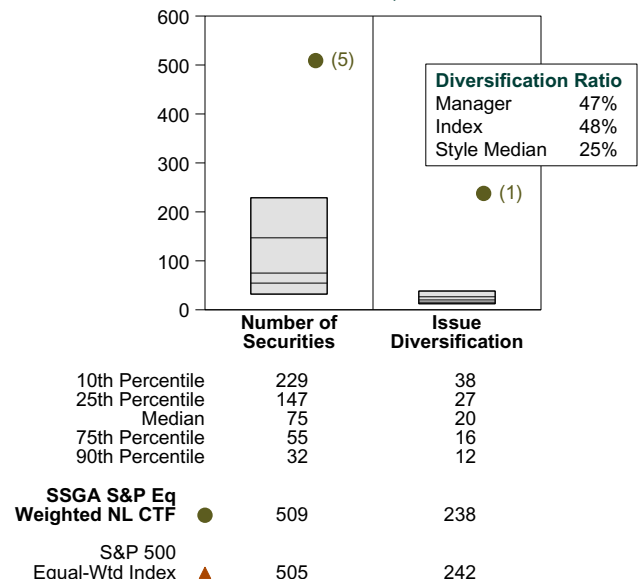
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



### Diversification March 31, 2019



# Boston Partners Period Ended March 31, 2019

## Investment Philosophy

Boston Partners' investment philosophy is grounded in certain "fundamental truths" to investing, namely that low valuation stocks outperform high valuation stocks, companies with strong fundamentals, e.g. high and sustainable returns on invested capital, outperform companies with weak fundamentals, and stocks with positive business momentum, e.g. rising earnings estimates, outperform stocks with negative business momentum. The firm seeks to construct well-diversified portfolios that consistently possess these three characteristics, attempting to limit downside risk, preserve capital, and maximize the power of compounding. Boston Partner's management fee is 50 bps on all assets.

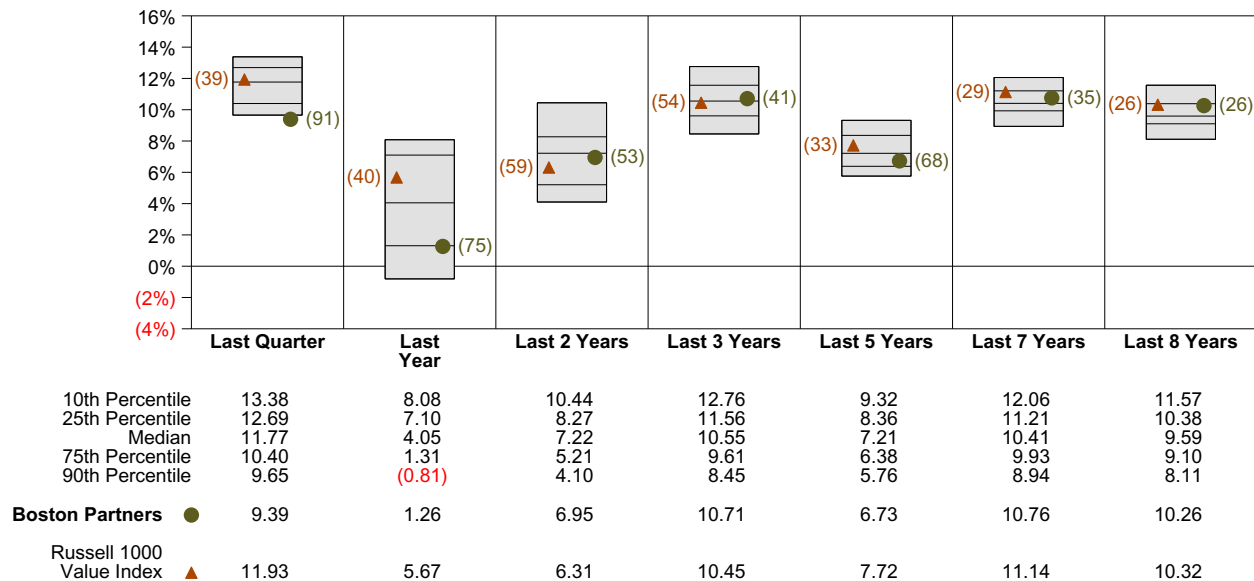
## Quarterly Summary and Highlights

- Boston Partners's portfolio posted a 9.39% return for the quarter placing it in the 91 percentile of the Callan Large Cap Value Mutual Funds group for the quarter and in the 75 percentile for the last year.
- Boston Partners's portfolio underperformed the Russell 1000 Value Index by 2.55% for the quarter and underperformed the Russell 1000 Value Index for the year by 4.41%.

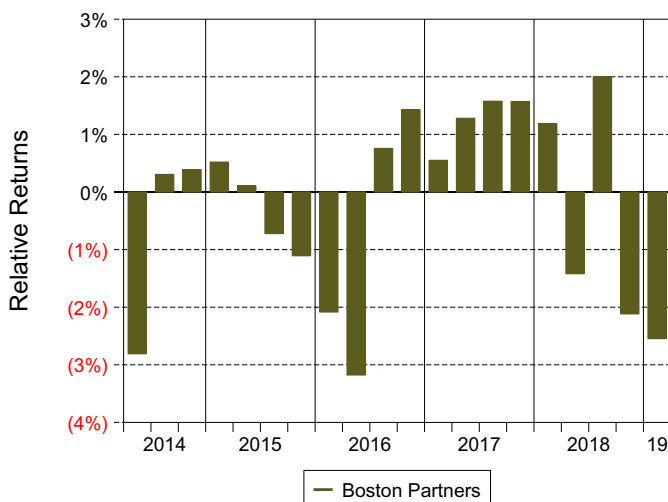
## Quarterly Asset Growth

Beginning Market Value	\$32,537,584
Net New Investment	\$0
Investment Gains/(Losses)	\$3,054,947
Ending Market Value	\$35,592,531

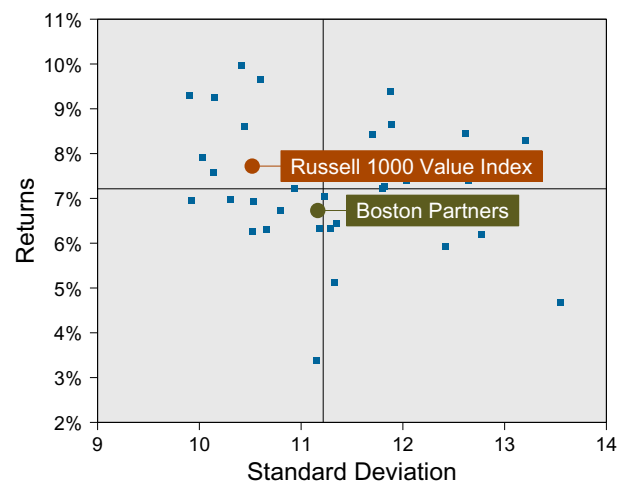
## Performance vs Callan Large Cap Value Mutual Funds (Net)



## Relative Return vs Russell 1000 Value Index



## Callan Large Cap Value Mutual Funds (Net) Annualized Five Year Risk vs Return

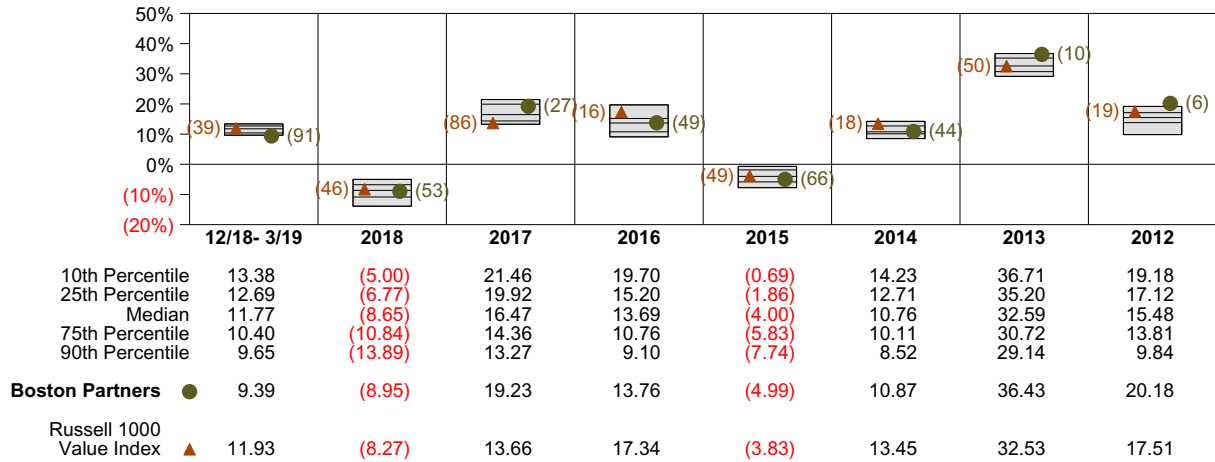


# Boston Partners Return Analysis Summary

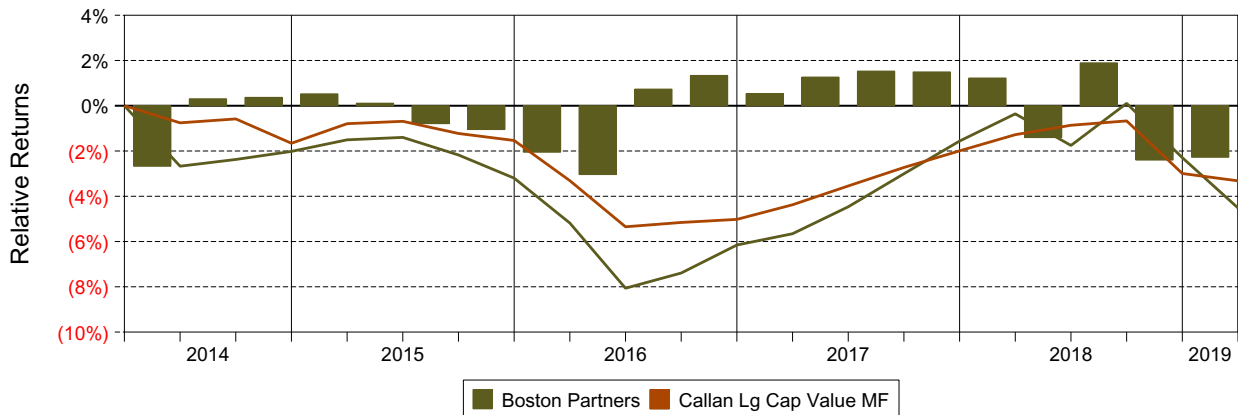
## Return Analysis

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.

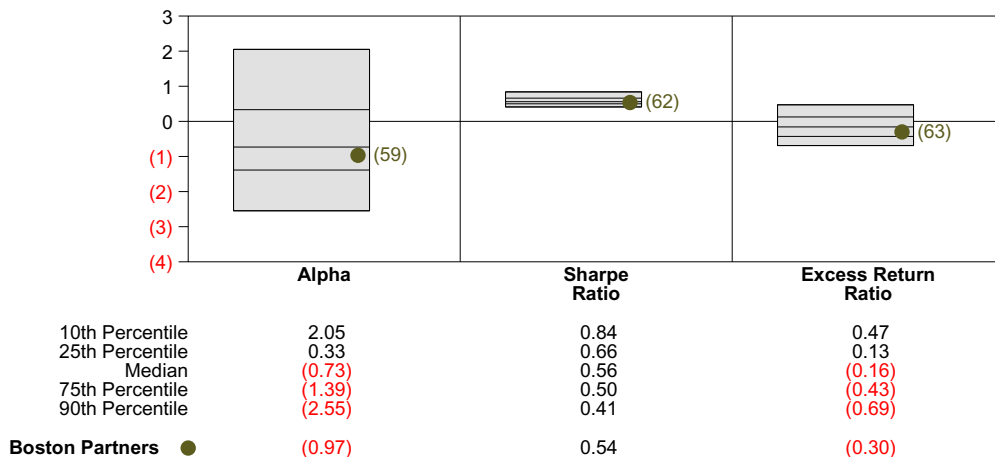
### Performance vs Callan Large Cap Value Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Russell 1000 Value Index



### Risk Adjusted Return Measures vs Russell 1000 Value Index Rankings Against Callan Large Cap Value Mutual Funds (Net) Five Years Ended March 31, 2019

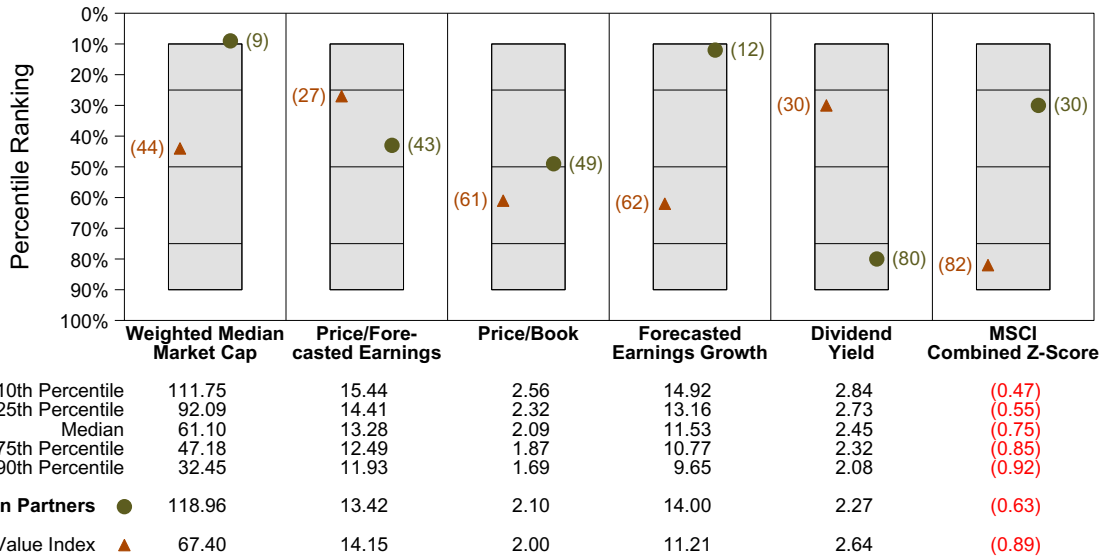


# Boston Partners Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

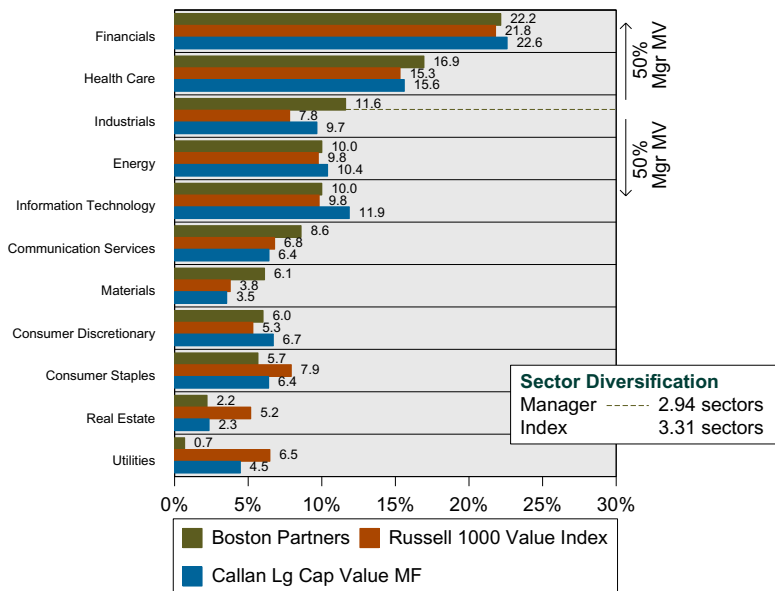
## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Value Mutual Funds as of March 31, 2019



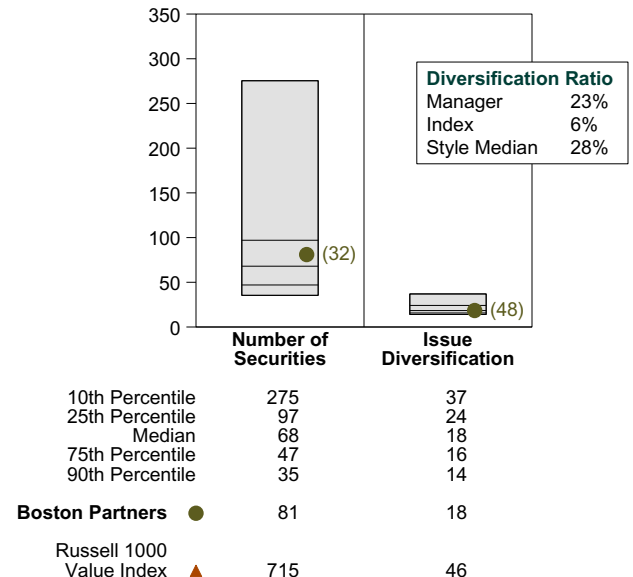
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



### Diversification March 31, 2019



# Harbor Cap Appreciation Period Ended March 31, 2019

## Investment Philosophy

The Harbor Capital Appreciation Fund is subadvised by Jennison Associates, LLC. Key elements of Jennison’s investment philosophy include a bottom-up stock selection approach and internal fundamental research. These elements are critical to successful stock selection. Jennison believes that carefully selected, reasonably priced growth stocks should generate investment results superior to the stock market over an intermediate to long-term period.

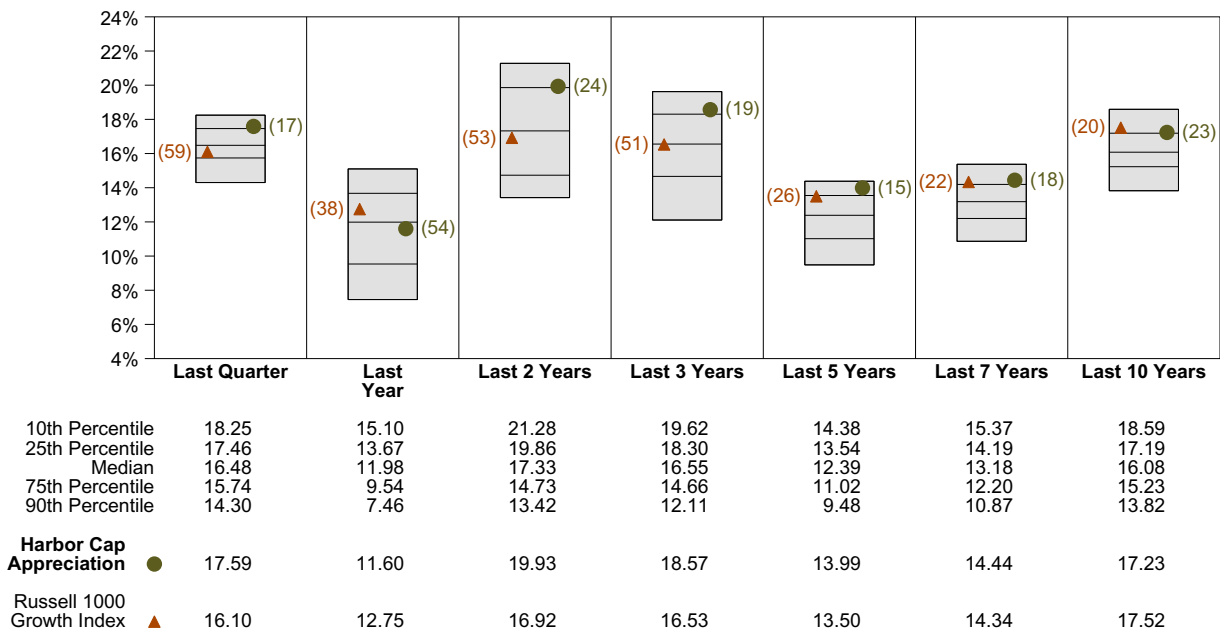
## Quarterly Summary and Highlights

- Harbor Cap Appreciation’s portfolio posted a 17.59% return for the quarter placing it in the 17 percentile of the Callan Large Cap Growth Mutual Funds group for the quarter and in the 54 percentile for the last year.
- Harbor Cap Appreciation’s portfolio outperformed the Russell 1000 Growth Index by 1.49% for the quarter and underperformed the Russell 1000 Growth Index for the year by 1.15%.

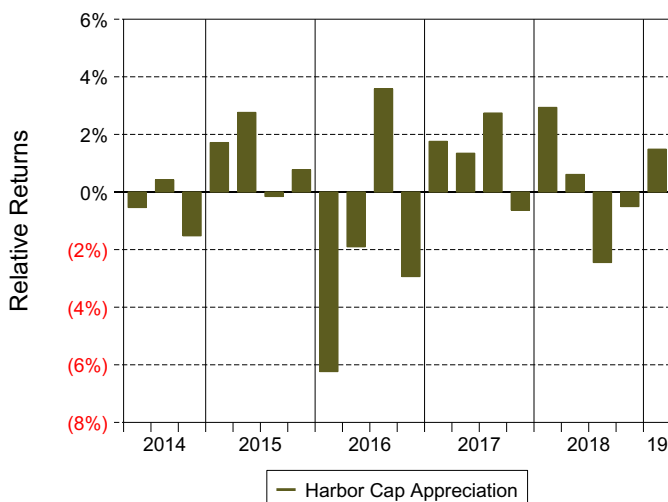
## Quarterly Asset Growth

Beginning Market Value	\$31,934,958
Net New Investment	\$0
Investment Gains/(Losses)	\$5,616,468
Ending Market Value	\$37,551,426

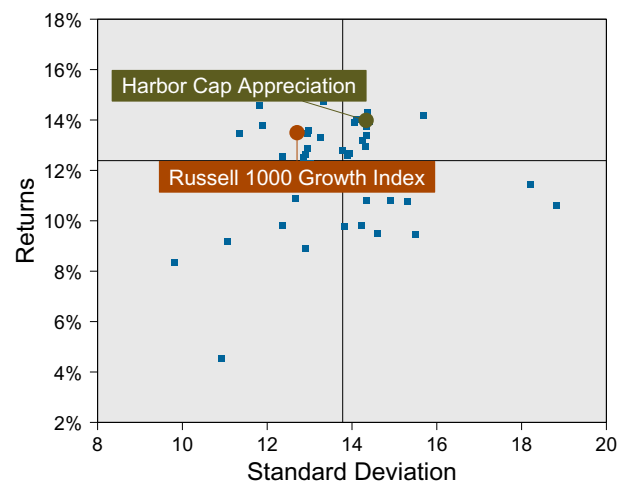
## Performance vs Callan Large Cap Growth Mutual Funds (Net)



## Relative Return vs Russell 1000 Growth Index



## Callan Large Cap Growth Mutual Funds (Net) Annualized Five Year Risk vs Return

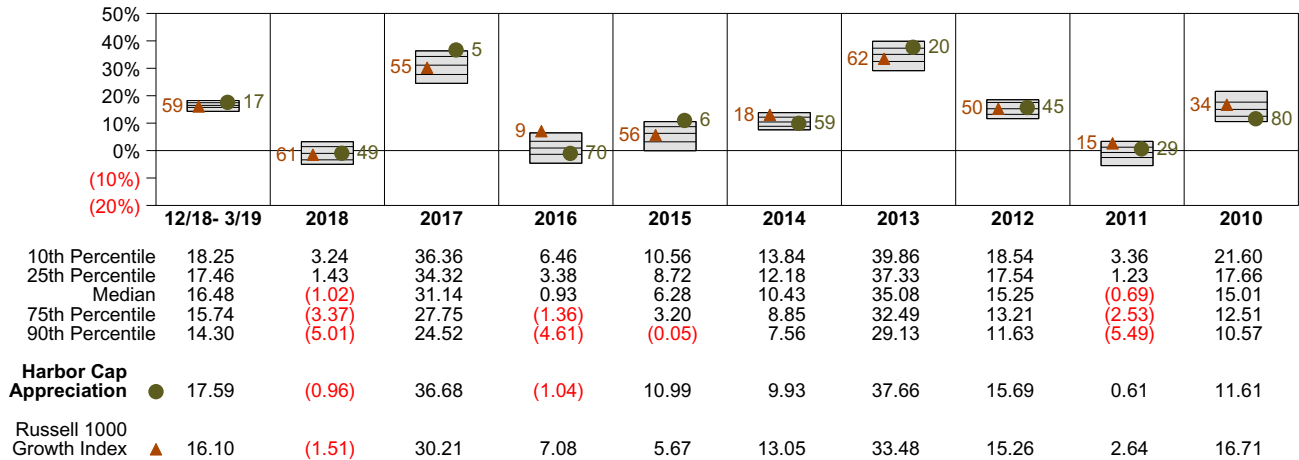


# Harbor Cap Appreciation Return Analysis Summary

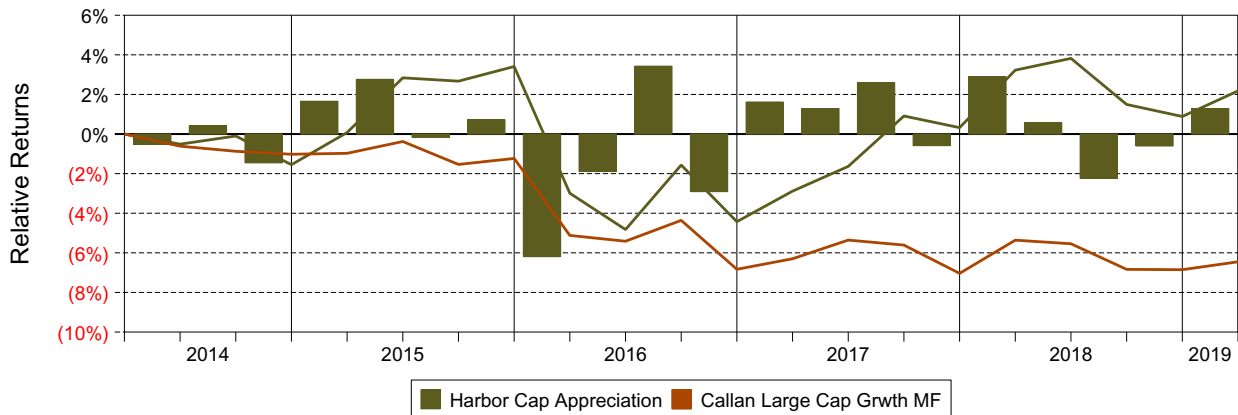
## Return Analysis

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.

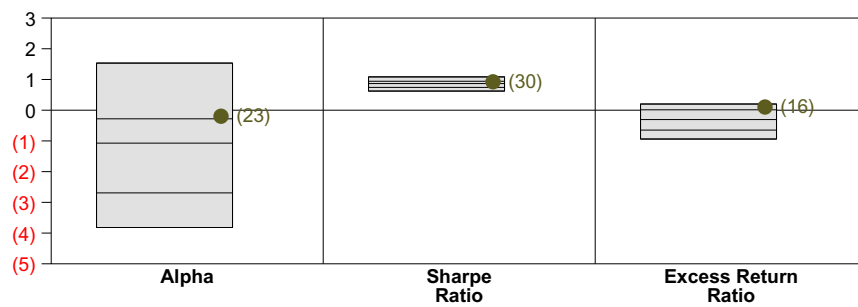
### Performance vs Callan Large Cap Growth Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Russell 1000 Growth Index



### Risk Adjusted Return Measures vs Russell 1000 Growth Index Rankings Against Callan Large Cap Growth Mutual Funds (Net) Five Years Ended March 31, 2019



10th Percentile	1.53	1.08	0.20
25th Percentile	(0.28)	0.94	0.01
Median	(1.07)	0.87	(0.31)
75th Percentile	(2.69)	0.74	(0.65)
90th Percentile	(3.82)	0.62	(0.94)
<b>Harbor Cap Appreciation</b>	● (0.20)	0.92	0.10

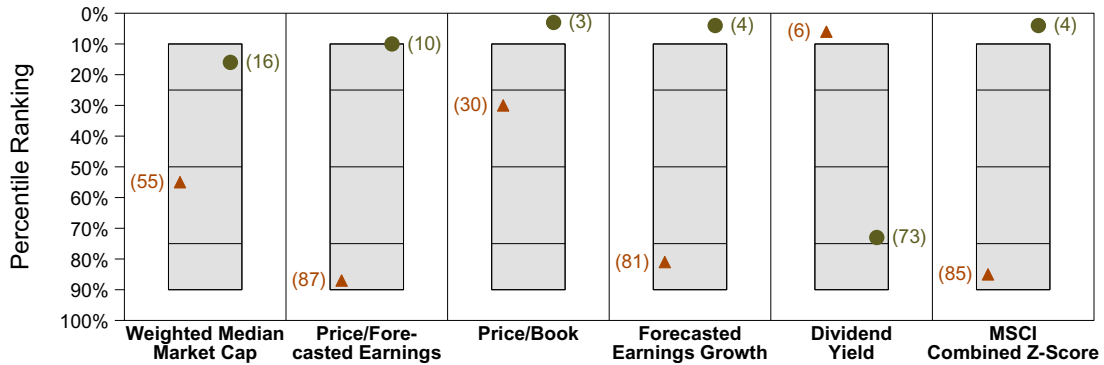


# Harbor Cap Appreciation Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Growth Mutual Funds as of March 31, 2019

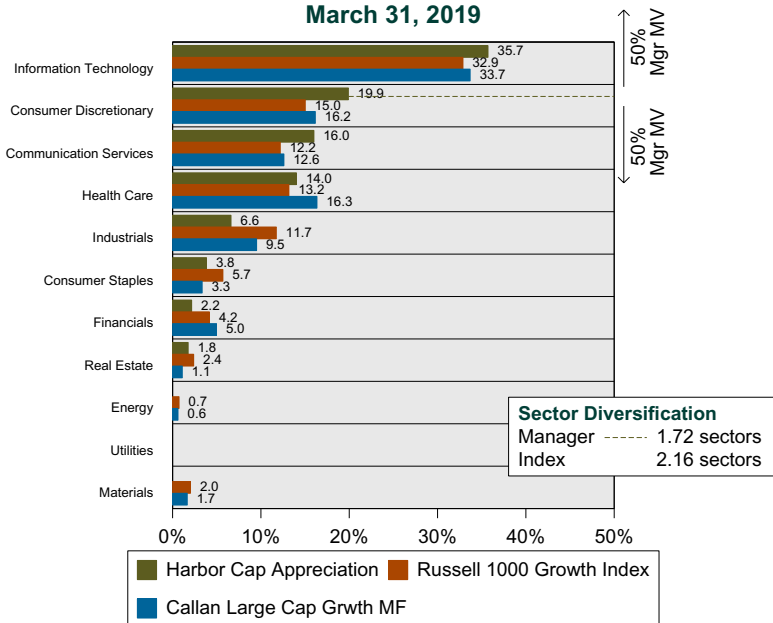


10th Percentile	143.95	27.59	7.46	22.16	1.15	1.51
25th Percentile	123.83	26.10	6.71	21.12	0.91	1.28
Median	119.24	23.62	5.84	19.59	0.82	1.14
75th Percentile	78.05	21.43	5.17	17.35	0.73	0.92
90th Percentile	47.03	20.39	4.77	16.29	0.63	0.76
<b>Harbor Cap Appreciation</b>	<b>136.88</b>	<b>27.58</b>	<b>8.25</b>	<b>22.88</b>	<b>0.74</b>	<b>1.59</b>
Russell 1000 Growth Index	116.94	20.68	6.51	17.01	1.28	0.86

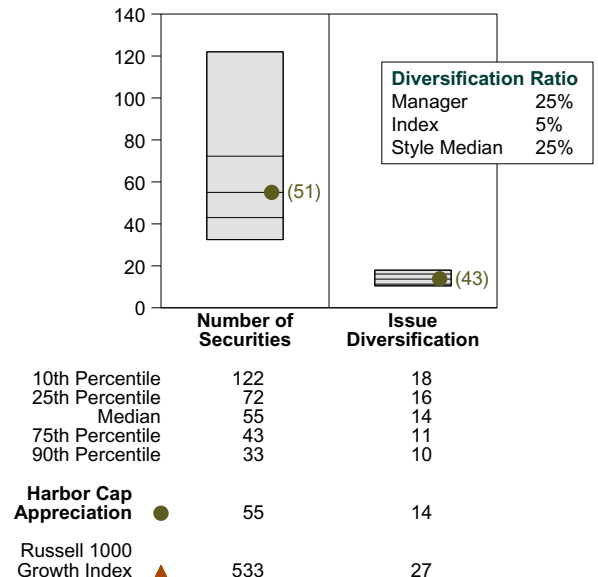
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



### Diversification March 31, 2019



# Fidelity Low Priced Stock Period Ended March 31, 2019

## Investment Philosophy

The Low Priced Stock team believes that many low priced, non-glamour, small companies are mispriced, providing opportunities, and seeks capital appreciation by investing mostly in common and preferred domestic stocks, but also international equities, convertible securities, and other fixed income securities.

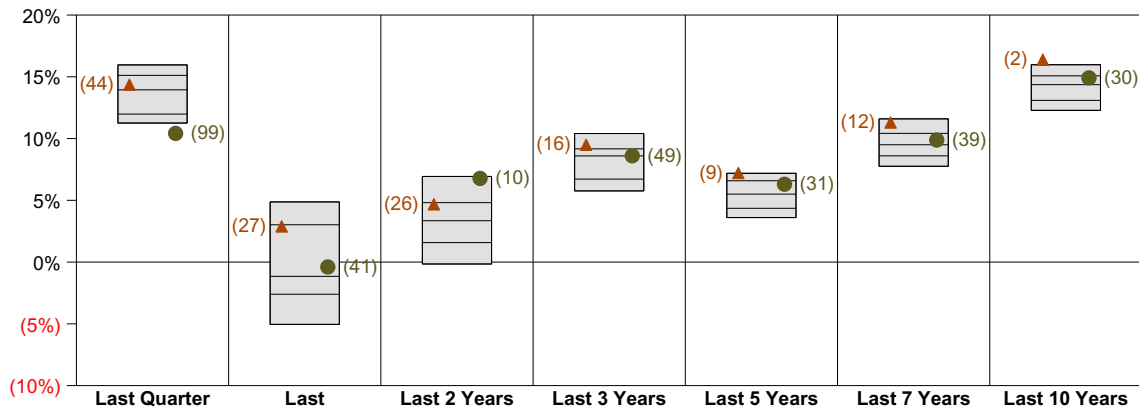
## Quarterly Summary and Highlights

- Fidelity Low Priced Stock's portfolio posted a 10.42% return for the quarter placing it in the 99 percentile of the Callan Mid Cap Value Mutual Funds group for the quarter and in the 41 percentile for the last year.
- Fidelity Low Priced Stock's portfolio underperformed the Russell MidCap Value Idx by 3.96% for the quarter and underperformed the Russell MidCap Value Idx for the year by 3.29%.

## Quarterly Asset Growth

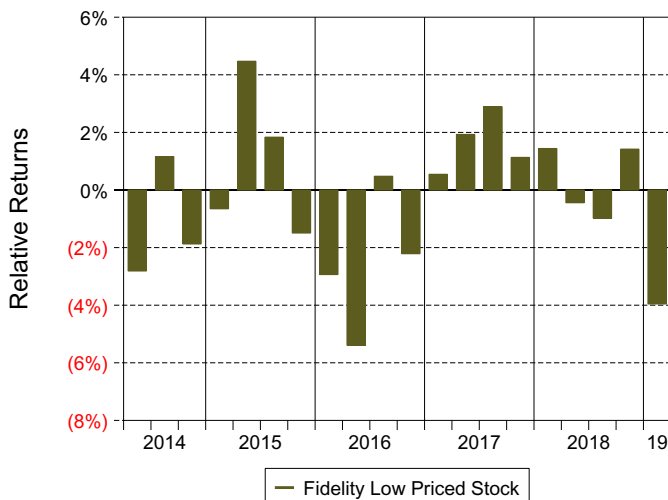
Beginning Market Value	\$13,690,677
Net New Investment	\$0
Investment Gains/(Losses)	\$1,426,178
Ending Market Value	\$15,116,855

## Performance vs Callan Mid Cap Value Mutual Funds (Net)

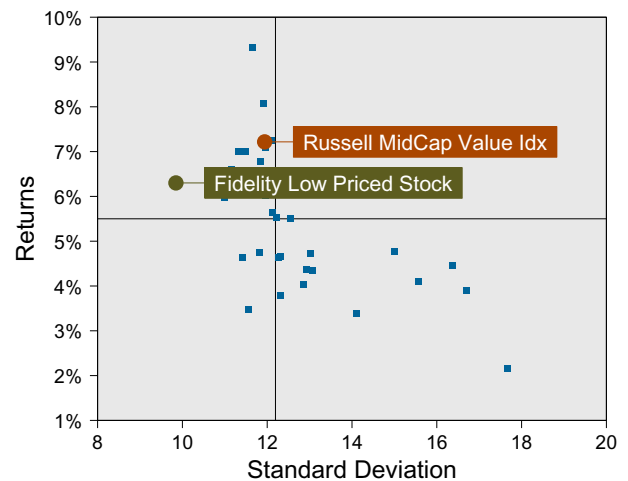


	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	15.96	4.87	6.93	10.41	7.19	11.60	15.98
25th Percentile	15.12	3.02	4.81	9.17	6.58	10.42	15.08
Median	13.94	(1.15)	3.35	8.59	5.50	9.50	14.36
75th Percentile	11.98	(2.60)	1.58	6.72	4.35	8.60	13.09
90th Percentile	11.25	(5.04)	(0.16)	5.76	3.60	7.75	12.28
<b>Fidelity Low Priced Stock</b>	● 10.42	(0.40)	6.77	8.60	6.30	9.88	14.91
Russell MidCap Value Idx	▲ 14.37	2.89	4.68	9.50	7.22	11.30	16.39

## Relative Return vs Russell MidCap Value Idx



## Callan Mid Cap Value Mutual Funds (Net) Annualized Five Year Risk vs Return

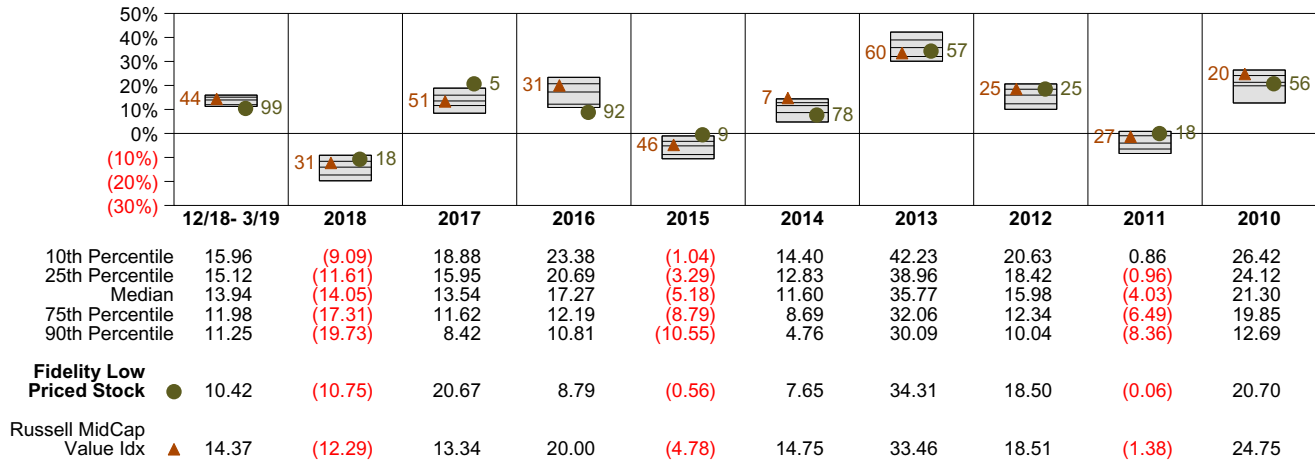


# Fidelity Low Priced Stock Return Analysis Summary

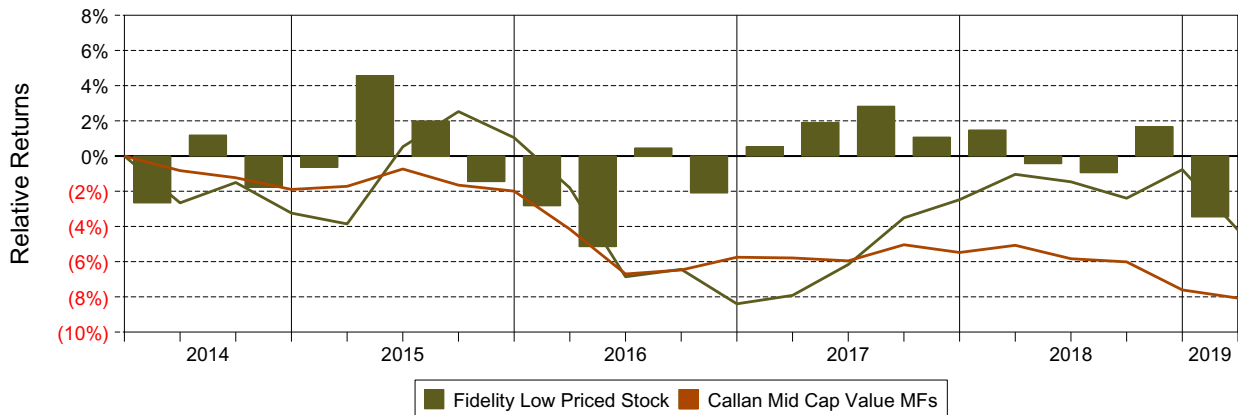
## Return Analysis

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.

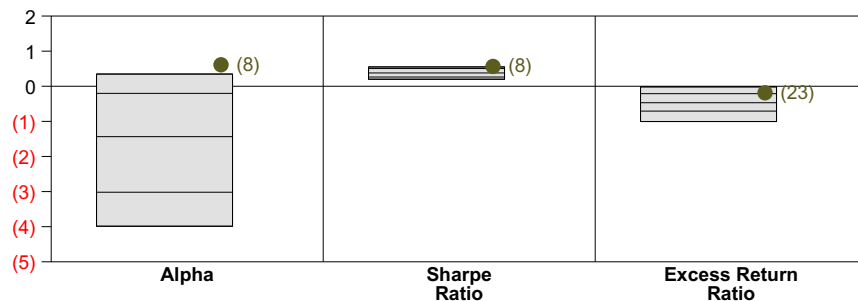
### Performance vs Callan Mid Cap Value Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Russell MidCap Value Idx



### Risk Adjusted Return Measures vs Russell MidCap Value Idx Rankings Against Callan Mid Cap Value Mutual Funds (Net) Five Years Ended March 31, 2019



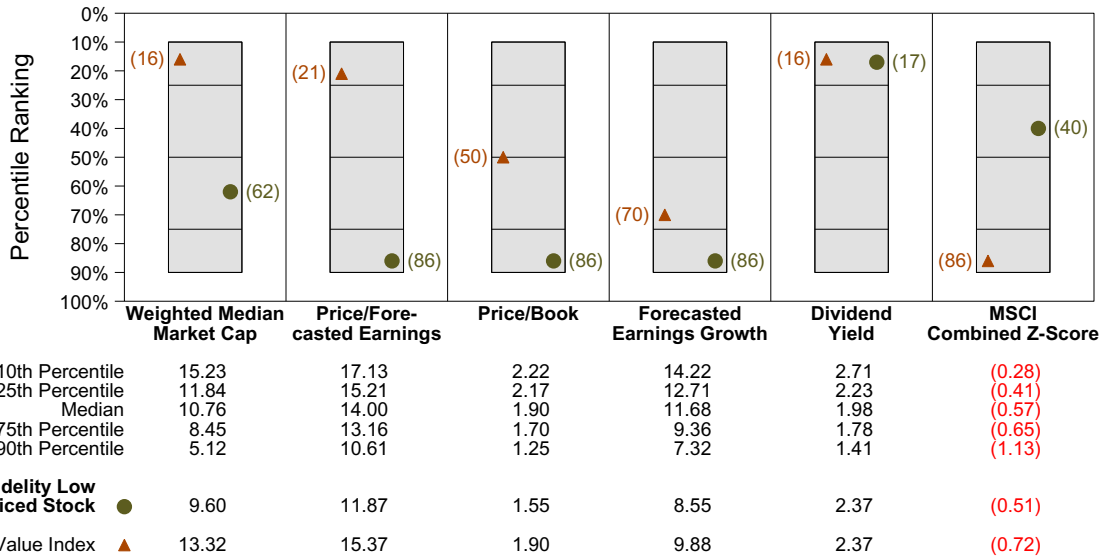
10th Percentile	0.35	0.55	(0.02)
25th Percentile	(0.20)	0.50	(0.21)
Median	(1.44)	0.38	(0.47)
75th Percentile	(3.02)	0.26	(0.71)
90th Percentile	(3.99)	0.20	(1.00)
<b>Fidelity Low Priced Stock</b>	● 0.61	0.56	(0.19)

# Fidelity Low Priced Stock Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

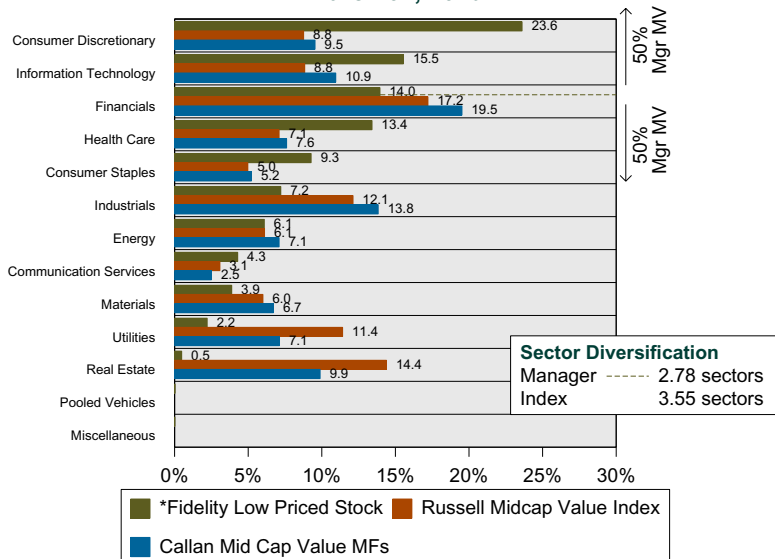
## Portfolio Characteristics Percentile Rankings Rankings Against Callan Mid Cap Value Mutual Funds as of March 31, 2019



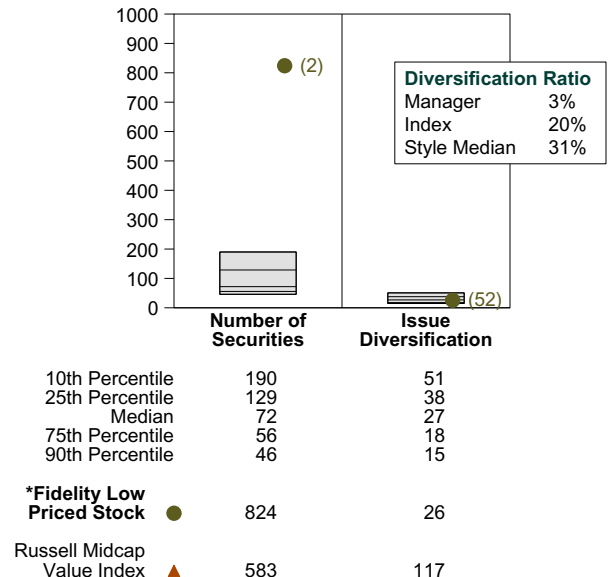
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



### Diversification March 31, 2019



\*3/31/19 portfolio characteristics generated using most recently available holdings (1/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

# Janus Enterprise Period Ended March 31, 2019

## Investment Philosophy

Janus believes that investing in companies with sustainable growth and high return on invested capital can drive consistent returns with moderate risk. The team seeks to identify mid cap companies with high quality management teams that wisely allocate capital to drive growth over time. Switched from Class T Shares to Class I Shares in December 2009 and Class N Shares in July 2016.

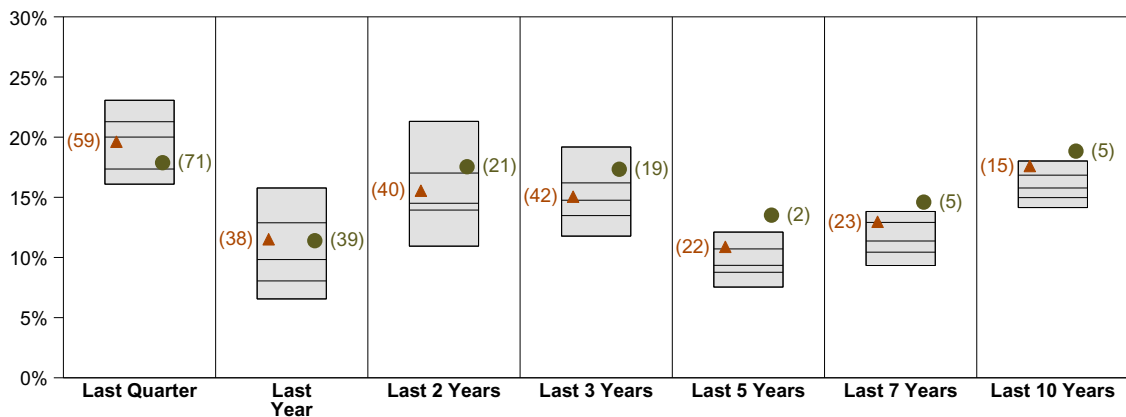
## Quarterly Summary and Highlights

- Janus Enterprise's portfolio posted a 17.88% return for the quarter placing it in the 71 percentile of the Callan Mid Cap Growth Mutual Funds group for the quarter and in the 39 percentile for the last year.
- Janus Enterprise's portfolio underperformed the Russell MidCap Growth Idx by 1.74% for the quarter and underperformed the Russell MidCap Growth Idx for the year by 0.12%.

## Quarterly Asset Growth

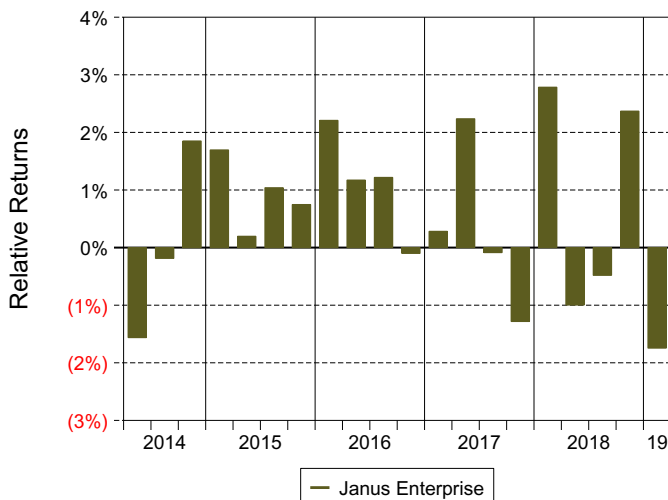
Beginning Market Value	\$15,181,110
Net New Investment	\$-500,000
Investment Gains/(Losses)	\$2,676,293
Ending Market Value	\$17,357,403

## Performance vs Callan Mid Cap Growth Mutual Funds (Net)

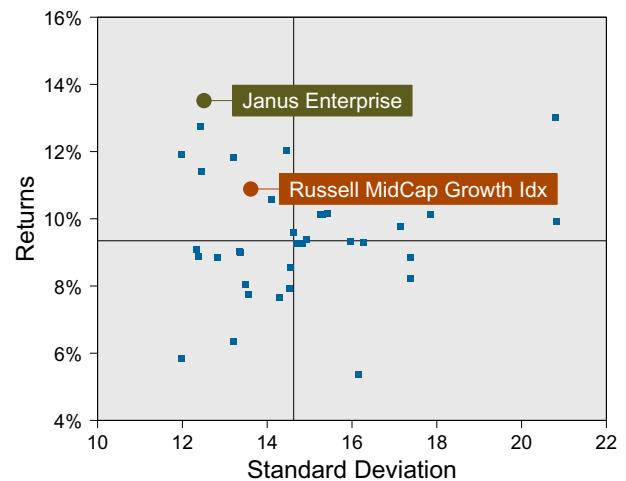


10th Percentile	23.06	15.78	21.31	19.18	12.11	13.82	18.02
25th Percentile	21.28	12.88	17.02	16.20	10.71	12.91	16.84
Median	20.01	9.83	14.51	14.76	9.35	11.37	15.78
75th Percentile	17.35	8.05	13.94	13.48	8.77	10.44	14.98
90th Percentile	16.09	6.56	10.94	11.78	7.54	9.33	14.15
<b>Janus Enterprise</b>	● 17.88	11.39	17.54	17.33	13.52	14.60	18.84
Russell MidCap Growth Idx	▲ 19.62	11.51	15.55	15.06	10.89	12.97	17.60

## Relative Return vs Russell MidCap Growth Idx



## Callan Mid Cap Growth Mutual Funds (Net) Annualized Five Year Risk vs Return

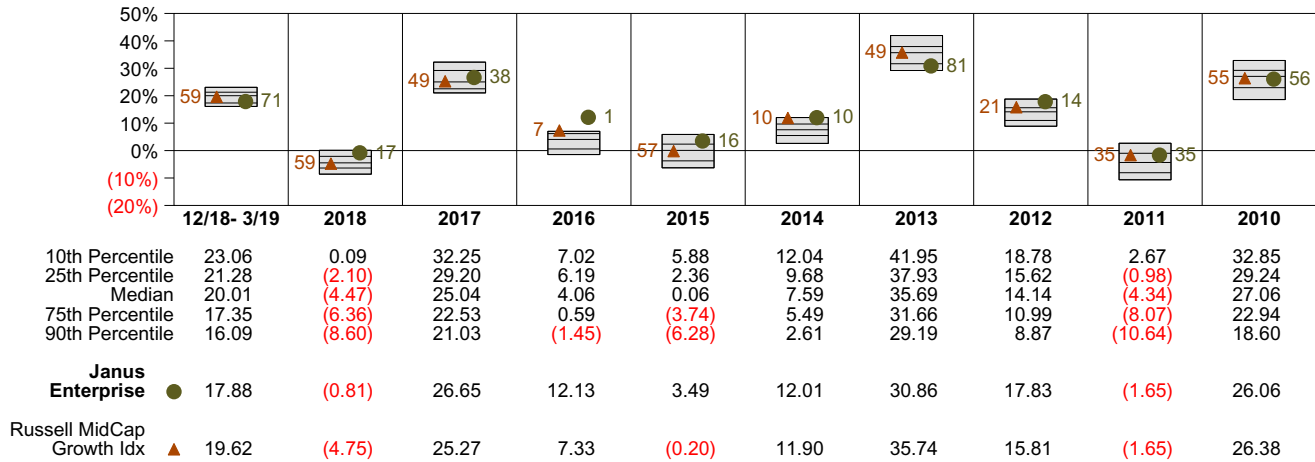


# Janus Enterprise Return Analysis Summary

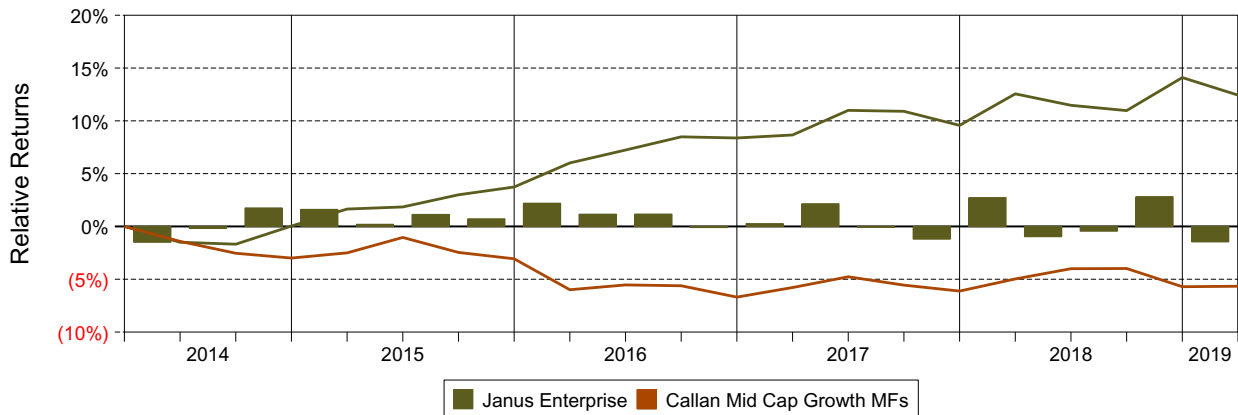
## Return Analysis

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.

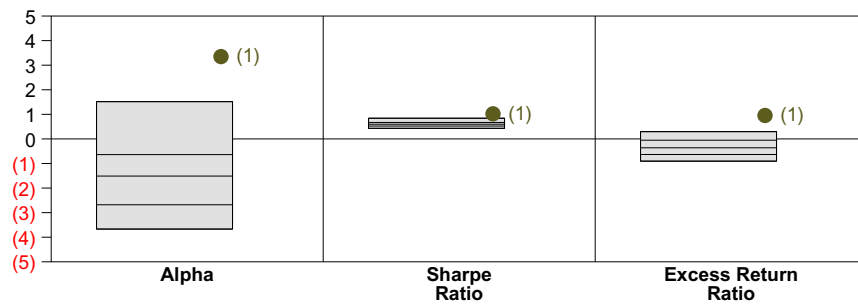
### Performance vs Callan Mid Cap Growth Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Russell MidCap Growth Idx



### Risk Adjusted Return Measures vs Russell MidCap Growth Idx Rankings Against Callan Mid Cap Growth Mutual Funds (Net) Five Years Ended March 31, 2019



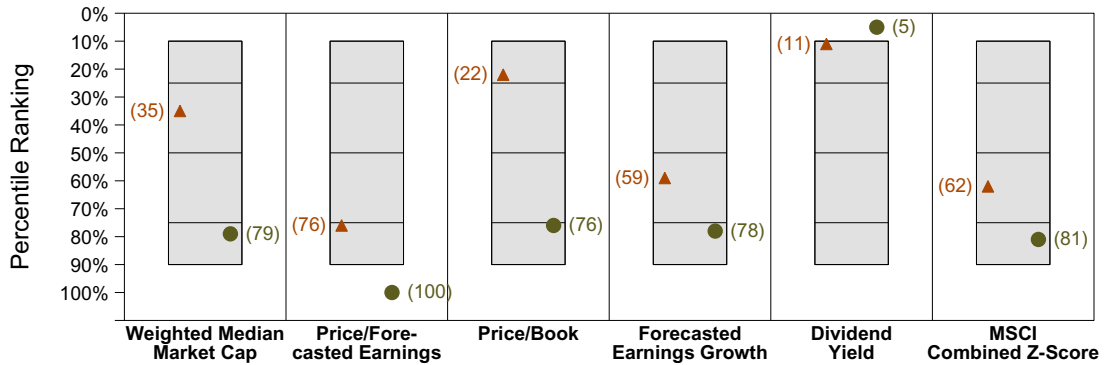
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.52	0.84	0.30
25th Percentile	(0.64)	0.67	(0.05)
Median	(1.51)	0.60	(0.36)
75th Percentile	(2.68)	0.52	(0.63)
90th Percentile	(3.67)	0.43	(0.91)
<b>Janus Enterprise</b>	● 3.35	1.02	0.95

# Janus Enterprise Equity Characteristics Analysis Summary

## Portfolio Characteristics

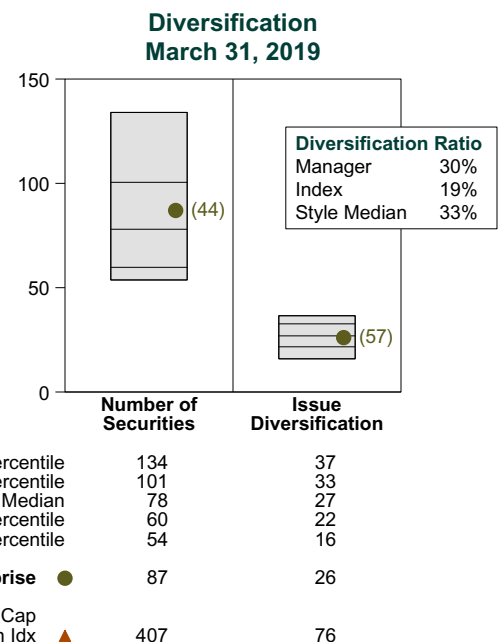
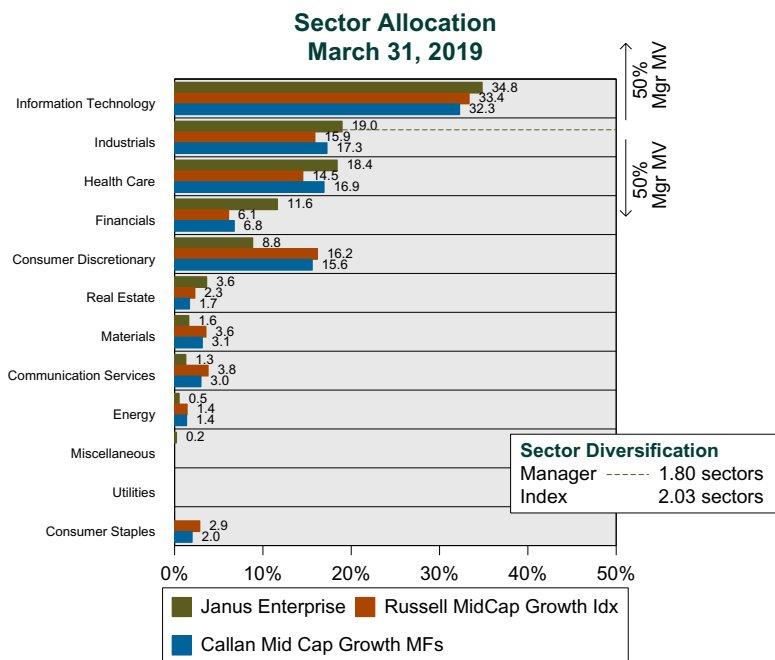
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Mid Cap Growth Mutual Funds as of March 31, 2019



## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.



# Prudential Small Cap Value Period Ended March 31, 2019

## Investment Philosophy

QMA believes a systematic approach that focuses on stocks with low valuations and confirming signals of attractiveness can outperform a small cap value benchmark. Its research shows that adapting to changing market conditions by dynamically shifting the weight on specific factors, while simultaneously maintaining a focus on value stocks, leads to better performance than using static factor exposures. Switched share class in September 2015.

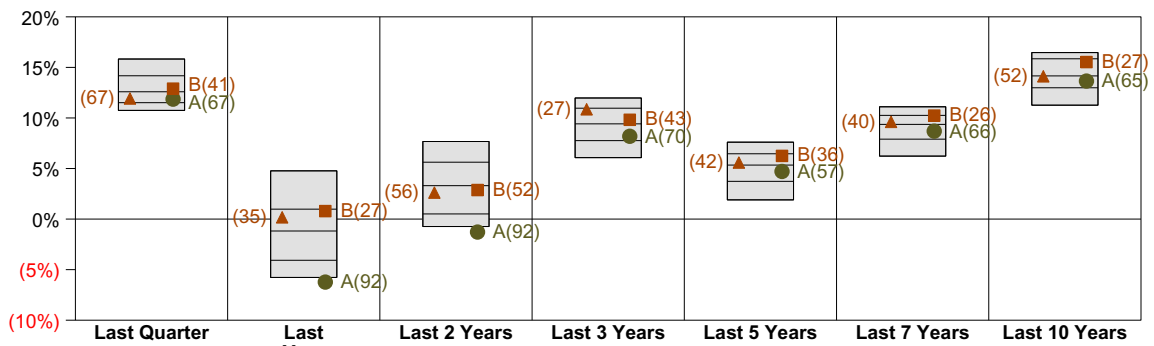
## Quarterly Summary and Highlights

- Prudential Small Cap Value's portfolio posted a 11.86% return for the quarter placing it in the 67 percentile of the Callan Small Cap Value Mutual Funds group for the quarter and in the 92 percentile for the last year.
- Prudential Small Cap Value's portfolio underperformed the Russell 2000 Value Index by 0.07% for the quarter and underperformed the Russell 2000 Value Index for the year by 6.40%.

## Quarterly Asset Growth

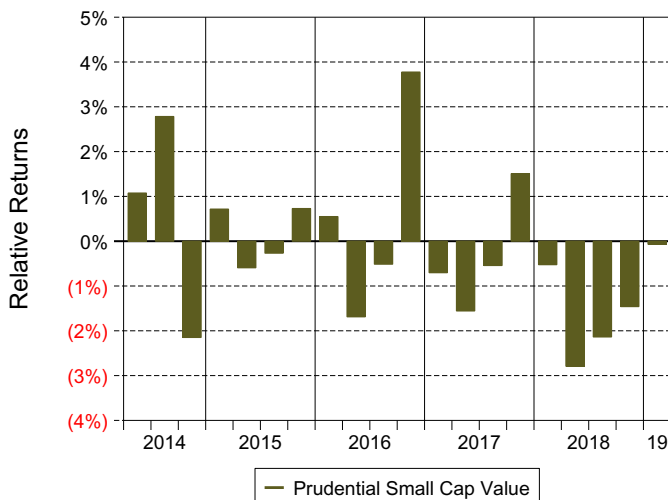
Beginning Market Value	\$11,324,250
Net New Investment	\$0
Investment Gains/(Losses)	\$1,343,038
Ending Market Value	\$12,667,287

## Performance vs Callan Small Cap Value Mutual Funds (Net)

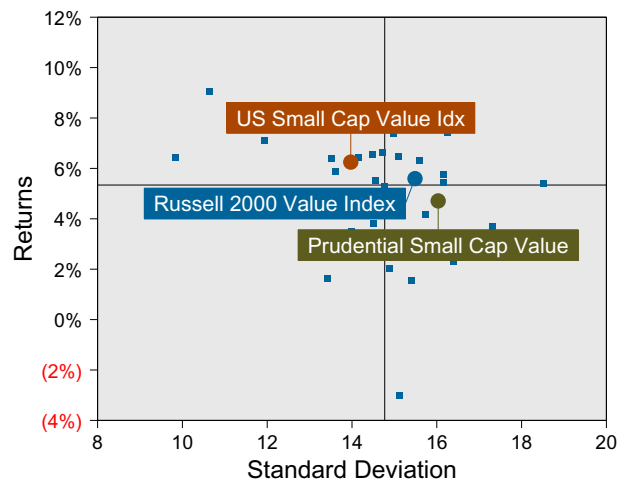


	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	15.83	4.77	7.67	11.97	7.60	11.10	16.47
25th Percentile	14.17	0.98	5.63	10.96	6.46	10.26	15.85
Median	12.59	(1.18)	3.30	9.42	5.34	9.36	14.16
75th Percentile	11.51	(4.07)	0.51	7.76	3.73	7.90	12.99
90th Percentile	10.75	(5.77)	(0.74)	6.08	1.90	6.23	11.26
Prudential Small Cap Value	● A 11.86	(6.23)	(1.28)	8.19	4.71	8.69	13.65
US Small Cap Value Idx	■ B 12.90	0.79	2.87	9.82	6.25	10.23	15.53
Russell 2000 Value Index	▲ 11.93	0.17	2.62	10.86	5.59	9.61	14.12

## Relative Return vs Russell 2000 Value Index



## Callan Small Cap Value Mutual Funds (Net) Annualized Five Year Risk vs Return



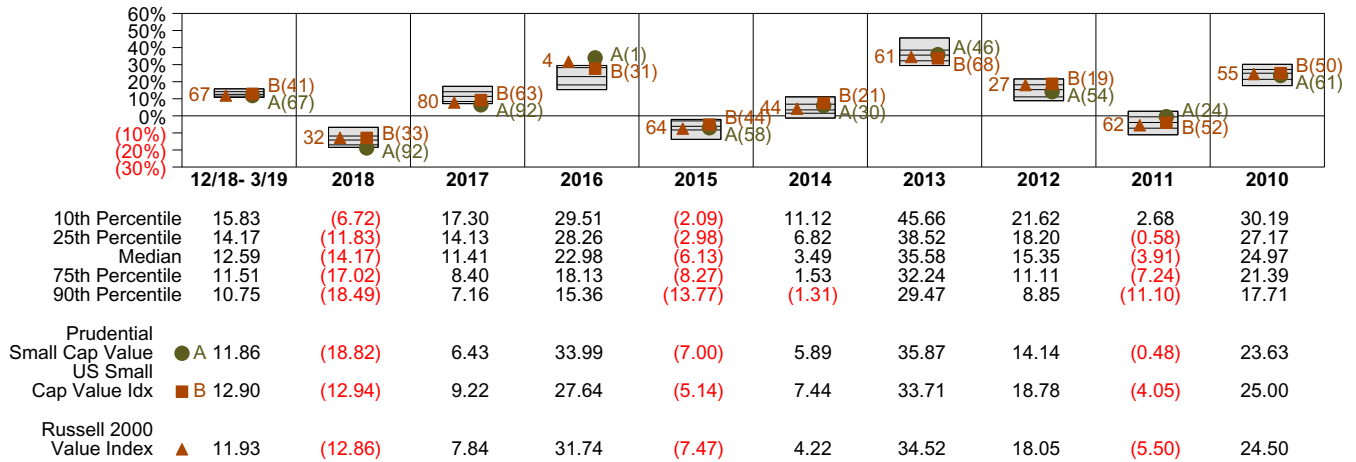


# Prudential Small Cap Value Return Analysis Summary

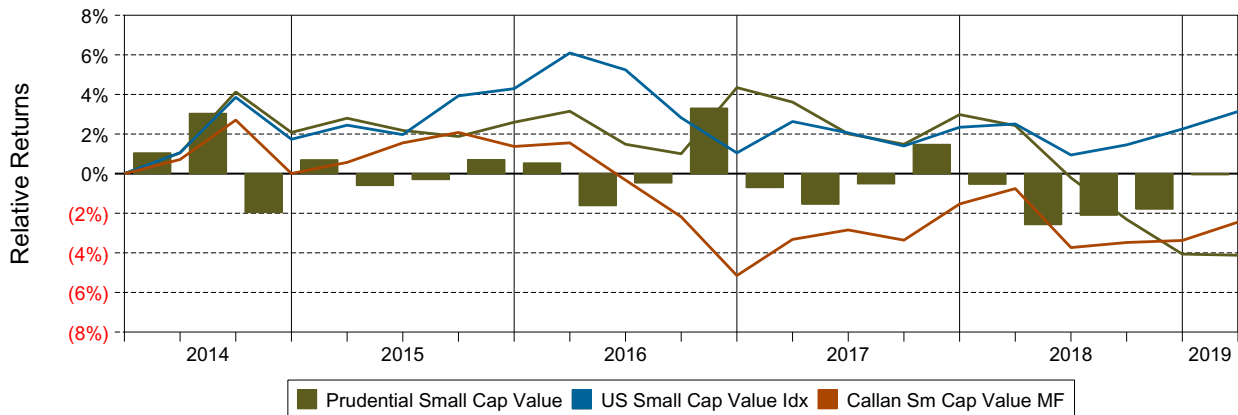
## Return Analysis

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.

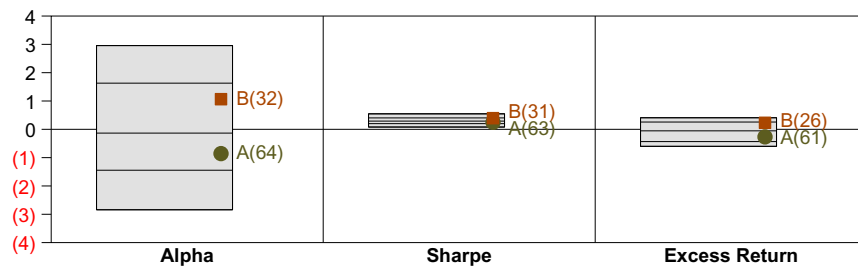
### Performance vs Callan Small Cap Value Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Russell 2000 Value Index



### Risk Adjusted Return Measures vs Russell 2000 Value Index Rankings Against Callan Small Cap Value Mutual Funds (Net) Five Years Ended March 31, 2019

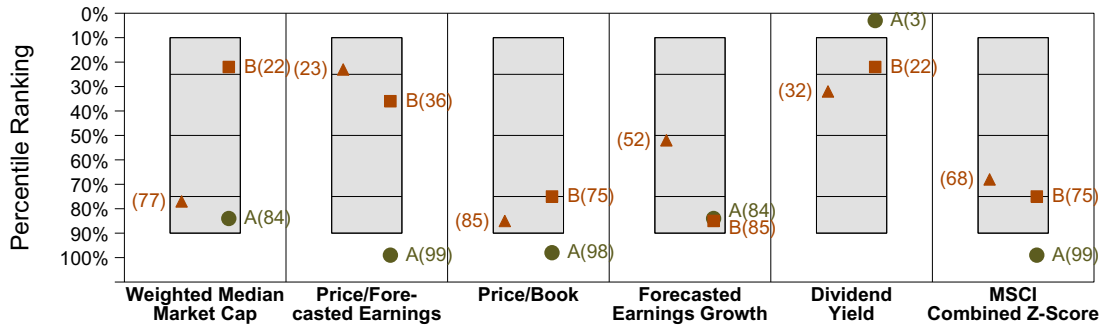


# Prudential Small Cap Value Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Value Mutual Funds as of March 31, 2019

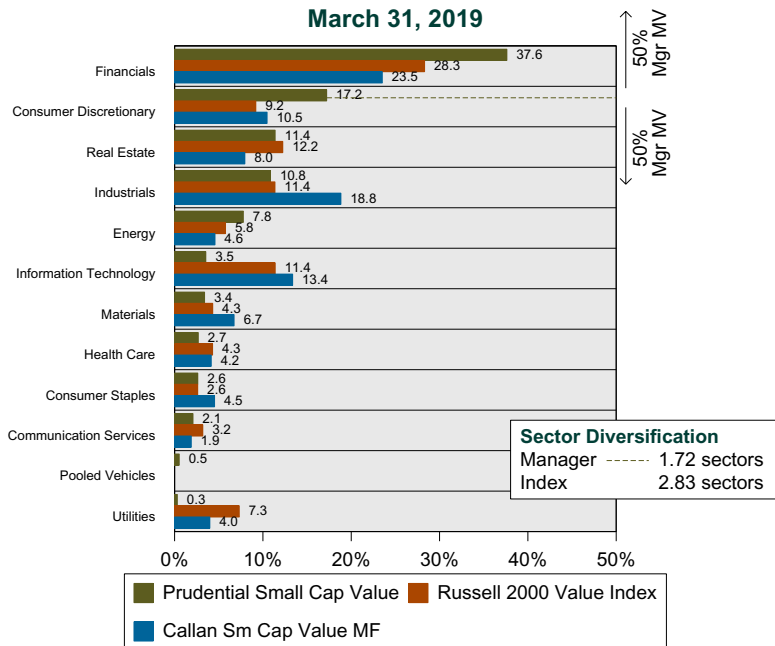


	Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	3.14	17.90	1.98	13.73	2.77	(0.13)
25th Percentile	2.48	15.74	1.76	12.11	2.50	(0.33)
Median	2.16	14.04	1.61	10.68	1.71	(0.49)
75th Percentile	1.90	12.72	1.42	9.30	1.55	(0.66)
90th Percentile	1.17	11.57	1.23	7.07	1.30	(0.77)
Prudential Small Cap Value	1.51	10.76	0.96	8.69	3.06	(1.15)
US Small Cap Value Idx	2.61	14.63	1.42	8.27	2.64	(0.66)
Russell 2000 Value Index	1.86	15.80	1.33	10.47	2.21	(0.57)

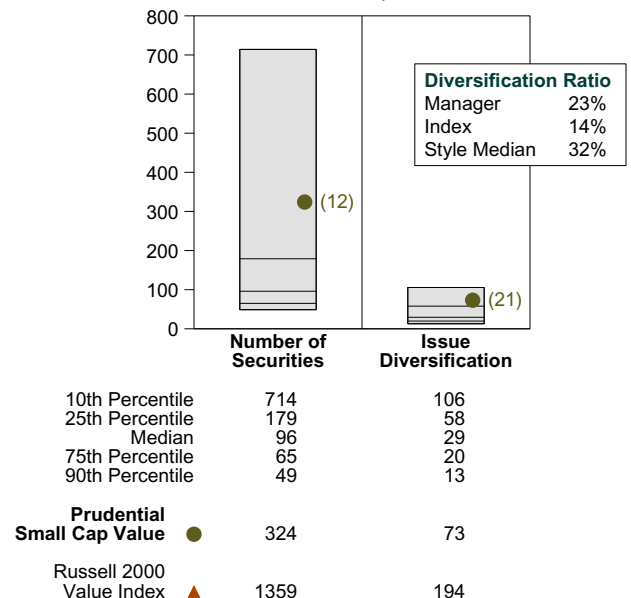
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



### Diversification March 31, 2019



# AB US Small Growth Period Ended March 31, 2019

## Investment Philosophy

AB's small cap growth investment process emphasizes in-house fundamental research and direct management contact in order to identify rapidly growing companies with accelerating earnings power and reasonable valuations.

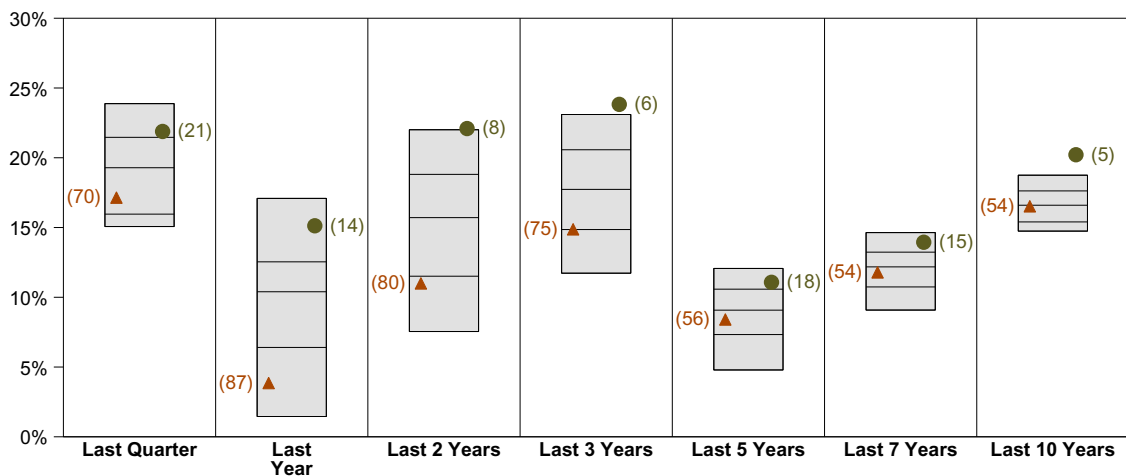
## Quarterly Summary and Highlights

- AB US Small Growth's portfolio posted a 21.89% return for the quarter placing it in the 21 percentile of the Callan Small Cap Growth Mutual Funds group for the quarter and in the 14 percentile for the last year.
- AB US Small Growth's portfolio outperformed the Russell 2000 Growth Index by 4.74% for the quarter and outperformed the Russell 2000 Growth Index for the year by 11.27%.

## Quarterly Asset Growth

Beginning Market Value	\$14,984,339
Net New Investment	\$0
Investment Gains/(Losses)	\$3,279,399
Ending Market Value	\$18,263,738

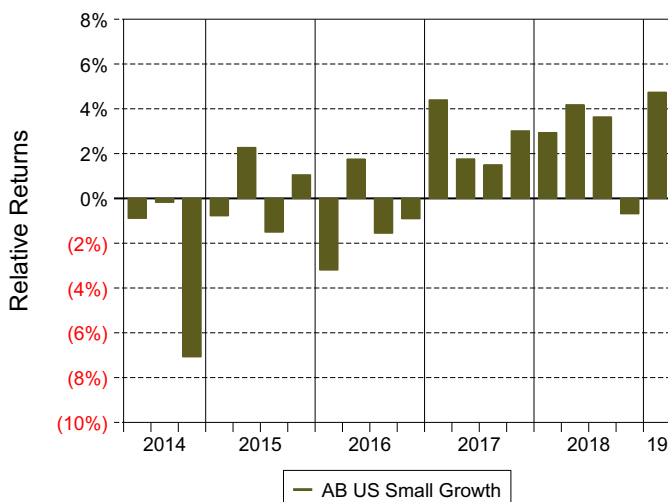
## Performance vs Callan Small Cap Growth Mutual Funds (Net)



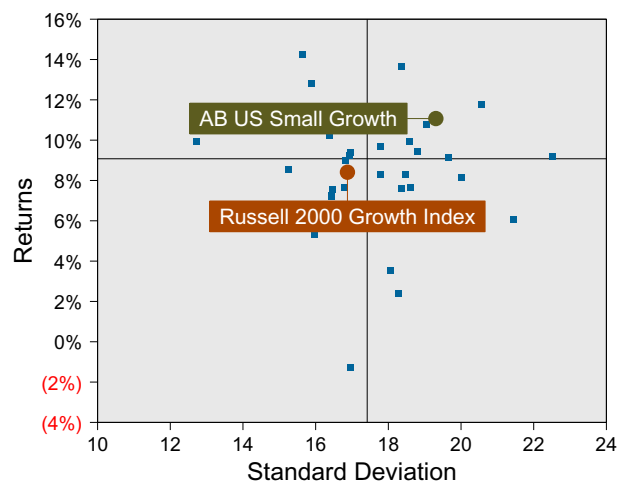
10th Percentile	23.88	17.09	22.01	23.10	12.07	14.64	18.75
25th Percentile	21.46	12.54	18.81	20.57	10.58	13.23	17.62
Median	19.29	10.40	15.71	17.73	9.08	12.18	16.60
75th Percentile	15.96	6.40	11.51	14.86	7.33	10.74	15.40
90th Percentile	15.07	1.45	7.55	11.73	4.79	9.08	14.74

<b>AB US Small Growth</b>	●	21.89	15.12	22.09	23.83	11.07	13.94	20.22
Russell 2000 Growth Index	▲	17.14	3.85	11.00	14.87	8.41	11.79	16.52

## Relative Return vs Russell 2000 Growth Index



## Callan Small Cap Growth Mutual Funds (Net) Annualized Five Year Risk vs Return

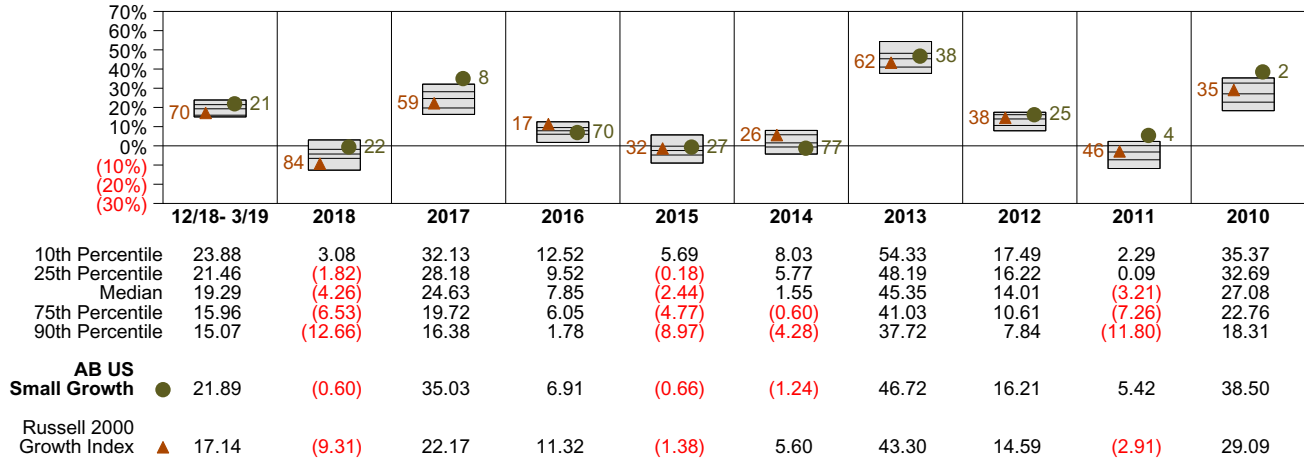


# AB US Small Growth Return Analysis Summary

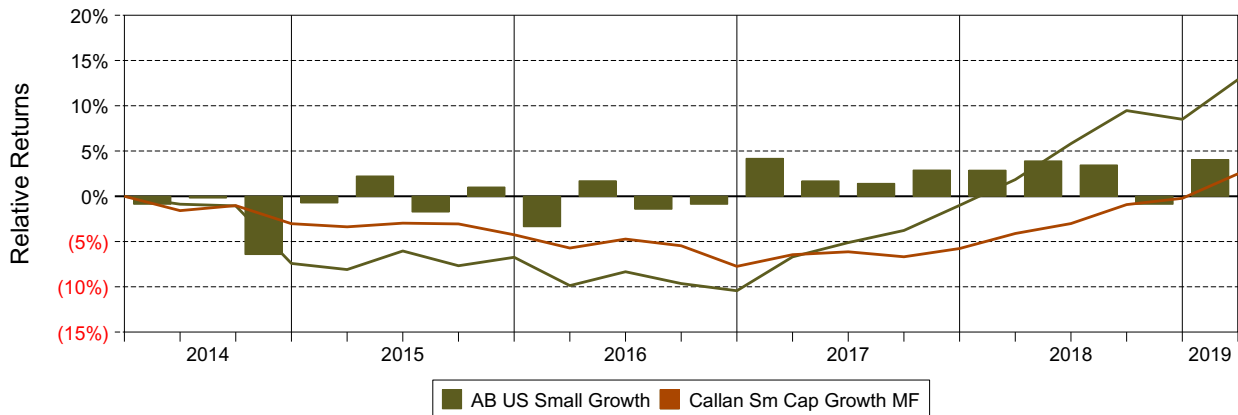
## Return Analysis

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.

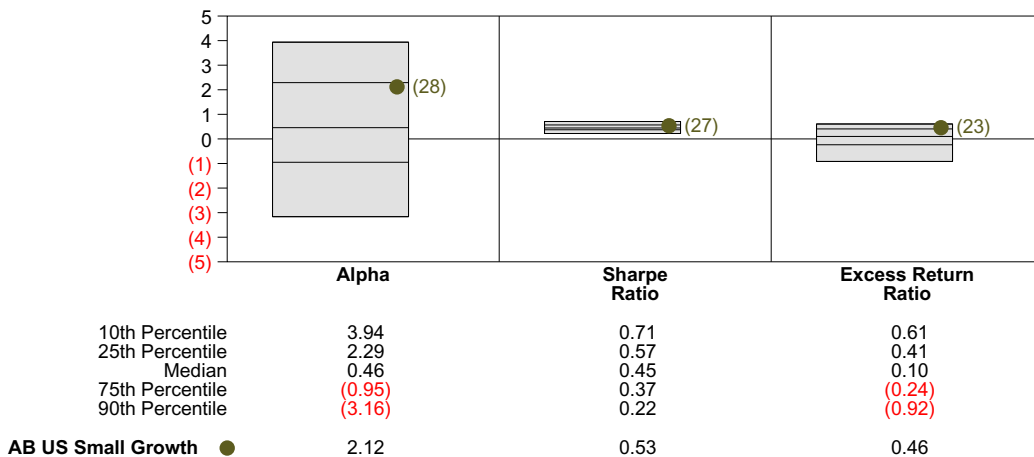
### Performance vs Callan Small Cap Growth Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Russell 2000 Growth Index



### Risk Adjusted Return Measures vs Russell 2000 Growth Index Rankings Against Callan Small Cap Growth Mutual Funds (Net) Five Years Ended March 31, 2019

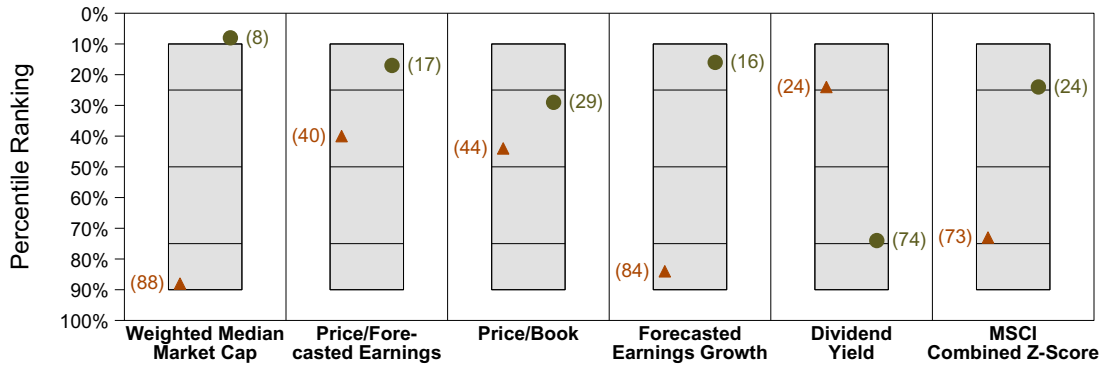


# AB US Small Growth Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

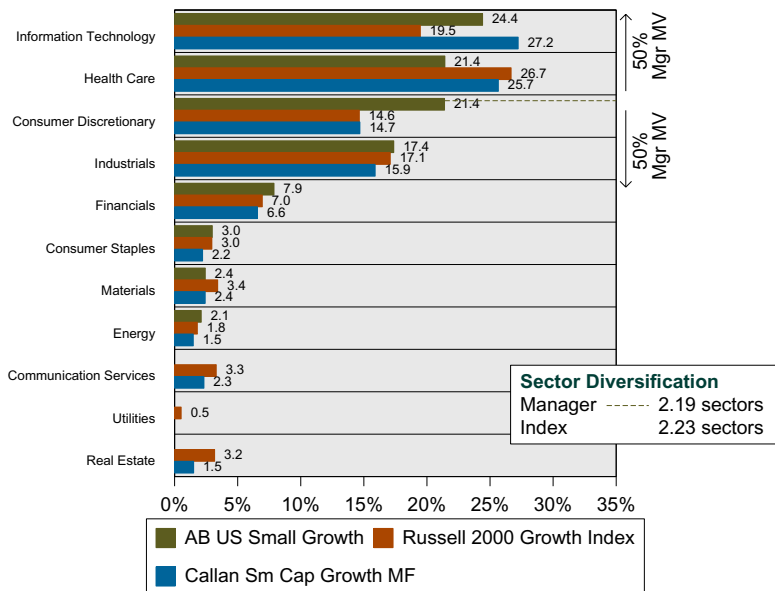
## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Growth Mutual Funds as of March 31, 2019



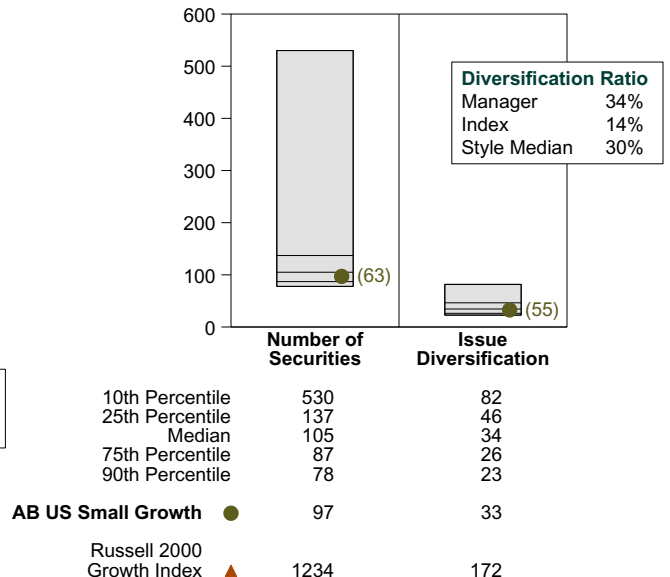
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



### Diversification March 31, 2019





# International Equity Composite Period Ended March 31, 2019

## Quarterly Summary and Highlights

- International Equity Composite's portfolio posted a 10.62% return for the quarter placing it in the 29 percentile of the Public Fund - International Equity group for the quarter and in the 93 percentile for the last year.
- International Equity Composite's portfolio outperformed the MSCI ACWixUS Gross by 0.18% for the quarter and underperformed the MSCI ACWixUS Gross for the year by 4.76%.

## Quarterly Asset Growth

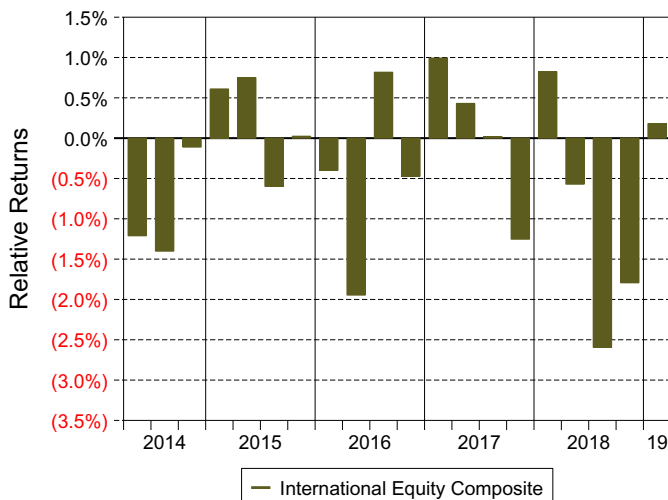
Beginning Market Value	\$128,491,331
Net New Investment	\$0
Investment Gains/(Losses)	\$13,775,357
Ending Market Value	\$142,266,688

## Performance vs Public Fund - International Equity (Gross)

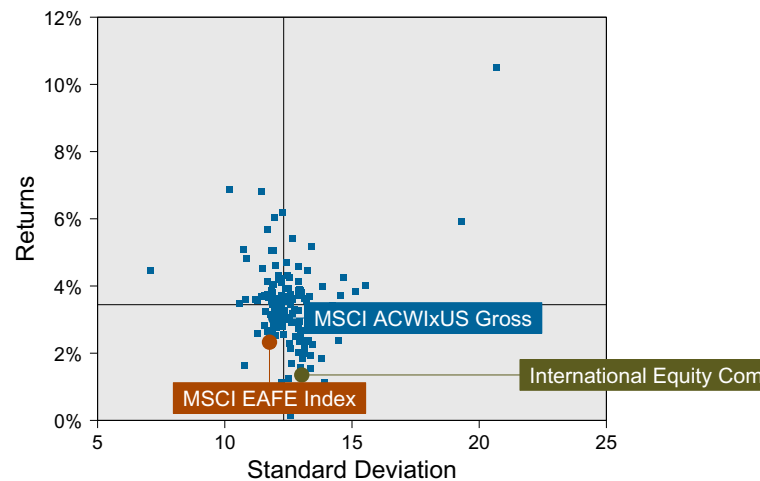


10th Percentile	11.37	(2.39)	8.35	9.86	4.57	6.94	10.86
25th Percentile	10.72	(3.88)	6.89	9.26	3.85	6.35	10.39
Median	10.28	(5.24)	5.89	8.39	3.44	5.64	9.64
75th Percentile	10.01	(6.48)	5.13	7.81	2.77	4.90	9.02
90th Percentile	9.63	(7.83)	3.90	6.99	2.11	4.07	8.24
International Equity Composite	● A 10.62	(8.50)	3.52	6.53	1.35	4.27	9.23
MSCI EAFE Index	■ B 9.98	(3.71)	5.14	7.27	2.33	5.63	8.96
MSCI ACWixUS Gross	▲ 10.44	(3.73)	6.15	8.61	3.05	5.21	9.35

## Relative Return vs MSCI ACWixUS Gross



## Public Fund - International Equity (Gross) Annualized Five Year Risk vs Return

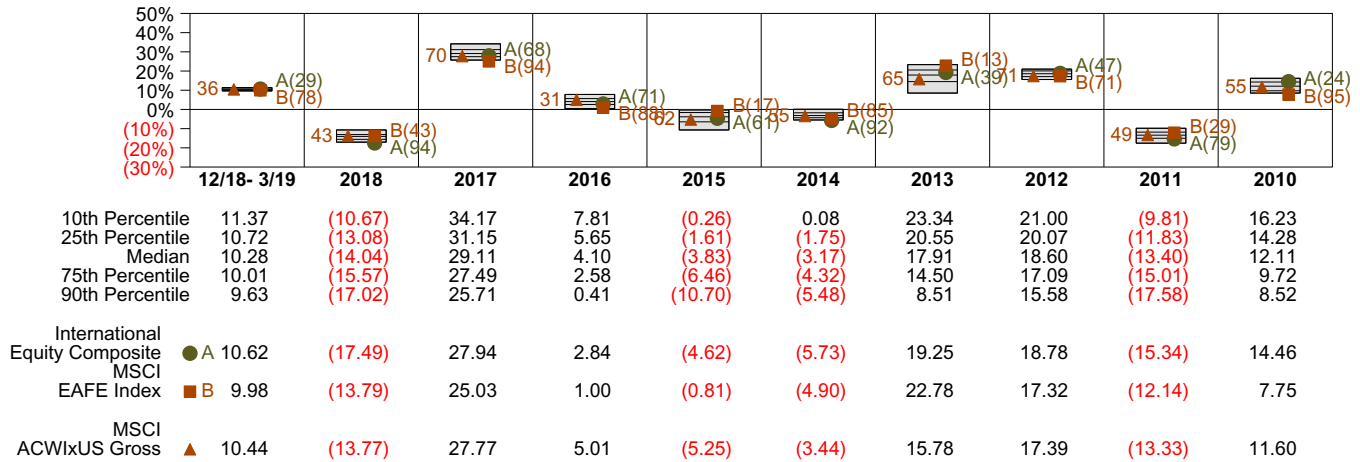


# International Equity Composite Return Analysis Summary

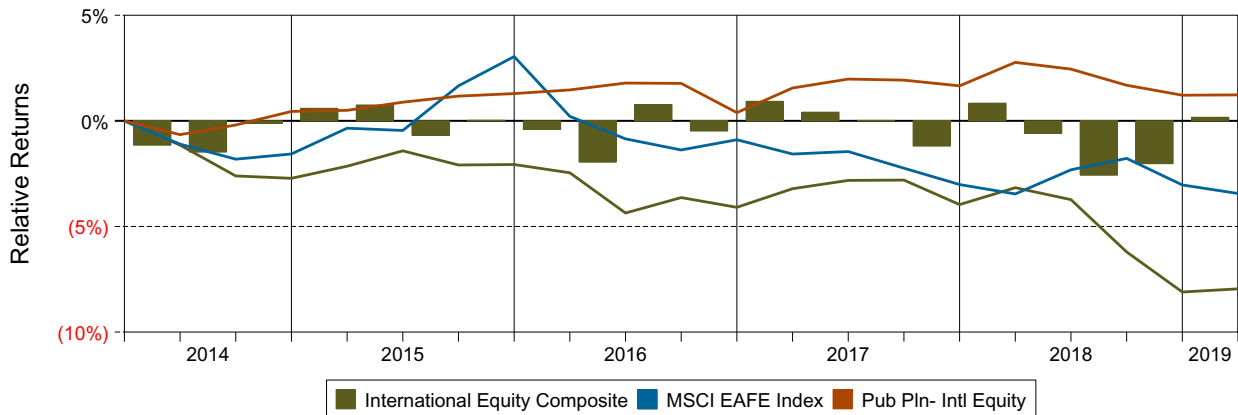
## Return Analysis

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.

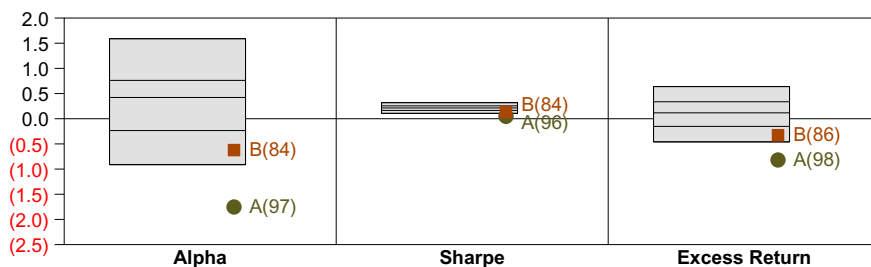
### Performance vs Public Fund - International Equity (Gross)



### Cumulative and Quarterly Relative Return vs MSCI ACWixUS Gross



### Risk Adjusted Return Measures vs MSCI ACWixUS Gross Rankings Against Public Fund - International Equity (Gross) Five Years Ended March 31, 2019



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.59	0.32	0.64
25th Percentile	0.76	0.26	0.34
Median	0.42	0.21	0.12
75th Percentile	(0.23)	0.17	(0.15)
90th Percentile	(0.91)	0.11	(0.46)
International Equity Composite	● A (1.75)	0.05	(0.82)
MSCI EAFE Index	■ B (0.62)	0.13	(0.33)



# International Equity Composite Equity Characteristics Analysis Summary

## Portfolio Characteristics

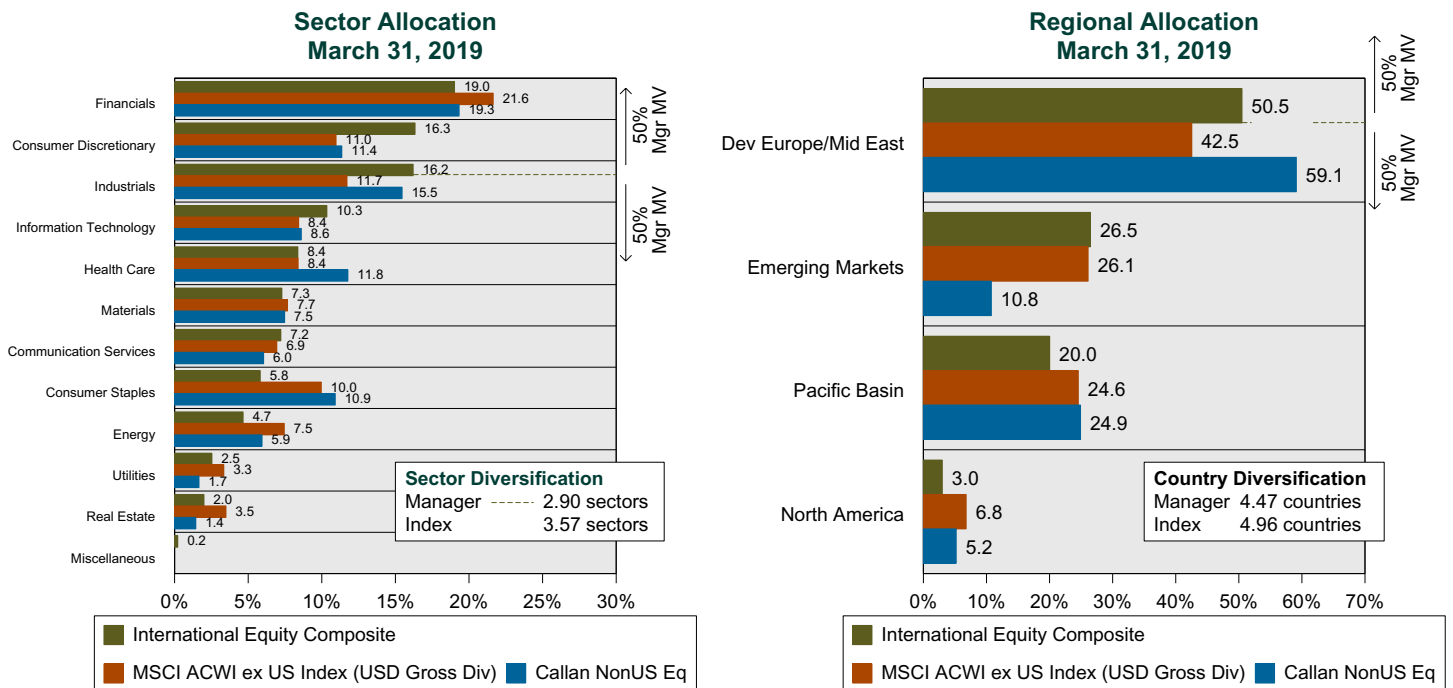
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Equity as of March 31, 2019



## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.



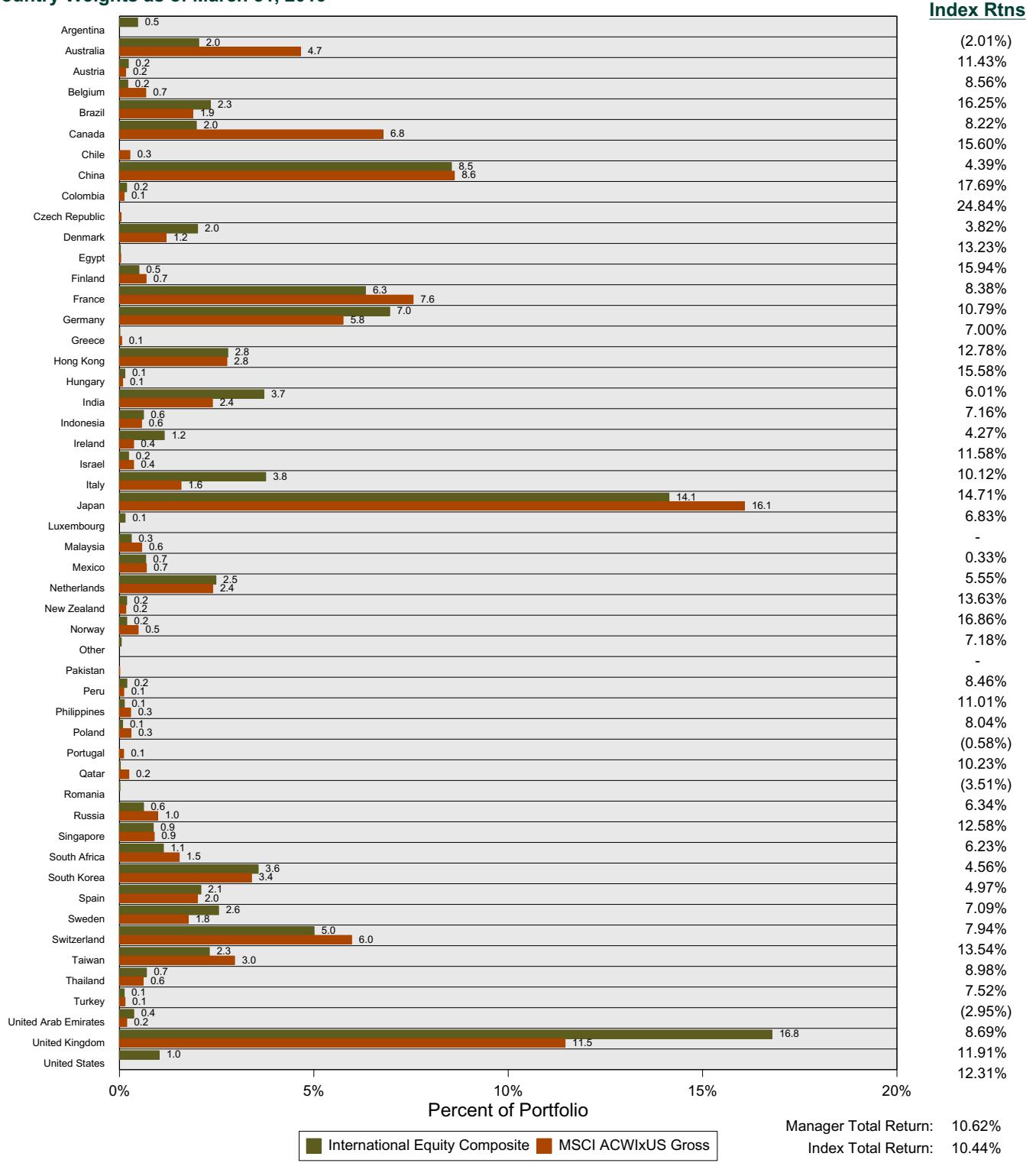
# Country Allocation

## International Equity Composite VS MSCI ACWI ex US Index (USD Gross Div)

### Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 2019. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

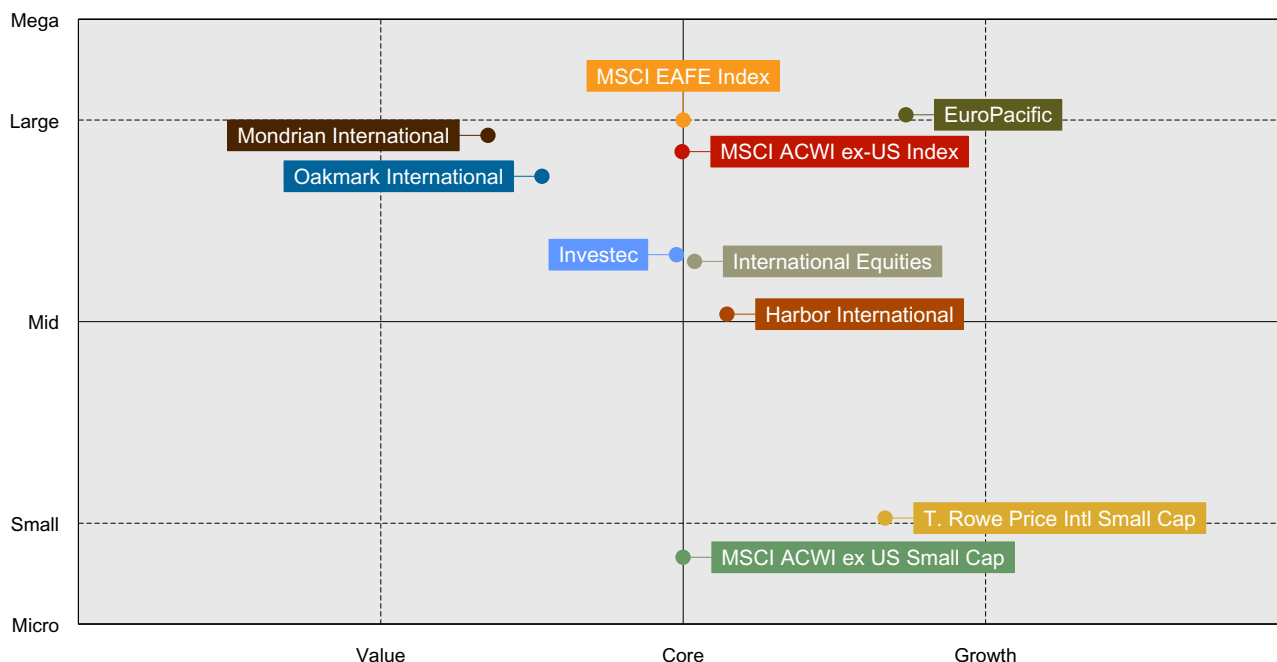
Country Weights as of March 31, 2019



## International Holdings Based Style Analysis For One Quarter Ended March 31, 2019

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

### Style Map Holdings for One Quarter Ended March 31, 2019



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
EuroPacific	18.27%	40.59	0.67	0.28	(0.39)	322	40.84
Harbor International	19.66%	13.83	0.12	0.02	(0.10)	366	69.92
Oakmark International	18.37%	29.82	(0.47)	(0.10)	0.36	59	16.68
Mondrian International	18.39%	34.56	(0.64)	(0.19)	0.45	112	24.63
T. Rowe Price Intl Small Cap	14.86%	2.44	0.61	0.24	(0.37)	212	61.87
Investec	10.45%	20.73	(0.04)	0.04	0.08	86	20.12
International Equities	100.00%	19.95	0.02	0.04	0.02	946	119.62
MSCI ACWI ex US Small Cap	-	1.80	(0.02)	(0.01)	0.01	4102	695.33
MSCI EAFE Index	-	36.34	(0.02)	(0.02)	0.00	919	111.10
MSCI ACWI ex-US Index	-	32.68	(0.02)	(0.02)	0.00	2132	175.88

# EuroPacific Period Ended March 31, 2019

## Investment Philosophy

Capital Group has a research-driven approach to non-U.S. investing. Their bottom-up fundamental approach is blended with macroeconomic and political judgments on the outlook of economies, industries, currencies, and markets. The fund uses a "multiple manager" approach where individual portfolio managers, each with different styles, manage separate sleeves of the strategy independently. Sleeves are combined to form the fund. Individual managers are selected so that the aggregate fund adheres to its stated objective of capital appreciation. Switched from Class R-5 Shares to Class R-6 Shares in December 2009.

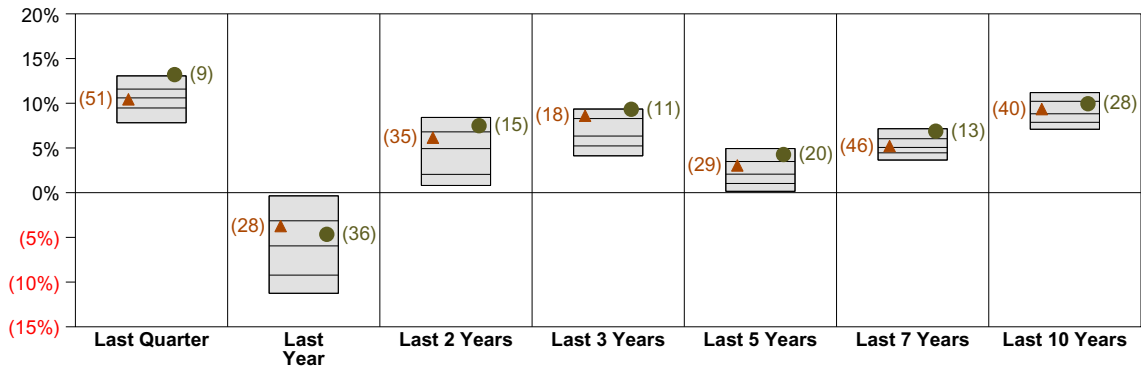
## Quarterly Summary and Highlights

- EuroPacific's portfolio posted a 13.20% return for the quarter placing it in the 9 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 36 percentile for the last year.
- EuroPacific's portfolio outperformed the MSCI ACWixUS Gross by 2.76% for the quarter and underperformed the MSCI ACWixUS Gross for the year by 0.92%.

## Quarterly Asset Growth

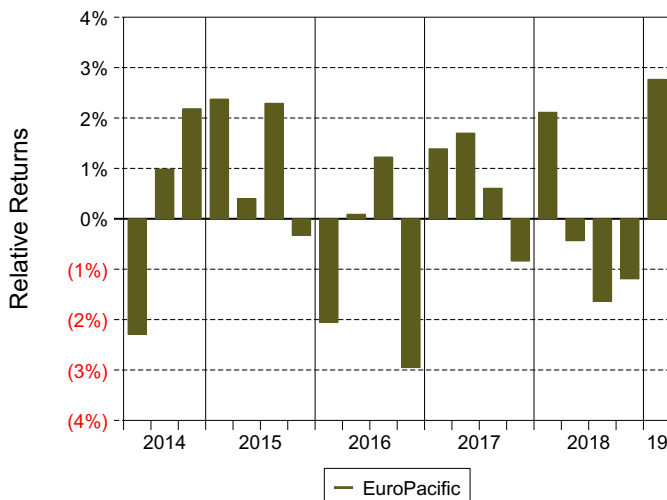
Beginning Market Value	\$22,966,876
Net New Investment	\$0
Investment Gains/(Losses)	\$3,032,301
Ending Market Value	\$25,999,176

## Performance vs Callan Non US Equity Mutual Funds (Net)

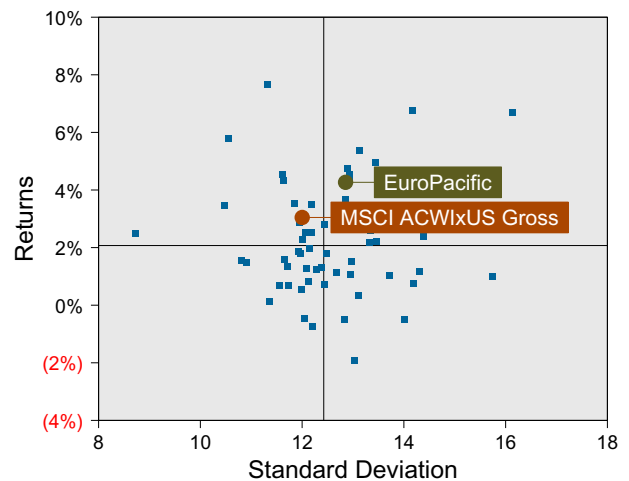


10th Percentile	13.06	(0.35)	8.41	9.35	4.93	7.15	11.19
25th Percentile	11.58	(3.15)	6.80	8.29	3.49	6.03	10.22
Median	10.60	(5.95)	4.93	6.33	2.07	5.06	8.82
75th Percentile	9.47	(9.22)	2.05	5.23	1.03	4.46	7.87
90th Percentile	7.82	(11.26)	0.81	4.12	0.15	3.65	7.09
<b>EuroPacific</b> ●	<b>13.20</b>	<b>(4.66)</b>	<b>7.49</b>	<b>9.33</b>	<b>4.27</b>	<b>6.88</b>	<b>9.95</b>
MSCI ACWixUS Gross ▲	10.44	(3.73)	6.15	8.61	3.05	5.21	9.35

## Relative Return vs MSCI ACWixUS Gross



## Callan Non US Equity Mutual Funds (Net) Annualized Five Year Risk vs Return

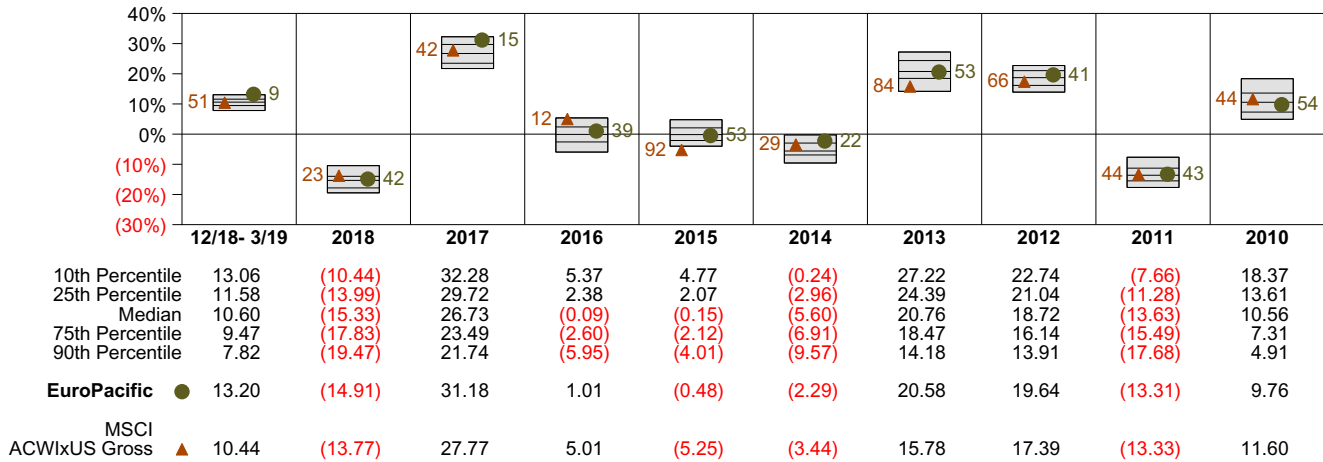


# EuroPacific Return Analysis Summary

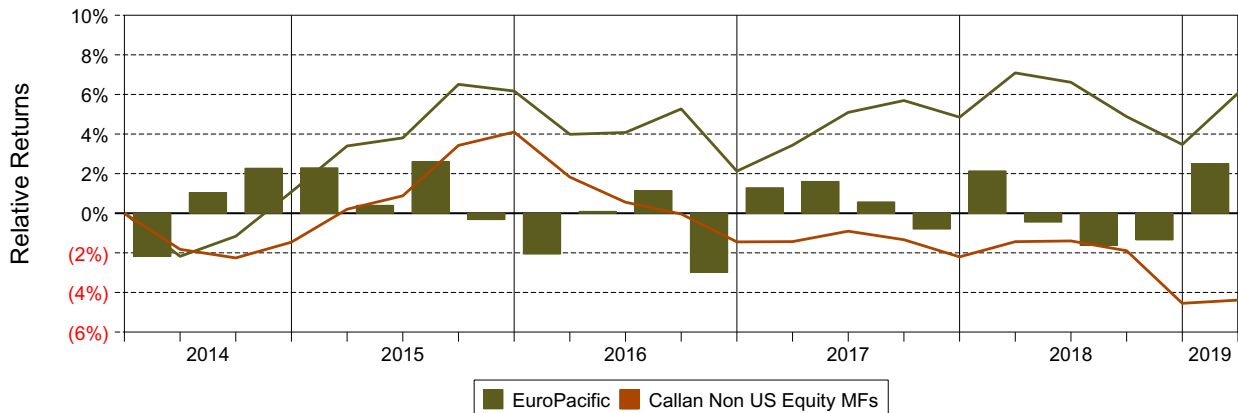
## Return Analysis

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.

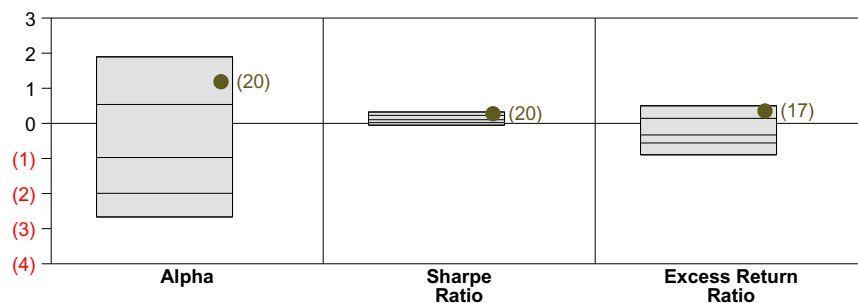
### Performance vs Callan Non US Equity Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs MSCI ACWixUS Gross



### Risk Adjusted Return Measures vs MSCI ACWixUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2019

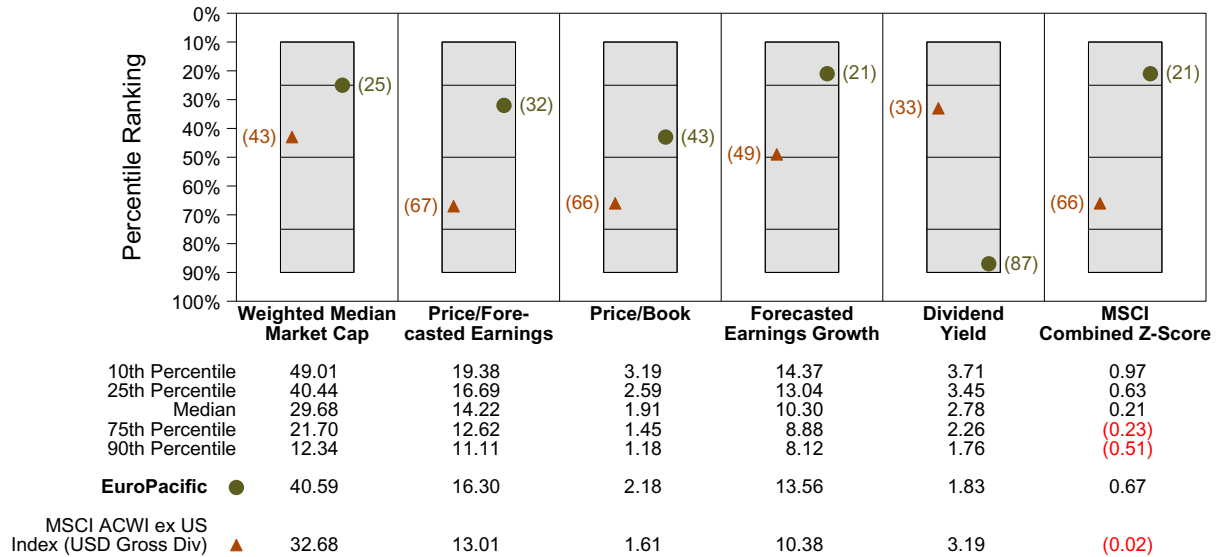


# EuroPacific Equity Characteristics Analysis Summary

## Portfolio Characteristics

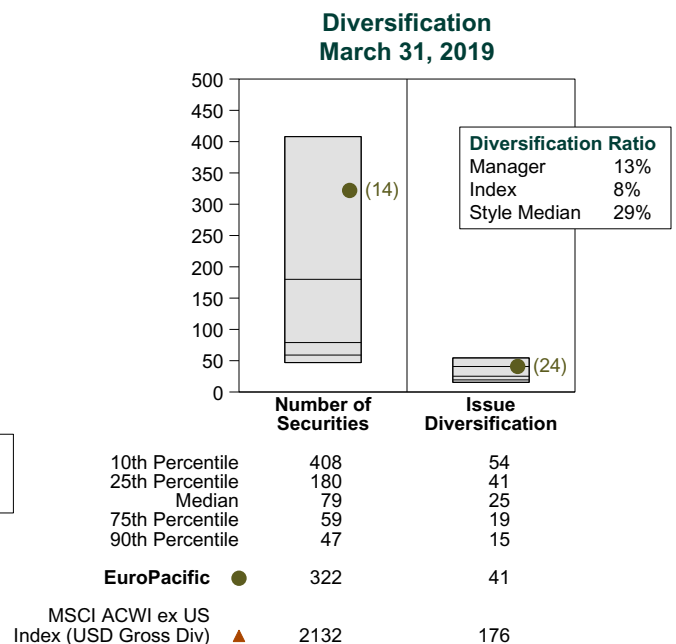
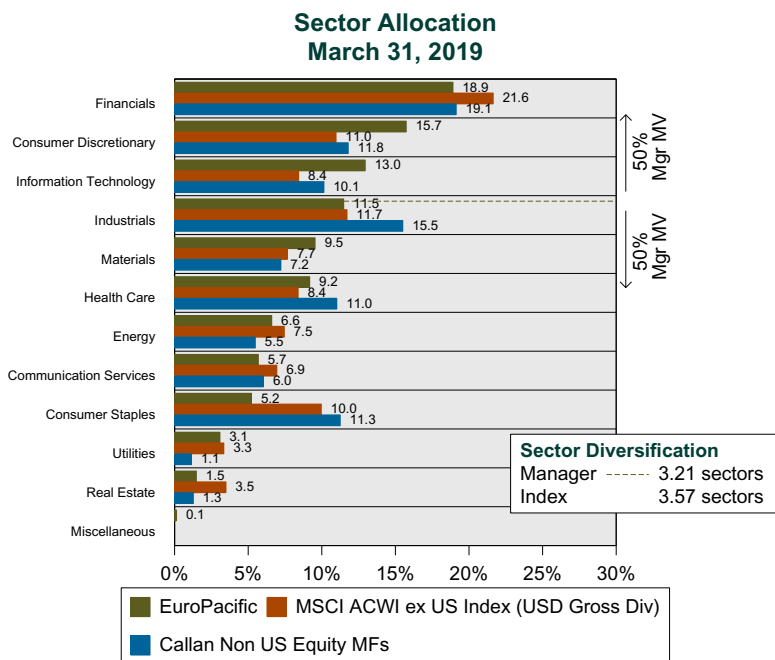
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of March 31, 2019



## Sector Weights

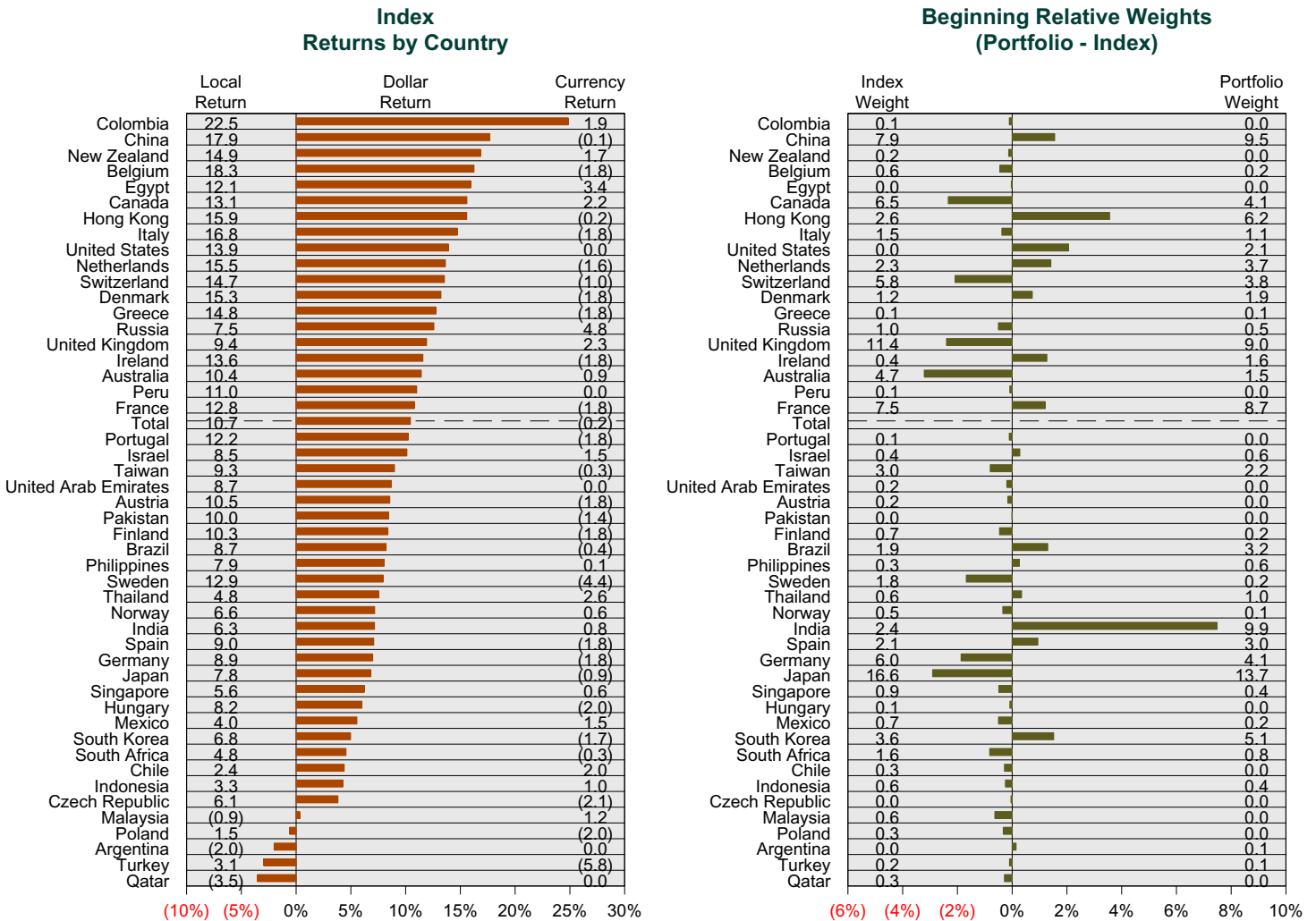
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.



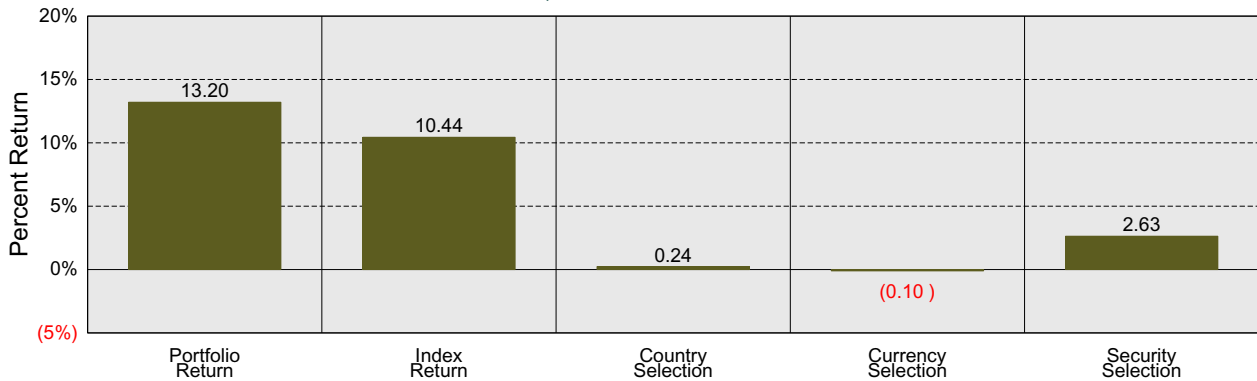
# EuroPacific vs MSCI ACWixUS Gross Attribution for Quarter Ended March 31, 2019

## International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.



## Attribution Factors for Quarter Ended March 31, 2019



# Harbor International Period Ended March 31, 2019

## Investment Philosophy

The Harbor International Fund is sub-advised by Marathon-London. At the heart of Marathon's investment philosophy is the "capital cycle" approach to investment. This is based on the idea that the prospect of high returns will attract excessive capital (and hence competition), and vice versa. In addition, the assessment of how management responds to the forces of the capital cycle - particularly whether they curtail investment when returns have been poor - and how they are incentivized are critical to the investment outcome. Given the contrarian and long-term nature of the capital cycle, the investment philosophy results in strong views versus the market and long holding periods (5 years plus). The attractiveness of an individual security, therefore, should be evaluated within this timeframe.

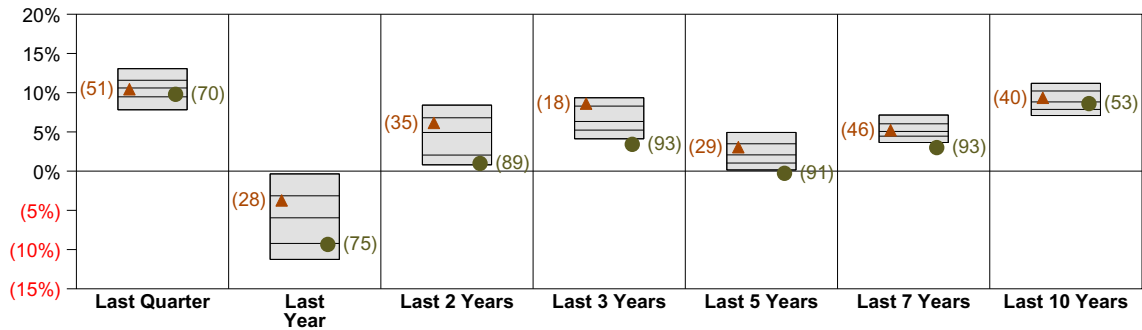
## Quarterly Summary and Highlights

- Harbor International's portfolio posted a 9.79% return for the quarter placing it in the 70 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 75 percentile for the last year.
- Harbor International's portfolio underperformed the MSCI ACWixUS Gross by 0.65% for the quarter and underperformed the MSCI ACWixUS Gross for the year by 5.61%.

## Quarterly Asset Growth

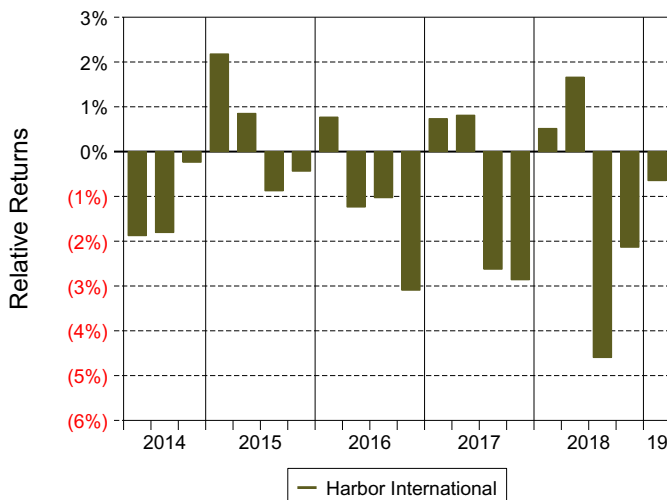
Beginning Market Value	\$25,469,548
Net New Investment	\$0
Investment Gains/(Losses)	\$2,493,894
Ending Market Value	\$27,963,442

## Performance vs Callan Non US Equity Mutual Funds (Net)

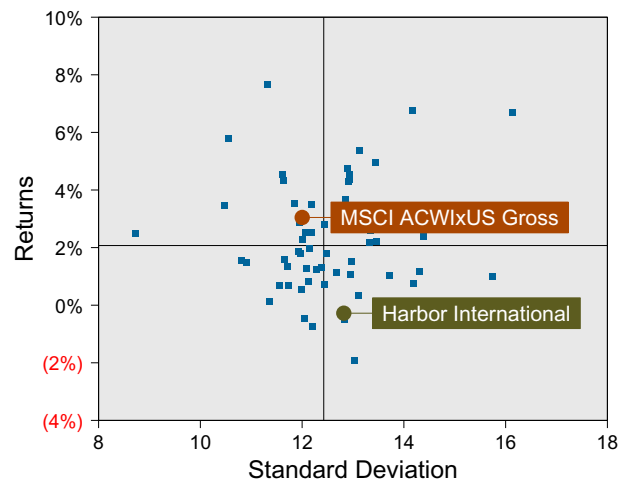


10th Percentile	13.06	(0.35)	8.41	9.35	4.93	7.15	11.19
25th Percentile	11.58	(3.15)	6.80	8.29	3.49	6.03	10.22
Median	10.60	(5.95)	4.93	6.33	2.07	5.06	8.82
75th Percentile	9.47	(9.22)	2.05	5.23	1.03	4.46	7.87
90th Percentile	7.82	(11.26)	0.81	4.12	0.15	3.65	7.09
<b>Harbor International</b>	● 9.79	(9.34)	0.98	3.41	(0.28)	3.00	8.61
MSCI ACWixUS Gross	▲ 10.44	(3.73)	6.15	8.61	3.05	5.21	9.35

## Relative Return vs MSCI ACWixUS Gross



## Callan Non US Equity Mutual Funds (Net) Annualized Five Year Risk vs Return



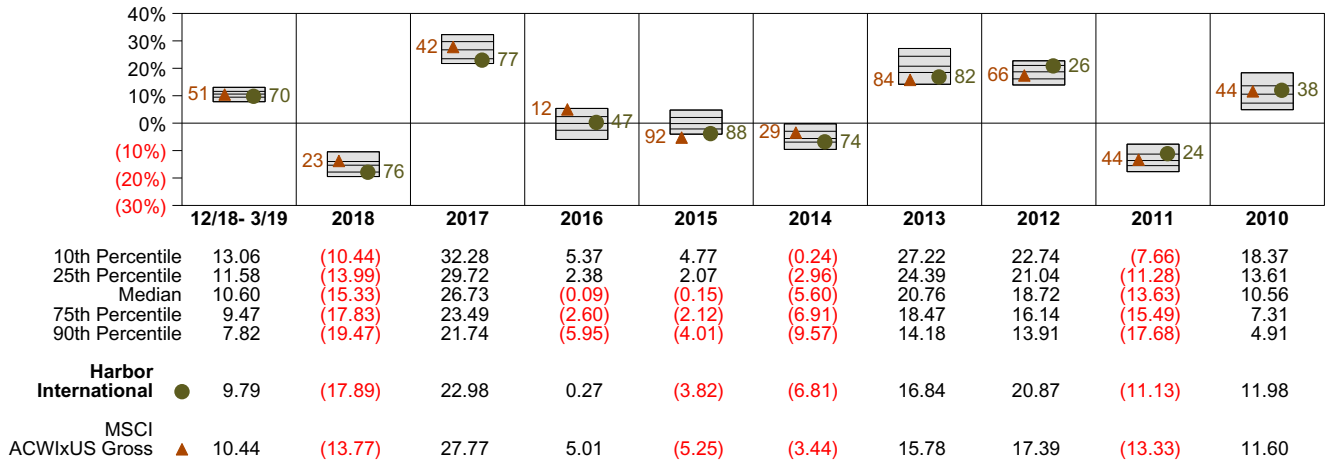


# Harbor International Return Analysis Summary

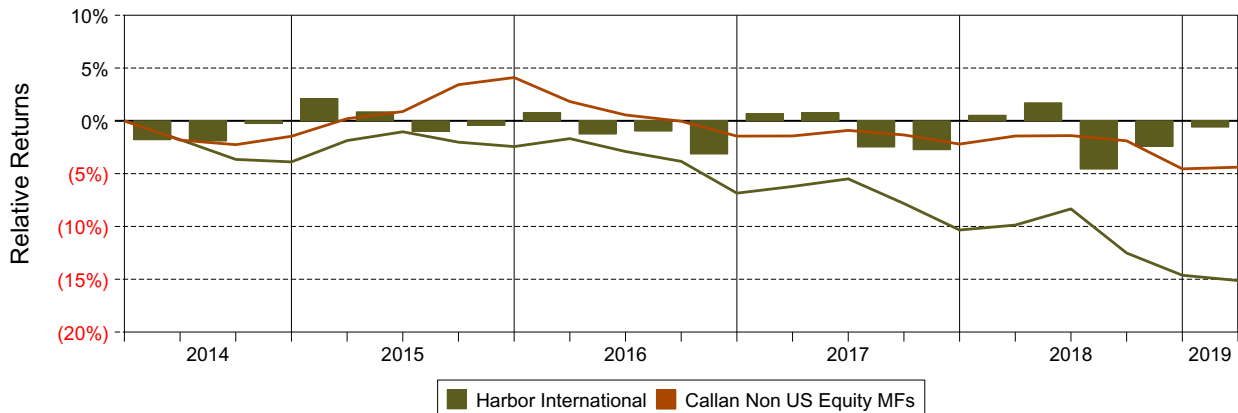
## Return Analysis

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.

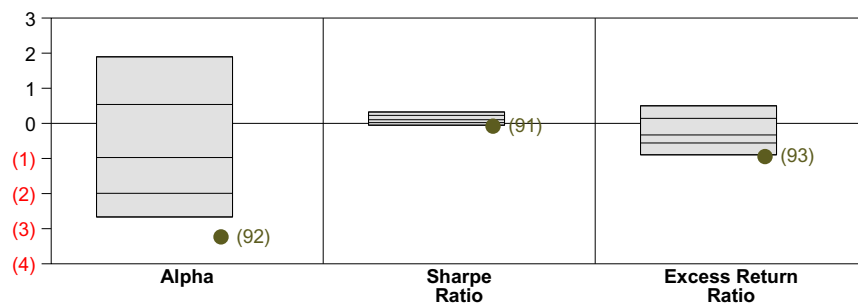
### Performance vs Callan Non US Equity Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



### Risk Adjusted Return Measures vs MSCI ACWIxUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2019



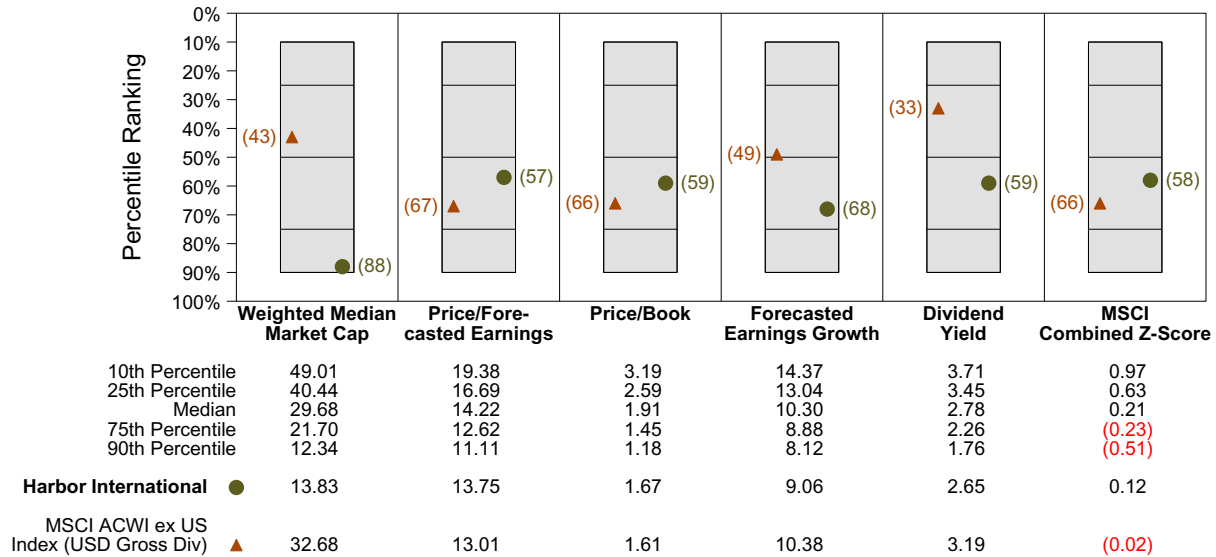
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.90	0.32	0.50
25th Percentile	0.54	0.23	0.14
Median	(0.97)	0.10	(0.33)
75th Percentile	(1.99)	0.02	(0.56)
90th Percentile	(2.67)	(0.05)	(0.90)
<b>Harbor International</b>	● (3.23)	(0.08)	(0.95)

# Harbor International Equity Characteristics Analysis Summary

## Portfolio Characteristics

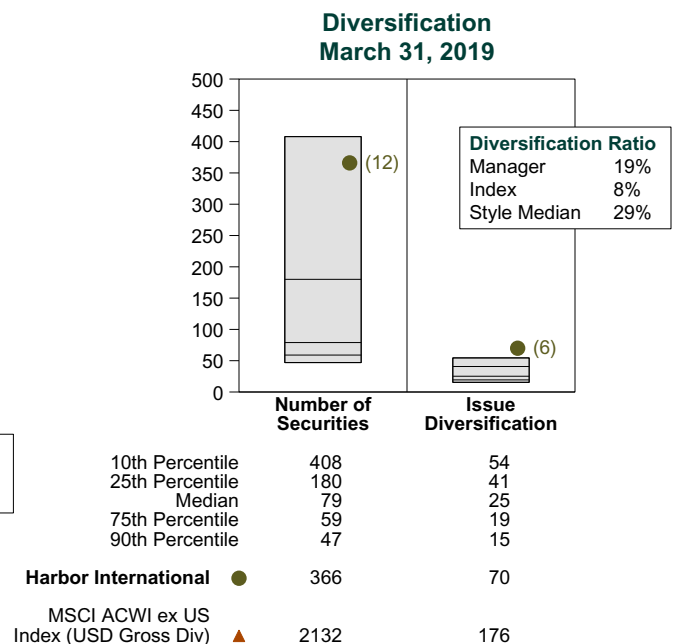
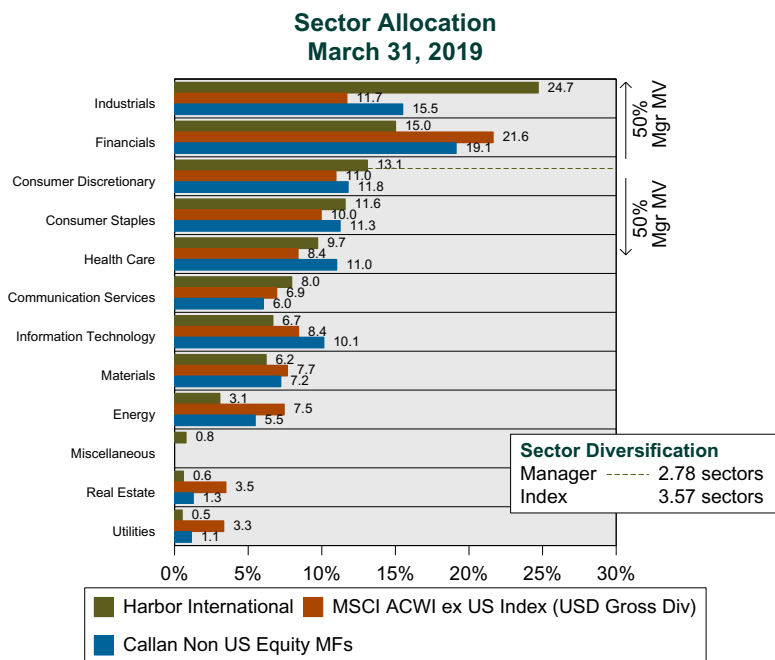
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of March 31, 2019



## Sector Weights

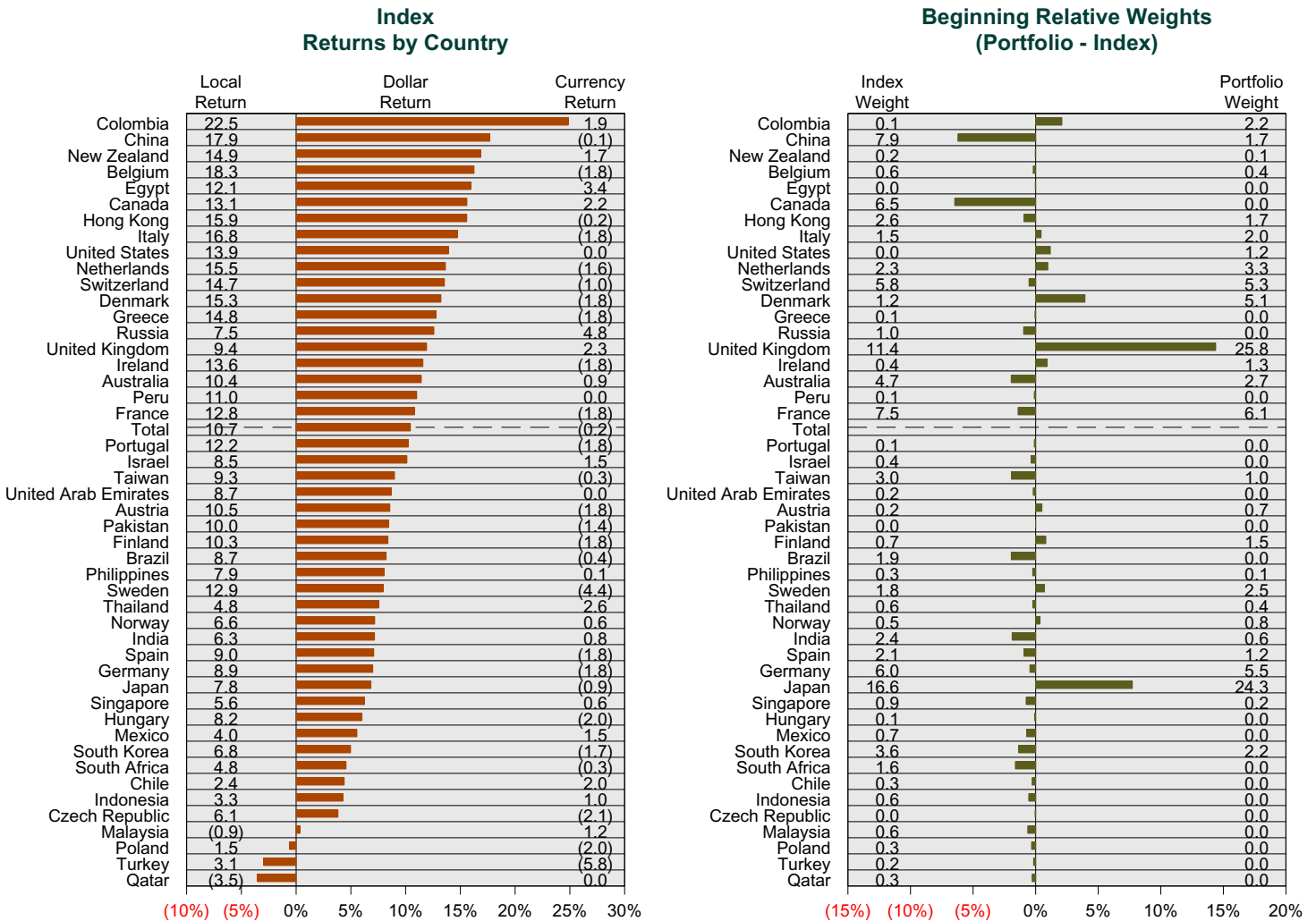
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.



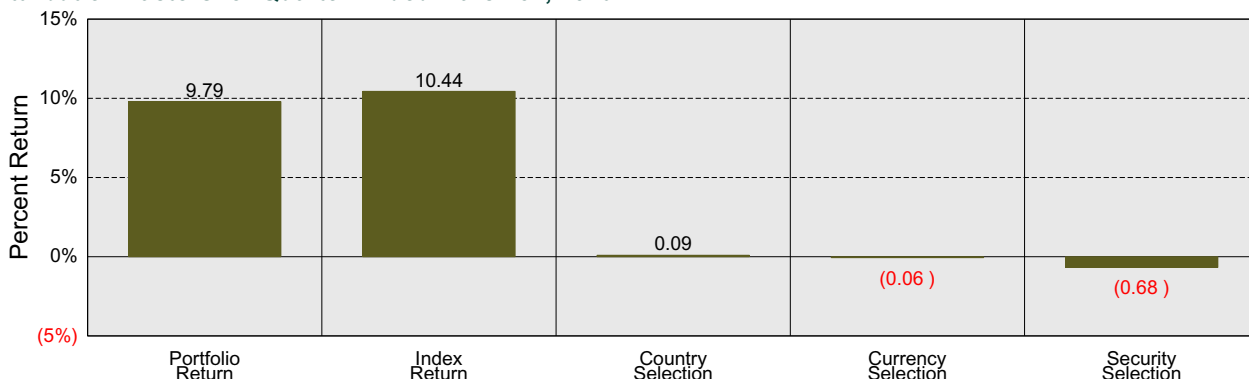
# Harbor International vs MSCI ACWIxUS Gross Attribution for Quarter Ended March 31, 2019

## International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.



## Attribution Factors for Quarter Ended March 31, 2019



# Oakmark International

## Period Ended March 31, 2019

### Investment Philosophy

Harris Associates are value investors. They seek to invest in companies that trade at a substantial discount to their underlying business values and run by managers who think and act as owners. They believe that purchasing a quality business at a discount to its underlying value minimizes risk while providing substantial profit potential. Over time, they believe the price of a stock will rise to reflect the company's underlying business value; in practice, their investment time horizon is generally three to five years. They are concentrated investors, building focused portfolios that provide diversification but are concentrated enough so that their best ideas can make a meaningful impact on investment performance. They believe they can add value through their stock selection capabilities and low correlation to international indices and peers. Harris believes their greatest competitive advantage is their long-term investment horizon, exploiting the mispricing of securities caused by what they believe is the short-term focus of many market participants. \*This fund was converted into a CIT in November 2015.

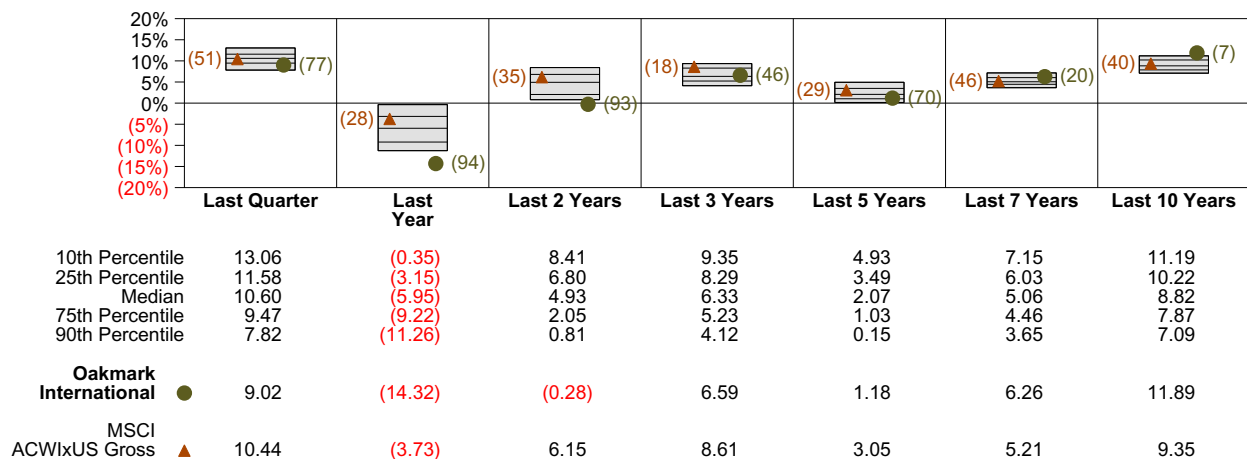
### Quarterly Summary and Highlights

- Oakmark International's portfolio posted a 9.02% return for the quarter placing it in the 77 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 94 percentile for the last year.
- Oakmark International's portfolio underperformed the MSCI ACWixUS Gross by 1.42% for the quarter and underperformed the MSCI ACWixUS Gross for the year by 10.58%.

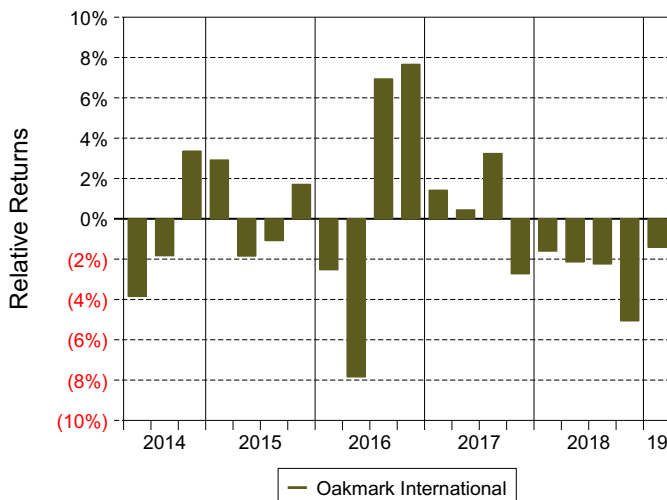
### Quarterly Asset Growth

Beginning Market Value	\$23,971,484
Net New Investment	\$0
Investment Gains/(Losses)	\$2,162,841
Ending Market Value	\$26,134,324

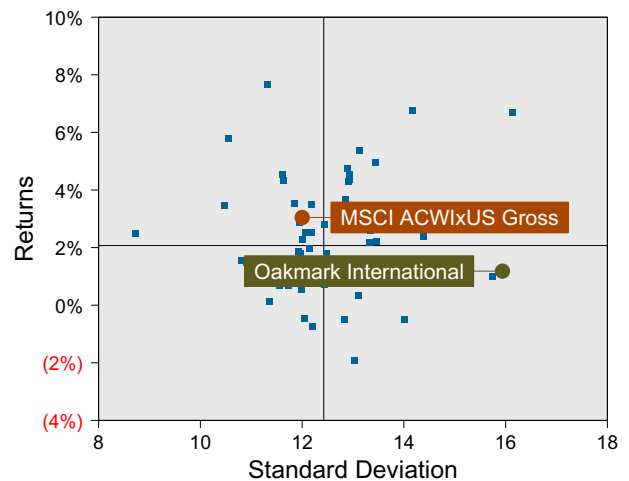
### Performance vs Callan Non US Equity Mutual Funds (Net)



### Relative Return vs MSCI ACWixUS Gross



### Callan Non US Equity Mutual Funds (Net) Annualized Five Year Risk vs Return

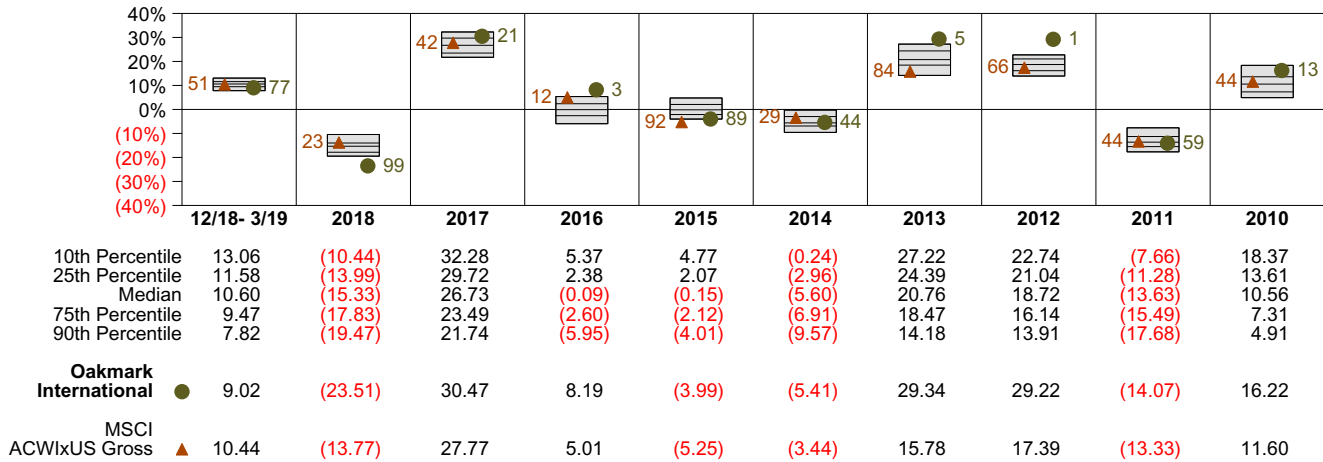


# Oakmark International Return Analysis Summary

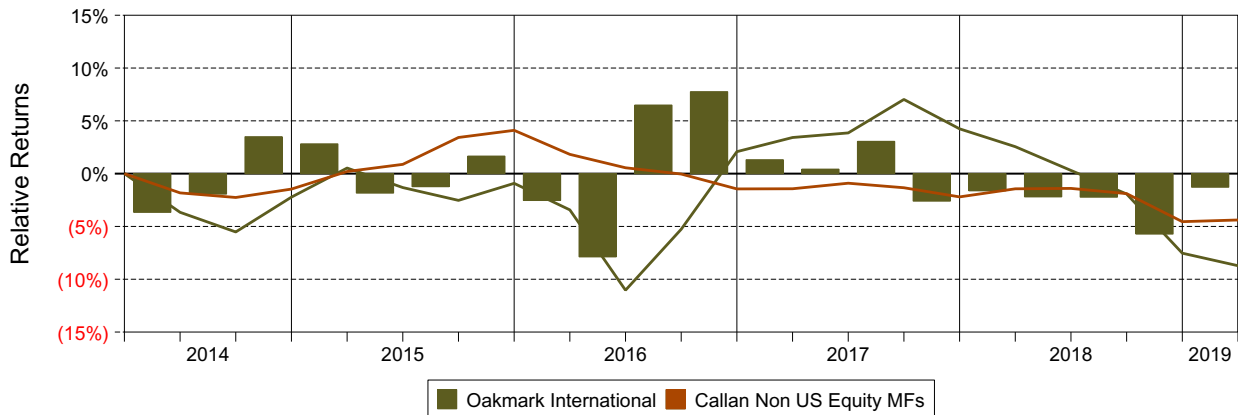
## Return Analysis

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.

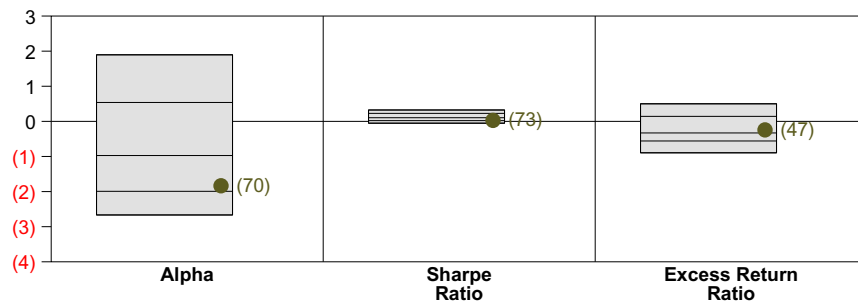
### Performance vs Callan Non US Equity Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



### Risk Adjusted Return Measures vs MSCI ACWIxUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2019



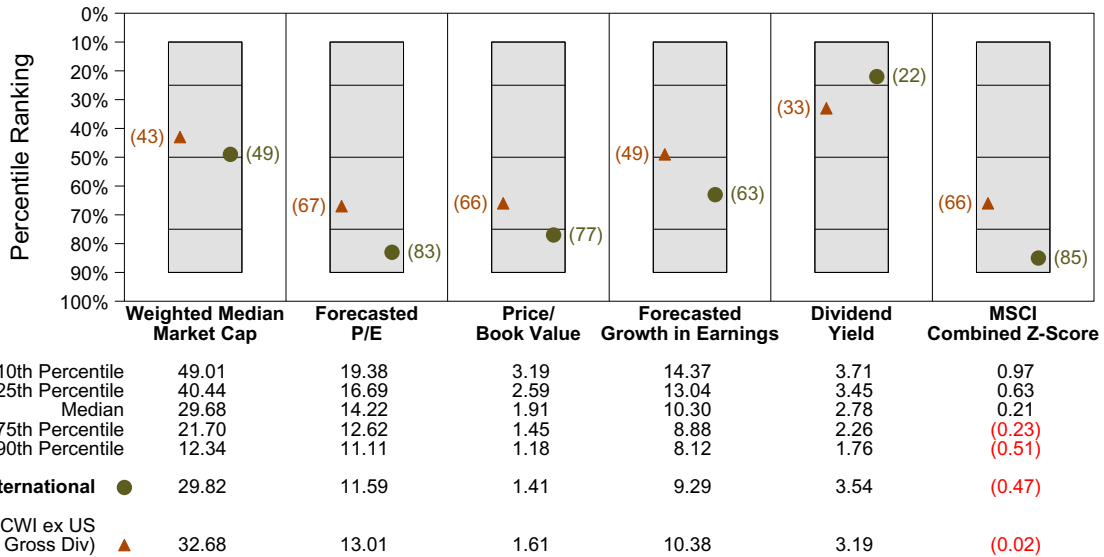
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.90	0.32	0.50
25th Percentile	0.54	0.23	0.14
Median	(0.97)	0.10	(0.33)
75th Percentile	(1.99)	0.02	(0.56)
90th Percentile	(2.67)	(0.05)	(0.90)
<b>Oakmark International</b>	● (1.83)	0.03	(0.24)

# Oakmark International Equity Characteristics Analysis Summary

## Portfolio Characteristics

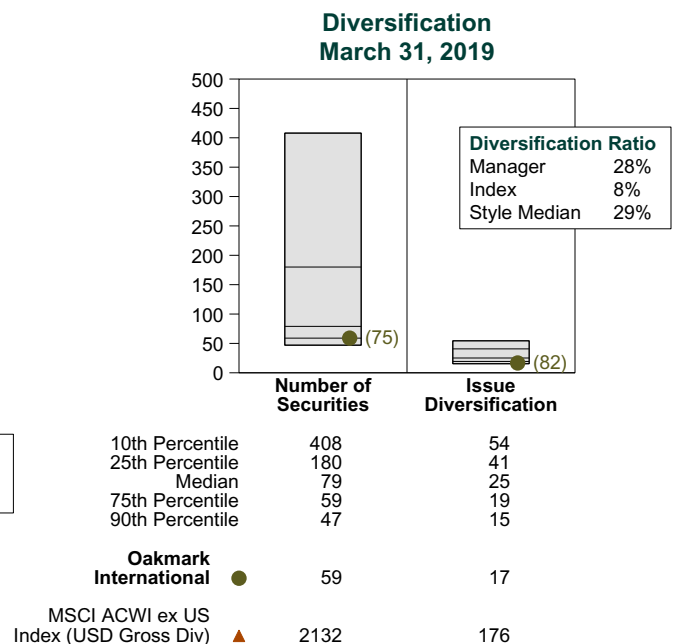
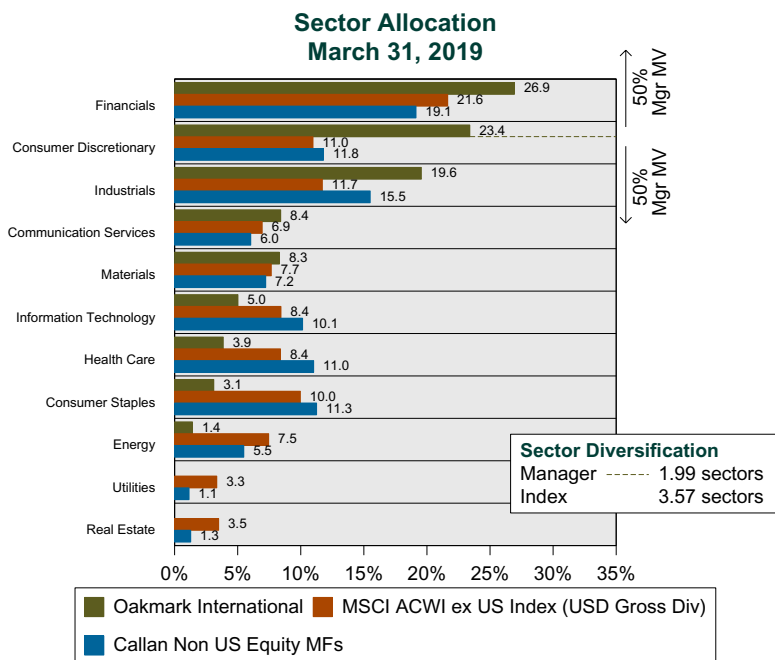
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of March 31, 2019



## Sector Weights

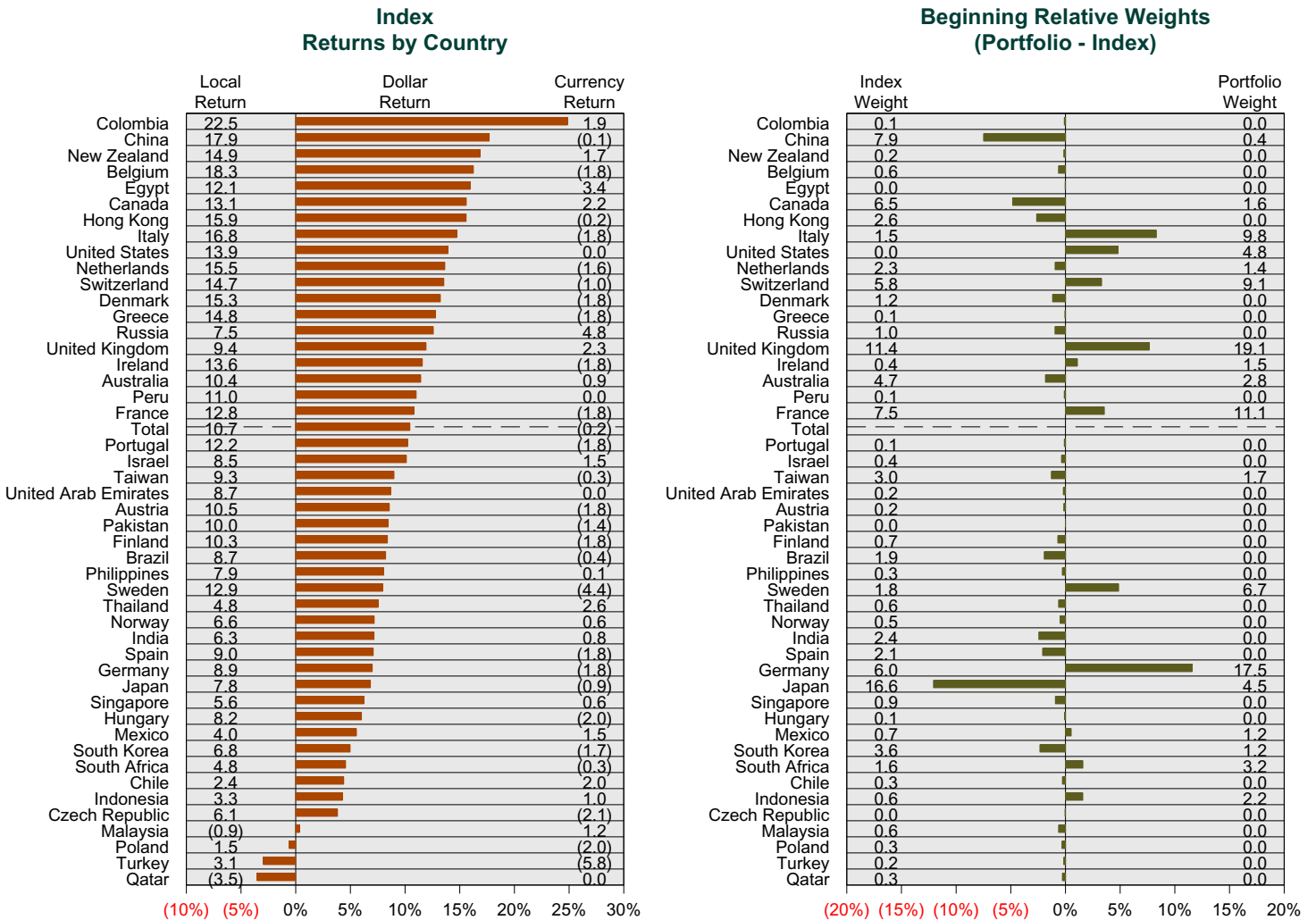
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.



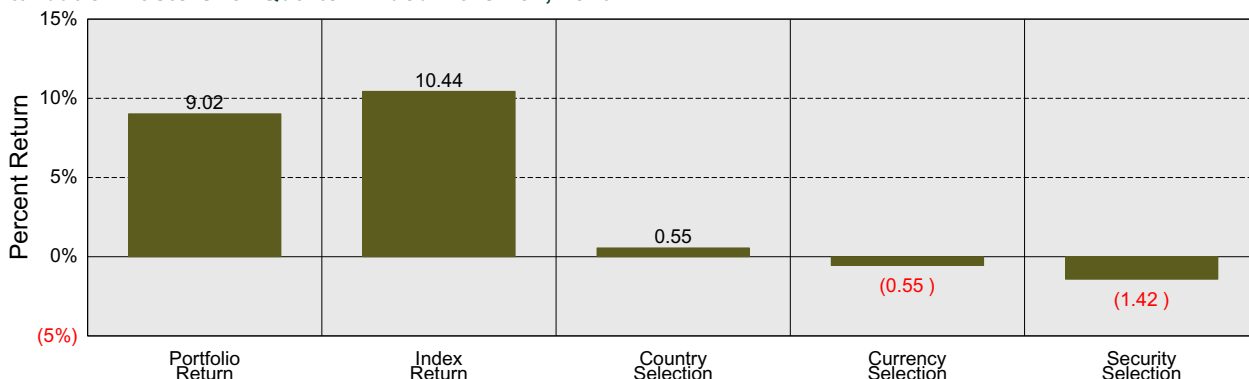
# Oakmark International vs MSCI ACWIxUS Gross Attribution for Quarter Ended March 31, 2019

## International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.



## Attribution Factors for Quarter Ended March 31, 2019



# Mondrian International Period Ended March 31, 2019

## Investment Philosophy

Mondrian's value driven investment philosophy is based on the belief that investments need to be evaluated in terms of their fundamental long-term value. In the management of international equity assets, they invest in securities where rigorous dividend discount analysis identifies value in terms of the long term flow of income. Mondrian's management fee is 80 bps on all assets.

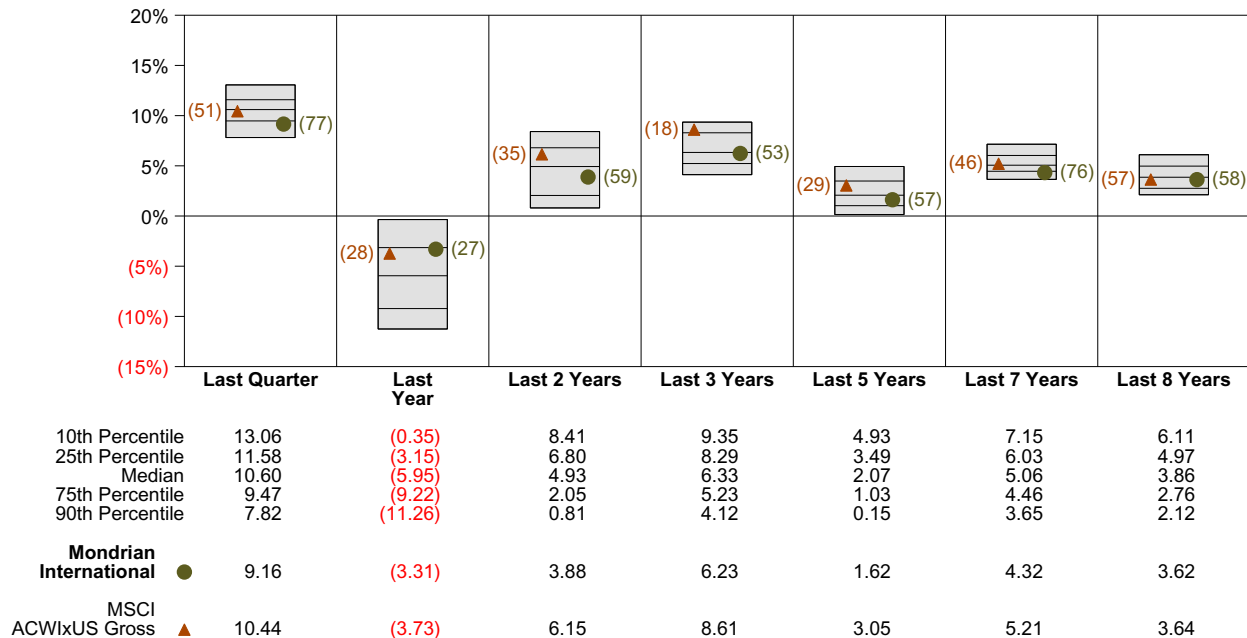
## Quarterly Summary and Highlights

- Mondrian International's portfolio posted a 9.16% return for the quarter placing it in the 77 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 27 percentile for the last year.
- Mondrian International's portfolio underperformed the MSCI ACWixUS Gross by 1.28% for the quarter and outperformed the MSCI ACWixUS Gross for the year by 0.43%.

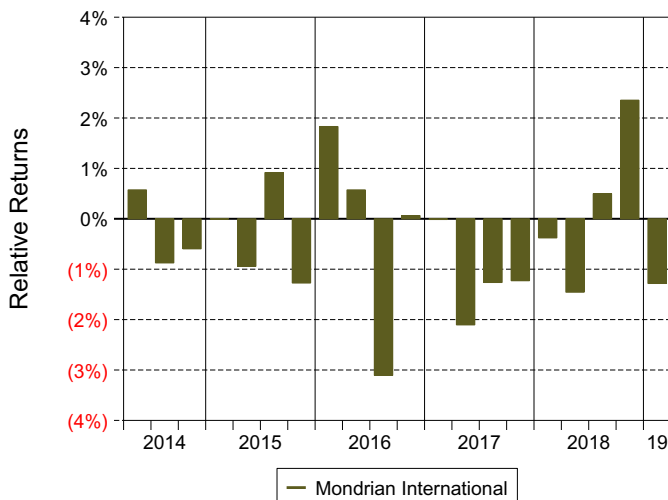
## Quarterly Asset Growth

Beginning Market Value	\$23,920,566
Net New Investment	\$0
Investment Gains/(Losses)	\$2,240,990
Ending Market Value	\$26,161,556

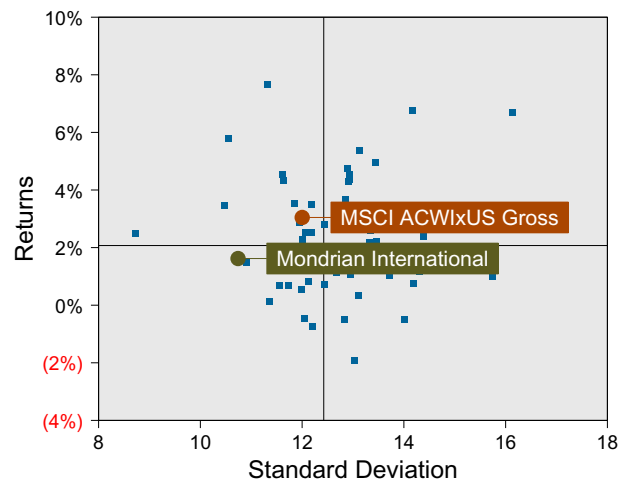
## Performance vs Callan Non US Equity Mutual Funds (Net)



## Relative Return vs MSCI ACWixUS Gross



## Callan Non US Equity Mutual Funds (Net) Annualized Five Year Risk vs Return



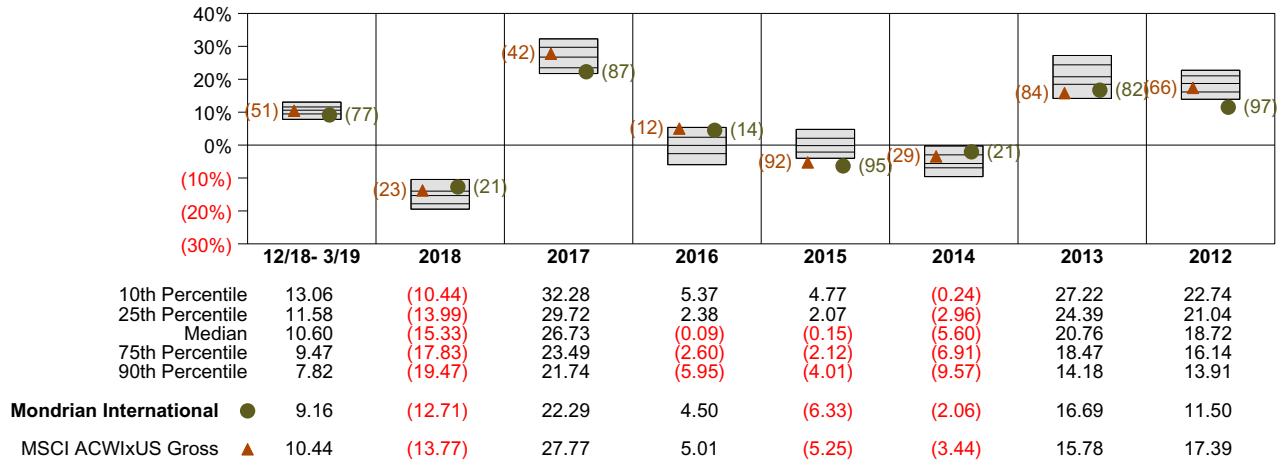


# Mondrian International Return Analysis Summary

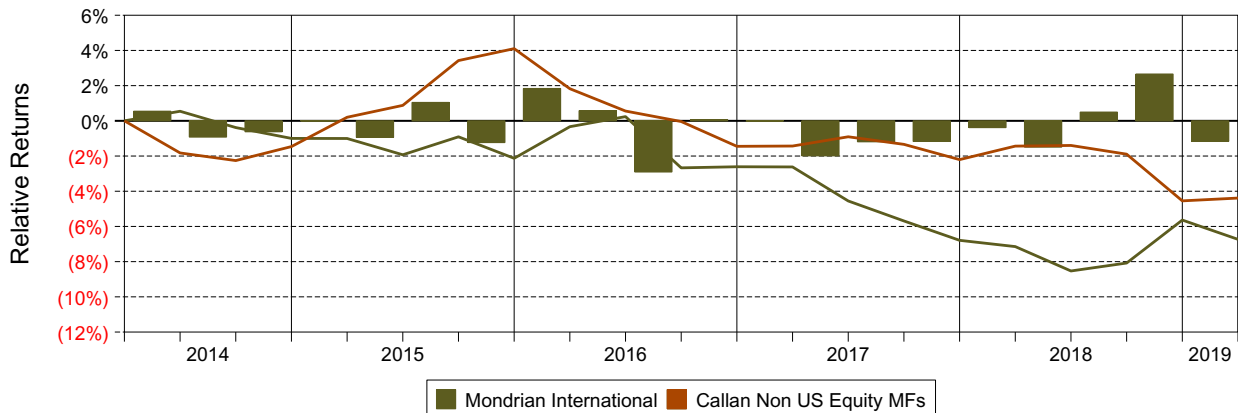
## Return Analysis

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.

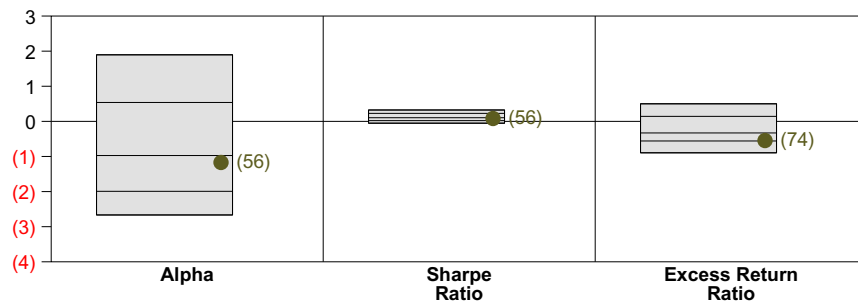
### Performance vs Callan Non US Equity Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs MSCI ACWixUS Gross



### Risk Adjusted Return Measures vs MSCI ACWixUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2019



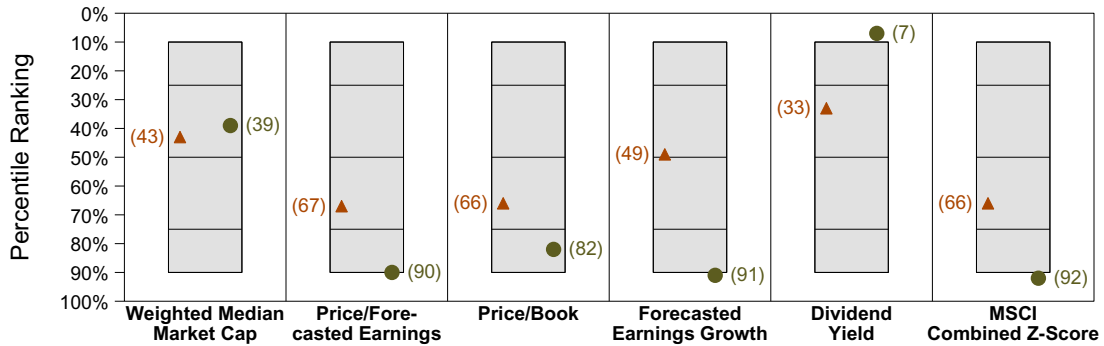
10th Percentile	1.90	0.32	0.50
25th Percentile	0.54	0.23	0.14
Median	(0.97)	0.10	(0.33)
75th Percentile	(1.99)	0.02	(0.56)
90th Percentile	(2.67)	(0.05)	(0.90)
<b>Mondrian International</b>	● (1.17)	0.08	(0.55)

# Mondrian International Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

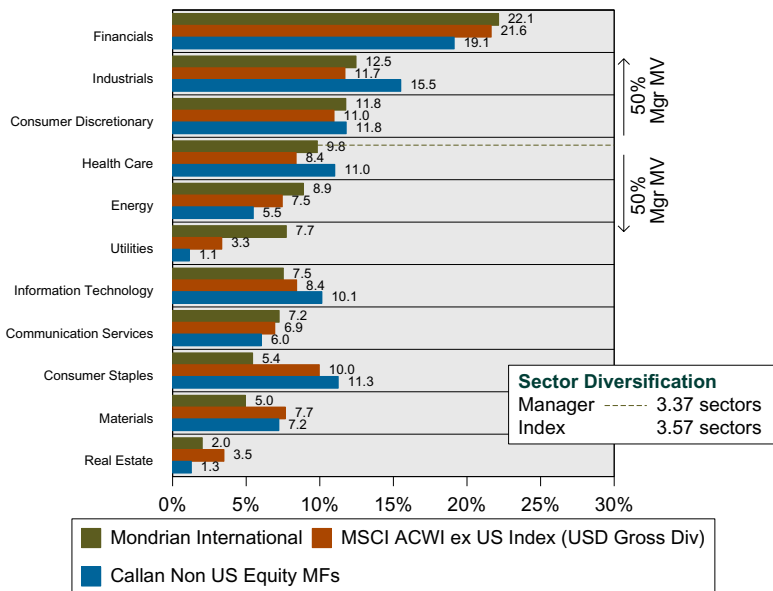
## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of March 31, 2019



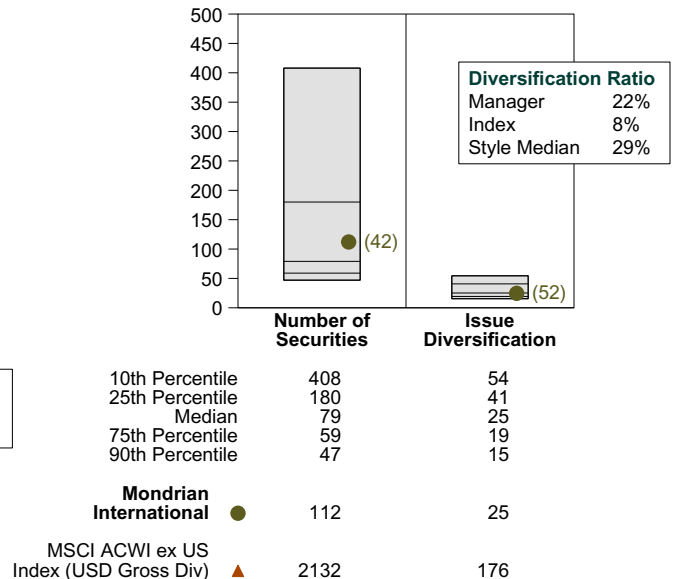
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



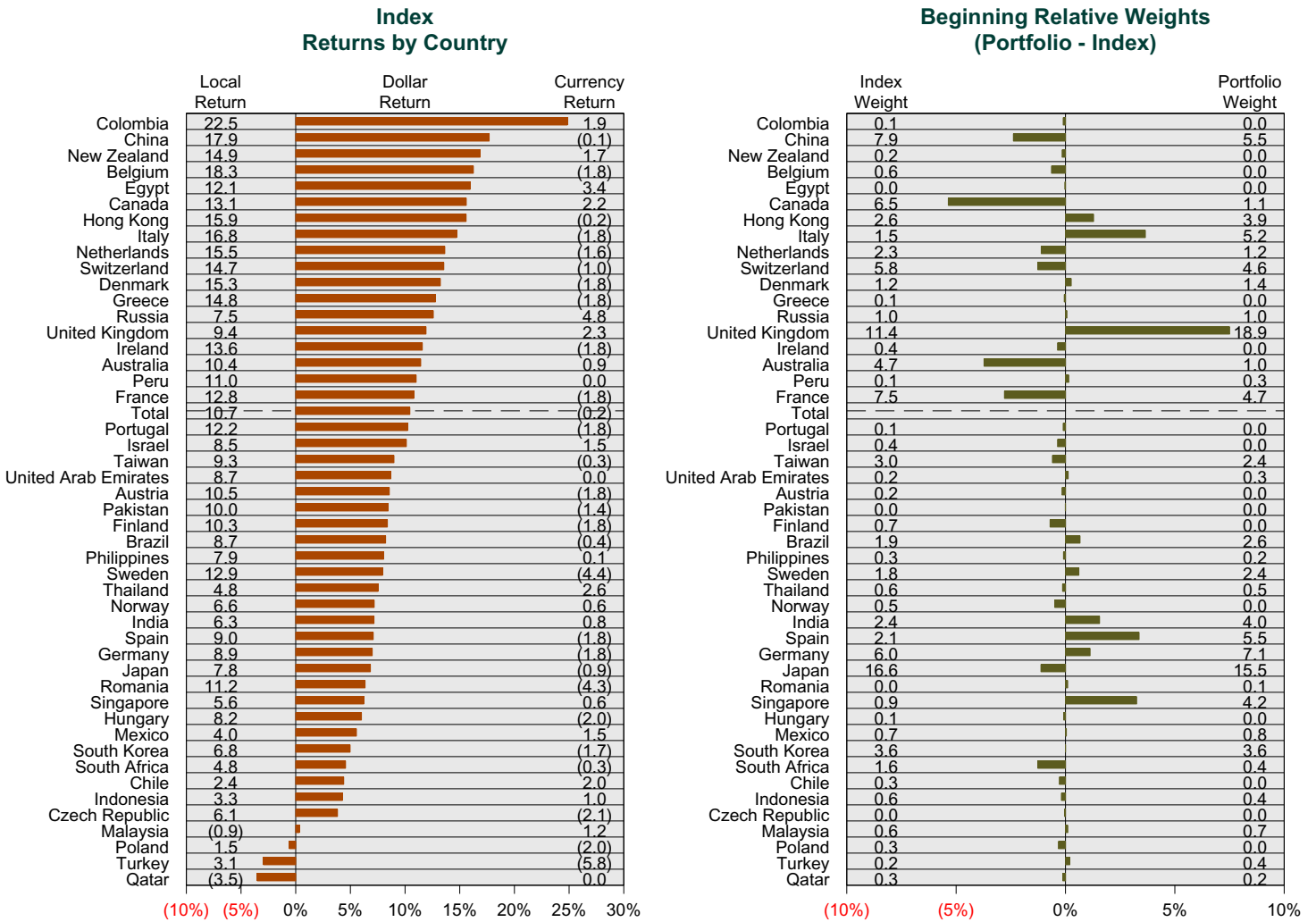
### Diversification March 31, 2019



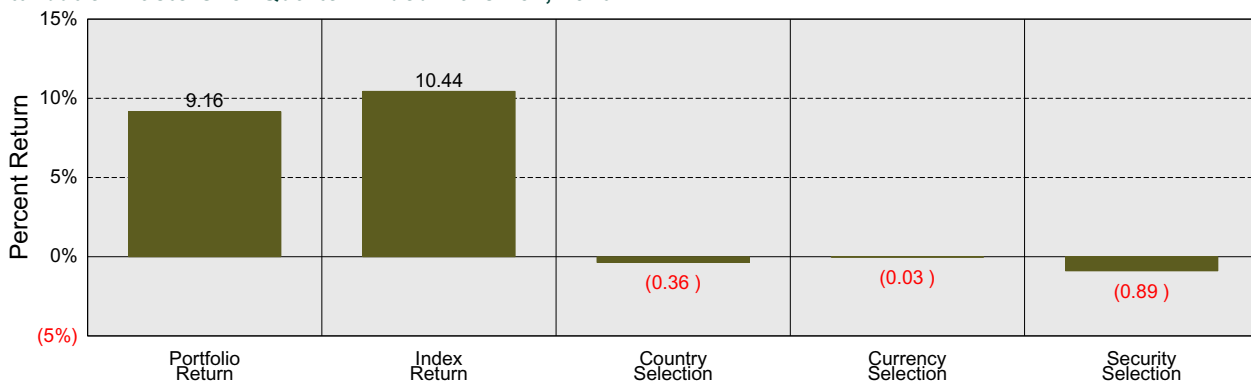
# Mondrian International vs MSCI ACWixUS Gross Attribution for Quarter Ended March 31, 2019

## International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.



## Attribution Factors for Quarter Ended March 31, 2019



# T. Rowe Price Intl Small Cap Period Ended March 31, 2019

## Investment Philosophy

Central to T. Rowe's investment philosophy is the belief that the market for international small-cap equities has significant pricing inefficiencies. These inefficiencies stem from the fact that global investors tend to be underexposed to international small-cap equities and that these equities are under researched given the sheer size and scope of the opportunity set. Further, they believe that a disciplined decision-making process nourished by superior research information is the best way to take advantage of market inefficiencies. The team's approach emphasizes reasonably priced growth stocks that they believe can grow their earnings faster than the overall market, which should result in a portfolio of stocks that outperforms the broad market over time. Portfolio was funded September 2017. Historical returns are that of the manager's composite.

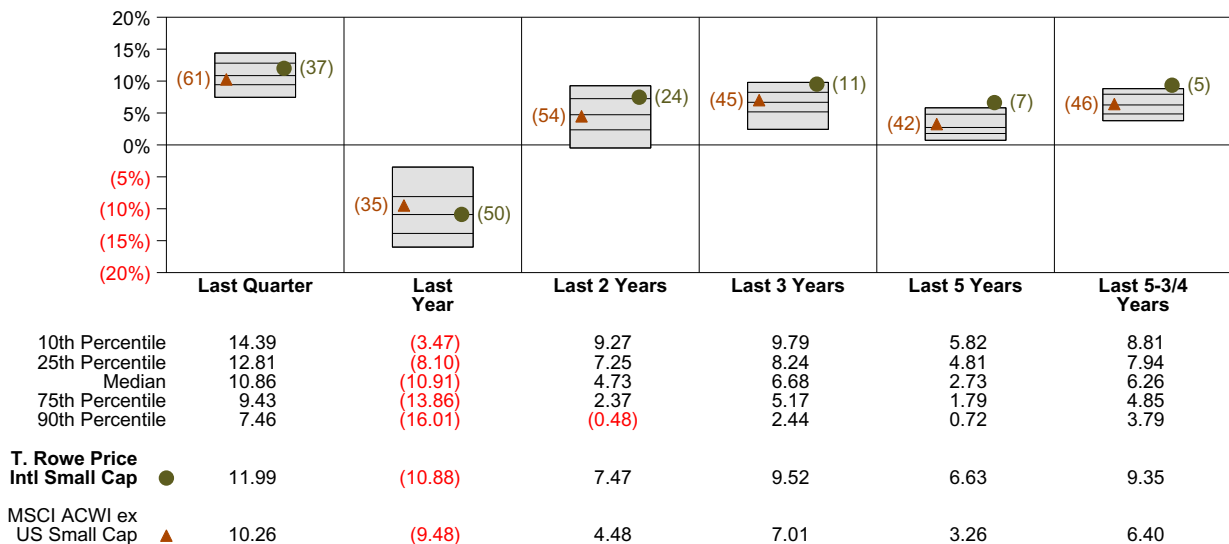
## Quarterly Summary and Highlights

- T. Rowe Price Intl Small Cap's portfolio posted a 11.99% return for the quarter placing it in the 37 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 50 percentile for the last year.
- T. Rowe Price Intl Small Cap's portfolio outperformed the MSCI ACWI ex US Small Cap by 1.73% for the quarter and underperformed the MSCI ACWI ex US Small Cap for the year by 1.40%.

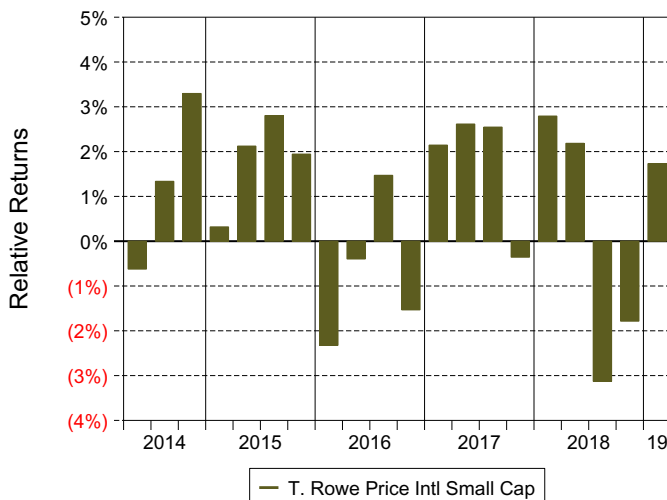
## Quarterly Asset Growth

Beginning Market Value	\$18,833,937
Net New Investment	\$0
Investment Gains/(Losses)	\$2,311,878
Ending Market Value	\$21,145,814

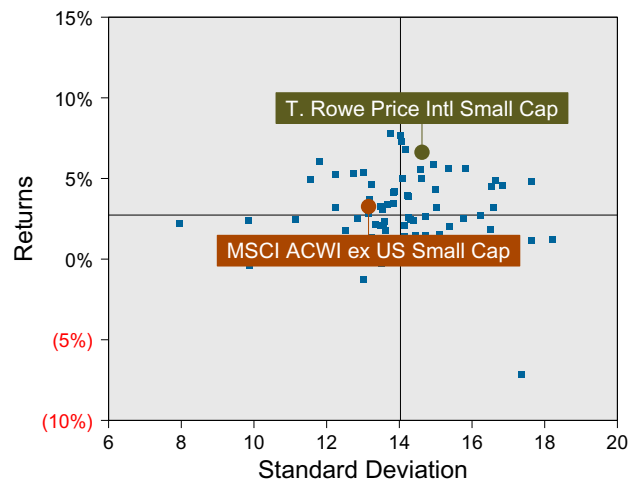
## Performance vs Callan International Small Cap Mut Funds (Net)



## Relative Returns vs MSCI ACWI ex US Small Cap



## Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return

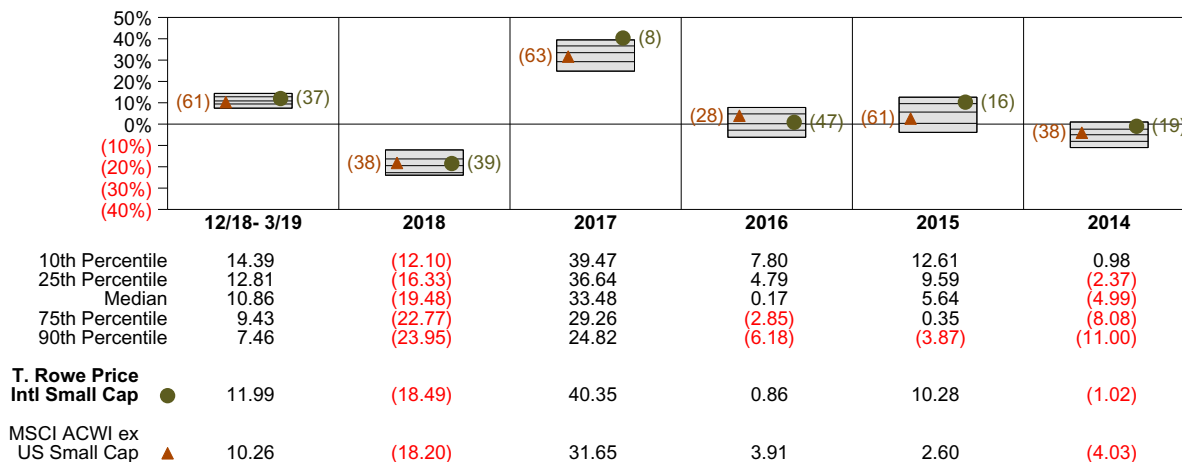


# T. Rowe Price Intl Small Cap Return Analysis Summary

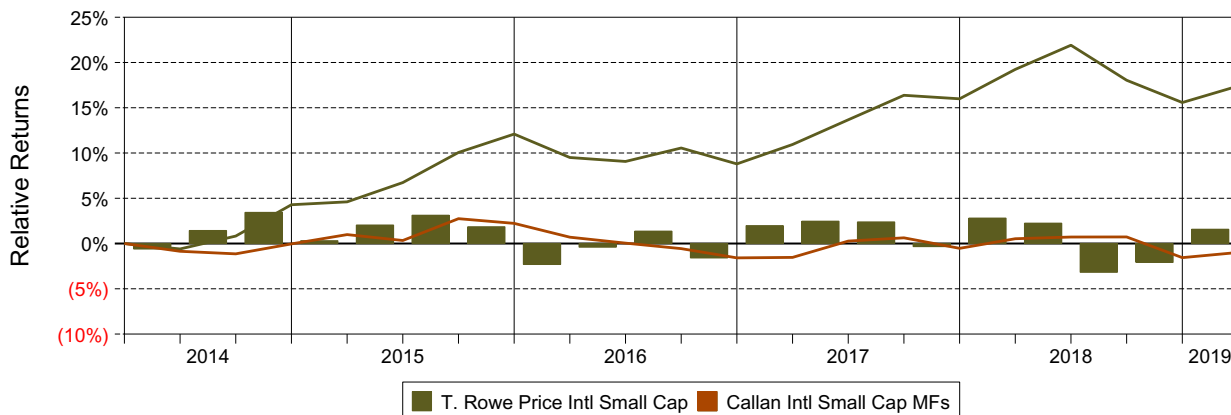
## Return Analysis

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.

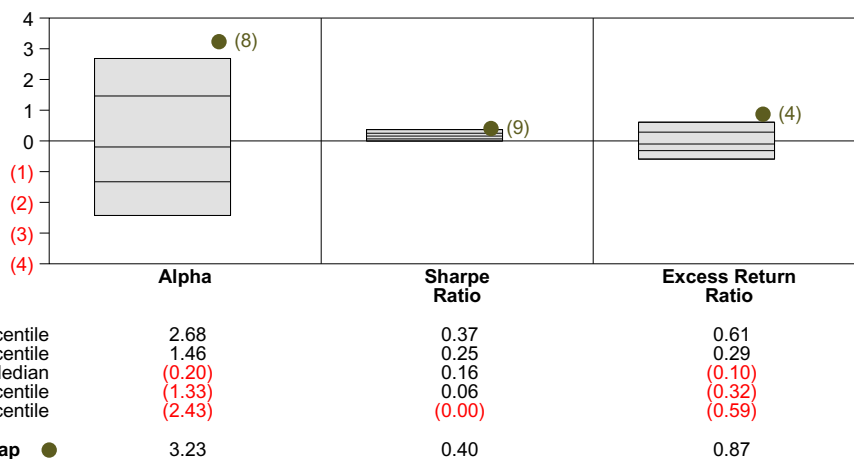
### Performance vs Callan International Small Cap Mut Funds (Net)



### Cumulative and Quarterly Relative Return vs MSCI ACWI ex US Small Cap



### Risk Adjusted Return Measures vs MSCI ACWI ex US Small Cap Rankings Against Callan International Small Cap Mut Funds (Net) Five Years Ended March 31, 2019

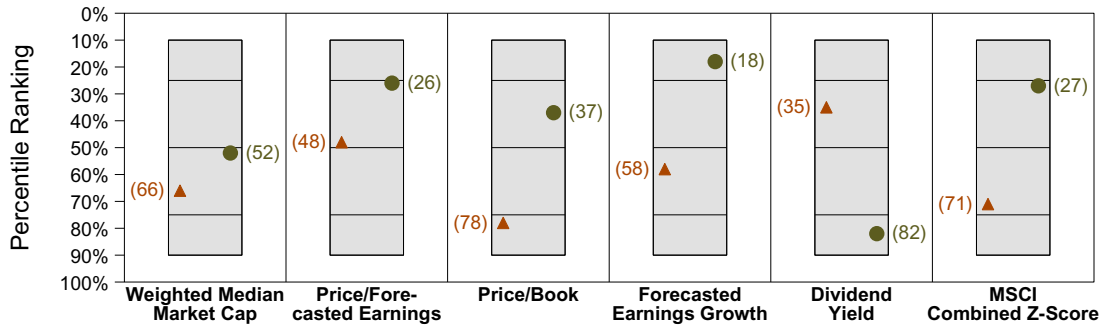


# T. Rowe Price Intl Small Cap Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan International Small Cap Mut Funds as of March 31, 2019

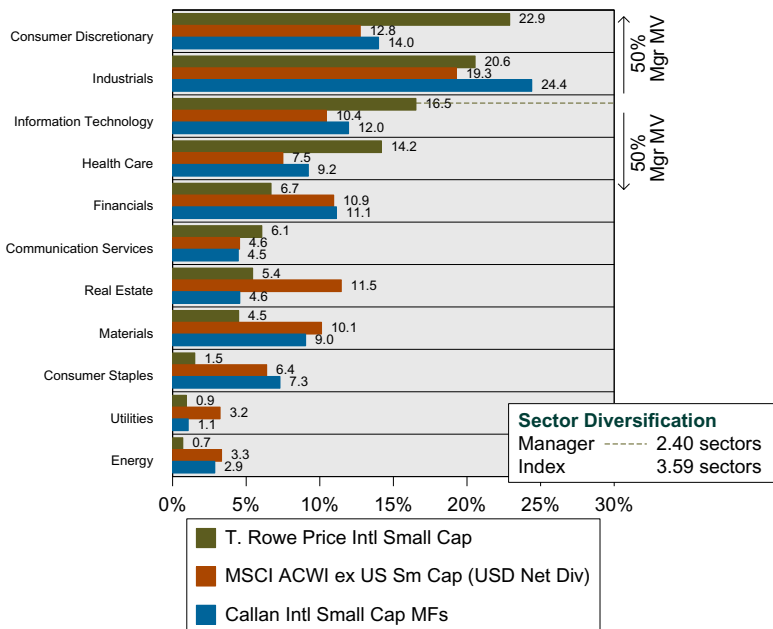


	Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	4.10	21.52	3.35	19.69	3.35	1.10
25th Percentile	3.33	17.67	2.61	16.92	2.84	0.64
Median	2.58	14.56	1.80	12.96	2.38	0.23
75th Percentile	1.60	12.57	1.50	10.54	1.96	(0.08)
90th Percentile	1.25	10.88	1.11	7.76	1.38	(0.57)
<b>T. Rowe Price Intl Small Cap</b> ●	2.44	17.61	2.09	18.44	1.73	0.61
MSCI ACWI ex US Sm Cap (USD Net Div) ▲	1.80	14.60	1.42	12.26	2.60	(0.02)

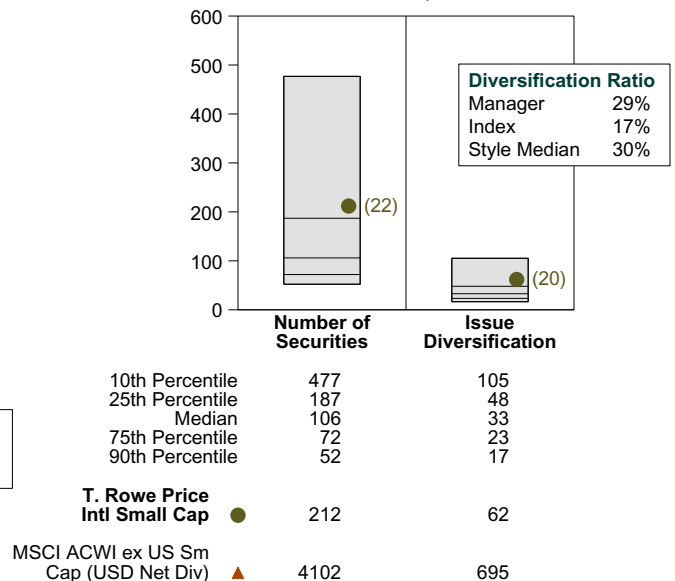
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



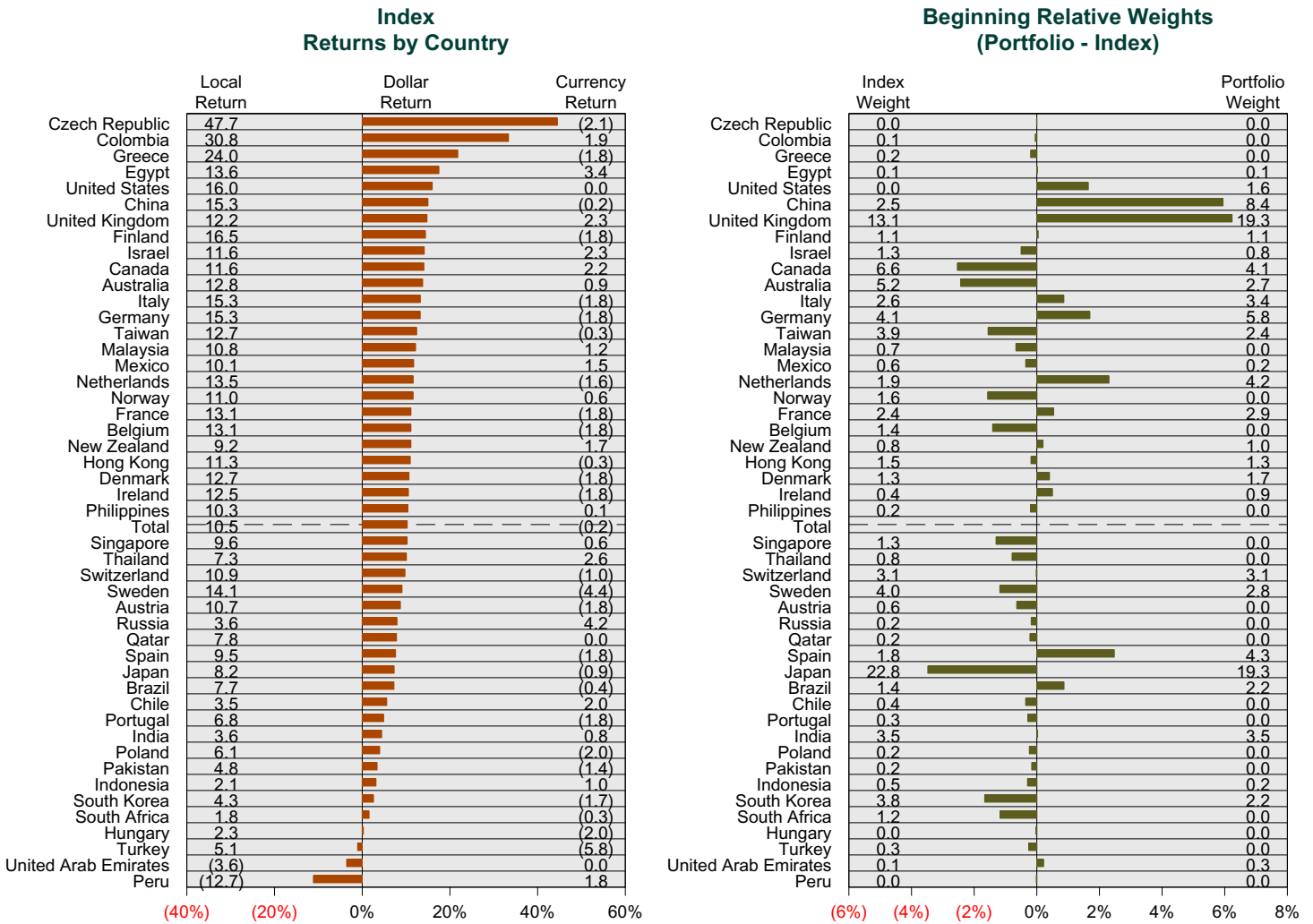
### Diversification March 31, 2019



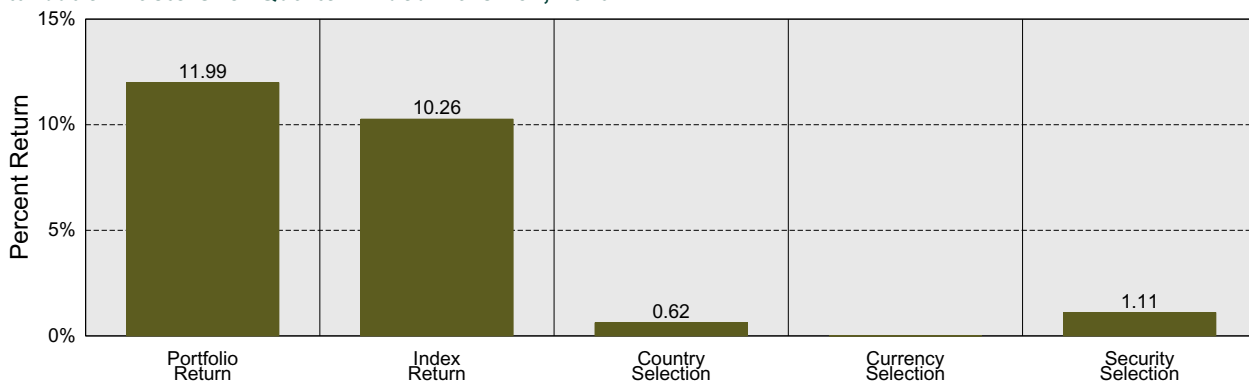
# T. Rowe Price Intl Small Cap vs MSCI ACWI ex US Small Cap Attribution for Quarter Ended March 31, 2019

## International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.



## Attribution Factors for Quarter Ended March 31, 2019



# Investec

## Period Ended March 31, 2019

### Investment Philosophy

Investec's 4Factor Equity team believes that share prices are driven by four key attributes over time and investing in companies that display these characteristics will drive long-term performance. They look to invest in high quality, attractively valued companies, which are improving operating performance and receiving increasing investor attention. These four factors (i.e., Strategy, Value, Earnings, and Technicals) are confirmed as performance drivers by academic research, empirical testing and intuitive reasoning. They believe that each factor can be a source of outperformance but in combination they are intended to produce more stable returns over the market cycle. Investec's management fee is 80 bps on all assets. The portfolio was funded June 2017. Historical returns are that of the manager's composite.

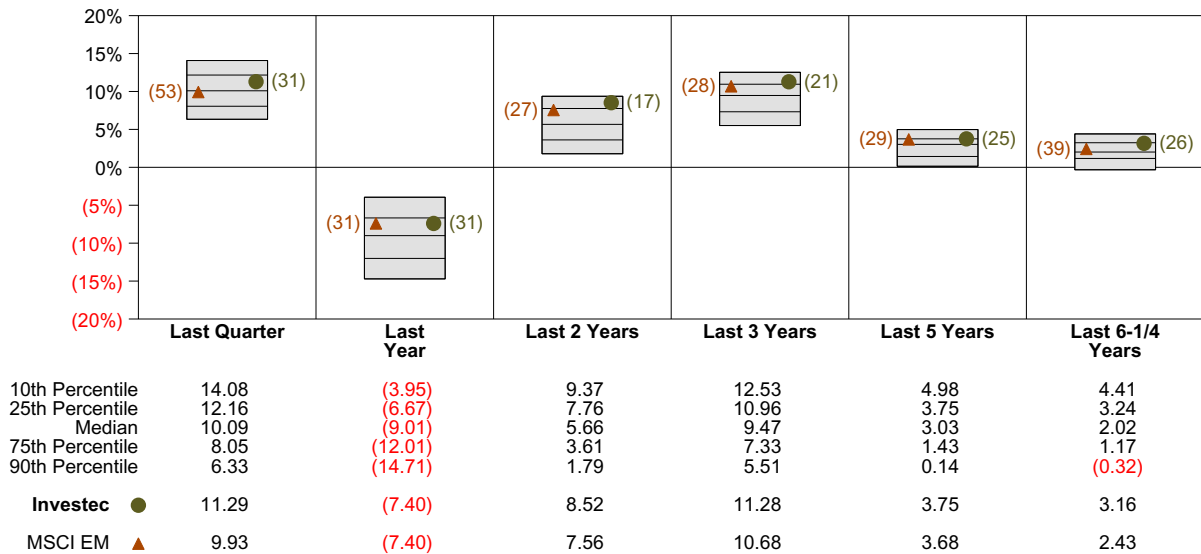
### Quarterly Summary and Highlights

- Investec's portfolio posted a 11.29% return for the quarter placing it in the 31 percentile of the Morningstar Diversified Emg Mkts Fds group for the quarter and in the 31 percentile for the last year.
- Investec's portfolio outperformed the MSCI EM by 1.36% for the quarter and underperformed the MSCI EM for the year by 0.00%.

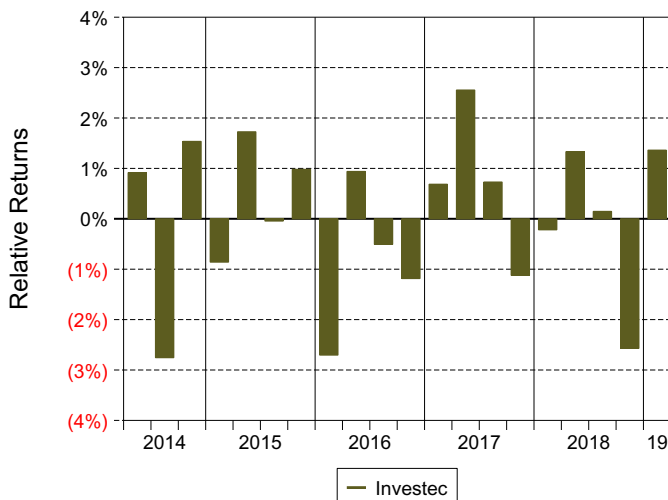
### Quarterly Asset Growth

Beginning Market Value	\$13,328,920
Net New Investment	\$0
Investment Gains/(Losses)	\$1,533,454
Ending Market Value	\$14,862,374

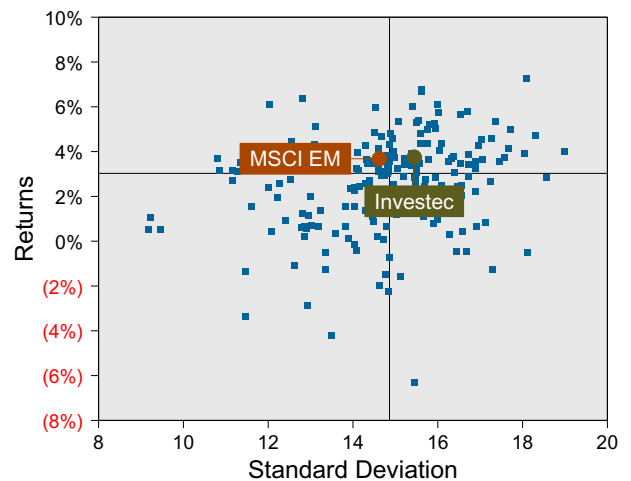
### Performance vs Morningstar Diversified Emg Mkts Fds (Net)



### Relative Return vs MSCI EM



### Morningstar Diversified Emg Mkts Fds (Net) Annualized Five Year Risk vs Return



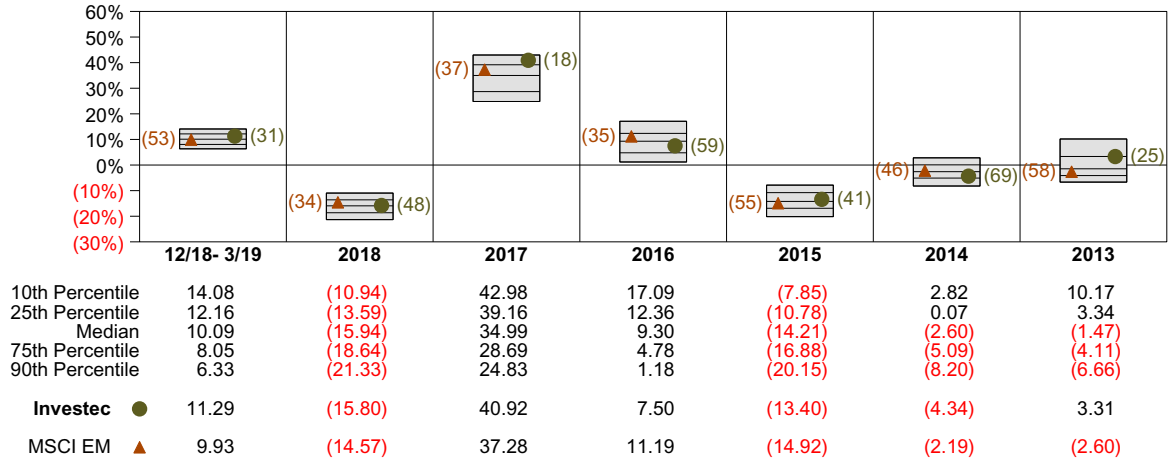


# Investec Return Analysis Summary

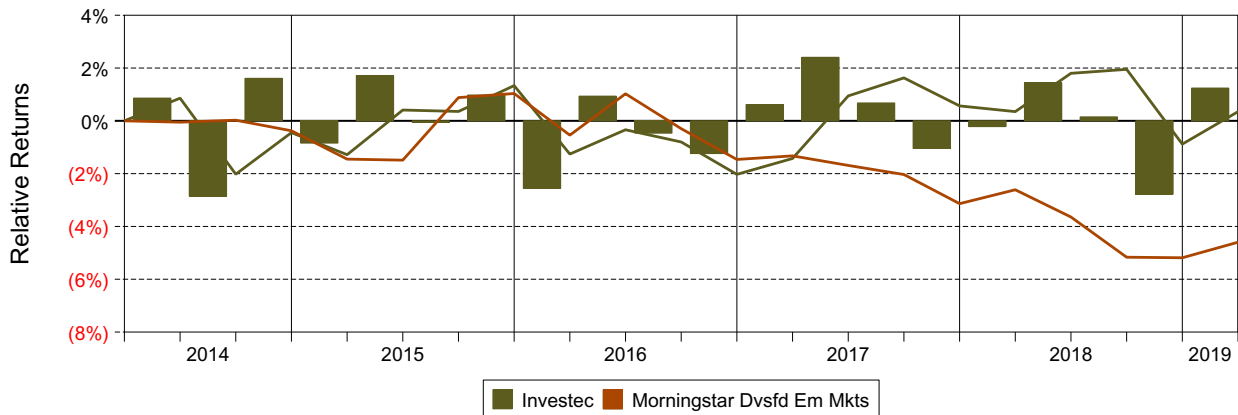
## Return Analysis

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.

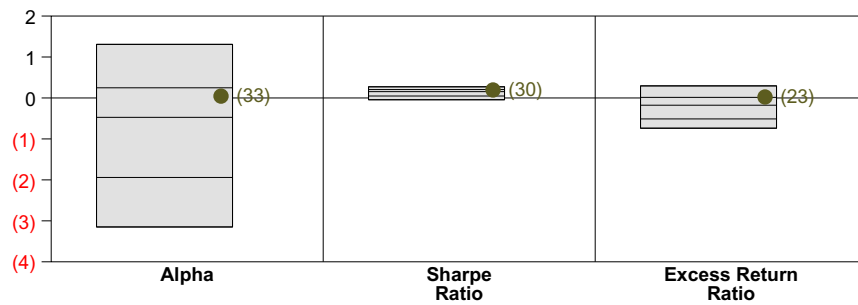
### Performance vs Morningstar Diversified Emg Mkts Fds (Net)



### Cumulative and Quarterly Relative Return vs MSCI EM



### Risk Adjusted Return Measures vs MSCI EM Rankings Against Morningstar Diversified Emg Mkts Fds (Net) Five Years Ended March 31, 2019



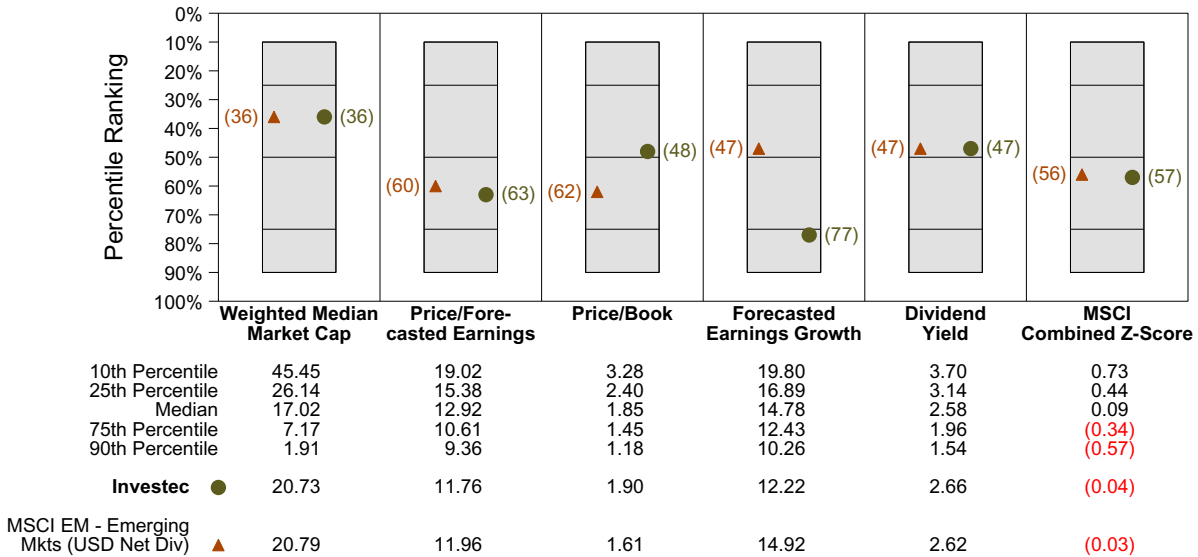
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.31	0.27	0.29
25th Percentile	0.25	0.21	0.01
Median	(0.47)	0.15	(0.18)
75th Percentile	(1.94)	0.05	(0.51)
90th Percentile	(3.15)	(0.04)	(0.74)
<b>Investec</b>	● 0.04	0.19	0.02

# Investec Equity Characteristics Analysis Summary

## Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

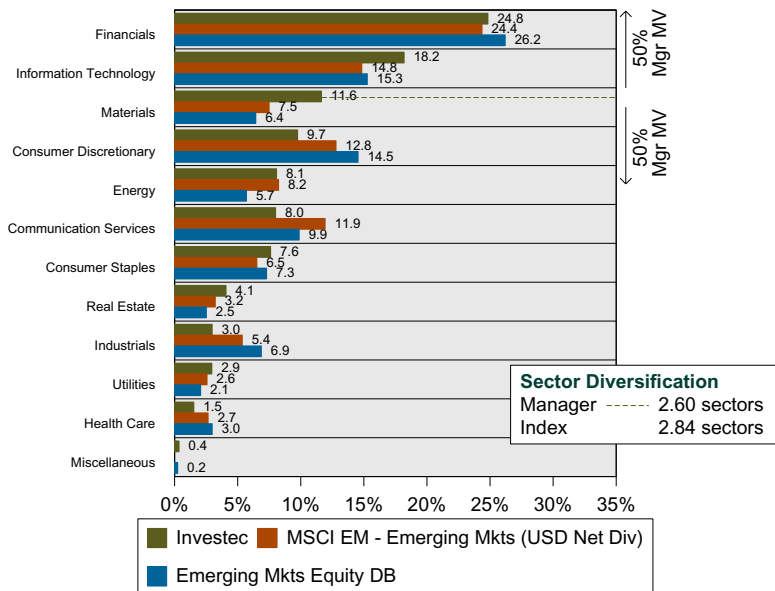
## Portfolio Characteristics Percentile Rankings Rankings Against Emerging Markets Equity DB as of March 31, 2019



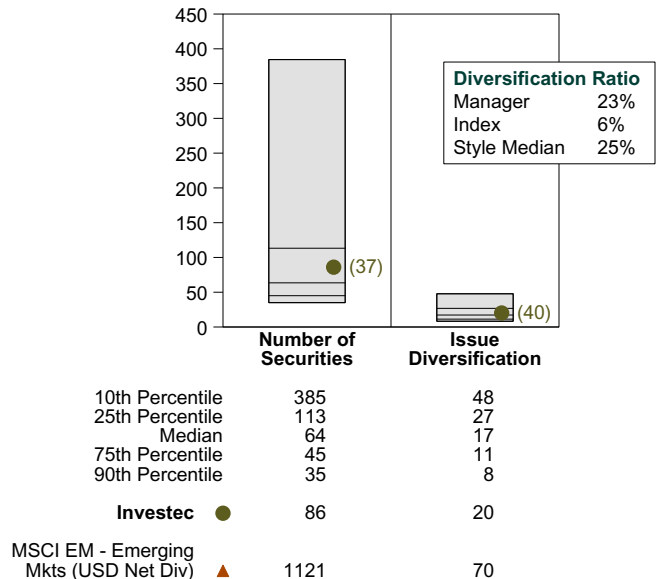
## Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

### Sector Allocation March 31, 2019



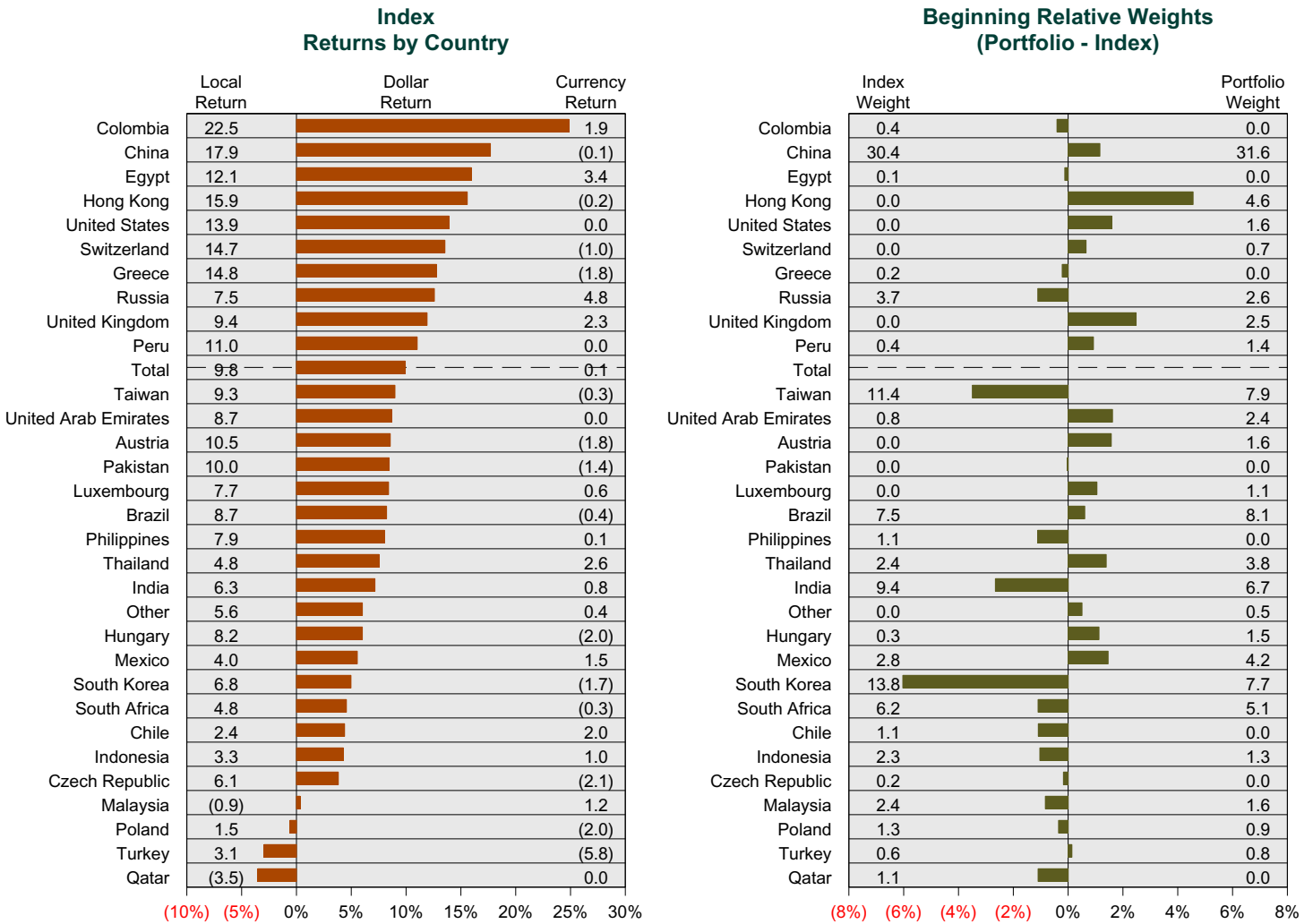
### Diversification March 31, 2019



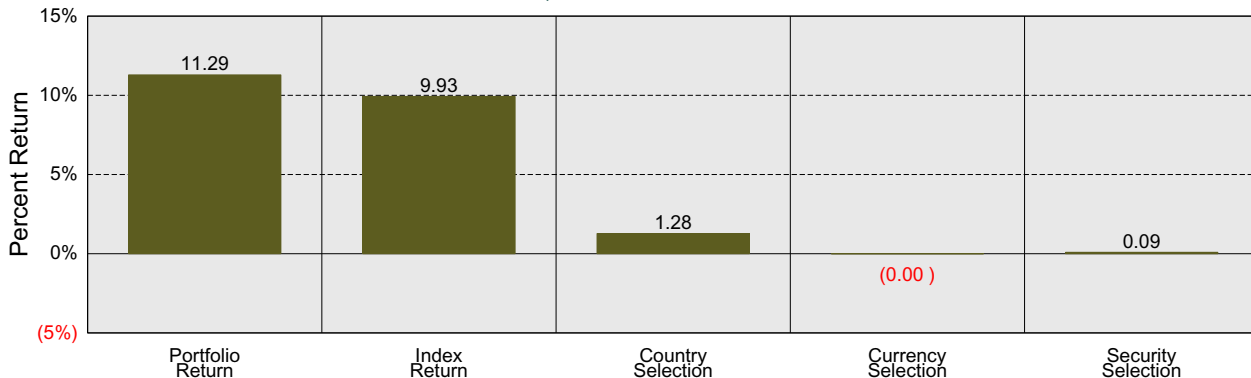
# Investec vs MSCI EM Attribution for Quarter Ended March 31, 2019

## International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.



## Attribution Factors for Quarter Ended March 31, 2019





# Domestic Fixed Income Composite Period Ended March 31, 2019

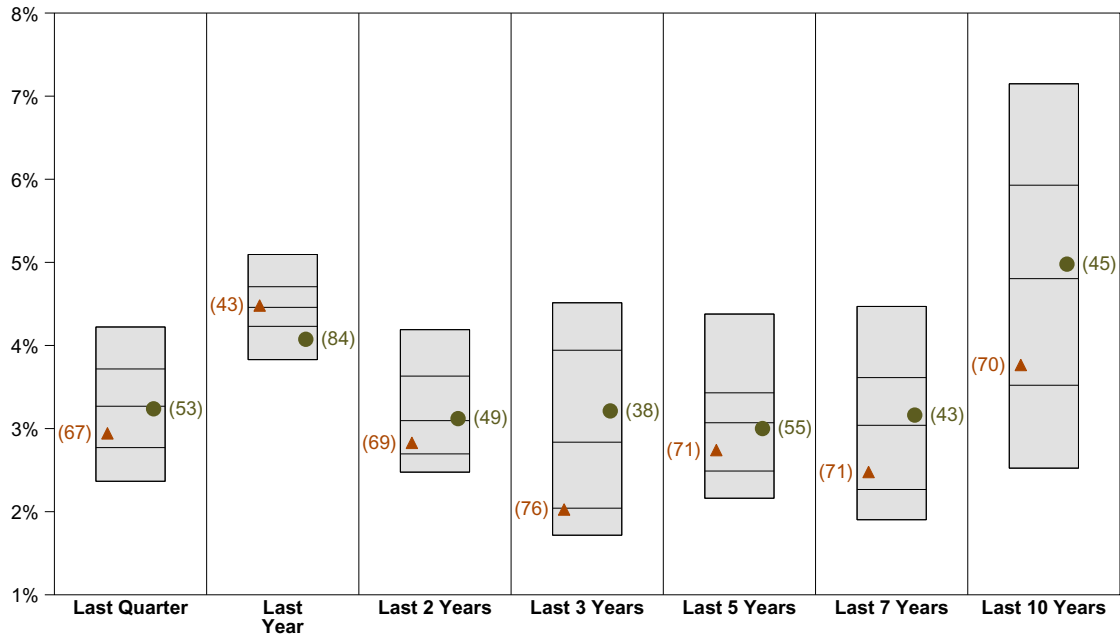
## Quarterly Summary and Highlights

- Domestic Fixed Income Composite's portfolio posted a 3.24% return for the quarter placing it in the 53 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 84 percentile for the last year.
- Domestic Fixed Income Composite's portfolio outperformed the Blmbg Aggregate by 0.29% for the quarter and underperformed the Blmbg Aggregate for the year by 0.41%.

## Quarterly Asset Growth

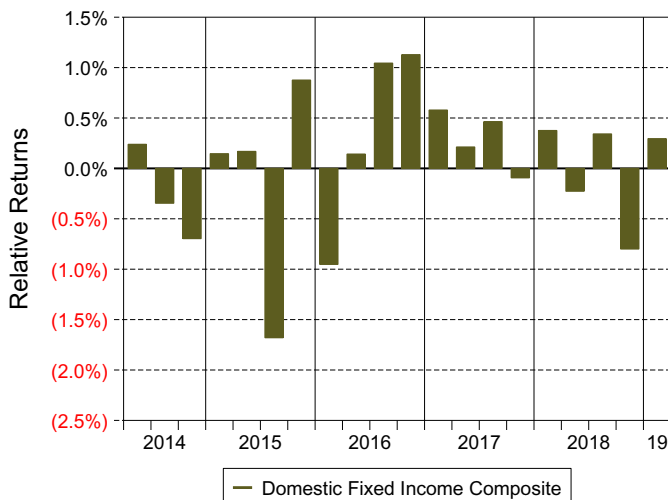
Beginning Market Value	\$105,019,140
Net New Investment	\$0
Investment Gains/(Losses)	\$3,400,299
Ending Market Value	\$108,419,439

## Performance vs Public Fund - Domestic Fixed (Gross)

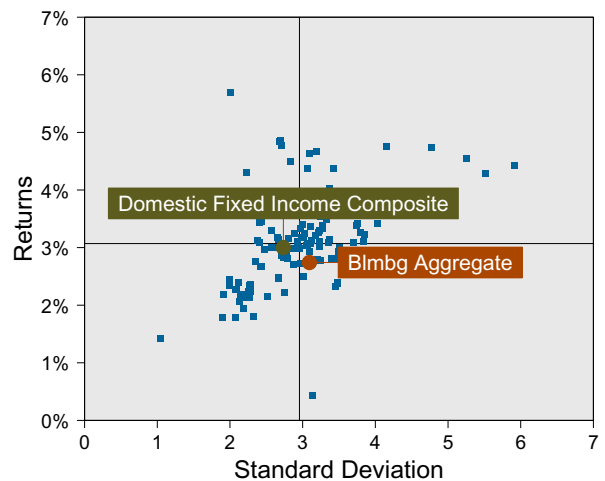


10th Percentile	4.22	5.09	4.19	4.51	4.38	4.47	7.15
25th Percentile	3.72	4.71	3.63	3.94	3.43	3.61	5.93
Median	3.27	4.46	3.10	2.84	3.07	3.04	4.80
75th Percentile	2.77	4.23	2.70	2.04	2.49	2.27	3.52
90th Percentile	2.37	3.83	2.48	1.72	2.16	1.90	2.52
<b>Domestic Fixed Income Composite</b>	<b>3.24</b>	<b>4.07</b>	<b>3.12</b>	<b>3.21</b>	<b>3.00</b>	<b>3.16</b>	<b>4.98</b>
<b>Blmbg Aggregate</b>	<b>2.94</b>	<b>4.48</b>	<b>2.83</b>	<b>2.03</b>	<b>2.74</b>	<b>2.48</b>	<b>3.77</b>

## Relative Return vs Blmbg Aggregate



## Public Fund - Domestic Fixed (Gross) Annualized Five Year Risk vs Return

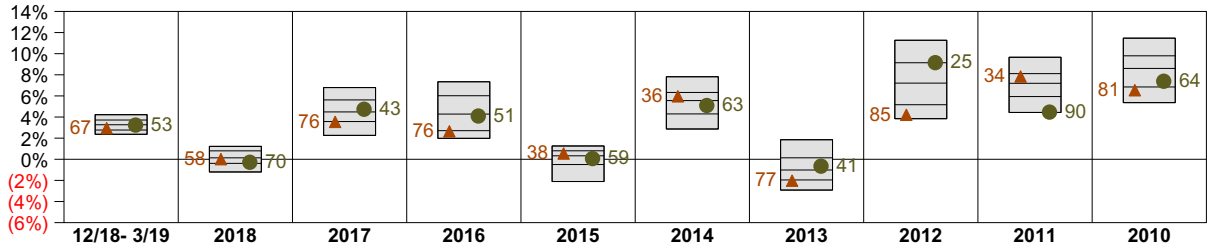


# Domestic Fixed Income Composite Return Analysis Summary

## 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.

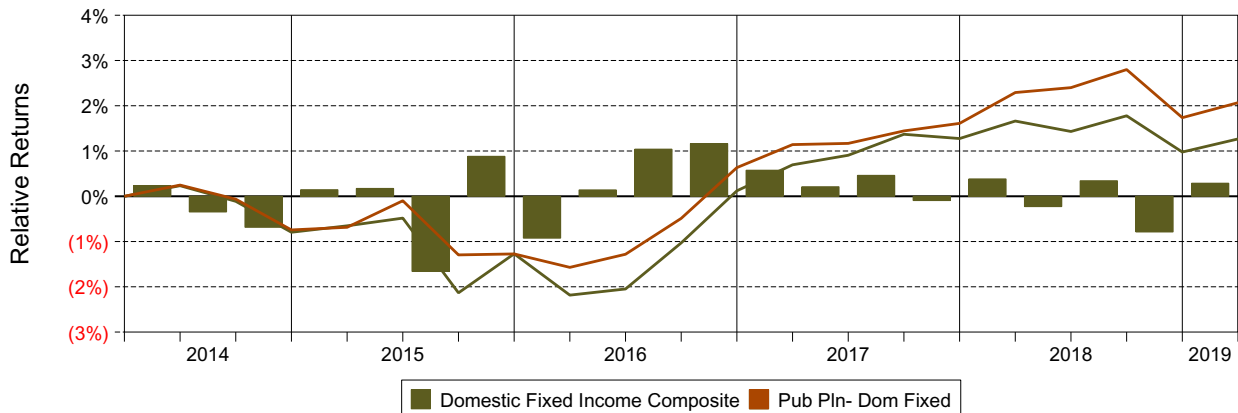
### Performance vs Public Fund - Domestic Fixed (Gross)



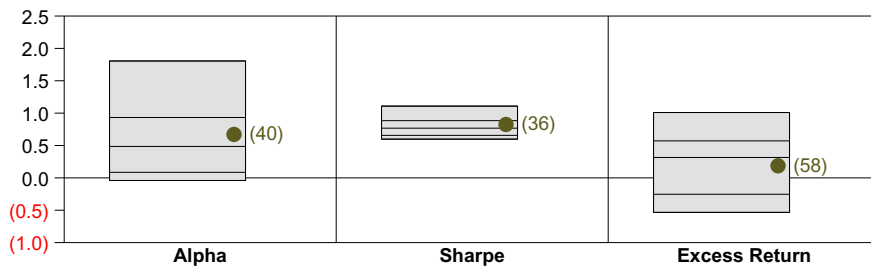
10th Percentile	4.22	1.22	6.79	7.34	1.26	7.82	1.85	11.27	9.66	11.47
25th Percentile	3.72	0.80	5.62	6.02	0.80	6.33	0.14	9.14	8.11	9.80
Median	3.27	0.14	4.49	4.28	0.33	5.56	(1.02)	7.21	7.19	8.60
75th Percentile	2.77	(0.39)	3.57	2.71	(0.50)	4.30	(1.96)	5.17	5.94	6.85
90th Percentile	2.37	(1.20)	2.26	1.98	(2.11)	2.87	(2.92)	3.84	4.44	5.36

<b>Domestic Fixed Income Composite</b>	●	3.24	(0.28)	4.74	4.10	0.07	5.09	(0.65)	9.15	4.47	7.39
<b>Blmbg Aggregate</b>	▲	2.94	0.01	3.54	2.65	0.55	5.97	(2.02)	4.21	7.84	6.54

### Cumulative and Quarterly Relative Return vs Blmbg Aggregate



### Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Public Fund - Domestic Fixed (Gross) Five Years Ended March 31, 2019



10th Percentile	1.81	1.11	1.01
25th Percentile	0.93	0.88	0.57
Median	0.49	0.77	0.31
75th Percentile	0.09	0.66	(0.25)
90th Percentile	(0.04)	0.60	(0.53)

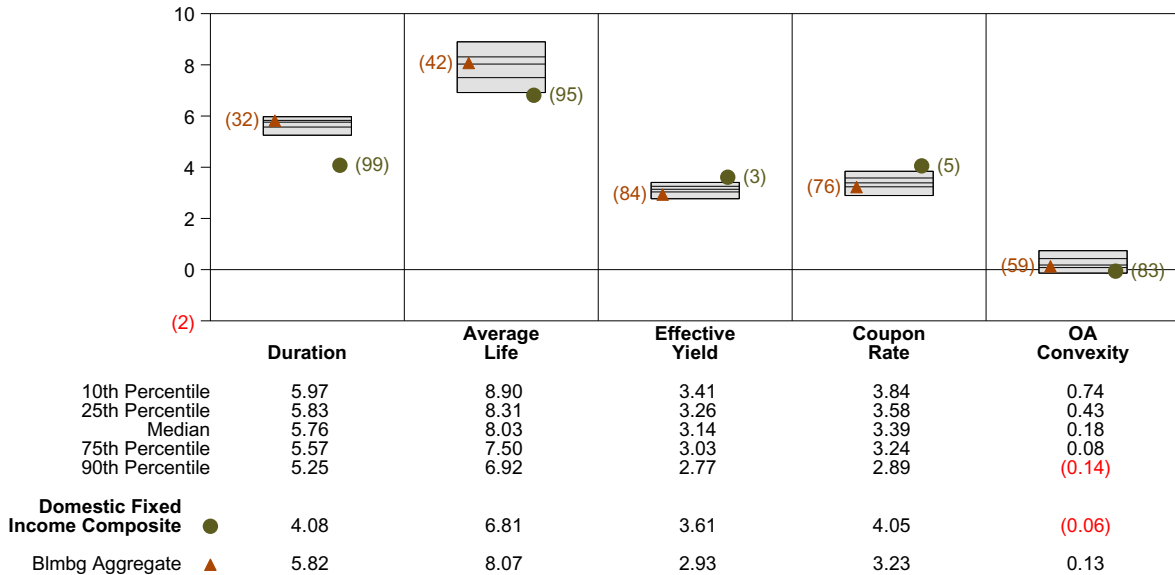
<b>Domestic Fixed Income Composite</b>	●	0.67	0.82	0.19
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# Domestic Fixed Income Composite Bond Characteristics Analysis Summary

## Portfolio Characteristics

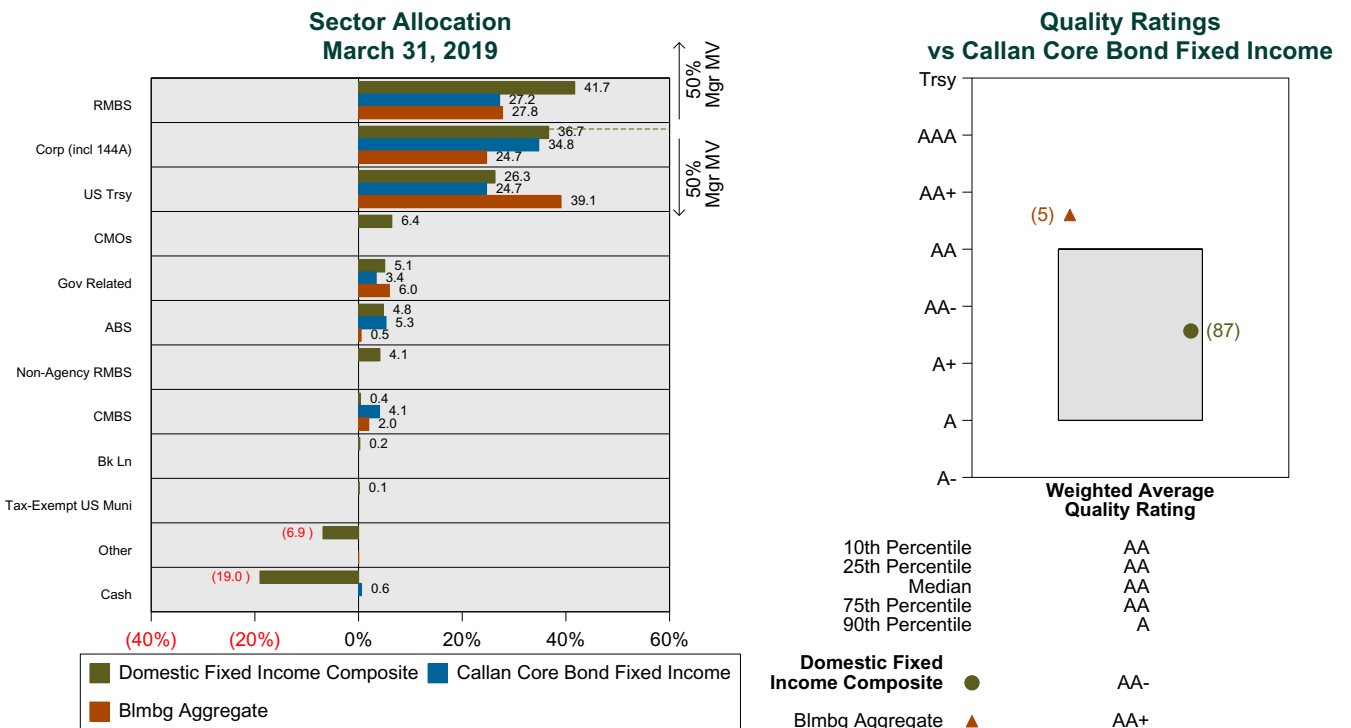
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of March 31, 2019



## Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



# Dodge & Cox Income Period Ended March 31, 2019

## Investment Philosophy

Dodge & Cox's Fixed Income philosophy is to construct and manage a high-quality and diversified portfolio of securities that is selected through bottom-up, fundamental analysis. They believe that by combining fundamental research with a long-term investment horizon, it is possible to uncover and act upon inefficiencies in the valuation of market sectors and individual securities. In their efforts to seek attractive returns, the team: 1) emphasizes market sector and individual security selection; 2) strives to build portfolios which have a higher yield than the composite yield of the broad bond market; and 3) analyzes portfolio and individual security risk. Their credit research focuses on analysis of the fundamental factors that impact an individual issuer's or market sector's credit risk. They also consider economic trends and special circumstances which may affect an industry or a specific issue or issuer.

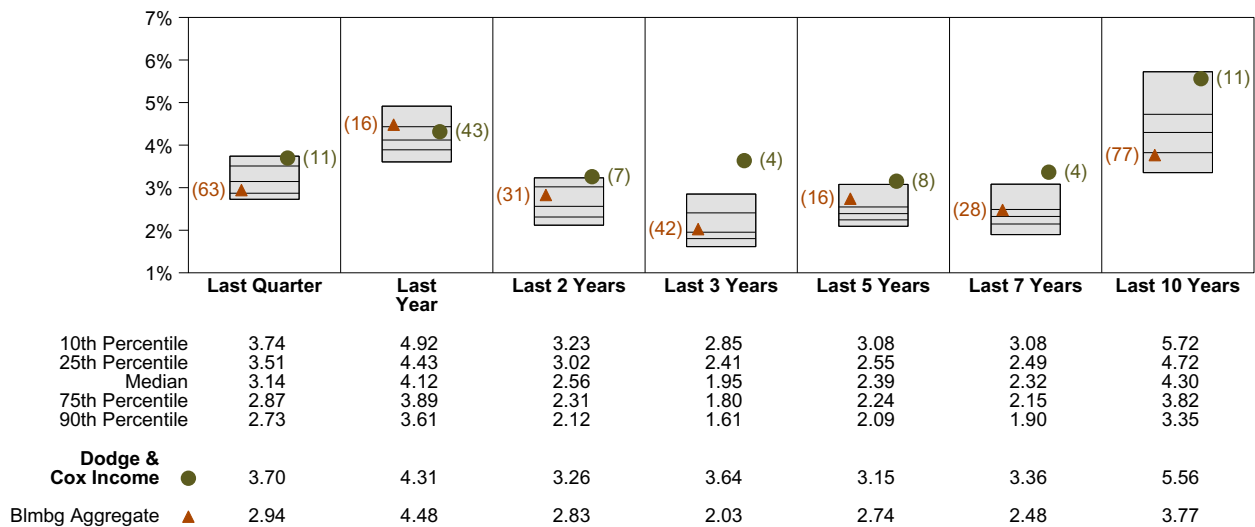
## Quarterly Summary and Highlights

- Dodge & Cox Income's portfolio posted a 3.70% return for the quarter placing it in the 11 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 43 percentile for the last year.
- Dodge & Cox Income's portfolio outperformed the Blmbg Aggregate by 0.75% for the quarter and underperformed the Blmbg Aggregate for the year by 0.17%.

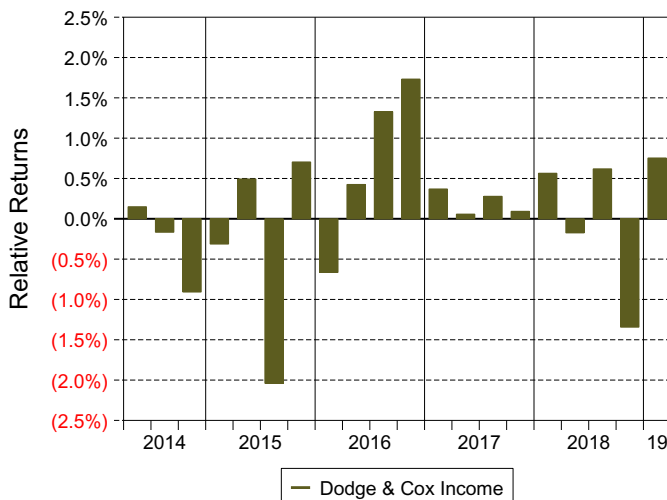
## Quarterly Asset Growth

Beginning Market Value	\$52,582,058
Net New Investment	\$0
Investment Gains/(Losses)	\$1,943,398
Ending Market Value	\$54,525,456

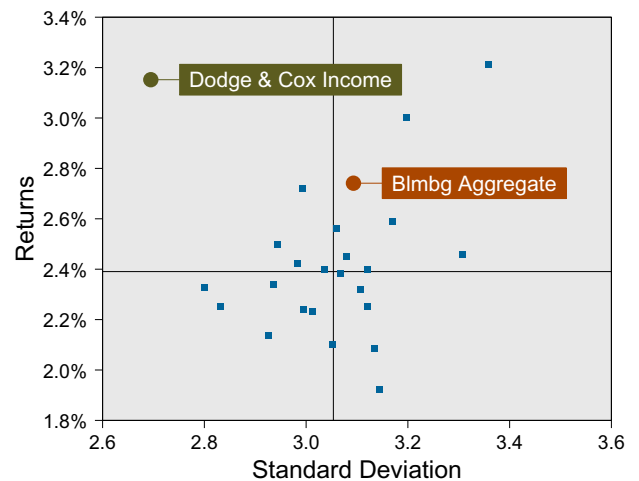
## Performance vs Callan Core Bond Mutual Funds (Net)



## Relative Return vs Blmbg Aggregate



## Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



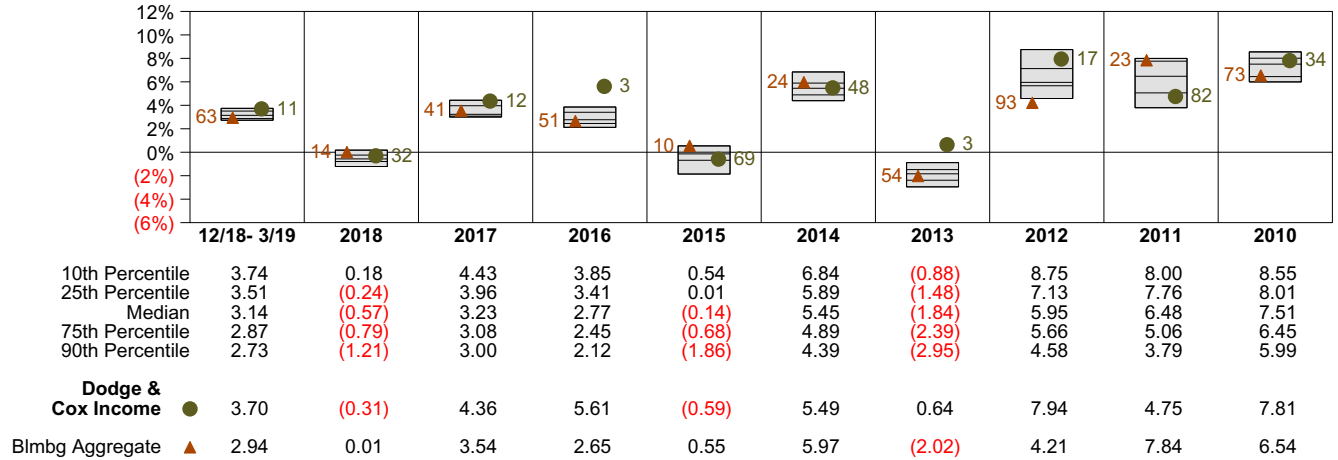


# Dodge & Cox Income Return Analysis Summary

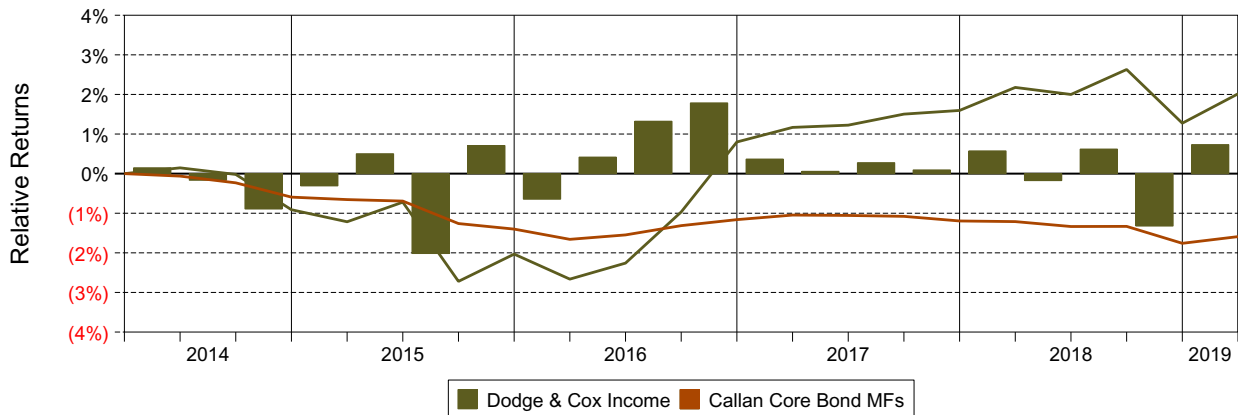
## Return Analysis

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.

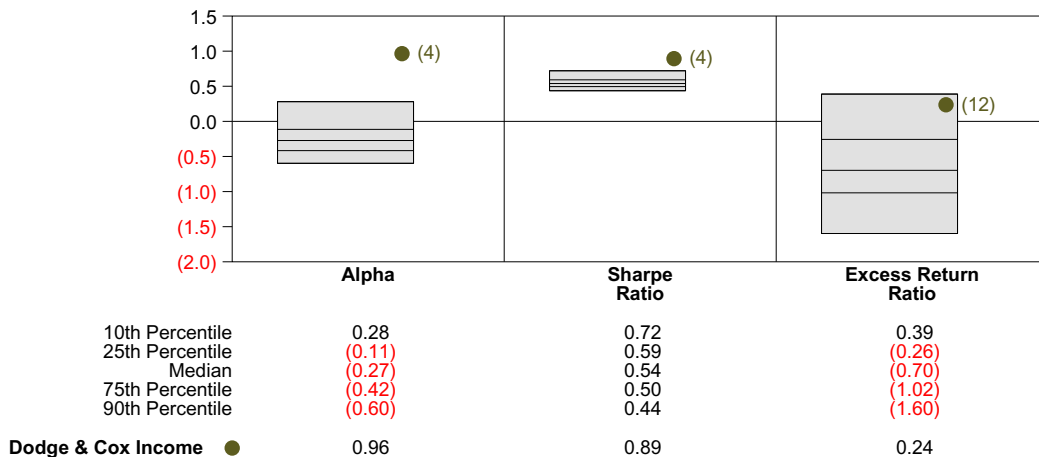
### Performance vs Callan Core Bond Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Blmbg Aggregate



### Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Callan Core Bond Mutual Funds (Net) Five Years Ended March 31, 2019

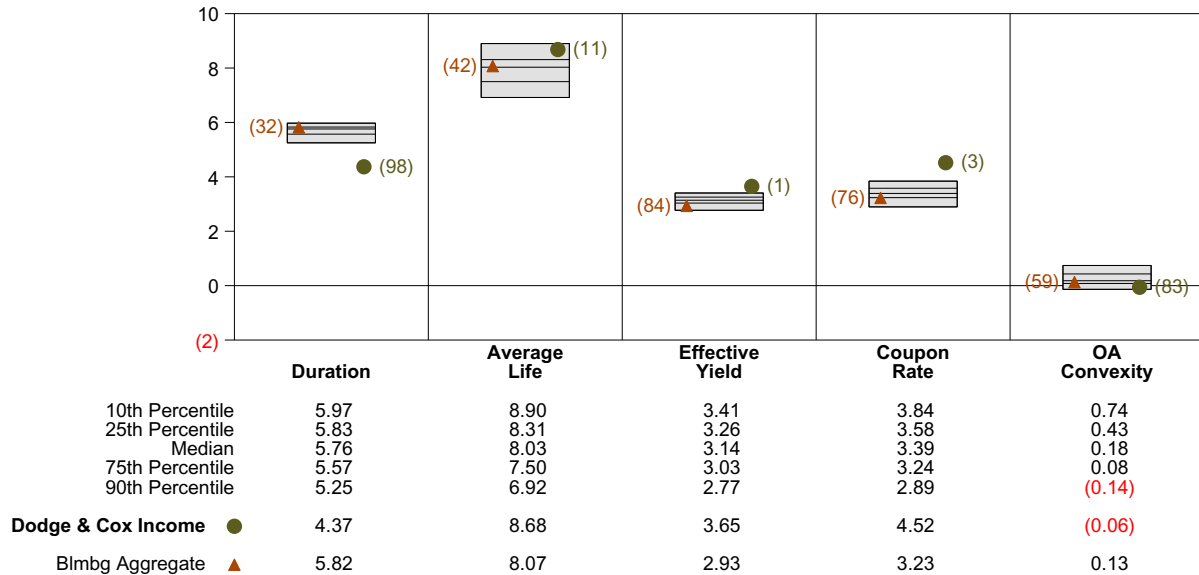


# Dodge & Cox Income Bond Characteristics Analysis Summary

## Portfolio Characteristics

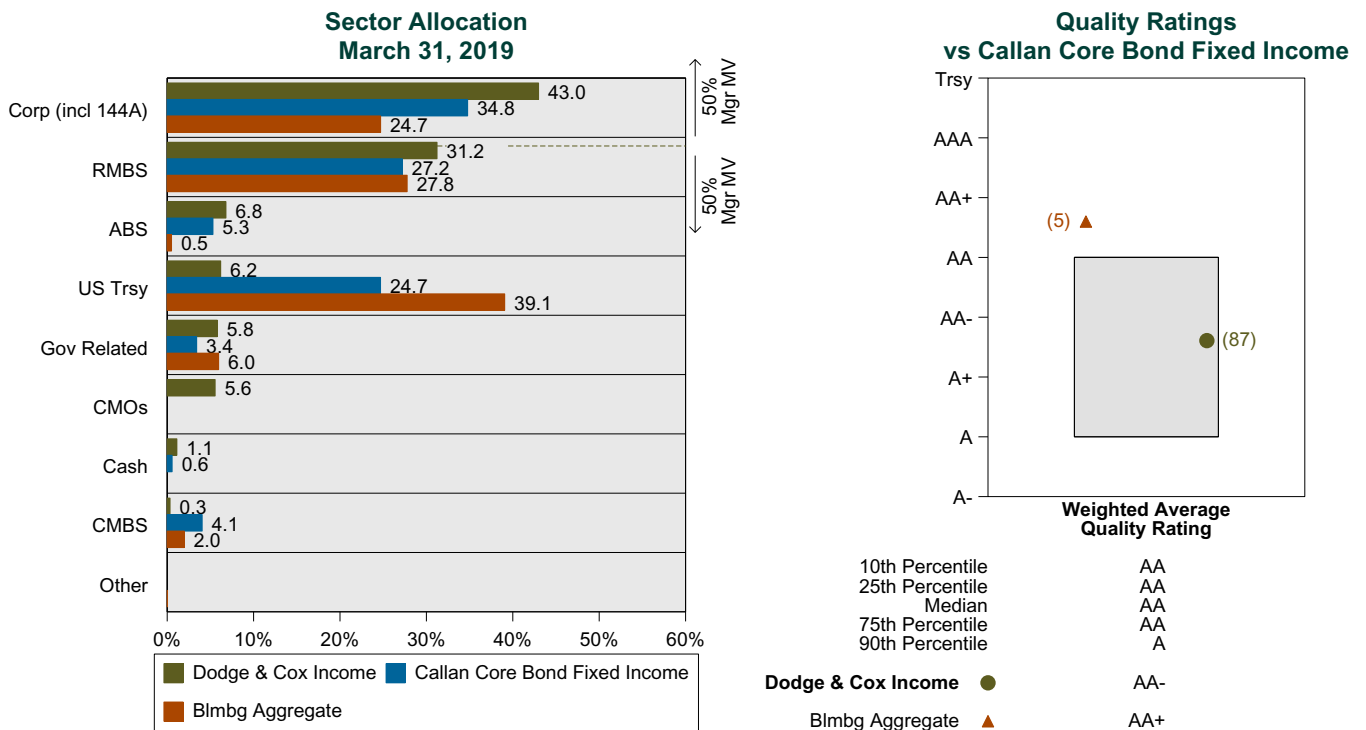
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of March 31, 2019



## Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



# PIMCO

## Period Ended March 31, 2019

### Investment Philosophy

PIMCO emphasizes adding value by rotating through the major sectors of the domestic and international bond markets. They also seek to enhance returns through duration management.

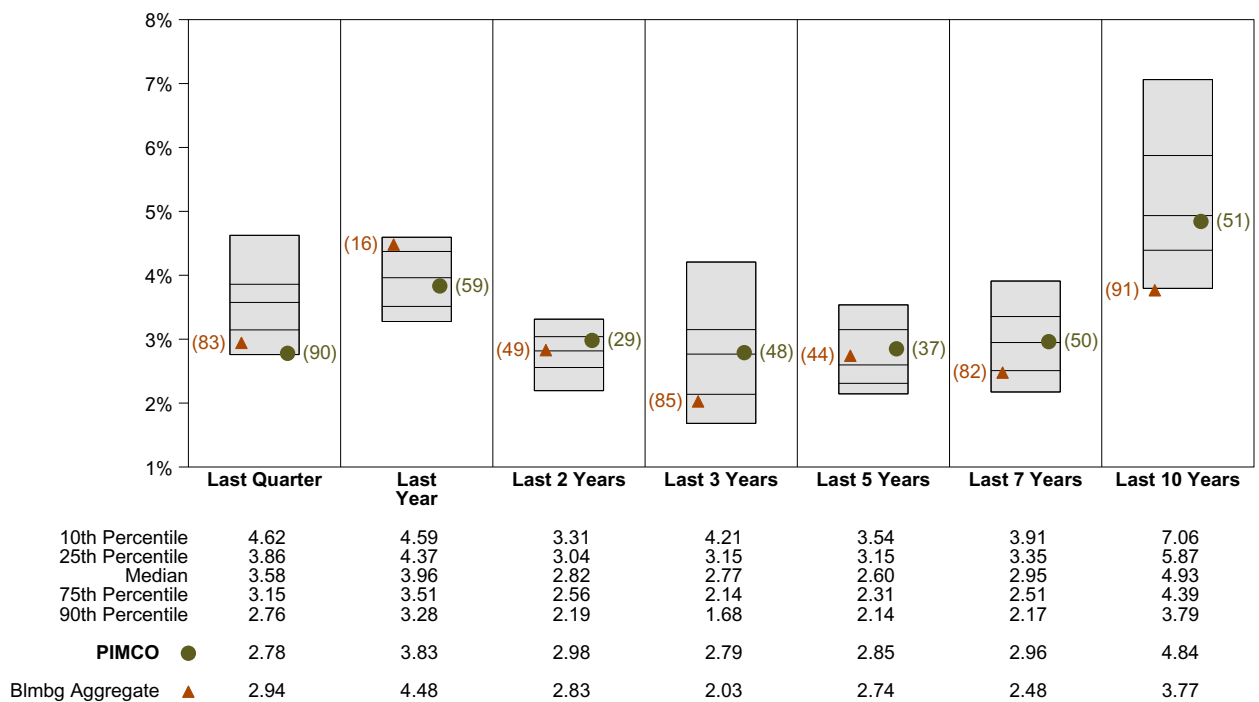
### Quarterly Summary and Highlights

- PIMCO's portfolio posted a 2.78% return for the quarter placing it in the 90 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 59 percentile for the last year.
- PIMCO's portfolio underperformed the Blmbg Aggregate by 0.16% for the quarter and underperformed the Blmbg Aggregate for the year by 0.65%.

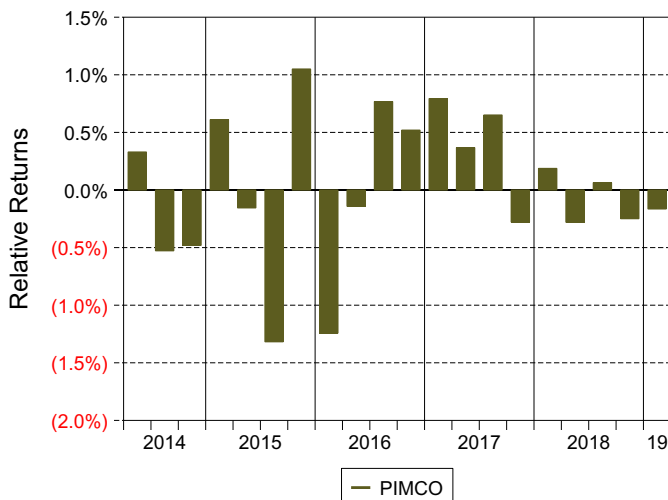
### Quarterly Asset Growth

Beginning Market Value	\$52,437,082
Net New Investment	\$0
Investment Gains/(Losses)	\$1,456,901
Ending Market Value	\$53,893,983

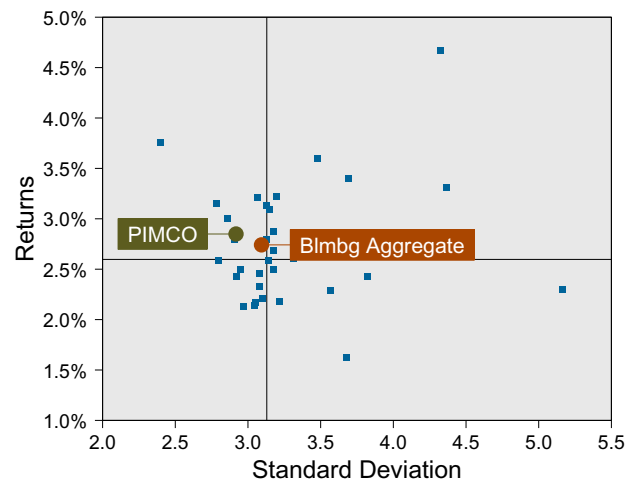
### Performance vs Callan Core Plus Mutual Funds (Net)



### Relative Return vs Blmbg Aggregate



### Callan Core Plus Mutual Funds (Net) Annualized Five Year Risk vs Return

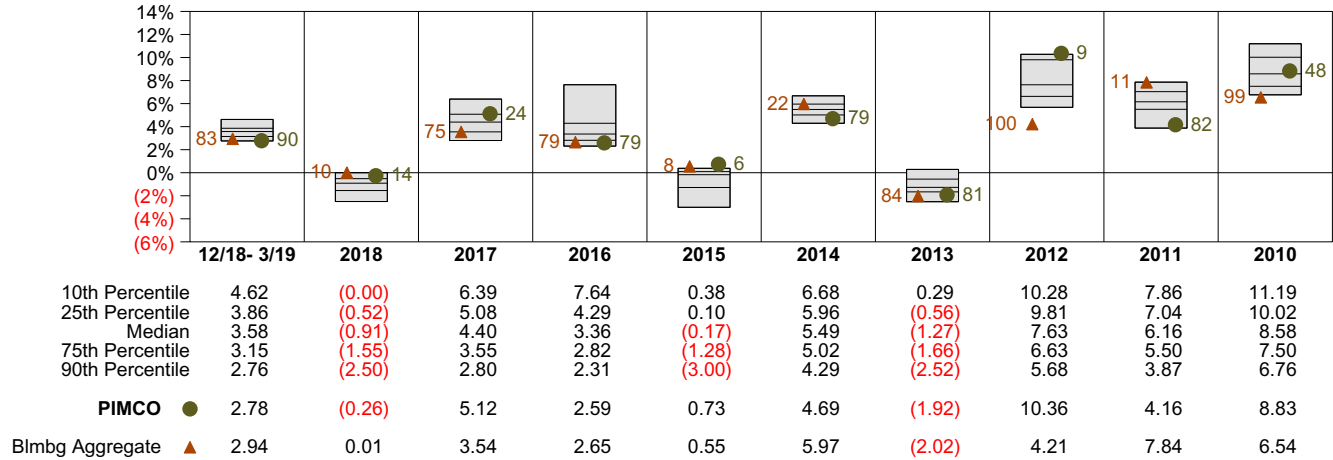


# PIMCO Return Analysis Summary

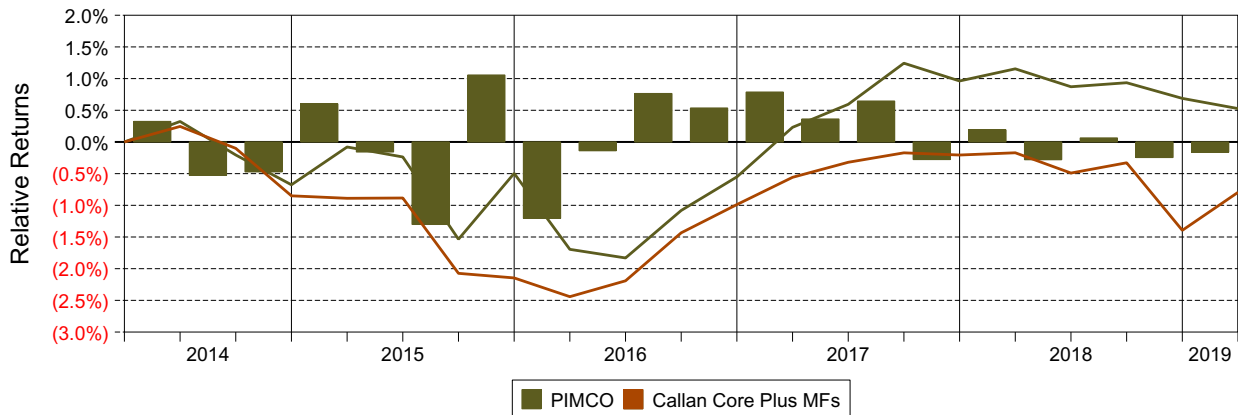
## Return Analysis

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.

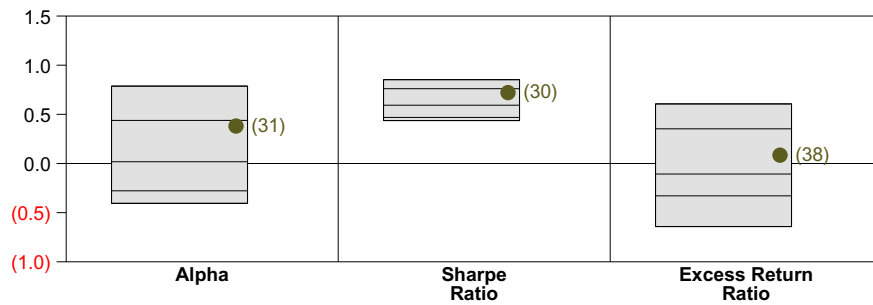
### Performance vs Callan Core Plus Mutual Funds (Net)



### Cumulative and Quarterly Relative Return vs Blmbg Aggregate



### Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Callan Core Plus Mutual Funds (Net) Five Years Ended March 31, 2019



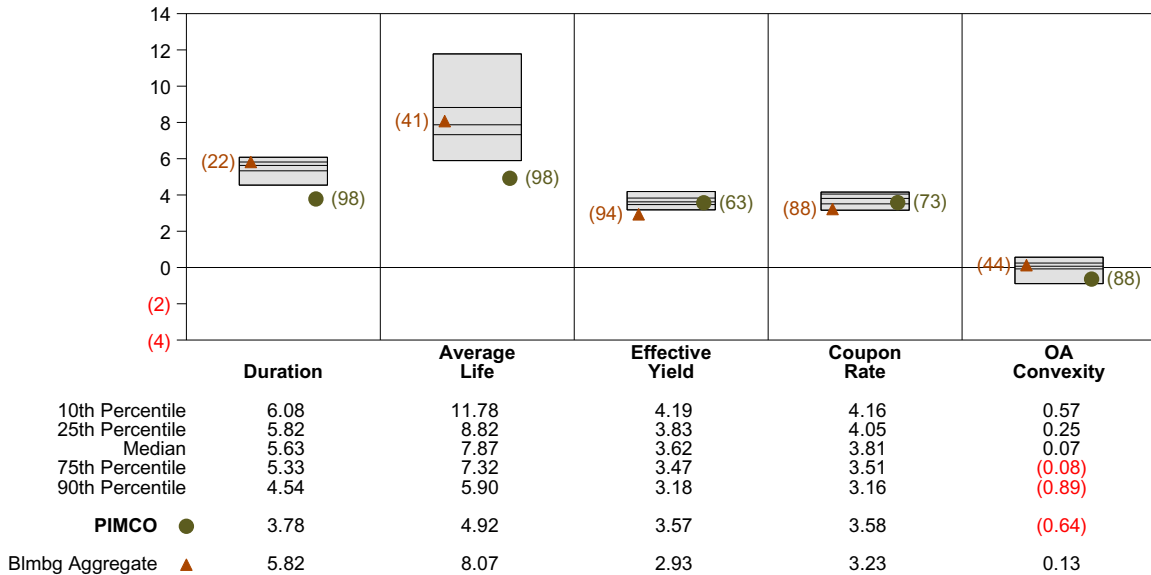
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.79	0.85	0.61
25th Percentile	0.44	0.76	0.35
Median	0.02	0.59	(0.11)
75th Percentile	(0.28)	0.47	(0.33)
90th Percentile	(0.41)	0.44	(0.64)
<b>PIMCO</b> ●	0.38	0.72	0.08

# PIMCO Bond Characteristics Analysis Summary

## Portfolio Characteristics

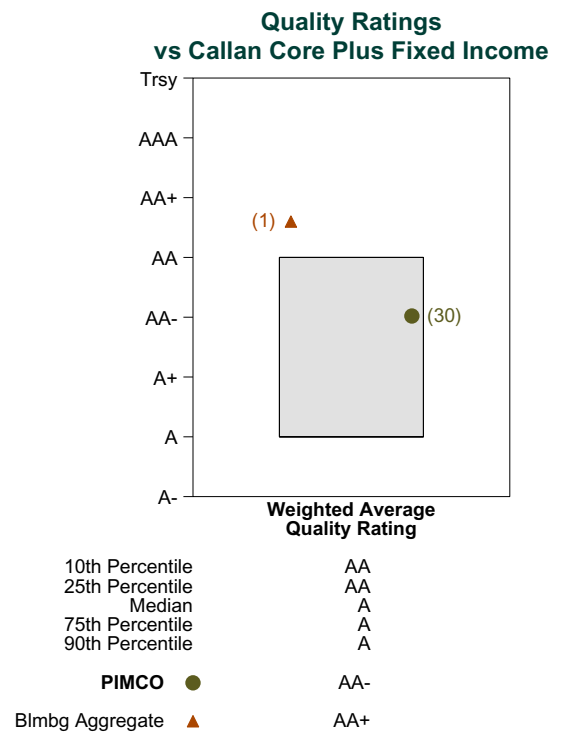
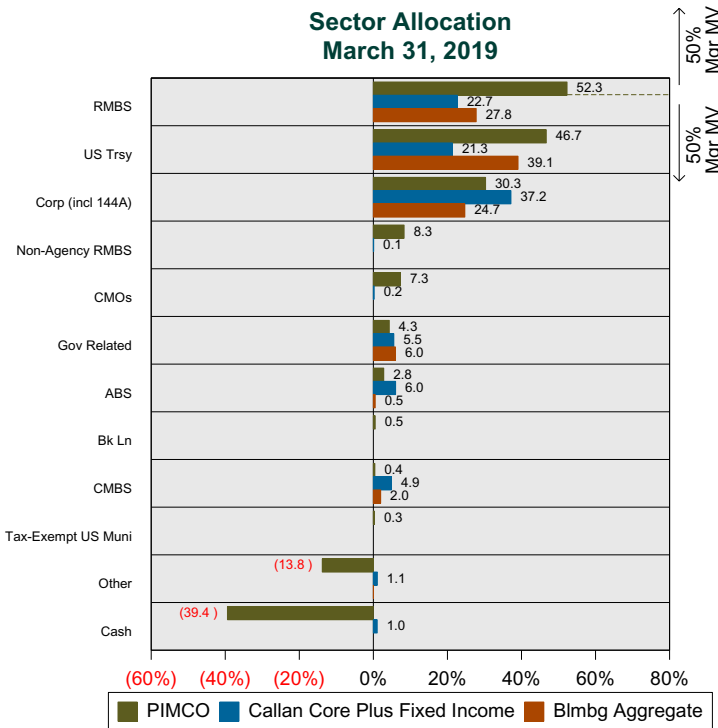
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of March 31, 2019



## Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.





# Real Estate Composite Period Ended March 31, 2019

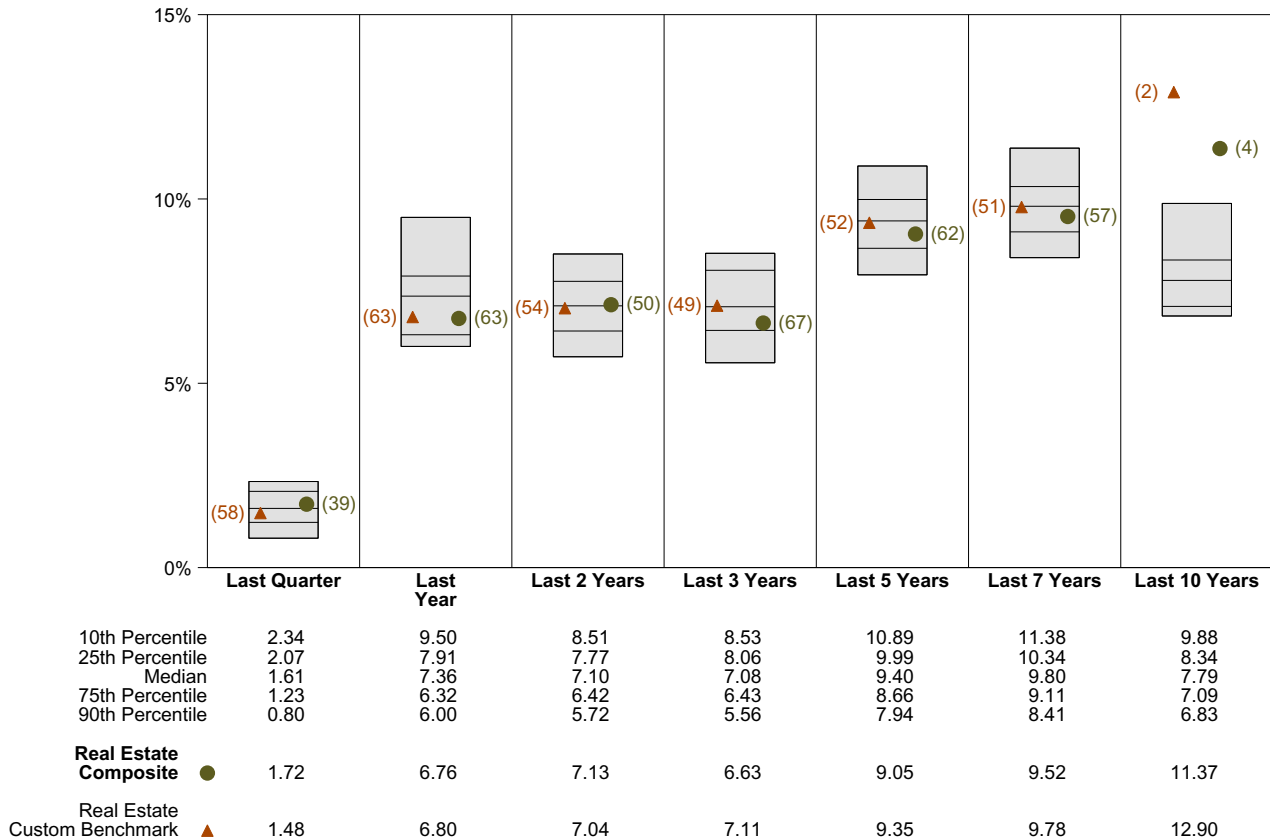
## Quarterly Summary and Highlights

- Real Estate Composite's portfolio posted a 1.72% return for the quarter placing it in the 39 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 63 percentile for the last year.
- Real Estate Composite's portfolio outperformed the Real Estate Custom Benchmark by 0.24% for the quarter and underperformed the Real Estate Custom Benchmark for the year by 0.04%.

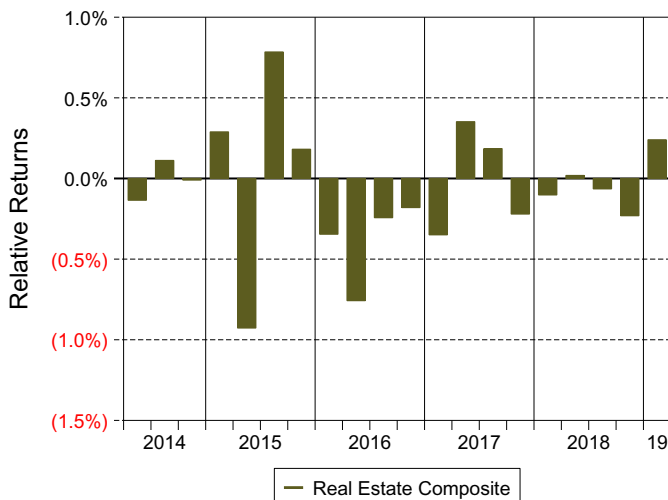
## Quarterly Asset Growth

Beginning Market Value	\$58,113,647
Net New Investment	\$-22,445
Investment Gains/(Losses)	\$999,508
Ending Market Value	\$59,090,710

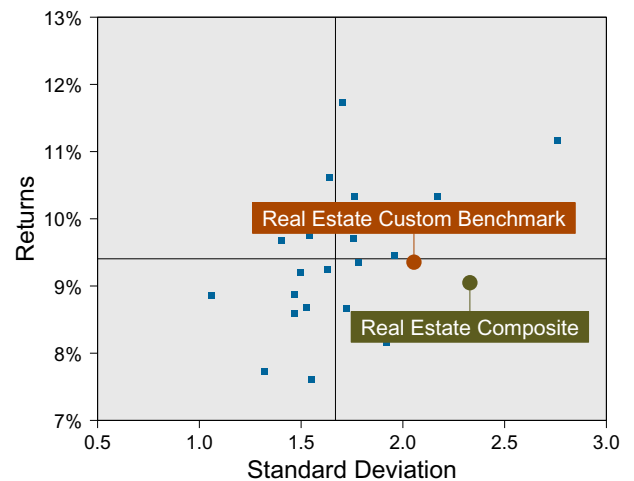
## Performance vs Callan Open End Core Cmmingled Real Est (Net)



## Relative Returns vs Real Estate Custom Benchmark



## Callan Open End Core Cmmingled Real Est (Net) Annualized Five Year Risk vs Return



# RREEF Private Period Ended March 31, 2019

## Investment Philosophy

RREEF America II acquires 100 percent equity interests in small- to medium-sized (\$10 million to \$70 million) apartment, industrial, retail and office properties in targeted metropolitan areas within the continental United States. The fund capitalizes on RREEF's national research capabilities and market presence to identify superior investment opportunities in major metropolitan areas across the United States.

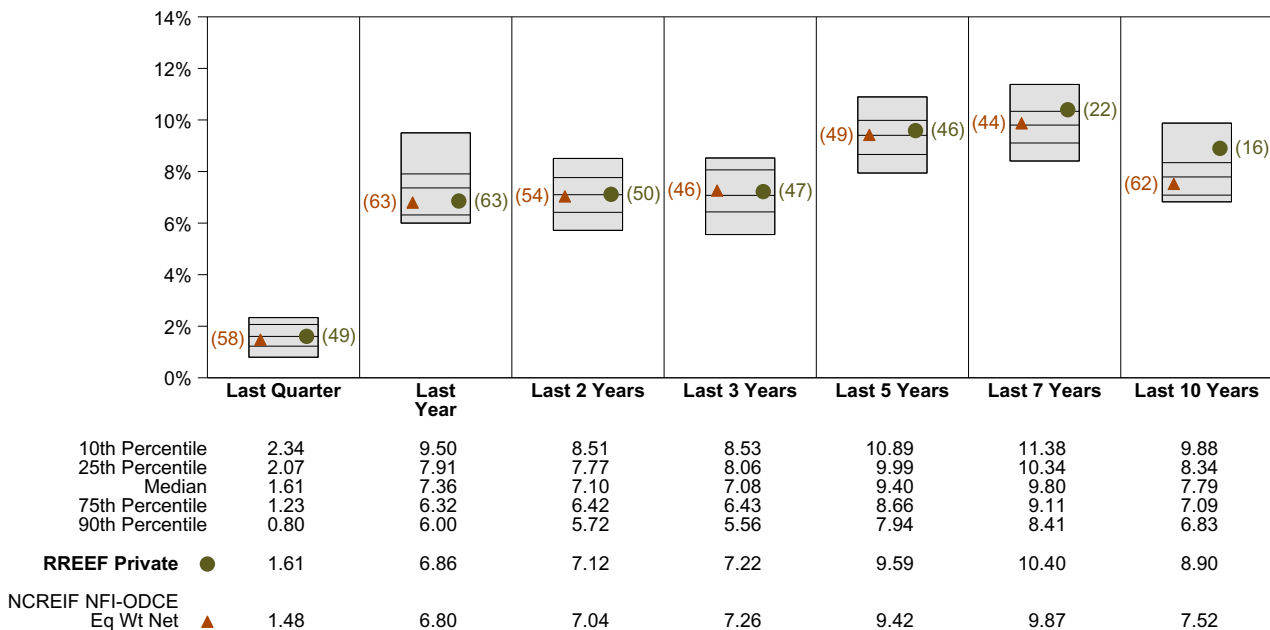
## Quarterly Summary and Highlights

- RREEF Private's portfolio posted a 1.61% return for the quarter placing it in the 49 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 63 percentile for the last year.
- RREEF Private's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 0.13% for the quarter and outperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.06%.

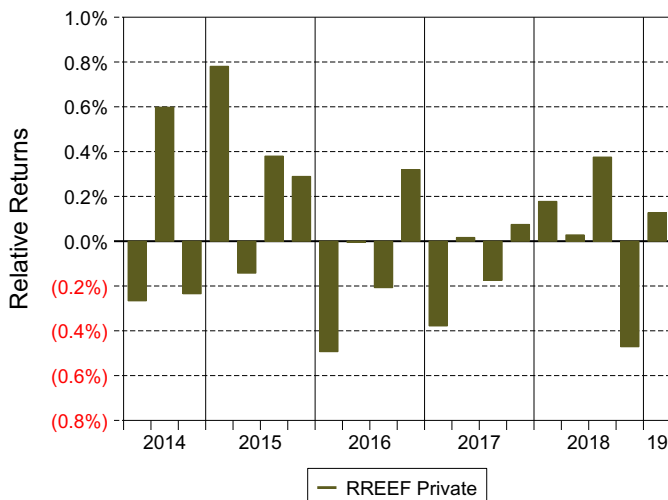
## Quarterly Asset Growth

Beginning Market Value	\$29,836,945
Net New Investment	\$0
Investment Gains/(Losses)	\$479,461
Ending Market Value	\$30,316,406

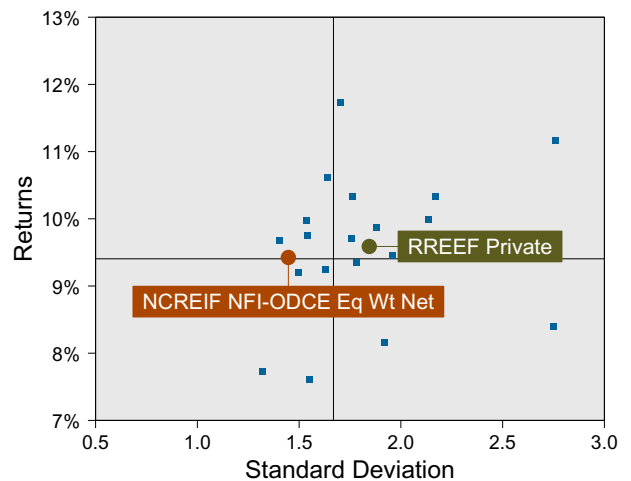
## Performance vs Callan Open End Core Cmmingled Real Est (Net)



## Relative Returns vs NCREIF NFI-ODCE Eq Wt Net



## Callan Open End Core Cmmingled Real Est (Net) Annualized Five Year Risk vs Return





# Barings Core Property Fund Period Ended March 31, 2019

## Investment Philosophy

Barings believes that the investment strategy for the Core Property Fund is unique with the goal of achieving returns in excess of the benchmark index, the NFI-ODCE Index, with a level of risk associated with a core fund. The construct of the Fund relies heavily on input from Barings Research, which provided the fundamentals for the investment strategy. Strategic targets and fund exposure which differentiate the Fund from its competitors with respect to both its geographic and property type weightings, and we believe will result in performance in excess of industry benchmarks over the long-term.

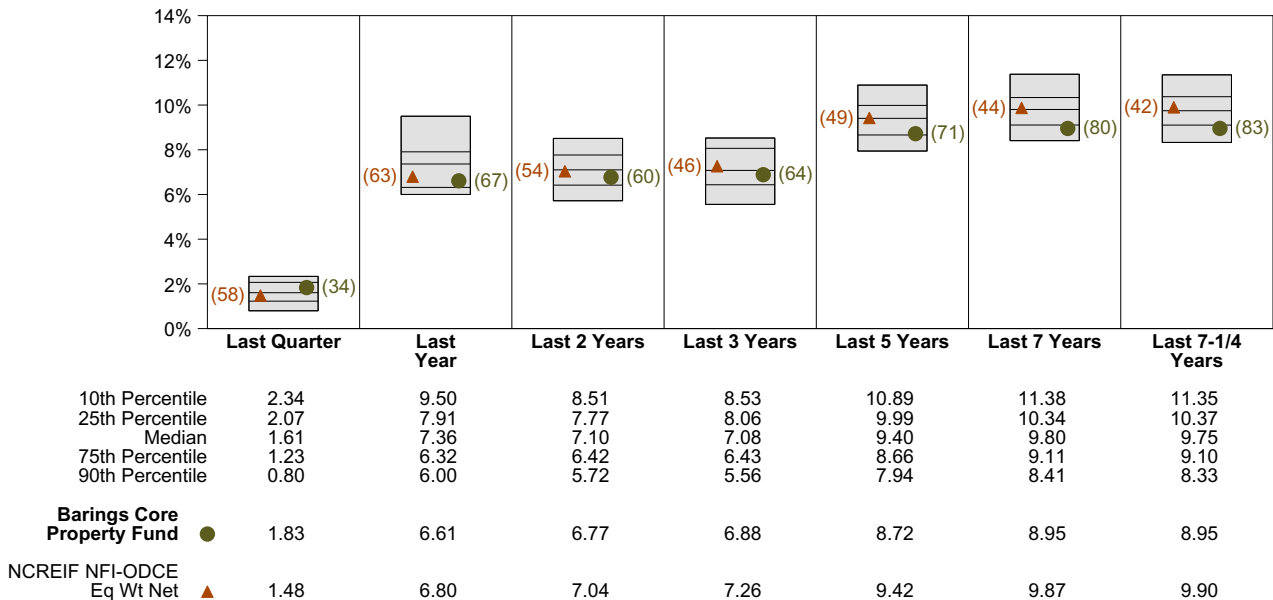
## Quarterly Summary and Highlights

- Barings Core Property Fund's portfolio posted a 1.83% return for the quarter placing it in the 34 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 67 percentile for the last year.
- Barings Core Property Fund's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 0.35% for the quarter and underperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.19%.

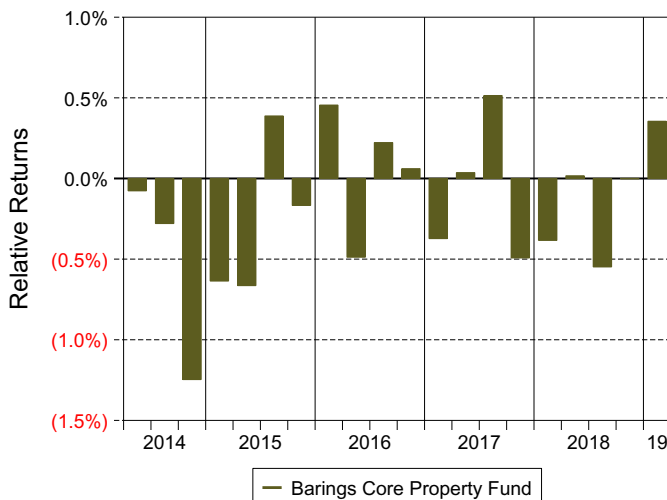
## Quarterly Asset Growth

Beginning Market Value	\$27,126,702
Net New Investment	\$0
Investment Gains/(Losses)	\$497,603
Ending Market Value	\$27,624,305

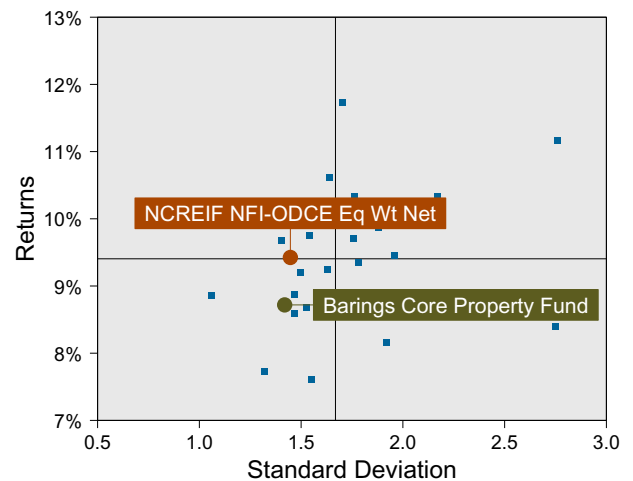
## Performance vs Callan Open End Core Cmmingled Real Est (Net)



## Relative Returns vs NCREIF NFI-ODCE Eq Wt Net



## Callan Open End Core Cmmingled Real Est (Net) Annualized Five Year Risk vs Return







## Resilience in the Face of Uncertainty

### ECONOMY

**2** PAGE Investor confidence has shifted wildly over the past six months. Markets swooned in the fourth quarter but rebounded in the first. GDP growth bounced back as well. Is everything fine again? Underneath the good news, there are signs we may be at the peak of the current cycle.

## Equity Rebound Fuels Strong Returns

### FUND SPONSOR

**4** PAGE After the drop in 2018, equity markets rebounded during the first quarter. Fund sponsors echoed that theme, producing strong results across the board. Funds continue to retain a strong tilt toward growth assets, with many citing the need to meet funding requirements.

## U.S., Global Stocks See Big Bounce Back

### EQUITY

**6** PAGE U.S. 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. Global equity markets were up in the first quarter following a sharp sell-off to end 2018.

## Bonds Join the Rally in Global Markets

### FIXED INCOME

**8** PAGE The first quarter's strong results recaptured most of the loss in the prior quarter for riskier U.S. fixed income. Developed market sovereign bonds rallied in tandem with Treasuries. Emerging market bonds also rebounded. Positive net inflows into the EM universe continued.

## Real Estate Healthy; Real Assets Rebound

### REAL ESTATE/REAL ASSETS

**10** PAGE The NCREIF Property Index, a measure of U.S. institutional real estate assets, gained 1.8% during the first quarter. REITs across the globe bounced back. Real assets of all varieties enjoyed a strong first quarter, with energy an especially big gainer.

## Down for Now, but It's Just a 'Gully'

### PRIVATE EQUITY

**12** PAGE Almost every private equity transaction measure in the first quarter was down substantially, with only fundraising dollar volume increasing. With the recovery in first quarter equity markets, we expect private equity to also shrug-off the "gully" as the year progresses.

## Hedge Funds Mixed; Some MACs Thrive

### HEDGE FUNDS/MACs

**13** PAGE The Credit Suisse Hedge Fund Index gained 4.0% in the first quarter, and the Callan Hedge Fund-of-Funds Database Group rose 3.6%. The Callan Multi-Asset Class (MAC) Style Groups showed positive but widely diverging results, with the overall group up 6.7%.

## DC Index Limp to the Finish Line

### DEFINED CONTRIBUTION

**15** PAGE The Callan DC Index™ fell 4.9% in 2018, but it outperformed the typical Age 45 Target Date Fund for the year by over 2 percentage points. For the first time in the history of the DC Index, target date funds did not experience the largest inflows; instead, stable value funds did.

## Broad Market Quarterly Returns

**U.S. Equity**  
Russell 3000



**Non-U.S. Equity**  
MSCI ACWI ex USA



**U.S. Fixed Income**  
Bloomberg Barclays Agg



**Non-U.S. Fixed Income**  
Bloomberg Barclays GBI ex US



Sources: Bloomberg Barclays, FTSE Russell, MSCI

# Resilience in the Face of Uncertainty

ECONOMY | Jay Kloepfer

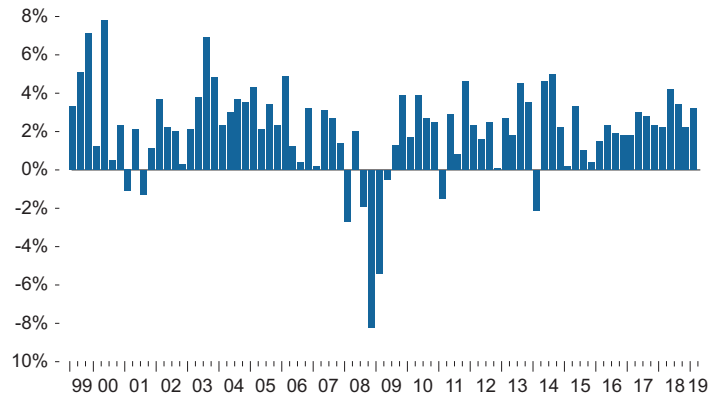
Investor confidence has shifted wildly over the past six months. Anxiety, panic, and gloom pushed equity markets down around the globe through the last three months of 2018, culminating in one of the worst Decembers in decades. The pessimism derailed global interest rate policy. The central banks in the euro zone had yet to join the U.S. in reversing years of monetary easing, and they may now skip this cycle of tightening altogether. The Fed pressed “pause” on its own tightening plan in January after nine rate hikes. The equity markets then surged during the first quarter of 2019, moving back toward the all-time high set last October, and volatility evaporated.

What changed in the fall of 2018 and then in the first quarter of 2019 to cause this whipsaw of sentiment? U.S. GDP growth softened in the fourth quarter to a still healthy 2.2%, but then notched a surprisingly strong 3.2% increase in the first quarter. This robust gain is a sign of resilience in the face of the fourth quarter market swoon and the uncertainty generated by the government shutdown in January of this year. The increase also reversed a pattern in recent years of inexplicably slower growth in first quarter GDP. The solid GDP report was accompanied by a surge in durable goods orders reported in March, strong exports, sustained job growth, and of course the reversal of the fourth quarter stock market slump.

All of the sudden, everything is fine again. Or is it? Underneath all the good news, there are signs that we may be at the peak of the current economic cycle. More than half of the robust first quarter GDP gain came from net exports and inventory accumulation. Greater investment in inventories now, which adds to GDP, means less investment in the future. Exports rose and imports slumped; both are positive contributions to GDP but neither may be sustainable. Final sales to domestic purchasers, which excludes both trade and inventory building, rose at a more modest 1.4% rate, down from a 2.1% gain in the fourth quarter. Personal consumption inched up 1.2%, less than half the growth rate enjoyed over the year in 2018. To be fair, the weakness in these quarterly data appears to have been concentrated at the

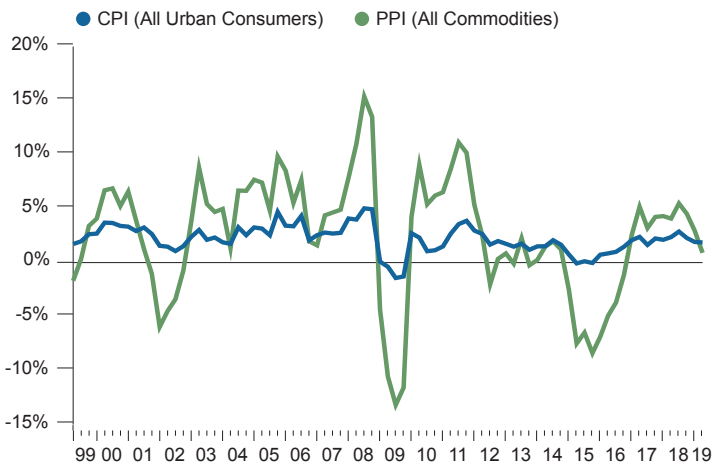
## Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

## Inflation Year-Over-Year



Source: Bureau of Labor Statistics

start of the year, and the reports for many indicators showed a big bounce in March.

On the positive side of the ledger, the government shutdown in January had a temporary effect, shifting the timing of activity and employment, but the net impact should be minimal. The job market saw a sharp drop in February, to just 33,000 new jobs, only to see a snap back to 196,000 in March. The average gain for the first three months was 180,000, lower than the average for last year but substantially above the bellwether mark

of 100,000 per month required to keep the economy growing. Manufacturing employment in the U.S. declined in the first quarter, despite the residual strength in capital goods orders. While both the Markit manufacturing and services PMIs slipped in the first quarter, they remain above readings of 50, the dividing line between expansion and contraction. Of particular interest is the eye-catching rebound in China's manufacturing PMI, which jumped from a borderline reading of 50 to 58 in March.

The narrative has changed sharply since the nadir of December 2018. The stock market slump reversed, credit spreads have narrowed, and the potential for the yield curve to steepen has returned. The rebound in GDP and durable goods orders in March, the resilience of the job market, and the gain in net exports reinforce the perception that we are poised to see economic growth reaccelerate in the second quarter. Not all the indicators suggest good news, however. Oil prices have rebounded, driving up gasoline prices and crimping household disposable income. Home price gains, which have an attendant wealth effect typically more widespread and powerful than the wealth effect from the equity market, are slowing. Finally, the continuing strength of the dollar adds to the headwinds facing manufacturing.

Trade and trade policy dominates headlines, but it is worth noting that the impact of trade in the U.S. is far lower than in most of our trading partners, both developed and emerging. One measure is the trade-to-GDP ratio, the sum of exports and imports as a percentage of GDP. (Note that exports add to GDP while imports subtract from GDP, but the sum of their share of GDP is a reasonable measure of the impact of total trade activity on an economy.) Exports and imports include both goods and services. Trade has certainly become a larger

### The Long-Term View

Index	2019 1st Qtr	Periods ended Dec. 31, 2018			
		Year	5 Yrs	10 Yrs	25 Yrs
<b>U.S. Equity</b>					
Russell 3000	14.04	-5.24	7.91	13.18	9.04
S&P 500	13.65	-4.38	8.49	13.12	9.07
Russell 2000	14.58	-11.01	4.41	11.97	8.28
<b>Non-U.S. Equity</b>					
MSCI EAFE	9.98	-13.79	0.53	6.32	4.63
MSCI ACWI ex USA	10.31	-14.20	0.68	6.57	--
MSCI Emerging Markets	9.93	-14.57	1.65	8.02	--
MSCI ACWI ex USA Small Cap	10.26	-18.20	1.96	10.02	--
<b>Fixed Income</b>					
Bloomberg Barclays Agg	2.94	0.01	2.52	3.48	5.09
90-Day T-Bill	0.60	1.87	0.63	0.37	2.55
Bloomberg Barclays Long G/C	6.45	-4.68	5.37	5.88	6.82
Bloomberg Barclays GI Agg ex US	1.52	-2.15	-0.01	1.73	4.39
<b>Real Estate</b>					
NCREIF Property	1.80	6.72	9.33	7.49	9.34
FTSE Nareit Equity	16.33	-4.62	7.90	12.12	9.76
<b>Alternatives</b>					
CS Hedge Fund	3.99	-3.19	1.66	5.10	7.27
Cambridge PE*	-0.53	10.61	11.94	13.76	15.20
Bloomberg Commodity	6.32	-11.25	-8.80	-3.78	2.03
Gold Spot Price	1.34	-2.14	1.28	3.78	4.85
<b>Inflation – CPI-U</b>	1.18	1.91	1.51	1.80	2.20

\*Data for most recent period lags by a quarter. Data as of December 31, 2018.  
Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Standard & Poor's, Refinitiv/Cambridge

component of U.S. GDP over time, with exports rising from 7% in 1985 to 12.3% in 2018 while imports rose from 9% to 15.5%. Trade activity now involves 27.8% of U.S. GDP. By comparison, the World Bank calculates that trade accounts for 37.8% of China GDP, 62.5% for the U.K., 77.6% for Mexico, and 87% for Germany.

### Recent Quarterly Economic Indicators

	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
Employment Cost–Total Compensation Growth	2.8%	2.9%	2.8%	2.8%	2.7%	2.6%	2.5%	2.4%
Nonfarm Business–Productivity Growth	3.6%	1.3%	1.9%	2.9%	0.7%	-0.3%	2.3%	1.7%
GDP Growth	3.2%	2.2%	3.4%	4.2%	2.2%	2.3%	2.8%	3.0%
Manufacturing Capacity Utilization	76.6%	77.0%	76.9%	76.4%	76.1%	75.8%	74.9%	75.2%
Consumer Sentiment Index (1966=100)	94.5	98.2	98.1	98.3	98.9	98.4	95.1	96.4

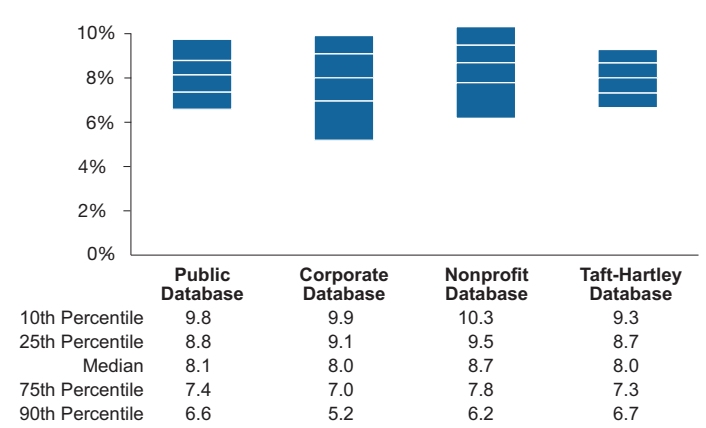
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

# Equity Rebound Fuels Returns

## FUND SPONSOR

- A quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio rose 7.5% over the one-year period ending March 31, topping all major fund sponsor categories. The Callan Total Fund Sponsor Database Group rose 3.8% over that same period.
- Both U.S. and non-U.S. equity markets fell during 2018 but rebounded during the first quarter of 2019. Fund sponsors echoed that theme, producing strong results across the board, topped by nonprofits (+8.7%).
- Over longer periods, fund sponsor returns were roughly in line with the equity-fixed income mix, with the Total Fund Sponsor Group gaining 6.5% over the last 15 years compared to 6.9% for the 60-40 index.
- Current equity exposure levels may cause concern among sponsors, leading some to seek further diversification opportunities, including diversifying cap-weighted equity with factor strategies and employing more conservative equity.
- Many sponsors' current strategic positioning remains unchanged but is actively monitored. Key questions being considered include:
  - What is the role of fixed income in a total return portfolio?
  - As cost pressure continues to drive passive implementation, how should passive strategies be employed across asset classes?

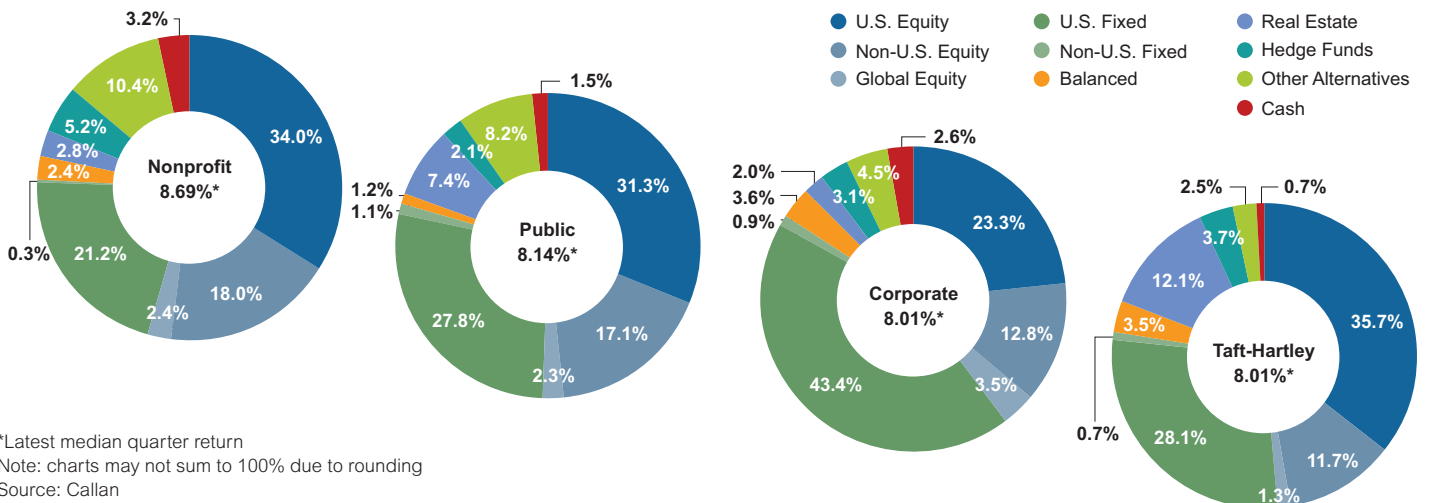
## Callan Fund Sponsor Returns for the Quarter



Source: Callan

- Plans continue to retain a strong tilt toward growth assets (at least 70% in some cases and as high as 90% in others), with many plans citing the need to meet funding requirements. This has coincided with a refined definition of growth to include high yield, convertibles, low-volatility equity, hedge funds, multi-asset class strategies, and option-based strategies.

## Callan Fund Sponsor Average Asset Allocation



\*Latest median quarter return  
 Note: charts may not sum to 100% due to rounding  
 Source: Callan

- Sponsors face continued fee pressure. Fund sponsor clients are focusing on fee studies, reviews of institutional vehicles, the addition of advisory services and/or vendor reviews, and evaluations of the fund structure lineup.
- Sponsors face challenges in setting capital market expectations in a volatile market environment. Where should they start? What is the time horizon? Does valuation matter? At what interest rate? Discipline in the face of uncertainty is difficult. In addition, interest rate volatility wreaks havoc with liability-driven investing glidepaths.
- The first quarter is the season for asset-liability reviews. Among the subjects being discussed:
  - Proper time horizon for the return on assets (ROA) for a public plan
  - Tension between 10-year assumptions and “equilibrium” assumptions
  - Concern about high risk exposure but resistance to de-risking when a shorter horizon ROA is less than the public plan’s ROA
- Corporate plans moving down de-risking glidepaths are reconsidering their equity structures. Growth exposure is typically concentrated in public equity. The focus is often on cost, full diversification to equity beta in the context of liability-driven investing, implementation, and whether equity is the place to spend any active management budget.
- These same corporate plans are examining their fixed income structures at both the current point in time and as they prepare to further de-risk once they move down their glidepaths. Plans expect to move from off-the-shelf, long government/credit exposures to custom portfolios that match their interest rate and credit spread exposures.

**Callan Database Median and Index Returns\* for Periods ended March 31, 2019**

Fund Sponsor	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Public Database	8.14	3.97	8.60	6.14	9.99	6.54
Corporate Database	8.01	3.83	7.82	5.79	9.92	6.56
Nonprofit Database	8.69	3.28	8.51	5.68	9.89	6.56
Taft-Hartley Database	8.01	4.52	8.54	6.62	10.05	6.49
All Funds	8.26	3.83	8.39	5.99	9.95	6.54
Large (>\$1 billion)	7.50	4.06	8.57	6.27	10.13	6.79
Medium (\$100mm - \$1bn)	8.26	3.85	8.40	6.01	9.92	6.44
Small (<\$100 million)	8.55	3.68	8.24	5.77	9.76	6.37

\*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit, corporate defined benefit, nonprofits, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

# Global Equity

## U.S. Equities

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 ▶ 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.

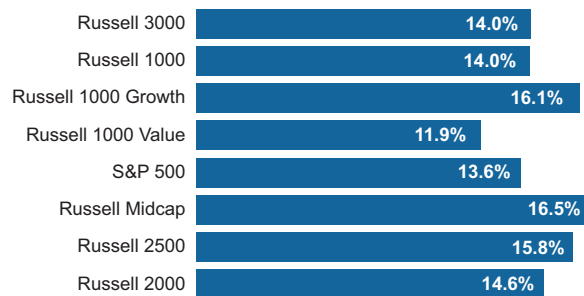
### Small Cap ▶ Russell 2000: +14.6% | Russell 2000 Growth: +17.1% | Russell 2000 Value: +11.9%

- 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.

## Growth vs. Value ▶ Russell 1000 Growth: +16.1% | Russell 1000 Value: +11.9%

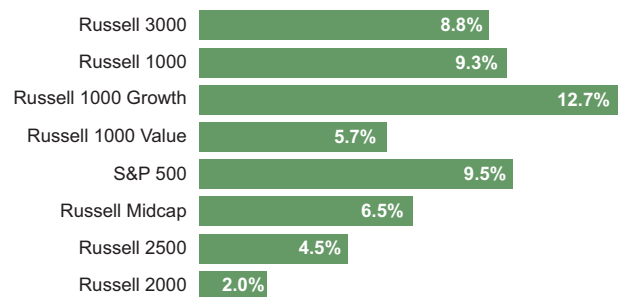
- The sharp change in Fed rhetoric influenced the stronger performance of growth stocks over value stocks during the quarter. Investors favored companies with stronger earnings prospects to counter a softer economic environment.
- Technology produced strong results, while the outlook for Financials weakened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

## U.S. Equity: Quarterly Returns



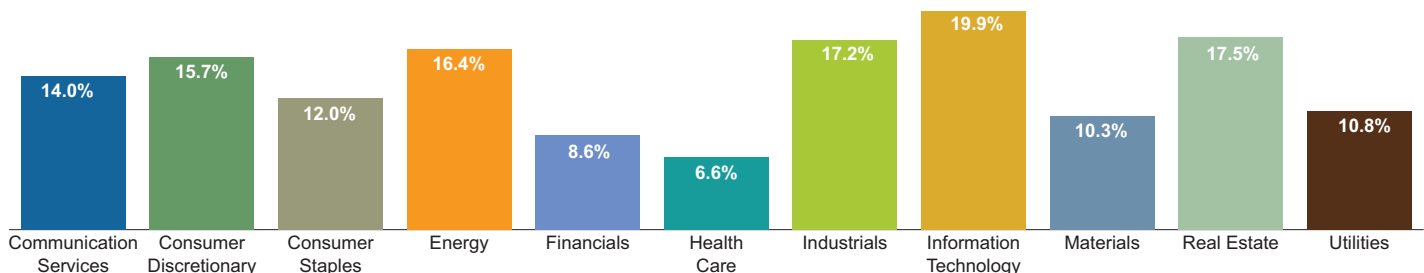
Sources: FTSE Russell and Standard & Poor's

## U.S. Equity: One-Year Returns



Sources: FTSE Russell and Standard & Poor's

## Quarterly Performance of Industry Sectors



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.

**Developed** ► *MSCI EAFE: +10.0% | MSCI Europe: +10.8% | MSCI World ex USA: +10.4% | 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.

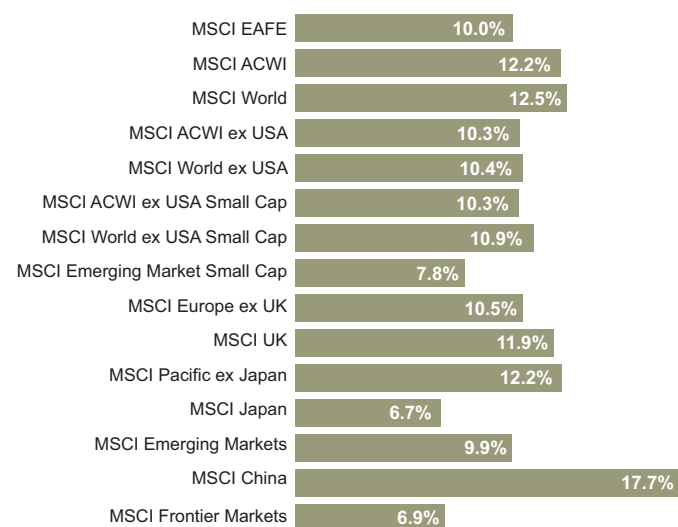
**Emerging Markets** ► *MSCI Emerging Markets Index: +9.9%*

- 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 Emerging Markets 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%*

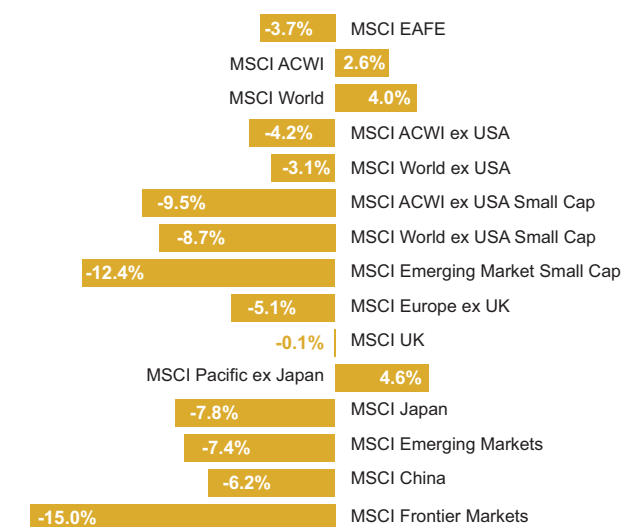
- Within developed markets, small cap performed in line with large cap.
- EM Small Cap trailed EM as **MSCI China Small Cap** has less exposure to IT, which led the risk-on rally.

### Non-U.S. Equity: Quarterly Returns (U.S. Dollar)



Source: MSCI

### Non-U.S. Equity: One-Year Returns (U.S. Dollar)



Source: MSCI

# Global Fixed Income

## U.S. Fixed Income

Risk markets sharply reversed from the fourth quarter sell-off supported by the Fed's unexpected dovish comments, 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 by riskier bonds.

### U.S. Fixed Income ► *Bloomberg Barclays US Agg: +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.

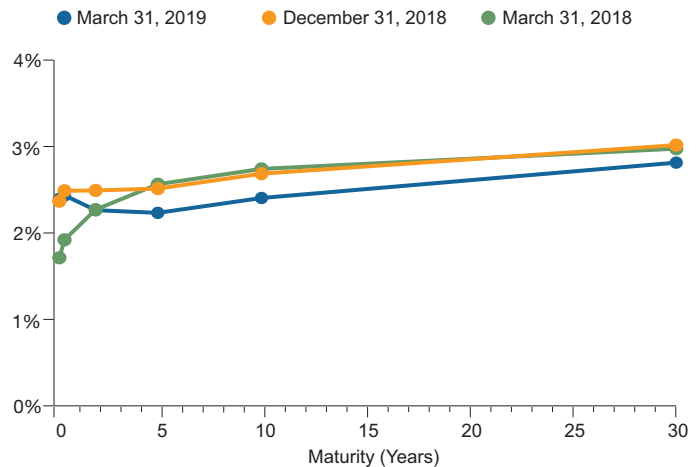
### Investment-Grade Corporates ► *Bloomberg Barclays Corporate (Inv. Grade): +5.1%*

- 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 HY: +7.3%*

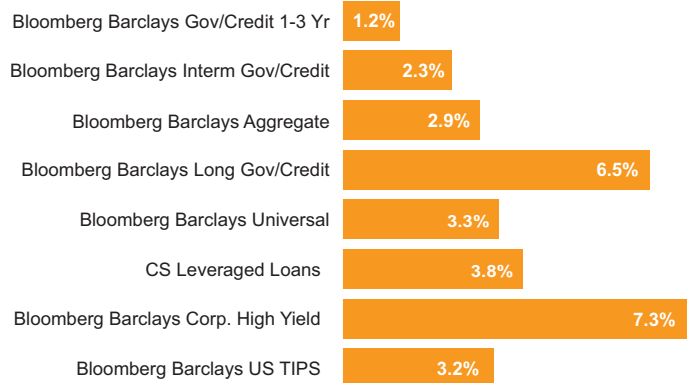
- Given the risk-on environment, below-investment grade issuers were the best performers, aided by strong asset inflows.
- Ba/B sectors (+7.2%) marginally outpaced CCC by 6 bps; this was an unusual occurrence given that the dispersion between high-quality and low-quality is typically wide during these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

## U.S. Treasury Yield Curves



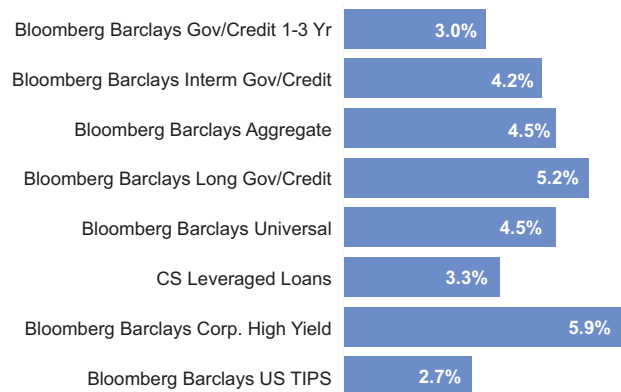
Source: Bloomberg

## U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

## U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

## GLOBAL FIXED INCOME (Continued)

### Leveraged Loans ▶ *CS Leveraged Loans: +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.

### Non-U.S. Fixed Income

#### Global Fixed Income ▶ *Bloomberg Barclays Global Aggregate: +2.2% | Global Aggregate (hdg): +3.0%*

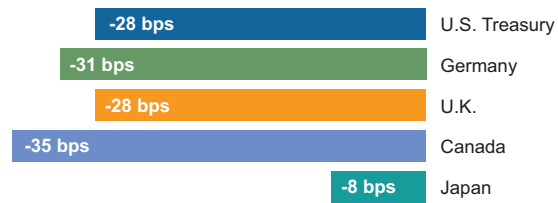
- Developed market sovereign bonds rallied in tandem with Treasuries. The U.S. dollar appreciated modestly versus the euro and yen, but lost ground versus the British pound and Canadian dollar.

#### Emerging market debt (\$US) ▶ *JPM EMBI Global Diversified: +7.0% | (Local currency) ▶ JPM GBI-EM Global Diversified: +2.9%*

- Country returns within the EMBI Global Diversified Index were nearly 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.

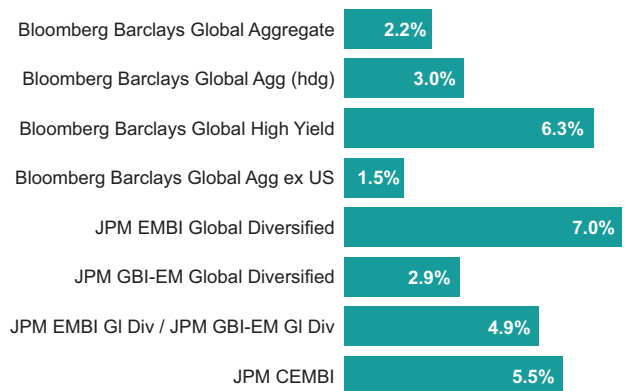
### Change in 10-Year Global Government Bond Yields

4Q18 to 1Q19



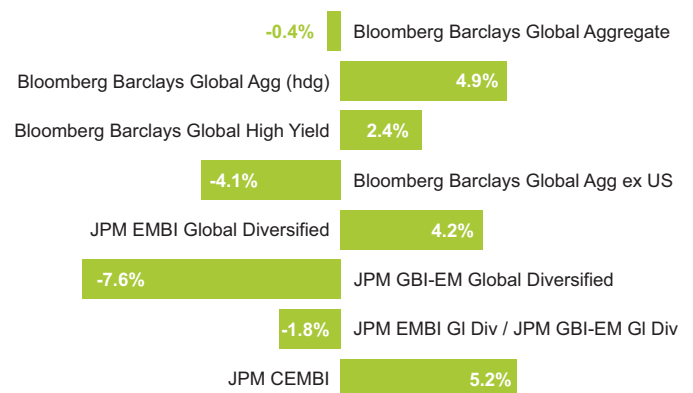
Source: Bloomberg Barclays

### Non-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

### Non-U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

# Real Estate Stays Strong; Real Assets Show Big Gains

REAL ESTATE/REAL ASSETS | Munir Iman and David Welsch, CFA

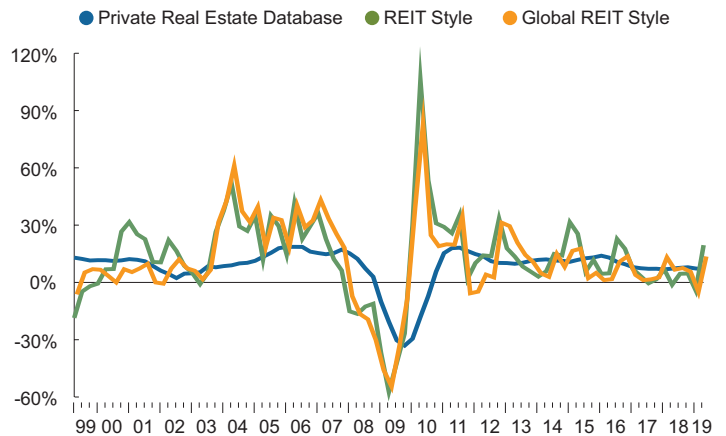
## Core Returns Driven by Income

- The **NCREIF Property Index**, a measure of U.S. institutional real estate assets, gained 1.8% during the first quarter. The income return was 1.1%, while appreciation contributed 0.7%.
- Industrial led property sector performance with a gain of 3.0%. Hotels finished last with a 0.4% increase.
- Regionally, the West led with a 2.2% return, while the Midwest was the worst performer at 1.0%.
- The **NCREIF Open-End Diversified Core Equity Index**, representing equity ownership positions in U.S. core real estate, rose 1.2% during the first quarter, with income providing 0.8% and appreciation 0.4%.
- U.S. core real estate returns are being driven by income with limited appreciation this late in the cycle.
- Appraisal capitalization rates decreased slightly from 4.34% to 4.31% during the first quarter, and capitalization rates measured in active trades ticked up to 5.60% from 5.20%.
- At quarter end, the 10-year average appraisal capitalization rate was 5.20%, and the 10-year average transactions capitalization rate was 6.34%. The spread between the two measures, which reflects pricing expectations between buyers and holders of real estate, stood at 114 basis points.
- Within the **NCREIF Property Index**, the vacancy rate for U.S. Retail was 7.5% in the first quarter, the highest in nearly two years.

## REITs Outperformed Global Equities

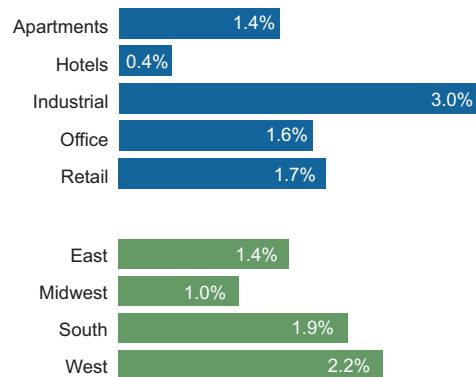
- The **FTSE EPRA/Nareit Developed REIT Index**, a measure of global real estate securities, rose 14.6% during the first quarter, compared to 12.2% for global equities (**MSCI ACWI**).
- European REITs returned 11.5% (USD). The **FTSE EPRA/Nareit Asia Index (USD)**, representing the Asia/Pacific region, increased 14.4%.

## Rolling One-Year Returns



Source: Callan

## Sector Quarterly Returns by Property Type and Region



Source: NCREIF

## U.S. Real Estate Securities Bounced Back

- U.S. REITs, as measured by the **EPRA Nareit Equity REITs Index**, bounced back and gained 16.3%.
- Infrastructure (+21.4%), Industrial (+21.3%), Timber (+21.1%), and Office (+20.3%) all led the surge.
- Self Storage (+9.9%), Health Care (+13.0%), and Retail (+14.4%) were the worst-performing sectors yet posted positive returns.

## REAL ESTATE (Continued)

- U.S. REITs raised \$19.6 billion during the quarter, including 23 secondary equity offerings raising \$7.3 billion, 6 preferred equity offering raising \$849 million, 28 unsecured debt offerings raising \$11.4 billion, and zero IPOs. Both U.S. and non-U.S. REITs are trading at net asset value.

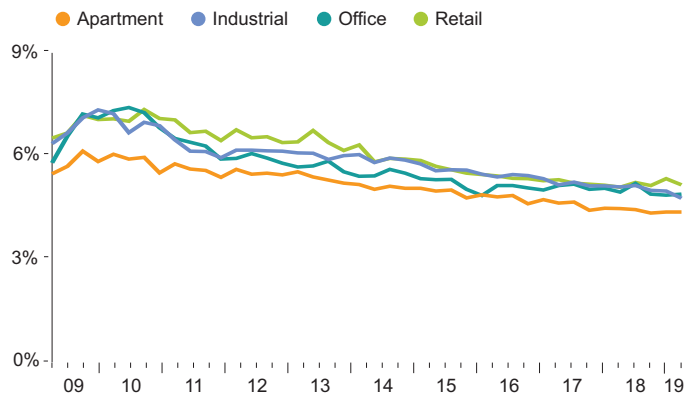
### Real Assets Driven Up, With Energy a Big Gainer

- Real assets of all varieties enjoyed a strong first quarter of the year, perhaps none more than crude oil as the price of West Texas Intermediate rose +30% through the end of March.
- Energy as a whole (measured by the **Bloomberg Commodity**

**Energy** subindex) was up nearly 16%, while commodities broadly produced a more modest positive return in the first quarter (**Bloomberg Commodity TR Index: +6.3%**) as gains in energy and metals were offset by negative returns for natural gas and the agriculture complex as a whole (**Bloomberg Commodity Agriculture** subindex: -3.2%).

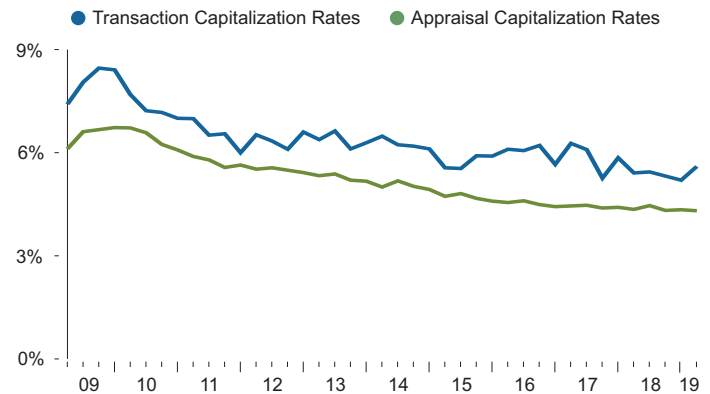
- MLPs (**Alerian MLP Index: +16.8%**) also enjoyed a strong start to the year with the yield spread between the Alerian Index and the 10-year Treasury remaining fairly wide at +500 bps.

### NCREIF Capitalization Rates by Property Type



Source: NCREIF  
Note: Capitalization rates are appraisal-based.

### NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF  
Note: Transaction capitalization rate is equal weighted.

### Callan Database Median and Index Returns\* for Periods ended March 31, 2019

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	1.39	1.39	6.93	7.32	9.67	7.88	7.01
NFI-ODCE (value wt net)	1.20	1.20	6.55	7.01	9.17	7.73	7.17
NCREIF Property	1.80	1.80	6.83	7.07	9.13	8.50	8.81
NCREIF Farmland	0.70	0.70	6.08	6.43	8.20	11.10	14.37
NCREIF Timberland	0.11	0.11	2.61	3.35	4.68	3.76	7.09
Public Real Estate							
Global Real Estate Style	15.25	15.25	13.58	6.90	8.19	15.48	8.30
FTSE EPRA Nareit Developed	14.59	14.59	13.27	5.68	6.42	14.00	--
Global ex-U.S. Real Estate Style	13.92	13.92	7.54	8.27	6.47	12.96	8.12
FTSE EPRA Nareit Dev ex US	13.72	13.72	7.69	7.86	5.94	12.46	7.17
U.S. REIT Style	16.75	16.75	19.51	6.60	9.59	19.11	9.35
EPRA Nareit Equity REITs	16.33	16.33	20.86	6.13	9.12	18.28	8.52

\*Returns less than one year are not annualized.  
Sources: Callan, FTSE Russell, NCREIF

# It's Just a 'Gully'

## PRIVATE EQUITY | Gary Robertson

The fourth quarter's public equity bear market clawed through private equity transaction activity in the first quarter. Almost every private equity transaction measure in the first quarter was down substantially, with fundraising dollar volume showing the only increase. With the dramatic recovery in first quarter equity markets, we expect private equity to also shrug-off the "gully" as the year progresses.

- **Fundraising** ► Based on preliminary data, first quarter private equity partnerships holding final closes totaled \$129 billion, with 142 new partnerships formed (unless otherwise noted, all data in this commentary comes from PitchBook). Compared to the fourth quarter, the number of funds fell 10% but the dollar volume increased by 19%. The absolute pace of fundraising remains heated.
- **Buyouts** ► New buyout transactions declined notably, albeit from high levels. Funds closed 1,252 investments with \$67 billion in disclosed deal value, representing a 33% decline in count and a 65% dip in dollar value from the fourth quarter. The largest investment was the \$6.9 billion take-private of Dun & Bradstreet by Cannae Holdings, CC Capital, Thomas H. Lee Partners, and three additional firms.
- **VC Investments** ► New investments in venture capital companies totaled 3,332 rounds of financing with \$44 billion of announced value. The number of investments was down 23% and announced value fell 24%.

### Funds Closed January 1 to March 31, 2019

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	56	13,809	11%
Growth Equity	18	13,727	11%
Buyouts	49	79,895	62%
Mezzanine Debt	5	15,372	12%
Distressed	1	825	1%
Energy	1	1,200	1%
Secondary and Other	5	1,628	1%
Fund-of-funds	7	2,435	2%
<b>Totals</b>	<b>142</b>	<b>128,891</b>	<b>100%</b>

Source: PitchBook  
Figures may not total due to rounding.

- **Exits** ► There were 369 private M&A exits of private equity-backed companies, with disclosed values totaling \$71 billion. Both private sale count and announced dollar volume were down significantly from the prior quarter by 39% and 50%, respectively. There were 8 private equity-backed IPOs in the first quarter raising an aggregate \$2 billion, down 70% and 80%, respectively, from the fourth quarter.
- Venture-backed M&A exits totaled 264 transactions with disclosed value of \$38 billion. The number of sales declined 22% from the fourth quarter, and announced value fell 7%. There were 23 VC-backed IPOs in the first quarter with a combined float of \$4 billion; the count fell 34% but the issuance remained unchanged from the fourth quarter.

### Private Equity Performance Database (%) (Pooled Horizon IRRs through September 30, 2018\*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	4.83	21.65	10.97	16.85	11.79	11.09	19.08
Growth Equity	3.65	20.89	15.16	14.39	12.56	13.54	14.14
All Buyouts	3.18	15.95	15.61	14.00	11.42	14.45	12.46
Mezzanine	2.56	11.38	10.99	10.31	9.79	9.72	8.63
Credit Opportunities	2.11	9.64	9.29	7.99	11.52	10.21	10.42
Control Distressed	0.85	7.03	10.75	9.31	10.55	10.96	10.85
<b>All Private Equity</b>	<b>3.37</b>	<b>16.80</b>	<b>13.87</b>	<b>13.79</b>	<b>11.54</b>	<b>13.16</b>	<b>12.96</b>
S&P 500	7.71	17.91	17.31	13.95	11.97	9.65	7.42
Russell 3000	7.12	17.58	17.07	13.46	12.01	9.86	7.82

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and Standard & Poor's  
\*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of *Capital Market Review* and other Callan publications.

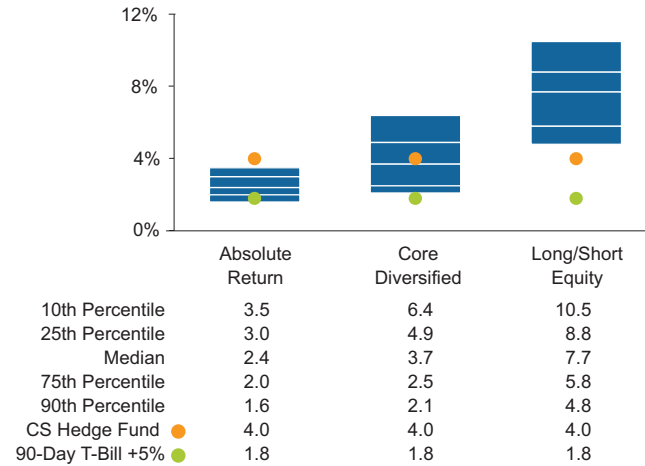
# Mixed Bag for Hedge Funds; Long-Biased MACs Thrive

HEDGE FUNDS/MACs | Jim McKee

## Hedge Funds Caught Flat-Footed

- Defensive positioning caught hedge funds flat-footed in the first quarter, but most strategies recovered the prior quarter's loss. The **Credit Suisse Hedge Fund Index** gained 4.0%.
- Among CS hedge fund strategies, *Long/Short Equity* (+5.4%) suffered from negative alpha due to poor market timing calls as equity indices rebounded faster than expected. *Event-Driven Multi* (+6.4%) recovered as soft catalyst-driven stocks bounced back. Relative value strategies, like *Convertible Arb* (+3.8%) and *Fixed-Income Arb* (+2.2%), performed well; *Equity Market Neutral* (+2.5%) recovered half of its fourth quarter loss from mean-reversion effects.
- Long-biased hedge funds beat absolute return funds in the first quarter, but trail over the last year.
- The **Callan Hedge Fund-of-Funds Database Group** rose 3.6% in the quarter. The *Long/Short Equity FOF Group* jumped 7.7%, trailed by *Core Diversified* (+3.7%) and *Absolute Return* (+2.4%).

## Hedge Fund-of-Funds Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

## Callan Database Median and Index Returns\* for Periods ended March 31, 2019

Hedge Fund Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Fund-of-Funds Database	3.64	1.59	5.00	2.82	5.62	4.56
Callan Absolute Return FOF Style	2.44	1.46	4.62	2.82	5.58	3.97
Callan Core Diversified FOF Style	3.73	1.59	4.70	2.45	5.57	4.50
Callan Long/Short Equity FOF Style	7.68	0.89	6.45	3.56	6.02	5.71
Credit Suisse Hedge Fund	3.99	0.20	3.74	2.26	5.42	4.81
CS Convertible Arbitrage	3.78	0.59	4.46	1.90	7.04	3.61
CS Distressed	2.15	0.17	5.38	1.57	6.44	5.66
CS Emerging Markets	8.21	-3.94	6.32	4.18	6.91	6.16
CS Equity Market Neutral	2.54	-3.29	0.39	0.31	2.23	-0.19
CS Event-Driven Multi	6.36	1.31	4.61	-0.16	4.54	5.09
CS Fixed Income Arb	2.19	1.54	5.13	3.37	7.27	3.88
CS Global Macro	2.61	1.92	3.51	2.42	4.84	5.99
CS Long/Short Equity	5.35	-0.52	4.60	3.44	6.34	5.64
CS Managed Futures	3.21	-0.23	-3.87	2.58	0.62	2.19
CS Multi-Strategy	3.01	0.27	4.57	4.20	7.56	5.82
CS Risk Arbitrage	1.91	2.68	3.85	2.38	3.32	3.70
HFRI Asset Wtd Composite	3.08	1.90	4.70	3.03	5.59	--
90-Day T-Bill + 5%	1.81	7.12	6.19	5.75	5.43	6.35

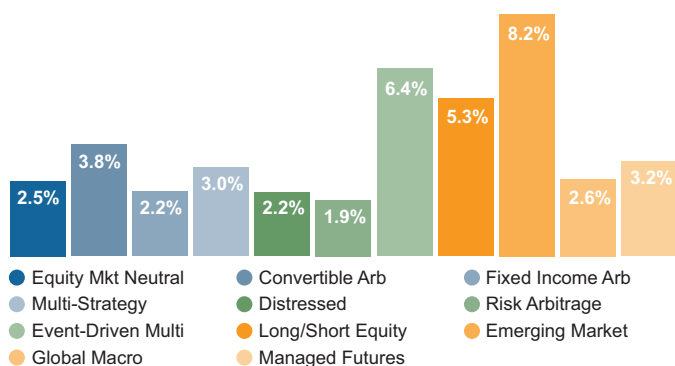
\*Gross of fees. Sources: Bloomberg Barclays, Callan, Credit Suisse, Hedge Fund Research, Societe Generale, and Standard & Poor's

- With volatility settling down with the risk-on sentiment and returning to more normalized levels, hedge funds are likely to lag without a market dislocation. But if hard economic data does not confirm this market sentiment, hedge funds are well positioned defensively for a downturn.
- The flat yield curve levels the playing field. Today's short-term rates provide support to hedge funds with positive returns on cash holdings and short interest rebates.
- Global economic tension is creating fundamental imbalances that may lead to more macro trading opportunities like those of 2018, especially if the trade war is not soon resolved positively.

### Rebound Boosts Long-Biased MACs

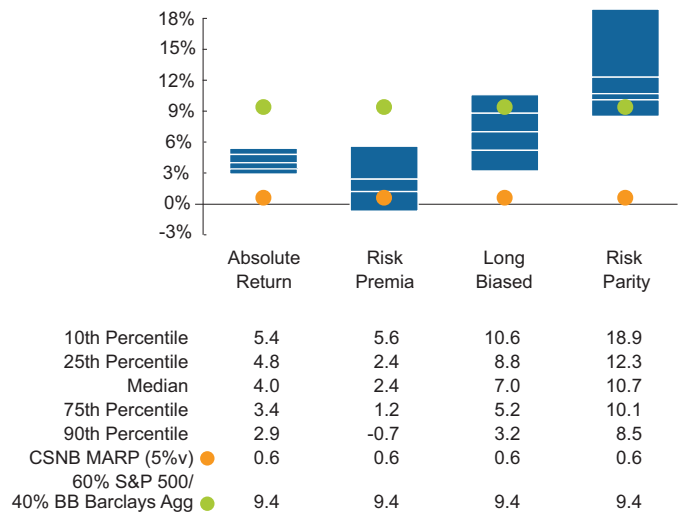
- The rebounding markets boosted long-biased multi-asset class (MAC) strategies in the first quarter. The **HFR Risk Parity Index** targeting 12% volatility was propelled by rising equity, commodity, and fixed income markets, amplified by portfolio leverage.
- Within the **CSNB Multi-Asset Risk Parity Index**, *Equity Momentum* (-22.2%) was an outsized setback, largely due to a 15.7% January loss from a violent market reversal over the prior month. Positive returns from *Currency Carry* (+4.8%) and *Fixed Momentum* (+3.7%) helped this risk premia proxy finish the quarter with a modestly positive gain.

### Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

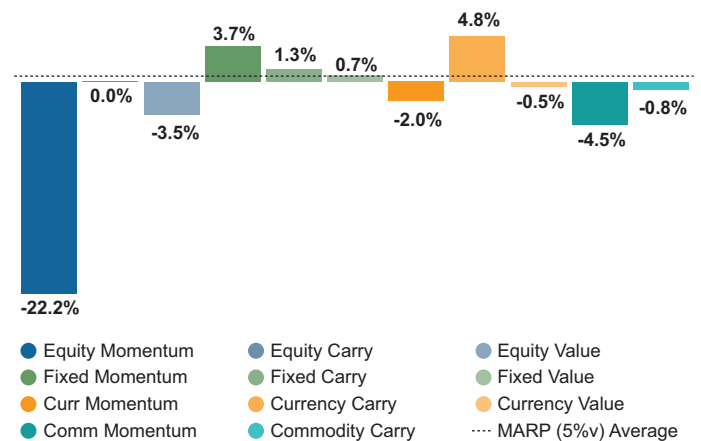
### MAC Style Group Returns



Sources: Bloomberg Barclays, Callan, Credit Suisse, Neuberger Berman, Standard & Poor's

- The **Callan Multi-Asset Class Style Groups** showed positive but widely diverging results, with the overall group up 6.7%. *Risk Parity* jumped 10.7%, while *Risk Premia* only gained 2.4%.

### Alternative Risk Factor Breakdown



Source: Credit Suisse Neuberger Berman



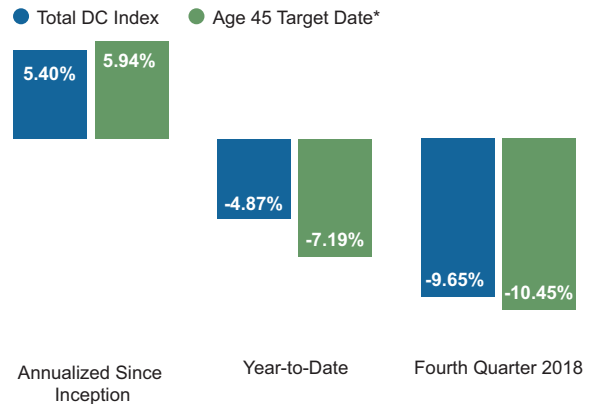
# Limping to the Finish Line

DEFINED CONTRIBUTION | James Veneruso, CFA, CAIA

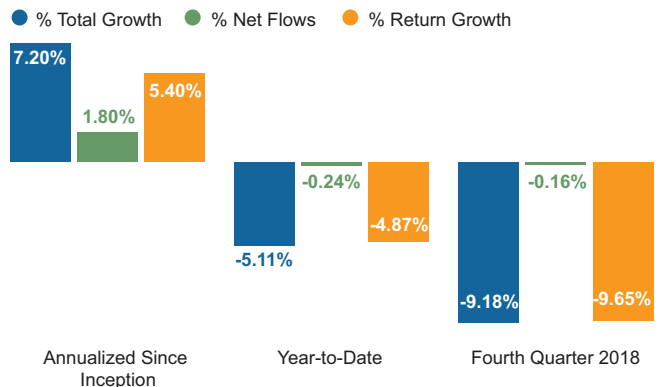
- The Callan DC Index™ was dragged down by a weak equity market in the fourth quarter and finished off 9.7%. The DC Index did outperform the typical Age 45 Target Date Fund over the quarter and the full year, largely attributable to the DC Index's lower equity allocation.
- As with the third quarter, flows for the fourth quarter were negative (-0.17%). Net flows will provide a critical measure for how effectively plans retain the balances of retiring workers.
- For the first time in the history of the DC Index, the story surrounding flows does not involve the inexorable rise of target date funds (TDFs). Although TDFs continued to gain net inflows, it was stable value that experienced the largest inflows. Sharp reversals in the broad equity markets may explain some of this presumed flight to safety.
- Fourth quarter turnover (i.e., net transfer activity levels within DC plans) in the DC Index increased to 0.41% from the previous quarter's 0.13%, well below the historical average at 0.61%.
- Given the flight to safety of flows as well as market performance, the overall share of equity dipped from 71% to 69%, modestly above the Index's historical average (68%).
- TDFs ended the year with a 33% share of assets, up from 31% a year ago. Stable value also increased its share (10.7% vs. 9.1%) while both small/mid cap and international equity dipped.
- Fewer plans offered company stock relative to a year ago (21% vs. 28%), while stable value rose in overall prevalence from 71% to 75% for the year.

*The Callan DC Index is an equally weighted index tracking the cash flows and performance of nearly 90 plans, representing more than one million DC participants and over \$150 billion in assets. The Index is updated quarterly and is available on Callan's website, as is the quarterly DC Observer newsletter.*

## Investment Performance



## Growth Sources



## Net Cash Flow Analysis (Fourth Quarter 2018) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Stable Value	65.46%
Money Market	11.27%
U.S. Smid Cap	-21.49%
U.S. Large Cap	-45.64%
<b>Total Turnover**</b>	<b>0.41%</b>

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

\* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

\*\* Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

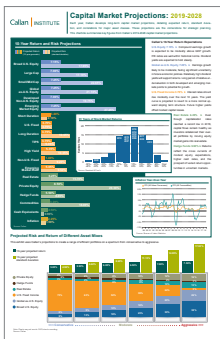


## Research and Educational Programs

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](http://www.callan.com/library) to see all of our publications, and [www.callan.com/blog](http://www.callan.com/blog) to view our blog “Perspectives.” For more information contact Corry Walsh at 312.346.3536 / [institute@callan.com](mailto: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/](http://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/](http://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](http://www.callan.com/events).

For more information about events, please contact Barb Gerraty: 415.274.3093 / [gerraty@callan.com](mailto: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](http://www.callan.com/events/callan-college-intro) or contact Kathleen Cunnie: 415.274.3029 / [cunnie@callan.com](mailto: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



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## Equity Market Indicators

The market indicators included in this report are regarded as measures of equity or fixed income performance results. The returns shown reflect both income and capital appreciation.

**Russell 1000 Growth** measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 1000 Value** measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell 2000 Growth** contains those Russell 2000 securities with a greater than average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earning ratios, lower dividend yields and higher forecasted growth values than the Value universe.

**Russell 2000 Value** contains those Russell 2000 securities with a less than average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earning ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

**Russell 3000 Index** is a composite of 3,000 of the largest U.S. companies by market capitalization. The smallest company's market capitalization is roughly \$20 million and the largest is \$72.5 billion. The index is capitalization-weighted.

**Russell Mid Cap Growth** measures the performance of those Russell Mid Cap Companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth Index.

**Russell MidCap Value Index** The Russell MidCap Value index contains those Russell MidCap securities with a less than average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratio, higher dividend yields and lower forecasted growth values than the Growth universe.

**Standard & Poor's 500 Equal-Weighted Index** is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. The stocks are weighted equally within the index.

**Standard & Poor's 500 Index** is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. The index is capitalization-weighted, with each stock weighted by its proportion of the total market value of all 500 issues. Thus, larger companies have a greater effect on the index.

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## Fixed Income Market Indicators

**Bloomberg Barclays Aggregate Bond Index** is a combination of the Mortgage Backed Securities Index and the intermediate and long-term components of the Government/Credit Bond Index.

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## International Equity Market Indicators

**MSCI ACWI ex US Index** The MSCI ACWI ex US(All Country World Index) Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets, excluding the US. As of May 27, 2010 the MSCI ACWI consisted of 45 country indices comprising 24 developed and 21 emerging market country indices. The developed market country indices included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The emerging market country indices included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

**Morgan Stanley Capital International (MSCI) EAFE Index** is composed of approximately 1000 equity securities representing the stock exchanges of Europe, Australia, New Zealand and the Far East. The index is capitalization-weighted and is expressed in terms of U.S. dollars.



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## Real Estate Market Indicators

**NCREIF Open Ended Diversified Core Equity** The NFI-ODCE is an equally-weighted, net of fee, time-weighted return index with an inception date of December 31, 1977. Equally-weighting the funds shows what the results would be if all funds were treated equally, regardless of size. Open-end Funds are generally defined as infinite-life vehicles consisting of multiple investors who have the ability to enter or exit the fund on a periodic basis, subject to contribution and/or redemption requests, thereby providing a degree of potential investment liquidity. The term Diversified Core Equity style typically reflects lower risk investment strategies utilizing low leverage and generally represented by equity ownership positions in stable U.S. operating properties.

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## Callan Databases

In order to provide comparative investment results for use in evaluating a fund's performance, Callan gathers rate of return data from investment managers. These data are then grouped by type of assets managed and by the type of investment manager. Except for mutual funds, the results are for tax-exempt fund assets. The databases, excluding mutual funds, represent investment managers who handle over 80% of all tax-exempt fund assets.

### Equity Funds

Equity funds concentrate their investments in common stocks and convertible securities. The funds included maintain well-diversified portfolios.

**Core Equity** - Mutual funds whose portfolio holdings and characteristics are similar to that of the broader market as represented by the Standard & Poor's 500 Index, with the objective of adding value over and above the index, typically from sector or issue selection. The core portfolio exhibits similar risk characteristics to the broad market as measured by low residual risk with Beta and R-Squared close to 1.00.

**International Emerging Markets Equity** - The International Emerging Market Equity Database consists of all separate account international equity products that concentrate on newly emerging second and third world countries in the regions of the Far East, Africa, Europe, and Central and South America.

**Large Cap Growth** - Mutual Funds that invest mainly in large companies that are expected to have above average prospects for long-term growth in earnings and profitability. Future growth prospects take precedence over valuation levels in the stock selection process. Invests in companies with P/E ratios, Price-to-Book values, Return-on-Assets values, Growth-in-Earnings values above the broader market. The companies typically have zero dividends or dividend yields below the broader market. Invests in securities which exhibit greater volatility than the broader market as measured by the securities' Beta and Standard Deviation.

**Large Cap Value** - Mutual funds that invest in predominantly large capitalization companies believed to be currently undervalued in the general market. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. Valuation issues take precedence over near-term earnings prospects in the stock selection process. Invests in companies with P/E ratios and Price-to-Book values below the broader market. Usually exhibits lower risk than the broader market as measured by the Beta and Standard Deviation.

**Non-U.S. Equity** A broad array of active managers who employ various strategies to invest assets in a well-diversified portfolio of non-U.S. equity securities. This group consists of all Core, Core Plus, Growth, and Value international products, as well as products using various mixtures of these strategies. Region-specific, index, emerging market, or small cap products are excluded.

**Non-U.S. Equity Style Mutual Funds** - Mutual funds that invest their assets only in non-U.S. equity securities but exclude regional and index funds.

**Small Capitalization (Growth)** - Mutual funds that invest in small capitalization companies that are expected to have above average prospects for long-term growth in earnings and profitability. Future growth prospects take precedence over valuation levels in the stock selection process. Invests in companies with P/E ratios, Price-to-Book values, and Growth-in-Earnings values above the broader market as well as the small capitalization market segment. The companies typically have zero dividends or dividend yields below the broader market. The securities exhibit greater volatility than the broader market as well as the small capitalization market segment as measured by the risk statistics beta and standard deviation.

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## Callan Databases

**Small Capitalization (Value)** - Mutual funds that invest in small capitalization companies that are believed to be currently undervalued in the general market. Valuation issues take precedence over near-term earnings prospects in the stock selection process. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. Invests in companies with P/E ratios, Return-on-Equity values, and Price-to-Book values below the broader market as well as the small capitalization market segment. The companies typically have dividend yields in the high range for the small capitalization market. Invests in securities with risk/reward profiles in the lower risk range of the small capitalization market.

### Fixed Income Funds

Fixed Income funds concentrate their investments in bonds, preferred stocks, and money market securities. The funds included maintain well-diversified portfolios.

**Core Bond** - Mutual Funds that construct portfolios to approximate the investment results of the Bloomberg Barclays Capital Government/Credit Bond Index or the Bloomberg Barclays Capital Aggregate Bond Index with a modest amount of variability in duration around the index. The objective is to achieve value added from sector and/or issue selection.

**Core Bond** - Managers who construct portfolios to approximate the investment results of the Bloomberg Barclays Capital Government/Credit Bond Index or the Bloomberg Barclays Capital Aggregate Bond Index with a modest amount of variability in duration around the index. The objective is to achieve value added from sector and/or issue selection.

**Core Plus Bond** - Active managers whose objective is to add value by tactically allocating significant portions of their portfolios among non-benchmark sectors (e.g. high yield corporate, non-US\$ bonds, etc.) while maintaining majority exposure similar to the broad market.

### Real Estate Funds

Real estate funds consist of open or closed-end commingled funds. The returns are net of fees and represent the overall performance of commingled institutional capital invested in real estate properties.

**Real Estate Open-End Commingled Funds** - The Open-End Funds Database consists of all open-end commingled real estate funds.

### Other Funds

**Public - Total** - consists of return and asset allocation information for public pension funds at the city, county and state level. The database is made up of Callan clients and non-clients.



## 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