

December 31, 2018



**Mendocino County Employees'
Retirement Association**

**Investment Measurement Service
Quarterly Review**

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

Table of Contents

December 31, 2018

Active Management Overview

Foreword	2
Domestic Equity Overview	3
International Equity Overview	4
Domestic Fixed-Income Overview	5

Asset Allocation and Performance

Foreword	7
Actual vs. Target Asset Allocation	8
Asset Allocation Across Investment Managers	9
Investment Manager Returns	10
Investment Manager Returns	12
Quarterly Total Fund Attribution	14
Total Fund Ranking	18
Total Fund vs. CAI Public Fund Sponsor Database	19

Domestic Equity

Domestic Equity Composite	23
Vanguard S&P 500 Index	27
SSGA S&P Eq Weighted NL CTF	30
Boston Partners	33
Harbor Cap Appreciation	36
Fidelity Low Priced Stock	39
Janus Enterprise	42
Prudential Small Cap Value	45
AB US Small Growth	48

International Equity

International Equity Composite	52
EuroPacific	57
Harbor International	61
Oakmark International	65
Mondrian International	69
T. Rowe Price Intl Small Cap	73
Investec	77

Domestic Fixed Income

Domestic Fixed Income Composite	82
Dodge & Cox Income	85
PIMCO	88

Table of Contents

December 31, 2018

Real Estate

Real Estate Composite	92
RREEF Private	93
Barings Core Property Fund	94

Capital Markets Review	95
-------------------------------	-----------

Callan Research/Education	111
----------------------------------	------------

Definitions

General definitions	115
---------------------	-----

Disclosures	121
--------------------	------------

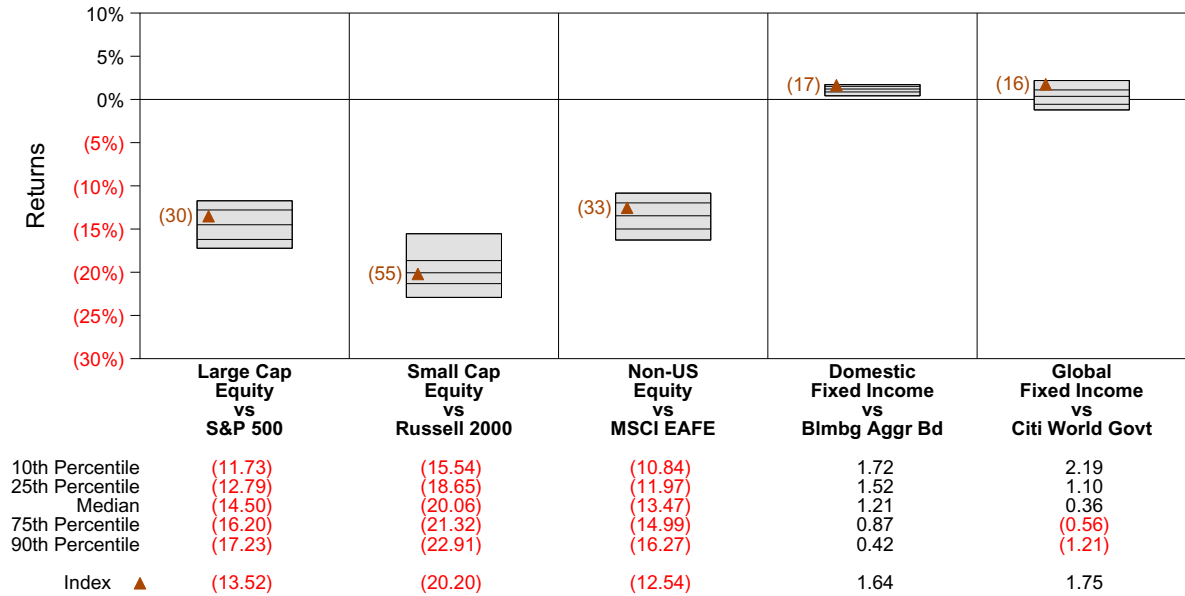
Market Overview

Active Management vs Index Returns

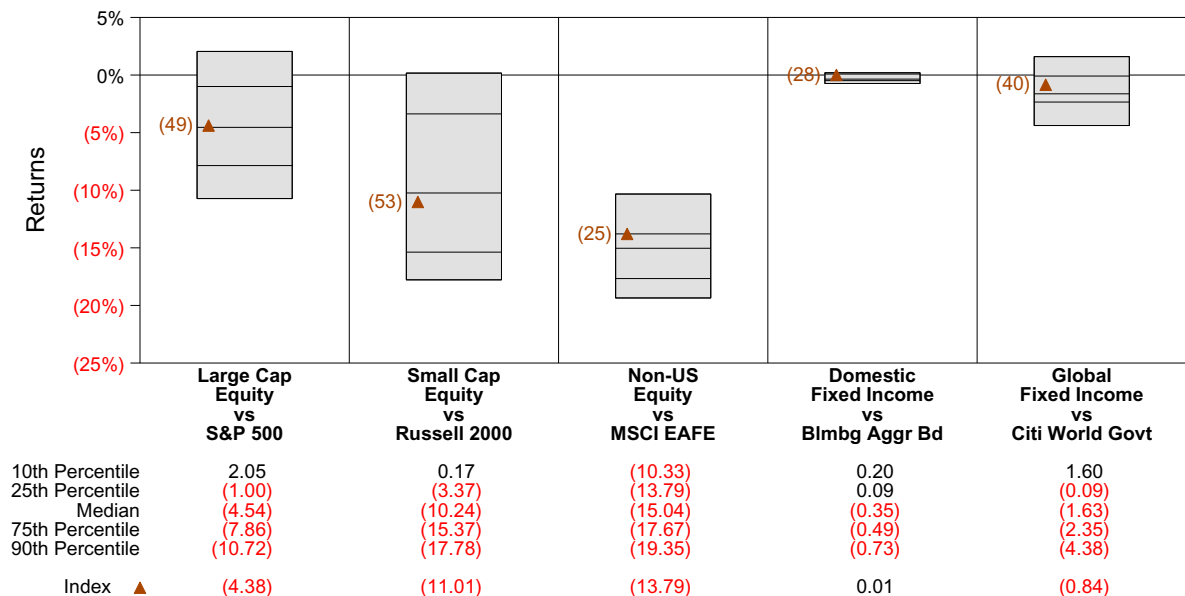
Market Overview

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 December 31, 2018



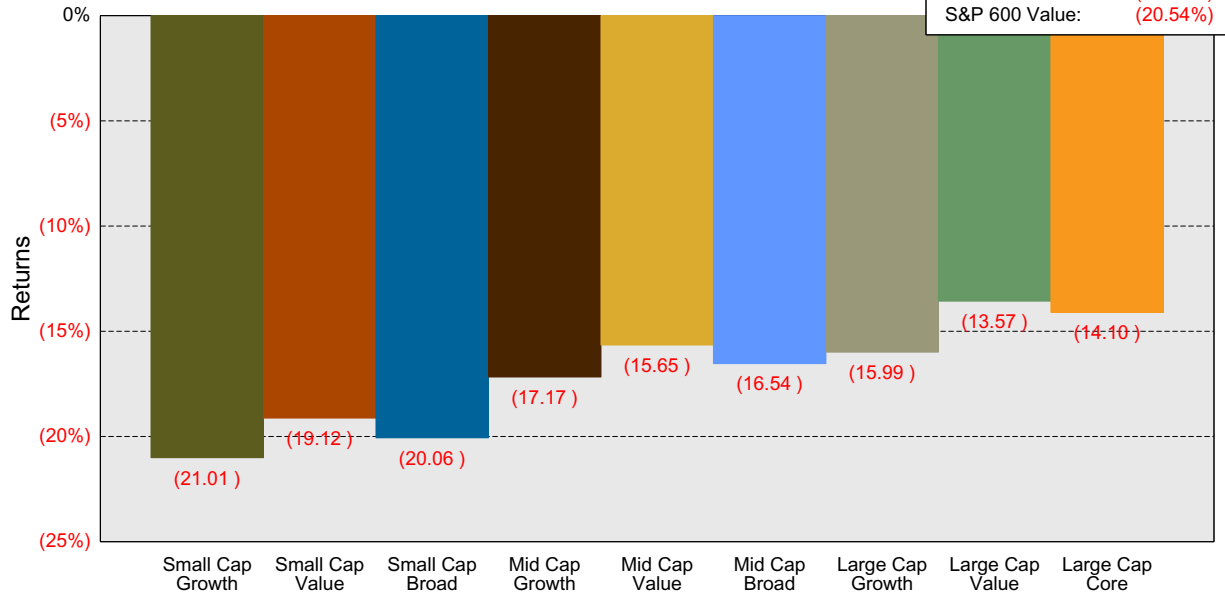
Range of Mutual Fund Returns by Asset Class One Year Ended December 31, 2018



Domestic Equity Active Management Overview

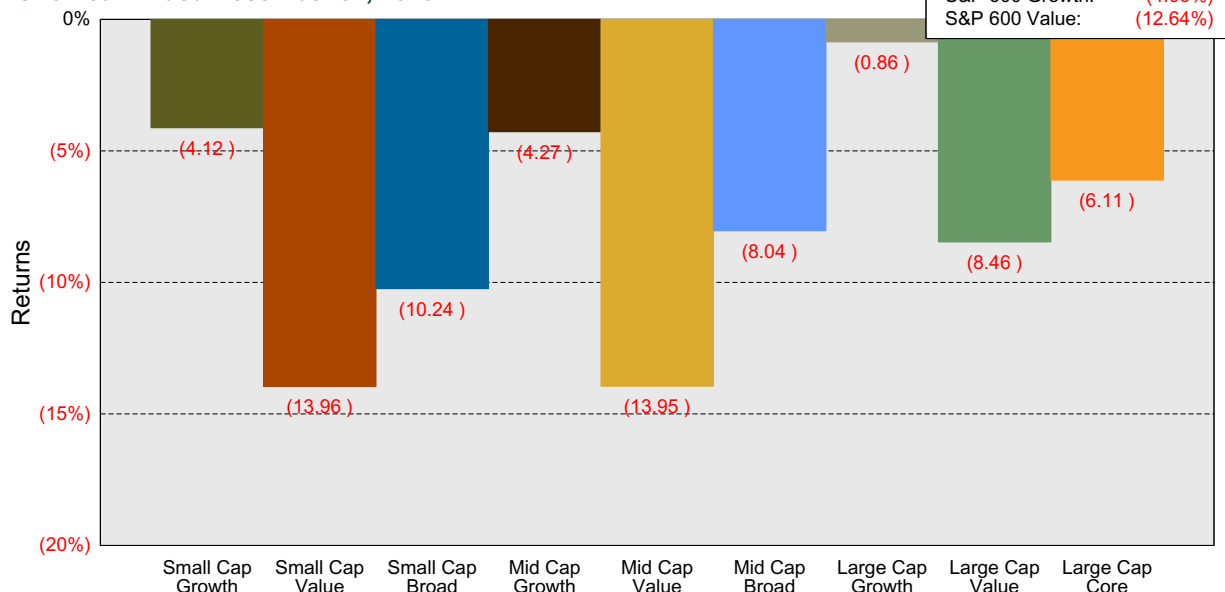
Equity markets saw heightened volatility in the 4th quarter, especially in December. The S&P 500 gained/lost more than 1% in a day 10 times in December alone; in the entire year of 2017 this occurred only eight times. While the economic worries mentioned above played a role, a government shutdown, continued trade rhetoric, and broad-based risk aversion also fueled the sell-off. For the quarter, the S&P 500 Index fell 13.5%, its worst quarterly result since 3Q2011 and more than erasing its gains for the year (2018: -4.4%). Small cap stocks suffered the most (R2000: -20.2% vs R1000: -13.8%) during the quarter and also underperformed for the full year (R2000: -11.0% vs R1000: -4.8%). Growth stocks also fared the worst in 4Q (R1000 Growth: -15.9%; R1000 Value: -11.7%) but did best for the full year (R1000 Growth: -1.5% vs R1000 Value: -8.3%). From a sector perspective, falling oil prices pummeled Energy stocks (-23.8%), the worst sector by a wide margin, while Utilities (+1.4%) was the only sector to produce a positive quarterly result.

**Mutual Fund Style Group Median Returns
for Quarter Ended December 31, 2018**



S&P 500:	(13.52%)
S&P 500 Growth:	(14.71%)
S&P 500 Value:	(12.04%)
S&P Mid Cap:	(17.28%)
S&P 600:	(20.10%)
S&P 600 Growth:	(19.64%)
S&P 600 Value:	(20.54%)

**Mutual Fund Style Group Median Returns
for One Year Ended December 31, 2018**

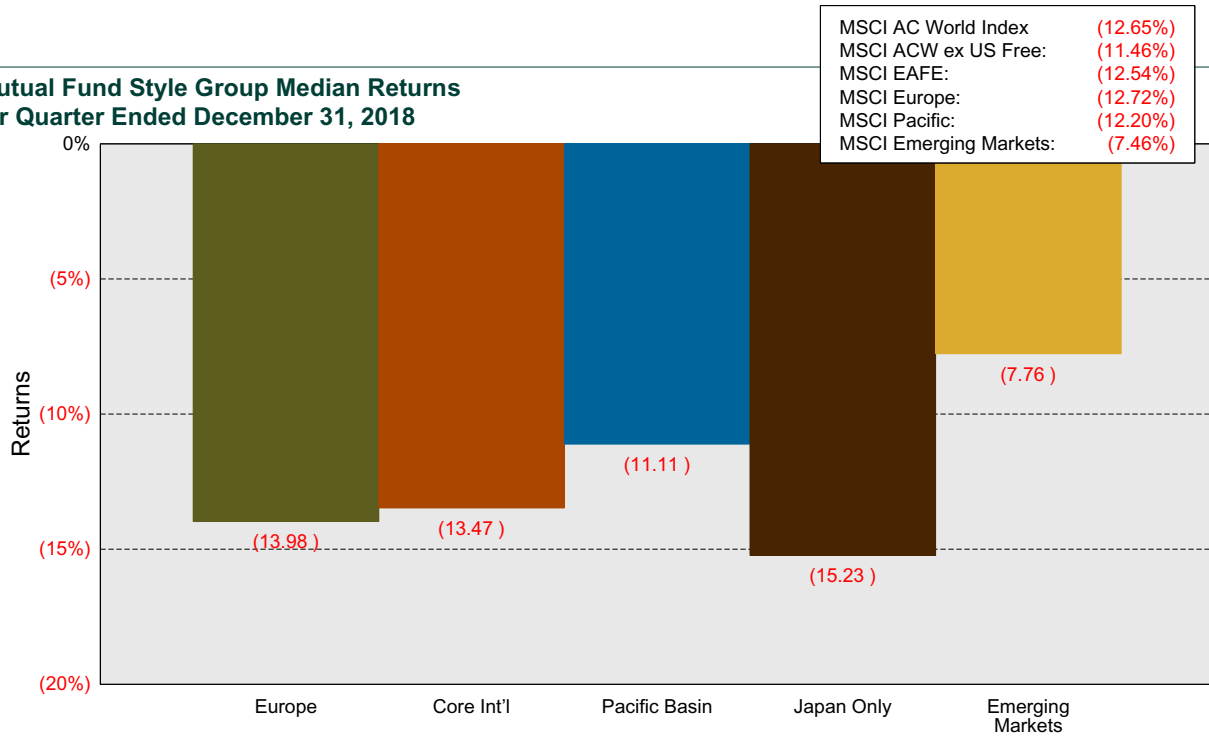


S&P 500:	(4.38%)
S&P 500 Growth:	(0.01%)
S&P 500 Value:	(8.95%)
S&P Mid Cap:	(11.08%)
S&P 600:	(8.48%)
S&P 600 Growth:	(4.06%)
S&P 600 Value:	(12.64%)

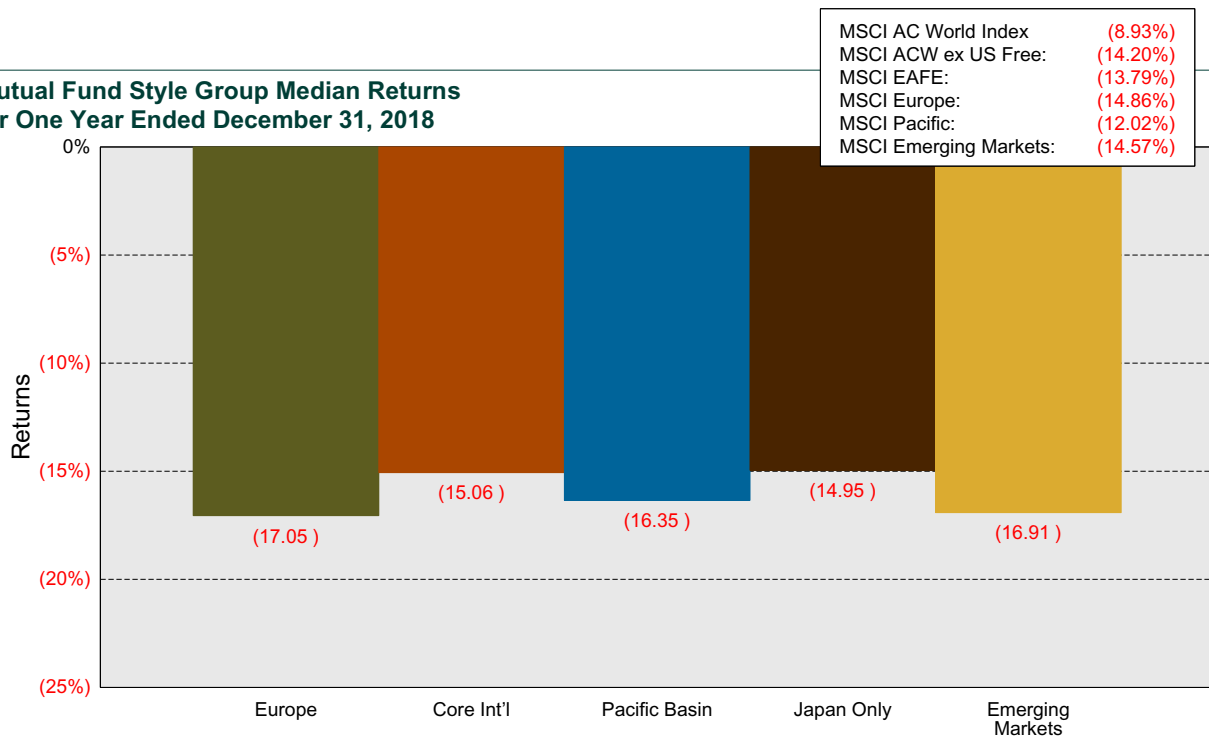
International Equity Active Management Overview

Non-US developed markets were down in line with developed in the 4th quarter. The MSCI AWCI ex-US lost 11.5% with most countries posting losses. For the full year, the non-US developed equity markets trailed the US by a significant margin; the ACWI ex-US fell 14.2% and not one of the constituents posted a positive return for the year in US dollar terms. Emerging markets performance was mixed; while the MSCI EM Index lost 7.5% during the quarter, a number of countries did well. Turkey (+4.8%), Brazil (+13.4%), and India (+2.5%) fell into that category. Mexico (-18.8%) was the worst performer and China (-10.7%) and Russia (-9.0%) also underperformed the broad Index. For the full year, the MSCI EM Index (-14.6%) trailed the developed markets by only a small margin. Again, results were mixed with Turkey (-41.4%) on one end and Russia (-0.7%) on the other.

Mutual Fund Style Group Median Returns for Quarter Ended December 31, 2018



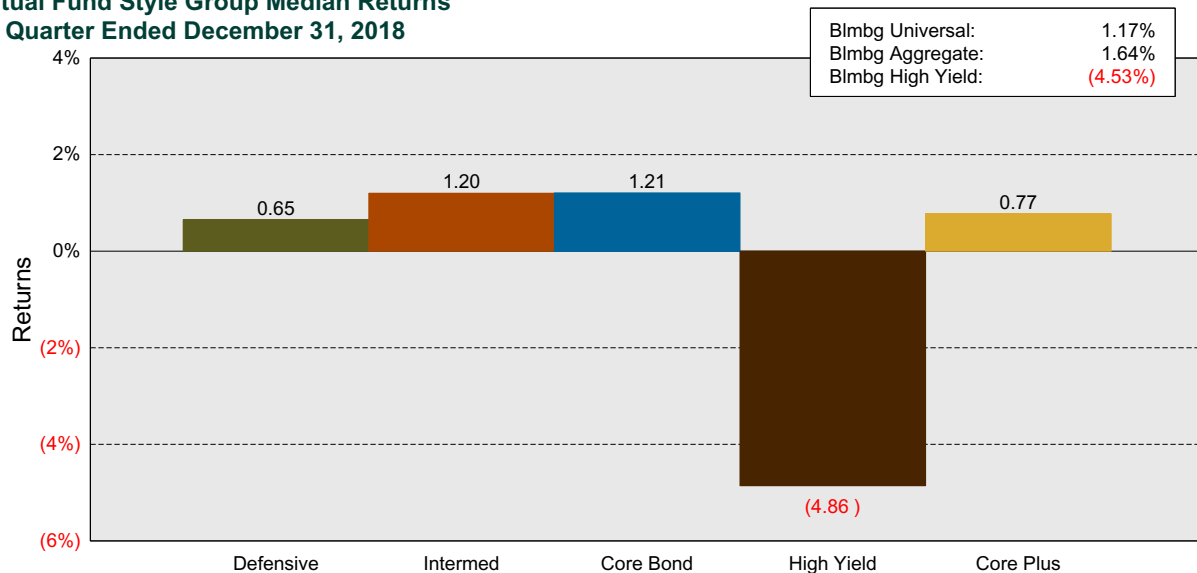
Mutual Fund Style Group Median Returns for One Year Ended December 31, 2018



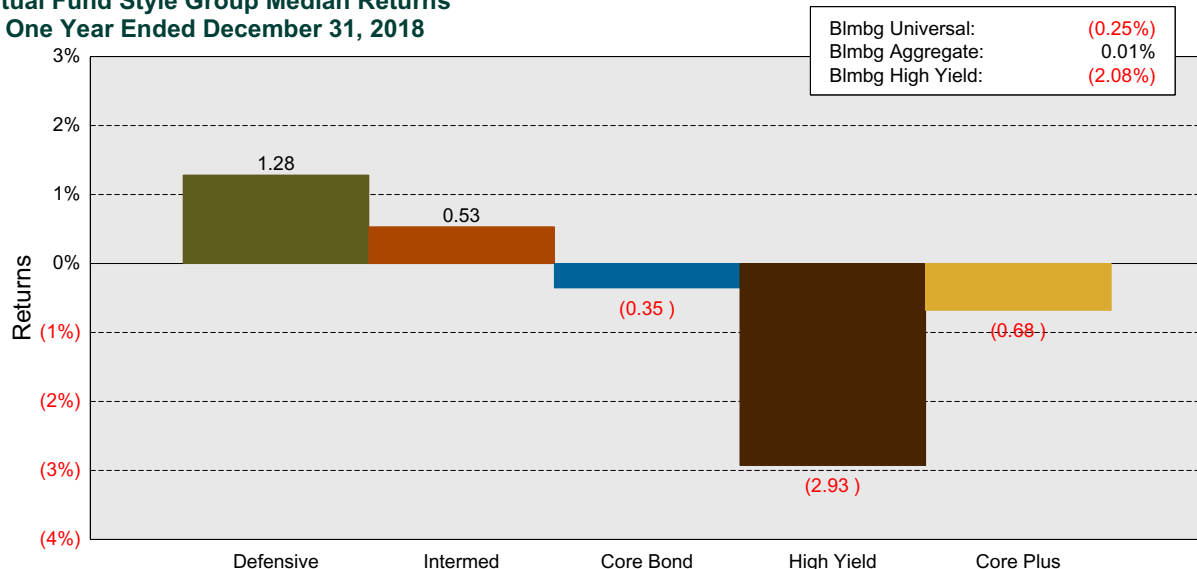
Domestic Fixed Income Active Management Overview

Fixed income markets benefited from a tumultuous equity market and concerns over slowing growth. In the U.S., the Bloomberg Barclays US Aggregate Bond rose 1.6% for the quarter, with U.S. Treasuries (Bloomberg Barclays US Treasury: +2.6%) leading the pack. The 10-year U.S. Treasury yield closed the quarter at 2.69%, down sharply 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 21 bps. TIPS (Bloomberg Barclays US TIPS: -0.4%) sharply underperformed nominal Treasuries on diminished expectations for inflation. Investment grade corporates (Bloomberg Barclays Corporate: -0.2%) underperformed in spite of muted supply as risk appetite faded and worries mounted over rising corporate leverage. Investment grade spreads widened to levels (+153 bps) not seen since July 2016. The high yield corporate bond market (Bloomberg Barclays High Yield: -4.5%) was also down sharply as demand and liquidity evaporated against the volatile equity backdrop. High yield corporates underperformed Treasuries by nearly 700 bps for the quarter as the sector's average yield-to-worst approached 8%. Leveraged loans did not escape the carnage and sank 3.5% (S&P LSTA) for the quarter as the sector saw record outflows.

Mutual Fund Style Group Median Returns for Quarter Ended December 31, 2018



Mutual Fund Style Group Median Returns for One Year Ended December 31, 2018



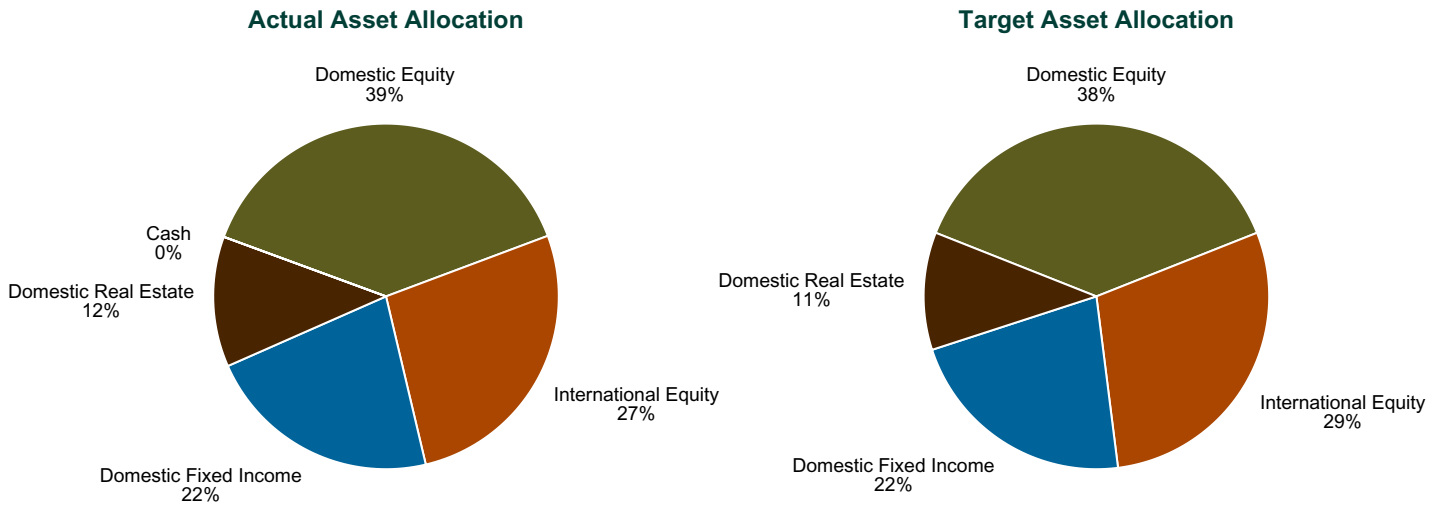
ASSET ALLOCATION AND PERFORMANCE

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.

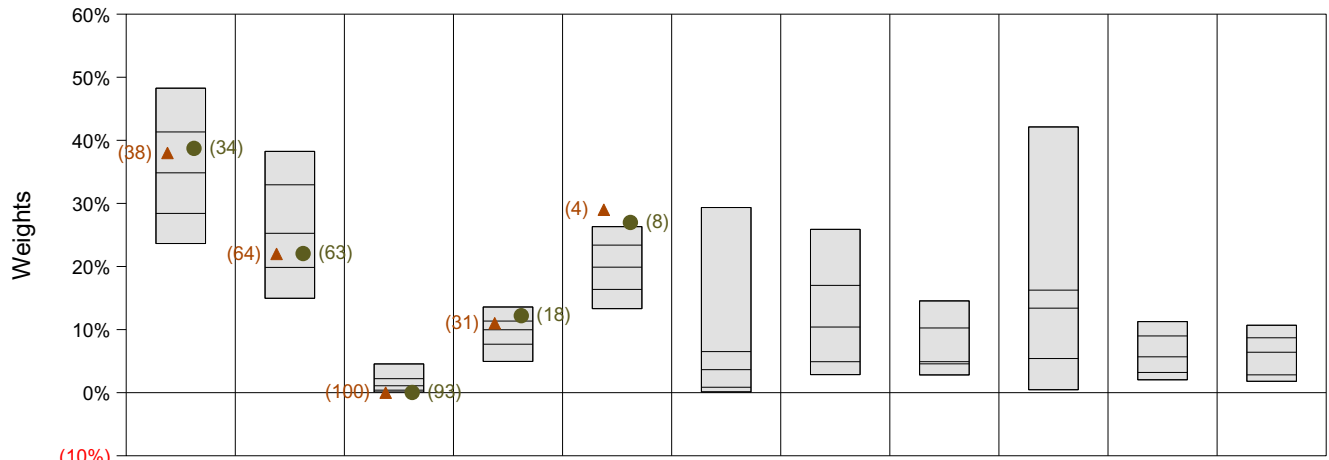
Actual vs Target Asset Allocation As of December 31, 2018

The top left chart shows the Fund's asset allocation as of December 31, 2018. 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	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	184,400	38.7%	38.0%	0.7%	3,445
International Equity	128,491	27.0%	29.0%	(2.0%)	(9,606)
Domestic Fixed Income	105,019	22.1%	22.0%	0.1%	256
Domestic Real Estate	58,114	12.2%	11.0%	1.2%	5,732
Cash	174	0.0%	0.0%	0.0%	174
Total	476,198	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 Equity	Global Equity Broad	Private Equity	Real Assets
10th Percentile	48.27	38.25	4.56	13.58	26.32	29.35	25.89	14.55	42.12	11.27	10.69
25th Percentile	41.33	32.95	2.22	11.35	23.39	6.51	17.01	10.25	16.25	8.99	8.70
Median	34.85	25.26	1.10	9.97	19.89	3.65	10.40	4.91	13.40	5.68	6.41
75th Percentile	28.42	19.86	0.40	7.68	16.37	0.86	4.91	4.57	5.41	3.20	2.82
90th Percentile	23.64	14.96	0.08	4.95	13.32	0.12	2.86	2.81	0.47	2.04	1.80
Fund	● 38.72	22.05	0.04	12.20	26.98	-	-	-	-	-	-
Target	▲ 38.00	22.00	0.00	11.00	29.00	-	-	-	-	-	-
% Group Invested	98.55%	96.38%	78.26%	73.91%	97.10%	15.94%	39.72%	14.49%	10.87%	30.43%	20.29%

* 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 December 31, 2018, with the distribution as of September 30, 2018. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	December 31, 2018		Net New Inv.	Inv. Return	September 30, 2018	
	Market Value	Weight			Market Value	Weight
Domestic Equities	\$184,399,863	38.72%	\$(1,504,598)	\$(33,724,749)	\$219,629,210	41.40%
Large Cap Equities	\$129,219,488	27.14%	\$(1,504,598)	\$(22,022,278)	\$152,746,364	28.80%
Vanguard S&P 500 Index	32,735,958	6.87%	(1,500,000)	(5,281,106)	39,517,064	7.45%
SSGA S&P Equal Weighted NL CTF	32,010,988	6.72%	(4,598)	(5,253,563)	37,269,149	7.03%
Boston Partners	32,537,584	6.83%	0	(5,226,587)	37,764,171	7.12%
Harbor Cap Appreciation	31,934,958	6.71%	0	(6,261,022)	38,195,980	7.20%
Mid Cap Equities	\$28,871,786	6.06%	\$0	\$(4,538,313)	\$33,410,099	6.30%
Fidelity Low Priced Stock	13,690,677	2.87%	0	(2,143,475)	15,834,152	2.98%
Janus Enterprise	15,181,110	3.19%	0	(2,394,838)	17,575,947	3.31%
Small Cap Equities	\$26,308,589	5.52%	\$0	\$(7,164,158)	\$33,472,747	6.31%
Prudential Small Cap Value	11,324,250	2.38%	0	(2,853,663)	14,177,912	2.67%
AB US Small Growth	14,984,339	3.15%	0	(4,310,495)	19,294,834	3.64%
International Equities	\$128,491,331	26.98%	\$0	\$(19,399,640)	\$147,890,970	27.88%
EuroPacific	22,966,876	4.82%	0	(3,309,106)	26,275,982	4.95%
Harbor International	25,469,548	5.35%	0	(3,987,931)	29,457,479	5.55%
Oakmark International	23,971,484	5.03%	0	(4,726,207)	28,697,691	5.41%
Mondrian International	23,920,566	5.02%	0	(2,326,807)	26,247,373	4.95%
T. Rowe Price Intl Small Cap	18,833,937	3.96%	0	(3,582,805)	22,416,742	4.23%
Investec	13,328,920	2.80%	0	(1,466,782)	14,795,702	2.79%
Domestic Fixed Income	\$105,019,140	22.05%	\$0	\$870,646	\$104,148,494	19.63%
Dodge & Cox Income	52,582,058	11.04%	0	153,461	52,428,596	9.88%
PIMCO	52,437,082	11.01%	0	717,184	51,719,898	9.75%
Real Estate	\$58,113,647	12.20%	\$(22,840)	\$663,706	\$57,472,781	10.83%
RREEF Private Fund	29,836,945	6.27%	0	270,466	29,566,479	5.57%
Barings Core Property Fund	27,126,702	5.70%	0	370,400	26,756,302	5.04%
625 Kings Court	1,150,000	0.24%	(22,840)	22,840	1,150,000	0.22%
Cash	\$173,604	0.04%	\$(1,142,896)	\$0	\$1,316,500	0.25%
Total Fund	\$476,197,584	100.0%	\$(2,670,334)	\$(51,590,037)	\$530,457,955	100.0%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2018. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Equities	(15.39%)	(6.04%)	8.84%	7.13%	13.69%
Russell 3000 Index	(14.30%)	(5.24%)	8.97%	7.91%	13.18%
Large Cap Equities					
Vanguard S&P 500 Index	(13.53%)	(4.42%)	9.22%	8.46%	-
S&P 500 Index	(13.52%)	(4.38%)	9.26%	8.49%	13.12%
SSGA S&P Eq Weighted NL CTF	(14.11%)	(7.83%)	-	-	-
S&P 500 Eq Weighted	(13.90%)	(7.64%)	8.03%	7.14%	14.95%
Boston Partners	(13.84%)	(8.95%)	7.29%	5.40%	-
S&P 500 Index	(13.52%)	(4.38%)	9.26%	8.49%	13.12%
Russell 1000 Value Index	(11.72%)	(8.27%)	6.95%	5.95%	11.18%
Harbor Cap Appreciation (1)	(16.39%)	(0.96%)	10.24%	10.33%	15.29%
S&P 500 Index	(13.52%)	(4.38%)	9.26%	8.49%	13.12%
Russell 1000 Growth Index	(15.89%)	(1.51%)	11.15%	10.40%	15.29%
Mid Cap Equities					
Fidelity Low Priced Stock	(13.54%)	(10.75%)	5.42%	4.63%	12.85%
Russell MidCap Value Idx	(14.95%)	(12.29%)	6.06%	5.44%	13.03%
Janus Enterprise (2)	(13.63%)	(0.81%)	12.10%	10.30%	16.13%
Russell MidCap Growth Idx	(15.99%)	(4.75%)	8.59%	7.42%	15.12%
Small Cap Equities					
Prudential Small Cap Value (3)	(20.13%)	(18.82%)	5.00%	2.65%	-
US Small Cap Value Idx	(18.03%)	(12.94%)	6.67%	4.34%	11.87%
Russell 2000 Value Index	(18.67%)	(12.86%)	7.37%	3.61%	10.40%
AB US Small Growth (4)	(22.34%)	(0.60%)	12.79%	7.08%	17.55%
Russell 2000 Growth Index	(21.65%)	(9.31%)	7.24%	5.13%	13.52%

(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 December 31, 2018. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
International Equities	(13.20%)	(17.49%)	2.78%	(0.48%)	7.21%
MSCI ACWI ex-US Index	(11.40%)	(13.77%)	4.98%	1.14%	7.06%
EuroPacific	(12.59%)	(14.91%)	4.08%	1.86%	7.71%
Harbor International (1)	(13.54%)	(17.89%)	0.41%	(1.92%)	5.86%
Oakmark International (2)	(16.47%)	(23.51%)	2.59%	(0.39%)	9.85%
Mondrian International	(9.05%)	(12.71%)	3.71%	0.46%	-
MSCI EAFE Index	(12.54%)	(13.79%)	2.87%	0.53%	6.32%
MSCI ACWI ex-US Index	(11.40%)	(13.77%)	4.98%	1.14%	7.06%
T. Rowe Price Intl Small Cap	(16.21%)	(18.49%)	-	-	-
MSCI ACWI ex US Small Cap	(14.43%)	(18.20%)	3.82%	1.96%	10.02%
Investec	(10.03%)	(15.80%)	-	-	-
MSCI Emerging Markets Index	(7.46%)	(14.57%)	9.25%	1.65%	8.02%
Domestic Fixed Income	0.84%	(0.28%)	2.83%	2.71%	4.65%
Blmbg Aggregate Index	1.64%	0.01%	2.06%	2.52%	3.48%
Dodge & Cox Income	0.29%	(0.31%)	3.19%	2.88%	5.09%
PIMCO	1.39%	(0.26%)	2.46%	2.55%	-
Blmbg Aggregate Index	1.64%	0.01%	2.06%	2.52%	3.48%
Real Estate	1.15%	6.90%	6.93%	9.44%	8.61%
Real Estate Custom Benchmark (3)	1.39%	7.30%	7.61%	9.81%	10.06%
RREEF Private	0.91%	7.41%	7.26%	9.82%	6.75%
Barings Core Property Fund	1.38%	6.34%	7.18%	8.61%	-
NFI-ODCE Equal Weight Net	1.39%	7.30%	7.53%	9.60%	5.92%
625 Kings Court	1.99%	7.51%	14.25%	12.93%	8.85%
Total Fund	(9.76%)	(6.92%)	5.69%	4.33%	8.89%
Total Fund Benchmark*	(8.23%)	(5.07%)	6.28%	5.14%	8.65%

* 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.

	2018	2017	2016	2015	2014
Domestic Equities	(6.04%)	23.74%	10.90%	(0.15%)	9.59%
Russell 3000 Index	(5.24%)	21.13%	12.74%	0.48%	12.56%
Large Cap Equities					
Vanguard S&P 500 Index	(4.42%)	21.79%	11.93%	1.37%	13.65%
S&P 500 Index	(4.38%)	21.83%	11.96%	1.38%	13.69%
SSGA S&P Eq Weighted NL CTF	(7.83%)	-	-	-	-
S&P 500 Eq Weighted	(7.64%)	18.90%	14.80%	(2.20%)	14.49%
Boston Partners	(8.95%)	19.23%	13.76%	(4.99%)	10.87%
S&P 500 Index	(4.38%)	21.83%	11.96%	1.38%	13.69%
Russell 1000 Value Index	(8.27%)	13.66%	17.34%	(3.83%)	13.45%
Harbor Cap Appreciation (1)	(0.96%)	36.68%	(1.04%)	10.99%	9.93%
S&P 500 Index	(4.38%)	21.83%	11.96%	1.38%	13.69%
Russell 1000 Growth Index	(1.51%)	30.21%	7.08%	5.67%	13.05%
Mid Cap Equities					
Fidelity Low Priced Stock	(10.75%)	20.67%	8.79%	(0.56%)	7.65%
Russell MidCap Value Idx	(12.29%)	13.34%	20.00%	(4.78%)	14.75%
Janus Enterprise (2)	(0.81%)	26.65%	12.13%	3.49%	12.01%
Russell MidCap Growth Idx	(4.75%)	25.27%	7.33%	(0.20%)	11.90%
Small Cap Equities					
Prudential Small Cap Value (3)	(18.82%)	6.43%	33.99%	(7.00%)	5.89%
US Small Cap Value Idx	(12.94%)	9.22%	27.64%	(5.14%)	7.44%
Russell 2000 Value Index	(12.86%)	7.84%	31.74%	(7.47%)	4.22%
AB US Small Growth (4)	(0.60%)	35.03%	6.91%	(0.66%)	(1.24%)
Russell 2000 Growth Index	(9.31%)	22.17%	11.32%	(1.38%)	5.60%

(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.

	2018	2017	2016	2015	2014
International Equities	(17.49%)	27.94%	2.84%	(4.62%)	(5.73%)
MSCI ACWI ex-US Index	(13.77%)	27.77%	5.01%	(5.25%)	(3.44%)
EuroPacific	(14.91%)	31.18%	1.01%	(0.48%)	(2.29%)
Harbor International (1)	(17.89%)	22.98%	0.27%	(3.82%)	(6.81%)
Oakmark International (2)	(23.51%)	30.47%	8.19%	(3.99%)	(5.41%)
Mondrian International	(12.71%)	22.29%	4.50%	(6.33%)	(2.06%)
MSCI EAFE Index	(13.79%)	25.03%	1.00%	(0.81%)	(4.90%)
MSCI ACWI ex-US Index	(13.77%)	27.77%	5.01%	(5.25%)	(3.44%)
T. Rowe Price Intl Small Cap	(18.49%)	-	-	-	-
MSCI ACWI ex US Small Cap	(18.20%)	31.65%	3.91%	2.60%	(4.03%)
Investec	(15.80%)	-	-	-	-
MSCI Emerging Markets Index	(14.57%)	37.28%	11.19%	(14.92%)	(2.19%)
Domestic Fixed Income	(0.28%)	4.74%	4.10%	0.07%	5.09%
Blmbg Aggregate Index	0.01%	3.54%	2.65%	0.55%	5.97%
Dodge & Cox Income	(0.31%)	4.36%	5.61%	(0.59%)	5.49%
PIMCO	(0.26%)	5.12%	2.59%	0.73%	4.69%
Blmbg Aggregate Index	0.01%	3.54%	2.65%	0.55%	5.97%
Real Estate	6.90%	6.88%	7.02%	12.14%	14.50%
Real Estate Custom Benchmark (3)	7.30%	6.92%	8.62%	11.81%	14.57%
RREEF Private	7.41%	6.43%	7.95%	15.63%	11.95%
Barings Core Property Fund	6.34%	6.59%	8.62%	12.99%	8.64%
NFI-ODCE Equal Weight Net	7.30%	6.92%	8.36%	14.18%	11.42%
625 Kings Court	7.51%	26.09%	10.01%	9.85%	12.15%
Total Fund	(6.92%)	18.89%	6.67%	0.01%	4.72%
Total Fund Benchmark*	(5.07%)	17.34%	7.78%	0.21%	6.80%

* 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.

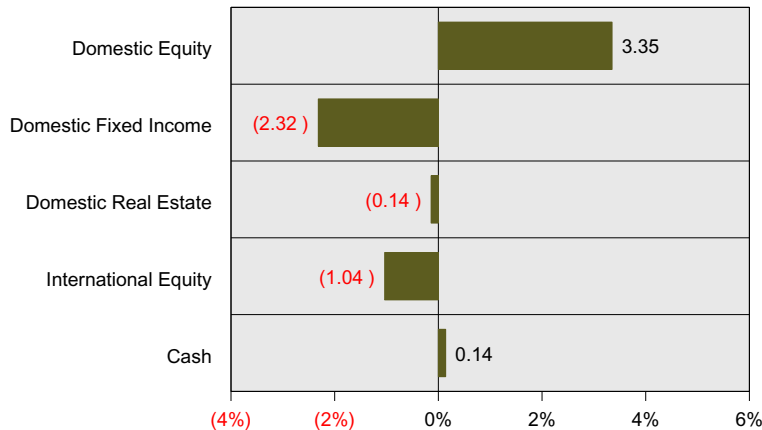
(2) Switched to CIT in November 2015.

(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.

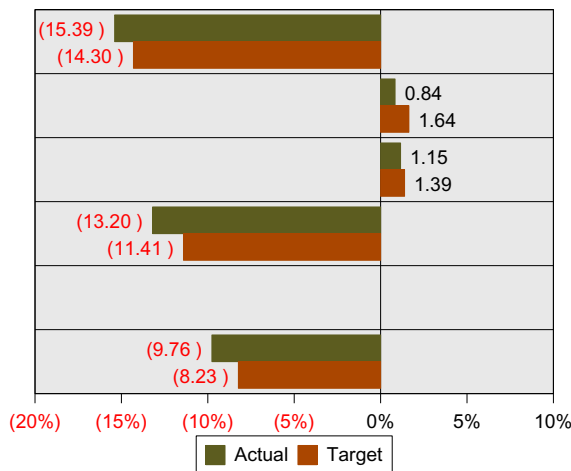
Quarterly Total Fund Relative Attribution - December 31, 2018

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

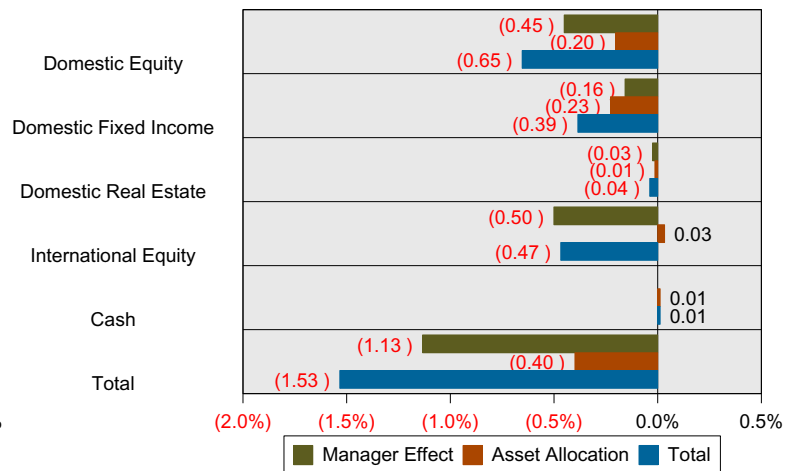
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended December 31, 2018

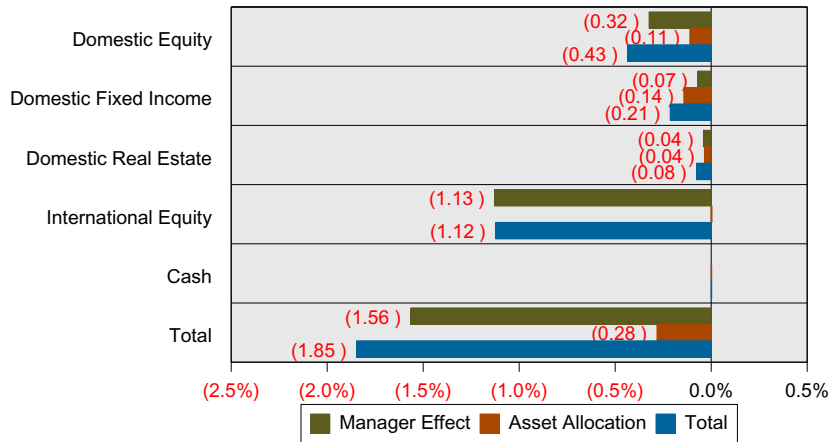
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	41%	38%	(15.39%)	(14.30%)	(0.45%)	(0.20%)	(0.65%)
Domestic Fixed Income	20%	22%	0.84%	1.64%	(0.16%)	(0.23%)	(0.39%)
Domestic Real Estate	11%	11%	1.15%	1.39%	(0.03%)	(0.01%)	(0.04%)
International Equity	28%	29%	(13.20%)	(11.41%)	(0.50%)	0.03%	(0.47%)
Cash	0%	0%	0.00%	0.00%	0.00%	0.01%	0.01%
Total			(9.76%)	(8.23%)	(1.13%)	(0.40%)	(1.53%)

* 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.

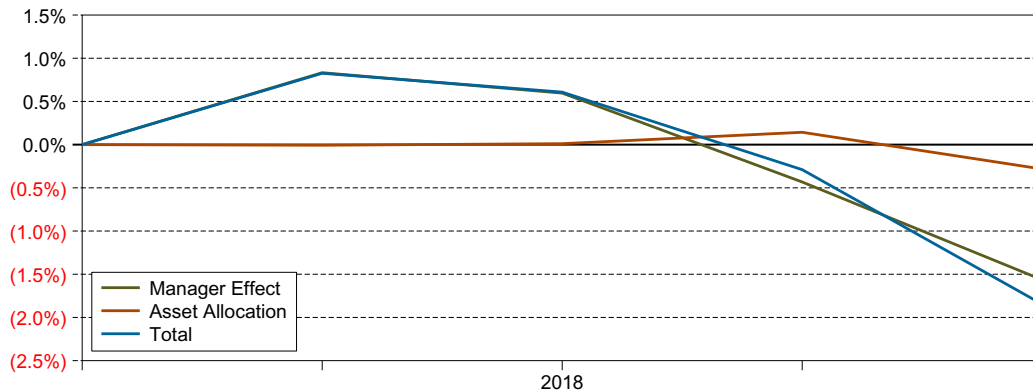
Cumulative Total Fund Relative Attribution - December 31, 2018

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

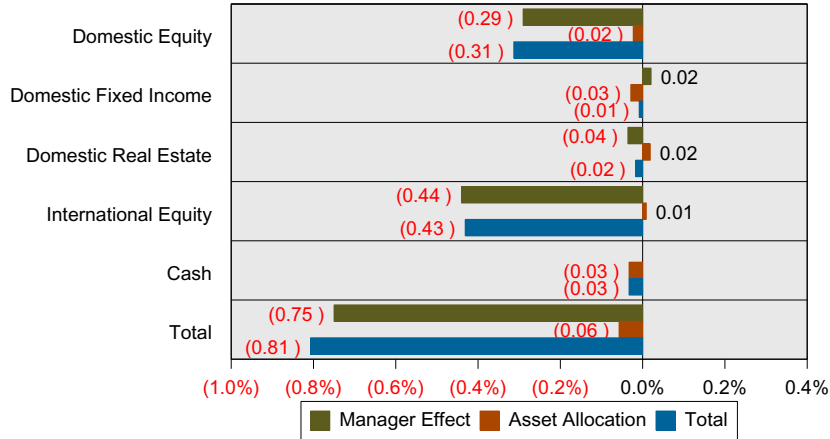
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	40%	38%	(6.04%)	(5.24%)	(0.32%)	(0.11%)	(0.43%)
Domestic Fixed Income	20%	22%	(0.28%)	0.01%	(0.07%)	(0.14%)	(0.21%)
Domestic Real Estate	11%	11%	6.90%	7.30%	(0.04%)	(0.04%)	(0.08%)
International Equity	29%	29%	(17.49%)	(13.78%)	(1.13%)	0.00%	(1.12%)
Cash	0%	0%	0.00%	0.00%	0.00%	0.00%	0.00%
Total			(6.92%)	(5.07%)	(1.56%)	(0.28%)	(1.85%)

* 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.

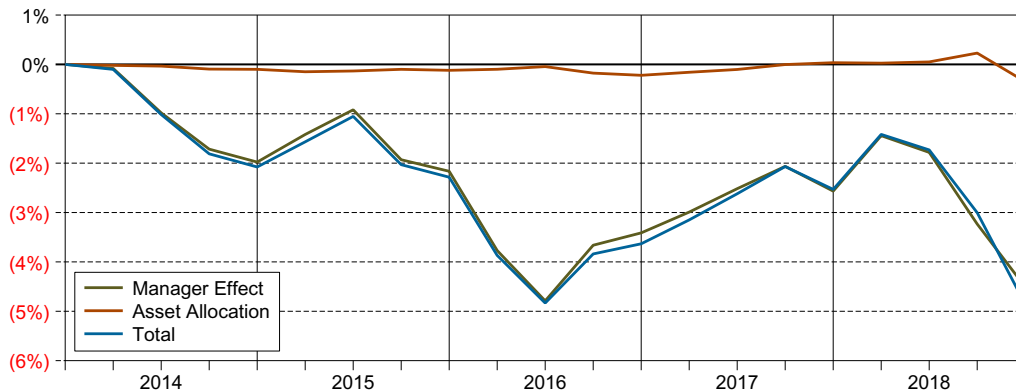
Cumulative Total Fund Relative Attribution - December 31, 2018

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

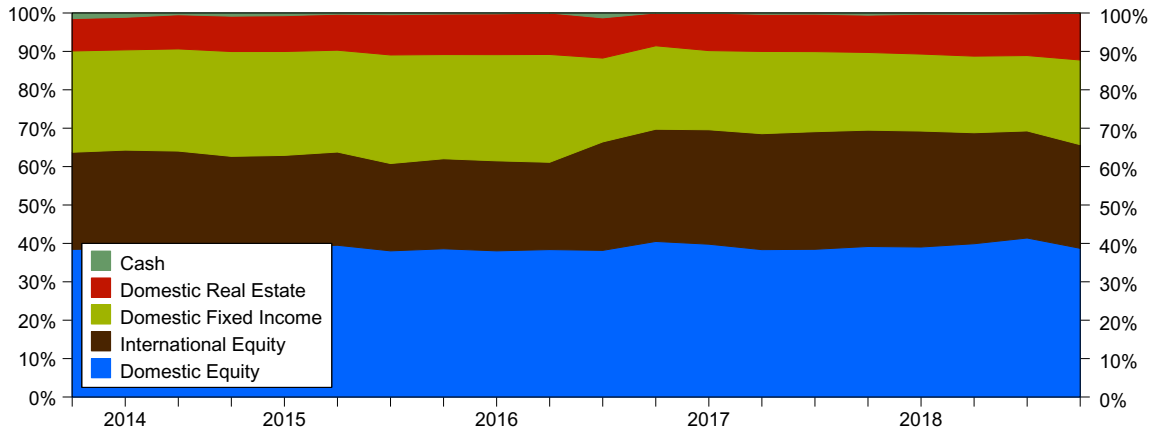
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	38%	7.13%	7.91%	(0.29%)	(0.02%)	(0.31%)
Domestic Fixed Income	24%	25%	2.71%	2.52%	0.02%	(0.03%)	(0.01%)
Domestic Real Estate	10%	10%	9.44%	9.81%	(0.04%)	0.02%	(0.02%)
International Equity	27%	27%	(0.48%)	1.14%	(0.44%)	0.01%	(0.43%)
Cash	1%	0%	0.00%	0.00%	0.00%	(0.03%)	(0.03%)
Total			4.33%	5.14%	+ (0.75%)	+ (0.06%)	(0.81%)

* 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.

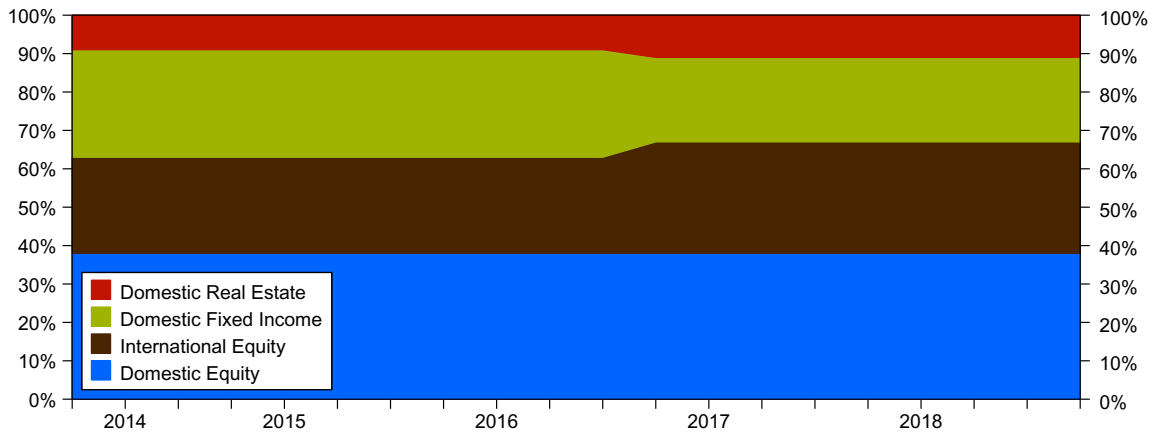
Actual vs Target Historical Asset Allocation

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.

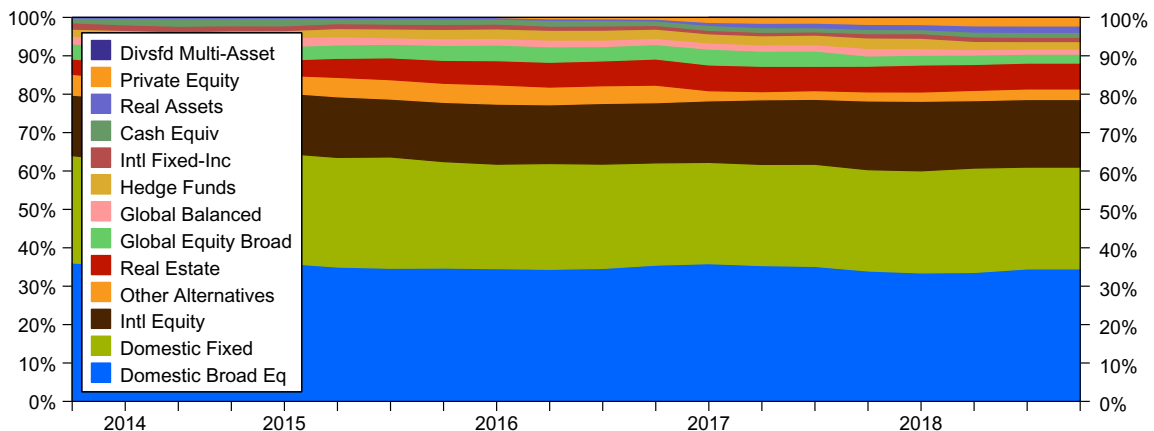
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation

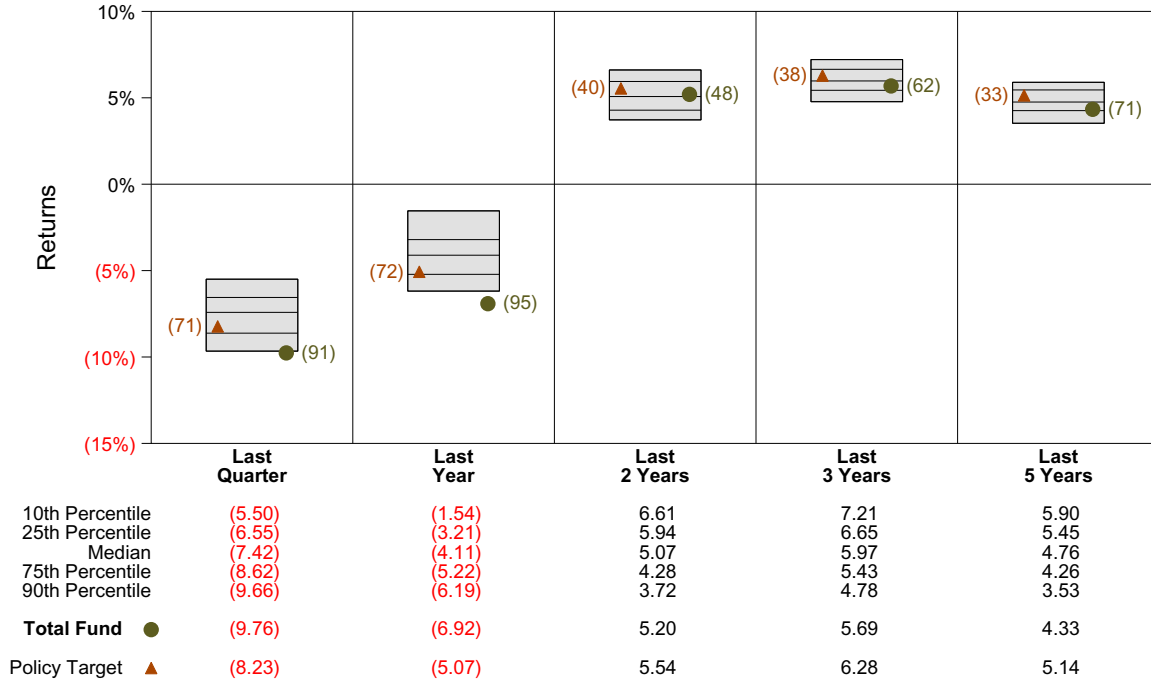


* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIxUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

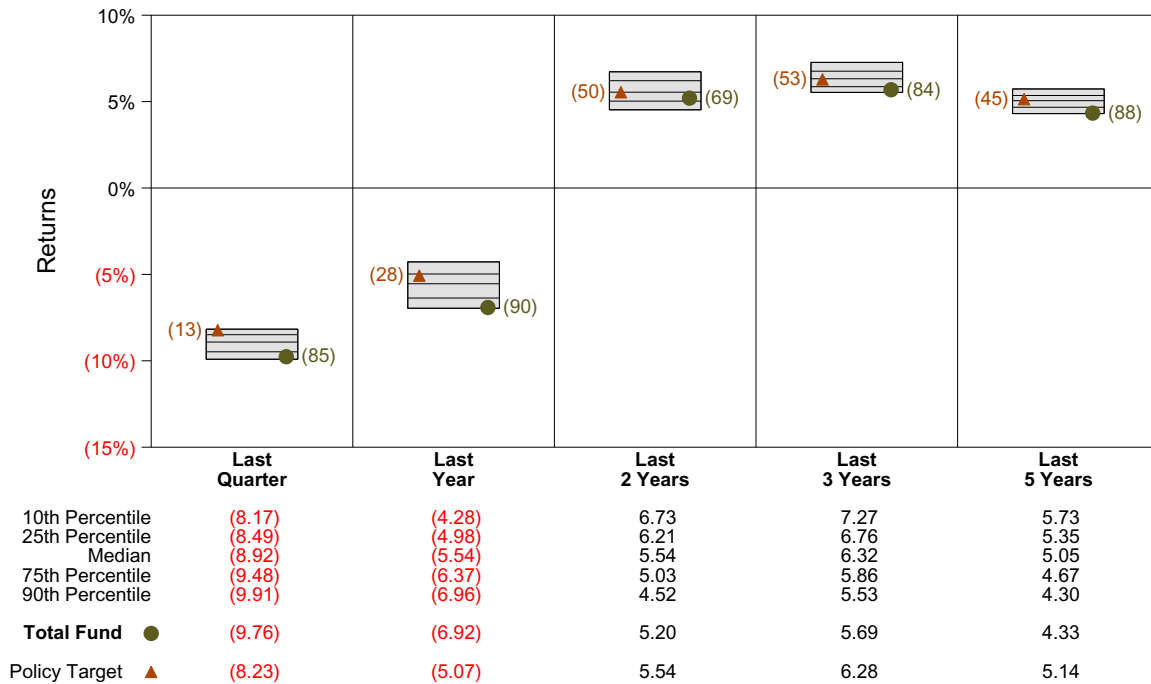
Total Fund Ranking

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 December 31, 2018. 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 December 31, 2018

Investment Philosophy

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

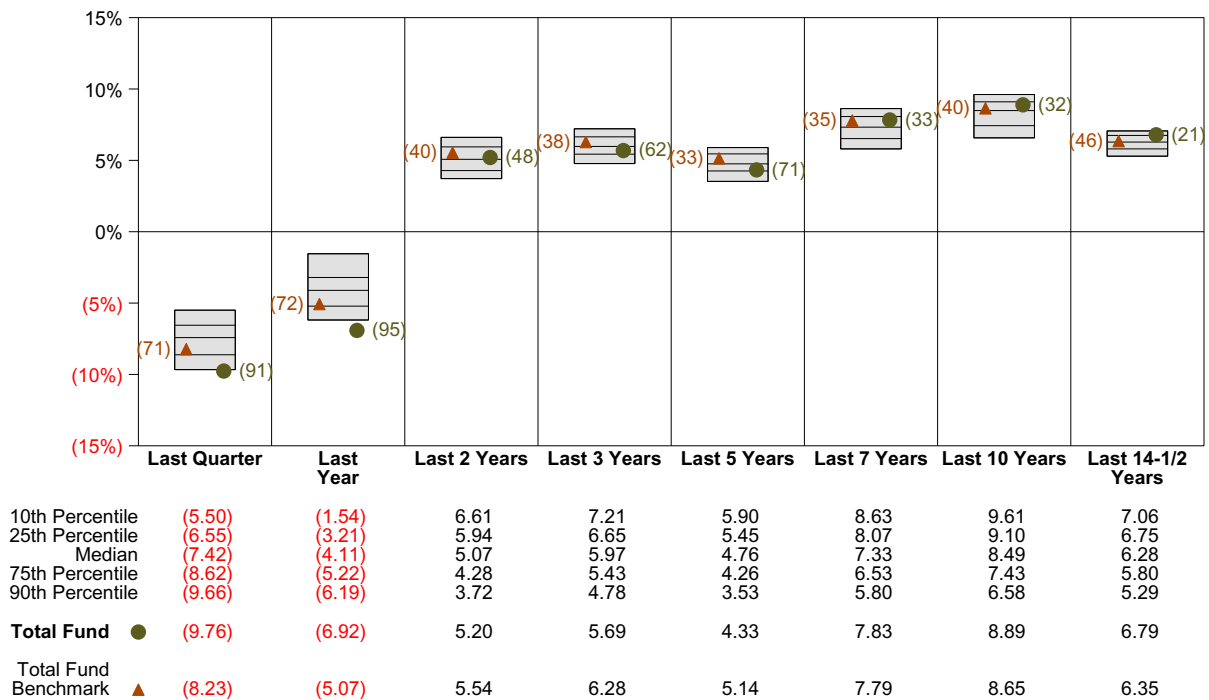
Quarterly Summary and Highlights

- Total Fund's portfolio posted a (9.76)% return for the quarter placing it in the 91 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 underperformed the Total Fund Benchmark by 1.53% for the quarter and underperformed the Total Fund Benchmark for the year by 1.85%.

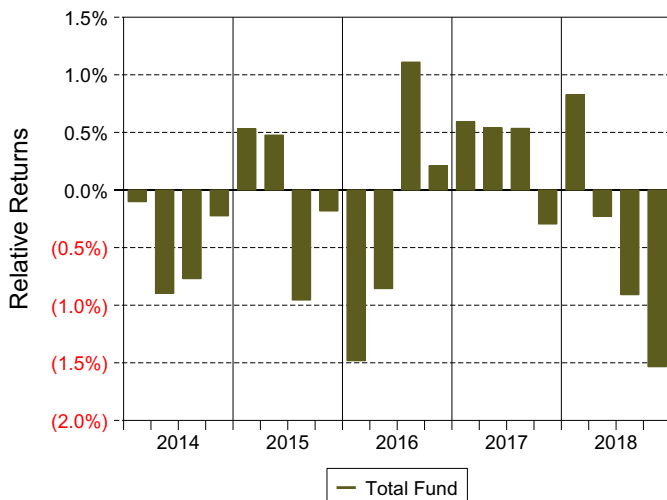
Quarterly Asset Growth

Beginning Market Value	\$530,457,955
Net New Investment	\$-2,670,334
Investment Gains/(Losses)	\$-51,590,037
Ending Market Value	\$476,197,584

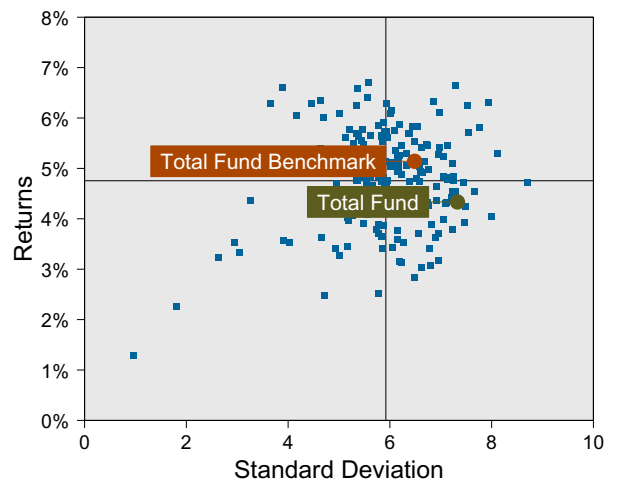
Performance vs Callan Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Benchmark



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

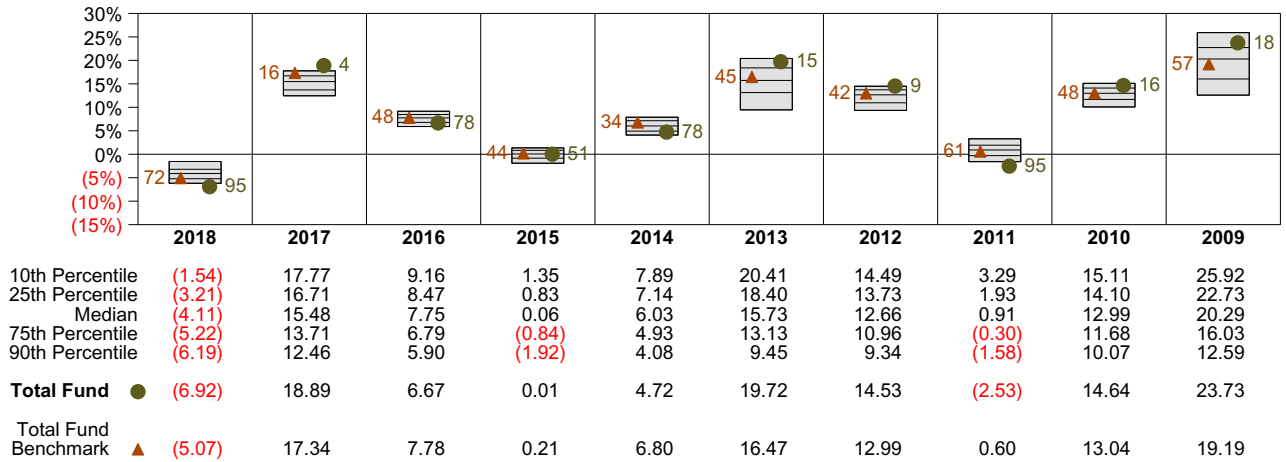


Total Fund Return Analysis Summary

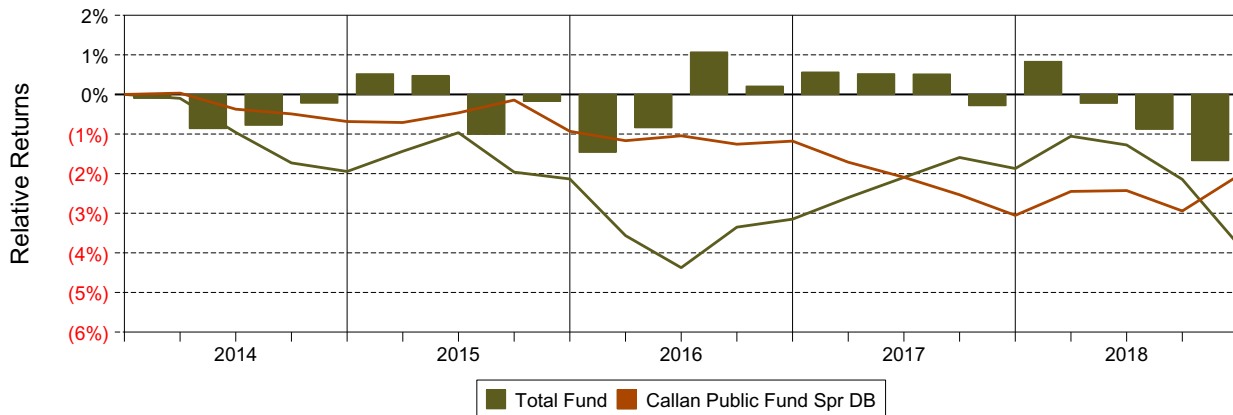
Return Analysis

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.

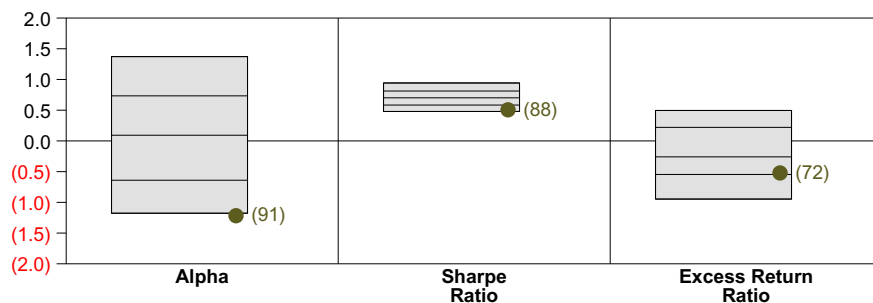
Performance vs Callan Public Fund Sponsor Database (Gross)



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 December 31, 2018

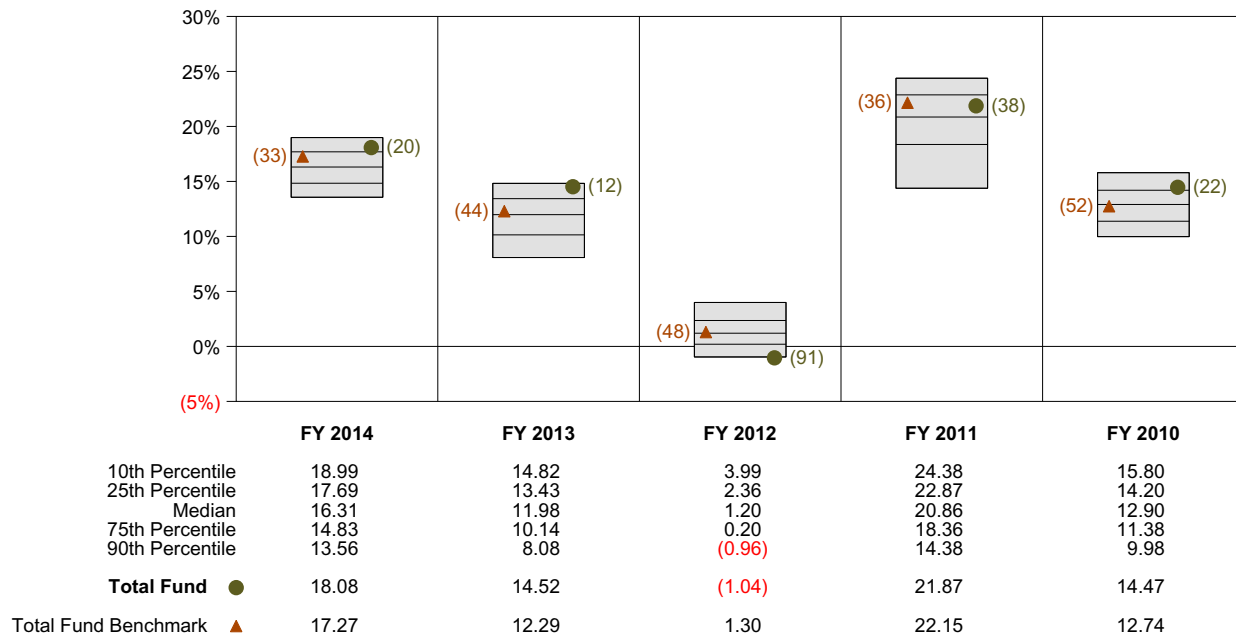
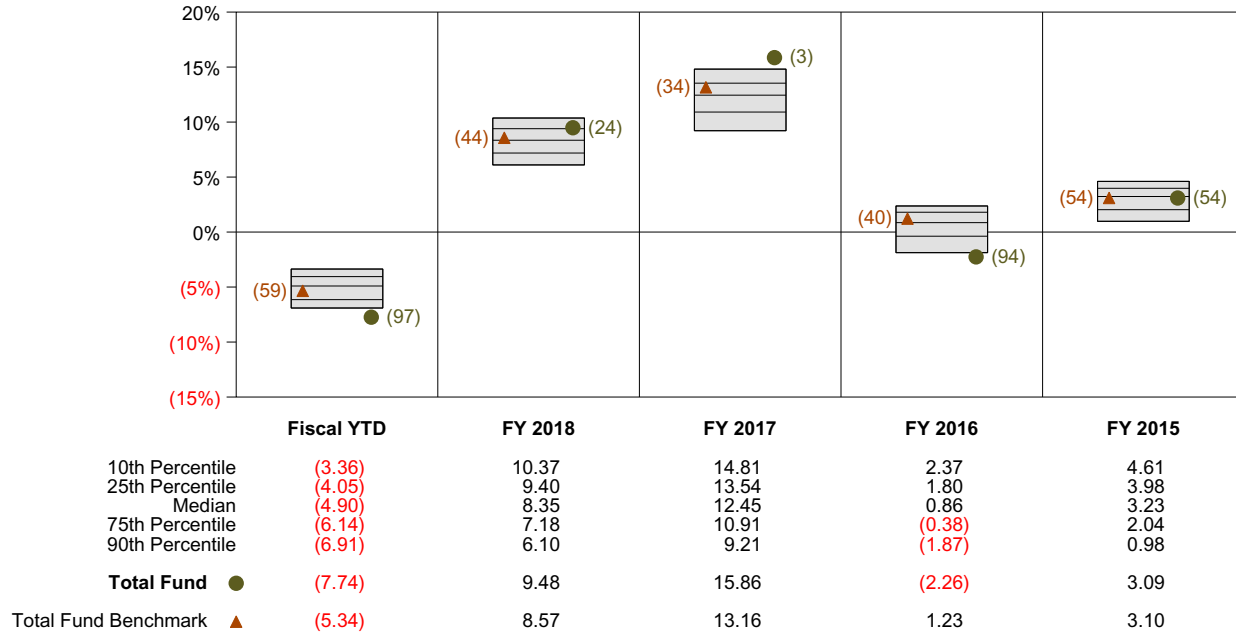


	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.37	0.94	0.50
25th Percentile	0.73	0.81	0.22
Median	0.09	0.70	(0.26)
75th Percentile	(0.64)	0.58	(0.55)
90th Percentile	(1.18)	0.48	(0.95)
Total Fund	● (1.22)	0.51	(0.52)

Mendocino County Employees' Retirement Association Performance vs Callan Public Fund Sponsor Database Periods Ended December 31, 2018

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 December 31, 2018

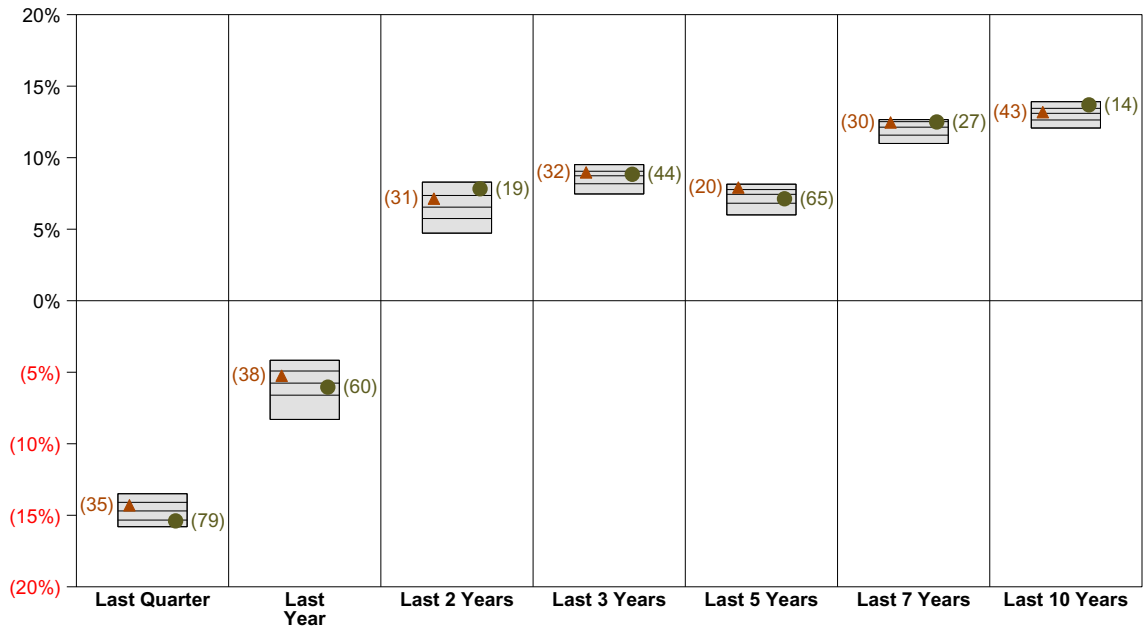
Quarterly Summary and Highlights

- Domestic Equity Composite's portfolio posted a (15.39)% return for the quarter placing it in the 79 percentile of the Public Fund - Domestic Equity group for the quarter and in the 60 percentile for the last year.
- Domestic Equity Composite's portfolio underperformed the Russell 3000 Index by 1.09% for the quarter and underperformed the Russell 3000 Index for the year by 0.80%.

Quarterly Asset Growth

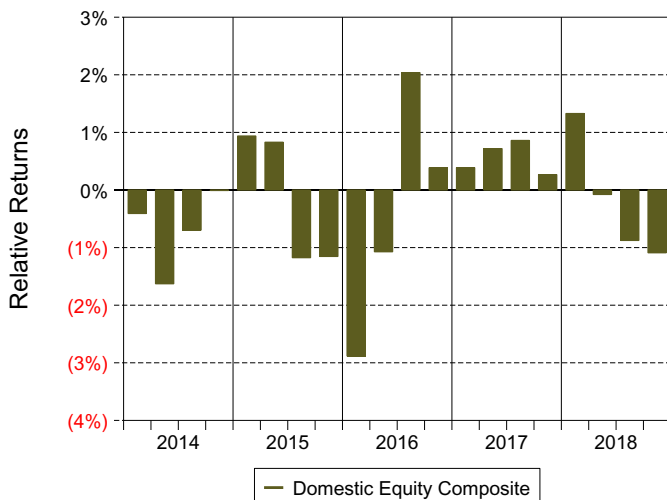
Beginning Market Value	\$219,629,210
Net New Investment	\$-1,504,598
Investment Gains/(Losses)	\$-33,724,749
Ending Market Value	\$184,399,863

Performance vs Public Fund - Domestic Equity (Gross)

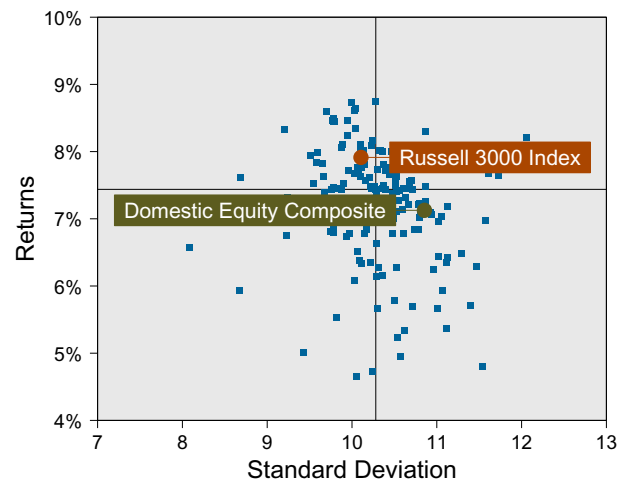


10th Percentile	(13.49)	(4.16)	8.29	9.51	8.15	12.66	13.92
25th Percentile	(14.10)	(4.91)	7.36	9.05	7.77	12.52	13.45
Median	(14.70)	(5.76)	6.54	8.73	7.44	12.13	13.10
75th Percentile	(15.34)	(6.60)	5.75	8.18	6.82	11.58	12.64
90th Percentile	(15.80)	(8.30)	4.72	7.46	6.00	10.99	12.07
Domestic Equity Composite	(15.39)	(6.04)	7.82	8.84	7.13	12.50	13.69
Russell 3000 Index	(14.30)	(5.24)	7.14	8.97	7.91	12.46	13.18

Relative Return vs Russell 3000 Index



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

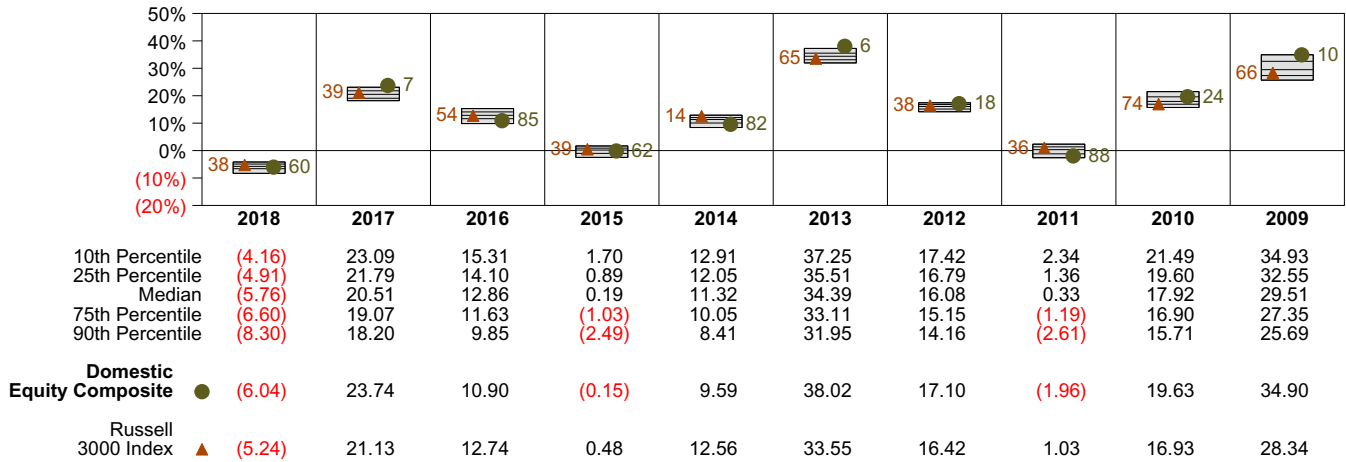


Domestic Equity Composite Return Analysis Summary

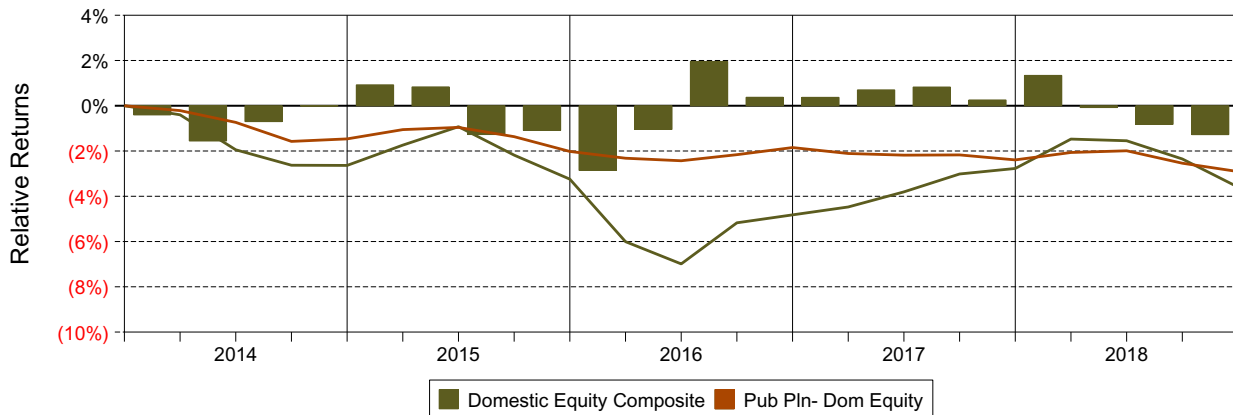
Return Analysis

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.

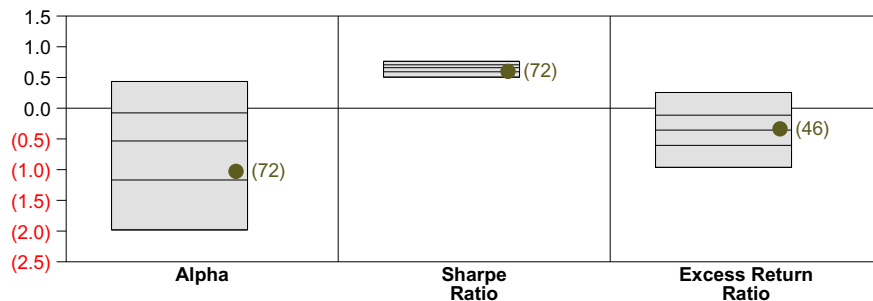
Performance vs Public Fund - Domestic Equity (Gross)



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 December 31, 2018



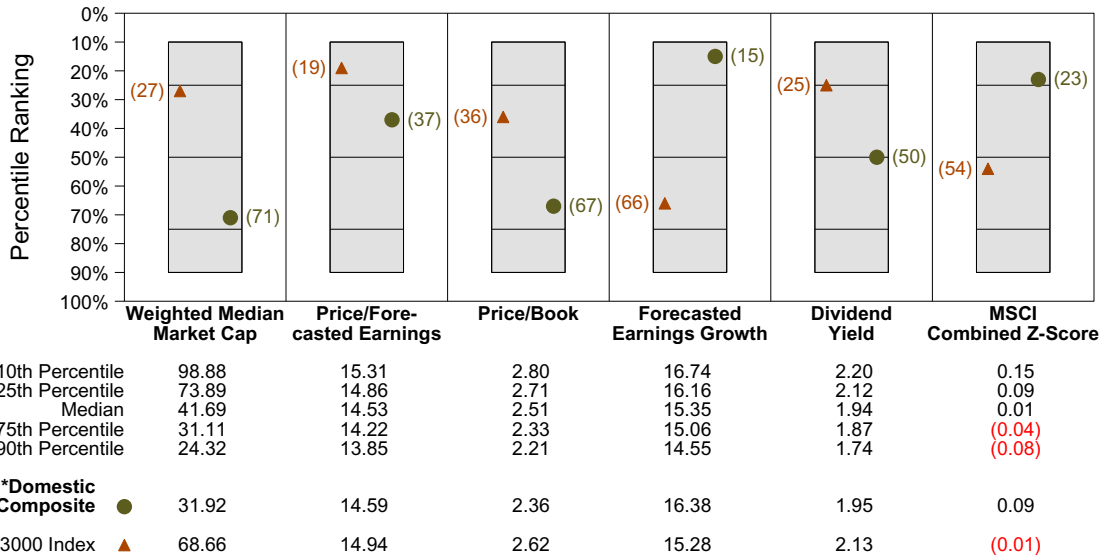
10th Percentile	0.43	0.76	0.26
25th Percentile	(0.08)	0.71	(0.11)
Median	(0.53)	0.66	(0.36)
75th Percentile	(1.17)	0.59	(0.60)
90th Percentile	(1.98)	0.51	(0.96)

Domestic Equity Composite Equity Characteristics Analysis Summary

Portfolio Characteristics

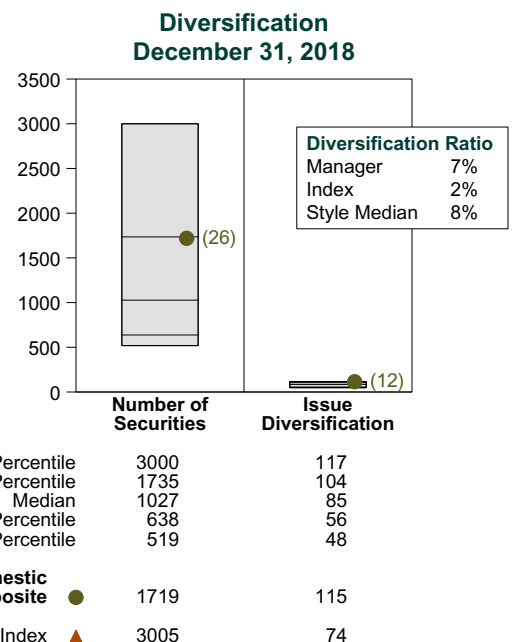
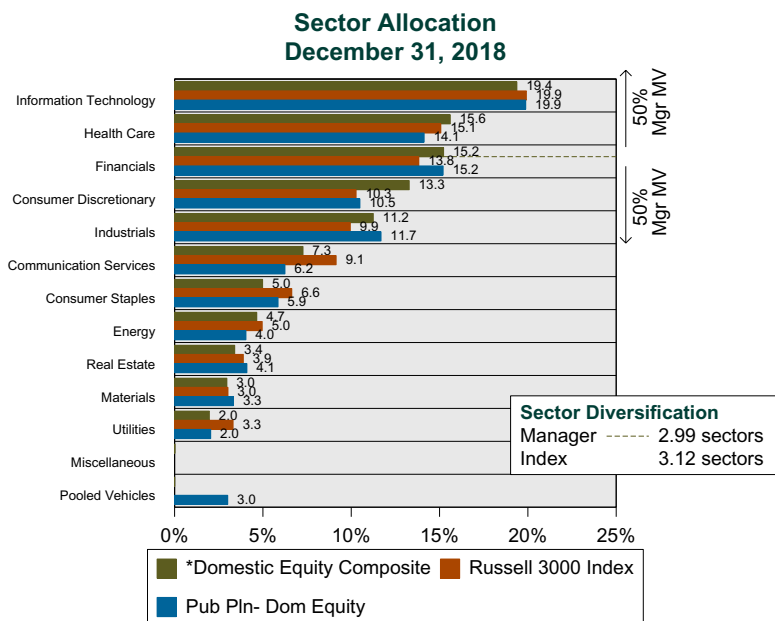
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Public Fund - Domestic Equity as of December 31, 2018



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.

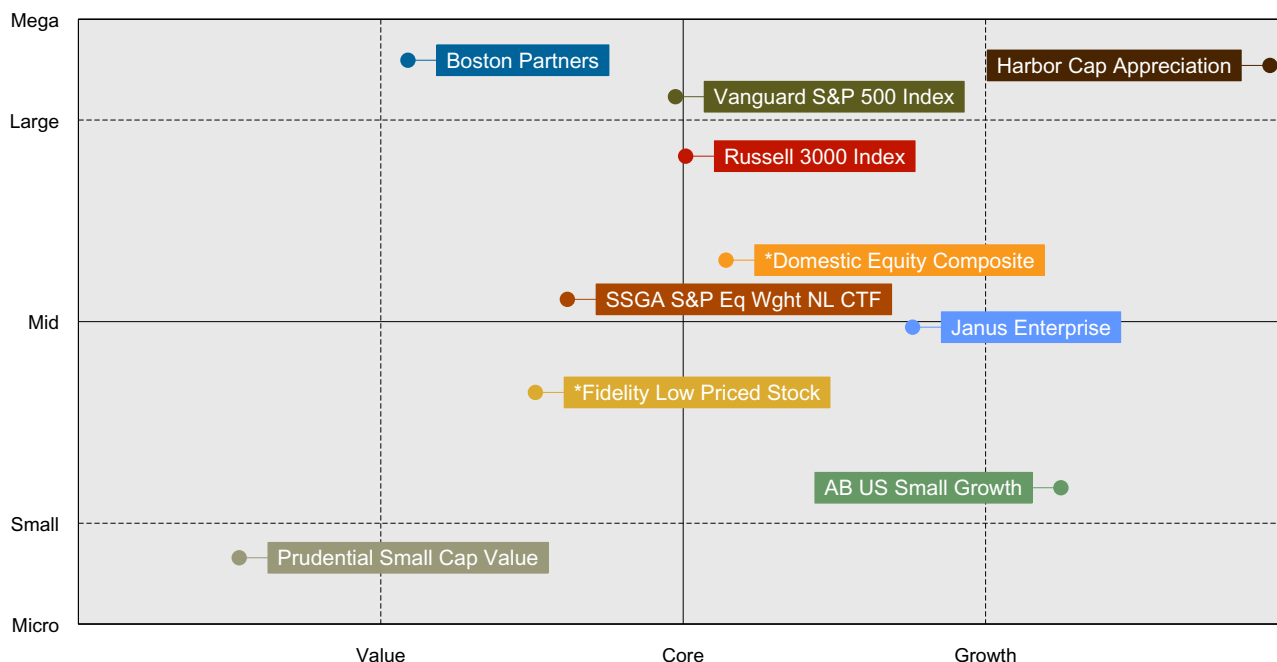


*12/31/18 portfolio characteristics generated using most recently available holdings (10/31/18) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

Holdings Based Style Analysis For One Quarter Ended December 31, 2018

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

Style Map Holdings for One Quarter Ended December 31, 2018



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
Vanguard S&P 500 Index	17.75%	98.37	(0.03)	(0.01)	0.02	507	48.82
SSGA S&P Eq Wght NL CTF	17.36%	18.06	(0.29)	(0.10)	0.19	498	240.89
Boston Partners	17.65%	124.84	(0.67)	(0.17)	0.50	83	17.74
Harbor Cap Appreciation	17.32%	121.08	1.41	0.63	(0.78)	57	14.03
*Fidelity Low Priced Stock	7.42%	7.24	(0.37)	(0.06)	0.31	871	25.88
Janus Enterprise	8.23%	9.96	0.54	0.15	(0.39)	87	25.73
Prudential Small Cap Value	6.14%	1.35	(1.07)	(0.14)	0.93	333	67.15
AB US Small Growth	8.13%	3.27	0.90	0.32	(0.58)	95	32.38
*Domestic Equity Composite	100.00%	31.92	0.09	0.08	(0.00)	1719	114.77
Russell 3000 Index	-	68.66	(0.01)	(0.00)	0.01	3005	74.19

* 12/31/18 portfolio characteristics generated using most recently available holdings (10/31/18) 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 December 31, 2018

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.

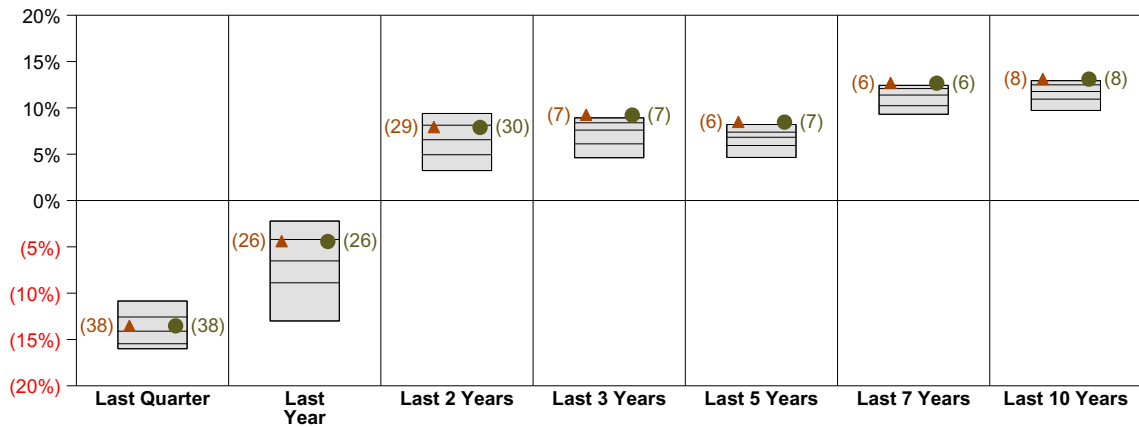
Quarterly Summary and Highlights

- Vanguard S&P 500 Index's portfolio posted a (13.53)% return for the quarter placing it in the 38 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 26 percentile for the last year.
- Vanguard S&P 500 Index's portfolio underperformed the S&P 500 Index by 0.01% for the quarter and underperformed the S&P 500 Index for the year by 0.04%.

Quarterly Asset Growth

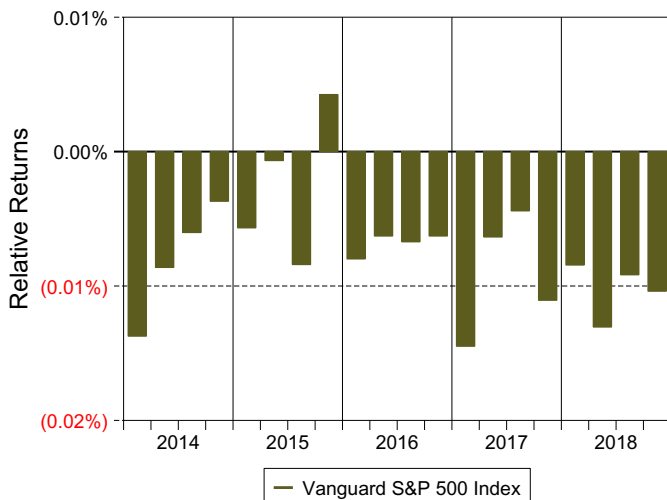
Beginning Market Value	\$39,517,064
Net New Investment	\$-1,500,000
Investment Gains/(Losses)	\$-5,281,106
Ending Market Value	\$32,735,958

Performance vs Callan Large Cap Core Mutual Funds (Net)

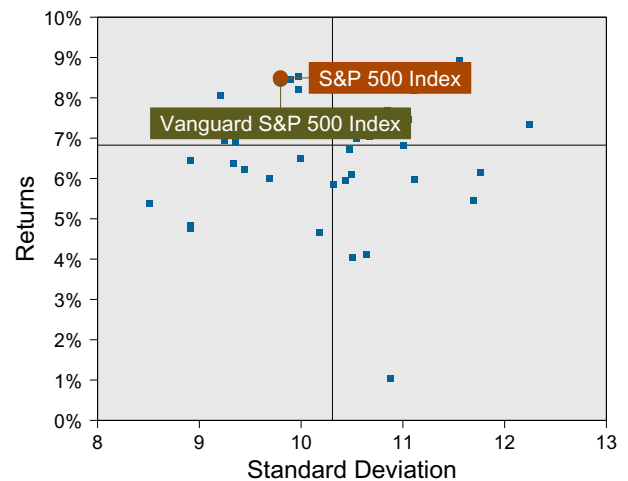


10th Percentile	(10.85)	(2.22)	9.39	8.92	8.21	12.43	12.94
25th Percentile	(12.57)	(4.21)	8.13	8.39	7.38	12.08	12.49
Median	(14.10)	(6.52)	6.56	7.60	6.83	11.39	11.77
75th Percentile	(15.46)	(8.88)	4.94	6.12	5.94	10.24	10.94
90th Percentile	(16.00)	(13.00)	3.23	4.62	4.65	9.31	9.72
Vanguard S&P 500 Index	● (13.53)	(4.42)	7.89	9.22	8.46	12.66	13.11
S&P 500 Index	▲ (13.52)	(4.38)	7.93	9.26	8.49	12.70	13.12

Relative Return vs S&P 500 Index



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

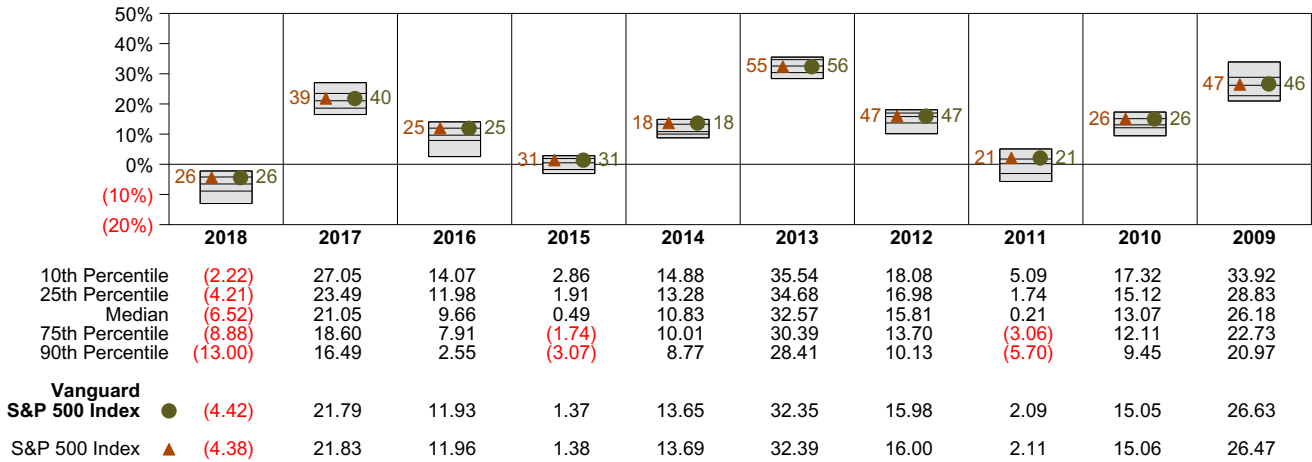


Vanguard S&P 500 Index Return Analysis Summary

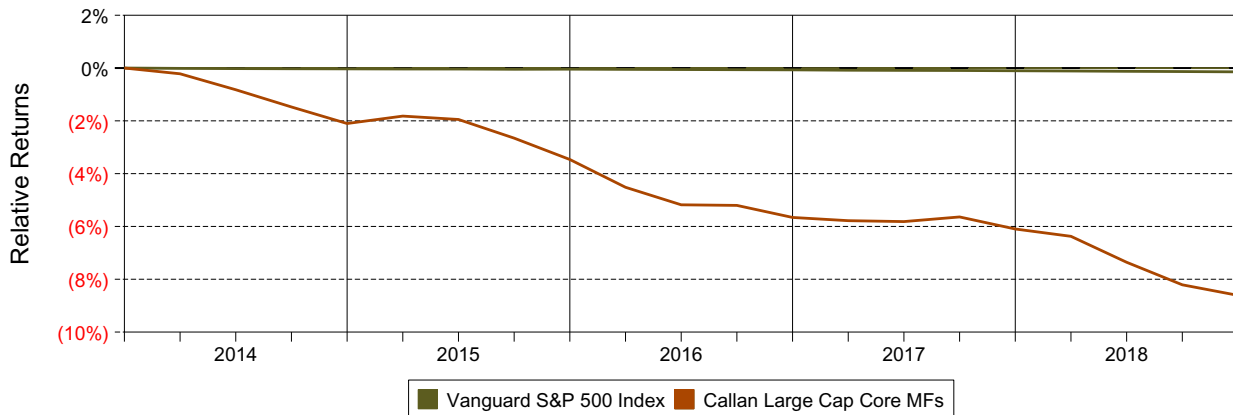
Return Analysis

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.

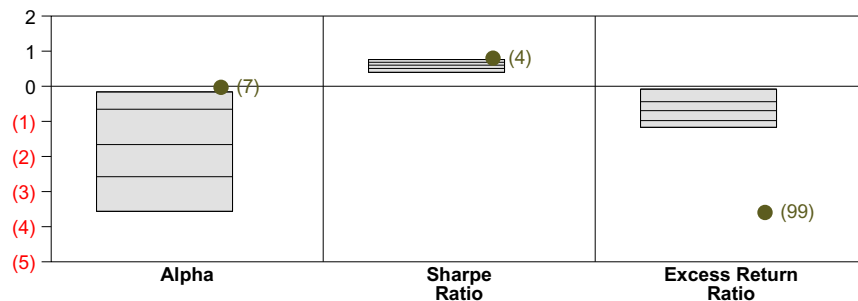
Performance vs Callan Large Cap Core Mutual Funds (Net)



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 December 31, 2018



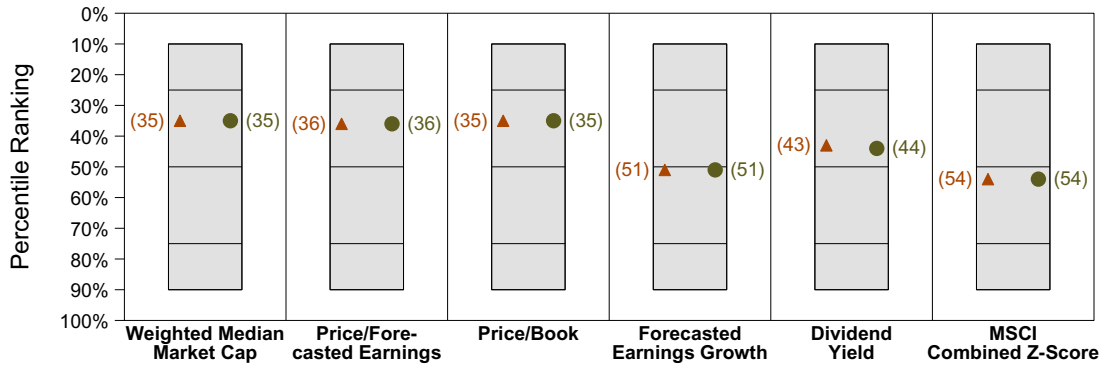
10th Percentile	(0.16)	0.76	(0.08)
25th Percentile	(0.65)	0.68	(0.44)
Median	(1.66)	0.60	(0.69)
75th Percentile	(2.58)	0.51	(0.98)
90th Percentile	(3.56)	0.40	(1.17)
Vanguard S&P 500 Index	(0.03)	0.80	(3.59)

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.

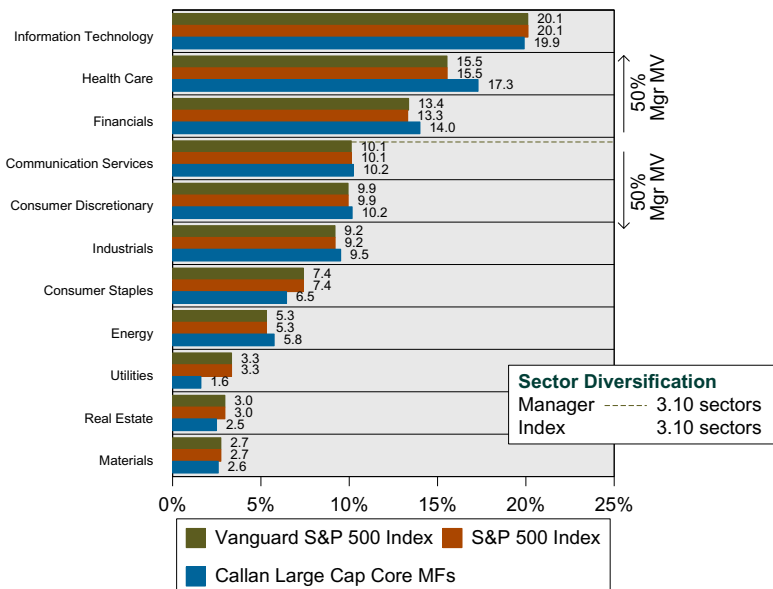
Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Core Mutual Funds as of December 31, 2018



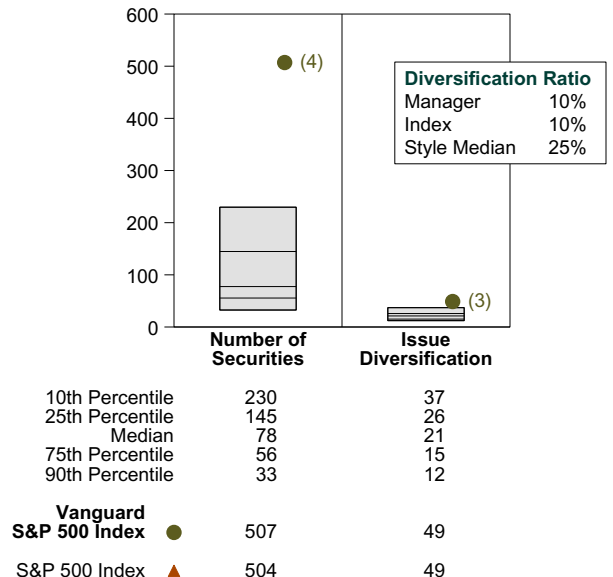
Sector Weights

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 December 31, 2018



Diversification December 31, 2018



SSGA S&P Eq Weighted NL CTF Period Ended December 31, 2018

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.

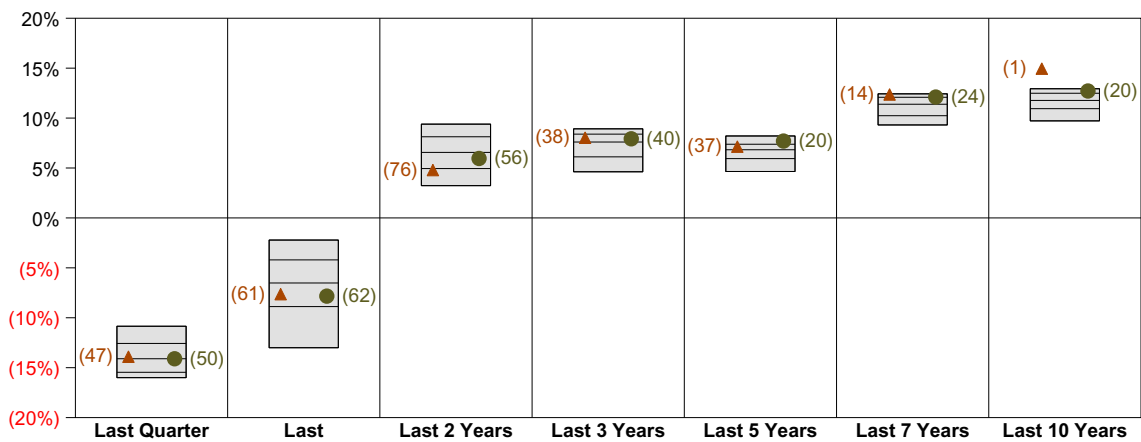
Quarterly Summary and Highlights

- SSGA S&P Eq Weighted NL CTF's portfolio posted a (14.11)% return for the quarter placing it in the 50 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 62 percentile for the last year.
- SSGA S&P Eq Weighted NL CTF's portfolio underperformed the S&P 500 Eq Weighted by 0.20% for the quarter and underperformed the S&P 500 Eq Weighted for the year by 0.20%.

Quarterly Asset Growth

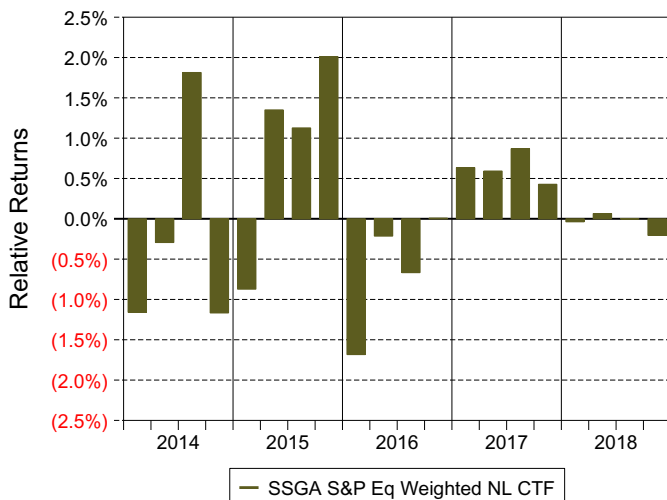
Beginning Market Value	\$37,269,149
Net New Investment	\$-4,598
Investment Gains/(Losses)	\$-5,253,563
Ending Market Value	\$32,010,988

Performance vs Callan Large Cap Core Mutual Funds (Net)

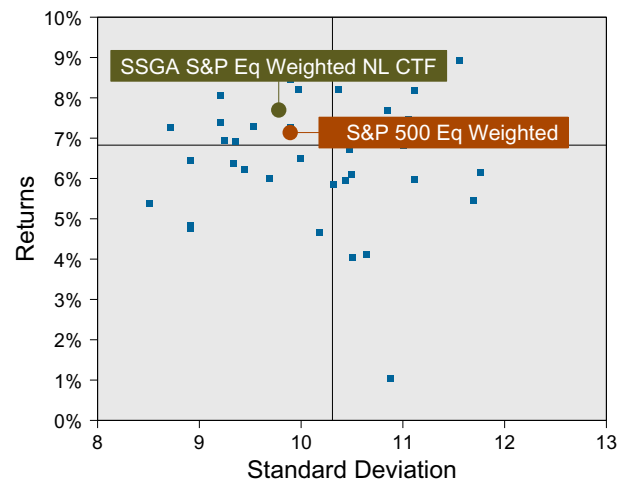


10th Percentile	(10.85)	(2.22)	9.39	8.92	8.21	12.43	12.94
25th Percentile	(12.57)	(4.21)	8.13	8.39	7.38	12.08	12.49
Median	(14.10)	(6.52)	6.56	7.60	6.83	11.39	11.77
75th Percentile	(15.46)	(8.88)	4.94	6.12	5.94	10.24	10.94
90th Percentile	(16.00)	(13.00)	3.23	4.62	4.65	9.31	9.72
SSGA S&P Eq Weighted NL CTF	(14.11)	(7.83)	5.95	7.93	7.70	12.10	12.71
S&P 500 Eq Weighted	(13.90)	(7.64)	4.80	8.03	7.14	12.36	14.95

Relative Return vs S&P 500 Eq Weighted



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

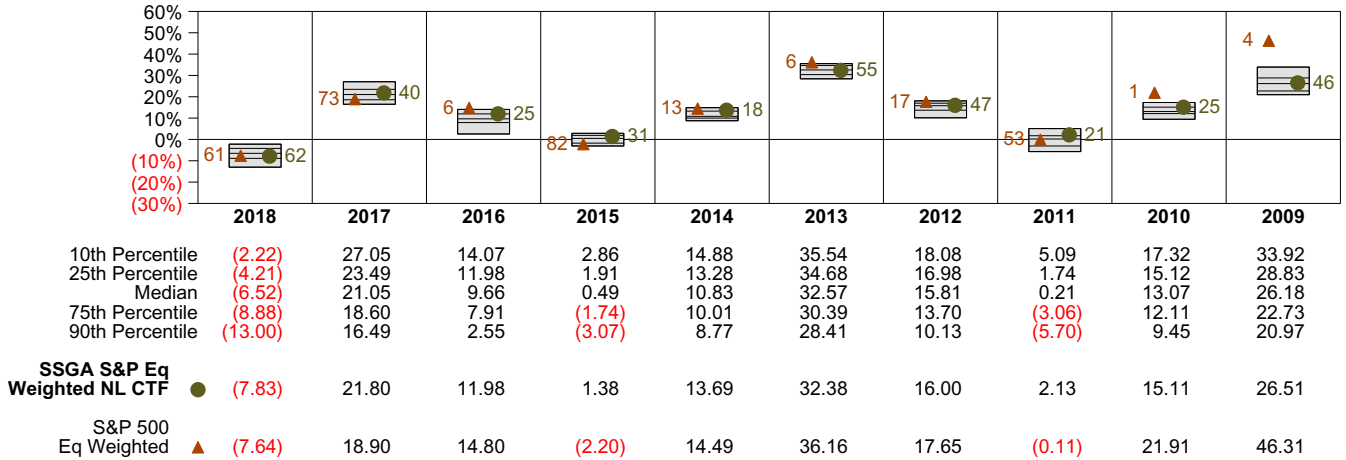


SSGA S&P Eq Weighted NL CTF Return Analysis Summary

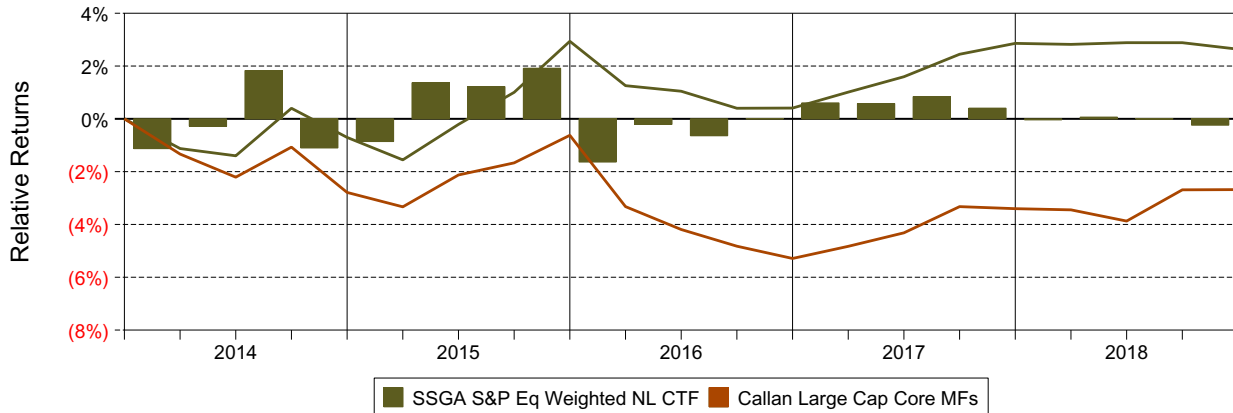
Return Analysis

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.

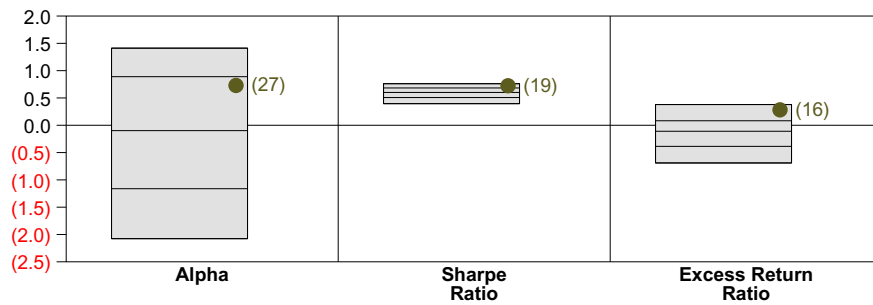
Performance vs Callan Large Cap Core Mutual Funds (Net)



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 December 31, 2018

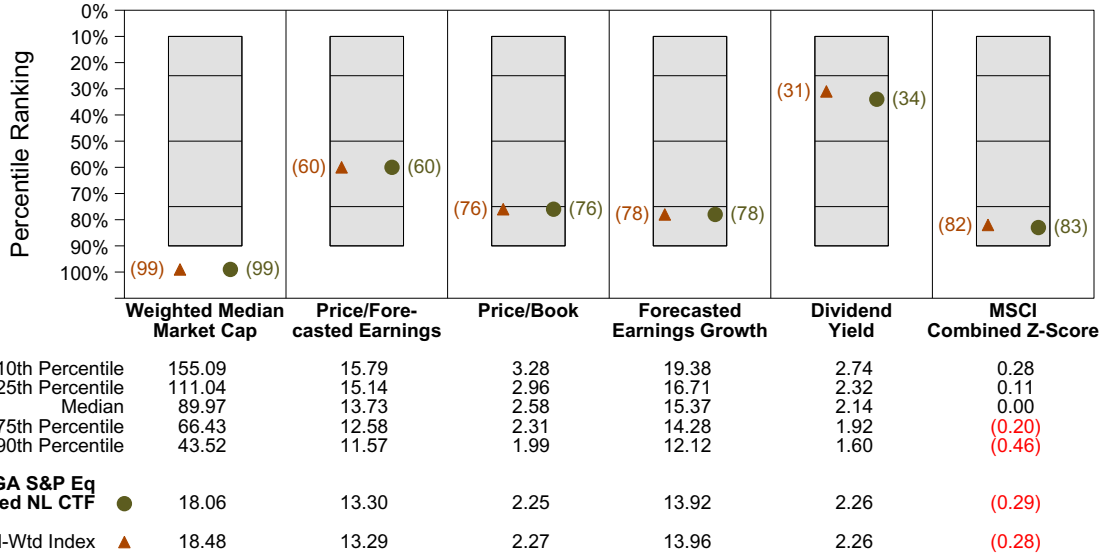


SSGA S&P Eq Weighted NL CTF Equity Characteristics Analysis Summary

Portfolio Characteristics

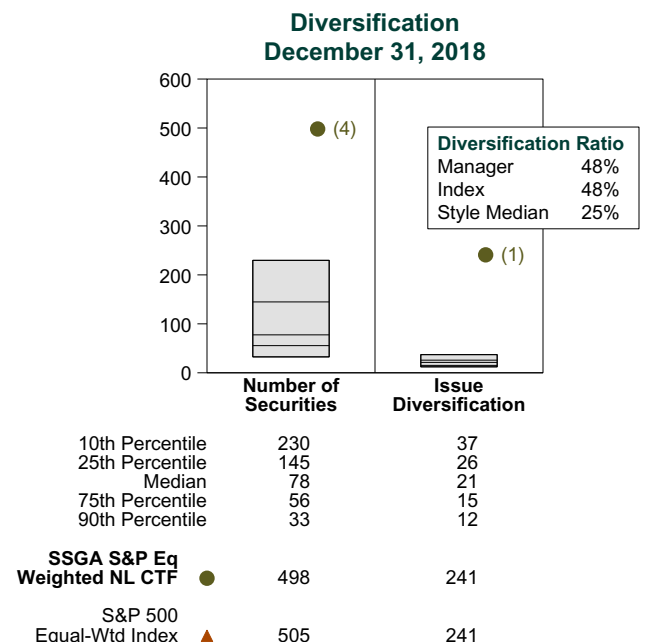
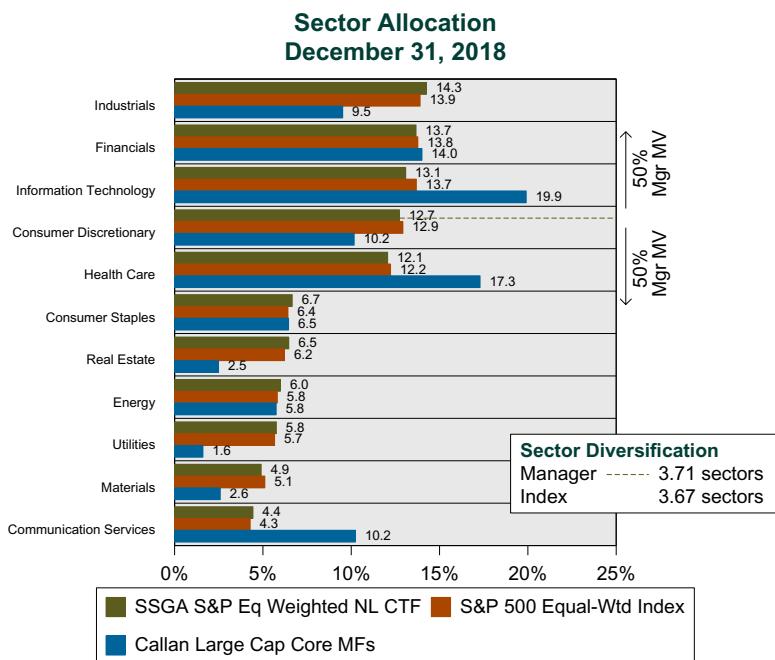
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Core Mutual Funds as of December 31, 2018



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.



Boston Partners

Period Ended December 31, 2018

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.

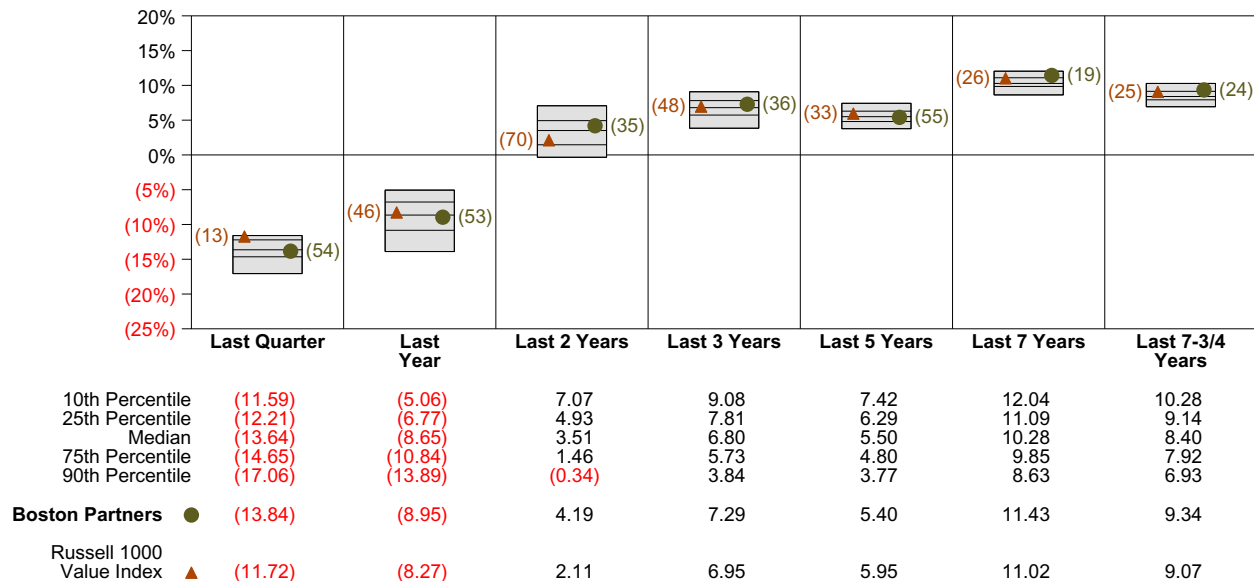
Quarterly Summary and Highlights

- Boston Partners's portfolio posted a (13.84)% return for the quarter placing it in the 54 percentile of the Callan Large Cap Value Mutual Funds group for the quarter and in the 53 percentile for the last year.
- Boston Partners's portfolio underperformed the Russell 1000 Value Index by 2.12% for the quarter and underperformed the Russell 1000 Value Index for the year by 0.68%.

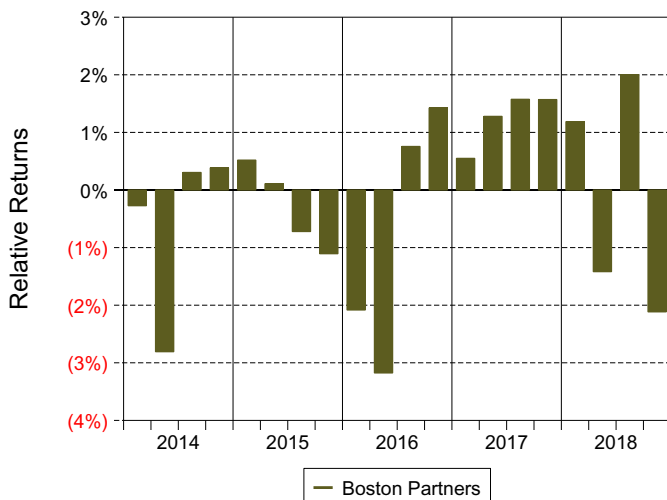
Quarterly Asset Growth

Beginning Market Value	\$37,764,171
Net New Investment	\$0
Investment Gains/(Losses)	\$-5,226,587
Ending Market Value	\$32,537,584

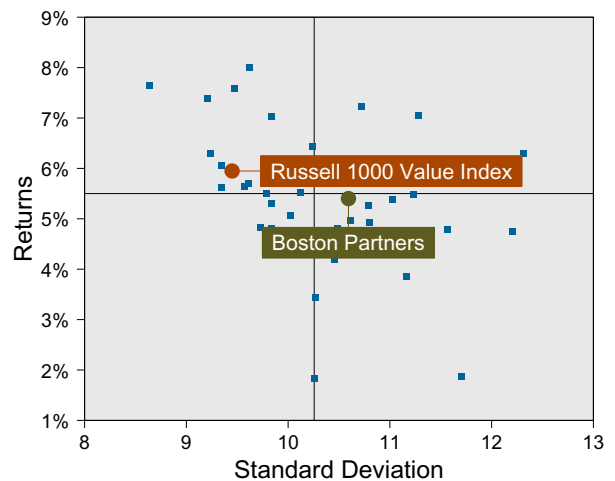
Performance vs Callan Large Cap Value Mutual Funds (Net)



Relative Return vs Russell 1000 Value Index



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

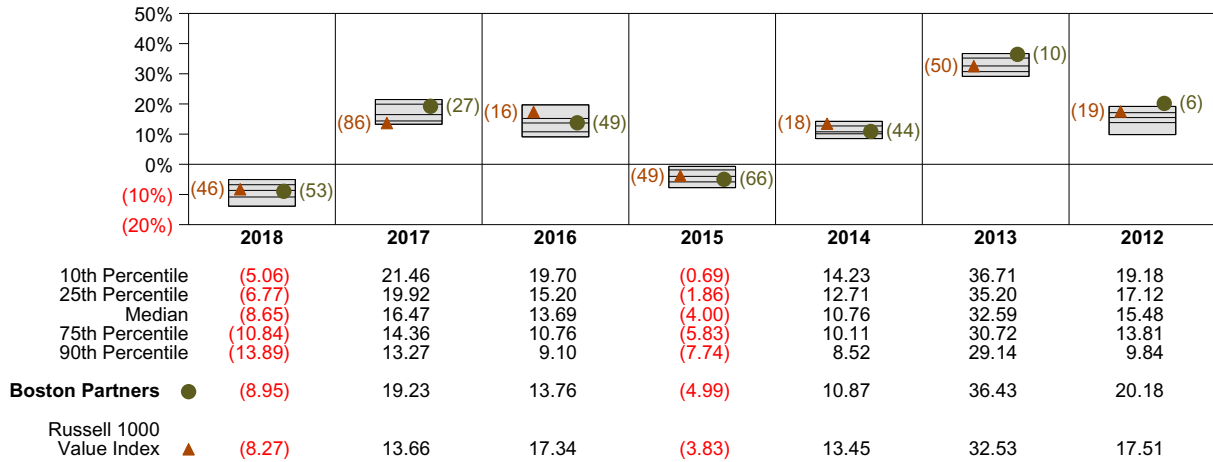


Boston Partners Return Analysis Summary

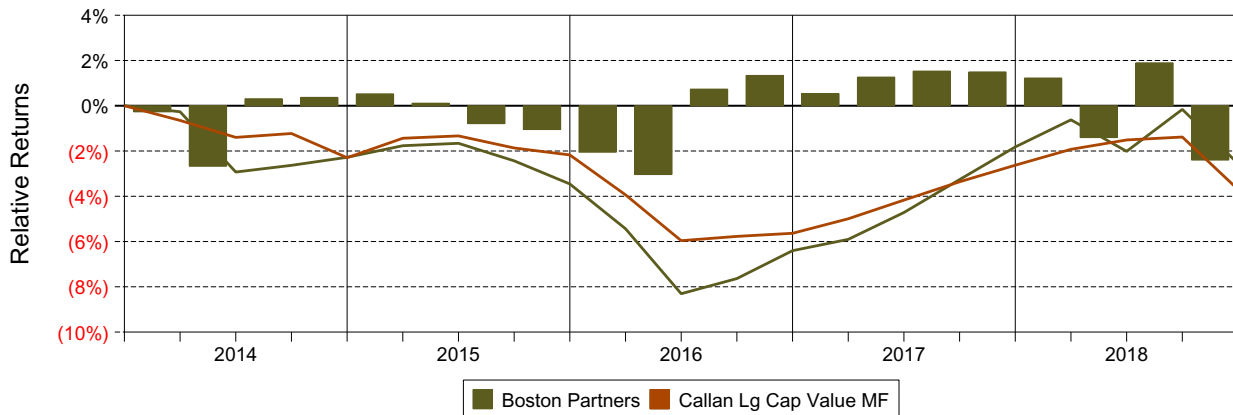
Return Analysis

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.

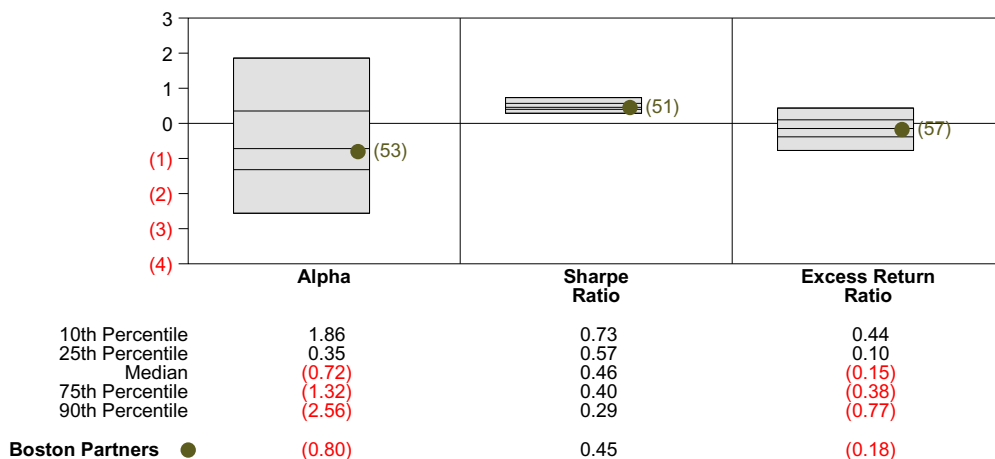
Performance vs Callan Large Cap Value Mutual Funds (Net)



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 December 31, 2018

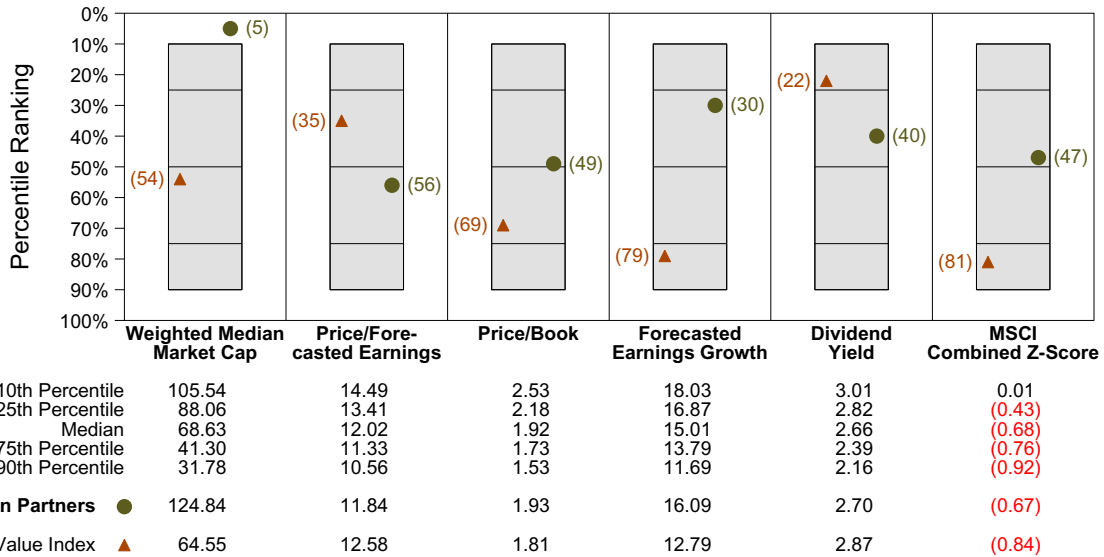


Boston Partners Equity Characteristics Analysis Summary

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.

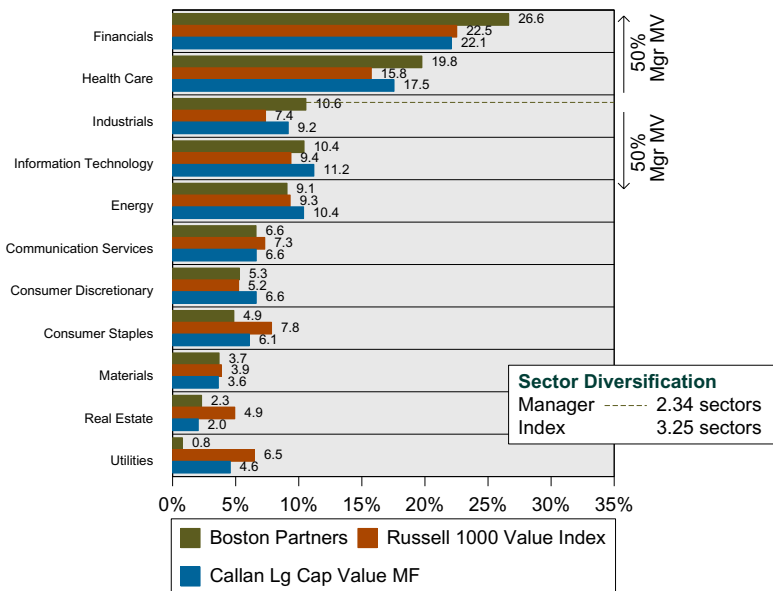
Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Value Mutual Funds as of December 31, 2018



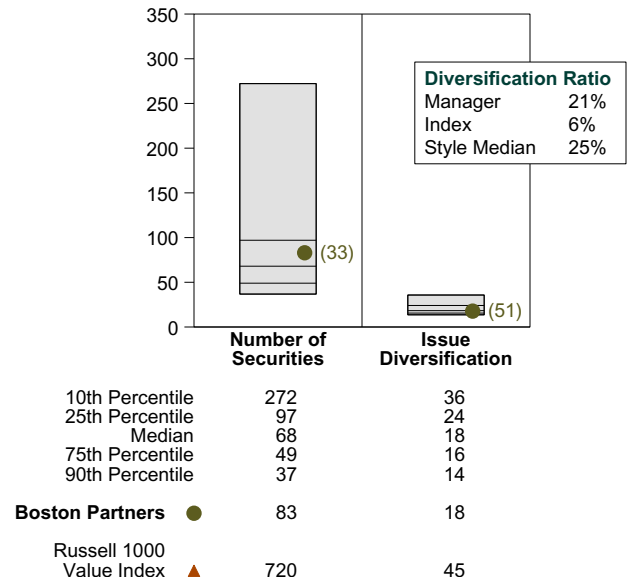
Sector Weights

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 December 31, 2018



Diversification December 31, 2018



Harbor Cap Appreciation Period Ended December 31, 2018

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.

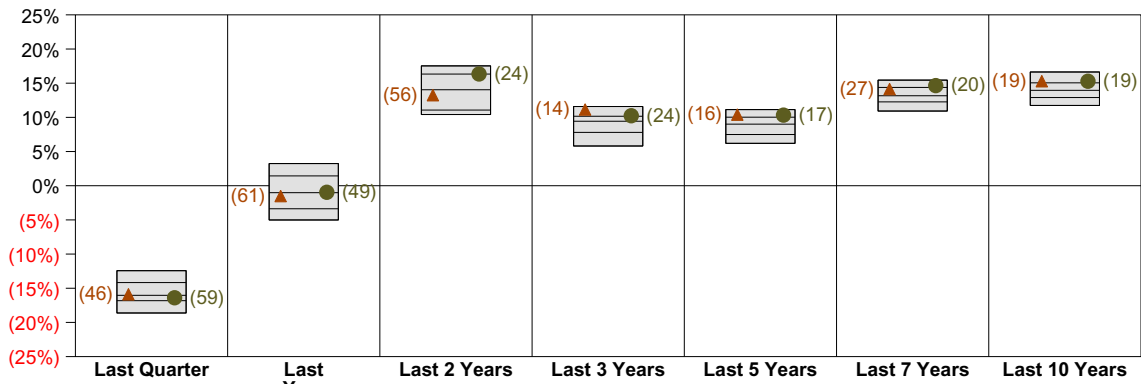
Quarterly Summary and Highlights

- Harbor Cap Appreciation's portfolio posted a (16.39)% return for the quarter placing it in the 59 percentile of the Callan Large Cap Growth Mutual Funds group for the quarter and in the 49 percentile for the last year.
- Harbor Cap Appreciation's portfolio underperformed the Russell 1000 Growth Index by 0.50% for the quarter and outperformed the Russell 1000 Growth Index for the year by 0.55%.

Quarterly Asset Growth

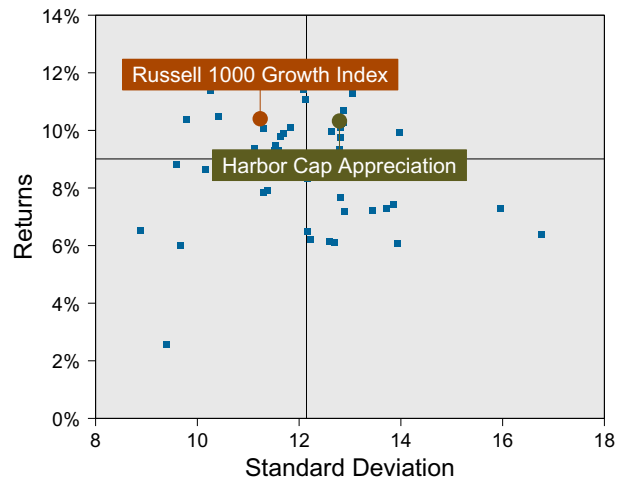
Beginning Market Value	\$38,195,980
Net New Investment	\$0
Investment Gains/(Losses)	\$-6,261,022
Ending Market Value	\$31,934,958

Performance vs Callan Large Cap Growth Mutual Funds (Net)

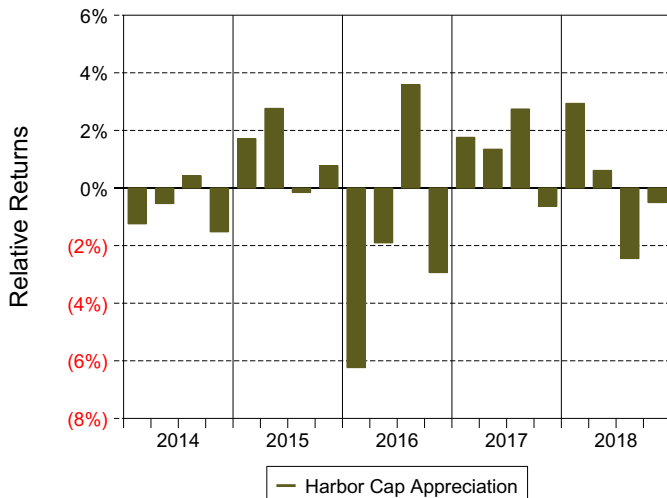


10th Percentile	(12.43)	3.24	17.53	11.59	11.14	15.45	16.64
25th Percentile	(14.17)	1.43	16.33	10.16	10.03	14.38	15.05
Median	(16.03)	(1.02)	14.04	9.43	9.01	13.16	13.96
75th Percentile	(16.82)	(3.37)	11.07	7.80	7.49	12.27	12.90
90th Percentile	(18.62)	(5.01)	10.42	5.81	6.20	10.92	11.74
Harbor Cap Appreciation	(16.39)	(0.96)	16.35	10.24	10.33	14.65	15.29
Russell 1000 Growth Index	(15.89)	(1.51)	13.24	11.15	10.40	14.14	15.29

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



Relative Return vs Russell 1000 Growth Index

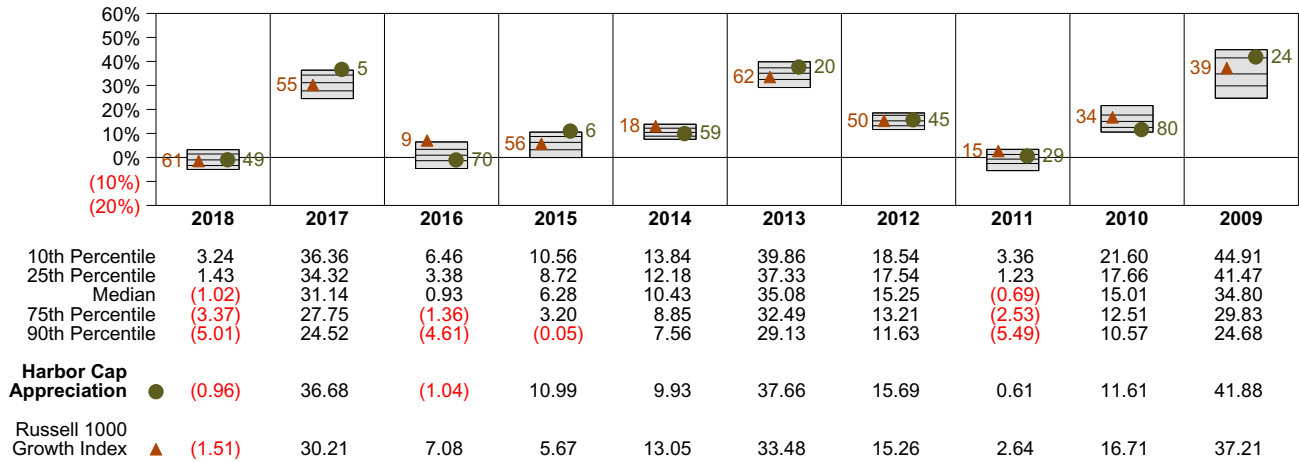


Harbor Cap Appreciation Return Analysis Summary

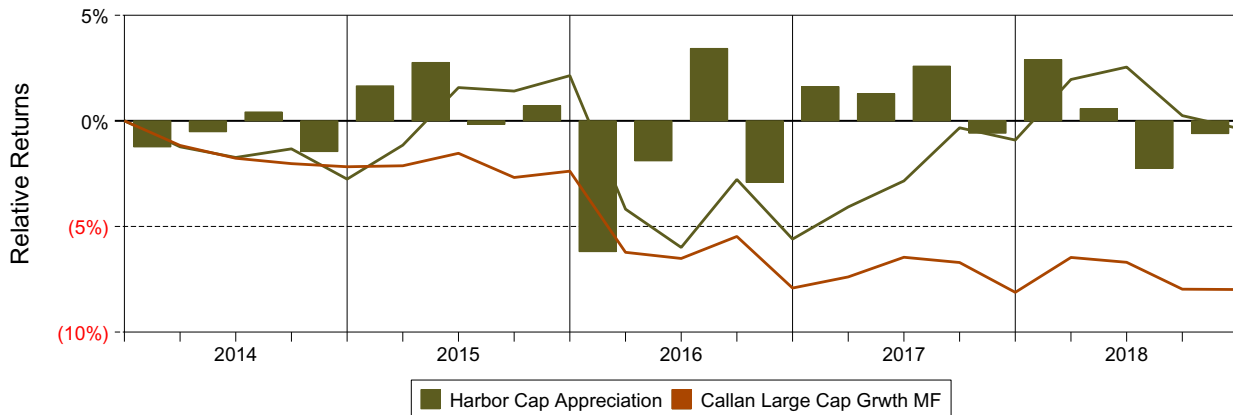
Return Analysis

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.

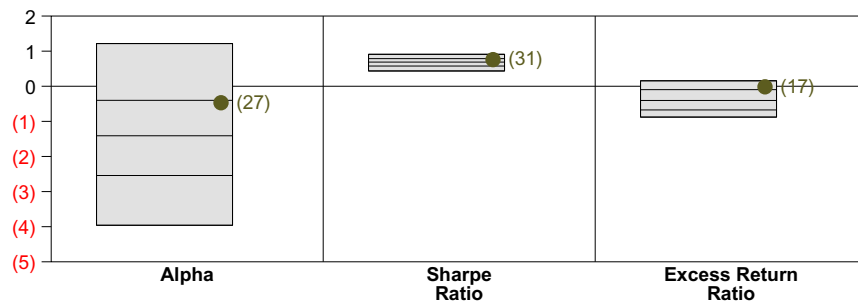
Performance vs Callan Large Cap Growth Mutual Funds (Net)



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 December 31, 2018



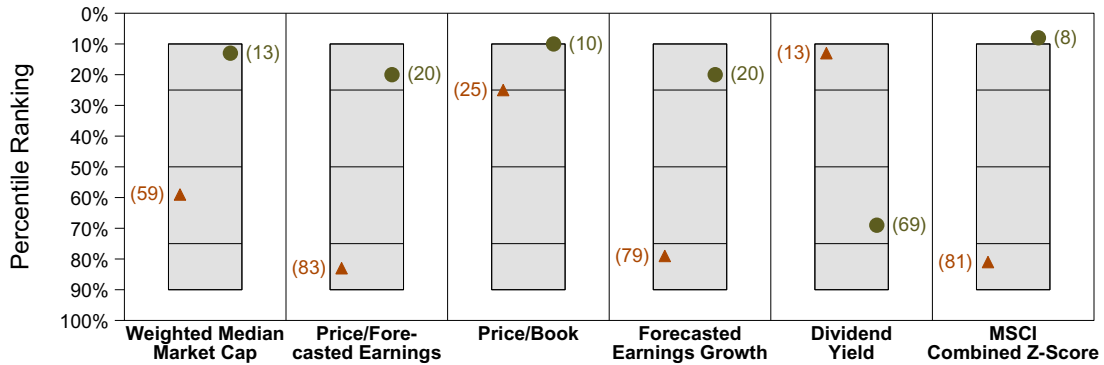
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.22	0.91	0.16
25th Percentile	(0.40)	0.79	(0.10)
Median	(1.41)	0.69	(0.40)
75th Percentile	(2.54)	0.58	(0.67)
90th Percentile	(3.96)	0.44	(0.88)
Harbor Cap Appreciation	(0.47)	0.76	(0.02)

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.

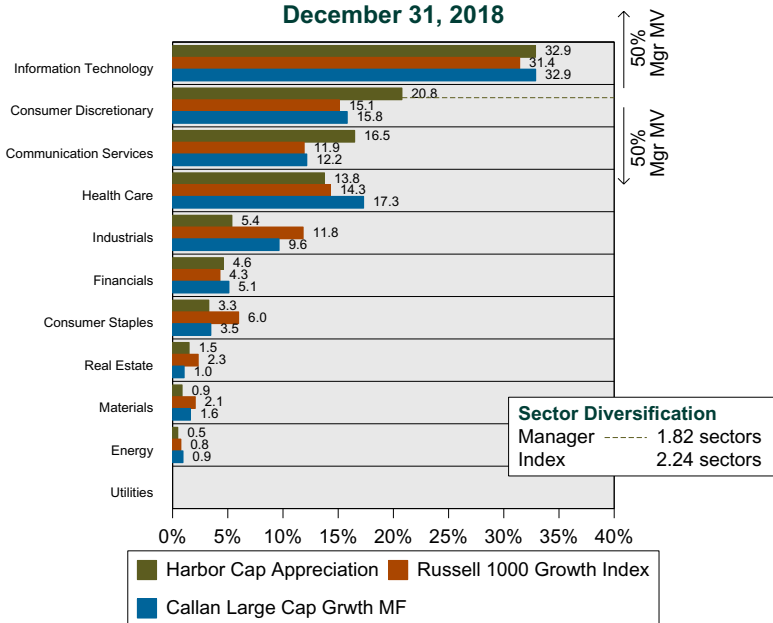
Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Growth Mutual Funds as of December 31, 2018



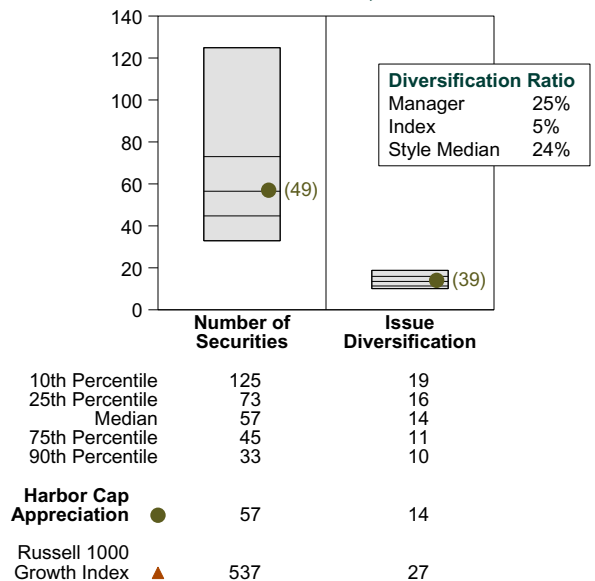
Sector Weights

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 December 31, 2018



Diversification December 31, 2018



Fidelity Low Priced Stock Period Ended December 31, 2018

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.

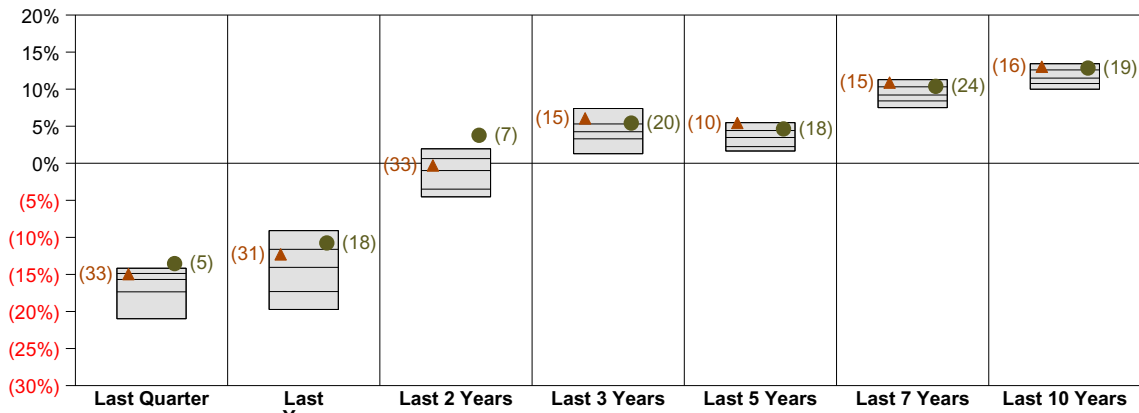
Quarterly Summary and Highlights

- Fidelity Low Priced Stock's portfolio posted a (13.54)% return for the quarter placing it in the 5 percentile of the Callan Mid Cap Value Mutual Funds group for the quarter and in the 18 percentile for the last year.
- Fidelity Low Priced Stock's portfolio outperformed the Russell MidCap Value Idx by 1.42% for the quarter and outperformed the Russell MidCap Value Idx for the year by 1.54%.

Quarterly Asset Growth

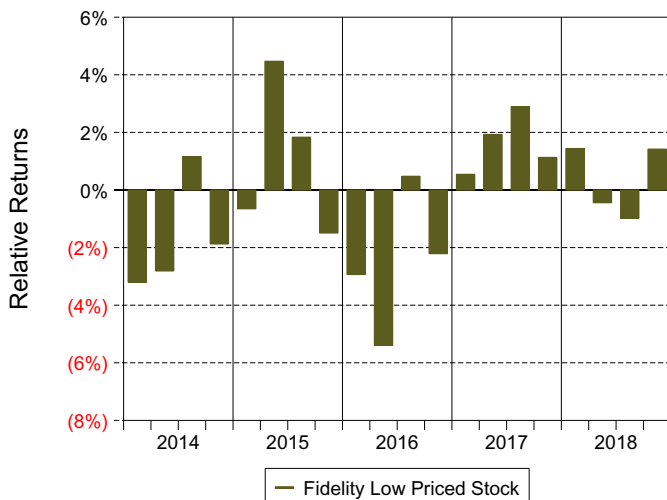
Beginning Market Value	\$15,834,152
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,143,475
Ending Market Value	\$13,690,677

Performance vs Callan Mid Cap Value Mutual Funds (Net)

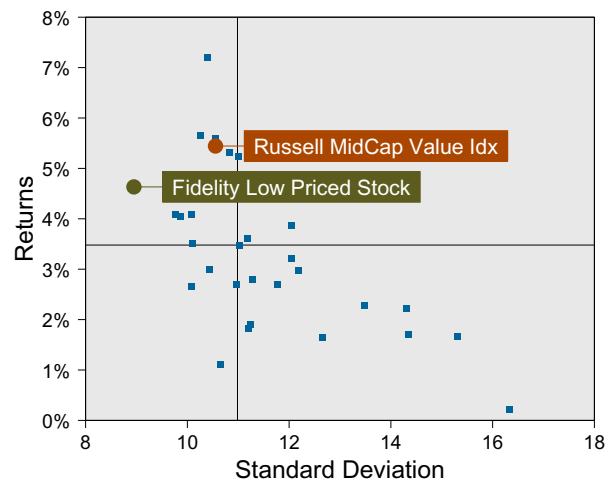


10th Percentile	(14.16)	(9.09)	1.95	7.39	5.48	11.29	13.43
25th Percentile	(14.87)	(11.61)	0.63	5.30	4.42	10.31	12.60
Median	(15.68)	(14.05)	(0.99)	4.26	3.48	9.21	11.49
75th Percentile	(17.35)	(17.31)	(3.49)	3.30	2.25	8.41	10.76
90th Percentile	(20.97)	(19.73)	(4.53)	1.29	1.65	7.51	9.99
Fidelity Low Priced Stock	● (13.54)	(10.75)	3.77	5.42	4.63	10.38	12.85
Russell MidCap Value Idx	▲ (14.95)	(12.29)	(0.29)	6.06	5.44	10.89	13.03

Relative Return vs Russell MidCap Value Idx



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

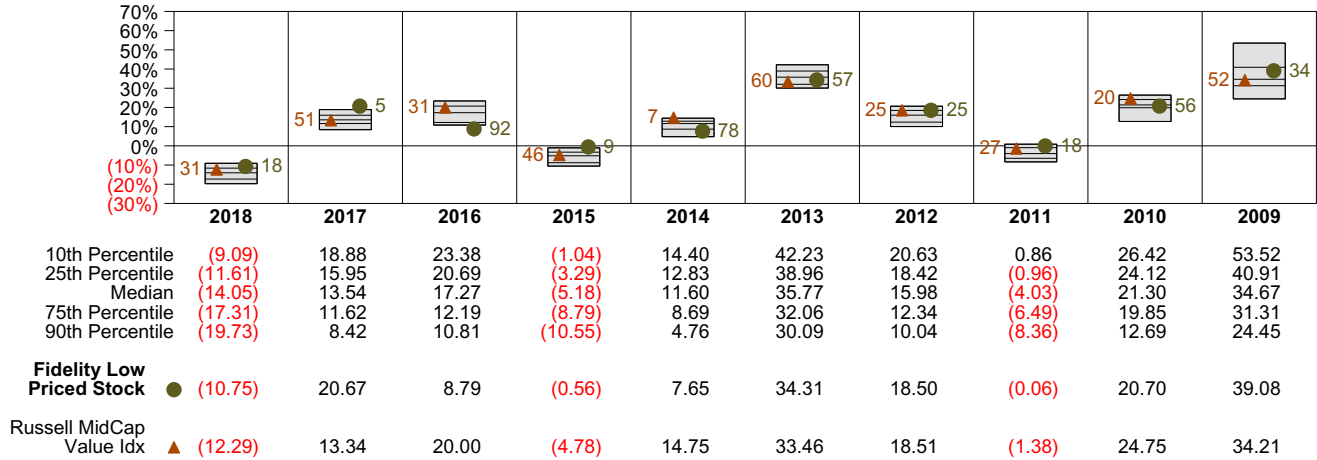


Fidelity Low Priced Stock Return Analysis Summary

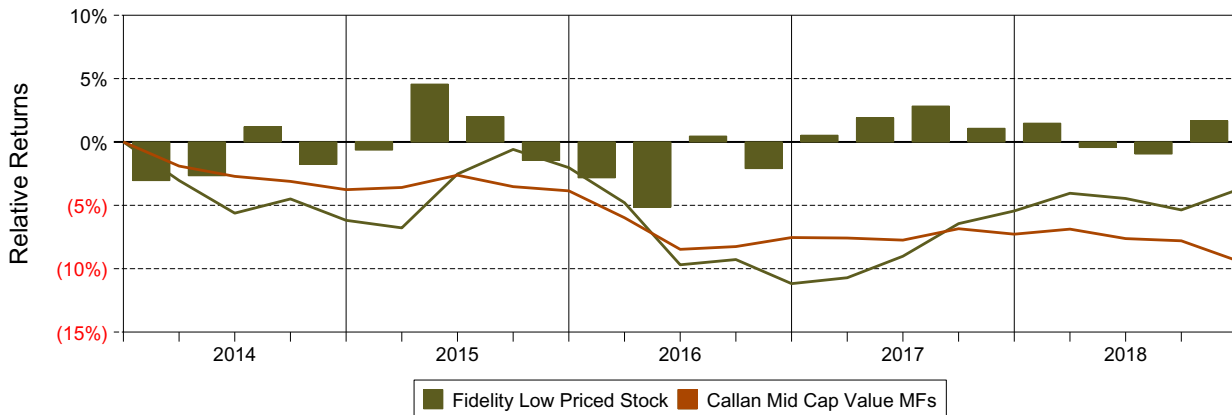
Return Analysis

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.

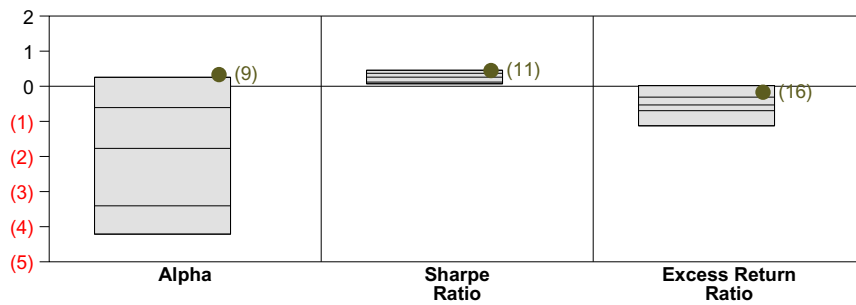
Performance vs Callan Mid Cap Value Mutual Funds (Net)



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 December 31, 2018

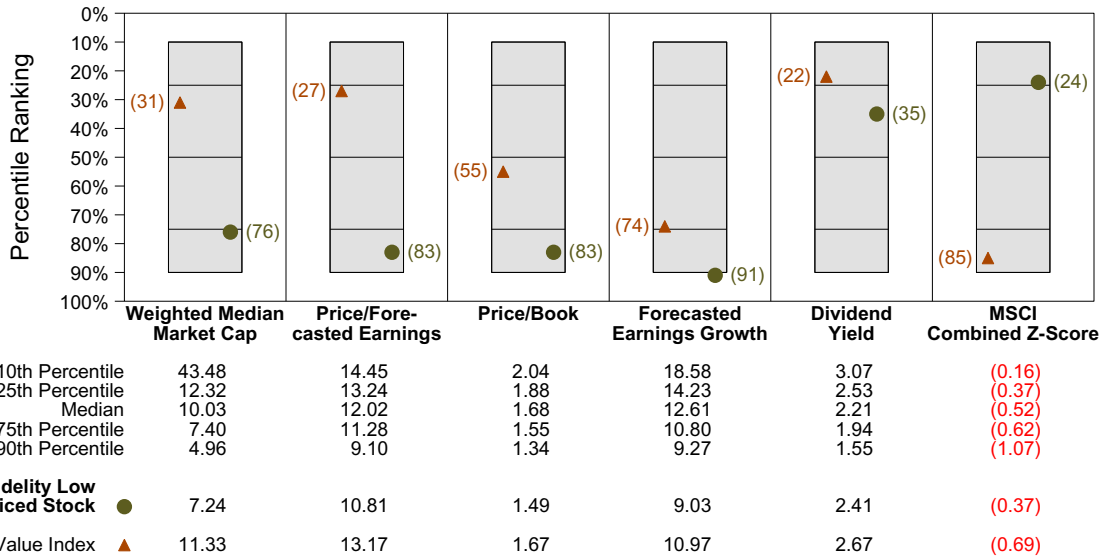


Fidelity Low Priced Stock Equity Characteristics Analysis Summary

Portfolio Characteristics

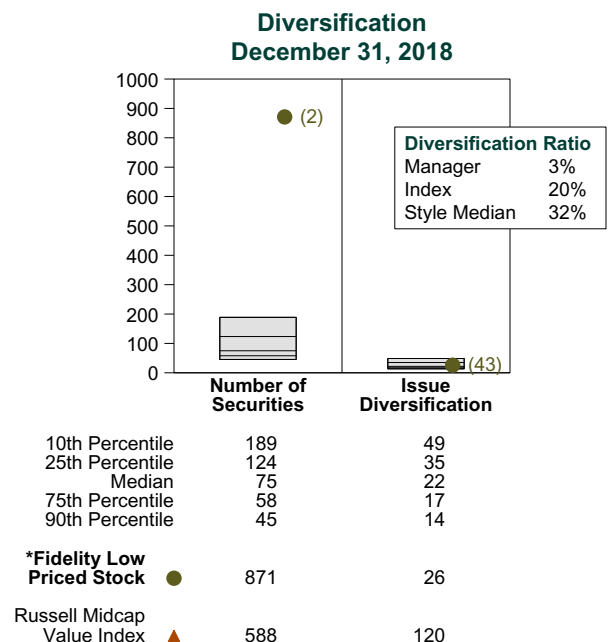
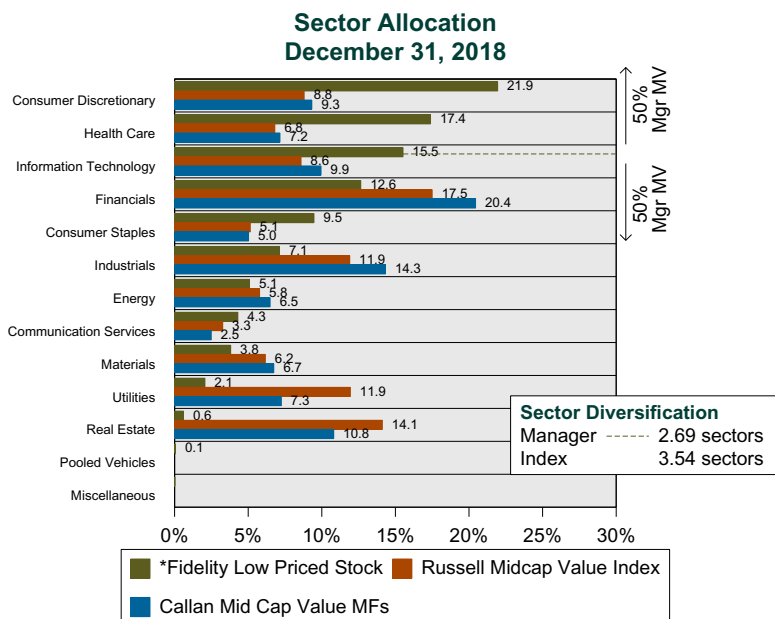
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Mid Cap Value Mutual Funds as of December 31, 2018



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.



*12/31/18 portfolio characteristics generated using most recently available holdings (10/31/18) 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 December 31, 2018

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.

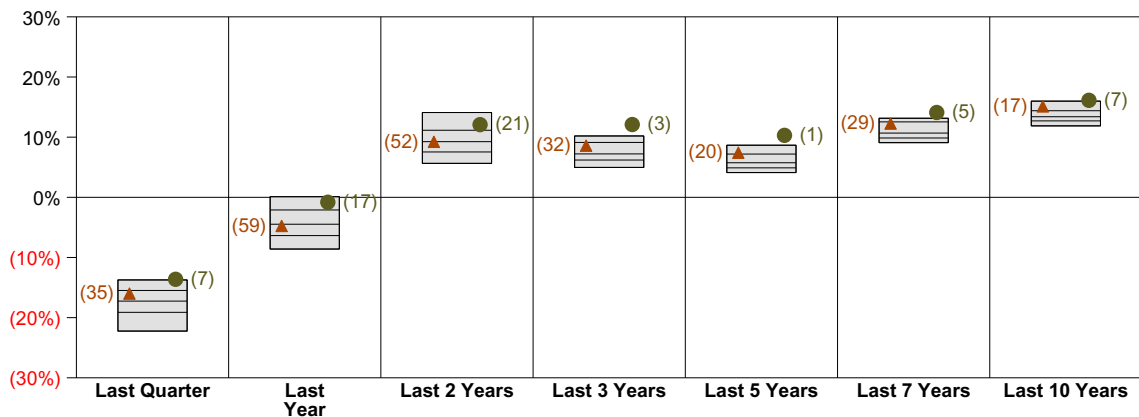
Quarterly Summary and Highlights

- Janus Enterprise's portfolio posted a (13.63)% return for the quarter placing it in the 7 percentile of the Callan Mid Cap Growth Mutual Funds group for the quarter and in the 17 percentile for the last year.
- Janus Enterprise's portfolio outperformed the Russell MidCap Growth Idx by 2.37% for the quarter and outperformed the Russell MidCap Growth Idx for the year by 3.94%.

Quarterly Asset Growth

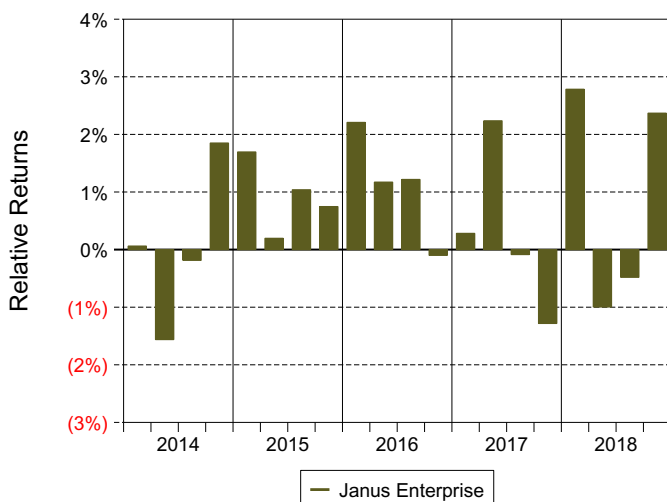
Beginning Market Value	\$17,575,947
Net New Investment	\$-0
Investment Gains/(Losses)	\$-2,394,838
Ending Market Value	\$15,181,110

Performance vs Callan Mid Cap Growth Mutual Funds (Net)

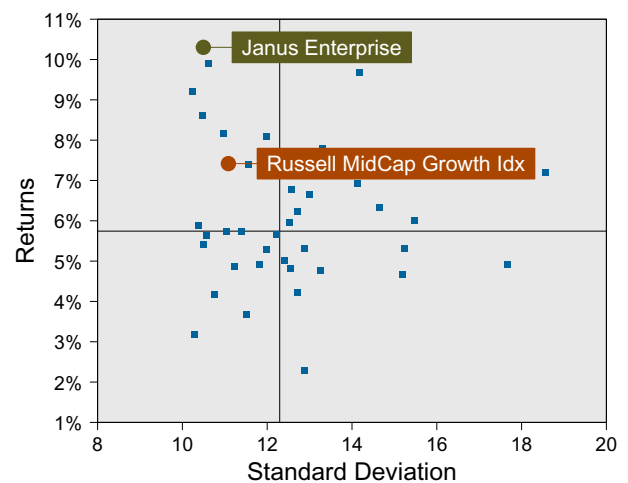


10th Percentile	(13.73)	0.10	14.10	10.20	8.66	13.14	15.99
25th Percentile	(15.48)	(2.10)	11.15	9.12	7.19	12.54	14.39
Median	(17.25)	(4.47)	9.25	7.21	5.74	10.68	13.40
75th Percentile	(19.12)	(6.36)	7.54	6.20	4.90	9.86	12.70
90th Percentile	(22.24)	(8.60)	5.64	4.97	4.11	9.09	11.88
Janus Enterprise ●	(13.63)	(0.81)	12.08	12.10	10.30	14.10	16.13
Russell MidCap Growth Idx ▲	(15.99)	(4.75)	9.23	8.59	7.42	12.27	15.12

Relative Return vs Russell MidCap Growth Idx



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

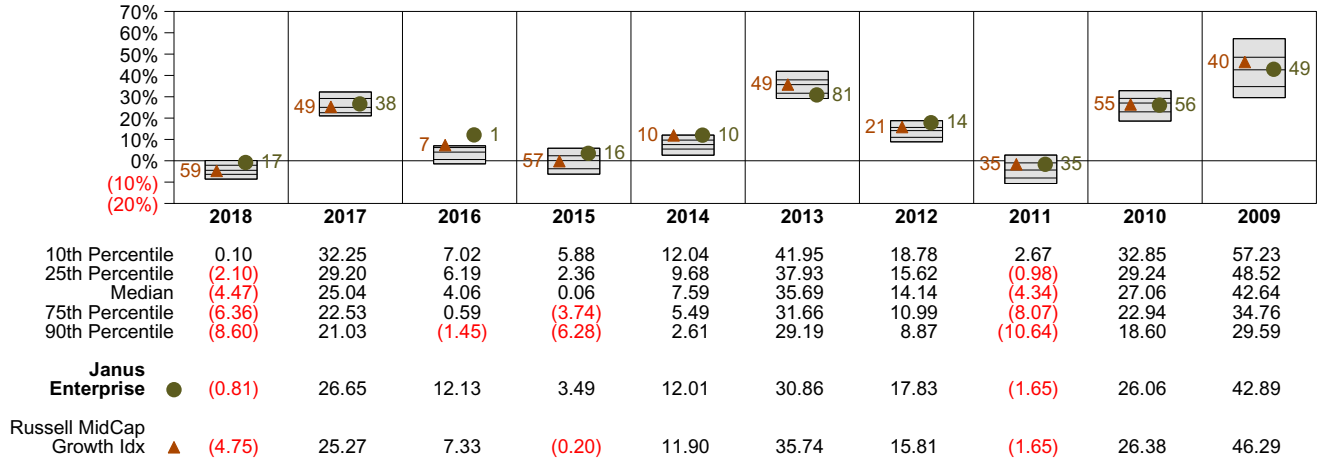


Janus Enterprise Return Analysis Summary

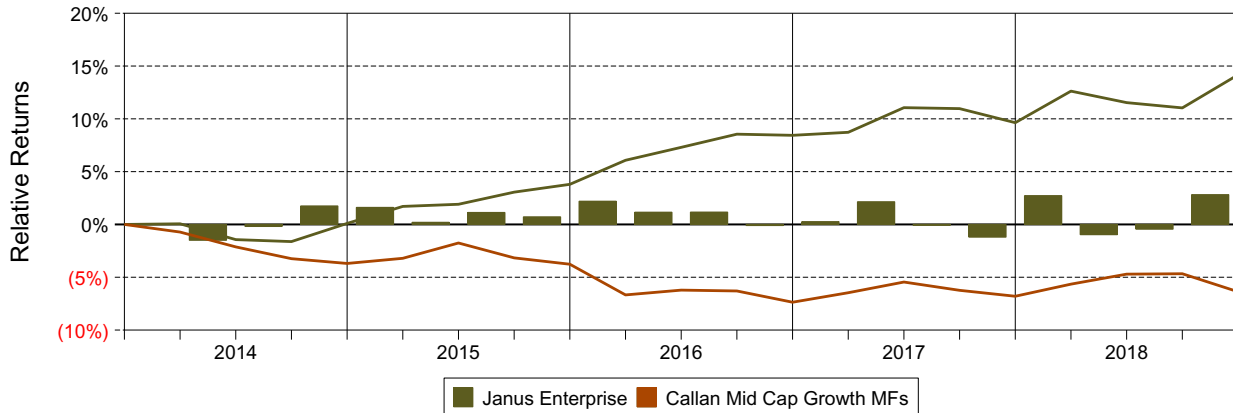
Return Analysis

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.

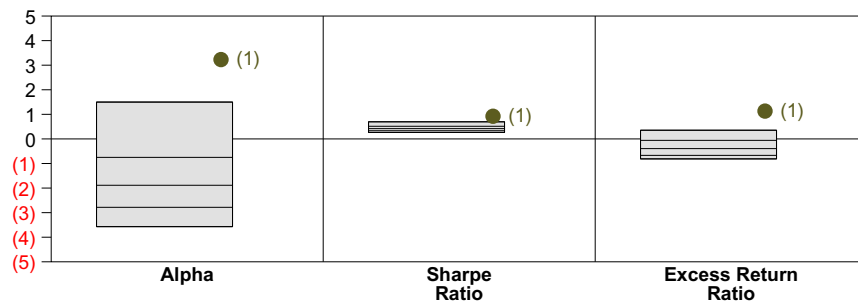
Performance vs Callan Mid Cap Growth Mutual Funds (Net)



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 December 31, 2018



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.50	0.70	0.35
25th Percentile	(0.75)	0.51	(0.06)
Median	(1.89)	0.42	(0.39)
75th Percentile	(2.78)	0.33	(0.67)
90th Percentile	(3.57)	0.26	(0.81)
Janus Enterprise	● 3.23	0.92	1.13

Janus Enterprise Equity Characteristics Analysis Summary

Portfolio Characteristics

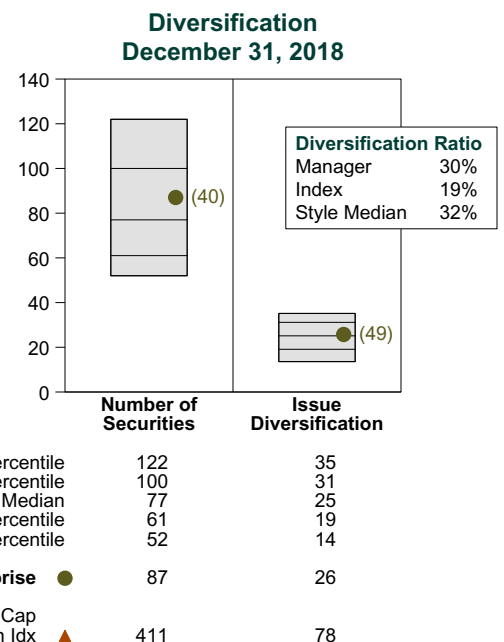
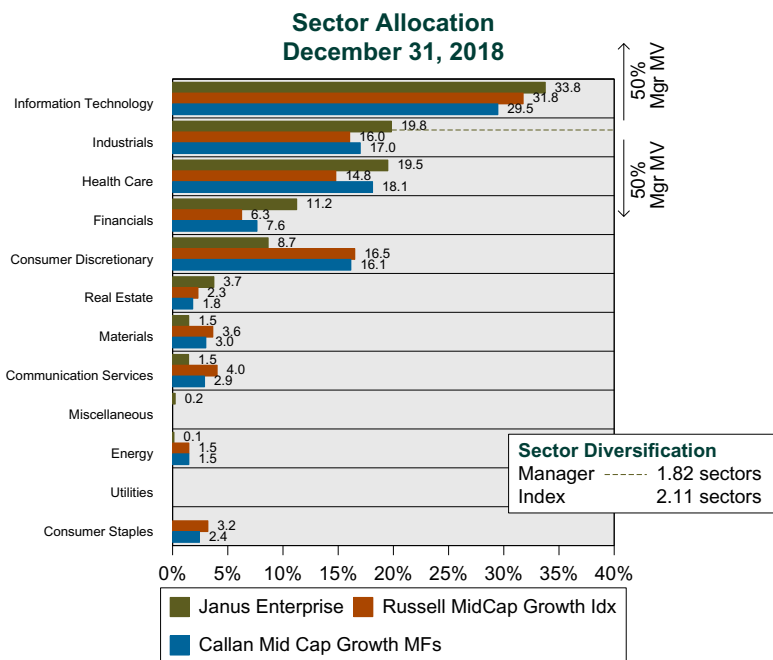
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Mid Cap Growth Mutual Funds as of December 31, 2018



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 December 31, 2018

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.

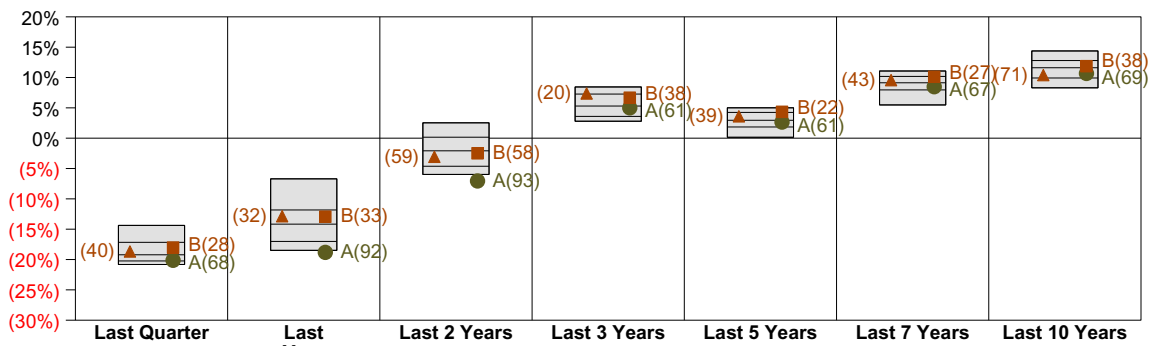
Quarterly Summary and Highlights

- Prudential Small Cap Value's portfolio posted a (20.13)% return for the quarter placing it in the 68 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 1.46% for the quarter and underperformed the Russell 2000 Value Index for the year by 5.96%.

Quarterly Asset Growth

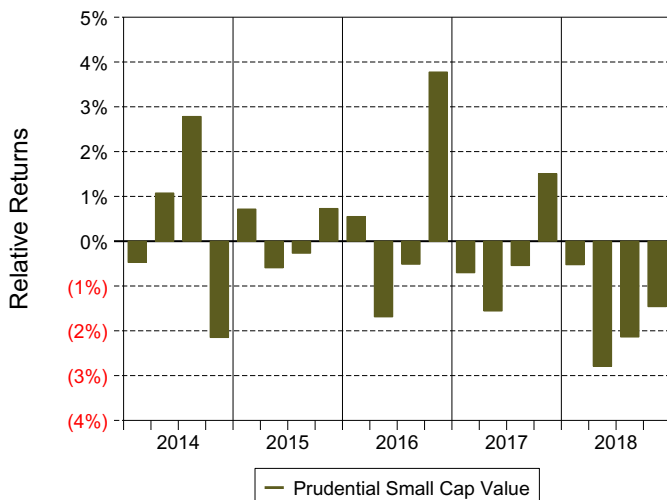
Beginning Market Value	\$14,177,912
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,853,663
Ending Market Value	\$11,324,250

Performance vs Callan Small Cap Value Mutual Funds (Net)

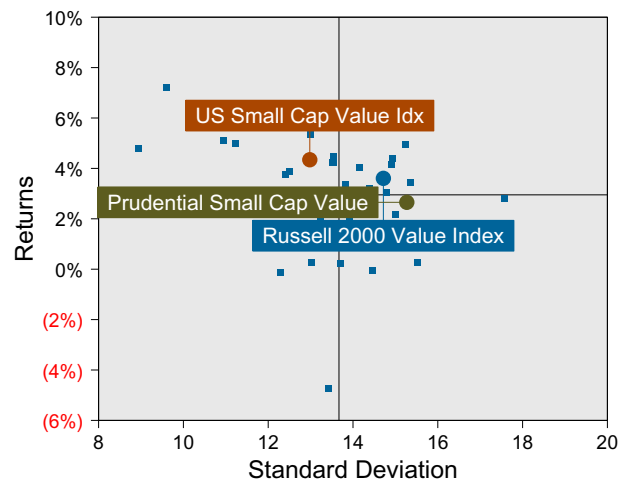


	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	(14.37)	(6.70)	2.53	8.45	5.01	11.07	14.38
25th Percentile	(17.17)	(11.83)	0.16	7.27	4.25	10.18	12.80
Median	(19.22)	(14.17)	(2.08)	5.30	2.95	9.13	11.61
75th Percentile	(20.23)	(17.02)	(4.63)	3.59	1.85	7.96	9.92
90th Percentile	(20.82)	(18.49)	(5.97)	2.79	0.15	5.48	8.30
Prudential Small Cap Value	● A (20.13)	(18.82)	(7.05)	5.00	2.65	8.48	10.67
US Small Cap Value Idx	■ B (18.03)	(12.94)	(2.49)	6.67	4.34	10.13	11.87
Russell 2000 Value Index	▲ (18.67)	(12.86)	(3.06)	7.37	3.61	9.57	10.40

Relative Return vs Russell 2000 Value Index



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

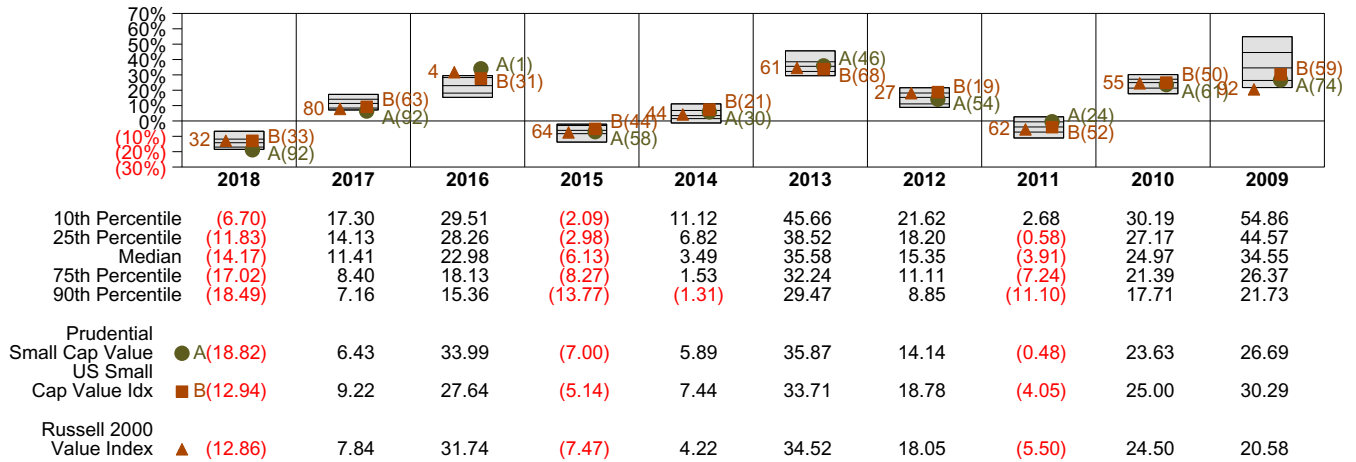


Prudential Small Cap Value Return Analysis Summary

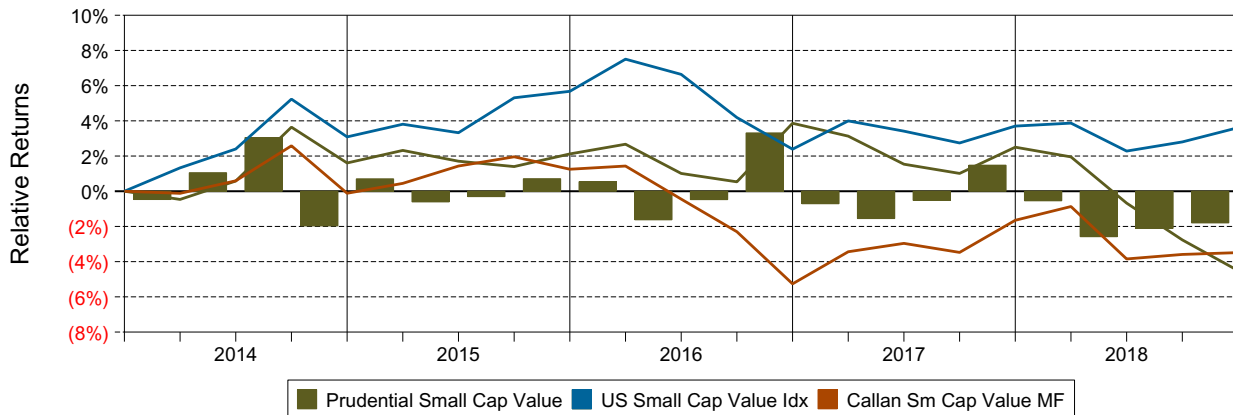
Return Analysis

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.

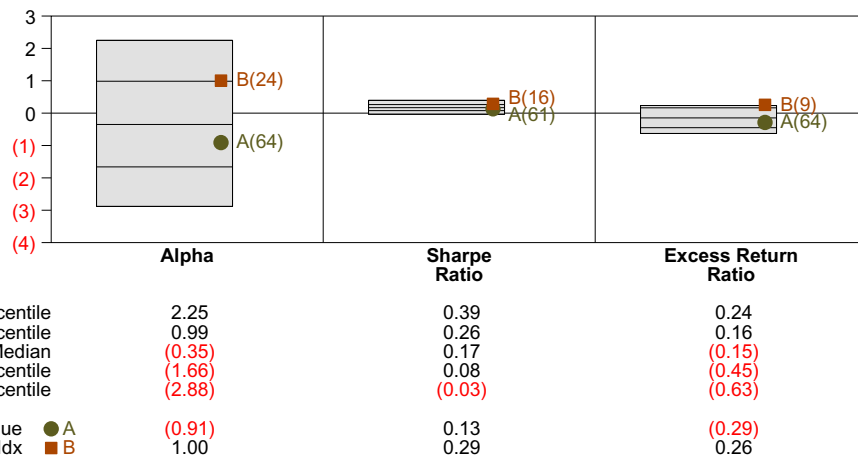
Performance vs Callan Small Cap Value Mutual Funds (Net)



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 December 31, 2018

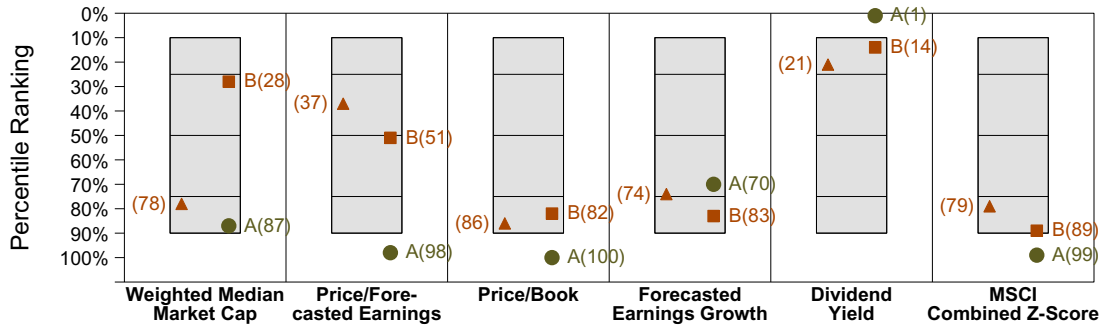


Prudential Small Cap Value Equity Characteristics Analysis Summary

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 December 31, 2018

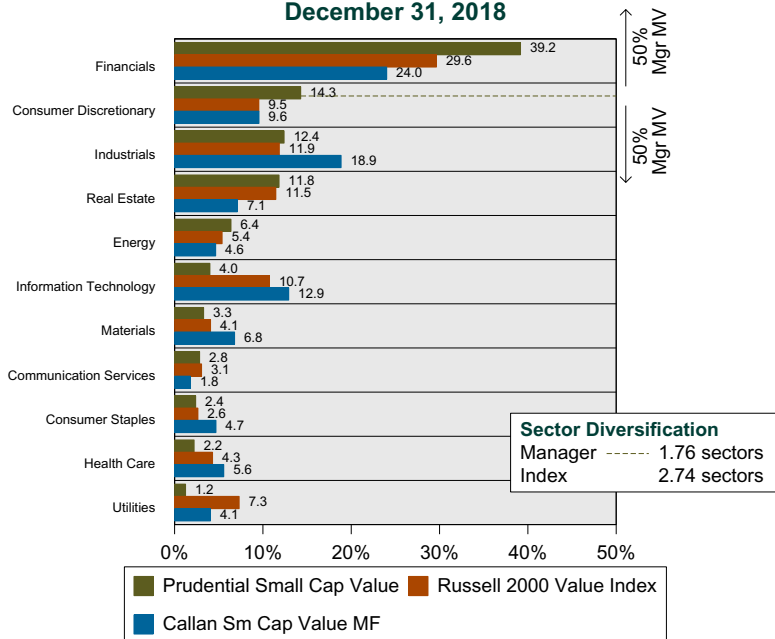


	Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	3.69	16.50	2.19	15.85	3.01	0.15
25th Percentile	2.39	14.92	1.86	14.06	2.21	(0.02)
Median	2.01	12.63	1.53	12.02	1.76	(0.37)
75th Percentile	1.68	11.30	1.38	9.45	1.51	(0.53)
90th Percentile	1.14	10.33	1.15	8.09	1.25	(0.68)
Prudential Small Cap Value	1.35	9.34	0.90	10.16	3.64	(1.07)
US Small Cap Value Idx	2.30	12.58	1.28	8.49	2.89	(0.65)
Russell 2000 Value Index	1.62	13.61	1.20	9.76	2.45	(0.55)

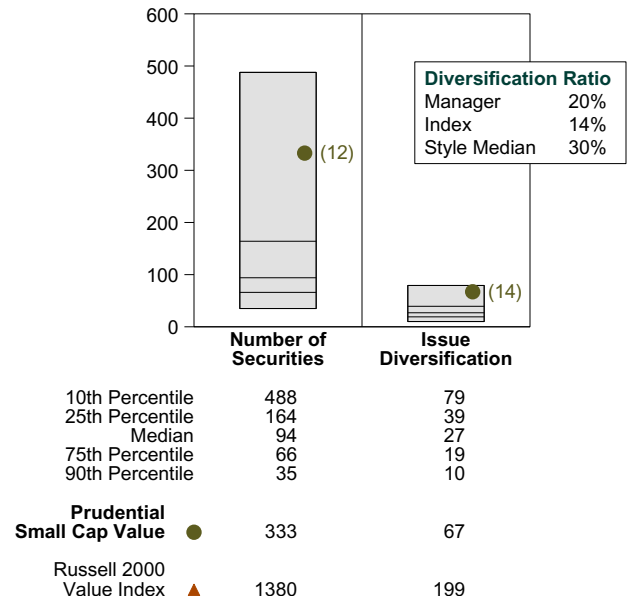
Sector Weights

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 December 31, 2018



Diversification December 31, 2018



AB US Small Growth Period Ended December 31, 2018

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.

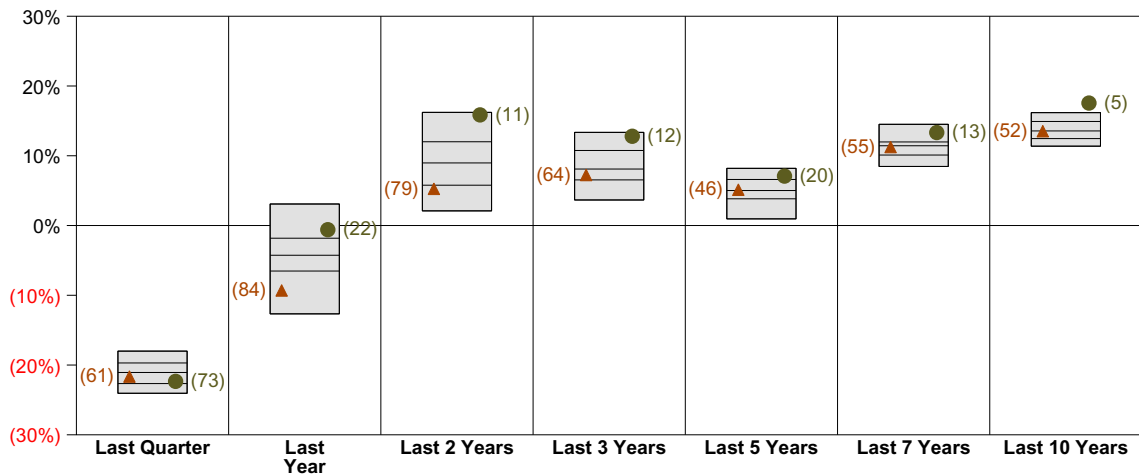
Quarterly Summary and Highlights

- AB US Small Growth's portfolio posted a (22.34)% return for the quarter placing it in the 73 percentile of the Callan Small Cap Growth Mutual Funds group for the quarter and in the 22 percentile for the last year.
- AB US Small Growth's portfolio underperformed the Russell 2000 Growth Index by 0.69% for the quarter and outperformed the Russell 2000 Growth Index for the year by 8.71%.

Quarterly Asset Growth

Beginning Market Value	\$19,294,834
Net New Investment	\$0
Investment Gains/(Losses)	\$-4,310,495
Ending Market Value	\$14,984,339

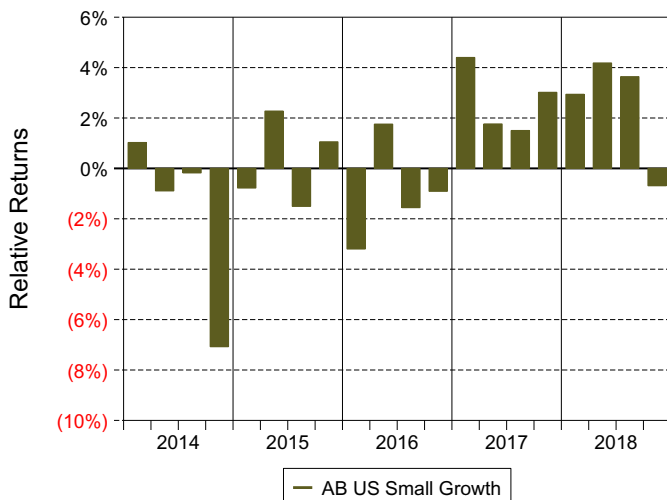
Performance vs Callan Small Cap Growth Mutual Funds (Net)



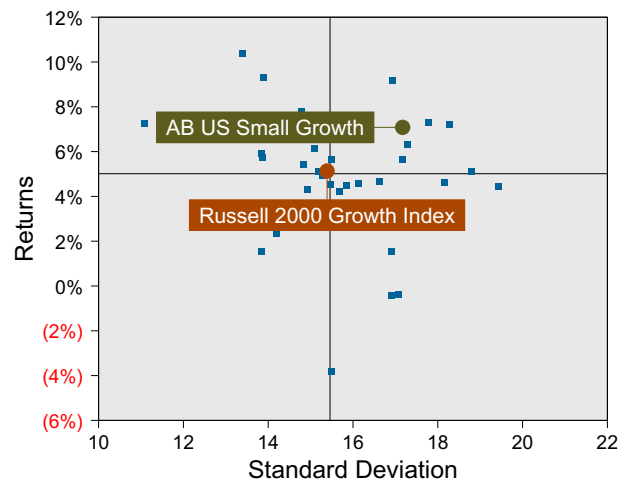
10th Percentile	(18.00)	3.08	16.22	13.35	8.19	14.51	16.18
25th Percentile	(19.70)	(1.82)	12.01	10.76	6.60	11.98	14.91
Median	(21.06)	(4.26)	8.97	8.10	5.01	11.43	13.56
75th Percentile	(22.66)	(6.53)	5.78	6.54	3.83	10.10	12.46
90th Percentile	(24.05)	(12.66)	2.10	3.66	0.95	8.47	11.37

AB US Small Growth ●	(22.34)	(0.60)	15.86	12.79	7.08	13.33	17.55
Russell 2000 Growth Index ▲	(21.65)	(9.31)	5.26	7.24	5.13	11.25	13.52

Relative Return vs Russell 2000 Growth Index



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

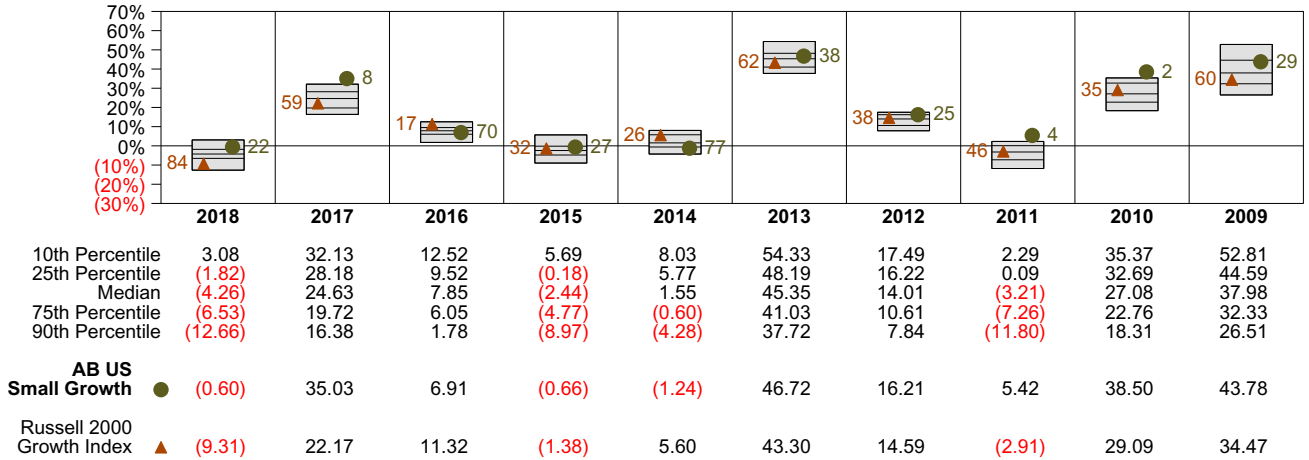


AB US Small Growth Return Analysis Summary

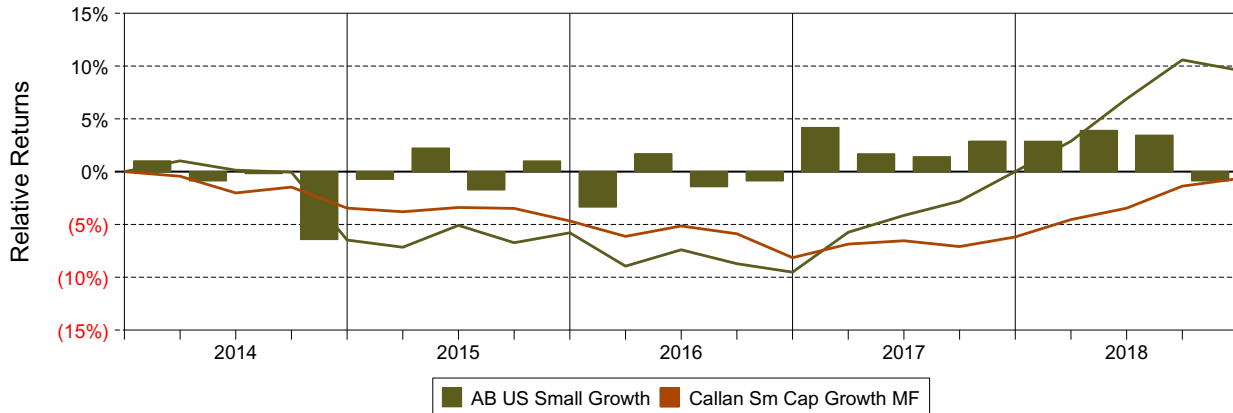
Return Analysis

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.

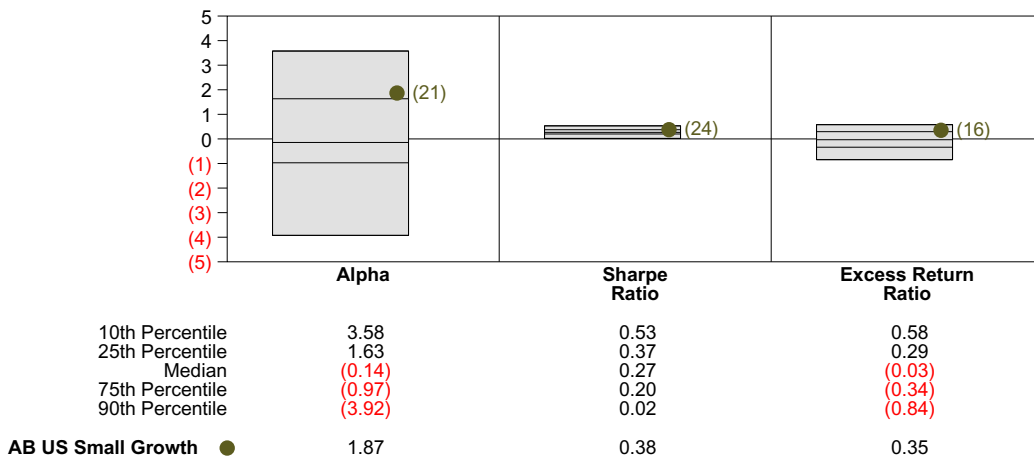
Performance vs Callan Small Cap Growth Mutual Funds (Net)



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 December 31, 2018

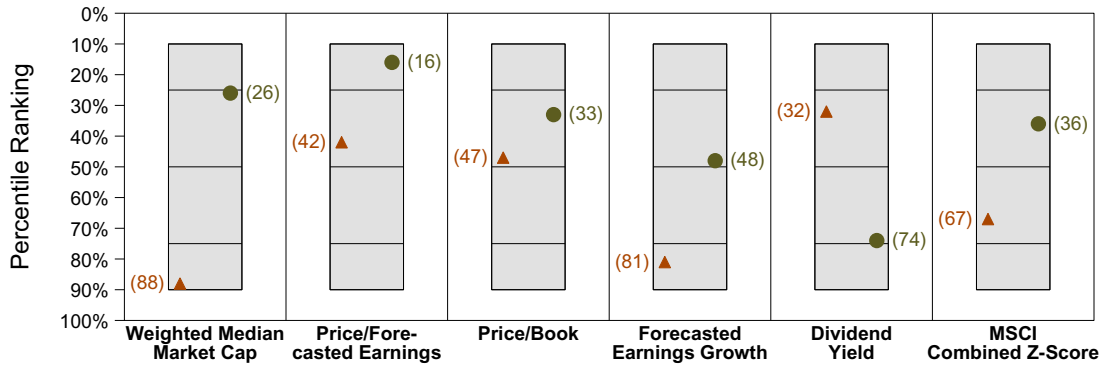


AB US Small Growth Equity Characteristics Analysis Summary

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.

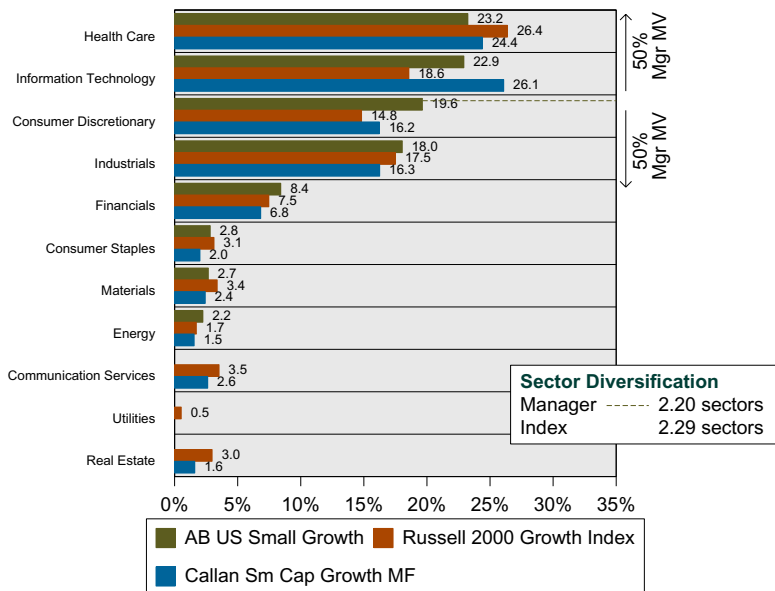
Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Growth Mutual Funds as of December 31, 2018



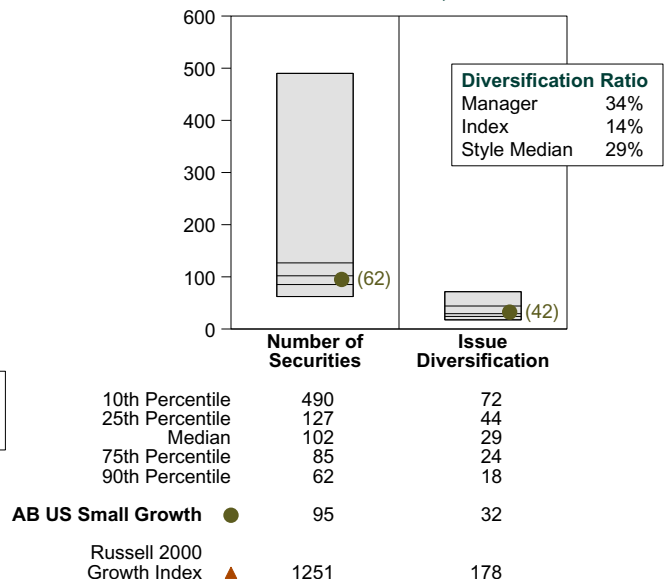
Sector Weights

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 December 31, 2018



Diversification December 31, 2018



International Equity Composite Period Ended December 31, 2018

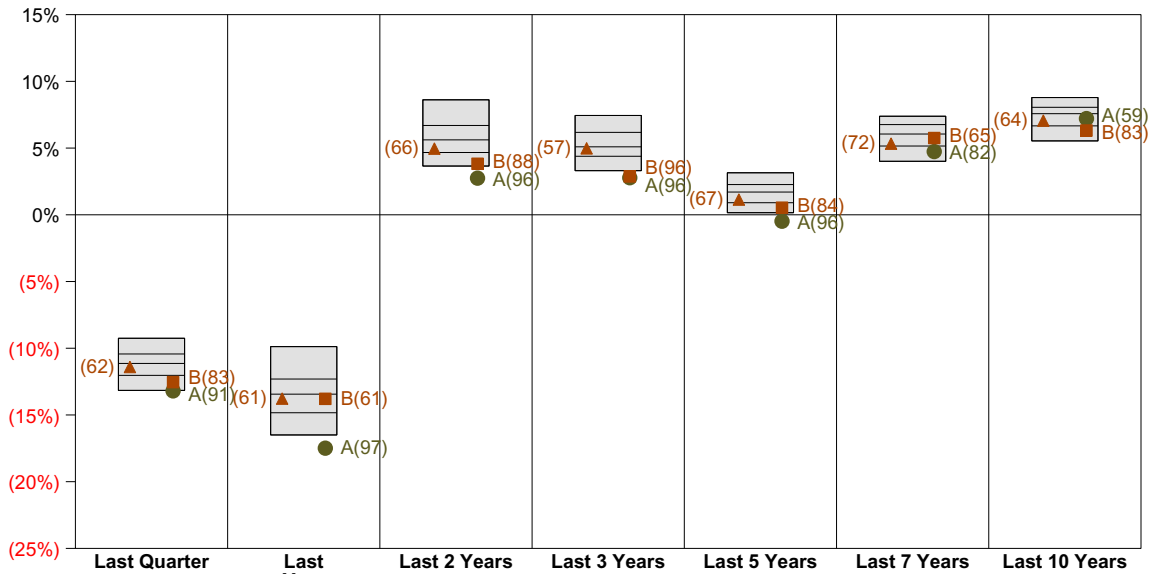
Quarterly Summary and Highlights

- International Equity Composite's portfolio posted a (13.20)% return for the quarter placing it in the 91 percentile of the Public Fund - International Equity group for the quarter and in the 97 percentile for the last year.
- International Equity Composite's portfolio underperformed the MSCI ACWixUS Gross by 1.79% for the quarter and underperformed the MSCI ACWixUS Gross for the year by 3.72%.

Quarterly Asset Growth

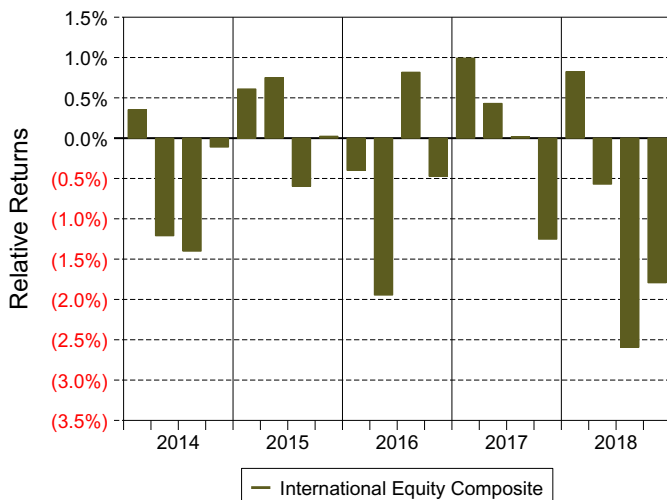
Beginning Market Value	\$147,890,970
Net New Investment	\$0
Investment Gains/(Losses)	\$-19,399,640
Ending Market Value	\$128,491,331

Performance vs Public Fund - International Equity (Gross)

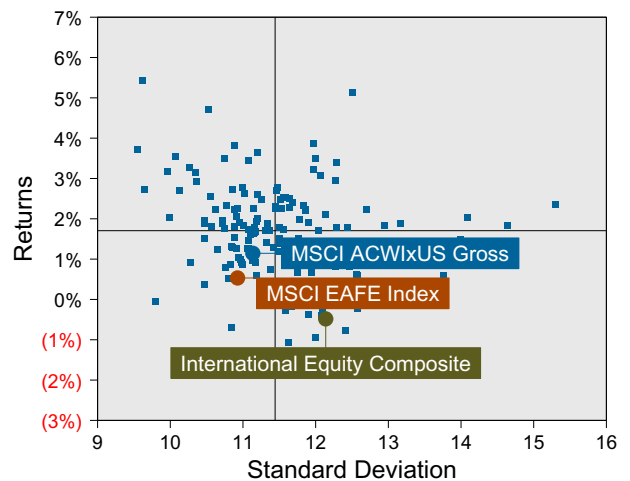


	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	(9.25)	(9.88)	8.62	7.44	3.15	7.39	8.79
25th Percentile	(10.43)	(12.31)	6.69	6.18	2.27	6.76	8.06
Median	(11.14)	(13.44)	5.61	5.09	1.71	6.05	7.58
75th Percentile	(12.03)	(14.83)	4.67	4.39	0.91	5.15	6.66
90th Percentile	(13.16)	(16.50)	3.65	3.31	0.16	4.01	5.54
International Equity Composite	● A (13.20)	(17.49)	2.74	2.78	(0.48)	4.74	7.21
MSCI EAFE Index	■ B (12.54)	(13.79)	3.82	2.87	0.53	5.75	6.32
MSCI ACWixUS Gross	▲ (11.40)	(13.77)	4.96	4.98	1.14	5.33	7.06

Relative Return vs MSCI ACWixUS Gross



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

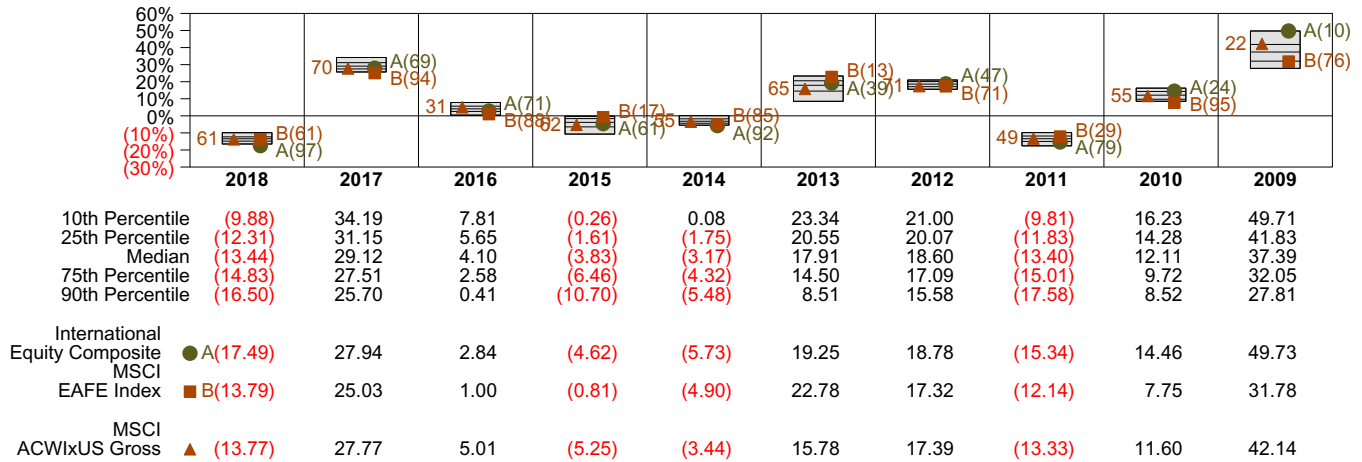


International Equity Composite Return Analysis Summary

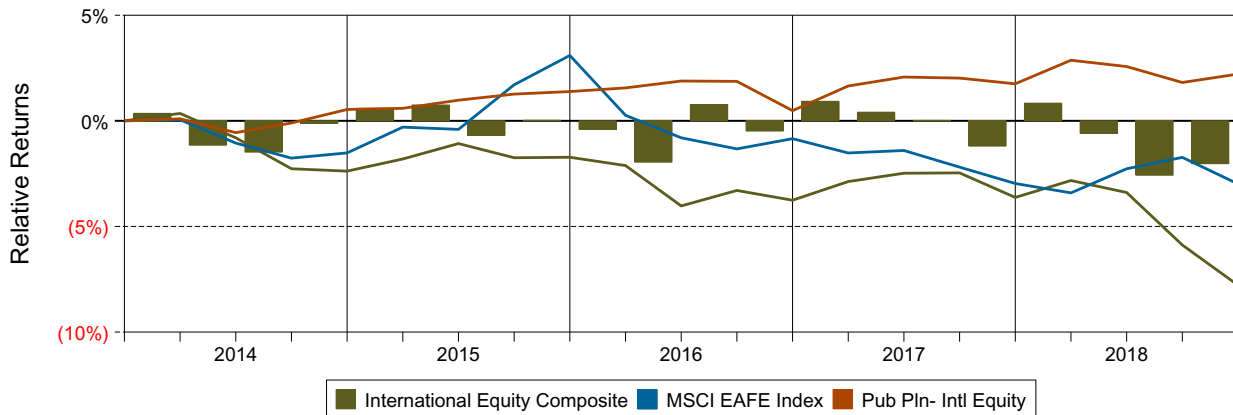
Return Analysis

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.

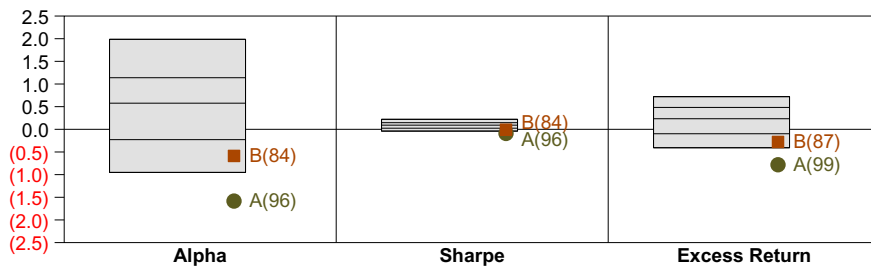
Performance vs Public Fund - International Equity (Gross)



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 December 31, 2018



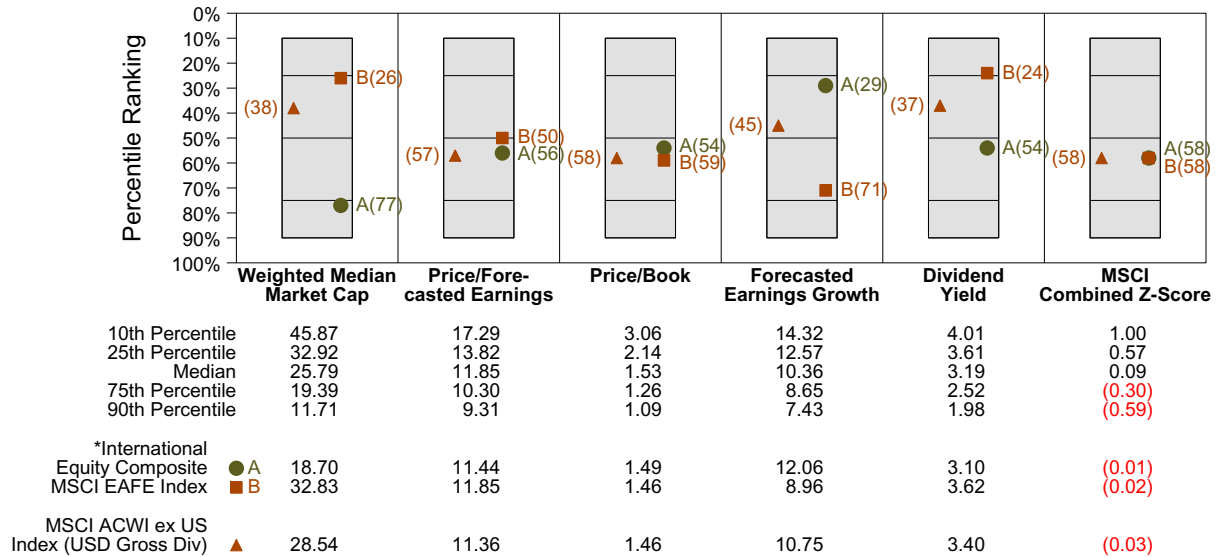
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.99	0.22	0.72
25th Percentile	1.14	0.15	0.48
Median	0.58	0.09	0.23
75th Percentile	(0.23)	0.02	(0.10)
90th Percentile	(0.95)	(0.04)	(0.41)
International Equity Composite	● A	(1.58)	(0.78)
MSCI EAFE Index	■ B	(0.59)	(0.28)

International Equity Composite Equity Characteristics Analysis Summary

Portfolio Characteristics

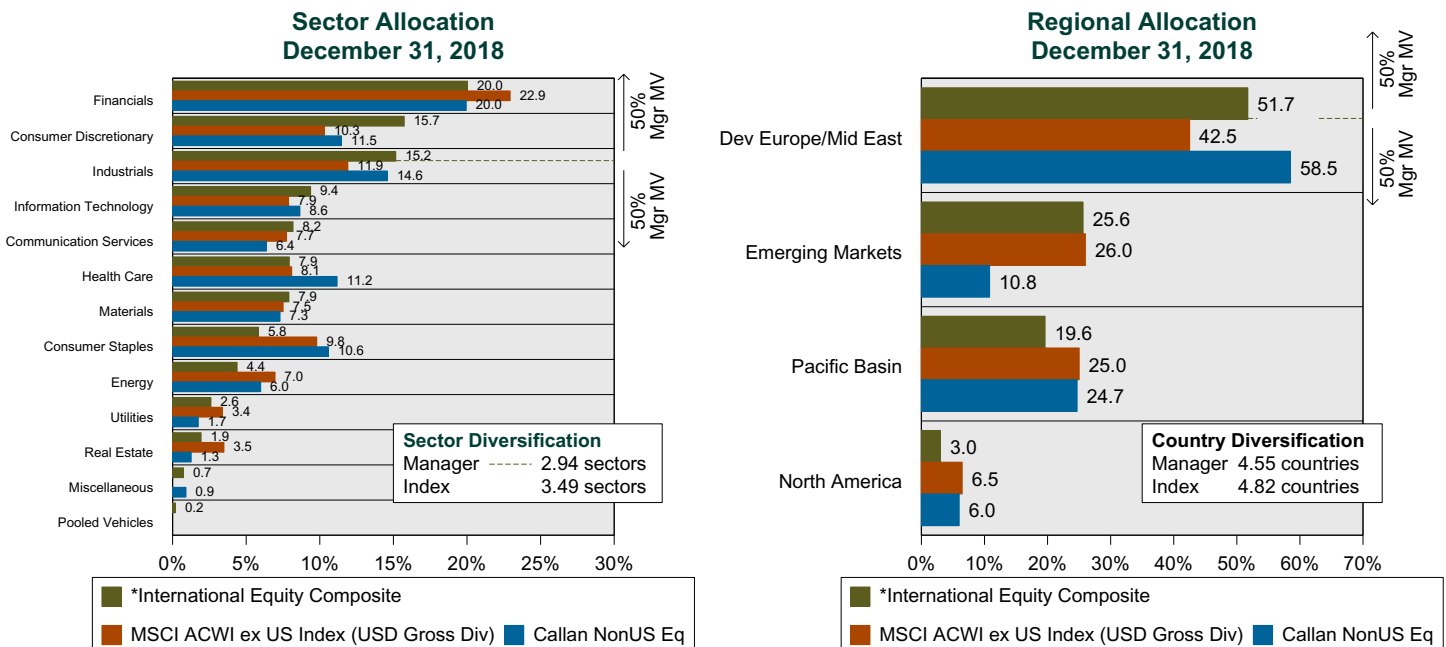
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Equity as of December 31, 2018



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.



*12/31/18 portfolio characteristics generated using most recently available holdings (9/30/18) 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.

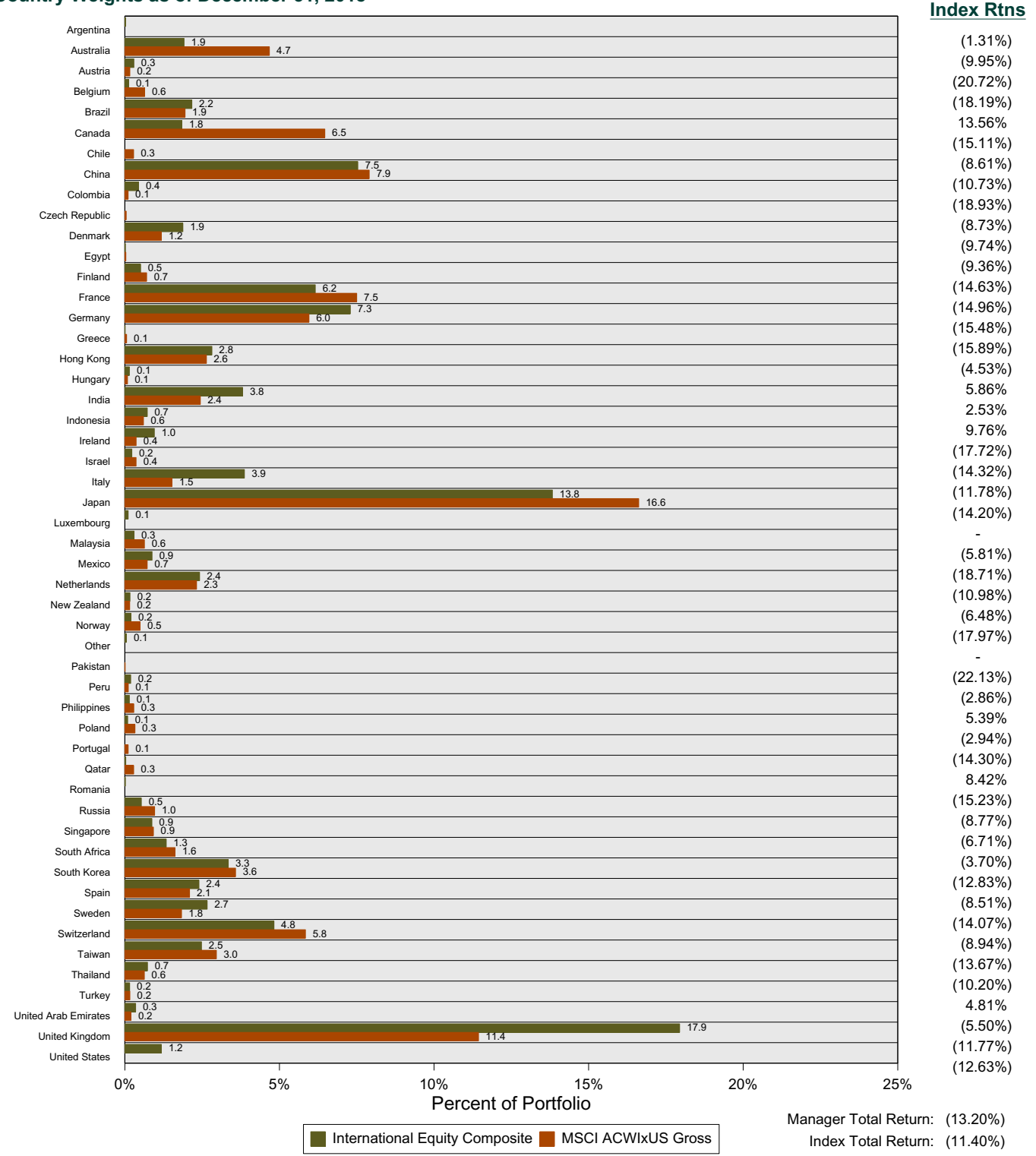
Country Allocation

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 December 31, 2018. 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.

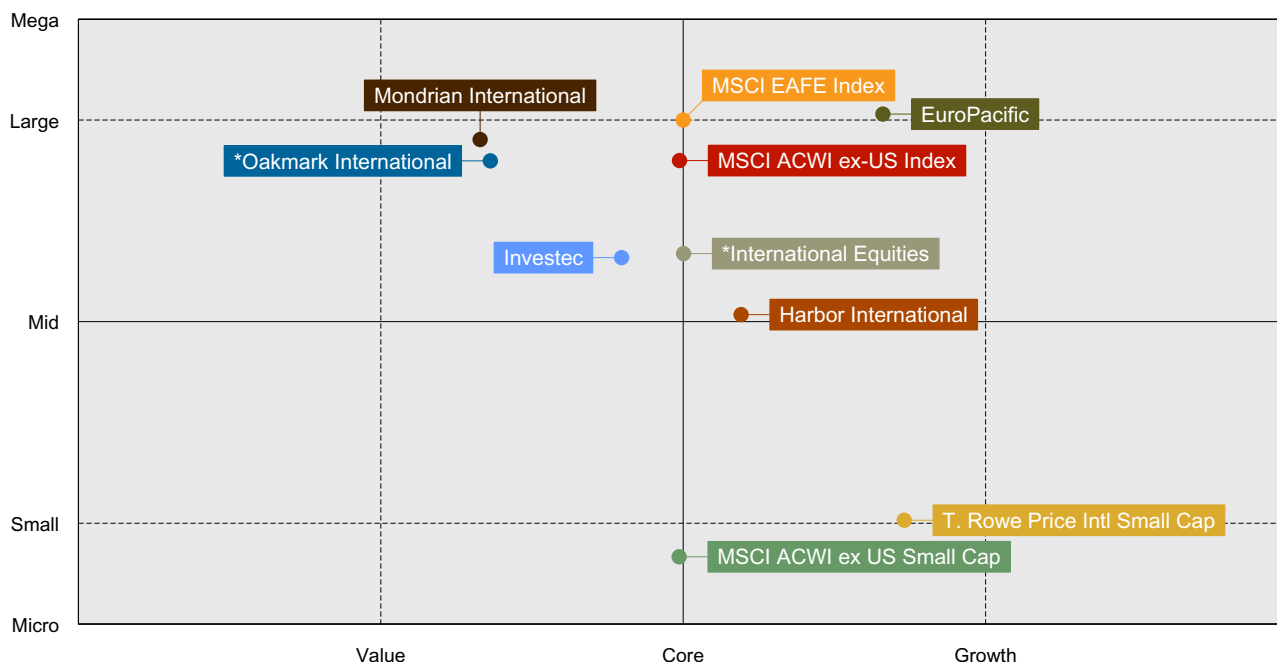
Country Weights as of December 31, 2018



International Holdings Based Style Analysis For One Quarter Ended December 31, 2018

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

Style Map Holdings for One Quarter Ended December 31, 2018



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities	Security Diversification
EuroPacific	17.87%	36.71	0.61	0.28	(0.34)	326	42.94
Harbor International	19.82%	12.24	0.17	0.01	(0.16)	370	67.85
*Oakmark International	18.66%	28.51	(0.61)	(0.16)	0.45	58	14.31
Mondrian International	18.62%	30.76	(0.64)	(0.19)	0.45	112	24.88
T. Rowe Price Intl Small Cap	14.66%	2.06	0.68	0.32	(0.36)	220	63.94
Investec	10.37%	18.27	(0.21)	(0.00)	0.20	88	22.78
*International Equities	100.00%	18.70	(0.01)	0.03	0.05	967	117.53
MSCI ACWI ex US Small Cap	-	1.60	(0.03)	(0.01)	0.02	4133	744.54
MSCI EAFE Index	-	32.83	(0.02)	(0.01)	0.00	919	112.59
MSCI ACWI ex-US Index	-	28.54	(0.03)	(0.01)	0.01	2125	201.67

* 12/31/18 portfolio characteristics generated using most recently available holdings (9/30/18) 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.

EuroPacific

Period Ended December 31, 2018

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.

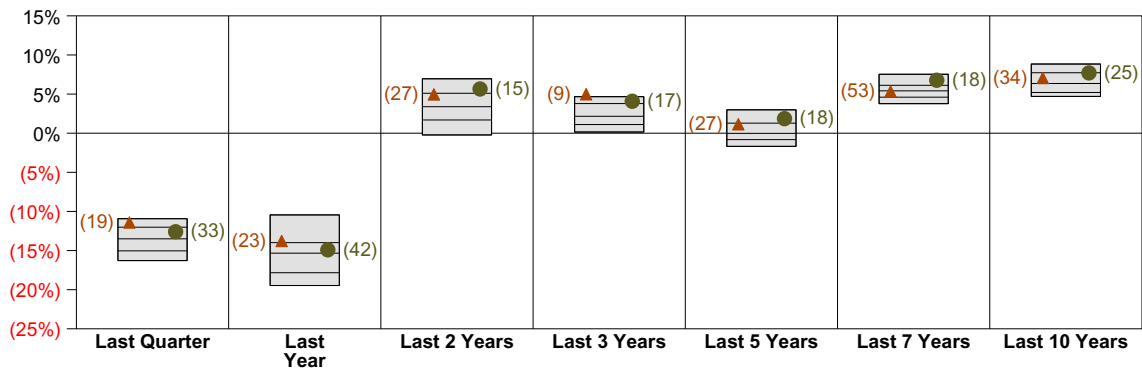
Quarterly Summary and Highlights

- EuroPacific's portfolio posted a (12.59)% return for the quarter placing it in the 33 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 42 percentile for the last year.
- EuroPacific's portfolio underperformed the MSCI ACWixUS Gross by 1.19% for the quarter and underperformed the MSCI ACWixUS Gross for the year by 1.13%.

Quarterly Asset Growth

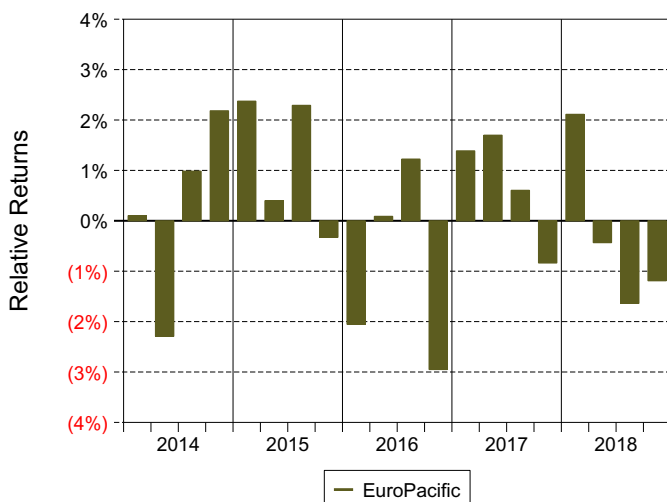
Beginning Market Value	\$26,275,982
Net New Investment	\$0
Investment Gains/(Losses)	-\$3,309,106
Ending Market Value	\$22,966,876

Performance vs Callan Non US Equity Mutual Funds (Net)

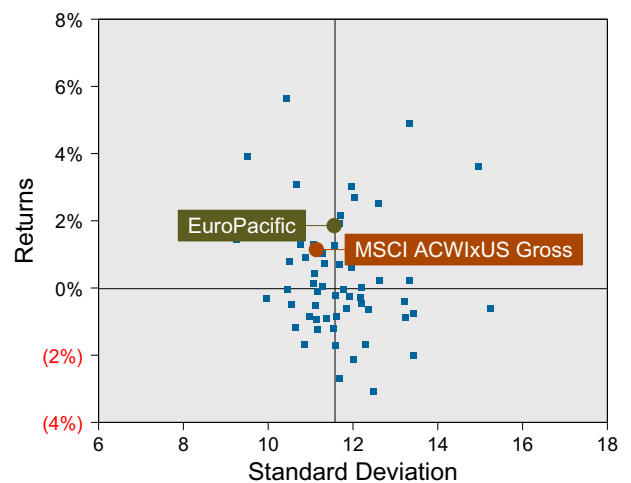


10th Percentile	(10.93)	(10.44)	6.96	4.67	2.99	7.53	8.84
25th Percentile	(12.01)	(13.99)	5.10	3.79	1.29	6.12	7.73
Median	(13.50)	(15.33)	3.39	2.16	(0.02)	5.41	6.35
75th Percentile	(15.04)	(17.83)	1.69	1.11	(0.82)	4.61	5.21
90th Percentile	(16.28)	(19.47)	(0.22)	0.15	(1.68)	3.78	4.70
EuroPacific	● (12.59)	(14.91)	5.65	4.08	1.86	6.77	7.71
MSCI ACWixUS Gross	▲ (11.40)	(13.77)	4.96	4.98	1.14	5.33	7.06

Relative Return vs MSCI ACWixUS Gross



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

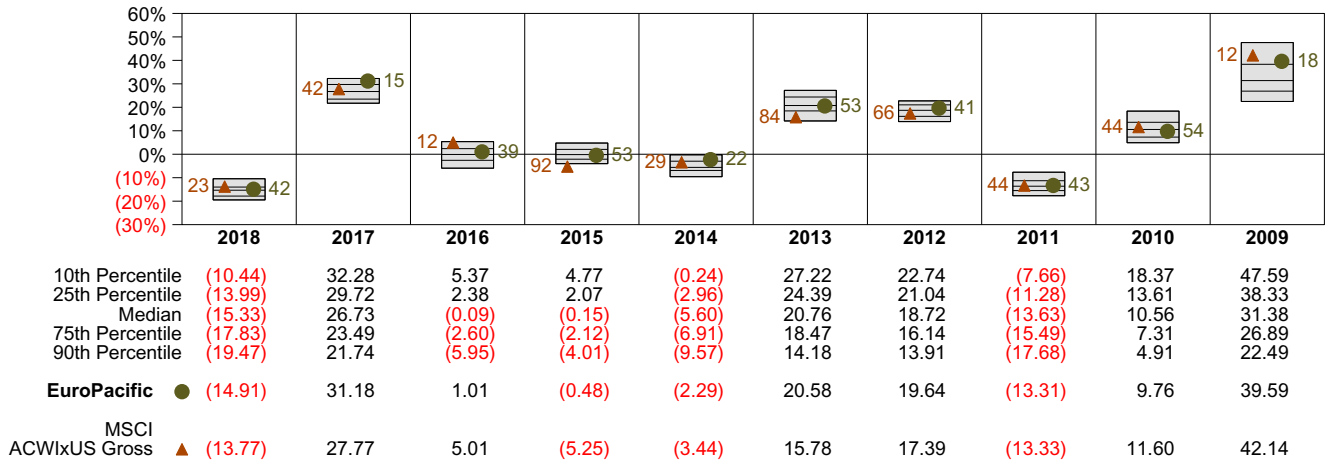


EuroPacific Return Analysis Summary

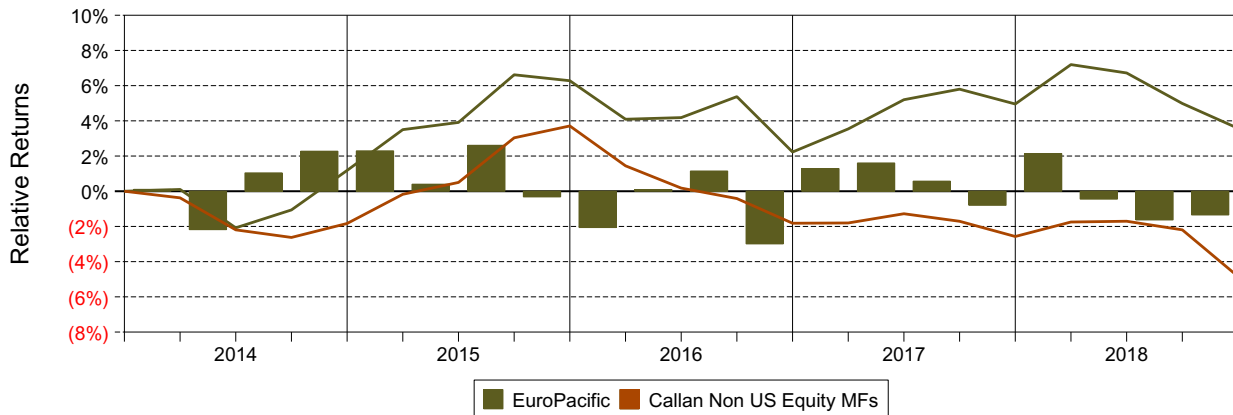
Return Analysis

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.

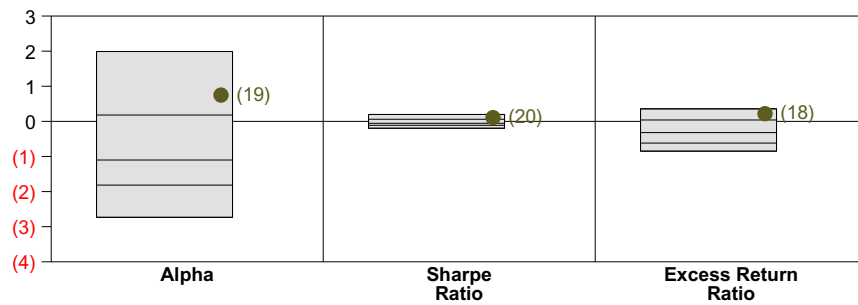
Performance vs Callan Non US Equity Mutual Funds (Net)



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 December 31, 2018

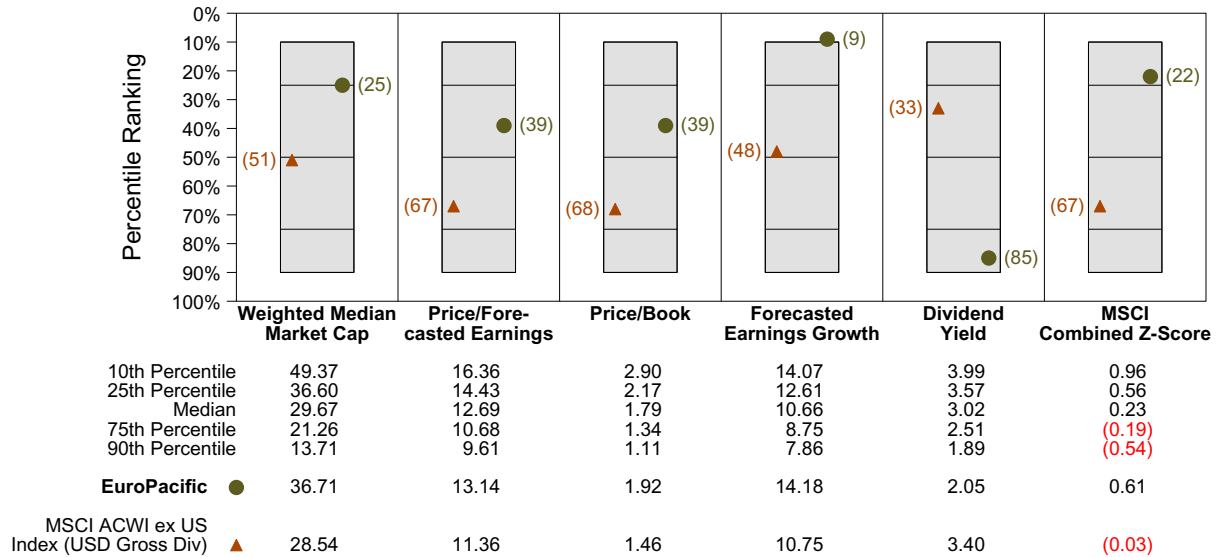


EuroPacific Equity Characteristics Analysis Summary

Portfolio Characteristics

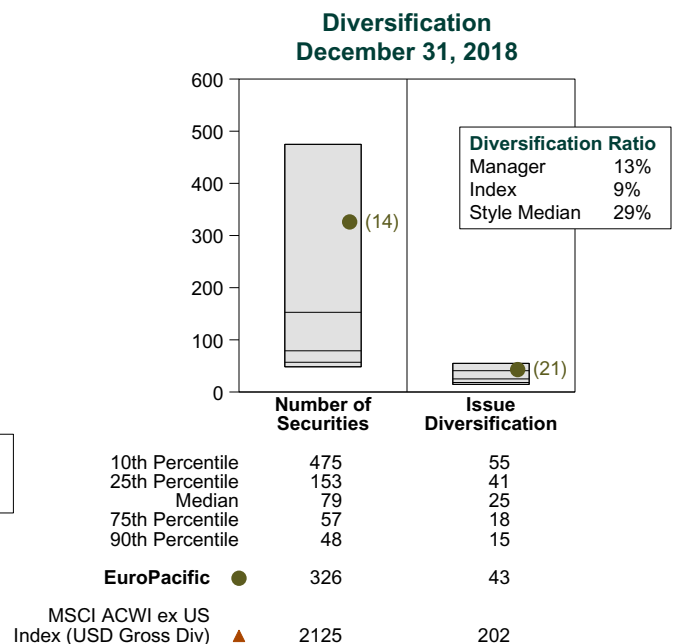
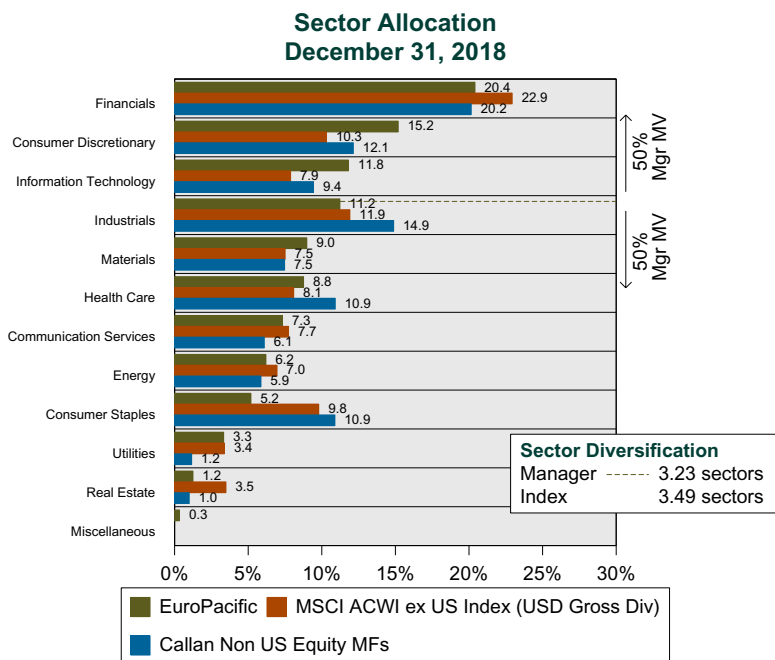
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of December 31, 2018



Sector Weights

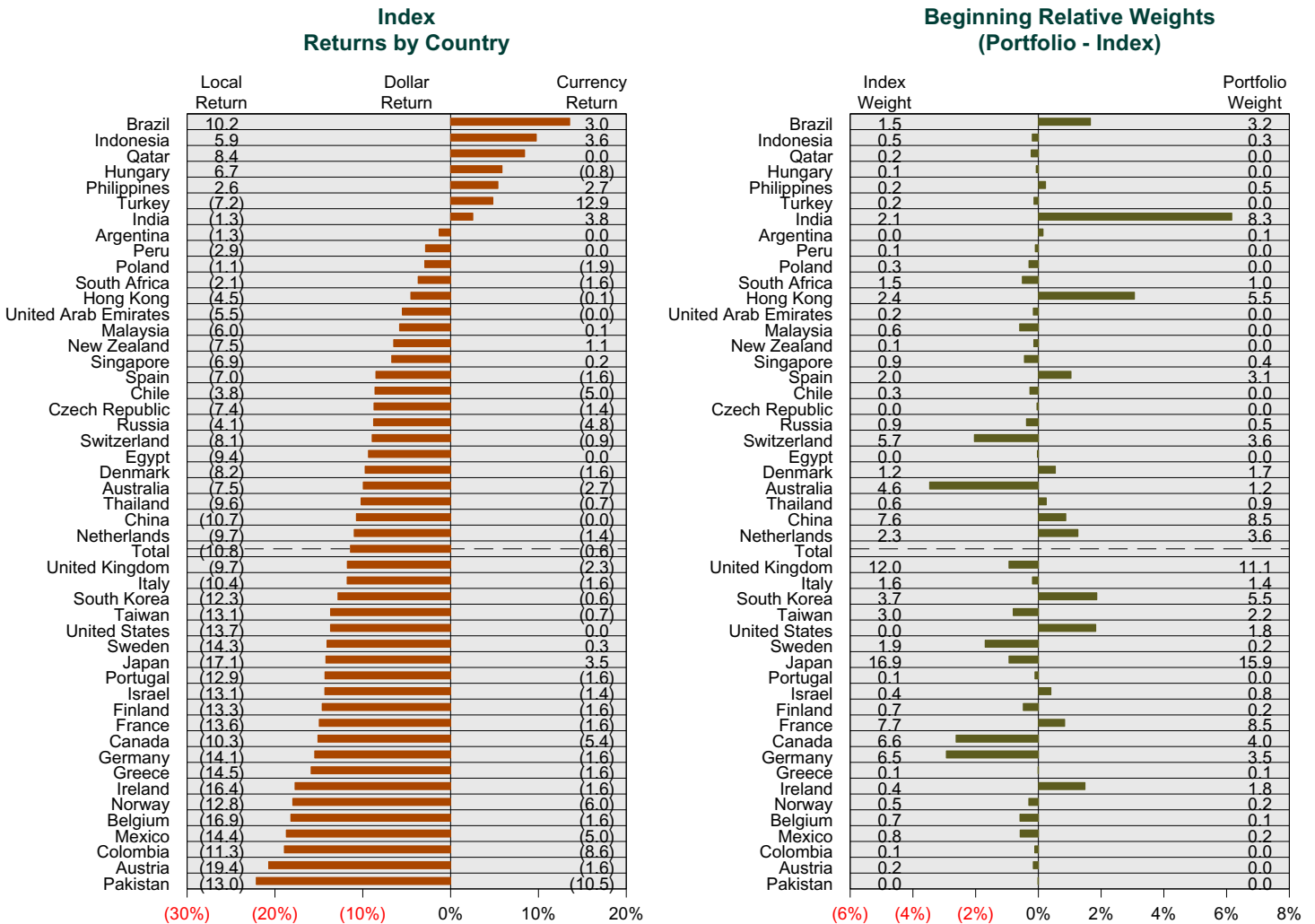
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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.



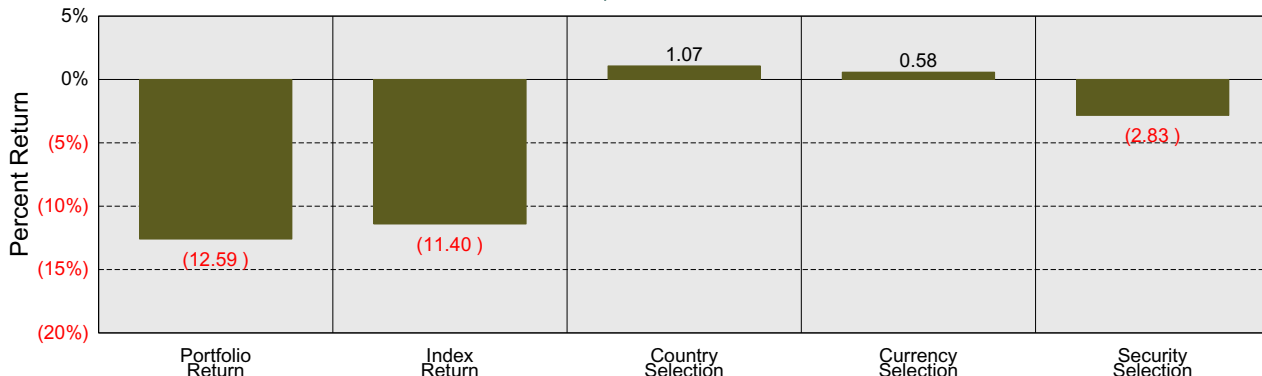
EuroPacific vs MSCI ACWixUS Gross Attribution for Quarter Ended December 31, 2018

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 December 31, 2018



Harbor International

Period Ended December 31, 2018

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.

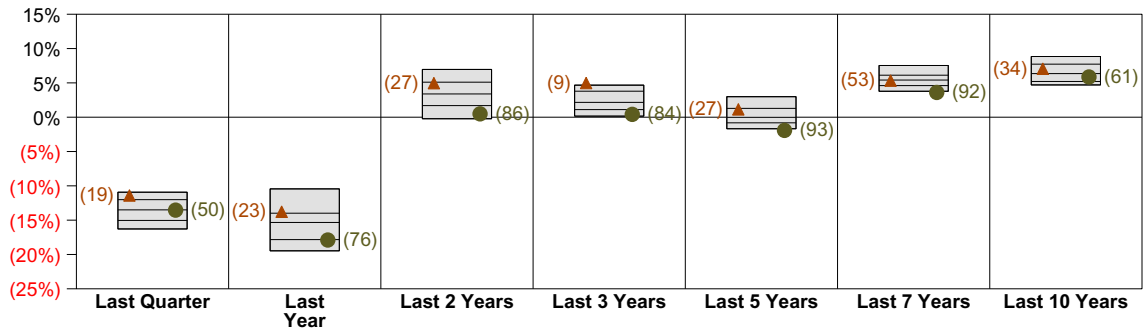
Quarterly Summary and Highlights

- Harbor International's portfolio posted a (13.54)% return for the quarter placing it in the 50 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 76 percentile for the last year.
- Harbor International's portfolio underperformed the MSCI ACWIxUS Gross by 2.13% for the quarter and underperformed the MSCI ACWIxUS Gross for the year by 4.12%.

Quarterly Asset Growth

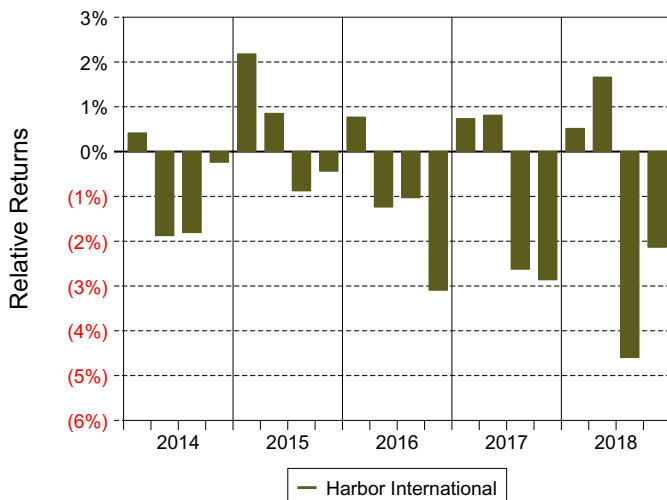
Beginning Market Value	\$29,457,479
Net New Investment	\$0
Investment Gains/(Losses)	\$-3,987,931
Ending Market Value	\$25,469,548

Performance vs Callan Non US Equity Mutual Funds (Net)

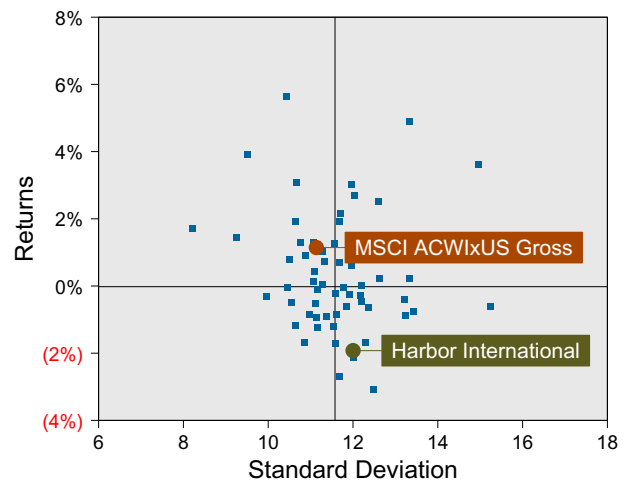


10th Percentile	(10.93)	(10.44)	6.96	4.67	2.99	7.53	8.84
25th Percentile	(12.01)	(13.99)	5.10	3.79	1.29	6.12	7.73
Median	(13.50)	(15.33)	3.39	2.16	(0.02)	5.41	6.35
75th Percentile	(15.04)	(17.83)	1.69	1.11	(0.82)	4.61	5.21
90th Percentile	(16.28)	(19.47)	(0.22)	0.15	(1.68)	3.78	4.70
Harbor International	● (13.54)	(17.89)	0.49	0.41	(1.92)	3.61	5.86
MSCI ACWIxUS Gross	▲ (11.40)	(13.77)	4.96	4.98	1.14	5.33	7.06

Relative Return vs MSCI ACWIxUS Gross



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

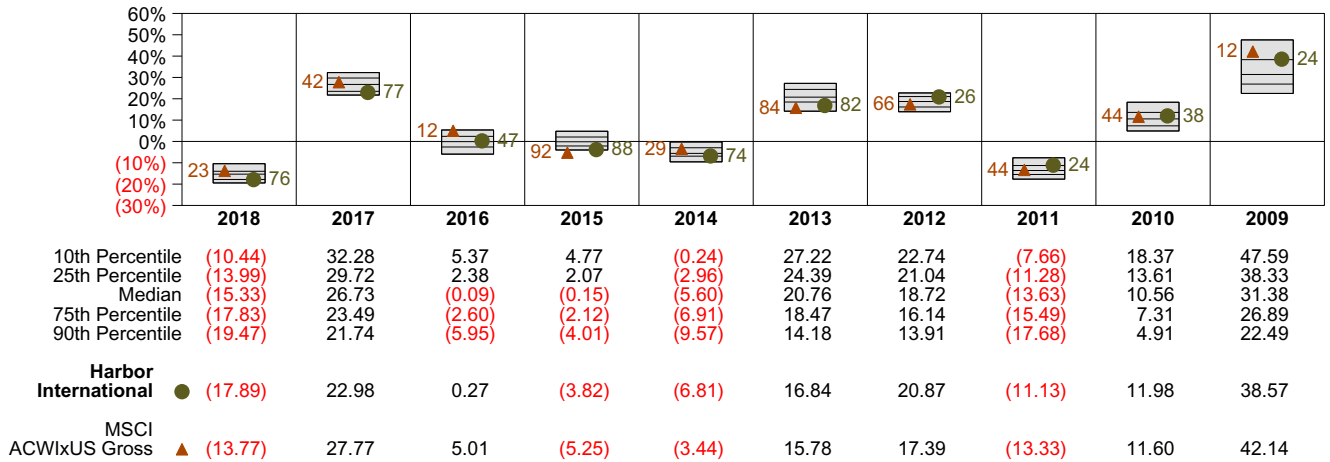


Harbor International Return Analysis Summary

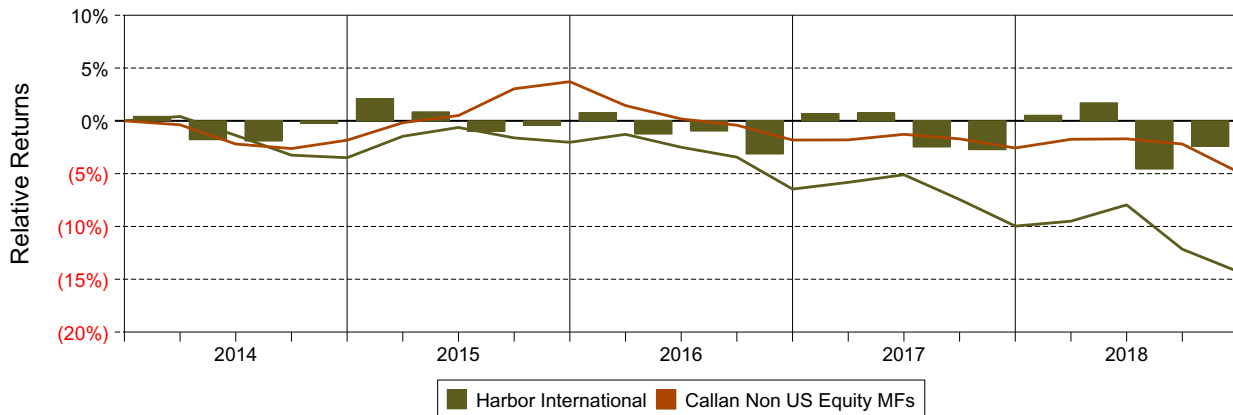
Return Analysis

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.

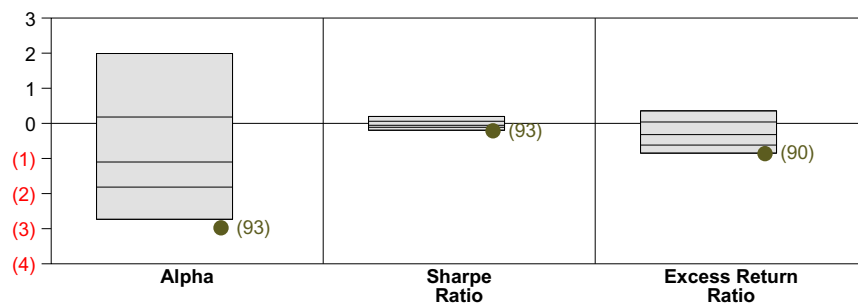
Performance vs Callan Non US Equity Mutual Funds (Net)



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 December 31, 2018



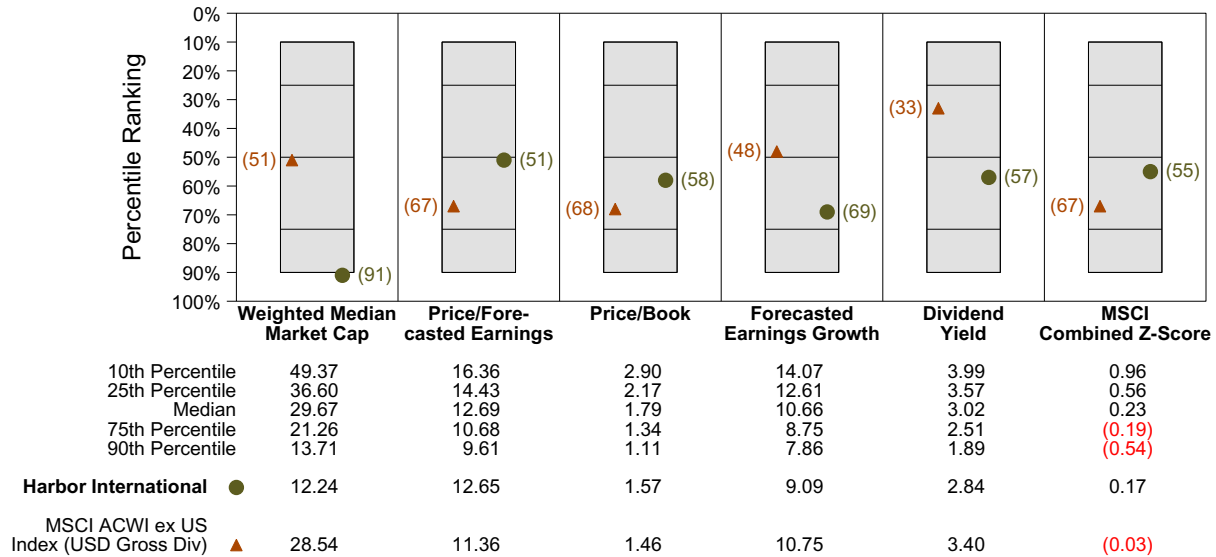
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.99	0.20	0.36
25th Percentile	0.18	0.06	0.04
Median	(1.10)	(0.06)	(0.32)
75th Percentile	(1.82)	(0.11)	(0.62)
90th Percentile	(2.73)	(0.20)	(0.85)
Harbor International	● (2.98)	(0.21)	(0.86)

Harbor International Equity Characteristics Analysis Summary

Portfolio Characteristics

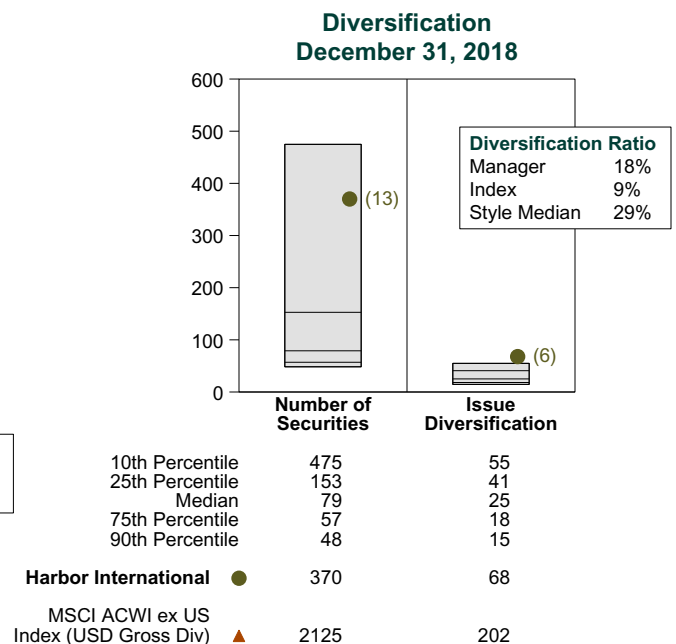
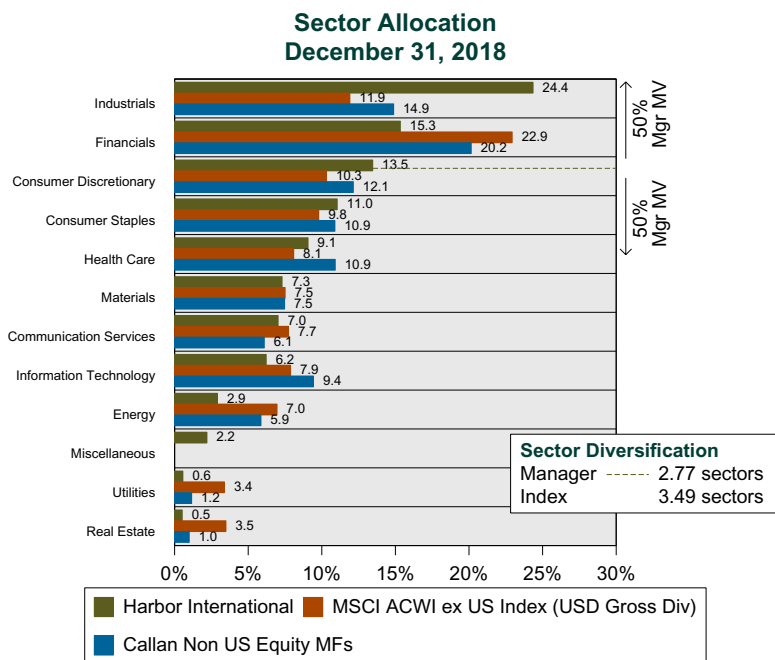
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of December 31, 2018



Sector Weights

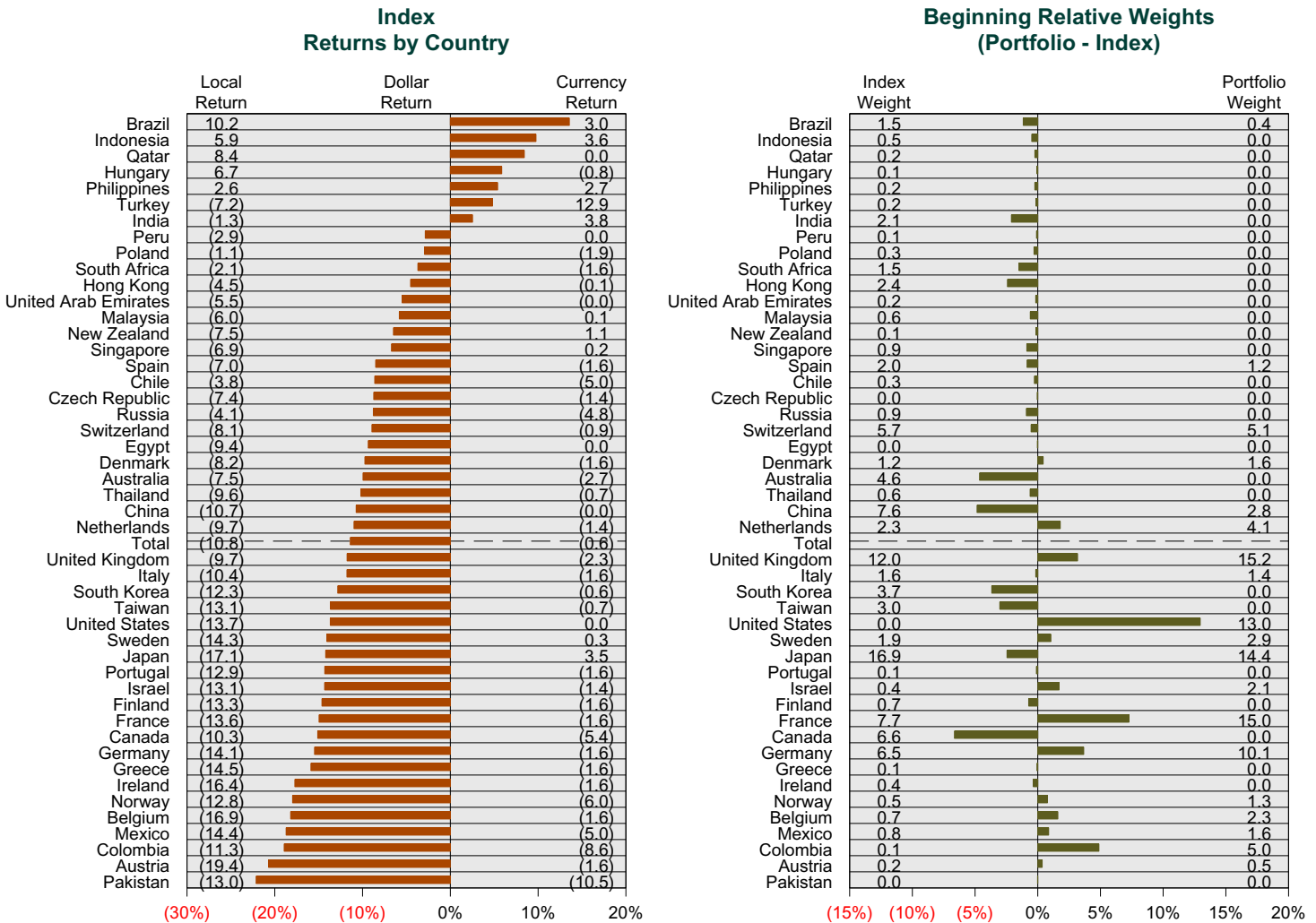
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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 December 31, 2018

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 December 31, 2018



Oakmark International

Period Ended December 31, 2018

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.

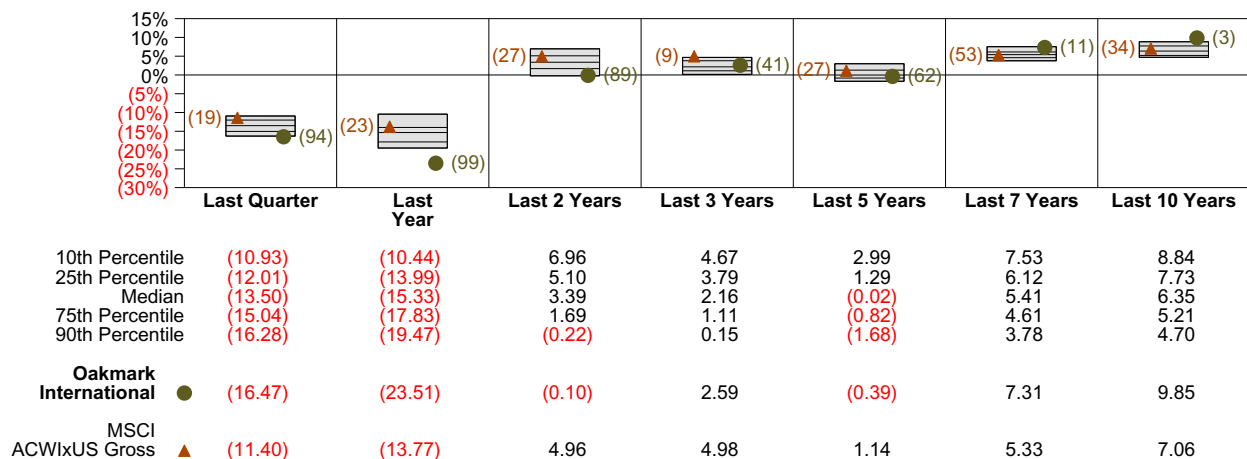
Quarterly Summary and Highlights

- Oakmark International's portfolio posted a (16.47)% return for the quarter placing it in the 94 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 99 percentile for the last year.
- Oakmark International's portfolio underperformed the MSCI ACWixUS Gross by 5.06% for the quarter and underperformed the MSCI ACWixUS Gross for the year by 9.74%.

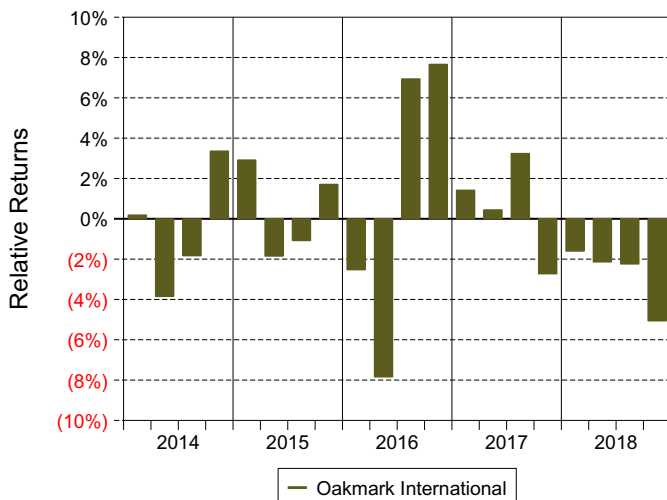
Quarterly Asset Growth

Beginning Market Value	\$28,697,691
Net New Investment	\$0
Investment Gains/(Losses)	\$-4,726,207
Ending Market Value	\$23,971,484

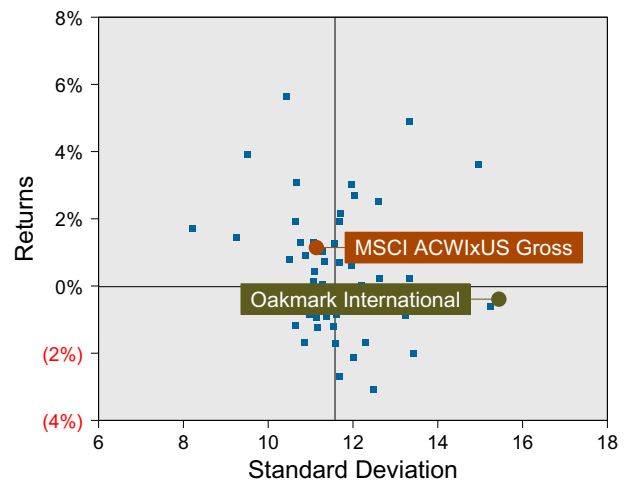
Performance vs Callan Non US Equity Mutual Funds (Net)



Relative Return vs MSCI ACWixUS Gross



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

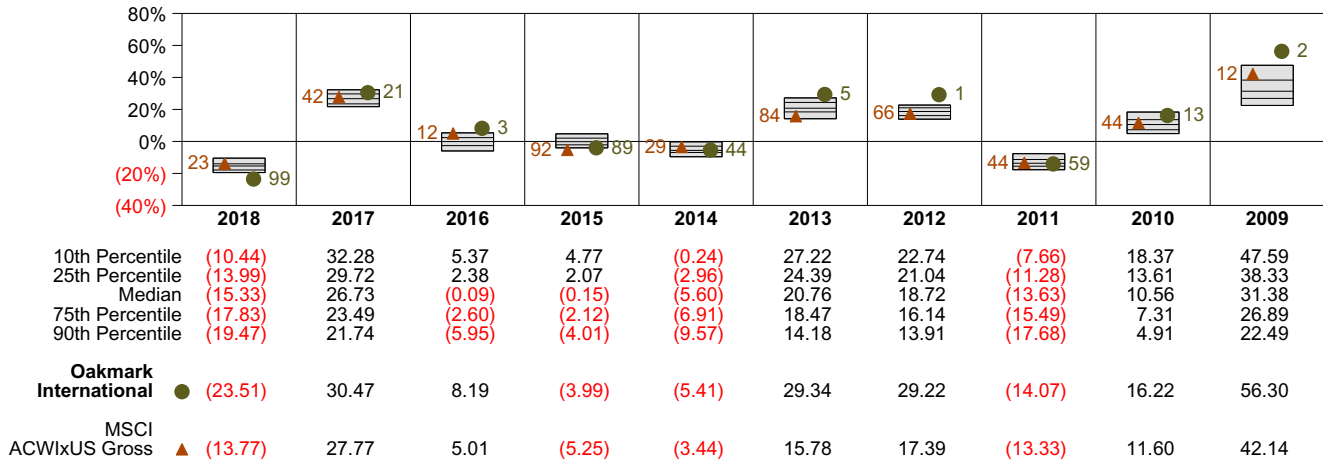


Oakmark International Return Analysis Summary

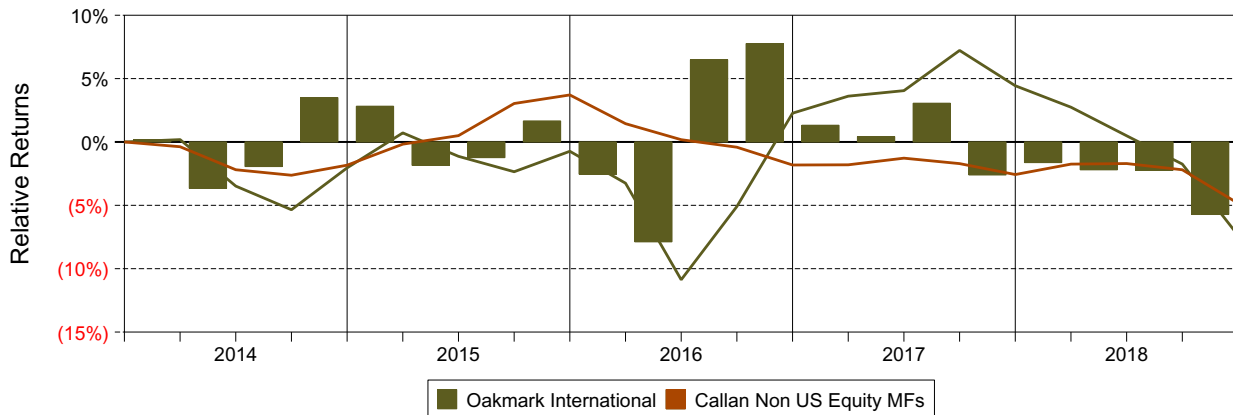
Return Analysis

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.

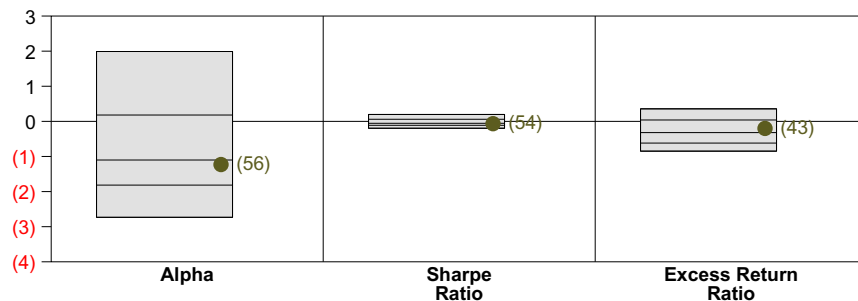
Performance vs Callan Non US Equity Mutual Funds (Net)



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 December 31, 2018



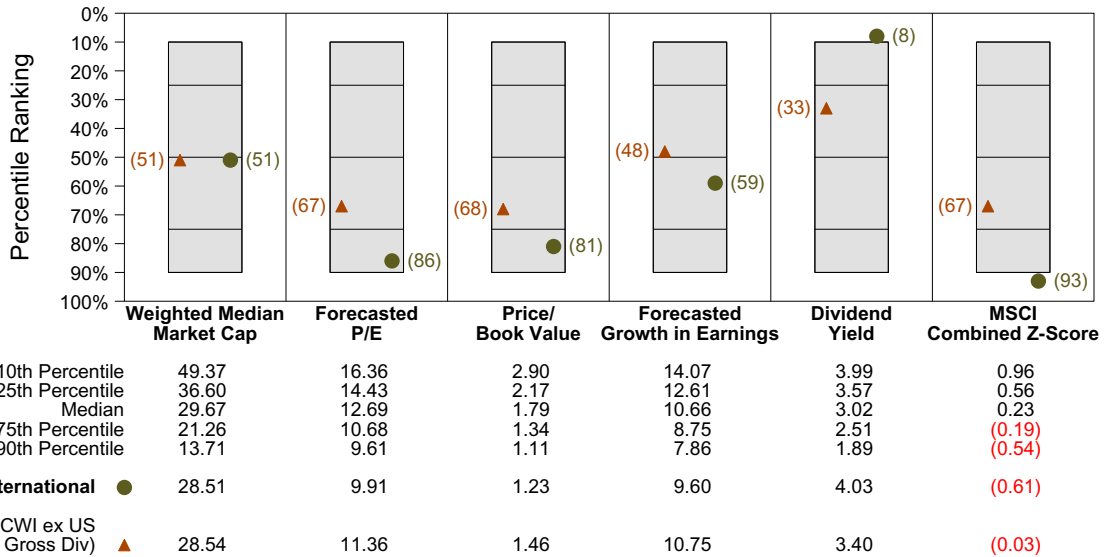
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.99	0.20	0.36
25th Percentile	0.18	0.06	0.04
Median	(1.10)	(0.06)	(0.32)
75th Percentile	(1.82)	(0.11)	(0.62)
90th Percentile	(2.73)	(0.20)	(0.85)
Oakmark International	(1.23)	(0.07)	(0.20)

Oakmark International Equity Characteristics Analysis Summary

Portfolio Characteristics

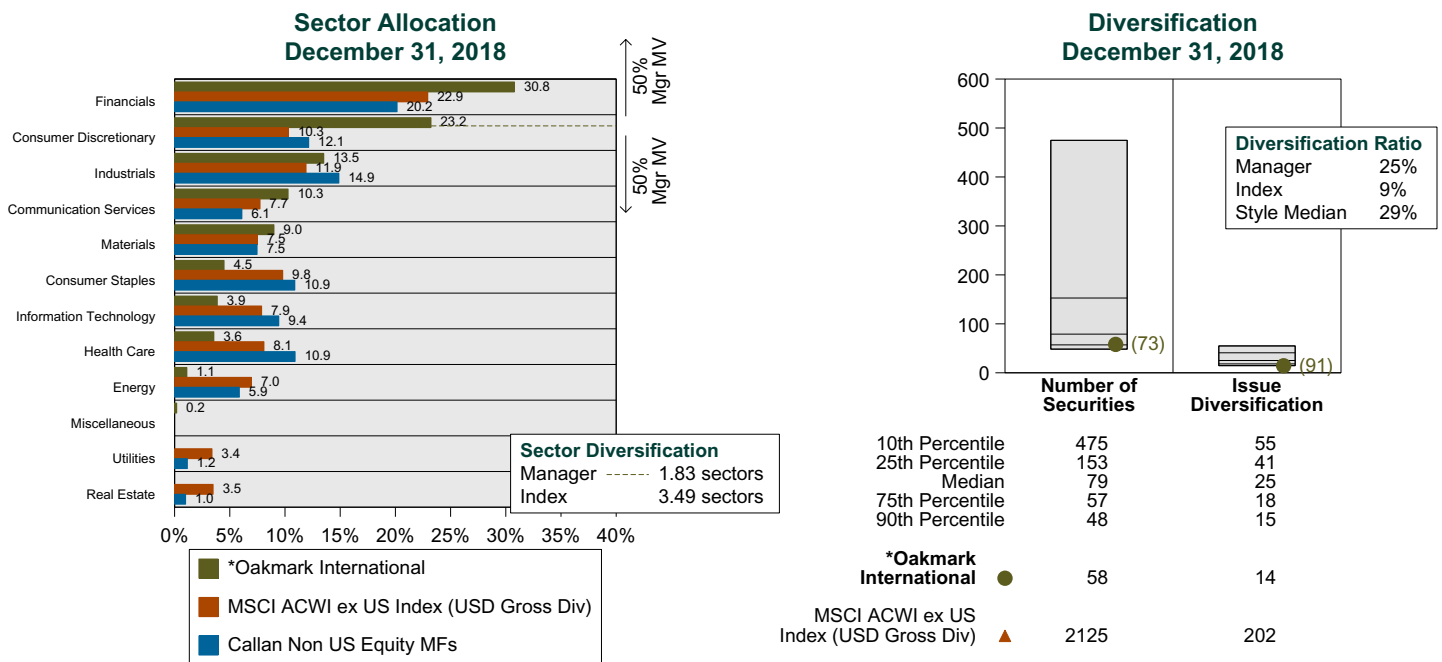
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of December 31, 2018



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.

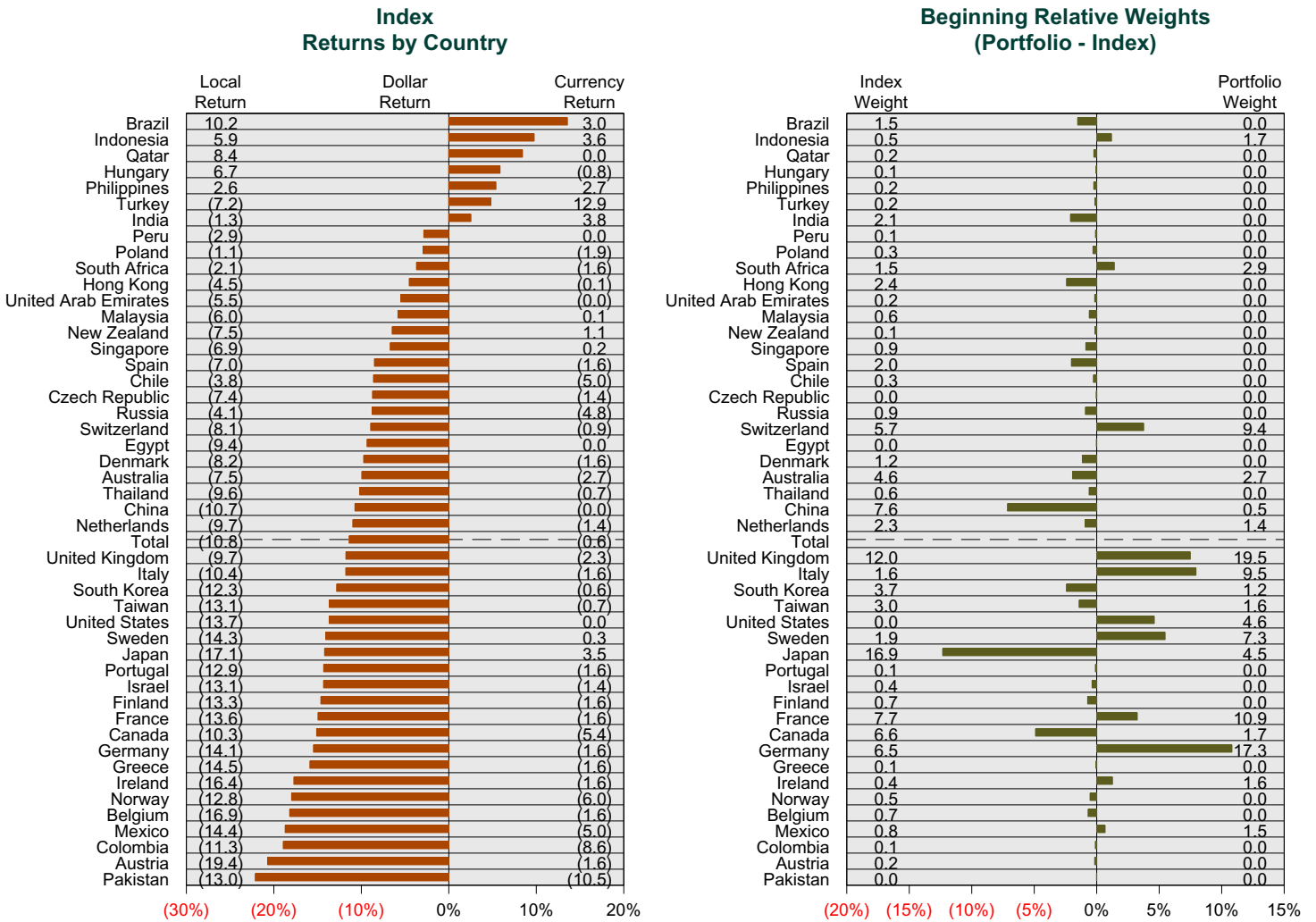


*12/31/18 portfolio characteristics generated using most recently available holdings (9/30/18) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

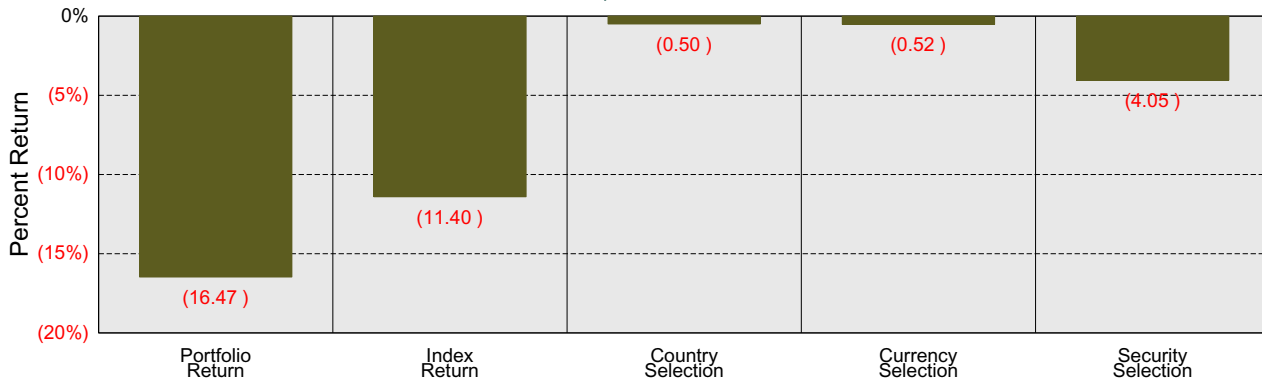
Oakmark International vs MSCI ACWIxUS Gross Attribution for Quarter Ended December 31, 2018

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 December 31, 2018



Mondrian International Period Ended December 31, 2018

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.

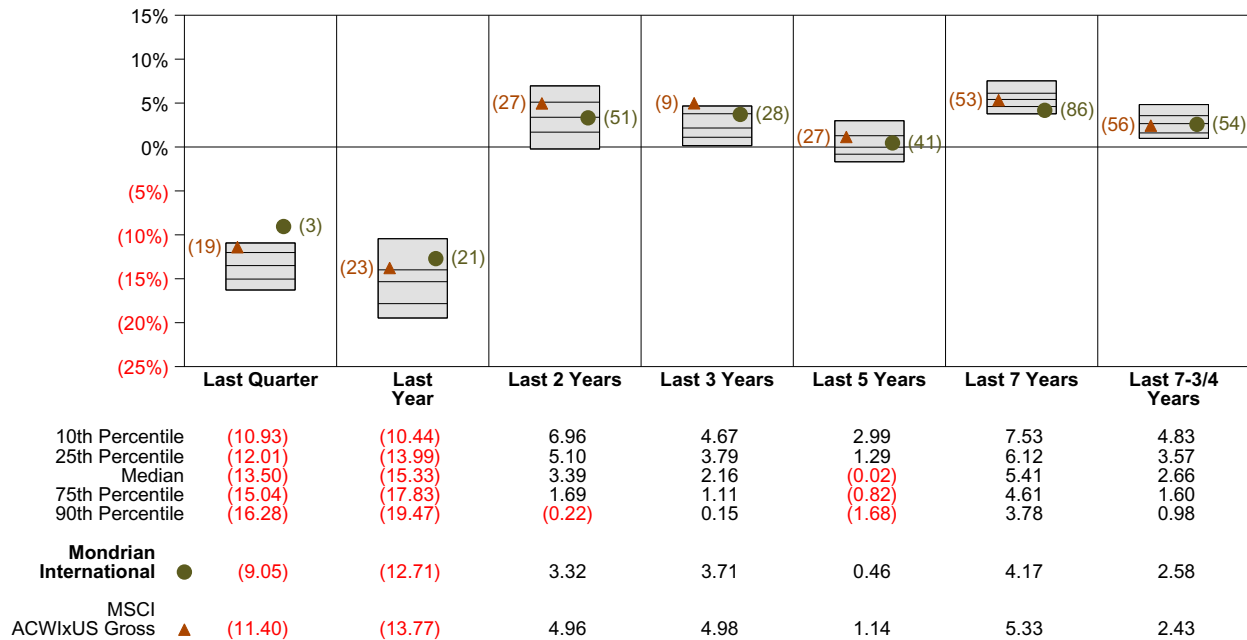
Quarterly Summary and Highlights

- Mondrian International's portfolio posted a (9.05)% return for the quarter placing it in the 3 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 21 percentile for the last year.
- Mondrian International's portfolio outperformed the MSCI ACWIxUS Gross by 2.35% for the quarter and outperformed the MSCI ACWIxUS Gross for the year by 1.07%.

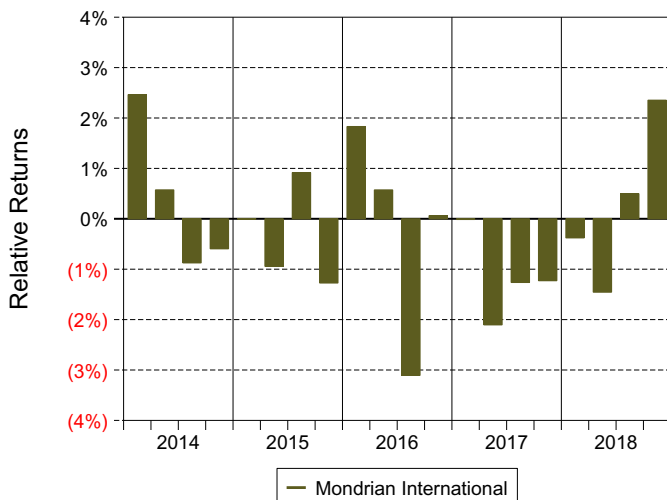
Quarterly Asset Growth

Beginning Market Value	\$26,247,373
Net New Investment	\$0
Investment Gains/(Losses)	\$-2,326,807
Ending Market Value	\$23,920,566

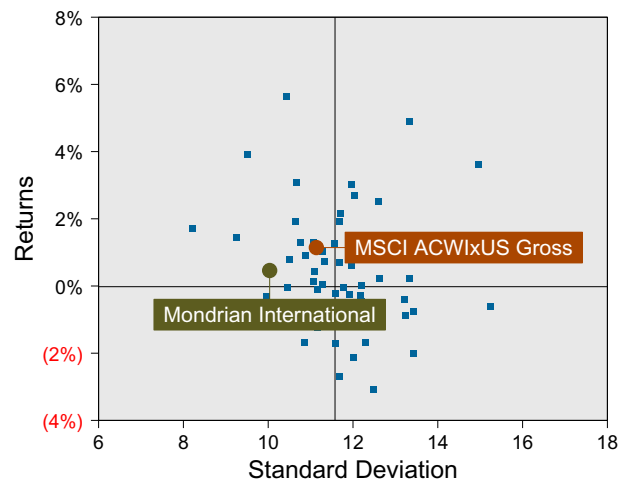
Performance vs Callan Non US Equity Mutual Funds (Net)



Relative Return vs MSCI ACWIxUS Gross



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

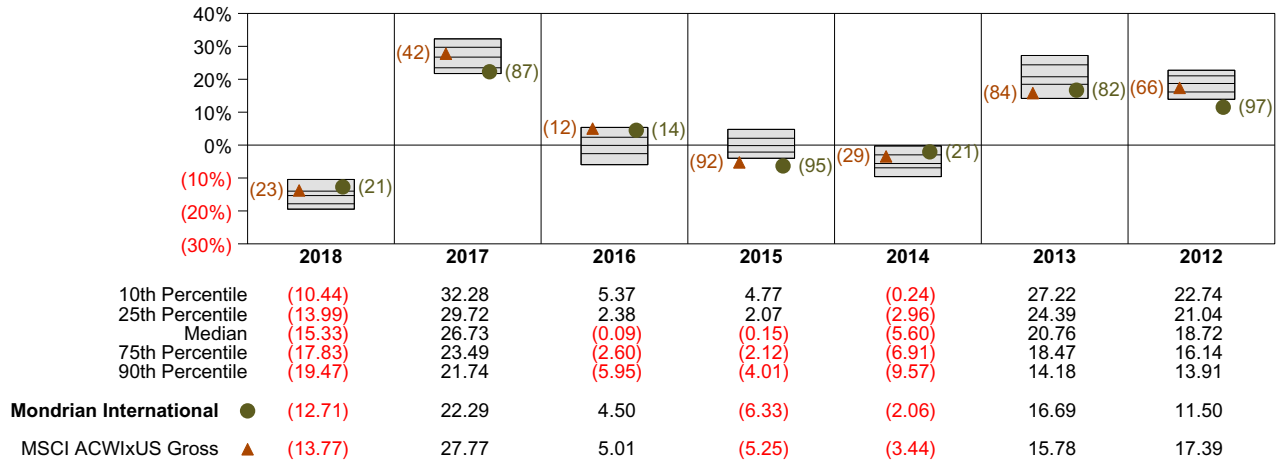


Mondrian International Return Analysis Summary

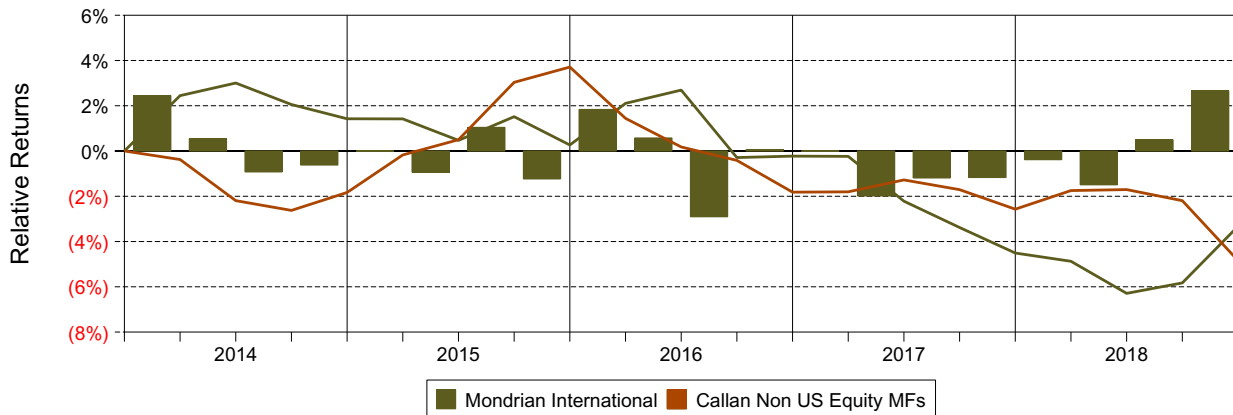
Return Analysis

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.

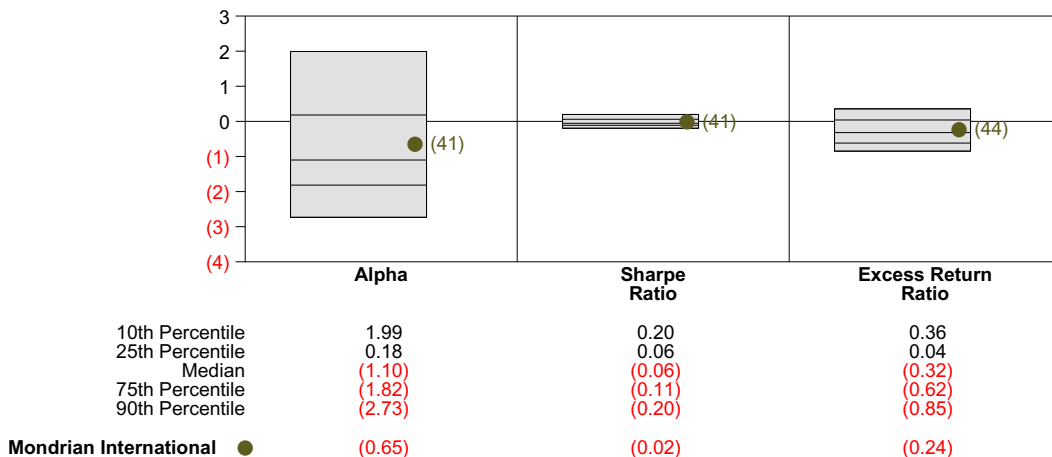
Performance vs Callan Non US Equity Mutual Funds (Net)



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 December 31, 2018

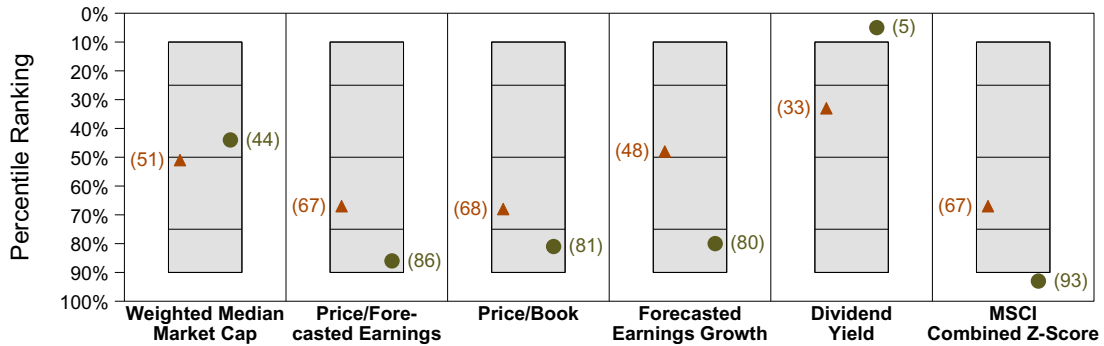


Mondrian International Equity Characteristics Analysis Summary

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 December 31, 2018

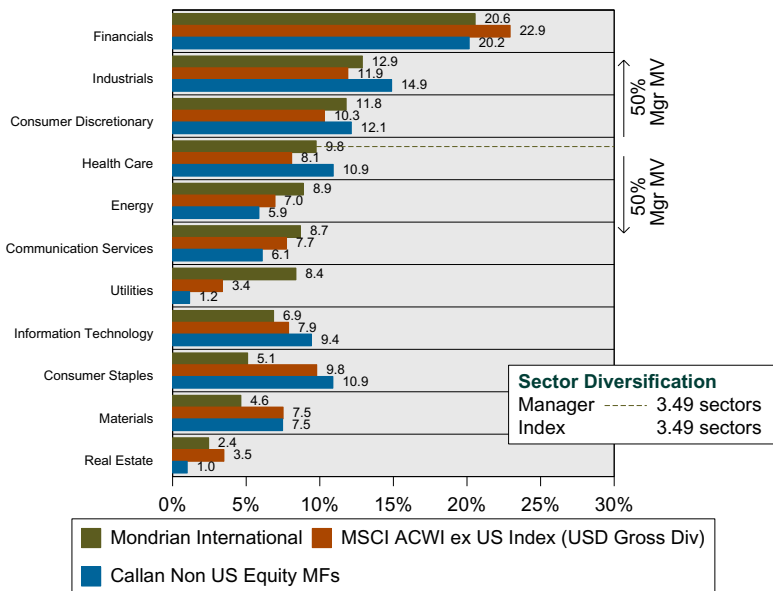


	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile
Weighted Median Market Cap	49.37	36.60	29.67	21.26	13.71
Price/Forecasted Earnings	16.36	14.43	12.69	10.68	9.61
Price/Book	2.90	2.17	1.79	1.34	1.11
Forecasted Earnings Growth	14.07	12.61	10.66	8.75	7.86
Dividend Yield	3.99	3.57	3.02	2.51	1.89
MSCI Combined Z-Score	0.96	0.56	0.23	(0.19)	(0.54)
Mondrian International					
MSCI ACWI ex US Index (USD Gross Div)					

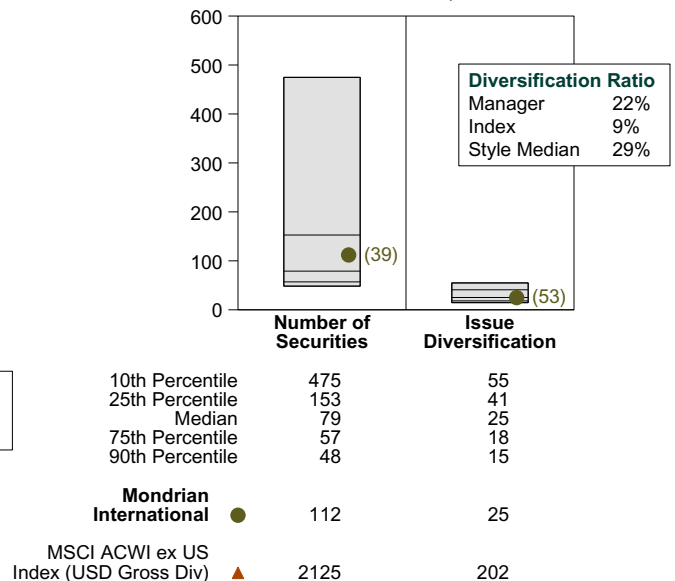
Sector Weights

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 December 31, 2018



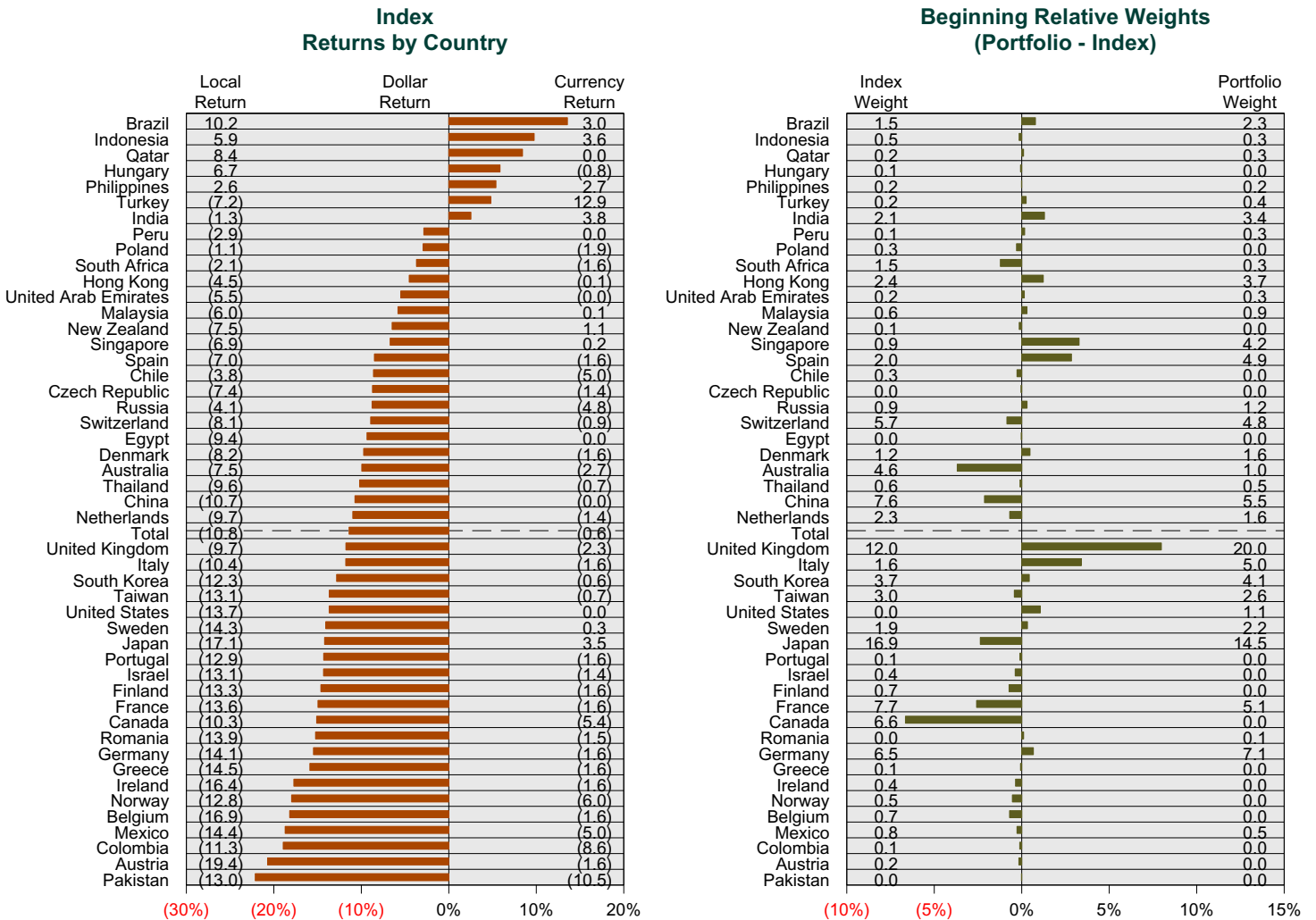
Diversification December 31, 2018



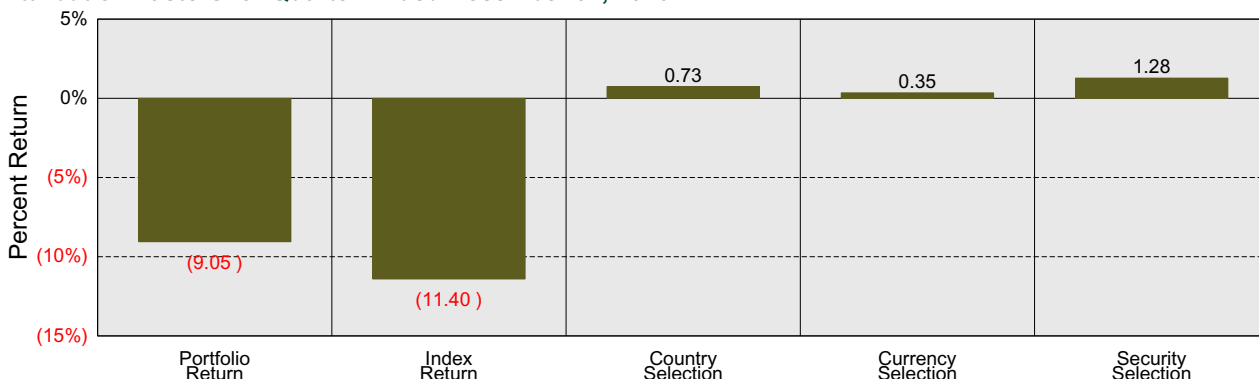
Mondrian International vs MSCI ACWIxUS Gross Attribution for Quarter Ended December 31, 2018

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 December 31, 2018



T. Rowe Price Intl Small Cap Period Ended December 31, 2018

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.

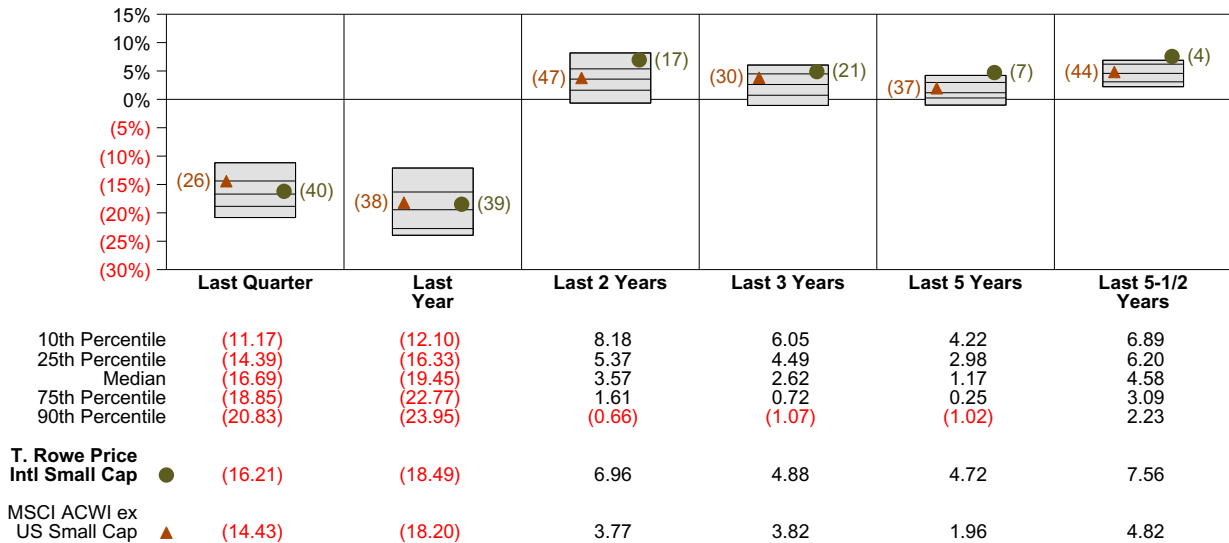
Quarterly Summary and Highlights

- T. Rowe Price Intl Small Cap's portfolio posted a (16.21)% return for the quarter placing it in the 40 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 39 percentile for the last year.
- T. Rowe Price Intl Small Cap's portfolio underperformed the MSCI ACWI ex US Small Cap by 1.78% for the quarter and underperformed the MSCI ACWI ex US Small Cap for the year by 0.29%.

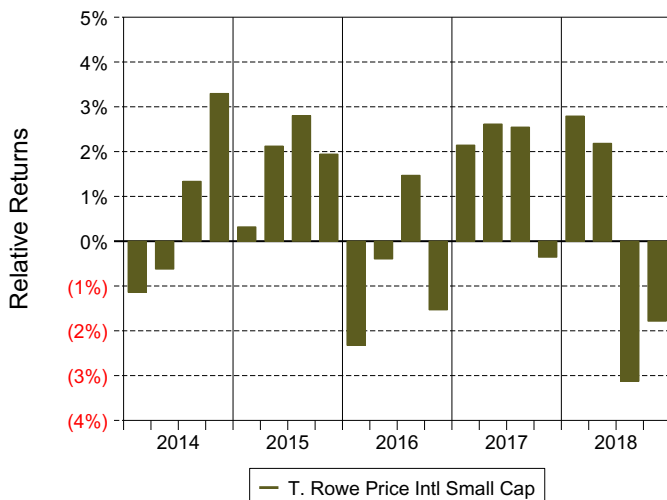
Quarterly Asset Growth

Beginning Market Value	\$22,416,742
Net New Investment	\$0
Investment Gains/(Losses)	\$-3,582,805
Ending Market Value	\$18,833,937

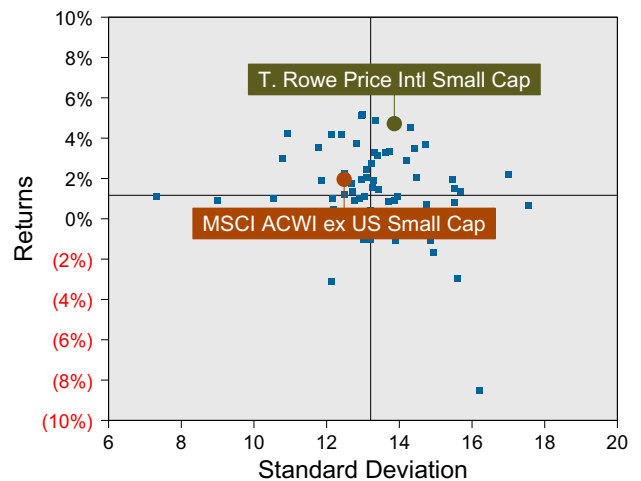
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Returns vs MSCI ACWI ex US Small Cap



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

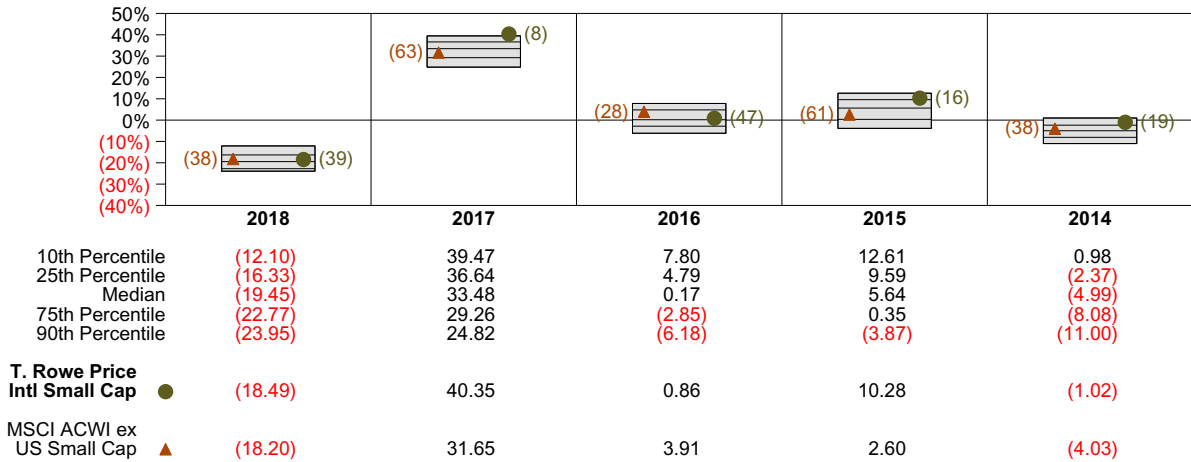


T. Rowe Price Intl Small Cap Return Analysis Summary

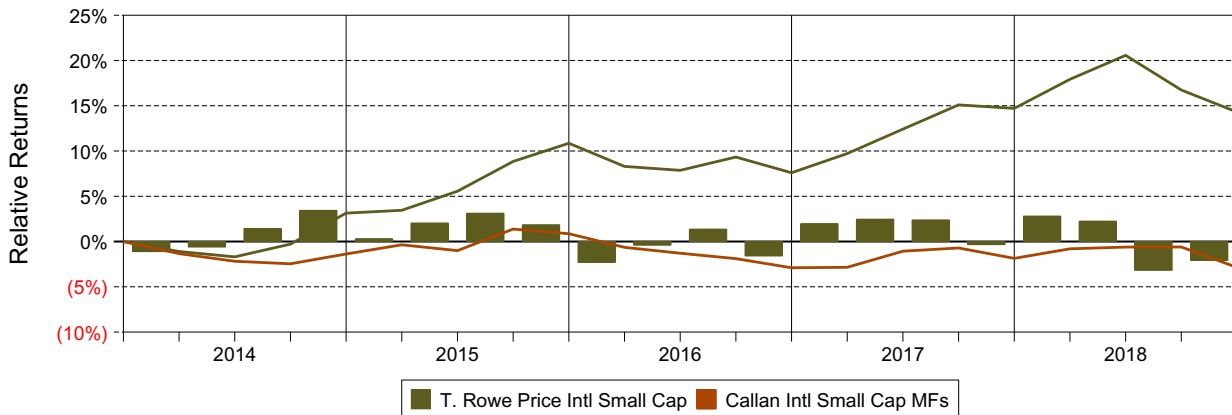
Return Analysis

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.

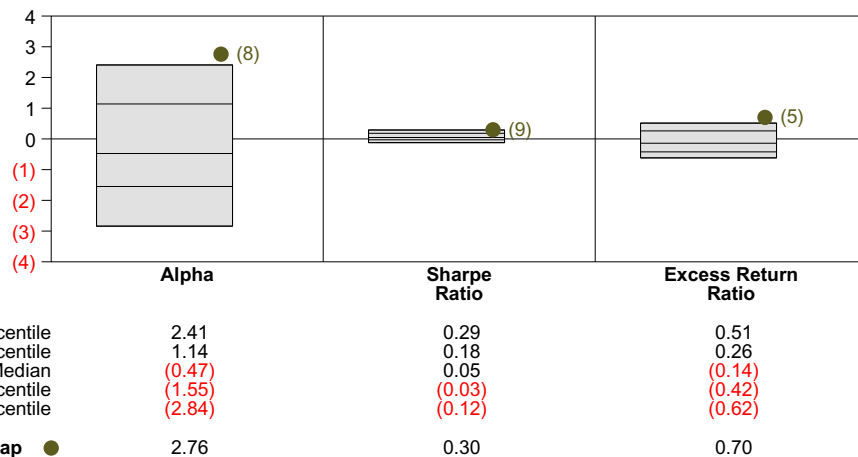
Performance vs Callan International Small Cap Mut Funds (Net)



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 December 31, 2018

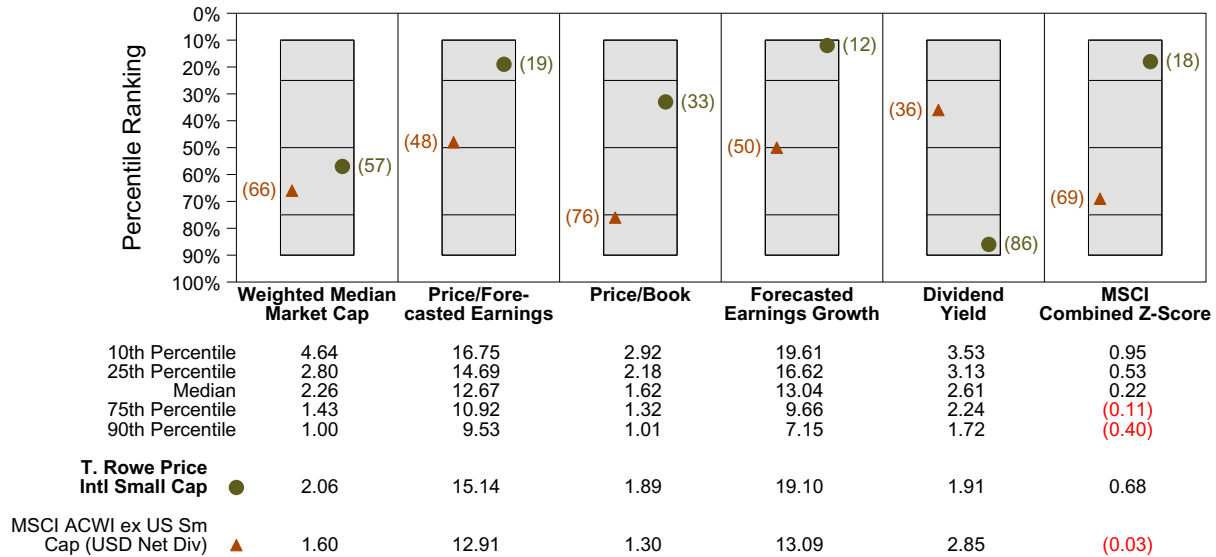


T. Rowe Price Intl Small Cap Equity Characteristics Analysis Summary

Portfolio Characteristics

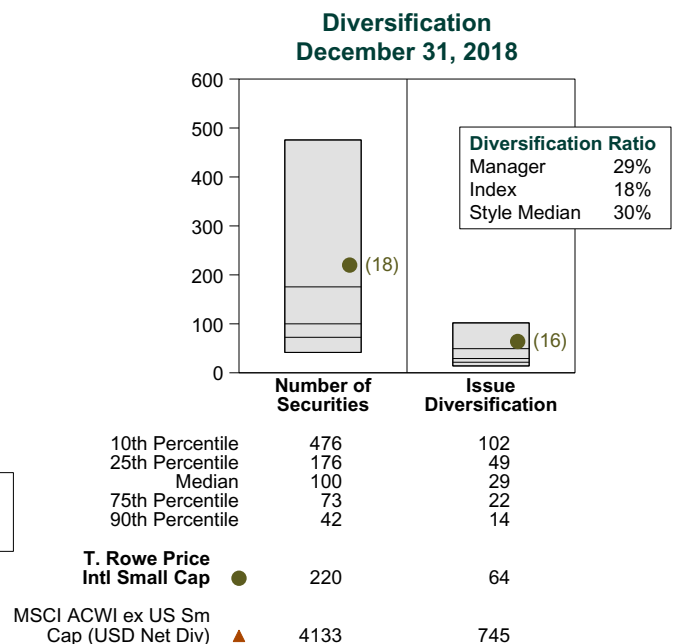
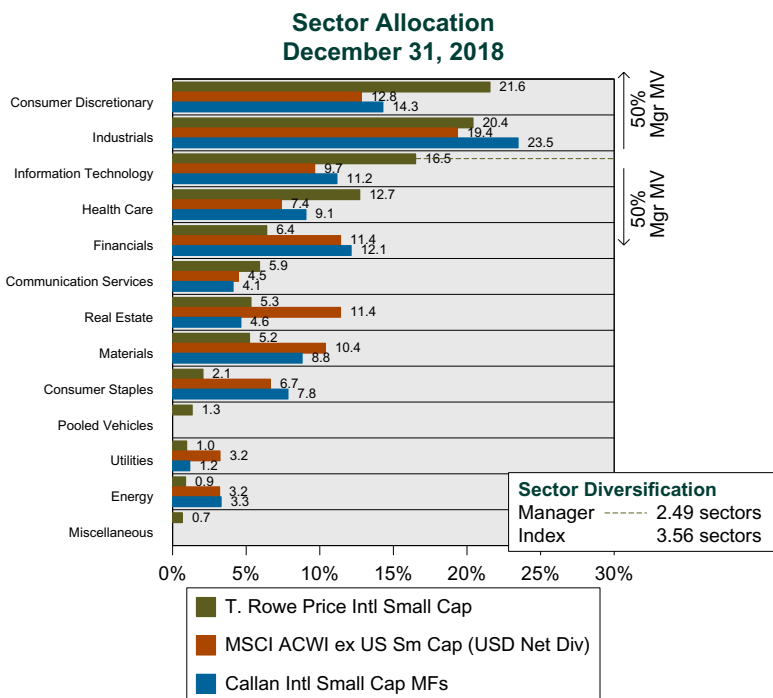
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against Callan International Small Cap Mut Funds as of December 31, 2018



Sector Weights

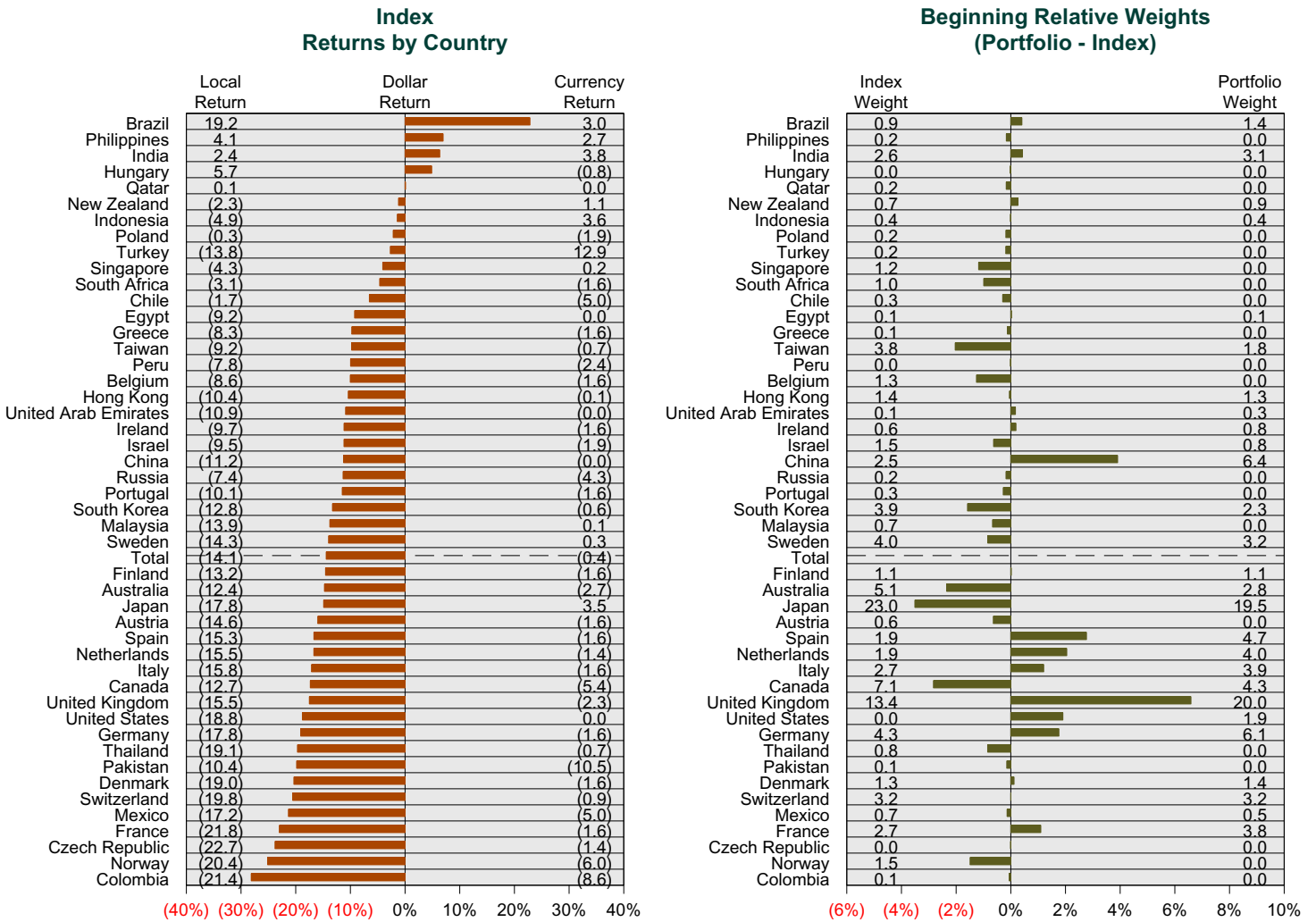
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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.



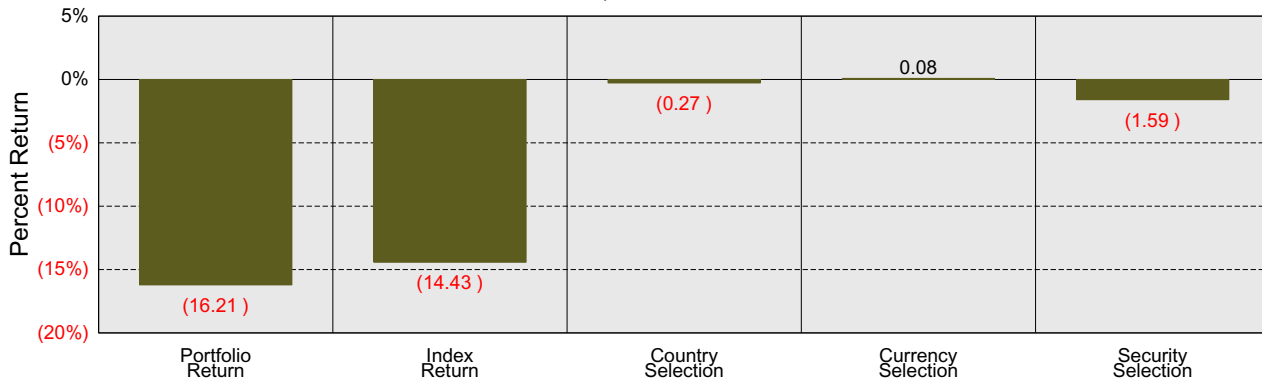
T. Rowe Price Intl Small Cap vs MSCI ACWI ex US Small Cap Attribution for Quarter Ended December 31, 2018

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 December 31, 2018



Investec

Period Ended December 31, 2018

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.

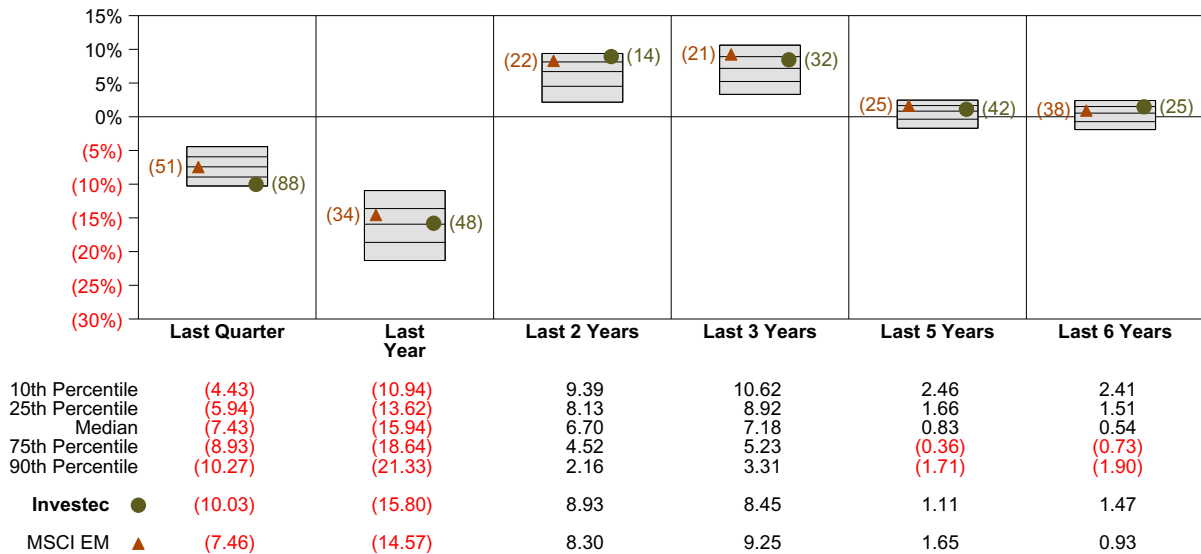
Quarterly Summary and Highlights

- Investec's portfolio posted a (10.03)% return for the quarter placing it in the 88 percentile of the Morningstar Diversified Emg Mkts Fds group for the quarter and in the 48 percentile for the last year.
- Investec's portfolio underperformed the MSCI EM by 2.57% for the quarter and underperformed the MSCI EM for the year by 1.23%.

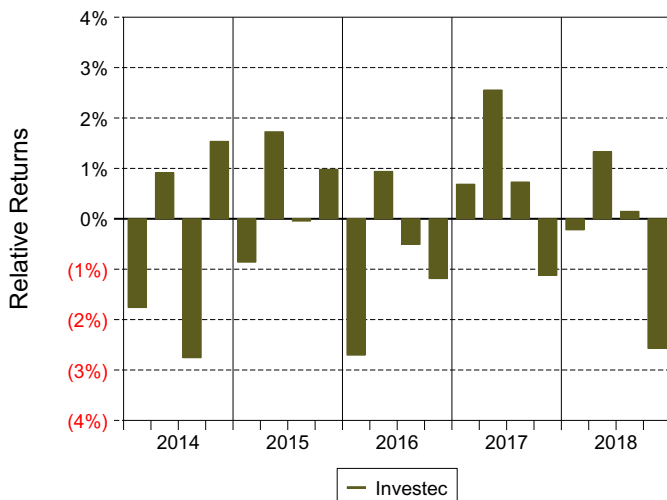
Quarterly Asset Growth

Beginning Market Value	\$14,795,702
Net New Investment	\$0
Investment Gains/(Losses)	-\$1,466,782
Ending Market Value	\$13,328,920

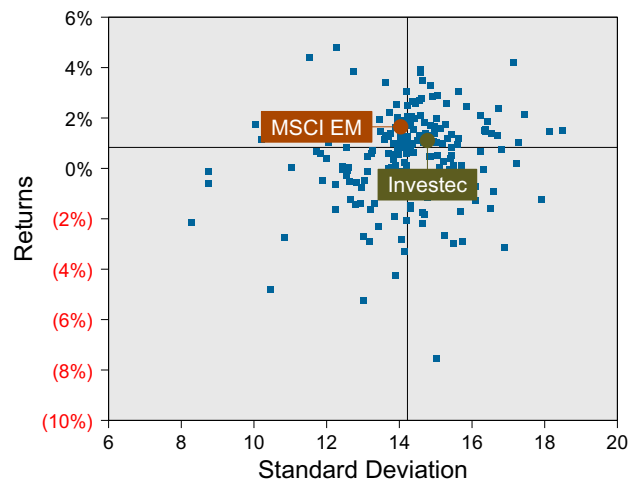
Performance vs Morningstar Diversified Emg Mkts Fds (Net)



Relative Return vs MSCI EM



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

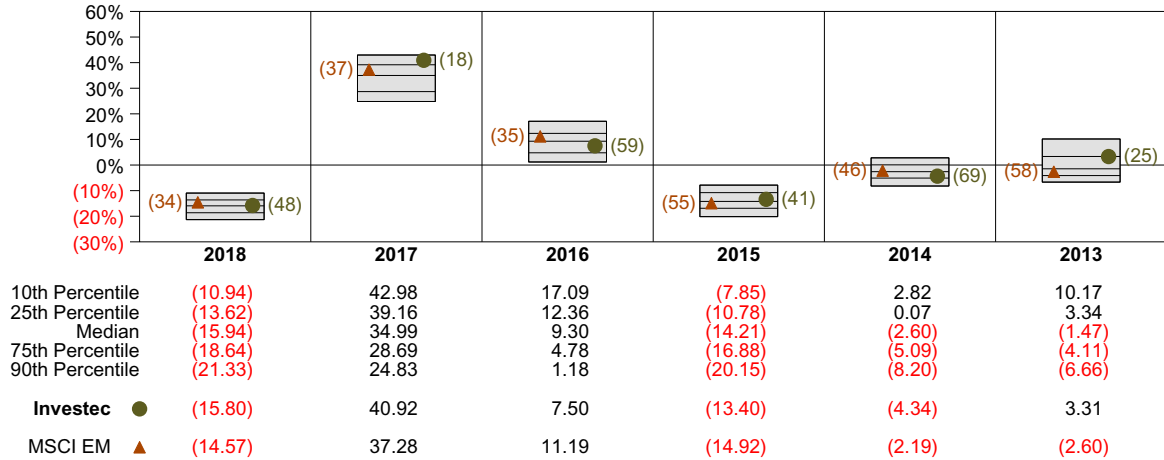


Investec Return Analysis Summary

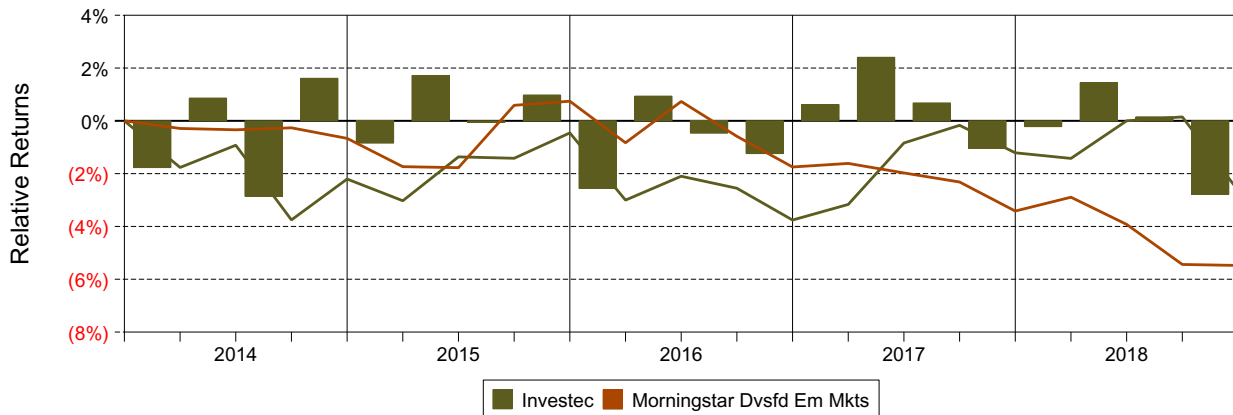
Return Analysis

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.

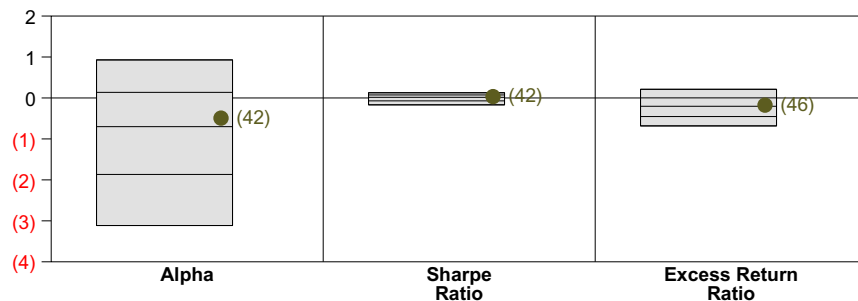
Performance vs Morningstar Diversified Emg Mkts Fds (Net)



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 December 31, 2018



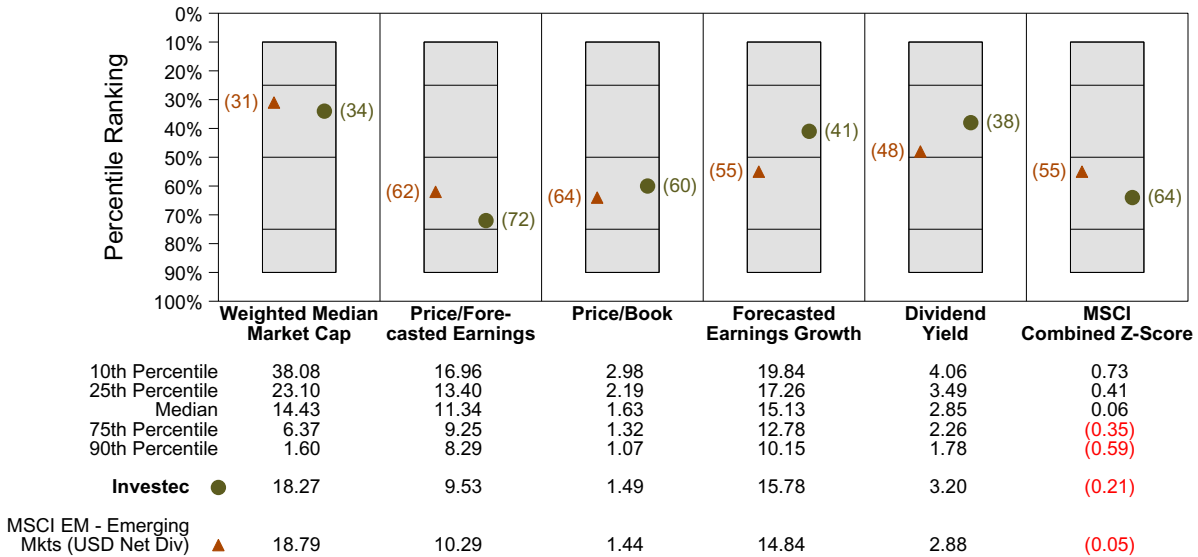
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.93	0.13	0.21
25th Percentile	0.14	0.07	0.00
Median	(0.70)	0.02	(0.20)
75th Percentile	(1.87)	(0.07)	(0.45)
90th Percentile	(3.11)	(0.17)	(0.68)
Investec ●	(0.49)	0.03	(0.17)

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.

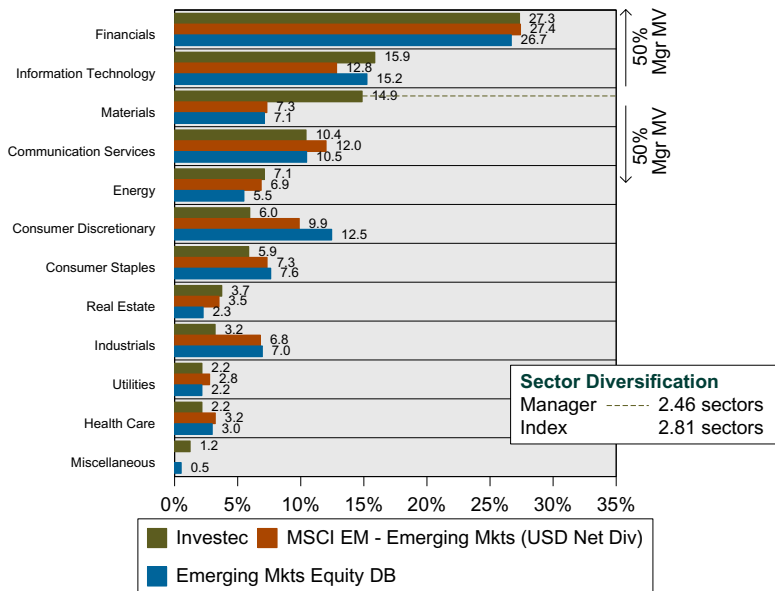
Portfolio Characteristics Percentile Rankings Rankings Against Emerging Markets Equity DB as of December 31, 2018



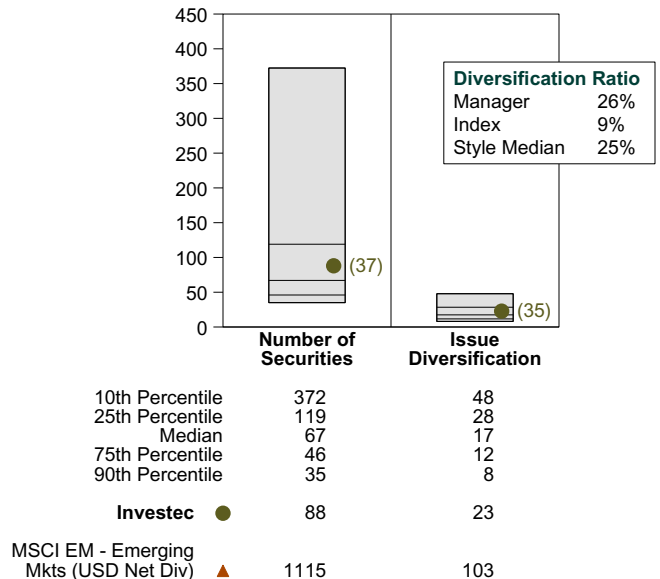
Sector Weights

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 December 31, 2018



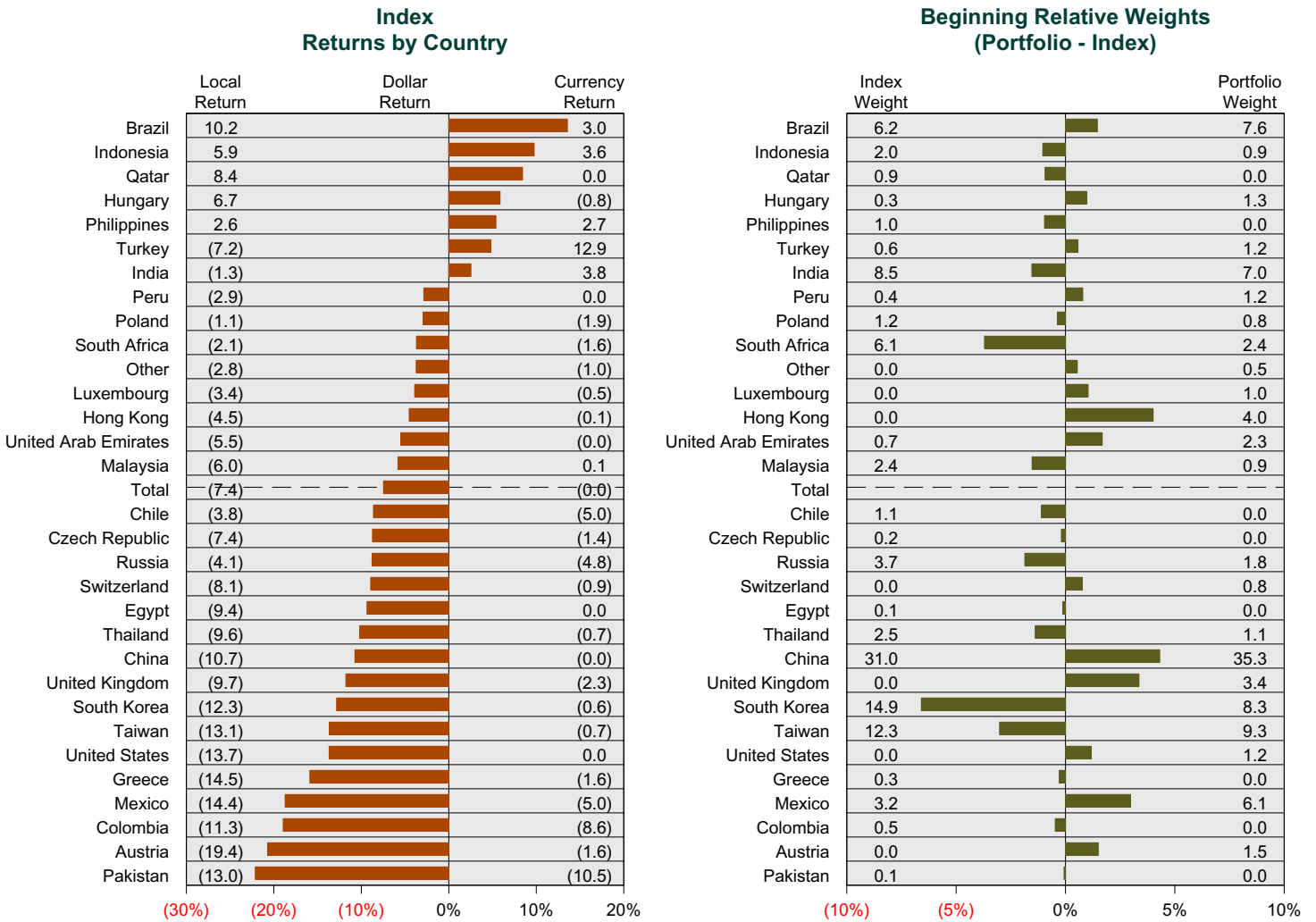
Diversification December 31, 2018



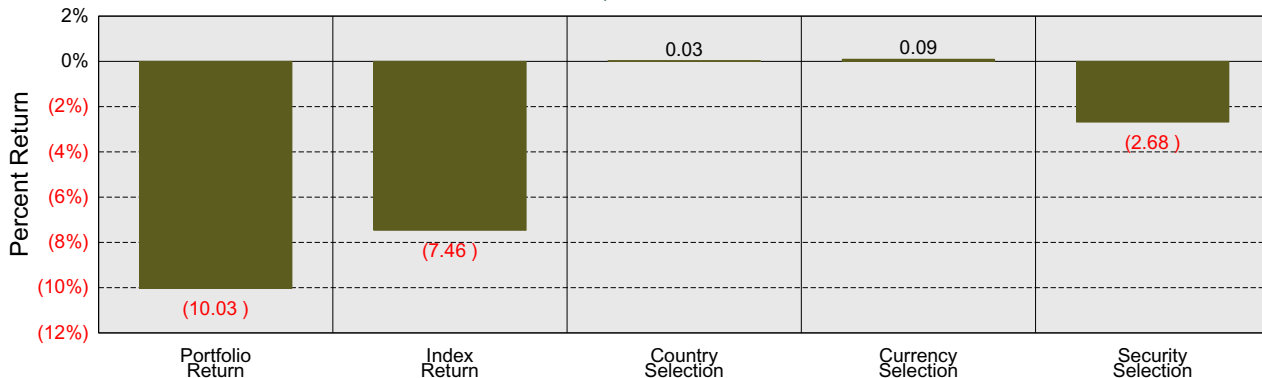
Investec vs MSCI EM Attribution for Quarter Ended December 31, 2018

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 December 31, 2018



Domestic Fixed Income Composite Period Ended December 31, 2018

Quarterly Summary and Highlights

- Domestic Fixed Income Composite's portfolio posted a 0.84% return for the quarter placing it in the 56 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 68 percentile for the last year.
- Domestic Fixed Income Composite's portfolio underperformed the Blmbg Aggregate by 0.80% for the quarter and underperformed the Blmbg Aggregate for the year by 0.29%.

Quarterly Asset Growth

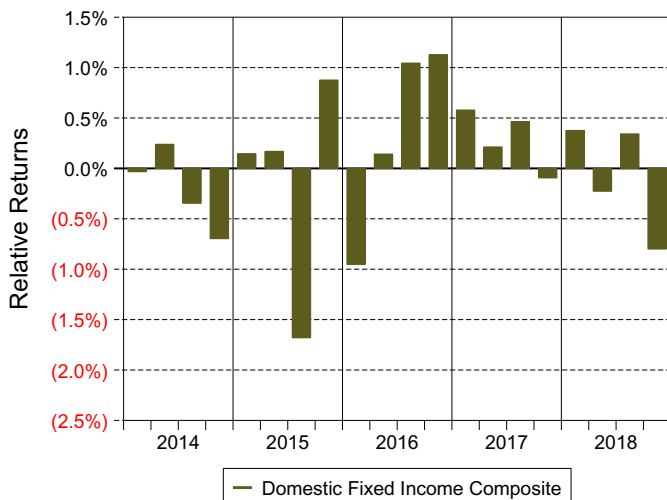
Beginning Market Value	\$104,148,494
Net New Investment	\$0
Investment Gains/(Losses)	\$870,646
Ending Market Value	\$105,019,140

Performance vs Public Fund - Domestic Fixed (Gross)

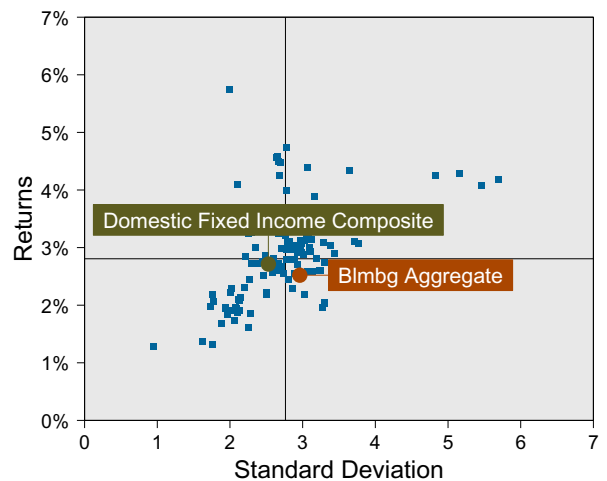


10th Percentile	1.63	1.17	3.30	4.42	4.17	4.35	6.82
25th Percentile	1.46	0.68	2.40	3.71	3.20	3.40	5.41
Median	0.98	(0.05)	2.02	2.73	2.81	2.75	4.43
75th Percentile	0.15	(0.41)	1.77	2.15	2.30	1.98	3.07
90th Percentile	(0.40)	(1.13)	1.49	1.78	1.95	1.69	2.33
Domestic Fixed Income Composite	● 0.84	(0.28)	2.20	2.83	2.71	3.12	4.65
Blmbg Aggregate	▲ 1.64	0.01	1.76	2.06	2.52	2.10	3.48

Relative Return vs Blmbg Aggregate



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

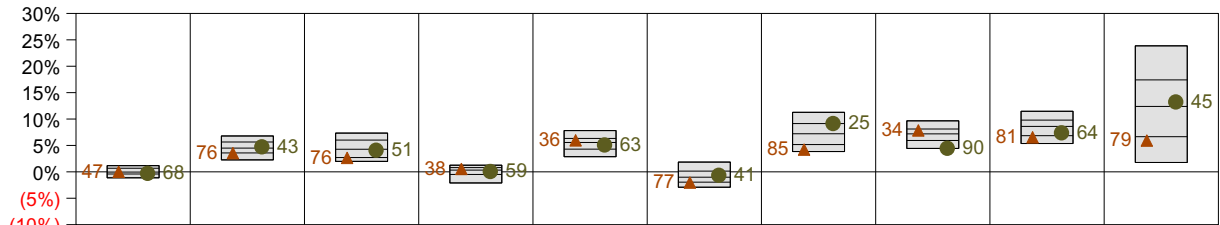


Domestic Fixed Income Composite Return Analysis Summary

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.

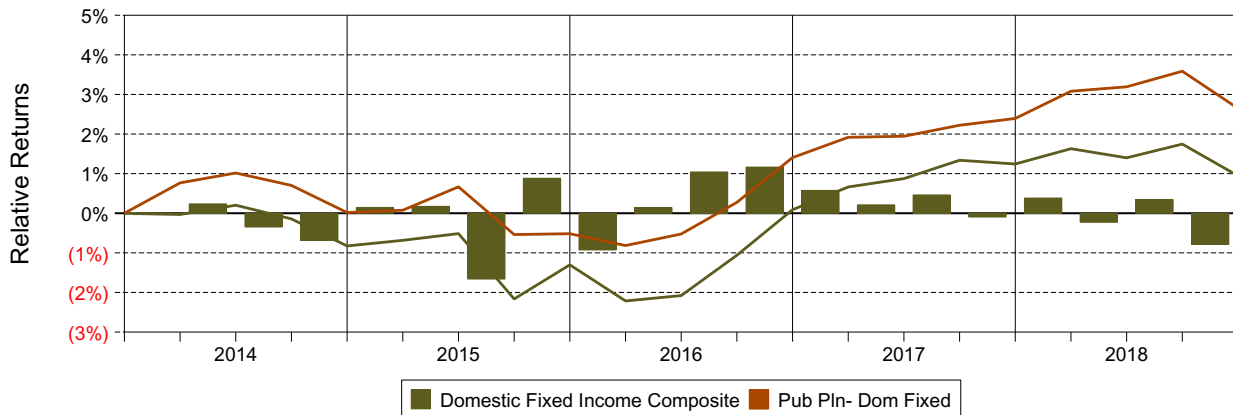
Performance vs Public Fund - Domestic Fixed (Gross)



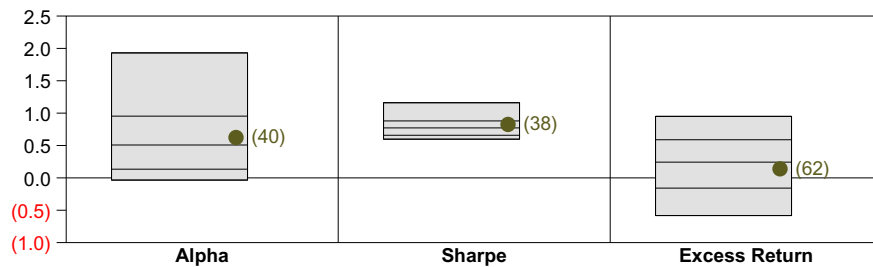
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
10th Percentile	1.17	6.79	7.34	1.26	7.82	1.85	11.27	9.66	11.47	23.86
25th Percentile	0.68	5.65	6.02	0.80	6.33	0.14	9.14	8.11	9.80	17.41
Median	(0.05)	4.49	4.28	0.33	5.56	(1.02)	7.21	7.19	8.60	12.39
75th Percentile	(0.41)	3.58	2.71	(0.50)	4.30	(1.96)	5.17	5.94	6.85	6.66
90th Percentile	(1.13)	2.26	1.98	(2.11)	2.87	(2.92)	3.84	4.44	5.36	1.77

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Domestic Fixed Income Composite	(0.28)	4.74	4.10	0.07	5.09	(0.65)	9.15	4.47	7.39	13.24
Blmbg Aggregate	0.01	3.54	2.65	0.55	5.97	(2.02)	4.21	7.84	6.54	5.93

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 December 31, 2018



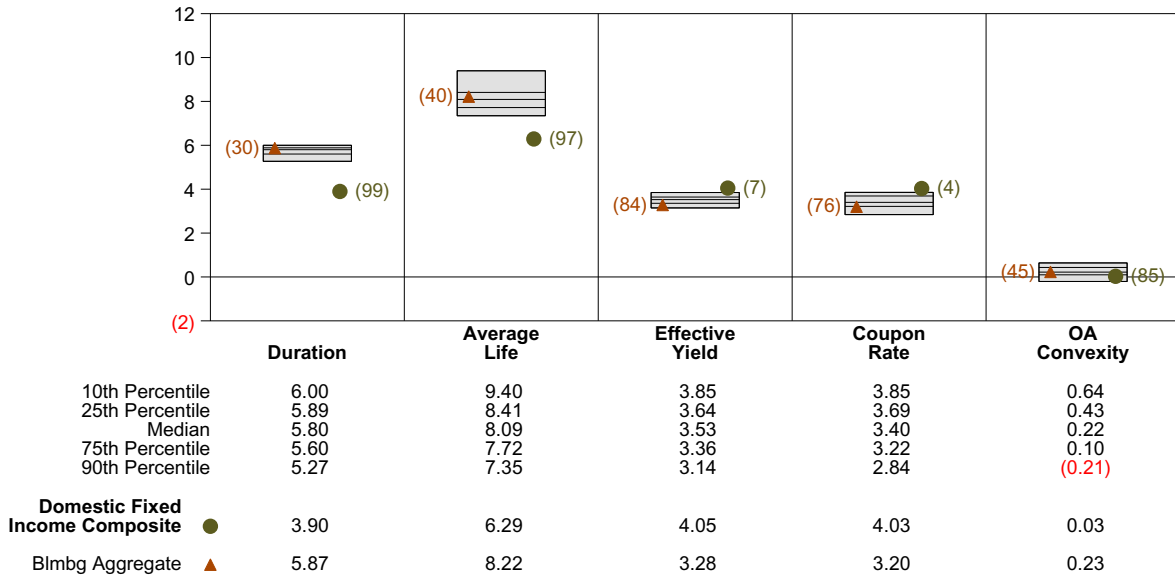
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.93	1.16	0.95
25th Percentile	0.95	0.88	0.59
Median	0.51	0.77	0.24
75th Percentile	0.13	0.66	(0.16)
90th Percentile	(0.03)	0.60	(0.58)
Domestic Fixed Income Composite	0.62	0.83	0.14

Domestic Fixed Income Composite Bond Characteristics Analysis Summary

Portfolio Characteristics

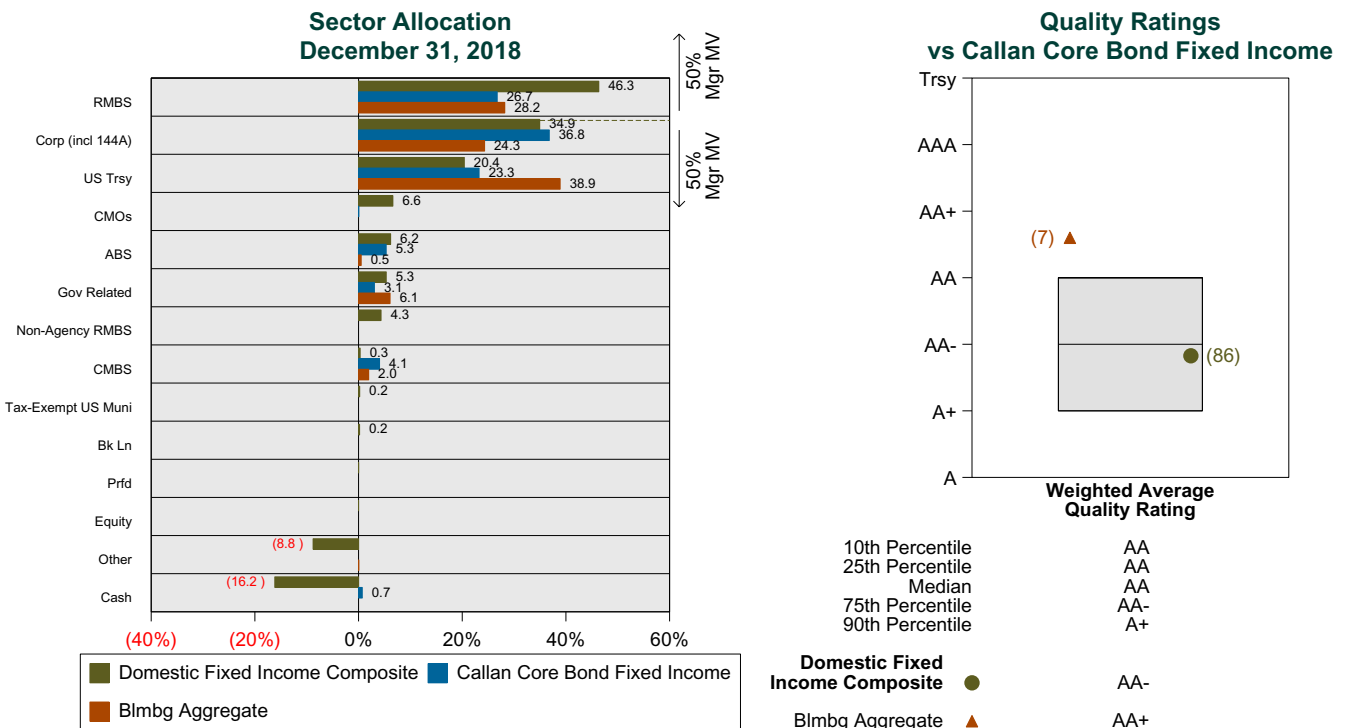
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of December 31, 2018



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 December 31, 2018

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.

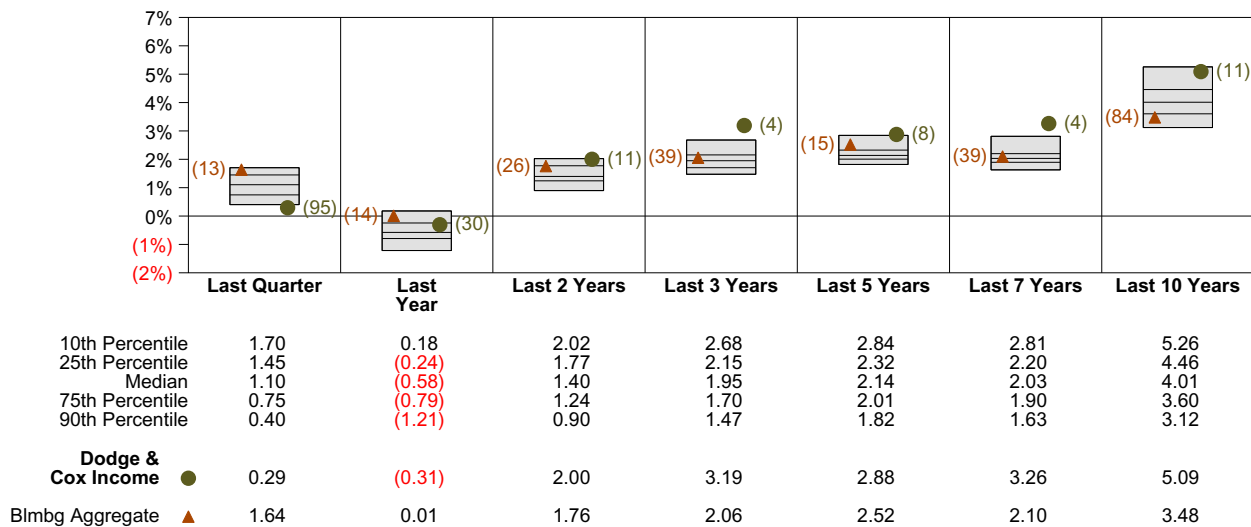
Quarterly Summary and Highlights

- Dodge & Cox Income's portfolio posted a 0.29% return for the quarter placing it in the 95 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 30 percentile for the last year.
- Dodge & Cox Income's portfolio underperformed the Blmbg Aggregate by 1.34% for the quarter and underperformed the Blmbg Aggregate for the year by 0.32%.

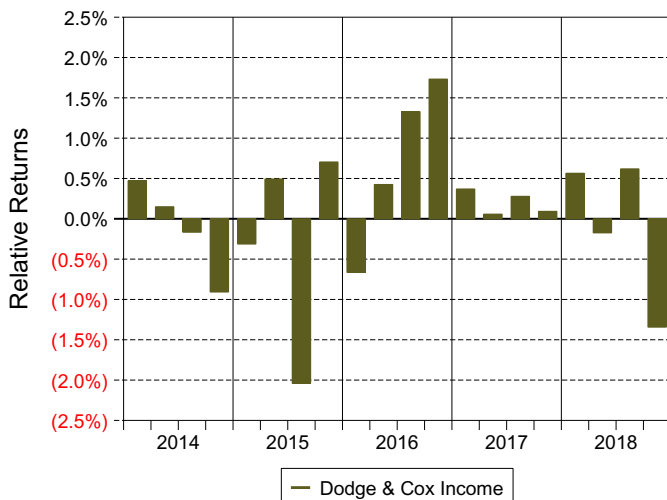
Quarterly Asset Growth

Beginning Market Value	\$52,428,596
Net New Investment	\$0
Investment Gains/(Losses)	\$153,461
Ending Market Value	\$52,582,058

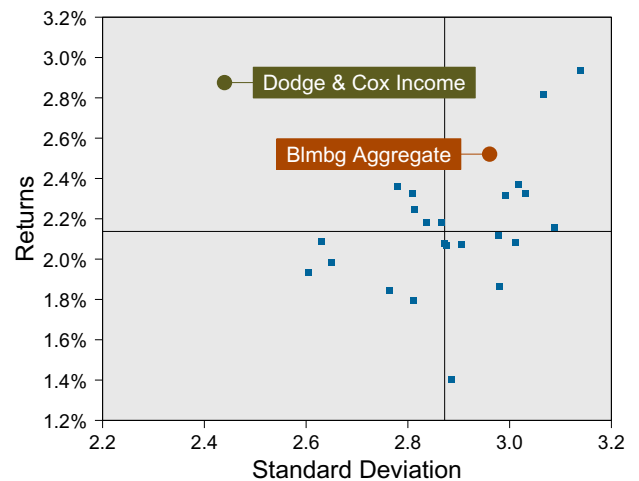
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



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

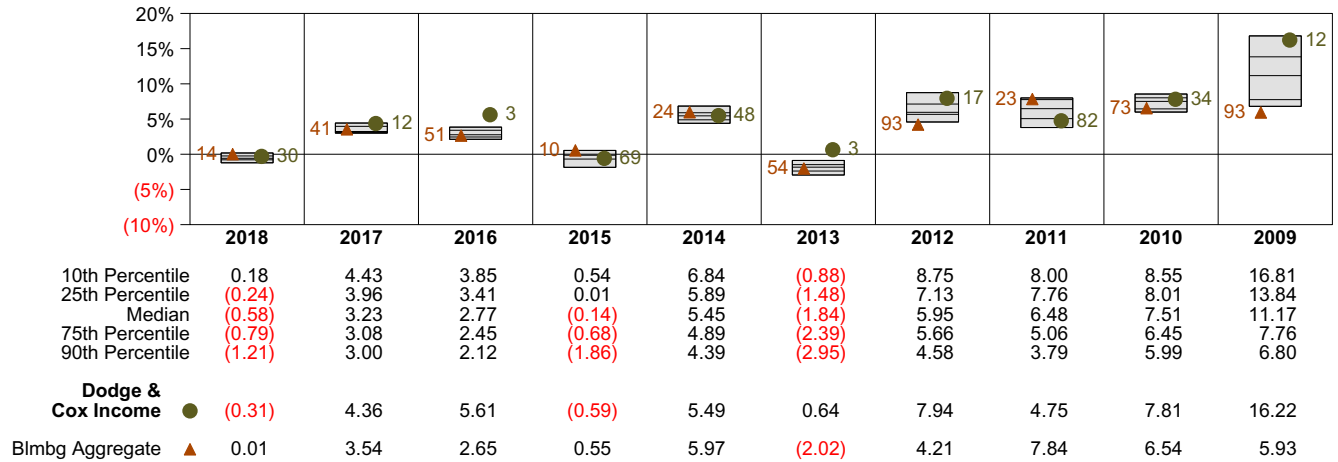


Dodge & Cox Income Return Analysis Summary

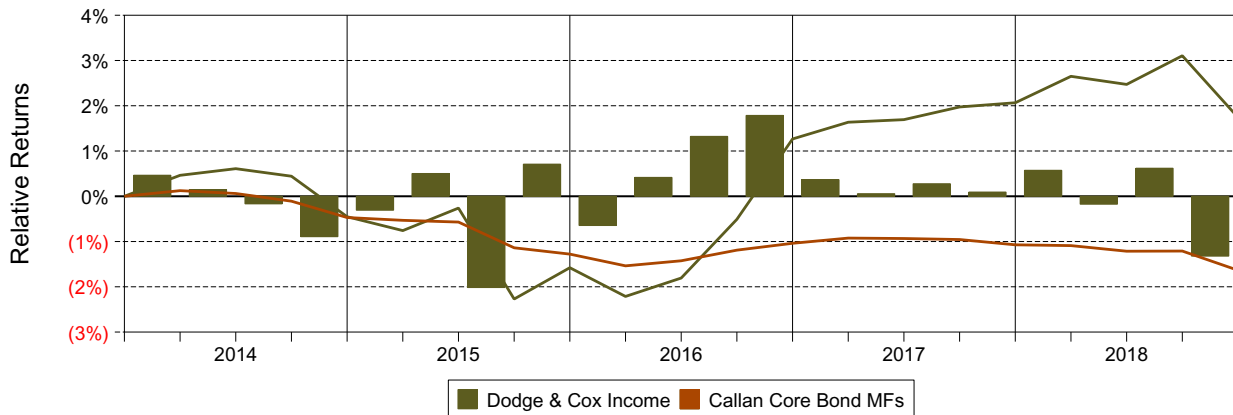
Return Analysis

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.

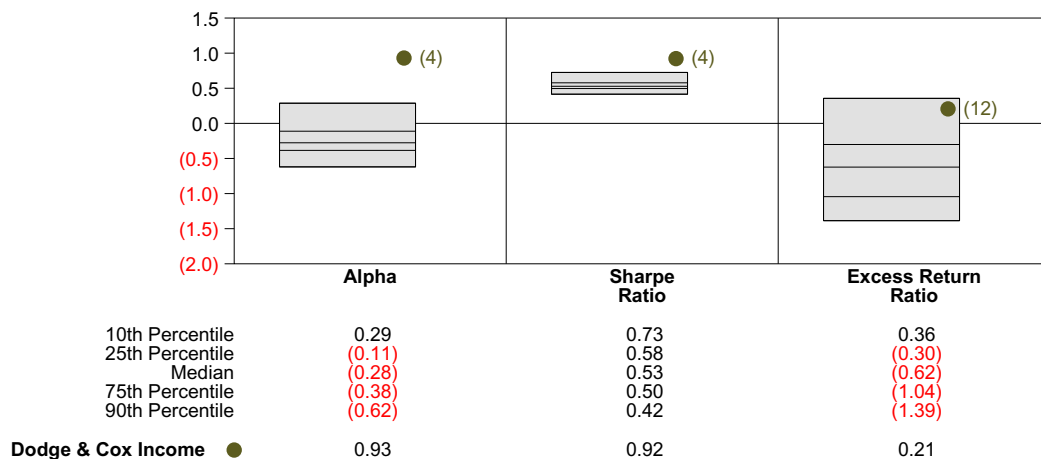
Performance vs Callan Core Bond Mutual Funds (Net)



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 December 31, 2018

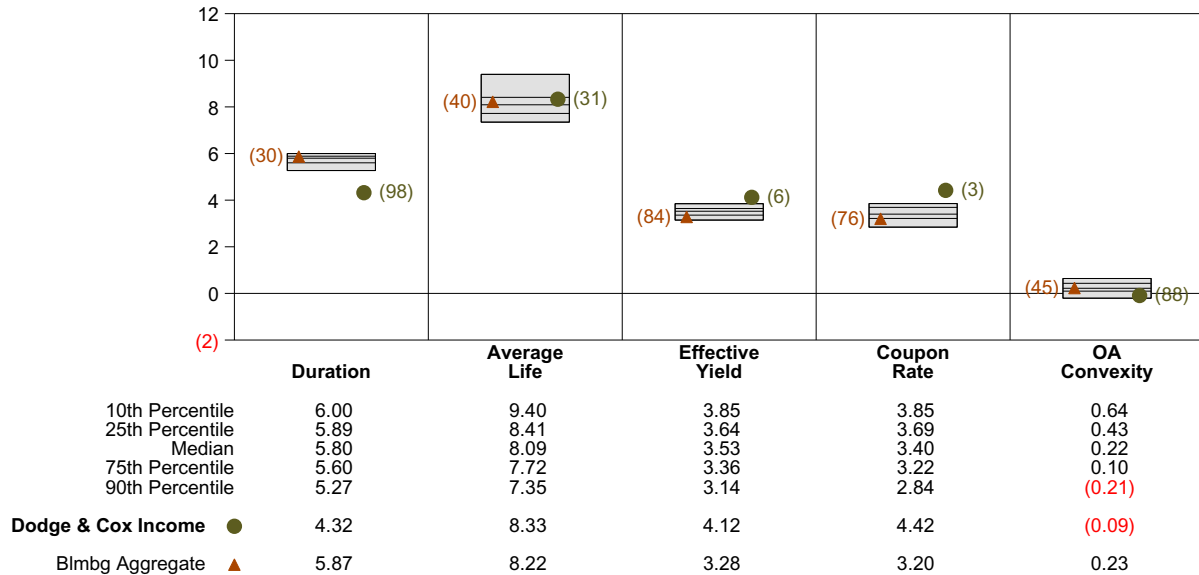


Dodge & Cox Income Bond Characteristics Analysis Summary

Portfolio Characteristics

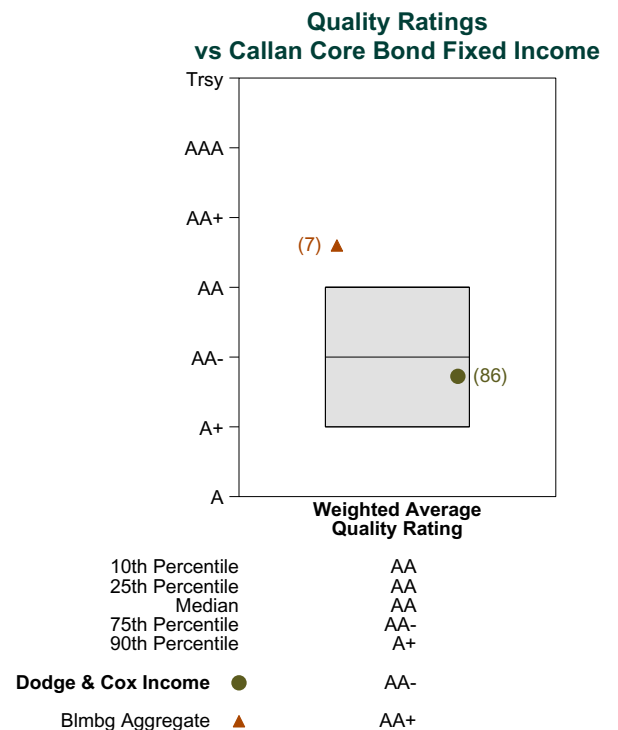
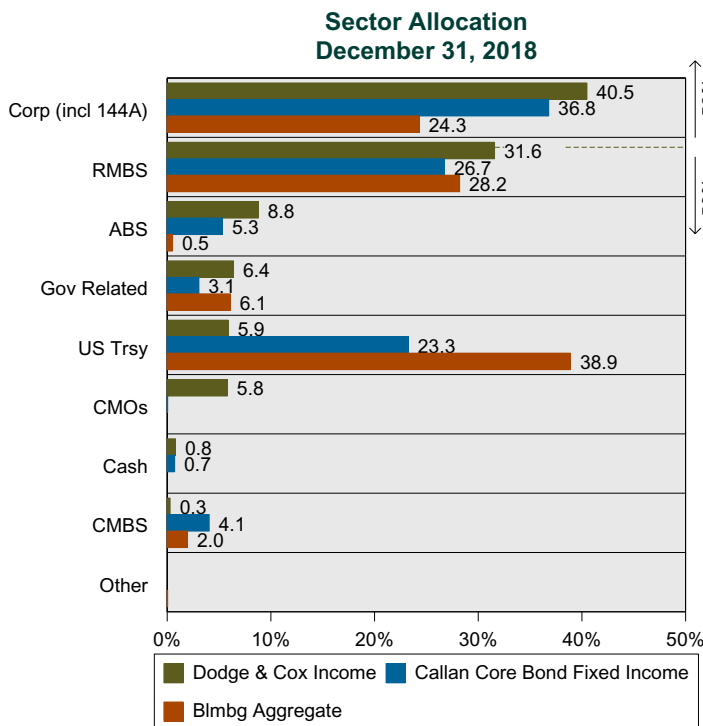
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of December 31, 2018



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 December 31, 2018

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.

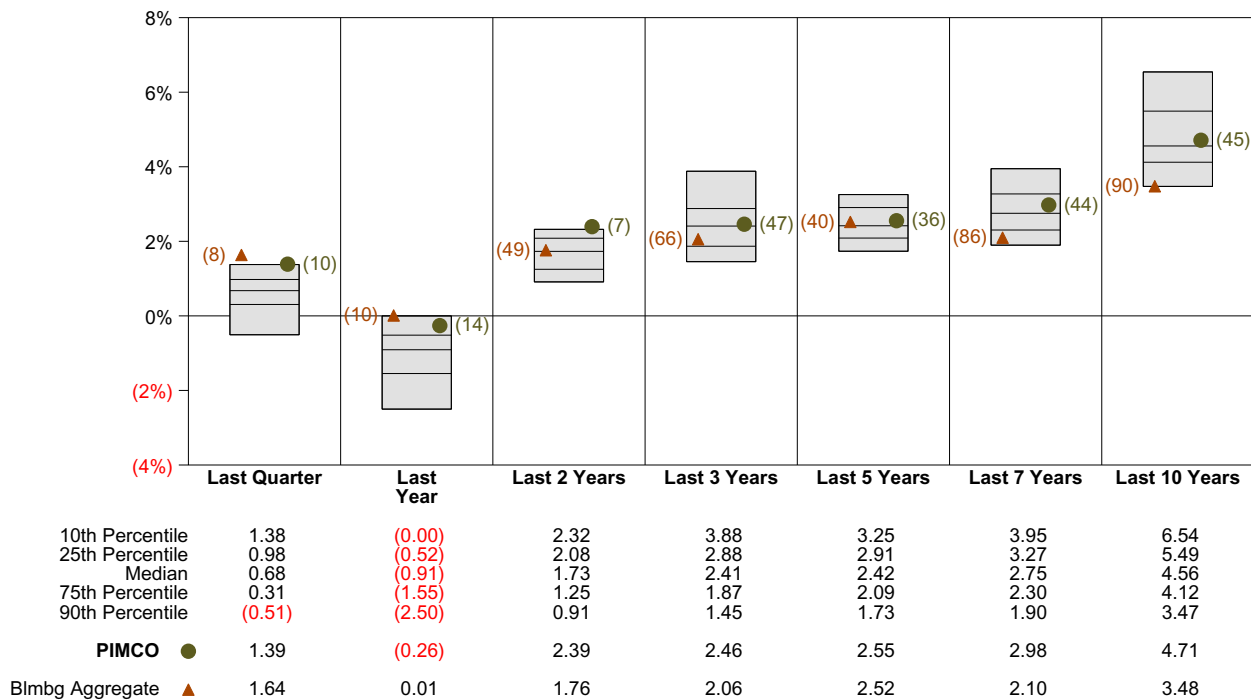
Quarterly Summary and Highlights

- PIMCO's portfolio posted a 1.39% return for the quarter placing it in the 10 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 14 percentile for the last year.
- PIMCO's portfolio underperformed the Blmbg Aggregate by 0.25% for the quarter and underperformed the Blmbg Aggregate for the year by 0.27%.

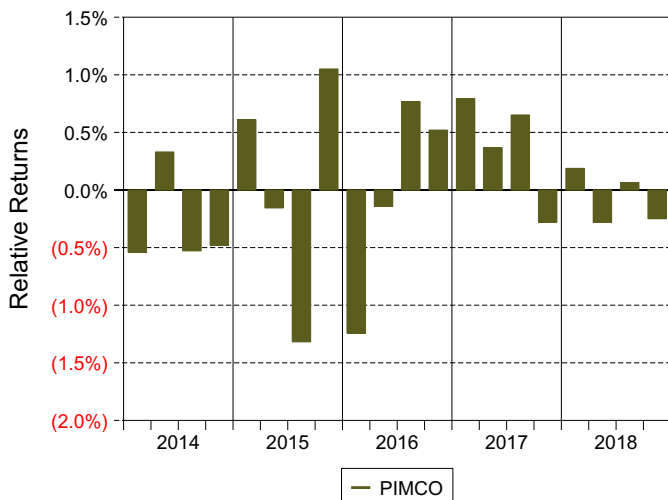
Quarterly Asset Growth

Beginning Market Value	\$51,719,898
Net New Investment	\$0
Investment Gains/(Losses)	\$717,184
Ending Market Value	\$52,437,082

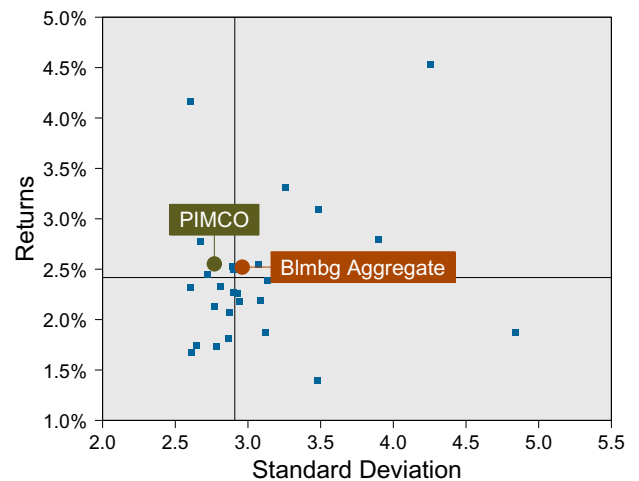
Performance vs Callan Core Plus Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



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

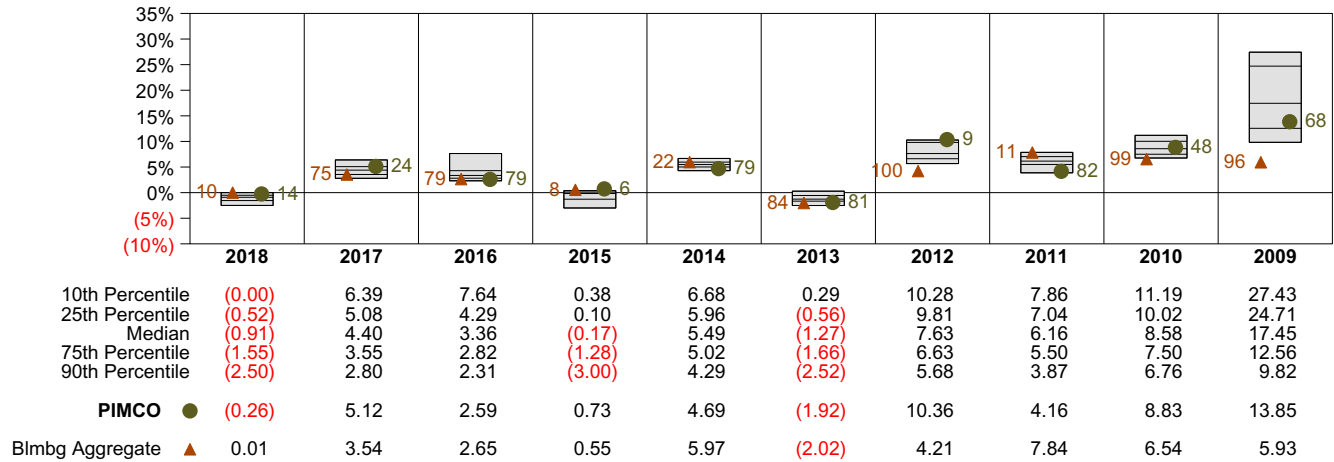


PIMCO Return Analysis Summary

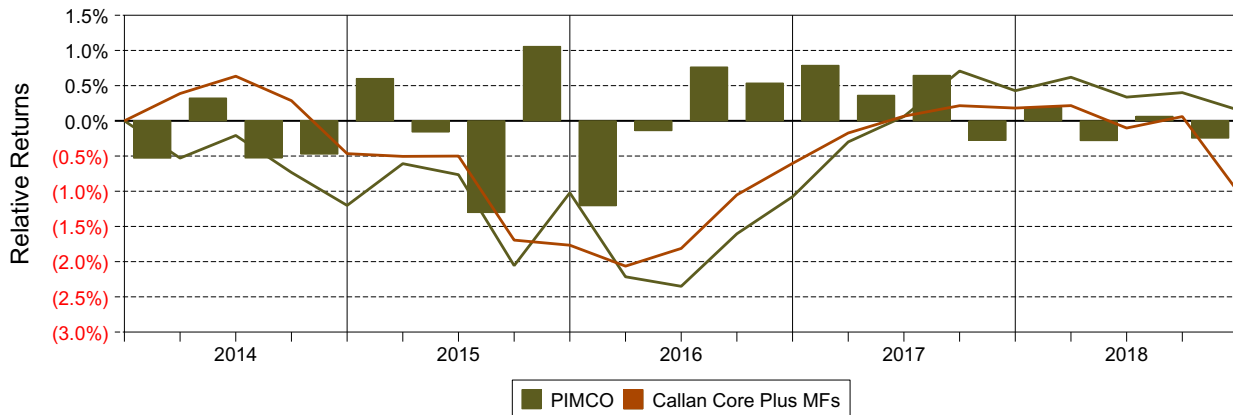
Return Analysis

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.

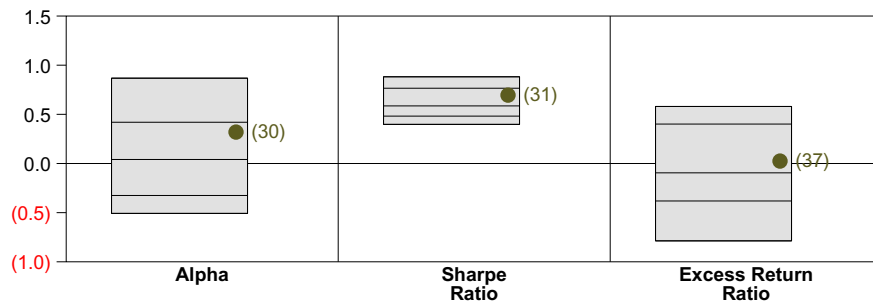
Performance vs Callan Core Plus Mutual Funds (Net)



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 December 31, 2018



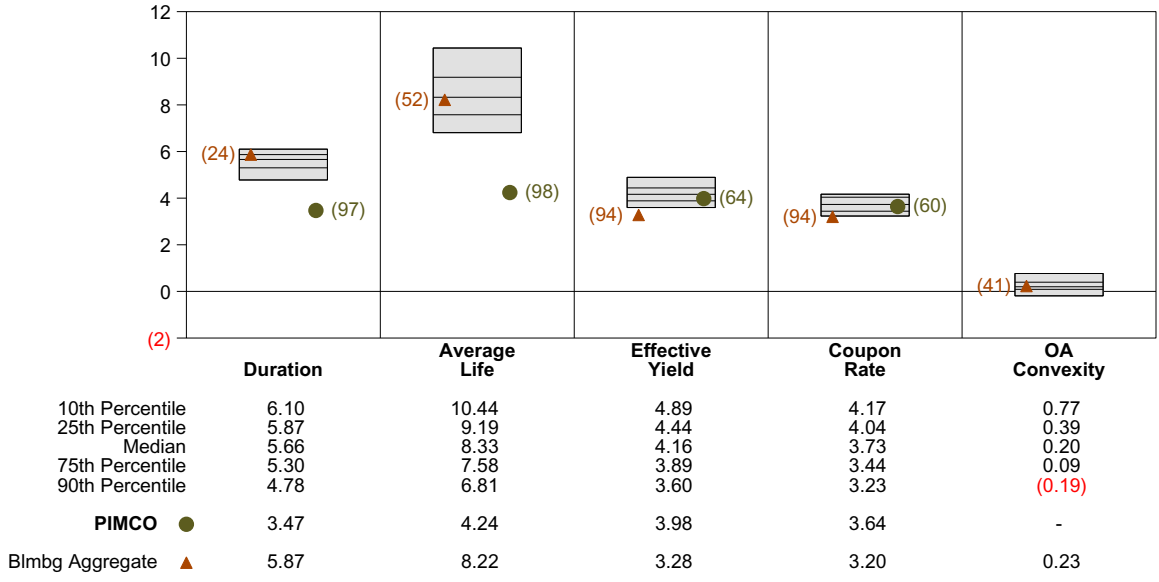
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.87	0.88	0.58
25th Percentile	0.42	0.77	0.40
Median	0.04	0.59	(0.10)
75th Percentile	(0.33)	0.48	(0.38)
90th Percentile	(0.51)	0.40	(0.79)
PIMCO	● 0.32	0.70	0.02

PIMCO Bond Characteristics Analysis Summary

Portfolio Characteristics

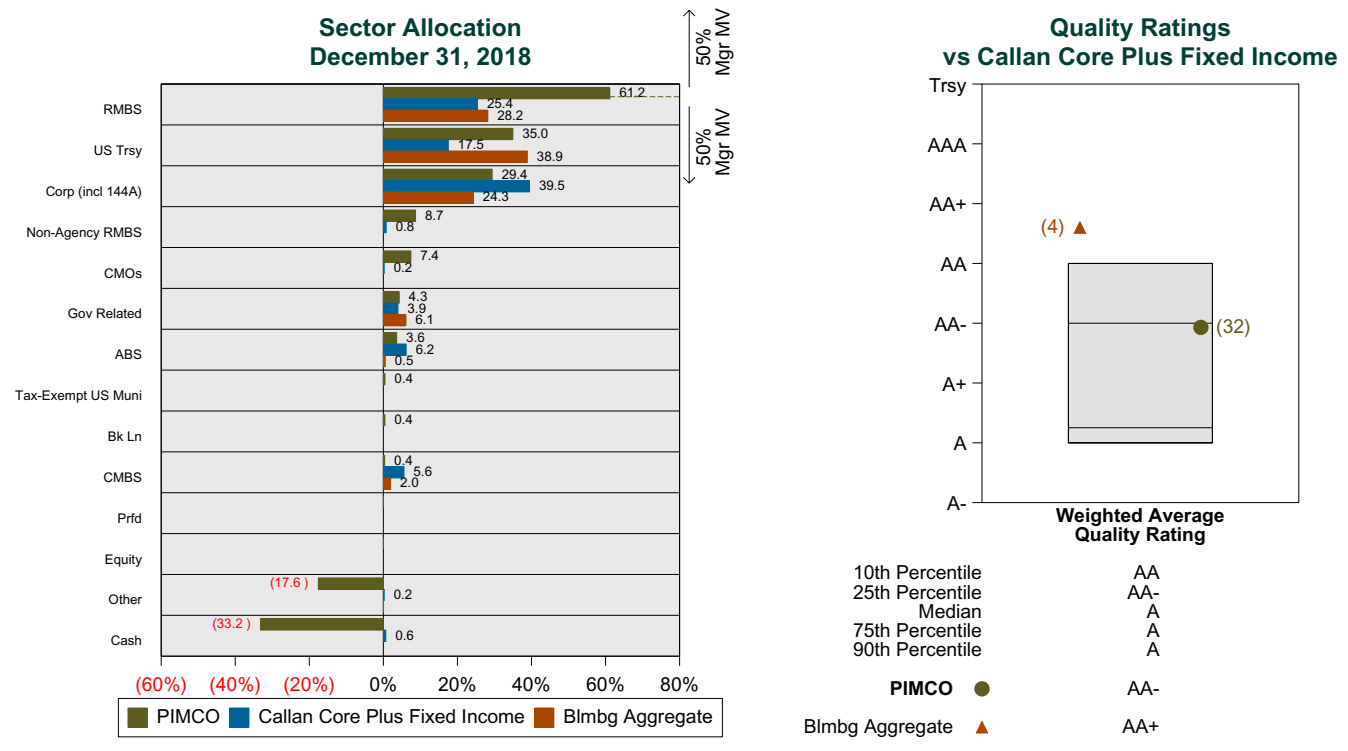
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of December 31, 2018



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 December 31, 2018

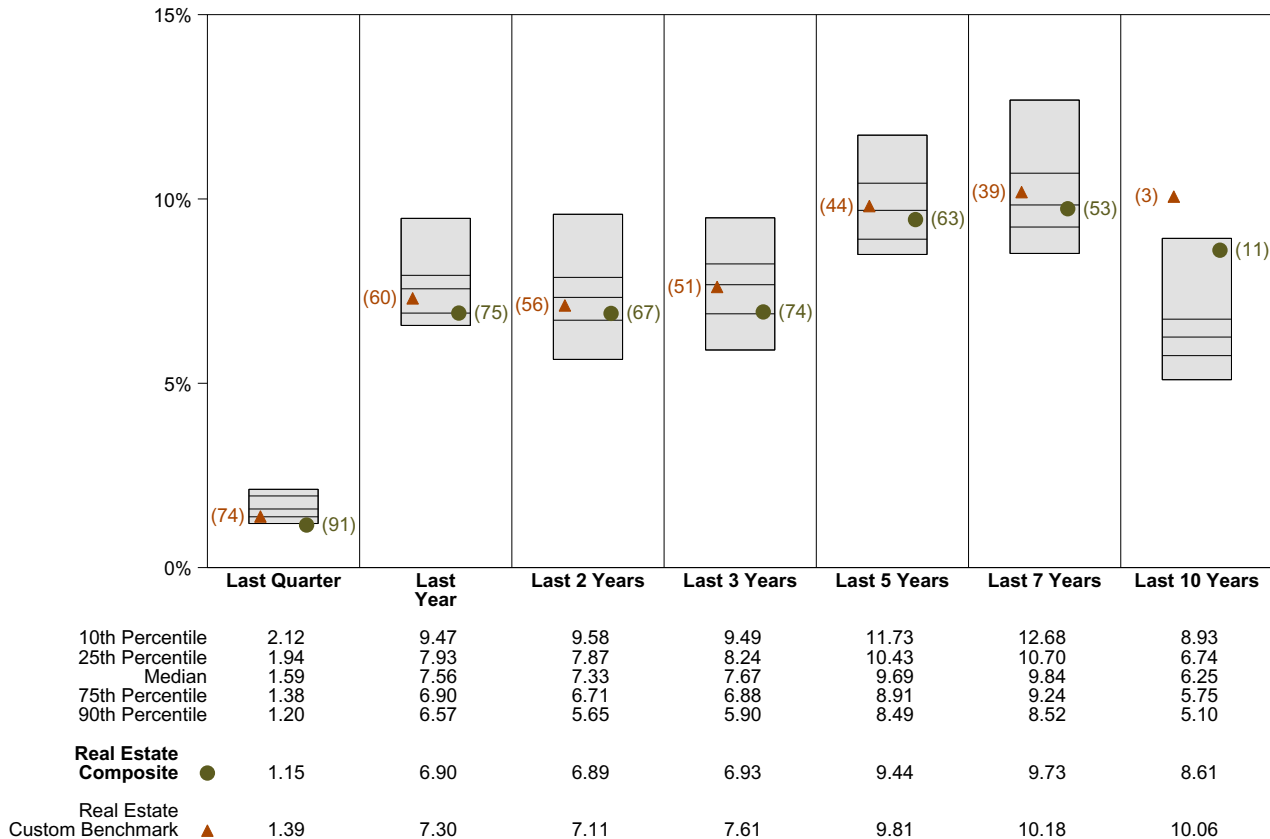
Quarterly Summary and Highlights

- Real Estate Composite's portfolio posted a 1.15% return for the quarter placing it in the 91 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 75 percentile for the last year.
- Real Estate Composite's portfolio underperformed the Real Estate Custom Benchmark by 0.23% for the quarter and underperformed the Real Estate Custom Benchmark for the year by 0.40%.

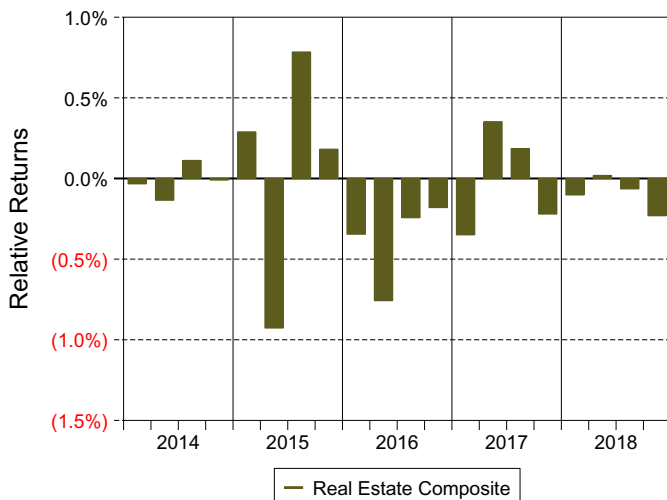
Quarterly Asset Growth

Beginning Market Value	\$57,472,781
Net New Investment	\$-22,840
Investment Gains/(Losses)	\$663,706
Ending Market Value	\$58,113,647

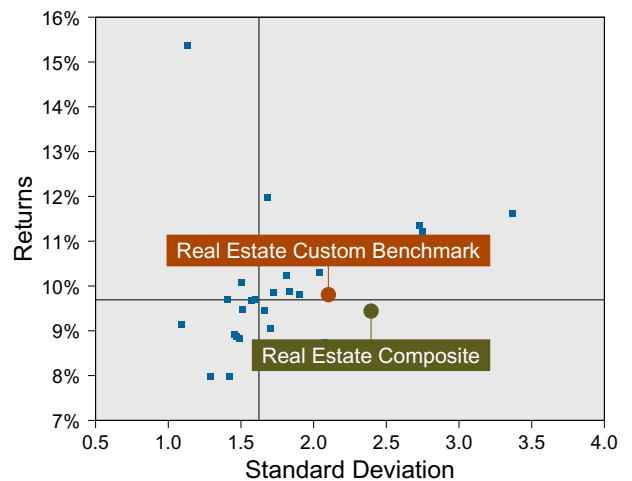
Performance vs Callan Open End Core Cmmingled Real Est (Net)



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 December 31, 2018

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.

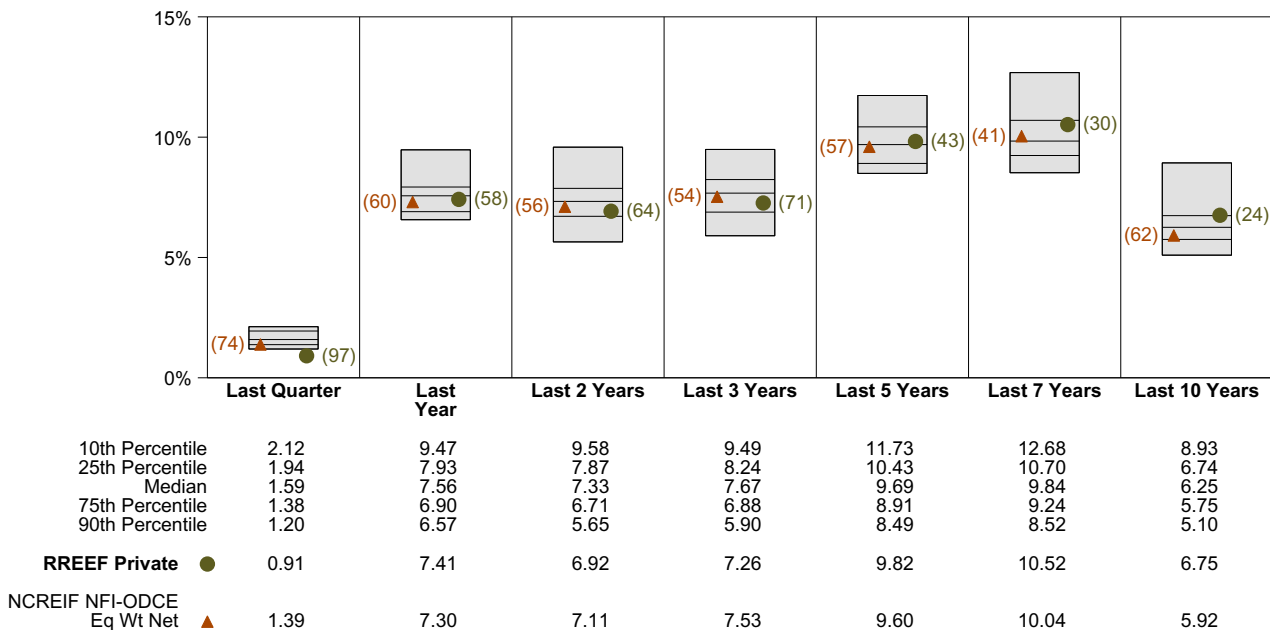
Quarterly Summary and Highlights

- RREEF Private's portfolio posted a 0.91% return for the quarter placing it in the 97 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 58 percentile for the last year.
- RREEF Private's portfolio underperformed the NCREIF NFI-ODCE Eq Wt Net by 0.47% for the quarter and outperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.11%.

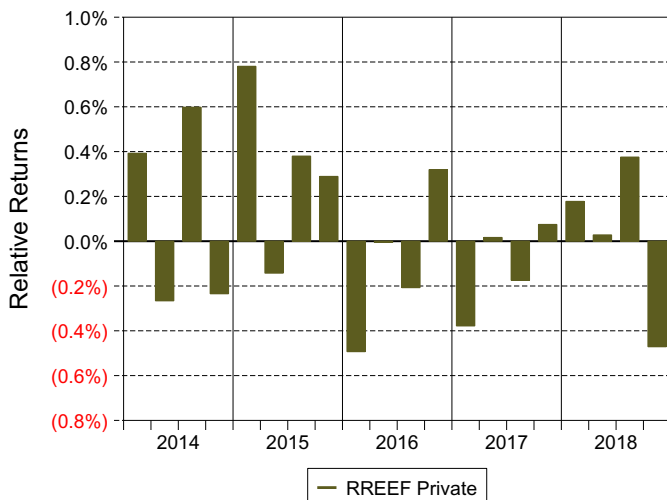
Quarterly Asset Growth

Beginning Market Value	\$29,566,479
Net New Investment	\$0
Investment Gains/(Losses)	\$270,466
Ending Market Value	\$29,836,945

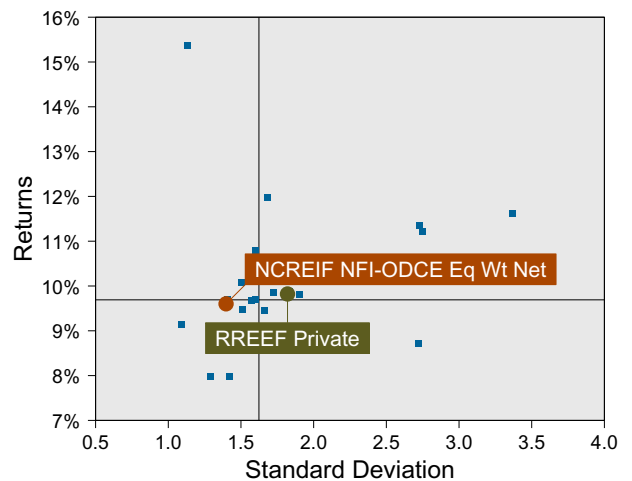
Performance vs Callan Open End Core Cmmingled Real Est (Net)



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 December 31, 2018

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.

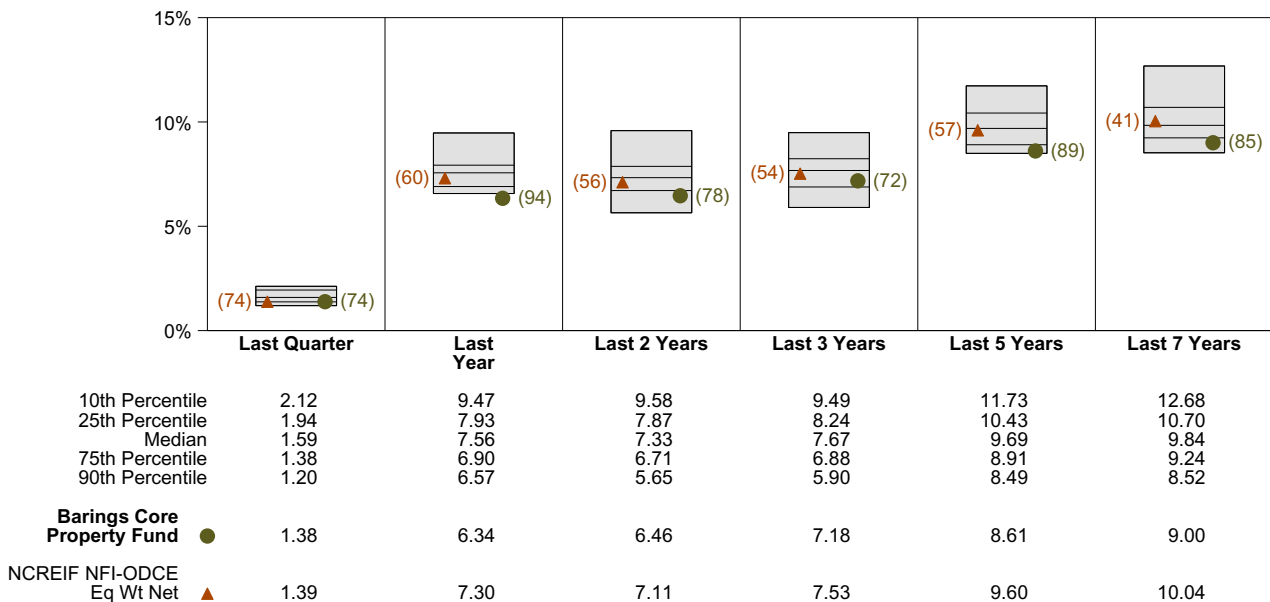
Quarterly Summary and Highlights

- Barings Core Property Fund's portfolio posted a 1.38% return for the quarter placing it in the 74 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 94 percentile for the last year.
- Barings Core Property Fund's portfolio underperformed the NCREIF NFI-ODCE Eq Wt Net by 0.00% for the quarter and underperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.96%.

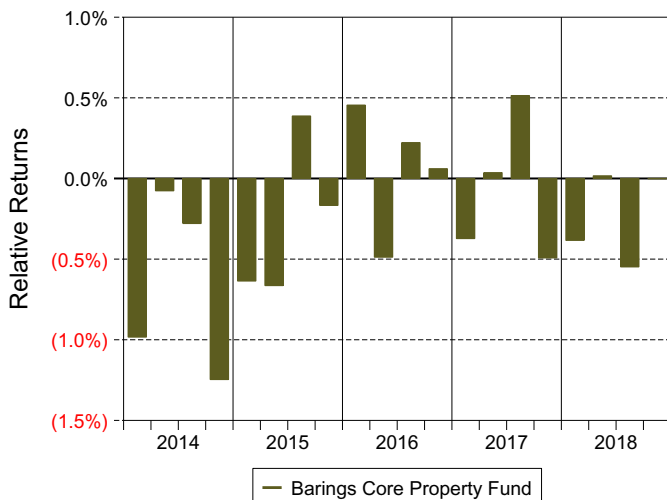
Quarterly Asset Growth

Beginning Market Value	\$26,756,302
Net New Investment	\$0
Investment Gains/(Losses)	\$370,400
Ending Market Value	\$27,126,702

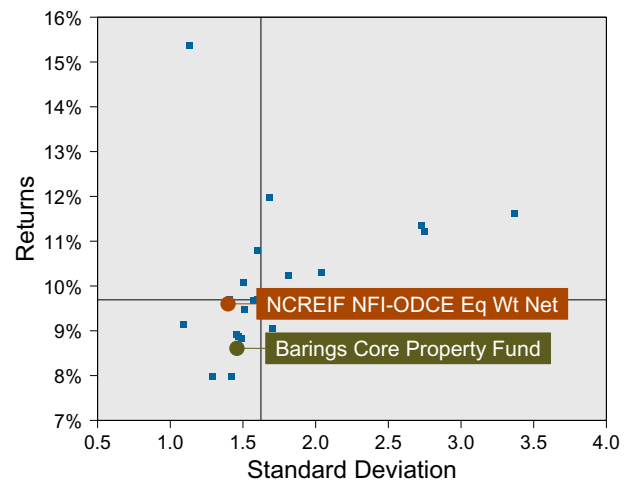
Performance vs Callan Open End Core Cmmingled Real Est (Net)



Relative Returns vs NCREIF NFI-ODCE Eq Wt Net



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



Change of Mind on the Global Outlook

ECONOMY

2 Confidence in the global economy's strength evaporated suddenly last October. What changed? Signs of slower growth in the global economy outside the U.S., trade war concerns, and fears that continued U.S. interest rate increases will slow growth.

Investors Calm Amid Market Turmoil

FUND SPONSOR

4 The median fund sponsor in Callan's database fell 7.5% in the fourth quarter, lagging a 60% U.S. stocks/40% U.S. fixed income index. Funds were affected by their exposure to non-U.S. stocks, which lagged U.S. stocks. Corporate plans fared best in a tough quarter.

Widespread Drops in Global Markets

EQUITY

6 Equity markets fell drastically in the fourth quarter. In the U.S., all sectors, save Utilities (+1.4%), were in negative territory. Small cap stocks were hardest hit. Economic deceleration fueled by the global trade dispute and Brexit impasse drove non-U.S. markets down.

Safety Ruled as Risk Assets Sold Off

FIXED INCOME

8 Safe-haven securities, such as U.S. Treasuries and other developed market sovereign bonds, rallied while risk assets sold off. Non-U.S. developed market sovereign bonds rallied, though the strength in the U.S. dollar proved to be a headwind for unhedged assets.

Real Estate Healthy, Real Assets Struggled

REAL ESTATE/REAL ASSETS

10 Private real estate rose in the fourth quarter, with returns shifting toward income. The fundamentals of the U.S. real estate market remained healthy. REITs fell both in the U.S. and overseas. Most commodity indices dropped in the quarter, leaving few safe havens.

Downshifting Into a Tricky Corner

PRIVATE EQUITY

12 The number of transactions across all metrics fell modestly for 2018 and in the fourth quarter, reflecting less certainty in trickier capital markets. However, dollar volumes associated primarily with fundraising, and venture capital investments and exits, increased.

Hedge Funds in Hot Mess; MACs Stumble

HEDGE FUNDS/MACs

13 As the global capital markets reacted to the sharp risk-off environment, volatile prices and tightening liquidity inside these markets became a heated mess for hedge funds. The Callan MAC Style Groups tripped again in the fourth quarter's risk-off mode.

DC Index Tops Age 45 TDF in 3rd Quarter

DEFINED CONTRIBUTION

15 The Callan DC Index™ gained 3.7% in the third quarter, outpacing the 3.5% rise of the Age 45 Target Date Fund (TDF). DC plan balances grew by 3.1%, driven completely by market performance. For the first time since the third quarter of 2016, flows into the Index were negative.

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, MSCI, FTSE Russell

Change of Mind

ECONOMY | Jay Kloepfer

Confidence in the strength of the global economy evaporated suddenly in October 2018, leading to sharp declines in equity and commodity prices, widening interest rate spreads, and an appreciation of the U.S. dollar. Little in the underlying fundamentals of the U.S. economy had changed: GDP enjoyed solid gains of 4.2% and 3.4% in the second and third quarters of 2018, the robust labor market continued to create jobs at a rate of over 200,000 per month, and consumer spending was strong, fueled by rising wages. After two hiccups in the equity markets in February and March, confidence returned and equity markets steamrolled to a new peak in September.

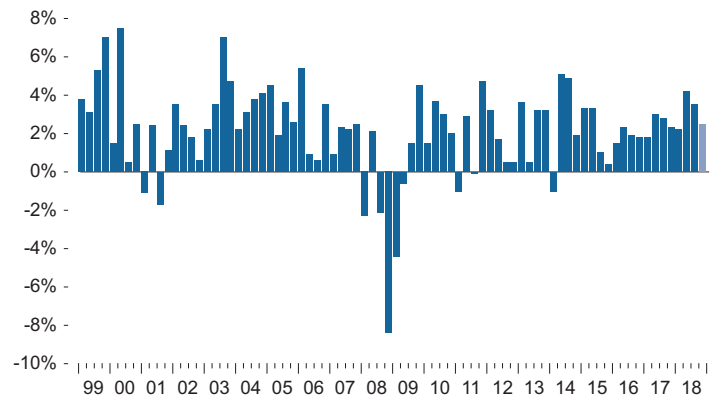
So what changed? Emerging signs of slower growth in the global economy outside the U.S., rising concerns over a trade war, and fears that continued U.S. interest rate increases will slow growth both here and abroad eroded confidence. A slowdown in U.S. and global growth suddenly seemed inevitable as waning fiscal stimulus and rising interest rates weaken demand.

Despite the loss of confidence, data on U.S. economic growth largely remained solid through the fourth quarter, led by the labor market. The U.S. economy added over 2.6 million new jobs in 2018, up from 2.3 million in 2017. The unemployment rate fell to a generational low of 3.7% in September. The rate rose to 3.9% in December, but not because of weakening job growth—the tight labor market finally spurred an increase in the labor force participation rate. Fourth quarter GDP growth is projected to come in close to 2.5%, resulting in an annual rate of growth for 2018 of 3.0%. (The government shutdown delayed reporting of GDP; estimate provided by IHS Markit.) GDP growth of 3.0% for the year would mark the high point in the current expansion that began in 2009 after the Global Financial Crisis.

Not all of the economic data were positive. One of the biggest contributors to GDP growth in the third quarter was investment in inventory. Imports surged, likely ahead of the imposition of tariffs on Chinese goods, and much of these imports landed in

Quarterly Real GDP Growth

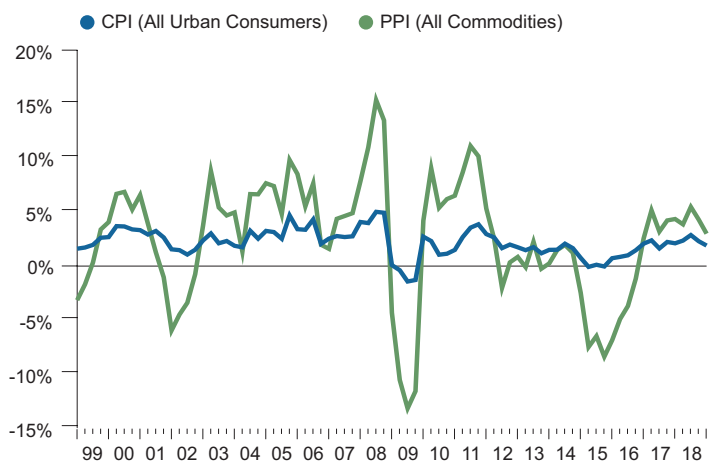
(20 Years)



Source: Bureau of Economic Analysis

Note: 4Q18 GDP not available at time of publication, estimate provided by IHS Markit

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

inventories. Building inventories adds to GDP, while the working down of inventories in the coming months will subtract from GDP. Growth in business fixed investment—capital expenditures—stalled in the second half of the year, possibly discouraged by uncertainty over trade policy. Residential investment declined in each quarter during the year, as the housing market continues to sputter.

Housing has been a persistent disappointment. While demographic trends may appear to be favorable—the emergence of the millennial generation into prime home-buying age—housing faces several headwinds: strong prices and rising mortgage rates have made homes less affordable, several provisions of the 2017 Tax Act are unfriendly to housing, and builders complain about the scarcity of lots and skilled labor to build homes.

Inflation risks seemed to increase throughout the year. Average hourly earnings reached a 3% growth rate in January, igniting fears of the arrival, finally, of inflationary pressures. This wage report in fact was cited as one of the key instigators in the market sell-off in February. Growth in the CPI reached 3% by mid-year, and the long, mysterious absence of inflation after all that monetary and fiscal stimulus was thought to be over. Oil prices reached \$84 in early October. But the risk of inflation lessened in the fourth quarter. Confidence in global growth collapsed and one of the first casualties was oil, whose price dropped to \$52 in December. As a result, the broad consumer price index (CPI) dropped below 2% growth, and the landscape for inflation going forward changed.

The Federal Reserve has played a large role in the evolving market sentiment. The Fed raised short-term interest rates four times during 2018, resulting in a federal funds rate of 2.25%-2.5% by year end. The Fed continued to point to solid growth, a strong labor market and potential inflationary pressures as justification for a path to a long-term federal funds rate that at mid-year 2018 was projected to reach 3.25%. While the Fed has been clear in communicating its intentions to tighten, concerns rose during 2018 that the U.S. rate increases were slowing growth both in the U.S. and around the globe. In addition,

The Long-Term View

Index	2018 4th Qtr	Periods ended Dec. 31, 2018			
		Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	-14.30	-5.24	7.91	13.18	9.04
S&P 500	-13.52	-4.38	8.49	13.12	9.07
Russell 2000	-20.20	-11.01	4.41	11.97	8.28
Non-U.S. Equity					
MSCI ACWI ex USA	-11.46	-14.20	0.68	6.57	--
MSCI Emerging Markets	-7.47	-14.58	1.65	8.02	--
MSCI ACWI ex USA Small Cap	-14.43	-18.20	1.96	10.02	--
Fixed Income					
Bloomberg Barclays Agg	1.64	0.01	2.52	3.48	5.09
90-Day T-Bill	0.56	1.87	0.63	0.37	2.55
Bloomberg Barclays Long G/C	0.78	-4.68	5.37	5.88	6.82
Bloomberg Barclays GI Agg ex US	0.91	-2.15	-0.01	1.73	4.39
Real Estate					
NCREIF Property	1.67	7.03	9.39	7.52	9.35
FTSE Nareit Equity	-6.32	-4.62	7.90	12.12	9.76
Alternatives					
CS Hedge Fund	-4.30	-3.19	1.66	5.10	7.27
Cambridge PE*	3.37	16.77	13.77	11.62	15.46
Bloomberg Commodity	-9.41	-11.25	-8.80	-3.78	2.03
Gold Spot Price	7.11	-2.14	1.28	3.78	4.85
Inflation – CPI-U	-0.48	1.91	1.51	1.80	2.20

*Data for most recent period lags by a quarter. Data as of September 30, 2018.
Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Standard & Poor's, Thomson Reuters/Cambridge

U.S. policy has deviated from that of central banks in the euro zone, which have yet to shift from easing to tightening. The Fed did reduce its projected long-term target for the fed funds rate to 2.75%-3%, but sentiment took a dive when it raised rates as promised for a fourth time in December.

Recent Quarterly Economic Indicators

	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17
Employment Cost–Total Compensation Growth	2.9%	2.8%	2.8%	2.7%	2.6%	2.5%	2.4%	2.4%
Nonfarm Business–Productivity Growth	--*	2.2%	3.0%	0.3%	-0.3%	2.3%	1.6%	0.4%
GDP Growth	2.5%*	3.4%	4.2%	2.2%	2.3%	2.8%	3.0%	1.8%
Manufacturing Capacity Utilization	76.1%	75.9%	75.5%	75.3%	75.2%	74.4%	74.9%	74.6%
Consumer Sentiment Index (1966=100)	98.2	98.1	98.3	98.9	98.4	95.1	96.4	97.2

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

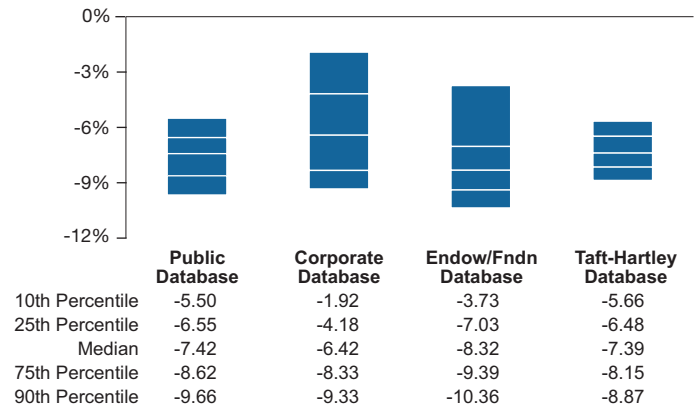
* 4Q18 data not available at time of publication; GDP estimate provided by IHS Markit

Investors Calm Amid Market Turmoil

FUND SPONSOR

- Corporate plans produced the highest returns on a relative basis in the fourth quarter, but still fell 6.4%. Taft-Hartley plans (-7.4%), public plans (-7.4%), and endowments/foundations (-8.3%) saw bigger losses. Callan's total plan database group dropped 7.5%.
- Public defined benefit (DB) funds showed stronger performance relative to corporate DB funds and endowments/foundations this past year as well as over the last 3 and 5 years. Over the last 15 years, all major fund types produced returns in a very narrow range, between 6.1% and 6.3%.
- A quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays US Aggregate Bond Index portfolio fell 2.4% in 2018. All broad fund sponsor groups underperformed this benchmark over that time period.
- The MSCI ACWI ex USA Index underperformed U.S. equity markets over the past year. Funds that have taken steps to diversify away from home-country bias were not rewarded.
- As market events unfold, sponsors remain calm but are taking different approaches. Many sponsors' strategic positioning continues unchanged but is actively monitored. Those driven by higher return targets may seek opportunities in less-efficient markets. Others seeking increased risk mitigation want transparent risk controls, lower volatility, and downside protection.

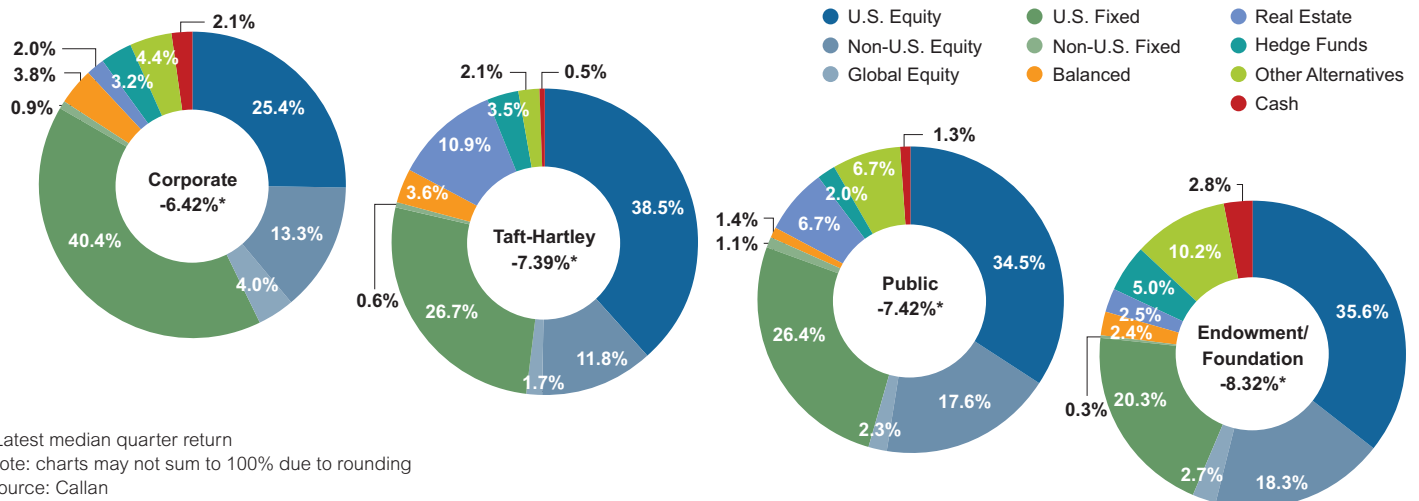
Callan Fund Sponsor Returns for the Quarter



Source: Callan

- The recent sell-off in global equities raised concerns about the impact on the actuarial discount rate for public plans and the spending policy for endowments and foundations. Plans with high return targets may increase risk, so risk mitigation is an important area of focus.
- For fund sponsors, strategic allocation decisions are focused on rising interest rates, anticipation of a market correction, volatility, and continued low future return expectations.
- Fund sponsors continue examining the balance between active and passive investing. Active management strategies

Callan Fund Sponsor Average Asset Allocation



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

- that limit the impact of market drawdowns and preserve capital during adverse circumstances are highly sought out.
- Fees and performance remain key factors in the active versus passive debate.
- The urge to engage in market timing is very great: there is a long-term benefit to higher equity, but investors (and Callan) are nervous about ramping up right now. Sponsors face competing fears: an equity market downturn vs. the fear of missing out (FOMO!).
- Setting capital market expectations is challenging in a volatile market environment. Where do you start? What is the time horizon? Does valuation matter? At what interest rate? Discipline in the face of uncertainty is difficult.

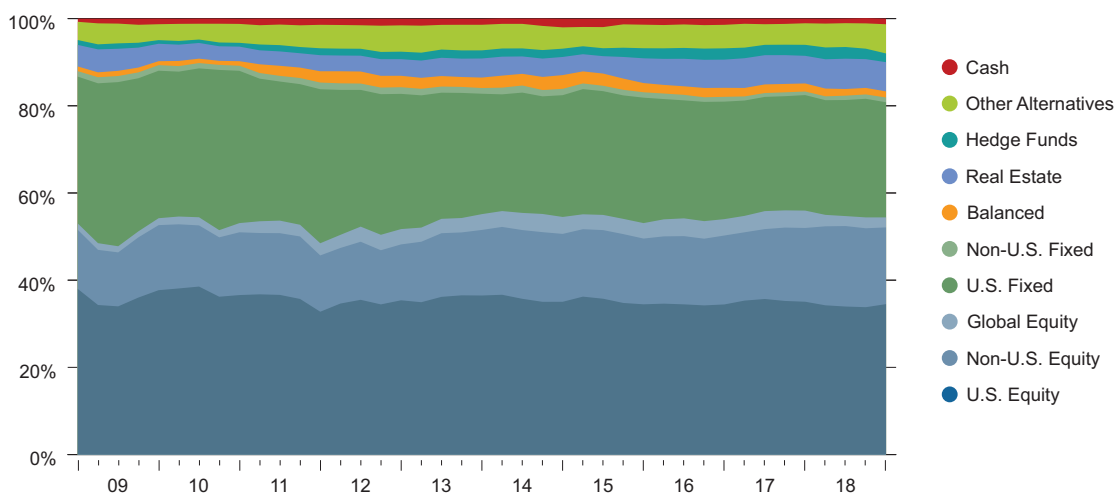
Plan-Level Concerns

- Public plans are focused on asset allocation strategies to reduce public equities and shift into a more diversified real assets portfolio. Return enhancement continues to be the focus of public plans and endowment/foundation funds. As endowments and foundations seek return sources and diversification to mitigate equity risk, less liquid asset classes may benefit.

- Most corporate DB clients embrace de-risking (increasing fixed income and extending duration). Callan expects fund sponsors to diversify existing long bond portfolios with a wider range of fixed income allocations. Callan anticipates allocations to riskier assets (e.g., equities and alternative investments) to decrease as rates rise and funds move forward with de-risking plans. Implementation of de-risking depends largely on interest rate movements this year.
- Public and corporate DB plans view risk control as their key priority. Corporate DB plans also view funded status as a high priority. Endowments/foundations and sovereign wealth funds are focused on evaluating a sustainable distribution rate to balance intergenerational equity.
- Larger public funds are investigating explicit factor strategies to combat concerns about concentration in passive exposures to U.S. equity.
- Defined contribution (DC) plans are increasingly reviewing recordkeepers, fees, and levels of service to better align with plan demographics and participants’ outcomes and experiences.
- The desire for reduced fees in DC plans increased interest in institutional investment vehicles with notably lower fee structures, such as separate accounts, collective investment trusts, and white label funds.

Callan Public Fund Database Average Asset Allocation

(10 Years)



Source: Callan. Callan’s database includes the following groups: public defined benefit, corporate defined benefit, endowments/foundations, 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

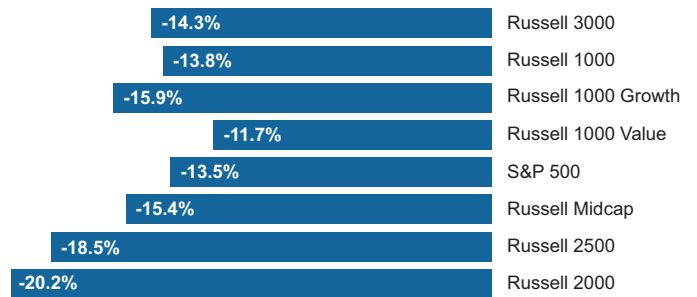
Large Cap ▶ S&P 500: -13.5% | Russell 1000: -13.8%

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

Small Cap ▶ Russell 2000: -20.2% | Russell 2000 Growth: -21.7% | Russell 2000 Value: -18.7%

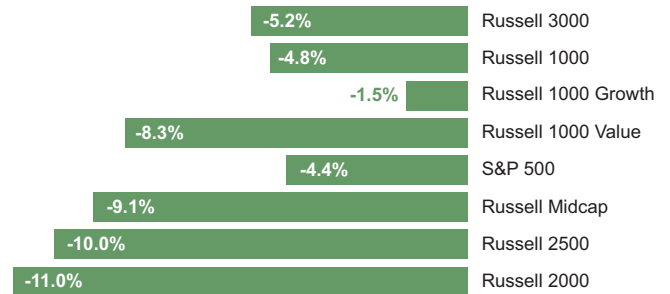
- Small cap stocks were hardest hit as margin pressure, excess leverage, slowing growth, and earnings expectations concerned investors.
- The **Russell 2000 Index** fell over 22% from its Aug. 31 peak.

U.S. Equity: Quarterly Returns



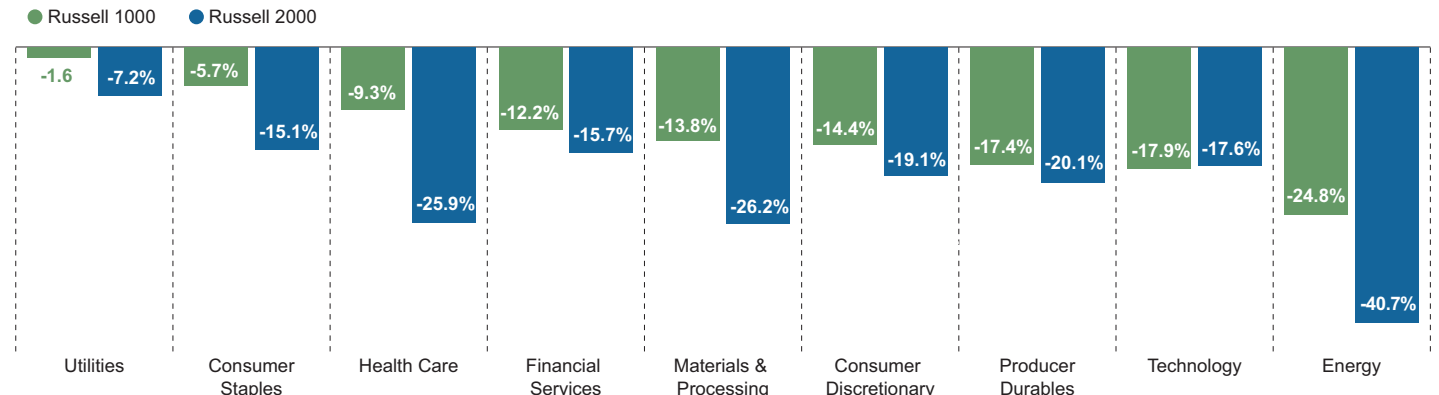
Sources: FTSE Russell and Standard & Poor's

U.S. Equity: One-Year Returns



Sources: FTSE Russell and Standard & Poor's

Quarterly Performance of Select Sectors



Source: FTSE Russell

Growth vs. Value ▶ *Russell 1000 Growth: -15.9% | Russell 1000 Value: -11.7%*

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

Non-U.S./Global Equity

Developed ▶ *MSCI EAFE: -12.5% | MSCI Europe: -12.7% | MSCI World ex USA: -12.8%*

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

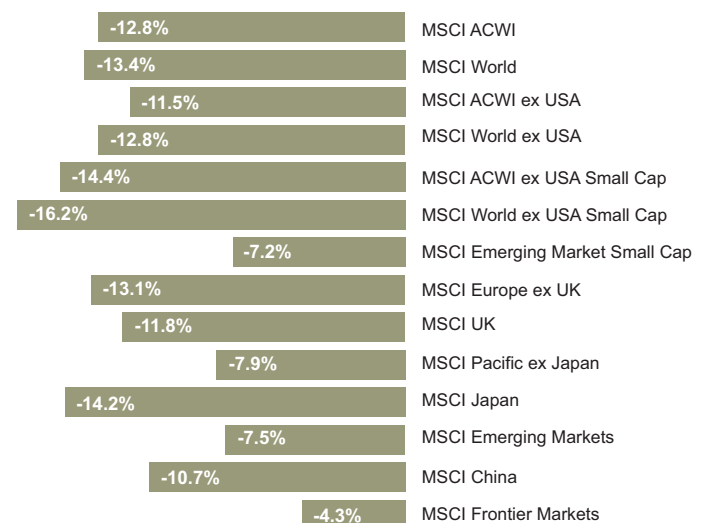
Emerging Markets ▶ *MSCI Emerging Markets Index: -7.5%*

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

International Small Cap ▶ *MSCI World ex USA Small Cap: -16.2% | MSCI EM Small Cap: -7.2%*

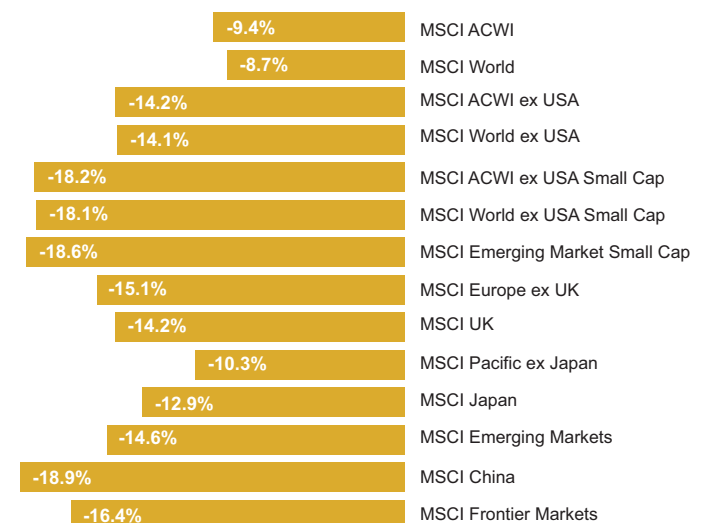
- Non-U.S. developed small cap was also negatively impacted by U.S.-China trade tension and global growth fears.
- All sectors declined, with Energy, Tech, and Industrials faring the worst on falling oil prices and the risk-off environment.
- Emerging market small cap slightly outperformed emerging markets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

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

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

U.S. Fixed Income ► *Bloomberg Barclays US Agg: +1.6%*

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

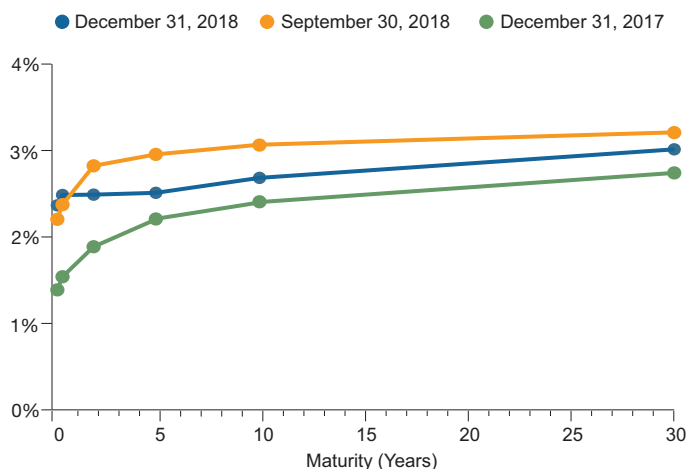
Investment-Grade Corporates ► *Bloomberg Barclays Corporate: -0.2%*

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

High Yield ► *Bloomberg Barclays Corporate High Yield: -4.5%*

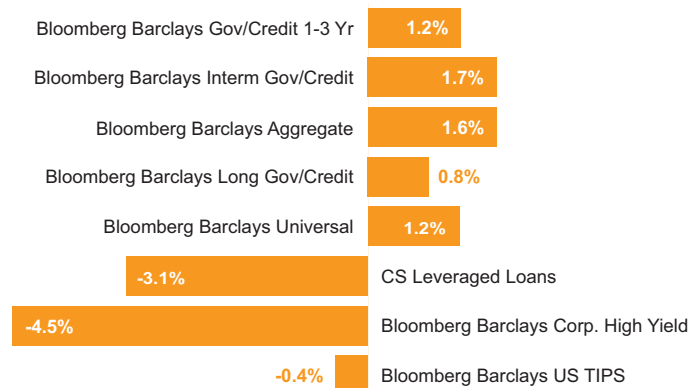
- High yield bond funds experienced \$20 billion in outflows as market volatility increased.
- High yield's average yield-to-worst approached 8%.

U.S. Treasury Yield Curves



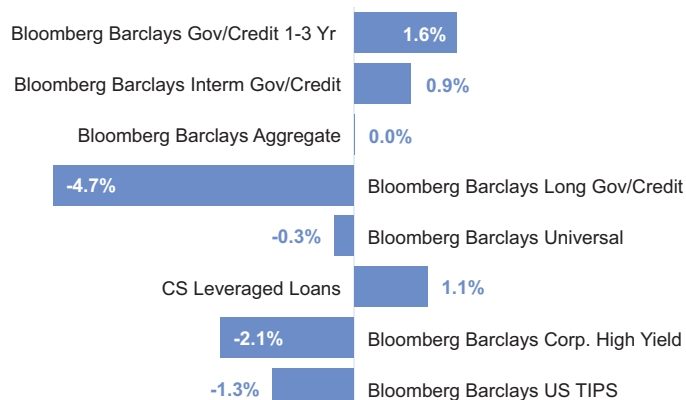
Source: Bloomberg

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)

- The Energy sector led the selloff amid volatile oil prices in the fourth quarter; the sector makes up approximately 15% of the Index.
- This was the first December in 10 years in which there was no high yield bond issuance; year-over-year, new issuance was down 40% in 2018.

Leveraged Loans ► *S&P/LSTA U.S. Leveraged Loan: -3.5%*

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

Non-U.S. Fixed Income

Global Fixed Income ► *Bloomberg Barclays Global Aggregate: +1.2% | Global Aggregate (hdg): +1.7%*

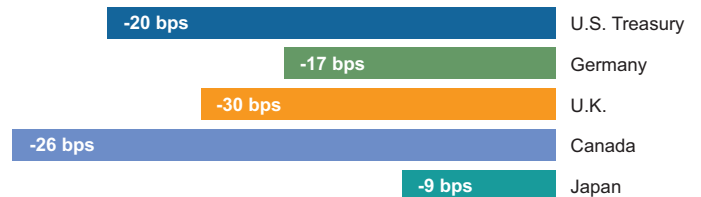
- Other developed market sovereign bonds rallied in tandem with the rally in Treasuries, though the strength in the U.S. dollar proved to be a headwind for unhedged non-U.S. developed assets.

Emerging market debt (\$US) ► *JPM EMBI Global Diversified: -1.3%, (Local currency) ► JPM GBI-EM Global Diversified: +2.1%*

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

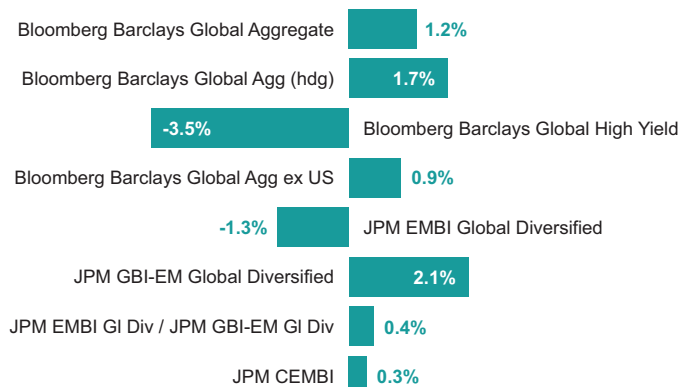
Change in 10-Year Global Government Bond Yields

3Q18 to 4Q18



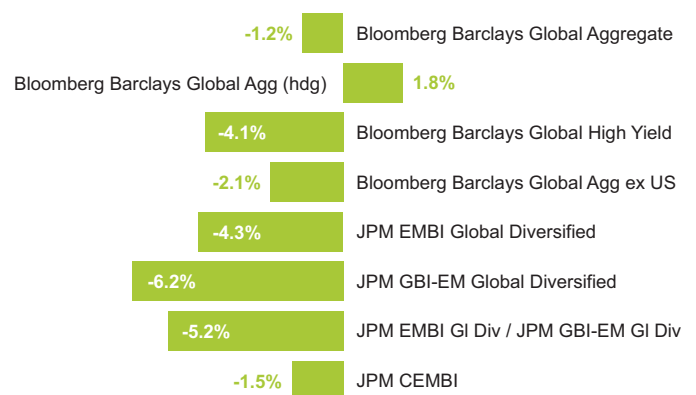
Source: Bloomberg Barclays

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 Healthy in the U.S.; Real Assets Struggled

REAL ESTATE/REAL ASSETS | Kevin Nagy, CAIA, & Kristin Bradbury, CFA

Returns Continue to Moderate

- The **Callan Real Estate ODCE Style Group** rose 1.5% in the fourth quarter and 7.4% for the year, in line with the returns for the **NFI-ODCE Index** over the same periods.
- The **NCREIF Property Index** climbed 1.4% in the quarter and 6.7% for the year.
- U.S. core real estate returns continue to shift toward income with limited appreciation.
- Appreciation is coming from net operating income growth rather than further cap rate compression.
- Industrial real estate remains the best performer.

U.S. Real Estate Fundamentals Remain Healthy

- Steady returns continued, driven by above inflation-level rent growth in many metros.
- Within the NCREIF Property Index, the vacancy rate for U.S. property was 6% in the fourth quarter, near the lowest level since 2001.
- Net operating income has been growing annually and is expected to be the primary return driver going forward.

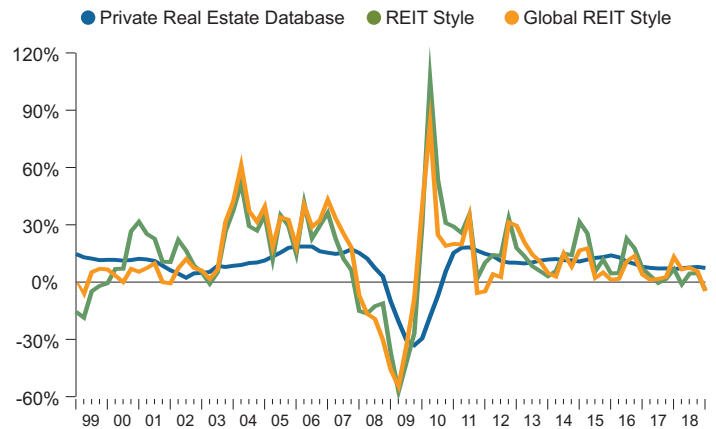
Pricing Remains Expensive in the U.S.

- Transaction volumes fell slightly but are still robust.
- Cap rates continued to fall, indicating full valuations.

REITs Traded Off, Outperformed Global Equities

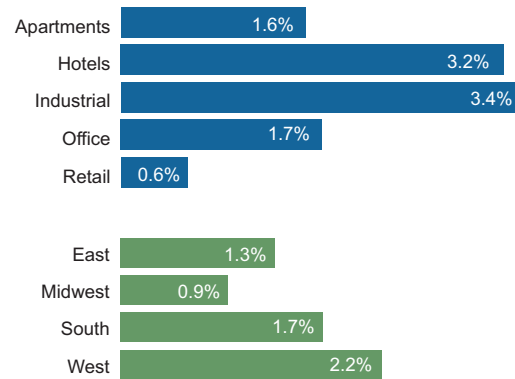
- The **Callan Global Real Estate Style Group** dropped 5.9% in the quarter and 4.7% for the full year, compared to the 5.7% and 5.6% declines for the **FTSE EPRA Nareit Global Developed Real Estate Index**.
- The **Callan Global ex-U.S. Real Estate Style Group** was off 5.5% and 5.1% for the quarter and the year; the **FTSE EPRA Nareit Developed ex US Index** fell 4.9% and 5.8% over the same periods.
- The losses for global REITs compared to the 12.8% plunge for the **MSCI ACWI Index** in the quarter.

Rolling One-Year Returns



Source: Callan

Sector Quarterly Returns by Property Type and Region



Source: NCREIF

- The **Callan REIT Style Group** saw higher losses in the quarter (-6.3%) but performed better than the other REIT indices over the year (-4.3%). Its returns roughly matched those of the **FTSE EPRA Nareit All Equity REITs Index**.
- Both U.S. and non-U.S. REITs are trading at discounts to net asset value.

REAL ESTATE (Continued)

Non-U.S. Markets Seeing Increased Capital Flows

- European real estate markets (ex-U.K.) are gaining momentum due to strong fundamentals in major European cities.
- Asian real estate products are seeing strong fundraising momentum, with an increase in Asia-focused open-end funds.

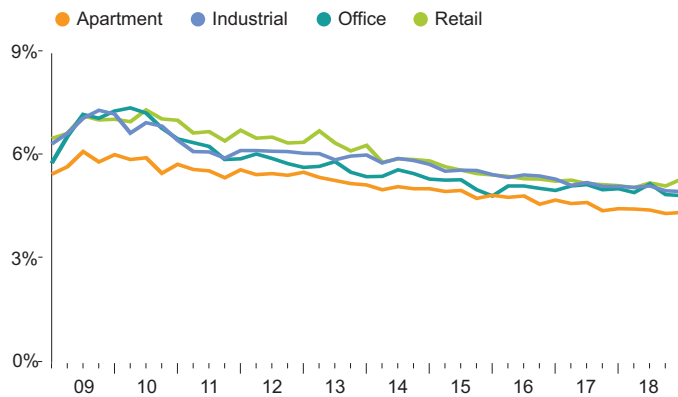
Few Places to Hide in Real Assets

- Gold (**S&P Gold Spot Price Index**: +7.1%) was a rare bright spot amid broad losses for real assets.
- Commodities indices were off sharply. The **Bloomberg Commodity Index** lost 9.4% and the **S&P GSCI**

Commodity Index plunged 22.9%; the deviation between the two indices was largely attributable to the plummeting price of oil (down 40%) from a four-year peak of \$76/barrel in October to close at \$45/barrel on concerns over both supply and waning demand.

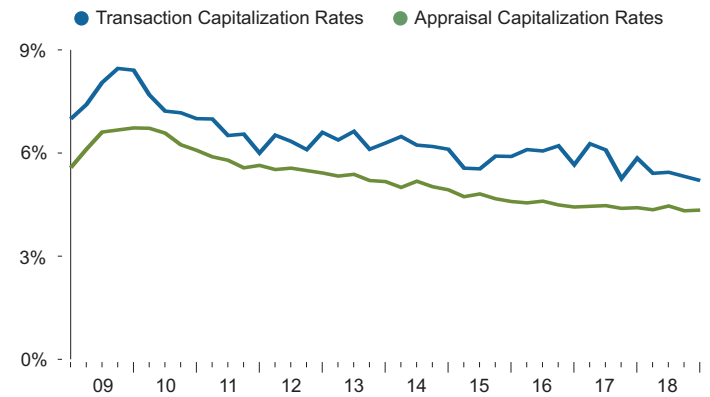
- MLPs could not avoid the knock-on effects of lower oil prices (**Alerian MLP Index**: -17.3%).
- The **Dow Jones Brookfield Infrastructure Index** suffered a decline of 6%.
- TIPS also delivered a negative return as the 10-year break-even spread narrowed to 1.71% from 2.14% as of Sept. 30 on reduced expectations for inflation.

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 December 31, 2018

Private Real Assets	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
Real Estate ODCE Style	1.45	7.41	7.41	7.76	9.69	6.00	7.09
NFI-ODCE (value wt net)	1.52	7.36	7.36	7.27	9.41	6.01	7.23
NCREIF Property	1.37	6.72	6.72	7.21	9.33	7.49	8.86
NCREIF Farmland	2.85	6.74	6.74	6.67	8.57	11.16	14.44
NCREIF Timberland	0.97	3.44	3.44	3.22	4.98	3.83	7.23
Public Real Estate							
Global Real Estate Style	-5.86	-4.74	-4.74	3.66	6.08	11.10	8.28
FTSE EPRA Nareit Developed	-5.69	-5.63	-5.63	2.72	4.34	9.65	--
Global ex-U.S. Real Estate Style	-5.53	-5.10	-5.10	4.50	4.99	10.49	7.95
FTSE EPRA Nareit Dev ex US	-4.87	-5.79	-5.79	5.09	3.00	9.24	7.22
U.S. REIT Style	-6.32	-4.32	-4.32	3.09	8.35	13.04	9.12
EPRA Nareit Equity REITs	-6.32	-4.62	-4.62	2.89	7.90	12.12	8.25

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

Downshifting into a Tricky Corner

PRIVATE EQUITY | Gary Robertson

The number of transactions fell modestly for 2018 and in the fourth quarter, reflecting less certainty in more volatile—and trickier—capital markets. However, dollar volumes associated primarily with fundraising, and venture capital (VC) investments and exits, increased. Overall activity remains near record levels.

- **Fundraising** ► In 2018, private equity partnerships holding **final closes** raised \$599 billion globally across 804 partnerships (unless otherwise noted, PitchBook provided all private equity data cited). The amount rose 6% from \$566 billion in 2017, but the number of funds fell 19% from 995. Final closes accounted for \$112 billion in the fourth quarter, down 27% from \$154 billion in the third quarter. The number totaled 164, down 20% from 206.
- **Buyouts** ► New **buyout transactions** for 2018 totaled 7,402 investments, down 4% from 7,738 in 2017. Dollar volume fell to \$630 billion, a 3% drop from \$649 billion. The fourth quarter saw 1,571 new investments, dropping 16% from 1,868 in the third quarter, but dollar volume rose to \$158 billion, a 3% uptick from \$153 billion.
- **VC Investments** ► The year produced 20,632 rounds of **new investment in venture capital (VC) companies**, down 23% from 2017's 26,668. The announced volume of \$253 billion is up 53% from \$165 billion. The fourth quarter saw 3,654 new rounds, 24% down from 4,787 in the third quarter, and dollar volume fell to \$51 billion, a 6% drop.

Funds Closed January 1 to December 31, 2018

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	354	74,373	12%
Growth Equity	59	131,551	22%
Buyouts	190	237,399	40%
Mezzanine Debt	61	54,836	9%
Distressed	14	26,510	4%
Energy	24	21,097	4%
Secondary and Other	63	36,108	6%
Fund-of-funds	39	16,870	3%
Totals	804	598,744	100%

Source: PitchBook
Figures may not total due to rounding.

- **Exits** ► The year saw 145 **buyout-backed IPOs** in 2018, down 37% from 230 in 2017, with proceeds of \$44 billion, down 19%. The fourth quarter saw 21 IPOs, down 16% from the third quarter, with proceeds of \$9 billion, up 50%.
- Venture-backed M&A exits for the year totaled 1,375, down 16% from 1,646 in 2017. Announced dollar volume was \$140 billion, up 43% from \$98 billion in 2017. The quarter had 295 exits, down 9% from 325 in the third quarter. The fourth quarter's total announced value of \$37 billion was down 8%.
- The year saw 190 venture-backed IPOs, down 3% from 2017, raising \$44 billion, up 132% from 2017. The fourth quarter had 33 IPOs, down 40% from the third quarter. The fourth quarter float of \$4 billion plunged 78% from \$18 billion.

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
All Private Equity	3.37	16.80	13.87	13.79	11.54	13.16	12.96
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: Standard & Poor's and Thomson Reuters/Cambridge
*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.

Messy Quarter for Hedge Funds; MACs Struggle

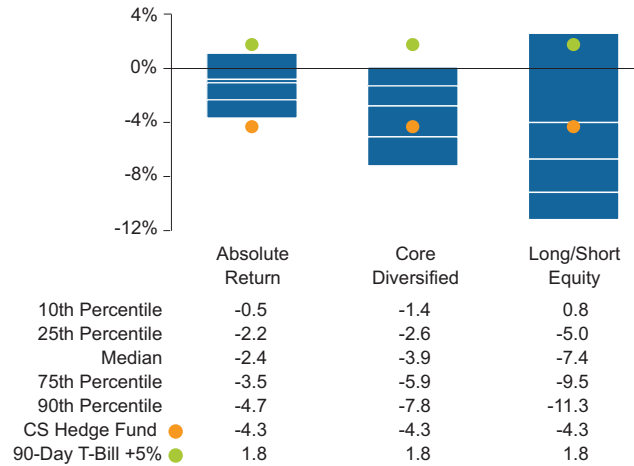
HEDGE FUNDS/MACs | Jim McKee

Hedge Funds: Hot Stuffing Meets Cold Turkey

As the global capital markets reacted to the sharp risk-off sentiment driven by the mounting trade war and slumping China growth, volatile prices and tightening liquidity inside these markets became a heated mess for hedge funds.

- With U.S. small caps and commodities leading markets down, most hedge funds long on risk lost ground, as the **Credit Suisse Hedge Fund Index** melted down 4.3%. For the year, the index finished with a 3.2% loss.
- Heavily exposed to equity beta, *Long/Short Equity* (-6.7%) and *Event-Driven Multi* (-7.7%) lost the most among CS hedge fund strategies.
- After suffering more-than-expected damage in the prior quarter, *Emerging Markets* (-3.3%) fared better with alpha.
- Relative value trades, particularly those further away from liquid stocks, like *Fixed-Income Arb* (-1.3%), were less impacted.

Hedge Fund-of-Funds Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

Callan Database Median and Index Returns* for Periods ended December 31, 2018

Hedge Fund Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Fund-of-Funds Database	-4.87	-1.35	2.19	2.06	5.26	4.56
Callan Absolute Return FOF Style	-2.42	0.71	3.41	2.84	5.78	4.18
Callan Core Diversified FOF Style	-3.92	-1.36	2.08	1.75	5.44	4.80
Callan Long/Short Equity FOF Style	-7.36	-6.14	2.31	2.05	5.21	5.45
Credit Suisse Hedge Fund	-4.30	-3.19	1.64	1.66	5.10	4.77
CS Convertible Arbitrage	-3.21	-2.26	3.04	1.64	7.44	3.50
CS Distressed	-3.20	-1.59	3.95	1.75	6.09	5.78
CS Emerging Markets	-3.25	-10.16	3.13	2.13	6.06	6.01
CS Equity Market Neutral	-4.86	-5.00	-0.57	-0.25	1.61	-0.26
CS Event-Driven Multi	-7.69	-5.19	0.54	-0.83	3.93	4.89
CS Fixed Income Arb	-1.29	1.10	3.94	3.35	7.39	3.84
CS Global Macro	-1.74	-0.11	1.86	1.77	4.84	6.06
CS Long/Short Equity	-6.67	-4.62	1.47	2.69	5.82	5.54
CS Managed Futures	-3.66	-6.67	-3.52	1.04	0.01	2.44
CS Multi-Strategy	-3.74	-1.05	3.34	3.99	7.63	5.78
CS Risk Arbitrage	-0.85	0.17	3.92	2.15	3.40	3.71
HFRI Asset Wtd Composite	-2.73	-1.03	2.77	2.54	5.46	-
90-Day T-Bill + 5%	1.77	6.87	6.02	5.63	5.38	6.33

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

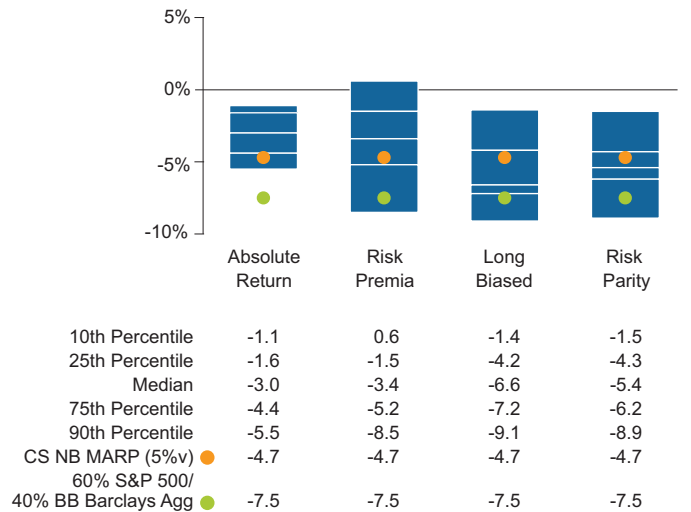
- Also, more process-driven or hard-catalyst strategies, like *Risk Arb* and even *Distressed* (-3.2%), held ground better.
- Reflecting live hedge fund portfolios, the **HFRI FOF Composite Index** (-4.8%) fell marginally more than its unmanaged CS HFI proxy. For the year, it lost 3.9%.
- Hedge fund portfolios with a long bias to U.S. equities and related risks suffered the most, while those with illiquid credits, conservative event-driven, or discretionary macro strategies performed relatively well.

Top-Down MAC Strategies Slump Together

Liquid alternatives to hedge funds have become popular among investors for their attractive risk-adjusted returns that are similarly uncorrelated with traditional stock and bond investments but constructed at a lower cost. The **Callan Multi-Asset Class (MAC) Style Groups** tripped again in the fourth quarter's risk-off mode, but different factors were to blame than in prior quarters. As value-oriented trades gained ground, particularly in equities, commodity momentum lost traction, particularly with heated oil markets suddenly cooling off. The commodity carry trade was also difficult, especially in November for natural gas.

- The **HFR Risk Parity Index** targeting 12% volatility slipped 8.0%, hurt by both commodity and equity exposures. Reflecting a material U.S. equity influence, a global balanced index of 60% stocks and 40% bonds fell 7.2%.
- **CS NB Multi Asset Risk Premia Index** (-4.7%) is an

MAC Style Group Returns

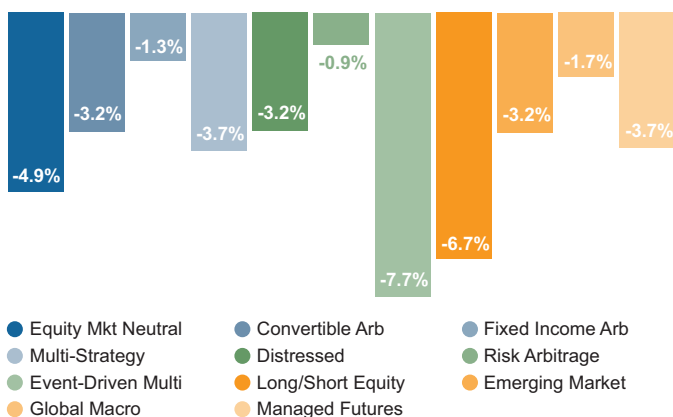


Sources: Bloomberg Barclays, Callan, Credit Suisse, Neuberger Berman, Standard & Poor's

equal risk-weighted index of alternative risk factors (value, carry, momentum, and liquidity) across four capital markets (equity, fixed income, currency, and commodities) targeting 5% volatility.

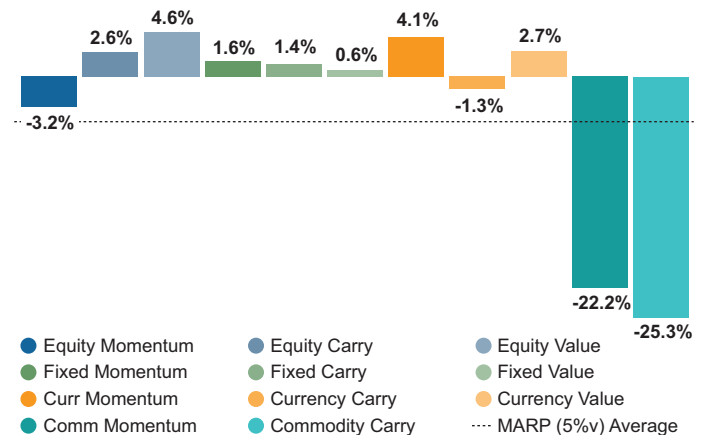
- Within CS NB MARP, *Equity Value* (+4.6%) finally earned positive marks, but such gains were notably offset by both *Commodity Momentum* (-22.2%) and *Commodity Carry* (-25.3%) suffering massive reversals to end the year down deeply in red.

Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

Alternative Risk Factor Breakdown



Source: Credit Suisse Neuberger Berman

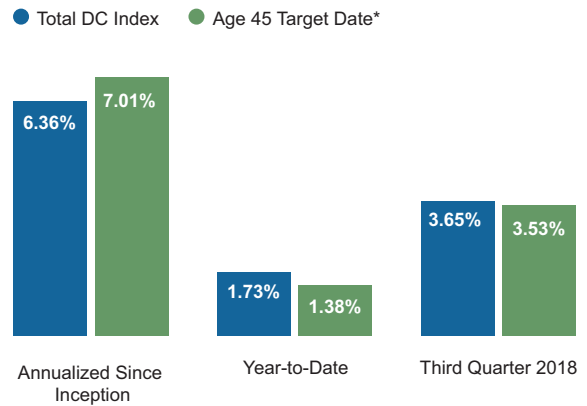
DC Index Tops Age 45 TDF in 3rd Quarter

DEFINED CONTRIBUTION | James Veneruso, CFA, CAIA

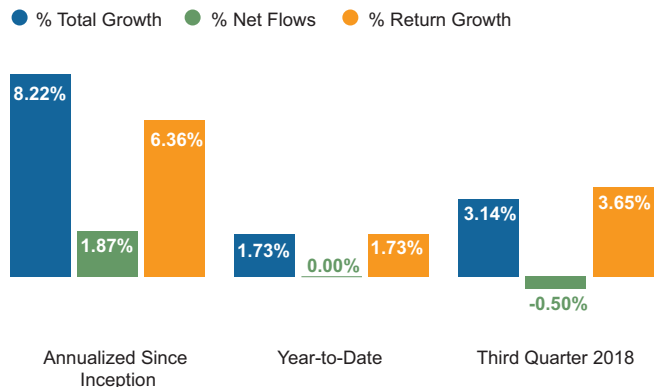
- The Callan DC Index™ gained 3.7% in the third quarter, outpacing the 3.5% rise of the Age 45 Target Date Fund (TDF).
- Some of this outperformance stemmed from gains of U.S. equities in the quarter compared to their overseas counterparts. The average DC plan has a 5.3% allocation to non-U.S. equity and emerging markets, while the Age 45 TDF has an allocation of 25.9%.
- But since inception the DC Index's annual return of 6.4% has trailed the Age 45 TDF by 65 basis points.
- The DC Fee Analysis, showing average total investment management fees, reveals that fees fell across all plan sizes. This was driven by increased use of passive mandates, lower breakpoints, and new lower-fee vehicles and share classes for active options.
- DC plan balances grew by 3.1%, driven completely by market performance. For the first time since the third quarter of 2016, flows into the DC Index were negative.
- TDFs attracted the majority of assets in the quarter, approximately 64 cents of every dollar that flowed into DC funds.
- U.S. large cap, U.S./global balanced, and non-U.S. equities saw material net outflows. Small/mid-cap equity and money market saw sizable inflows.
- Turnover (i.e., net transfer activity levels within DC plans) decreased to 0.1% from 0.4% the previous quarter, well below the historical average at 0.6%.
- The Index's equity allocation hit 71%, modestly above the historical average (68%).
- TDFs maintained their lead with the largest share of DC Index assets (31.7%).
- The share of plans offering a brokerage window increased from 34% a year ago to 42%. The share offering a money market option dropped from 51% to 43%, while stable value rose from 69% to 73%.

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 \$135 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 (Third Quarter 2018) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	64.39%
Money Market	14.12%
Company Stock	-17.44%
U.S. Large Cap	-22.50%
Total Turnover**	0.13%

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 to see all of our publications, and www.callan.com/blog to view our blog “Perspectives.” For more information contact Corry Walsh at 312.346.3536 / institute@callan.com.

New Research from Callan’s Experts

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



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

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



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

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

Quarterly Periodicals

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

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

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

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

Events

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

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

June Regional Workshops:

June 4, 2019 – Atlanta

June 5, 2019 – San Francisco

October Regional Workshops:

October 22, 2019 – Denver

October 24, 2019 – Chicago

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

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

The Center for Investment Training Educational Sessions

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

Introduction to Investments

San Francisco, April 16-17, 2019

San Francisco, July 16-17, 2019

Chicago, October 22-23, 2019

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

Customized Sessions

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

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

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 dialog to raise the bar across the industry."

Greg Allen, Chief Executive Officer and Chief Research Officer

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.

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.

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.

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.

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.

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
Acadian Asset Management LLC
ACR – Alpine Capital Research
AEGON USA Investment Management
Aether Investment Partners
AEW Capital Management
Affiliated Managers Group, Inc.
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
Altrinsic Global Advisors, LLC
American Century Investments
Amundi Pioneer Asset Management
Apollo Global Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management
Artisan Partners Limited Partnership
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
Bentall Kennedy (U.S.) Limited Partnership
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC

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

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

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