# Callan

March 31, 2018 Mendocino County Employees' Retirement Association

Investment Measurement Service Quarterly Review

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Active Management Overview

# Market Overview Active Management vs Index Returns

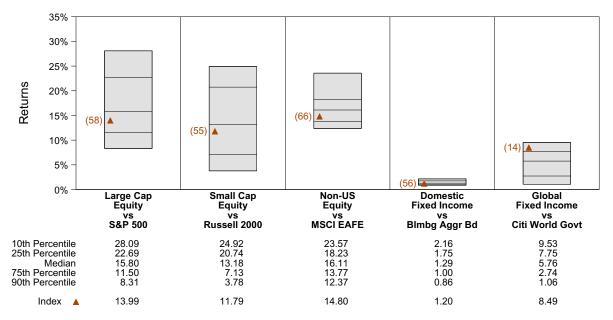
#### **Market Overview**

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

#### Range of Mutual Fund Returns by Asset Class One Quarter Ended March 31, 2018



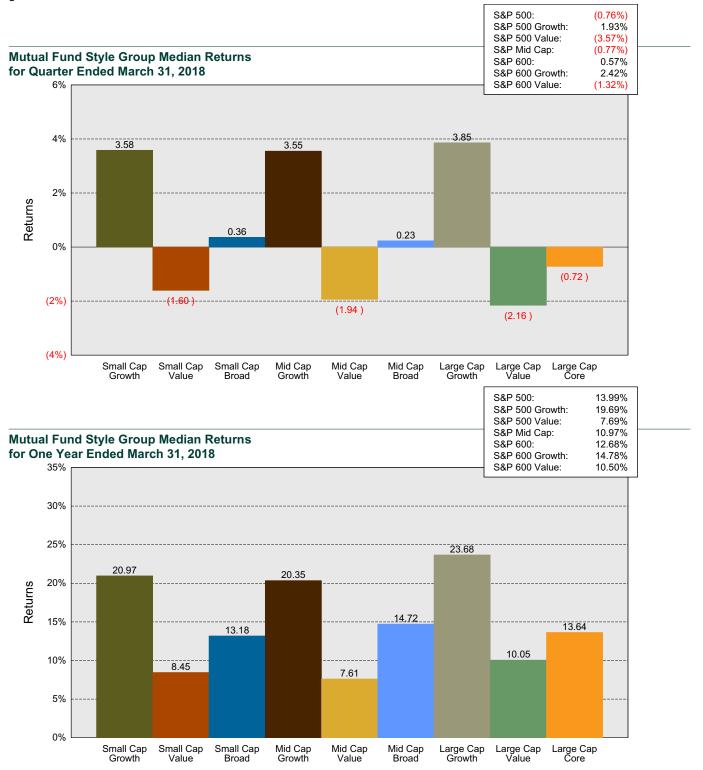
#### Range of Mutual Fund Returns by Asset Class One Year Ended March 31, 2018





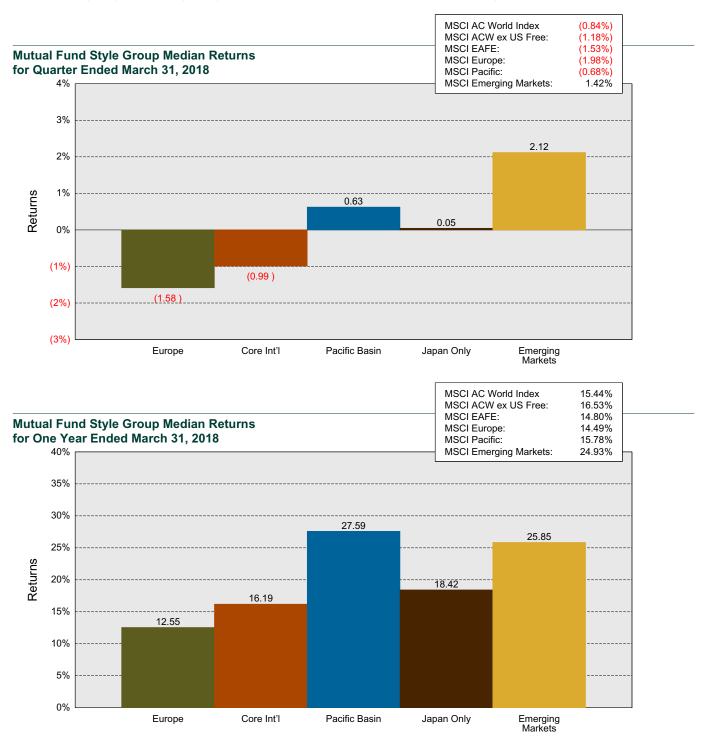
# Domestic Equity Active Management Overview

Volatility returned in the first quarter (February and March, more specifically) spurred by an unexpected uptick in wage gains, uncertainty over the pace of rate hikes, and the threat of a looming trade war. The S&P 500 Index saw six days of movements greater than 2% during the quarter (versus none in 2017). The S&P fell 0.8% for the quarter, its first quarterly loss since 2015, but this modest loss belied volatile intra-quarter results. The S&P reached a record high on January 26 then fell about 8% to close the quarter. Growth continued to outperform value (R1000 Growth: +1.4% R1000V: -2.8%) and this held true across the capitalization spectrum. Small caps outperformed large in both the value and growth spaces. Consumer Staples and Telecommunications both fell over 7% for the quarter while Consumer Discretionary and Technology posted gains of more than 3%.



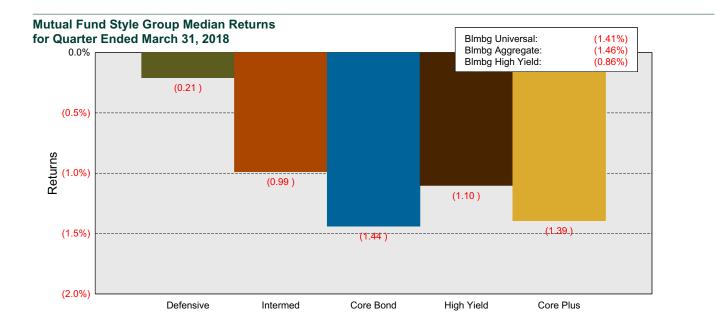
# International Equity Active Management Overview

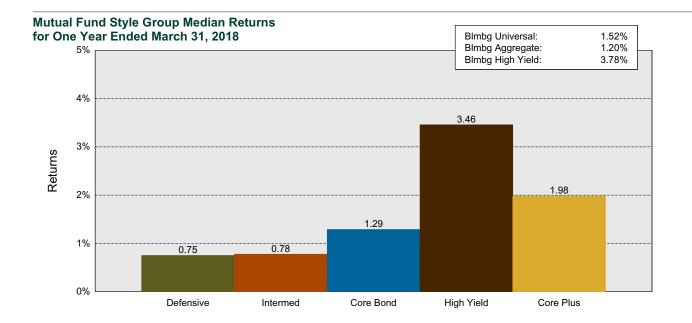
While developed non-U.S. equity market returns were negative, results were helped by U.S. dollar weakness. Overall, the MSCI EAFE fell 4.3% in local terms but only 1.5% in U.S. dollar terms. The dollar has been hurt by growing worries over a trade war with China as well as signs of that rates may be poised to rise in other countries as global economies improve. The yen was the best performing currency among developed markets, hitting a 17-month high as worries over trade policy spurred demand for the safe haven currency. In local terms, Japan fell nearly 6% but the strength of the yen brought returns in U.S. dollar terms to 0.8%. Likewise, Brexit woes sank the UK market (-8%) but the pound's appreciation versus the dollar offset a good portion of the loss for U.S. investors; the country returned -4%. Europe ex-UK fell 1.2% for the quarter in dollar terms. Emerging markets equities represented one of the few asset classes to deliver a positive quarterly result. The MSCI Emerging Markets Index posted a +1.4% result, but with wide swings among countries. Poland (-8%) and India (-7%) sank while Russia (+9%) and Brazil (+12%) were top performers. China posted a modest 2% gain.



# Domestic Fixed Income Active Management Overview

The 10-year U.S. Treasury yield marched steadily higher through most of January and February in response to positive economic data, then equity market weakness and concerns over a looming trade war led to falling yields through March. The new Fed Chair, Jerome Powell, announced his first rate hike (as widely expected) in March, raising the Fed Funds target rate to 1.50% 1.75%. The 10-year U.S. Treasury yield climbed to a peak of nearly 3% during the quarter before closing at 2.74%, 34 bps higher than at year-end. Two-year U.S. Treasury Note yields rose nearly 40 bps to 2.27%, the highest since 2008, and the Note returned -0.1% for the quarter, while the 10-year Treasury returned -2.4% and the 30-year Treasury fell almost 4%. TIPS outperformed nominal Treasuries and the 10-year breakeven inflation rate rose to 2.05% from 1.96% at year-end. The Bloomberg Barclays U.S. Aggregate Index fell 1.5% with corporate and securitized sectors underperforming Treasuries. In a sharp reversal from 2017's relative performance, investment grade corporates underperformed like-duration Treasuries by 80 bps during the quarter and posted a -2.3% return. Outside of investment grade, the Bloomberg Barclays High Yield Index fell 0.9% while the S&P/LSTA Leveraged Loan Index, which includes floating rate loans and thus benefitted from rising rates, rose 1.4%.





Asset Allocation and Performance

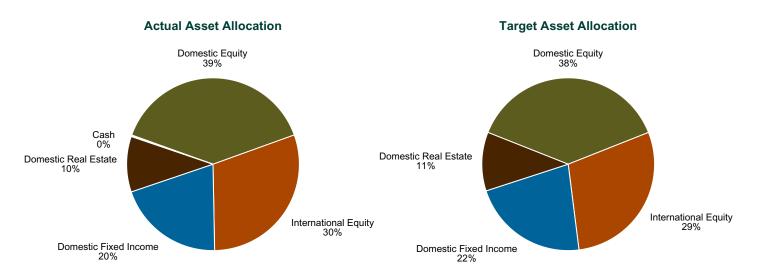
# ASSET ALLOCATION AND PERFORMANCE

# 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.

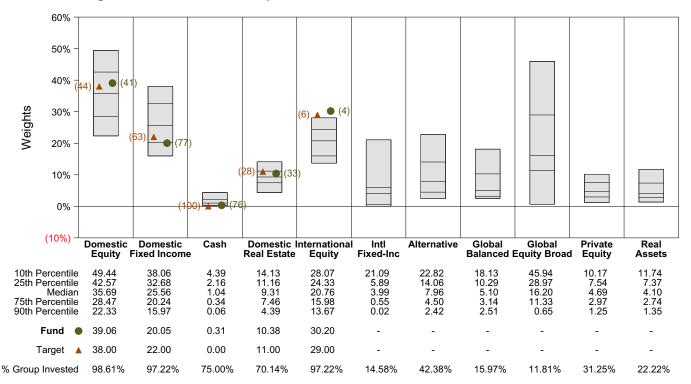
# Actual vs Target Asset Allocation As of March 31, 2018

The top left chart shows the Fund's asset allocation as of March 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	202,927	39.1% 30.2%	38.0%	1.1%	5,502 6,214
International Equity Domestic Fixed Income	156,881 104,175	20.1%	29.0% 22.0%	1.2% (1.9%)	(10,124)
Domestic Real Estate Cash	53,933 1.626	10.4% 0.3%	11.0% 0.0%	( <mark>0.6%)</mark> 0.3%	(3,217) 1,626
Total	519,541	100.0%	100.0%	0.070	1,020

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



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

# **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2018, with the distribution as of December 31, 2017. 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.

	March 31,	March 31, 2018			December 3 <sup>-</sup>	1, 2017
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Equities	\$202,927,066	39.06%	\$(2,500,000)	\$1,440,347	\$203,986,718	39.20%
Large Cap Equities	\$140,984,363	27.14%	\$(2,500,000)	\$430,320	\$143,054,043	27.49%
Vanguard S&P 500 Index	35,477,629	6.83%	0	(274,420)	35,752,049	6.87%
SSGA S&P Equal Weighted NL CTF	34,366,353	6.61%	0	(360,020)	34,726,374	6.67%
Boston Partners	35,148,109	6.77%	0	(588,713)	35,736,822	6.87%
Harbor Cap Appreciation	35,992,272	6.93%	(2,500,000)	1,653,474	36,838,797	7.08%
Mid Cap Equities	\$31,241,652	6.01%	\$0	\$595,703	\$30,645,949	5.89%
Fidelity Low Priced Stock	15,177,044	2.92%	0	(163,195)	15,340,238	2.95%
Janus Enterprise	16,064,608	3.09%	0	758,898	15,305,710	2.94%
Small Cap Equities	\$30,701,051	5.91%	\$0	\$414,324	\$30,286,727	5.82%
Prudential Small Cap Value	13,509,013	2.60%	0	(441,335)	13,950,349	2.68%
AB US Small Growth	17,192,037	3.31%	0	855,659	16,336,378	3.14%
International Equities	\$156,880,584	30.20%	\$(500,000)	\$(247,368)	\$157,627,952	30.29%
EuroPacific	28,268,088	5.44%	0	289,061	27,979,027	5.38%
Harbor International	30,845,767	5.94%	0	(174,687)	31,020,454	5.96%
Oakmark International	31,510,982	6.07%	(500,000)	(855,960)	32,866,942	6.32%
Mondrian International	26,840,349	5.17%	Ó	(342,779)	27,183,128	5.22%
T. Rowe Price Intl Small Cap	23,481,900	4.52%	0	617,308	22,864,593	4.39%
Investec	15,933,497	3.07%	0	219,689	15,713,808	3.02%
Domestic Fixed Income	\$104,174,668	20.05%	\$0	\$(1,142,781)	\$105,317,448	20.24%
Dodge & Cox Income	52,270,115	10.06%	0	(473,148)	52,743,263	10.13%
PIMČO	51,904,553	9.99%	0	(669,632)	52,574,185	10.10%
Real Estate	\$53,932,714	10.38%	\$2,380,216	\$984,442	\$50,568,056	9.72%
RREEF Private Fund	26,871,218	5.17%	2,400,000	562,436	23,908,782	4.59%
Barings Core Property Fund	25,911,497	4.99%	0	402,222	25,509,274	4.90%
625 Kings Court	1,150,000	0.22%	(19,784)	19,784	1,150,000	0.22%
Cash	\$1,625,768	0.31%	\$(1,302,465)	\$(0)	\$2,928,233	0.56%
Total Fund	\$519,540,799	100.0%	\$(1,922,249)	\$1,034,641	\$520,428,407	100.0%

#### **Asset Distribution Across Investment Managers**

The table below details the rates of return for the Fund's investment managers over various time periods ended March 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 March 31, 2018						
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	
Domestic Equties	0.68%	17.39%	10.32%	13.59%	12.35%	
Russell 3000 Index	(0.64%)	13.81%	10.22%	13.03%	12.39%	
Large Cap Equities						
Vanguard S&P 500 Index	(0.77%)	13.96%	10.75%	-	-	
S&P 500 Index	(0.76%)	13.99%	10.78%	13.31%	12.71%	
SSGA S&P Eq Weighted NL CTF	(1.04%)	-	-	-	-	
S&P 500 Eq Weighted	(1.01%)	11.65%	9.08%	12.86%	12.33%	
Boston Partners	(1.65%)	12.95%	8.29%	11.52%	11.61%	
S&P 500 Index	(0.76%)	13.99%	10.78%	13.31%	12.71%	
Russell 1000 Value Index	(2.83%)	6.95%	7.88%	10.78%	11.00%	
Harbor Cap Appreciation (1)	4.35%	28.88%	14.07%	17.27%	14.86%	
S&P 500 Index	(0.76%)	13.99%	10.78%	13.31%	12.71%	
Russell 1000 Growth Index	1.42%	21.25%	12.90%	15.53%	14.09%	
Mid Cap Equities						
Fidelity Low Priced Stock	(1.06%)	14.46%	8.26%	11.09%	11.05%	
Russell MidCap Value Idx	(2.50%)	6.50%	7.23%	11.11%	11.21%	
Janus Enterprise (2)	4.96%	24.03%	12.94%	15.61%	13.73%	
Russell MidCap Growth Idx	2.17%	19.74%	9.17%	13.31%	11.92%	
Small Cap Equities						
Prudential Small Cap Value (3)	(3.16%)	3.93%	7.74%	10.46%	-	
US Small Cap Value Idx	(2.48%)	5.00%	7.89%	10.33%	10.20%	
Russell 2000 Value Index	(2.64%)	5.13%	7.87%	9.96%	9.42%	
AB US Small Growth (4)	5.24%	29.48%	12.55%	14.51%	13.03%	
Russell 2000 Growth Index	2.30%	18.63%	8.77%	12.90%	11.29%	

(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.



The table below details the rates of return for the Fund's investment managers over various time periods ended March 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.

Re	turns for Perio	ods Ended Marc	:h 31, 2018		
			Last	Last	Last
	Last	Last	3	5	7
	Quarter	Year	Years	Years	Years
International Equities	(0.16%)	17.21%	6.34%	6.47%	4.69%
MSCI ACWI ex-US Index	(1.08%)	17.05%	6.68%	6.37%	4.73%
EuroPacific	1.03%	21.18%	7.93%	8.80%	6.67%
Harbor International (1)	(0.56%)	12.48%	3.69%	4.69%	4.10%
Oakmark International (2)	(2.68%)	16.06%	7.39%	8.90%	8.34%
Mondrian International	(1.46%)	11.61%	4.42%	5.32%	4.65%
MSCI EAFE Index	(1.53%)	14.80%	5.55%	6.50%	5.31%
MSCI ACWI ex-US Index	(1.08%)	17.05%	6.68%	6.37%	4.73%
T. Rowe Price Intl Small Cap	2.44%	-	-	-	-
MSCI ACWI ex US Small Cap	(0.35%)	20.60%	10.40%	8.57%	6.20%
Investec	1.20%	-	-	-	-
MSCI Emerging Markets Index	1.42%	24.93%	8.81%	4.99%	2.47%
Domestic Fixed Income	(1.09%)	2.17%	1.98%	2.30%	3.46%
BImbg Aggregate Index	(1.46%)	1.20%	1.20%	1.82%	2.92%
Dodge & Cox Income	(0.90%)	2.21%	2.34%	2.77%	3.66%
PIMČO	(1.27%)	2.13%	1.61%	1.82%	3.26%
Blmbg Aggregate Index	(1.46%)	1.20%	1.20%	1.82%	2.92%
D 1 5-4-4-	4.000/	7 500/	0.049/	0.00%	0.00%
Real Estate	1.86%	7.50%	8.04%	9.88%	9.83%
Real Estate Custom Benchmark (3)	1.94%	7.26%	8.61%	10.06%	10.30%
RREEF Private	2.14%	7.38%	9.29%	11.16%	11.16%
Barings Core Property Fund	1.58%	6.93%	9.02%	9.26%	-
NFI-ODCE Equal Weight Net	1.94%	7.26%	9.33%	10.53%	10.84%
625 Kings Court	1.72%	25.01%	14.73%	17.37%	11.14%
Total Fund	0.19%	12.97%	7.30%	8.67%	8.02%
Total Fund Benchmark*	(0.67%)	11.16%	7.15%	8.26%	7.99%
	(0.07 /0)	11.1070	1.13/0	0.2070	1.5570

\* 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.

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

	12/2017- 3/2018	2017	2016	2015	2014
Domestic Equties	0.68%	23.74%	10.90%	(0.15%)	9.59%
Russell 3000 Index	(0.64%)	21.13%	12.74%	0.48%	12.56%
Large Cap Equities					
Vanguard S&P 500 Index	(0.77%)	21.79%	11.93%	1.37%	13.65%
S&P 500 Index	(0.76%)	21.83%	11.96%	1.38%	13.69%
SSGA S&P Eq Weighted NL CTF	(1.04%)	-	-	-	-
S&P 500 Eq Weighted	(1.01%)	18.90%	14.80%	(2.20%)	14.49%
Boston Partners	(1.65%)	19.23%	13.76%	(4.99%)	10.87%
S&P 500 Index	(0.76%)	21.83%	11.96%	1.38%	13.69%
Russell 1000 Value Index	(2.83%)	13.66%	17.34%	(3.83%)	13.45%
Harbor Cap Appreciation (1)	4.35%	36.68%	(1.04%)	10.99%	9.93%
S&P 500 Index	(0.76%)	21.83%	11.96%	1.38%	13.69%
Russell 1000 Growth Index	1.42%	30.21%	7.08%	5.67%	13.05%
Mid Cap Equities					
Fidelity Low Priced Stock	(1.06%)	20.67%	8.79%	(0.56%)	7.65%
Russell MidCap Value Idx	(2.50%)	13.34%	20.00%	(4.78%)	14.75%
Janus Enterprise (2)	4.96%	26.65%	12.13%	3.49%	12.01%
Russell MidCap Growth Idx	2.17%	25.27%	7.33%	(0.20%)	11.90%
Small Cap Equities					
Prudential Small Cap Value (3)	(3.16%)	6.43%	33.99%	(7.00%)	5.89%
US Small Cap Value Idx	(2.48%)	9.22%	27.64%	(5.14%)	7.44%
Russell 2000 Value Index	(2.64%)	7.84%	31.74%	(7.47%)	4.22%
AB US Small Growth (4)	5.24%	35.03%	6.91%	(0.66%)	(1.24%)
Russell 2000 Growth Index	2.30%	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.



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

	12/2017-	0047	0040		
	3/2018	2017	2016	2015	2014
International Equities	(0.16%)	27.94%	2.84%	(4.62%)	(5.73%)
MSCI ACWI ex-US Index	(1.08%)	27.77%	5.01%	(5.25%)	(3.44%)
EuroPacific	1.03%	31.18%	1.01%	(0.48%)	(2.29%)
Harbor International (1)	(0.56%)	22.98%	0.27%	(3.82%)	(6.81%)
Oakmark International (2)	(2.68%)	30.47%	8.19%	(3.99%)	(5.41%)
Mondrian International	(1.46%)	22.29%	4.50%	(6.33%)	(2.06%)
MSCI EAFE Index	(1.53%)	25.03%	1.00%	(0.81%)	(4.90%)
MSCI ACWI ex-US Index	(1.08%)	27.77%	5.01%	(5.25%)	(3.44%)
T. Rowe Price Intl Small Cap	2.44%	-	-	-	-
MSCI ACWI ex US Small Cap	(0.35%)	31.65%	3.91%	2.60%	(4.03%)
Investec	1.20%	-	-	-	-
MSCI Emerging Markets Index	1.42%	37.28%	11.19%	(14.92%)	(2.19%)
Domestic Fixed Income	(1.09%)	4.74%	4.10%	0.07%	5.09%
Blmbg Aggregate Index	(1.46%)	3.54%	2.65%	0.55%	5.97%
Dodge & Cox Income	(0.90%)	4.36%	5.61%	(0.59%)	5.49%
PIMČO	(1.27%)	5.12%	2.59%	0.73%	4.69%
BImbg Aggregate Index	(1.46%)	3.54%	2.65%	0.55%	5.97%
Real Estate	1.86%	6.88%	7.02%	12.14%	14.50%
Real Estate Custom Benchmark (3)	1.94%	6.92%	8.62%	11.81%	14.57%
RREEF Private	2.14%	6.43%	7.95%	15.63%	11.95%
Barings Core Property Fund	1.58%	6.59%	8.62%	12.99%	8.64%
NFI-ODCE Equal Weight Net	1.94%	6.92%	8.36%	14.18%	11.42%
625 Kings Court	1.72%	26.09%	10.01%	9.85%	12.15%
	=				
Total Fund	0.19%	18.89%	6.67%	0.01%	4.72%
Total Fund Benchmark*	(0.67%)	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.

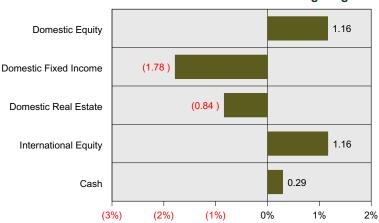
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(3) Real Estate Custom Benchmark is 50% NAREIT Composite Index and 50% NFI-ODCE Equal Wt Net through 12/31/2011; 20% NAREIT Composite Index and 80% NFI-ODCE Equal Wt Net through 12/31/2016 and NFI-ODCE Equal Wt Net thereafter.

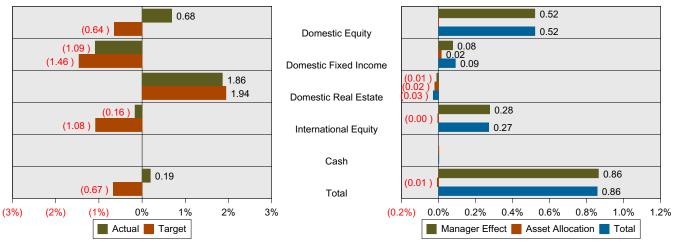
# **Quarterly Total Fund Relative Attribution - March 31, 2018**

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 Effects for Quarter ended March 31, 2018**

Asset Class Domestic Equity Domestic Fixed Income Domestic Real Estate International Equity	Effective Actual Weight 39% 20% 10% 30%	Effective Target Weight 38% 22% 11% 29%	Actual Return 0.68% (1.09%) 1.86% (0.16%)	Target Return (0.64%) (1.46%) 1.94% (1.08%)	Manager Effect 0.52% 0.08% (0.01%) 0.28%	Asset Allocation 0.00% 0.02% (0.02%) (0.00%)	Total Relative <u>Return</u> 0.52% 0.09% (0.03%) 0.27%
Cash	0%	0%	0.00%	0.00%	0.00%	0.00%	0.00%
Total			0.19% =	(0.67%) +	0.86% +	(0.01%)	0.86%

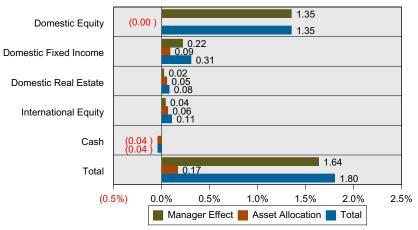
\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIXUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

**Relative Attribution by Asset Class** 

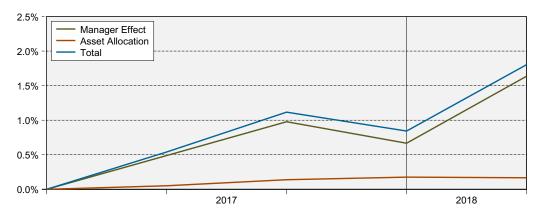
# **Cumulative Total Fund Relative Attribution - March 31, 2018**

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**

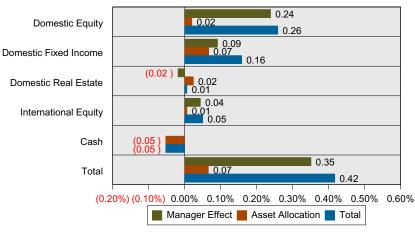
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	38%	17.39%	13.81%	1.35%	(0.00%)	1.35%
Domestic Fixed Income	e 21%	22%	2.17%	1.20%	0.22%	0.09%	0.31%
Domestic Real Estate	10%	11%	7.50%	7.26%	0.02%	0.05%	0.08%
International Equity	30%	29%	17.21%	17.05%	0.04%	0.06%	0.11%
Cash	0%	0%	0.00%	0.00%	0.00%	(0.04%)	(0.04%)
Total			12.97% =	= 11.16%	+ 1.64% +	- 0.17%	1.80%

\* 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.

# **Cumulative Total Fund Relative Attribution - March 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**



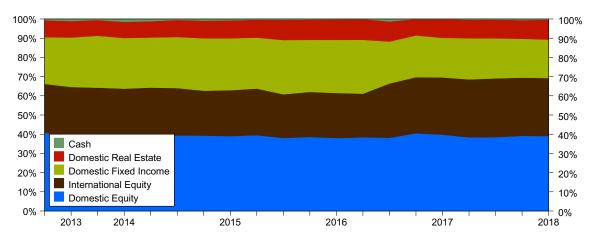
# **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	38%	13.59%	13.03%	0.24%	0.02%	0.26%
Domestic Fixed Income	e 25%	26%	2.30%	1.82%	0.09%	0.07%	0.16%
Domestic Real Estate	9%	10%	9.88%	10.06%	(0.02%)	0.02%	0.01%
International Equity	26%	26%	6.47%	6.37%	0.04%	0.01%	0.05%
Cash	1%	0%	0.00%	0.00%	0.00%	(0.05%)	(0.05%)
Total			8.67% =	8.26%	+ 0.35%	+ 0.07%	0.42%

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

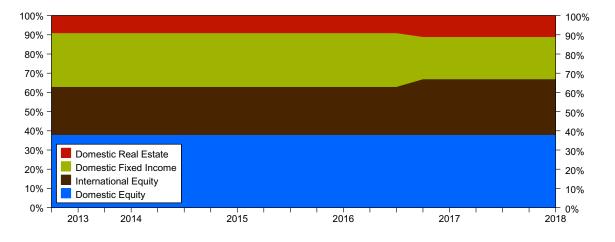
# **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

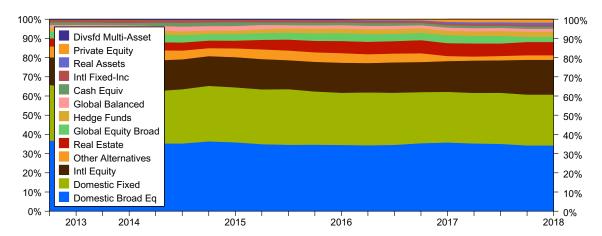


# **Actual Historical Asset Allocation**

## **Target Historical Asset Allocation**



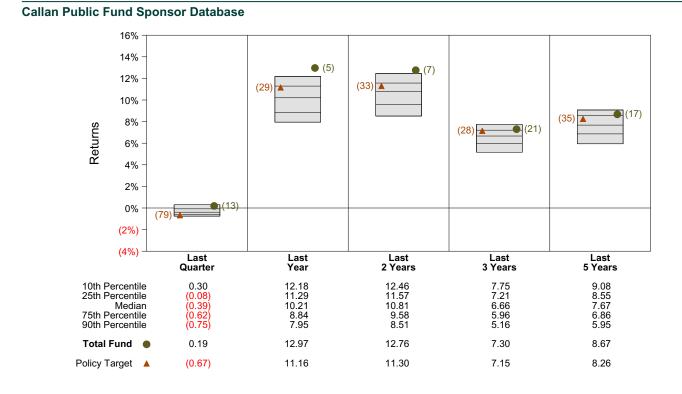
#### Average Callan Public Fund Sponsor Database Historical Asset Allocation



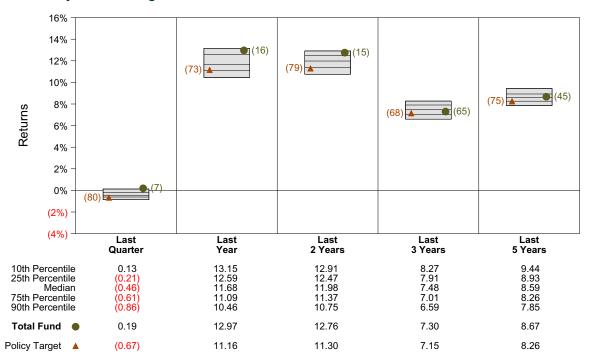
\* Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIXUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.

# **Total Fund Ranking**

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended March 31, 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.



#### Asset Allocation Adjusted Ranking



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

# Total Fund Period Ended March 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.

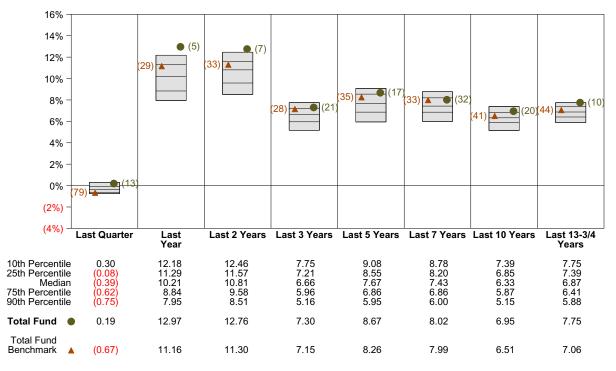
#### **Quarterly Summary and Highlights**

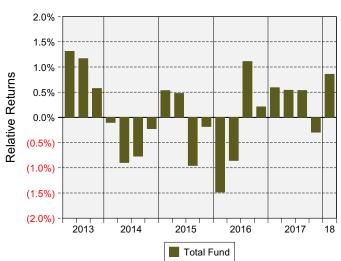
• Total Fund's portfolio posted a 0.19% return for the quarter placing it in the 13 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 5 percentile for the last year.

•	Total	Fund's	portfolio	outperformed	the	Total	Fund
	Bench	mark by	0.86% for	the quarter and	d outp	erforme	ed the
	Total F	Fund Ben	chmark for	the year by 1.8	0%.		

Quarterly Asset Growth					
Beginning Market Value	\$520,428,407				
Net New Investment	\$-1,922,249				
Investment Gains/(Losses)	\$1,034,641				
Ending Market Value \$519,540,799					

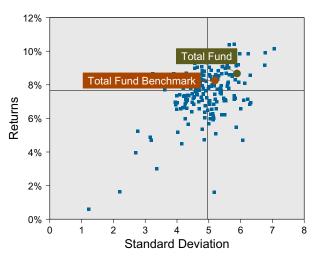
## Performance vs Callan Public Fund Sponsor Database (Gross)





#### **Relative Return vs Total Fund Benchmark**

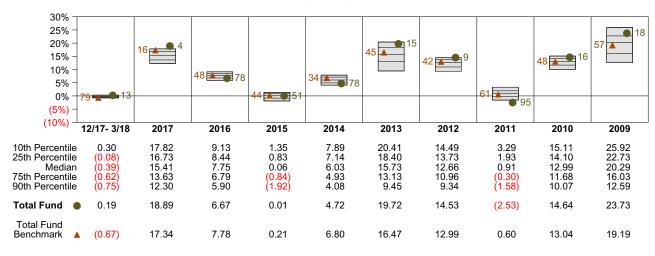
#### Callan Public Fund Sponsor Database (Gross) Annualized Five Year Risk vs Return



# Total Fund Return Analysis Summary

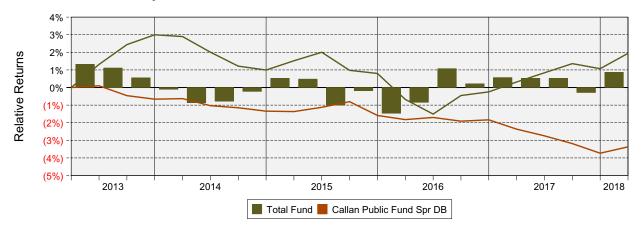
# **Return Analysis**

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.

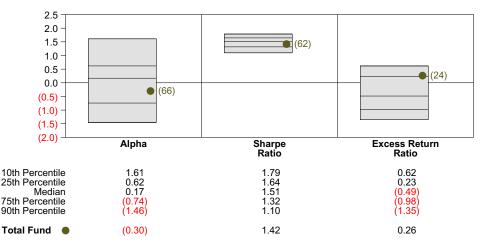




Cumulative and Quarterly Relative Return vs Total Fund Benchmark



Risk Adjusted Return Measures vs Total Fund Benchmark Rankings Against Callan Public Fund Sponsor Database (Gross) Five Years Ended March 31, 2018

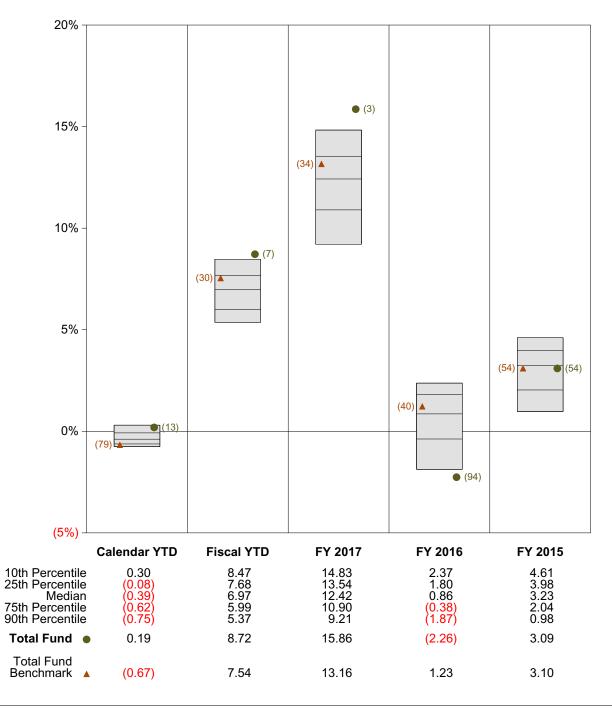




# Mendocino County Employees' Retirement Association Performance vs Callan Public Fund Sponsor Database Periods Ended March 31, 2018

#### **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

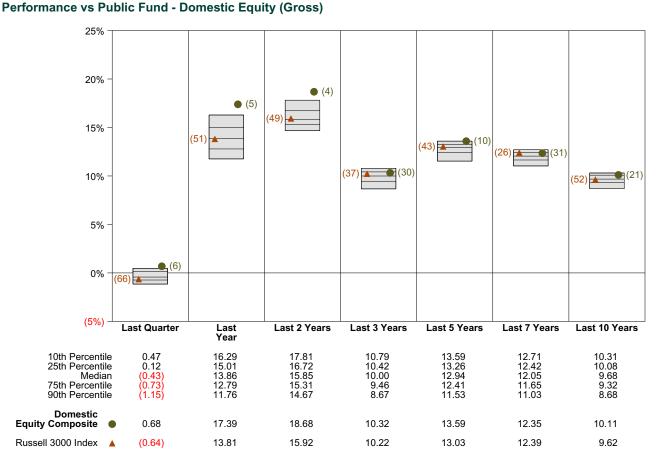
# Domestic Equity Composite Period Ended March 31, 2018

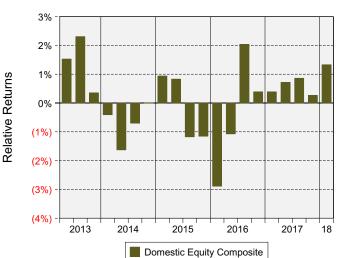
#### **Quarterly Summary and Highlights**

- Domestic Equity Composite's portfolio posted a 0.68% return for the quarter placing it in the 6 percentile of the Public Fund - Domestic Equity group for the quarter and in the 5 percentile for the last year.
- Domestic Equity Composite's portfolio outperformed the Russell 3000 Index by 1.33% for the quarter and outperformed the Russell 3000 Index for the year by 3.58%.

#### **Quarterly Asset Growth**

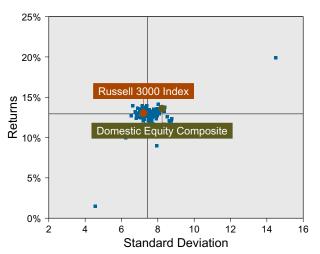
Beginning Market Value	\$203,986,718
Net New Investment	\$-2,500,000
Investment Gains/(Losses)	\$1,440,347
Ending Market Value	\$202,927,066





#### **Relative Return vs Russell 3000 Index**

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

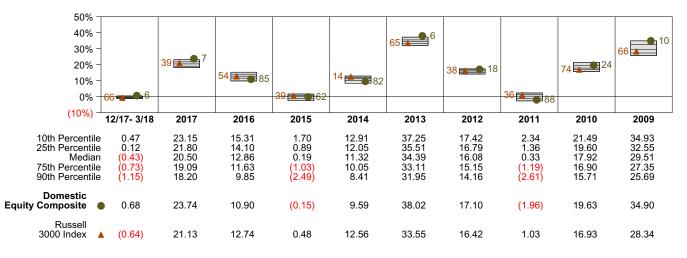


# Domestic Equity Composite Return Analysis Summary

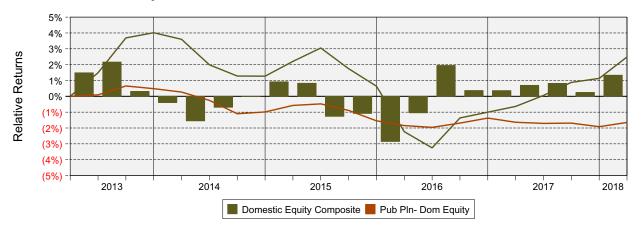
# **Return Analysis**

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

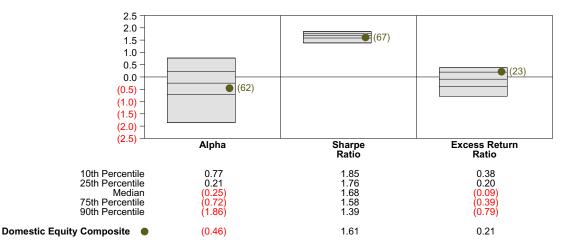
#### Performance vs Public Fund - Domestic Equity (Gross)



Cumulative and Quarterly Relative Return vs Russell 3000 Index



Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against Public Fund - Domestic Equity (Gross) Five Years Ended March 31, 2018



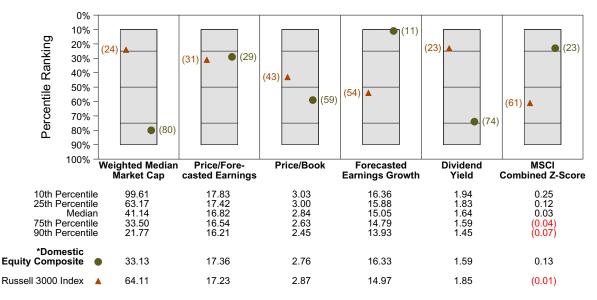


# Domestic Equity Composite Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

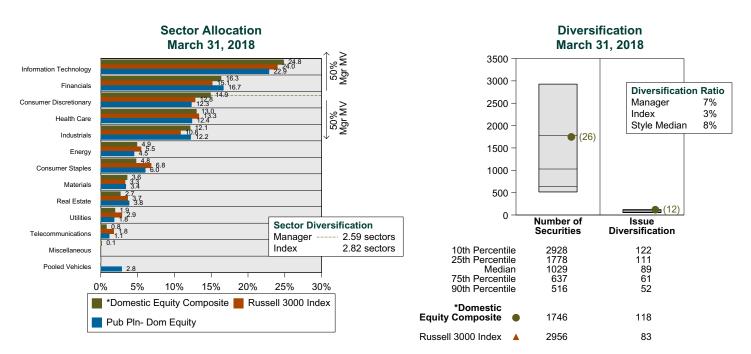
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

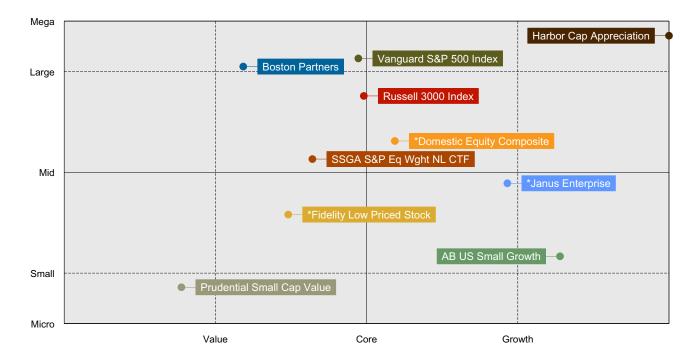


# **Holdings Based Style Analysis** For One Quarter Ended March 31, 2018

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 capitialization of the holdings. The value/core/growth style dimension is captured by the "Combined Z-Score" of the portfolio. This score is based on eight fundamental factors used in the MSCI stock style scoring system. The table below gives a more detailed breakdown of several relevant style metrics on the portfolios.

# Style Map

#### Holdings for One Quarter Ended March 31, 2018



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities D	Security Diversification
Vanguard S&P 500 Index	17.48%	98.88	(0.04)	(0.01)	0.02	506	53.00
SSGA S&P Eq Wght NL CTF	16.94%	20.67	(0.25)	(0.12)	0.13	505	240.77
Boston Partners	17.32%	87.70	(0.58)	(0.09)	0.49	81	19.32
Harbor Cap Appreciation	17.74%	130.14	1.37	0.60	(0.77)	51	15.00
*Fidelity Low Priced Stock	7.48%	7.60	(0.37)	(0.10)	0.26	943	29.11
*Janus Enterprise	7.92%	10.54	0.64	0.17	(0.47)	86	26.38
Prudential Small Cap Value	6.66%	1.65	(0.87)	(0.14)	0.74	303	67.63
AB US Small Growth	8.47%	3.68	0.87	0.24	(0.64)	94	34.48
*Domestic Equity Composite	100.00%	33.13	0.13	0.09	(0.05)	1746	118.45
Russell 3000 Index	-	64.11	(0.01)	(0.00)	0.01	2956	83.20

\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



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

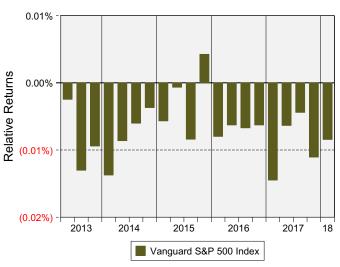
#### **Quarterly Summary and Highlights**

- Vanguard S&P 500 Index's portfolio posted a (0.77)% return for the quarter placing it in the 51 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 45 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 0.03%.

Quarterly Asset Growth				
Beginning Market Value	\$35,752,049			
Net New Investment \$0				
Investment Gains/(Losses)	\$-274,420			
Ending Market Value \$35,477,629				

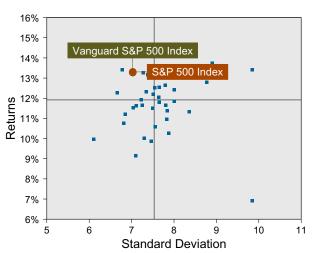
# Performance vs Callan Large Cap Core Mutual Funds (Net)





#### Relative Return vs S&P 500 Index

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

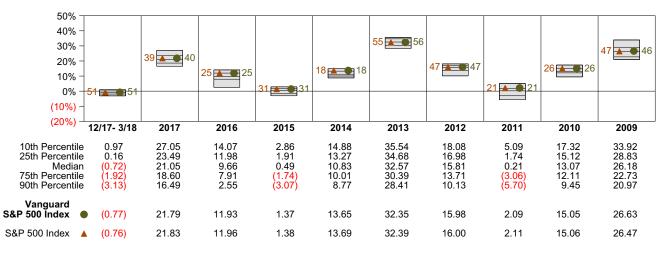


# Vanguard S&P 500 Index Return Analysis Summary

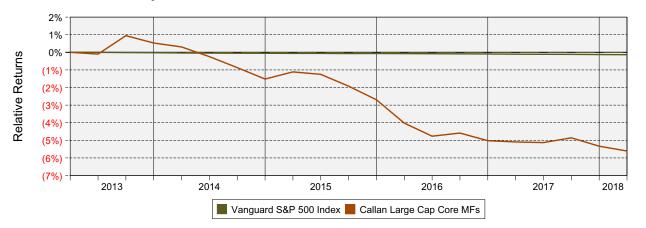
# **Return Analysis**

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.

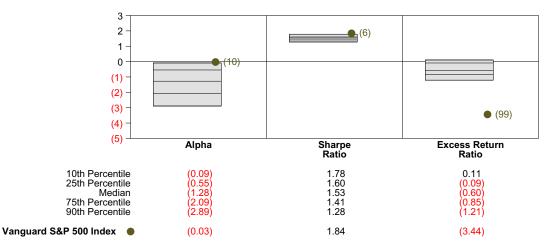




Cumulative and Quarterly Relative Return vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Cap Core Mutual Funds (Net) Five Years Ended March 31, 2018

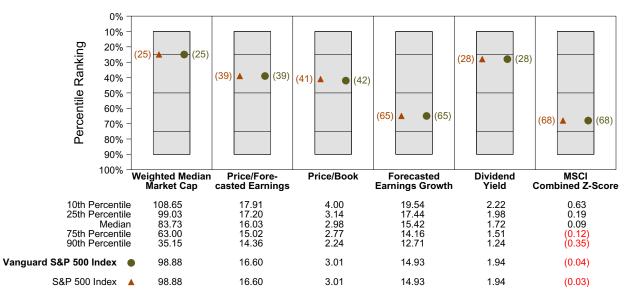


# Vanguard S&P 500 Index Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

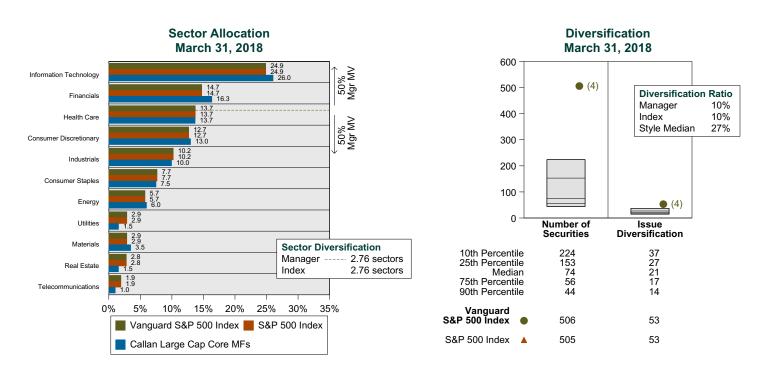
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



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

#### **Investment Philosophy**

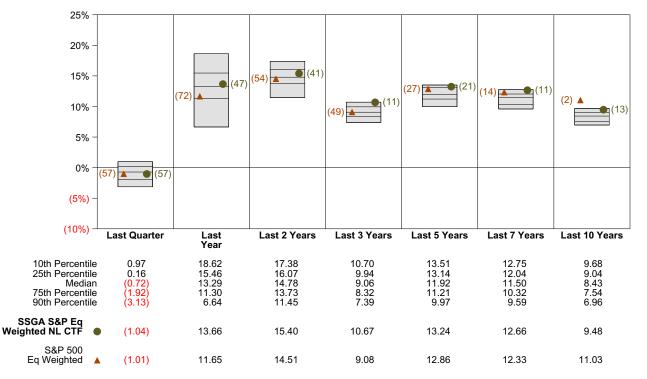
SSGA believes that their passive investment strategy can provide market-like returns with minimal transaction costs.

#### **Quarterly Summary and Highlights**

- SSGA S&P Eq Weighted NL CTF's portfolio posted a (1.04)% return for the quarter placing it in the 57 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 47 percentile for the last year.
- SSGA S&P Eq Weighted NL CTF's portfolio underperformed the S&P 500 Eq Weighted by 0.03% for the quarter and outperformed the S&P 500 Eq Weighted for the year by 2.00%.

Quarterly Asset Growth					
Beginning Market Value	\$34,726,374				
Net New Investment \$0					
Investment Gains/(Losses)	\$-360,020				
Ending Market Value \$34,366,353					

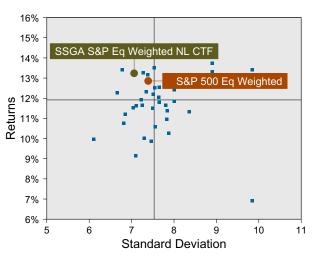
#### Performance vs Callan Large Cap Core Mutual Funds (Net)



Relative Return vs S&P 500 Eq Weighted



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

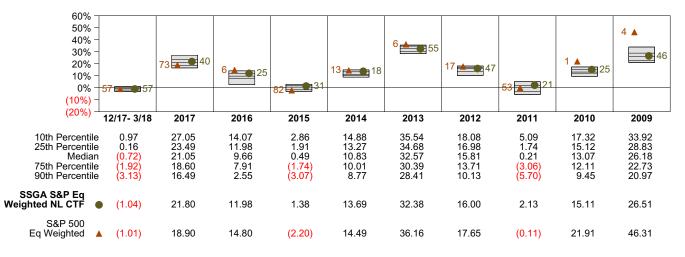


# SSGA S&P Eq Weighted NL CTF Return Analysis Summary

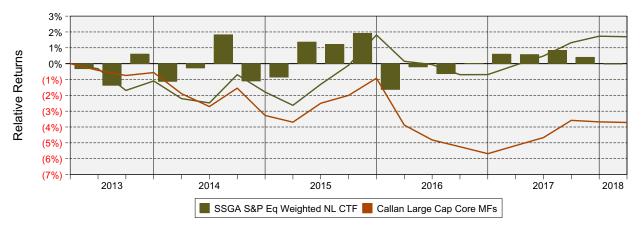
# **Return Analysis**

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.

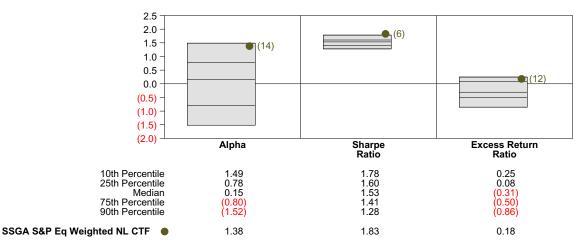




Cumulative and Quarterly Relative Return vs S&P 500 Eq Weighted



Risk Adjusted Return Measures vs S&P 500 Eq Weighted Rankings Against Callan Large Cap Core Mutual Funds (Net) Five Years Ended March 31, 2018

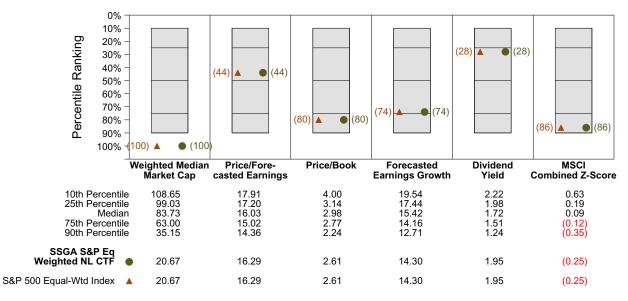


# SSGA S&P Eq Weighted NL CTF Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

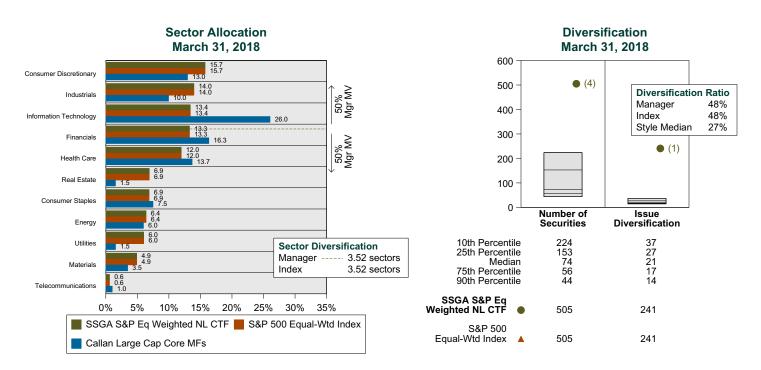
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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

#### **Investment Philosophy**

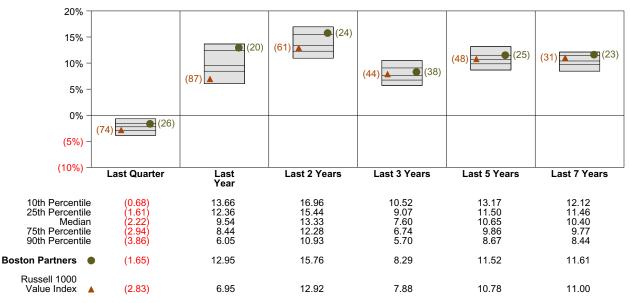
Boston Partners' investment philosophy is grounded in certain "fundamental truths" to investing, namely that low valuation stocks outperform high valuation stocks, companies with strong fundamentals, e.g. high and sustainable returns on invested capital, outperform companies with weak fundamentals, and 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.

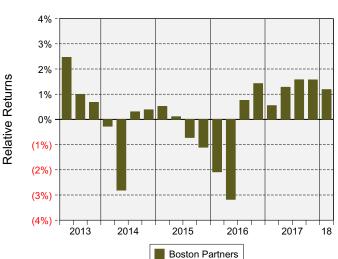
#### **Quarterly Summary and Highlights**

- Boston Partners's portfolio posted a (1.65)% return for the quarter placing it in the 26 percentile of the Callan Large Cap Value Mutual Funds group for the quarter and in the 20 percentile for the last year.
- Boston Partners's portfolio outperformed the Russell 1000 Value Index by 1.19% for the quarter and outperformed the Russell 1000 Value Index for the year by 6.01%.

Quarterly Asset Growth					
Beginning Market Value	\$35,736,822				
Net New Investment	\$0				
Investment Gains/(Losses)	\$-588,713				
Ending Market Value \$35,148,109					

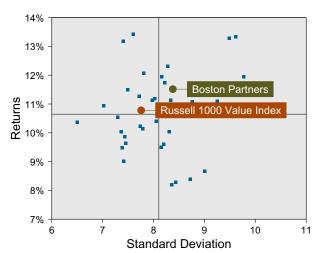






**Relative Return vs Russell 1000 Value Index** 

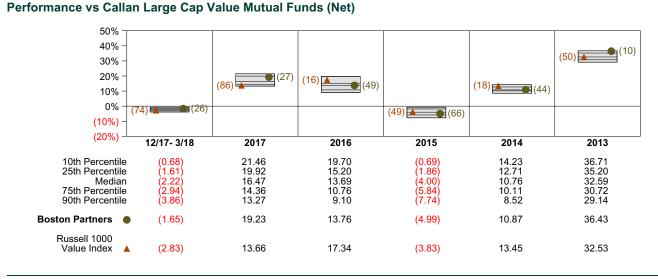
Callan Large Cap Value Mutual Funds (Net) Annualized Five Year Risk vs Return



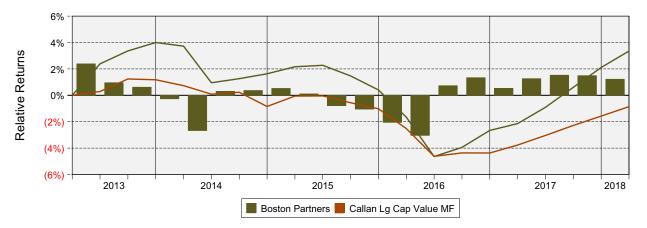
# Boston Partners Return Analysis Summary

## **Return Analysis**

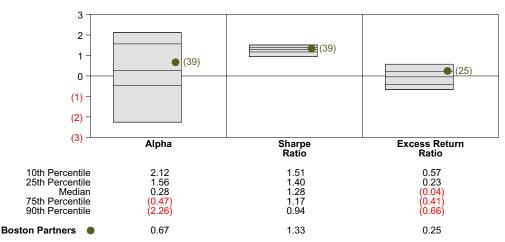
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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



Cumulative and Quarterly Relative Return vs Russell 1000 Value Index



Risk Adjusted Return Measures vs Russell 1000 Value Index Rankings Against Callan Large Cap Value Mutual Funds (Net) Five Years Ended March 31, 2018



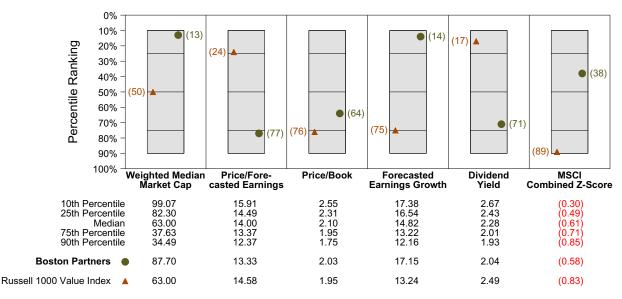


# Boston Partners Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

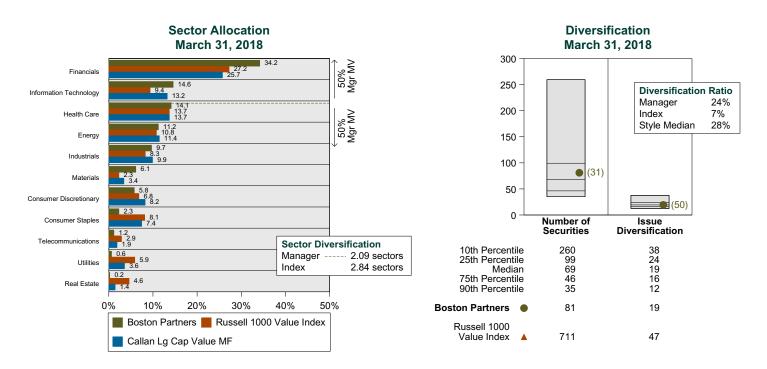
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Value Mutual Funds as of March 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 Cap Appreciation Period Ended March 31, 2018

#### **Investment Philosophy**

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.

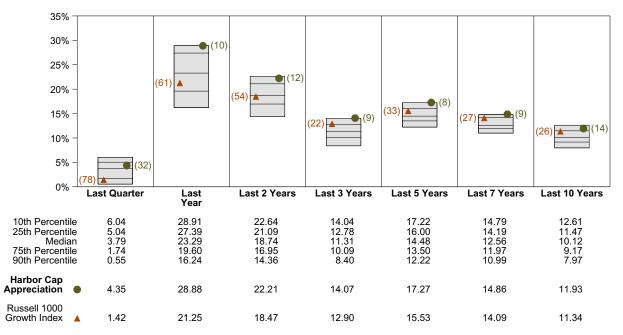
#### **Quarterly Summary and Highlights**

- Harbor Cap Appreciation's portfolio posted a 4.35% return for the quarter placing it in the 32 percentile of the Callan Large Cap Growth Mutual Funds group for the quarter and in the 10 percentile for the last year.
- Harbor Cap Appreciation's portfolio outperformed the Russell 1000 Growth Index by 2.94% for the quarter and outperformed the Russell 1000 Growth Index for the year by 7.63%.

# Quarterly Asset Growth

Beginning Market Value	\$36,838,797
Net New Investment	\$-2,500,000
Investment Gains/(Losses)	\$1,653,474
Ending Market Value	\$35,992,272

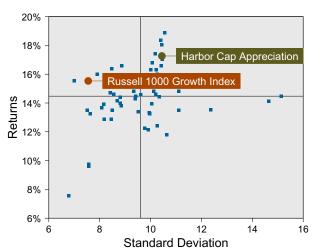






**Relative Return vs Russell 1000 Growth Index** 

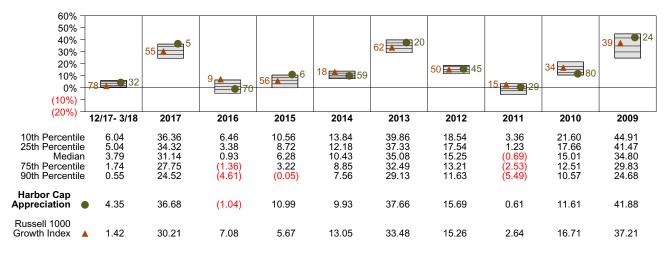
Callan Large Cap Growth Mutual Funds (Net) Annualized Five Year Risk vs Return



# Harbor Cap Appreciation Return Analysis Summary

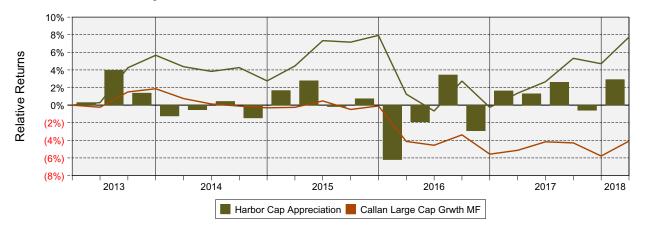
## **Return Analysis**

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

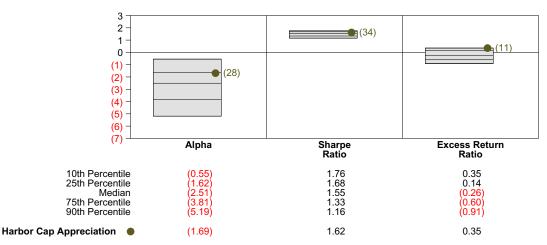


## Performance vs Callan Large Cap Growth Mutual Funds (Net)

Cumulative and Quarterly Relative Return vs Russell 1000 Growth Index



Risk Adjusted Return Measures vs Russell 1000 Growth Index Rankings Against Callan Large Cap Growth Mutual Funds (Net) Five Years Ended March 31, 2018



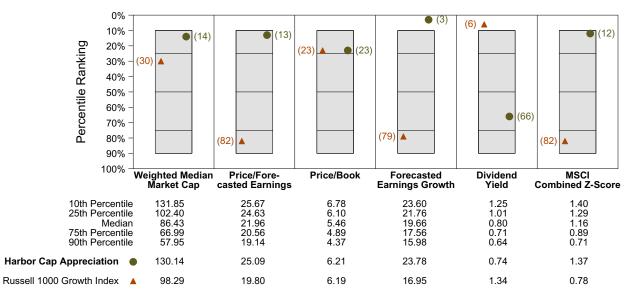


# Harbor Cap Appreciation Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

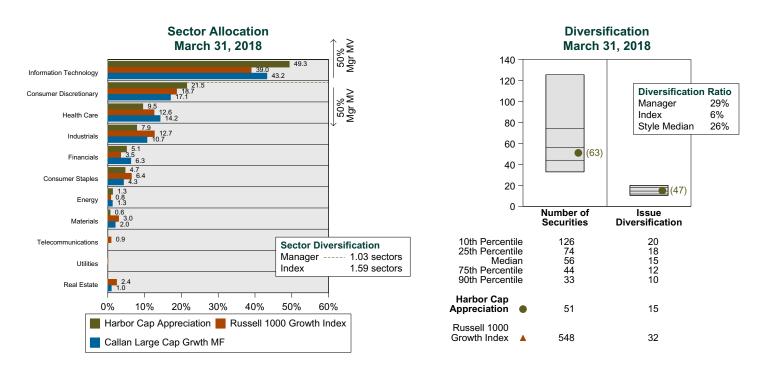
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



# Fidelity Low Priced Stock Period Ended March 31, 2018

#### **Investment Philosophy**

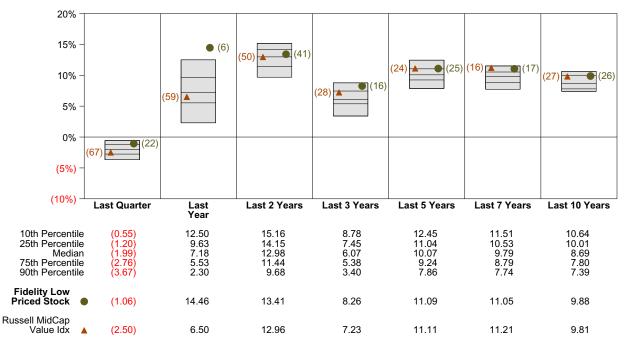
The Low Priced Stock team believes that many low priced, non-glamour, small companies are mispriced, providing opportunities, and seeks capital appreciation by investing mostly in common and preferred domestic stocks, but also international equities, convertible securities, and other fixed income securities.

#### **Quarterly Summary and Highlights**

- Fidelity Low Priced Stock's portfolio posted a (1.06)% return for the quarter placing it in the 22 percentile of the Callan Mid Cap Value Mutual Funds group for the quarter and in the 6 percentile for the last year.
- Fidelity Low Priced Stock's portfolio outperformed the Russell MidCap Value Idx by 1.44% for the quarter and outperformed the Russell MidCap Value Idx for the year by 7.95%.

Quarterly Asset Growth				
Beginning Market Value \$15,340,238				
Net New Investment	\$0			
Investment Gains/(Losses)	\$-163,195			
Ending Market Value	\$15,177,044			

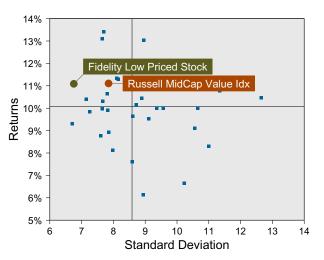






Relative Return vs Russell MidCap Value Idx

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

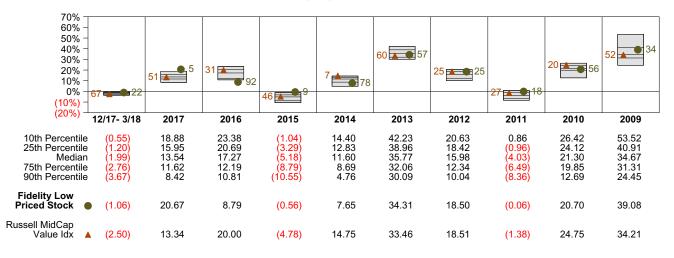


# Fidelity Low Priced Stock Return Analysis Summary

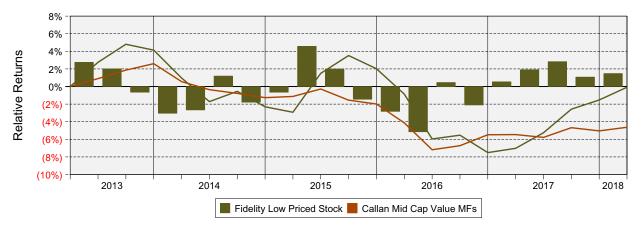
## **Return Analysis**

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

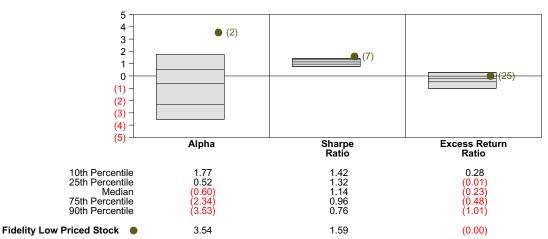
#### Performance vs Callan Mid Cap Value Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell MidCap Value Idx



Risk Adjusted Return Measures vs Russell MidCap Value Idx Rankings Against Callan Mid Cap Value Mutual Funds (Net) Five Years Ended March 31, 2018

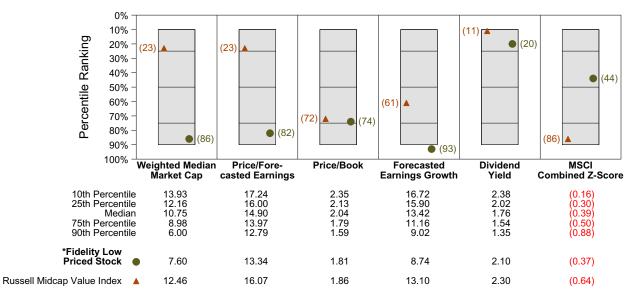


# Fidelity Low Priced Stock Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

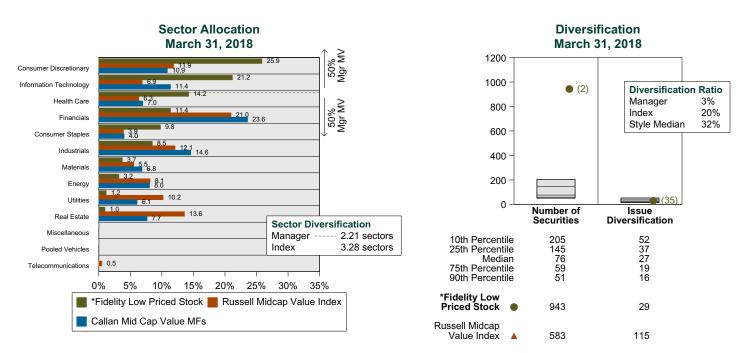
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Mid Cap Value Mutual Funds as of March 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.



\*3/31/18 portfolio characteristics generated using most recently available holdings (1/31/18) 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 March 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.

В

Ending Market Value

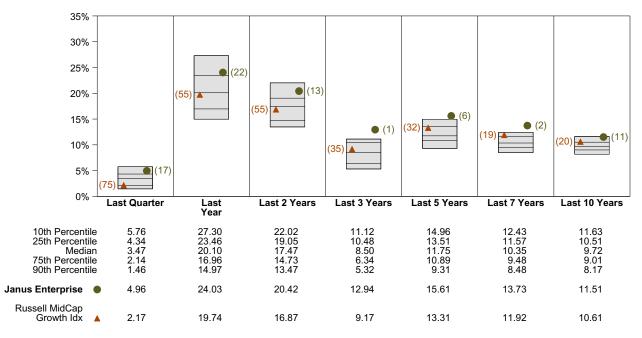
#### **Quarterly Summary and Highlights**

- Janus Enterprise's portfolio posted a 4.96% return for the quarter placing it in the 17 percentile of the Callan Mid Cap Growth Mutual Funds group for the quarter and in the 22 percentile for the last year.
- Janus Enterprise's portfolio outperformed the Russell MidCap Growth Idx by 2.78% for the guarter and outperformed the Russell MidCap Growth Idx for the year by 4.29%.

Quarterly Asset Growth					
Beginning Market Value	\$15,305,710				
Net New Investment	\$0				
Investment Gains/(Losses)	\$758,898				

\$16,064,608

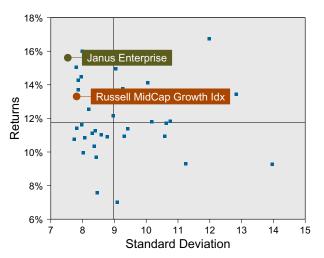






Relative Return vs Russell MidCap Growth Idx

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

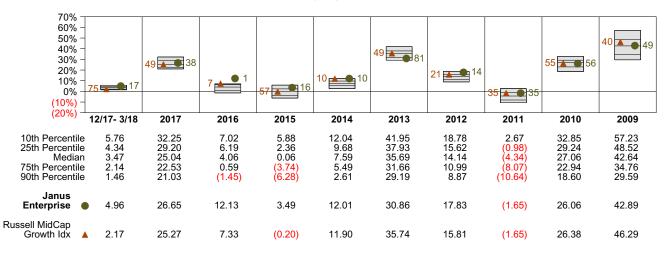


# Janus Enterprise Return Analysis Summary

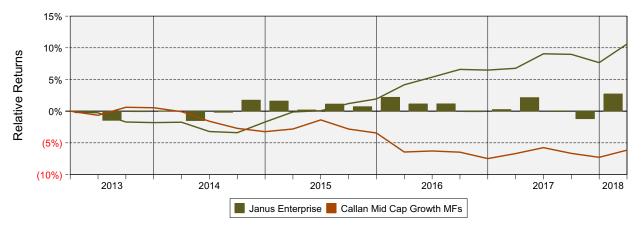
## **Return Analysis**

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

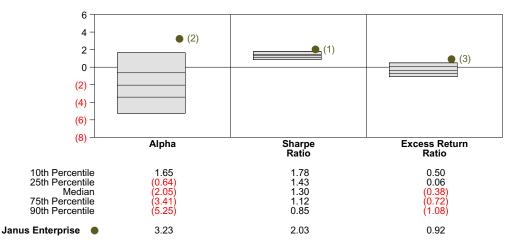
## Performance vs Callan Mid Cap Growth Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell MidCap Growth Idx



Risk Adjusted Return Measures vs Russell MidCap Growth Idx Rankings Against Callan Mid Cap Growth Mutual Funds (Net) Five Years Ended March 31, 2018

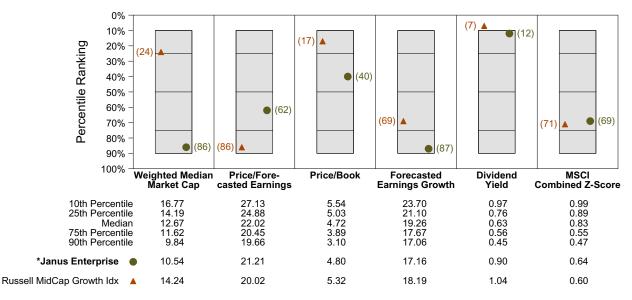


# Janus Enterprise Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

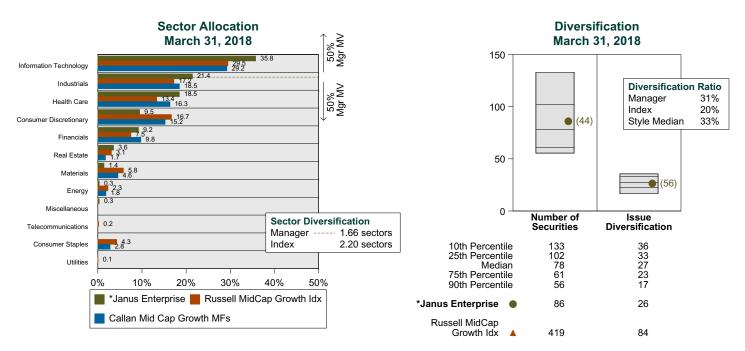
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) 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.



# Prudential Small Cap Value Period Ended March 31, 2018

#### **Investment Philosophy**

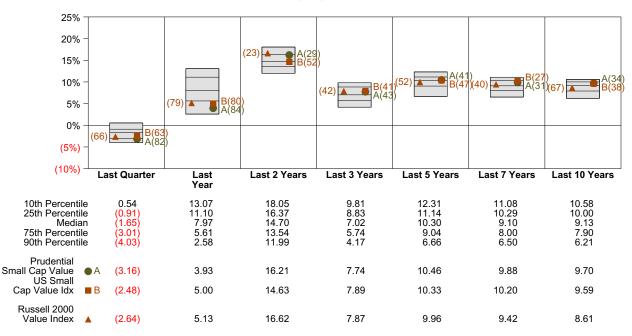
QMA believes a systematic approach that focuses on stocks with low valuations and confirming signals of attractiveness can outperform a small cap value benchmark. Its research shows that adapting to changing market conditions by dynamically shifting the weight on specific factors, while simultaneously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

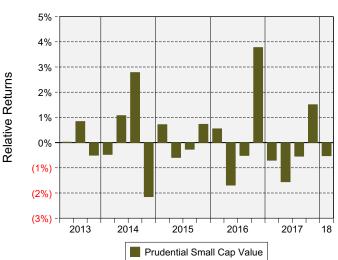
#### **Quarterly Summary and Highlights**

- Prudential Small Cap Value's portfolio posted a (3.16)% return for the quarter placing it in the 82 percentile of the Callan Small Cap Value Mutual Funds group for the quarter and in the 84 percentile for the last year.
- Prudential Small Cap Value's portfolio underperformed the Russell 2000 Value Index by 0.52% for the quarter and underperformed the Russell 2000 Value Index for the year by 1.20%.

Quarterly Asset Growth				
Beginning Market Value	\$13,950,349			
Net New Investment	\$0			
Investment Gains/(Losses)	\$-441,335			
Ending Market Value	\$13.509.013			

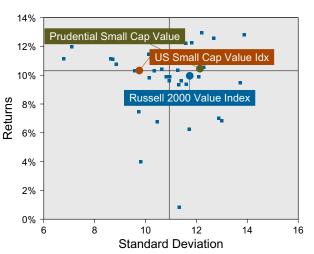






# **Relative Return vs Russell 2000 Value Index**

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

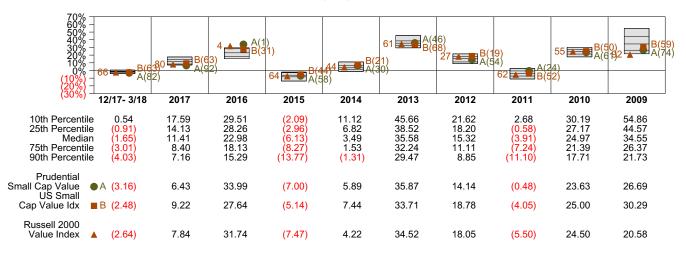


# Prudential Small Cap Value Return Analysis Summary

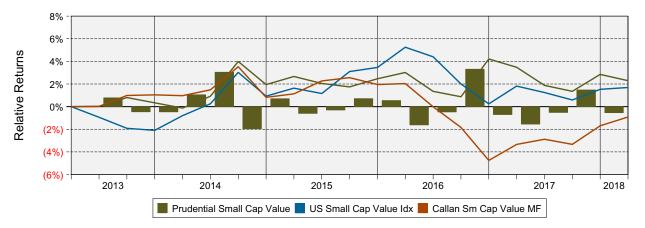
## **Return Analysis**

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

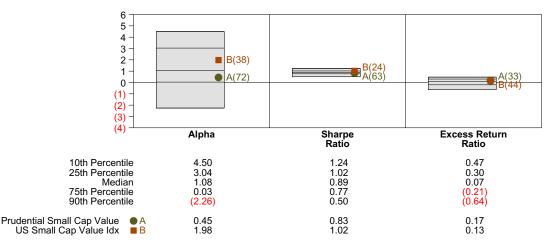
## Performance vs Callan Small Cap Value Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell 2000 Value Index



Risk Adjusted Return Measures vs Russell 2000 Value Index Rankings Against Callan Small Cap Value Mutual Funds (Net) Five Years Ended March 31, 2018

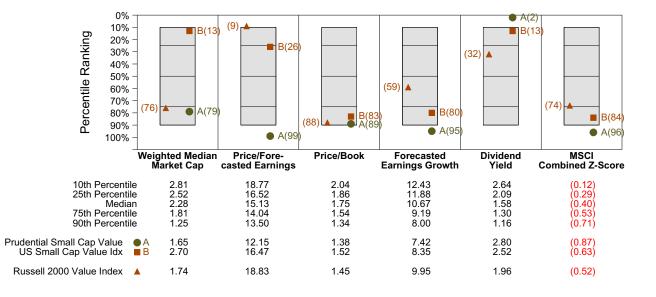


# Prudential Small Cap Value Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

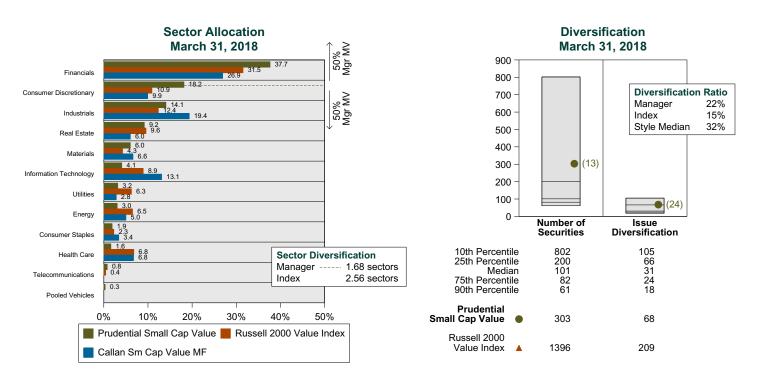
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Value Mutual Funds as of March 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.



# AB US Small Growth Period Ended March 31, 2018

#### **Investment Philosophy**

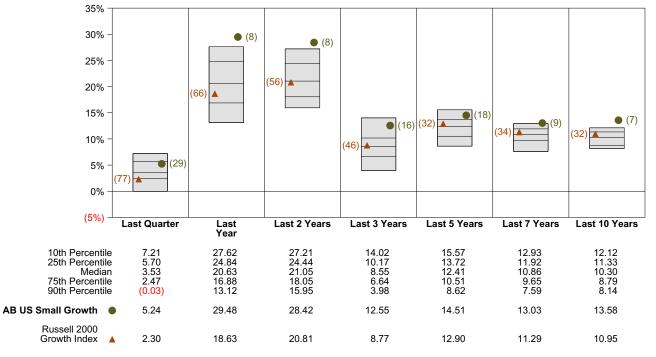
AB's small cap growth investment process emphasizes in-house fundamental research and direct management contact in order to identify rapidly growing companies with accelerating earnings power and reasonable valuations.

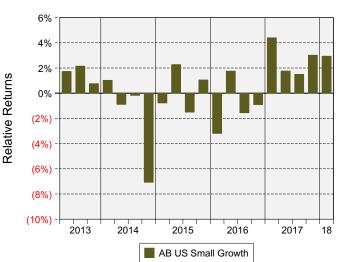
## **Quarterly Summary and Highlights**

- AB US Small Growth's portfolio posted a 5.24% return for the quarter placing it in the 29 percentile of the Callan Small Cap Growth Mutual Funds group for the quarter and in the 8 percentile for the last year.
- AB US Small Growth's portfolio outperformed the Russell 2000 Growth Index by 2.94% for the quarter and outperformed the Russell 2000 Growth Index for the year by 10.85%.

Quarterly Asset Growth				
Beginning Market Value	\$16,336,378			
Net New Investment	\$0			
Investment Gains/(Losses)	\$855,659			
Ending Market Value	\$17,192,037			

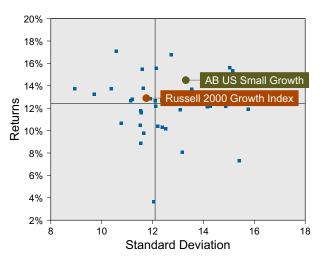
## Performance vs Callan Small Cap Growth Mutual Funds (Net)





#### **Relative Return vs Russell 2000 Growth Index**

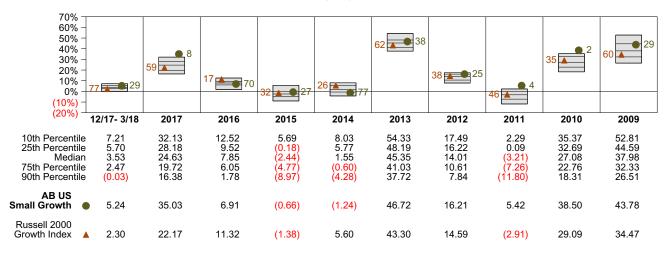
Callan Small Cap Growth Mutual Funds (Net) Annualized Five Year Risk vs Return



# AB US Small Growth Return Analysis Summary

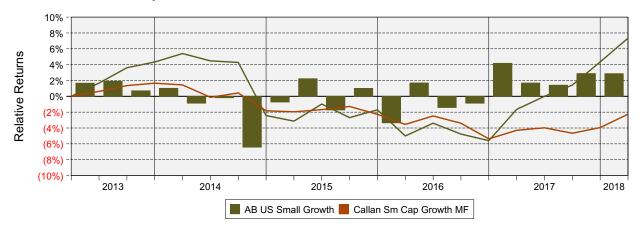
## **Return Analysis**

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

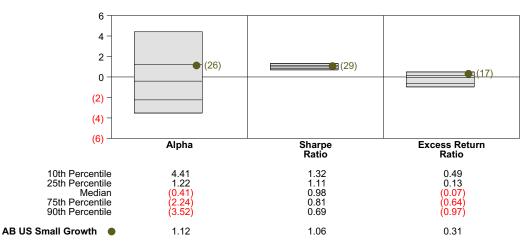


## Performance vs Callan Small Cap Growth Mutual Funds (Net)

Cumulative and Quarterly Relative Return vs Russell 2000 Growth Index



Risk Adjusted Return Measures vs Russell 2000 Growth Index Rankings Against Callan Small Cap Growth Mutual Funds (Net) Five Years Ended March 31, 2018

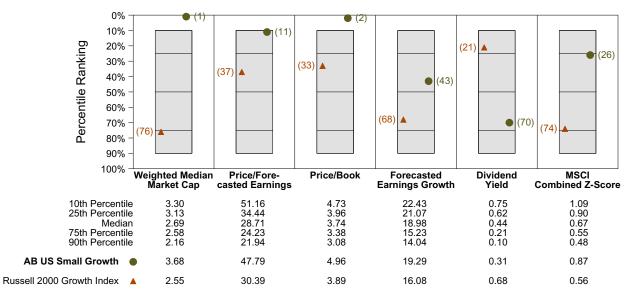


# AB US Small Growth Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

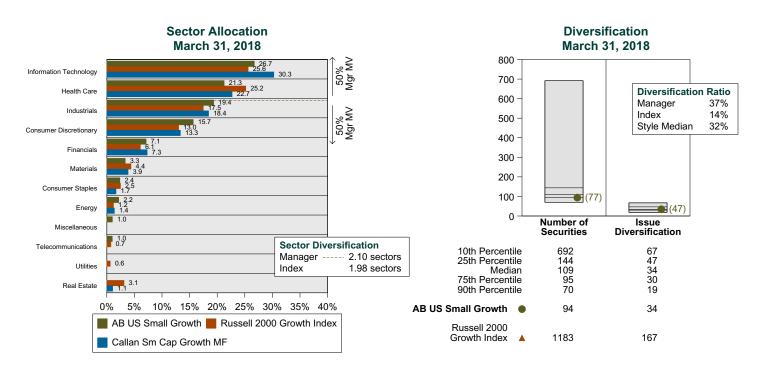
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Growth Mutual Funds as of March 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.



International Equity

# International Equity Composite Period Ended March 31, 2018

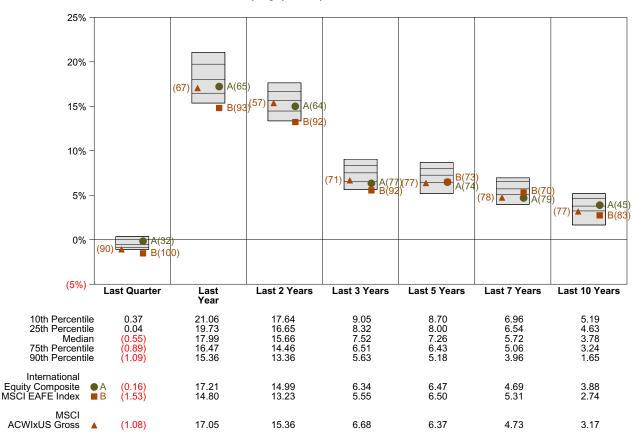
#### **Quarterly Summary and Highlights**

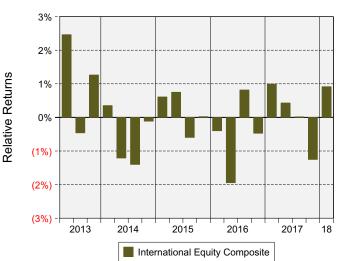
- International Equity Composite's portfolio posted a (0.16)% return for the quarter placing it in the 32 percentile of the Public Fund - International Equity group for the quarter and in the 65 percentile for the last year.
- International Equity Composite's portfolio outperformed the MSCI ACWIxUS Gross by 0.91% for the quarter and outperformed the MSCI ACWIxUS Gross for the year by 0.17%.

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

#### Quarterly Asset Growth

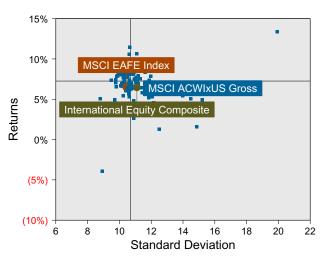
Beginning Market Value	\$157,627,952
Net New Investment	\$-500,000
Investment Gains/(Losses)	\$-247,368
Ending Market Value	\$156,880,584





#### **Relative Return vs MSCI ACWIxUS Gross**

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

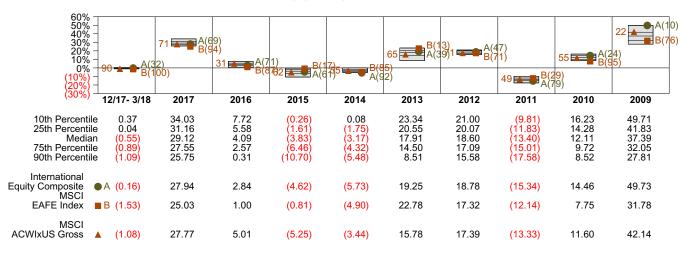


# International Equity Composite Return Analysis Summary

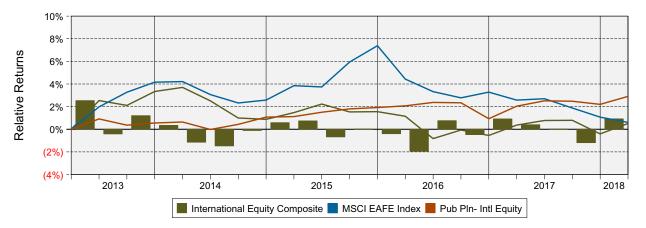
## **Return Analysis**

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

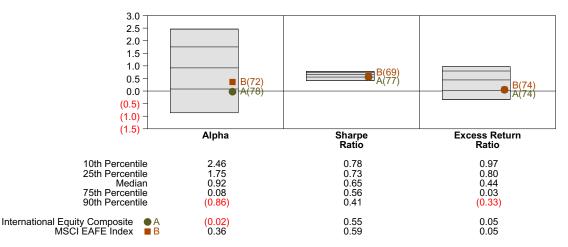
## Performance vs Public Fund - International Equity (Gross)



Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



Risk Adjusted Return Measures vs MSCI ACWIxUS Gross Rankings Against Public Fund - International Equity (Gross) Five Years Ended March 31, 2018

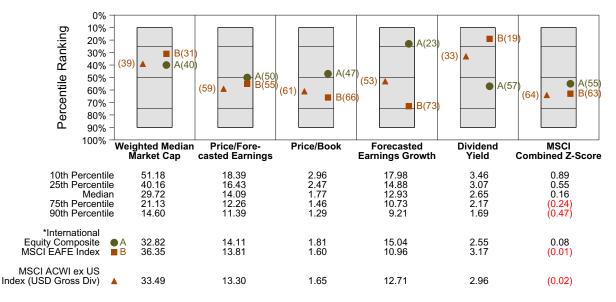


# International Equity Composite Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

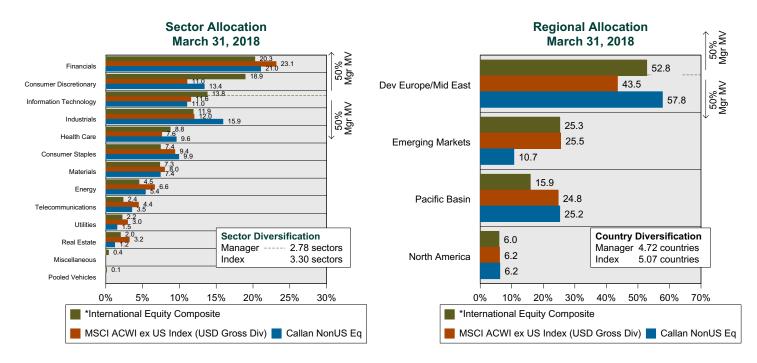
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



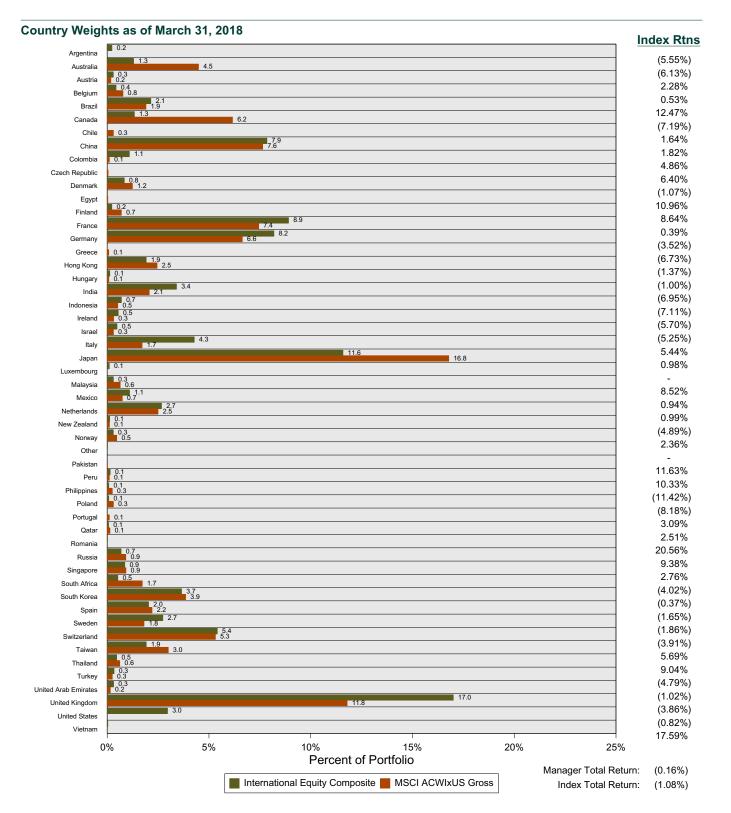
\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



# 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 March 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.

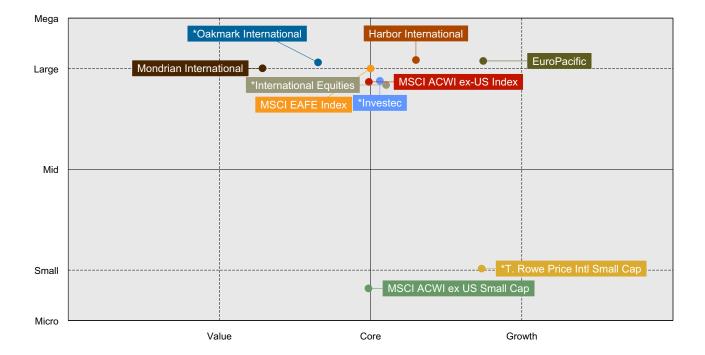


# International Holdings Based Style Analysis For One Quarter Ended March 31, 2018

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 capitialization of the holdings. The value/core/growth style dimension is captured by the "Combined Z-Score" of the portfolio. This score is based on eight fundamental factors used in the MSCI stock style scoring system. The table below gives a more detailed breakdown of several relevant style metrics on the portfolios.

## Style Map

#### Holdings for One Quarter Ended March 31, 2018



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities D	Security Diversification
EuroPacific	18.02%	45.76	0.64	0.26	(0.38)	258	35.12
Harbor International	19.66%	46.96	0.25	(0.02)	(0.27)	70	18.62
*Oakmark International	20.09%	43.97	(0.33)	(0.07)	0.25	54	12.37
Mondrian International	17.11%	36.65	(0.66)	(0.18)	0.48	121	24.39
*T. Rowe Price Intl Small Cap	14.97%	2.64	0.63	0.22	(0.41)	231	69.28
*Investec	10.16%	33.72	0.04	0.11	0.07	81	17.47
*International Equities	100.00%	32.82	0.08	0.04	(0.04)	700	79.28
MSCI ACWI ex US Small Cap	-	2.01	(0.03)	(0.01)	0.02	4309	755.08
MSCI EAFE Index	-	36.35	(0.01)	(0.01)	0.00	927	117.75
MSCI ACWI ex-US Index	-	33.49	(0.02)	(0.01)	0.01	1856	185.38

\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) 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 March 31, 2018

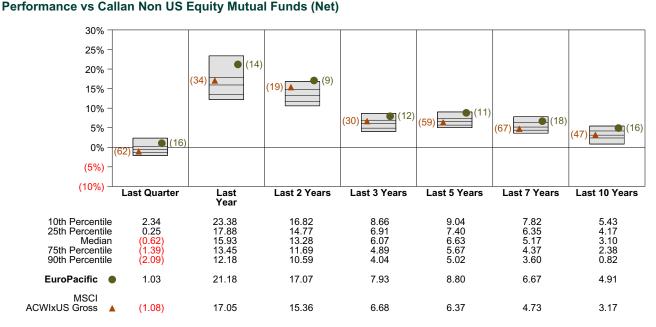
#### **Investment Philosophy**

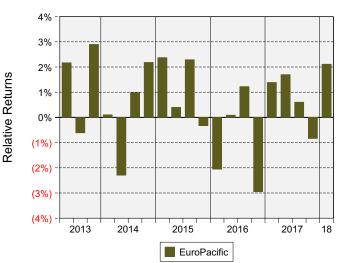
Capital Group has a research-driven approach to non-U.S. investing. Their bottom-up fundamental approach is blended with macroeconomic and political judgments on the outlook of economies, industries, currencies and markets. The fund uses a "multiple manager" approach where individual portfolio managers, 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 1.03% return for the quarter placing it in the 16 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 14 percentile for the last year.
- EuroPacific's portfolio outperformed the MSCI ACWIxUS Gross by 2.11% for the quarter and outperformed the MSCI ACWIxUS Gross for the year by 4.13%.

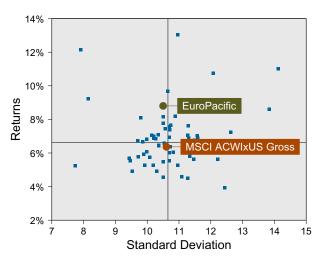
Quarterly Asset Growth					
Beginning Market Value	\$27,979,027				
Net New Investment	\$0				
Investment Gains/(Losses)	\$289,061				
Ending Market Value \$28,268,088					





Relative Return vs MSCI ACWIxUS Gross

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

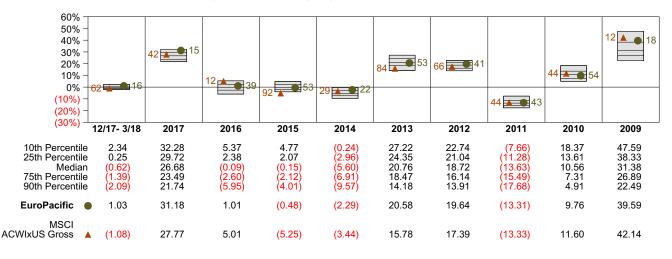


# EuroPacific Return Analysis Summary

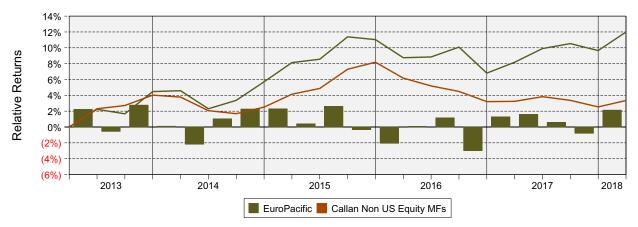
## **Return Analysis**

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

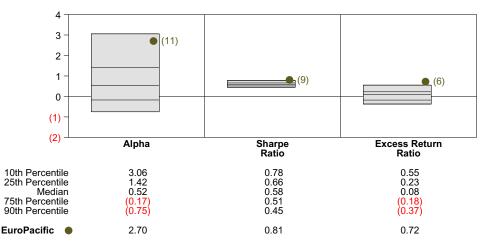
## Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



Risk Adjusted Return Measures vs MSCI ACWIxUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2018



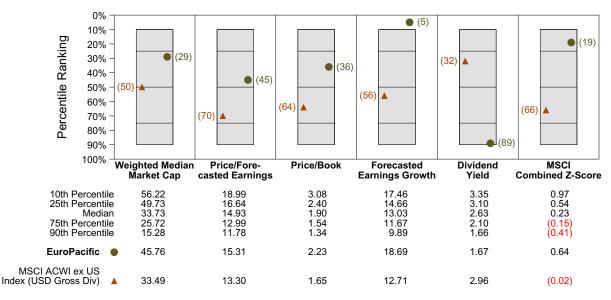


# EuroPacific Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

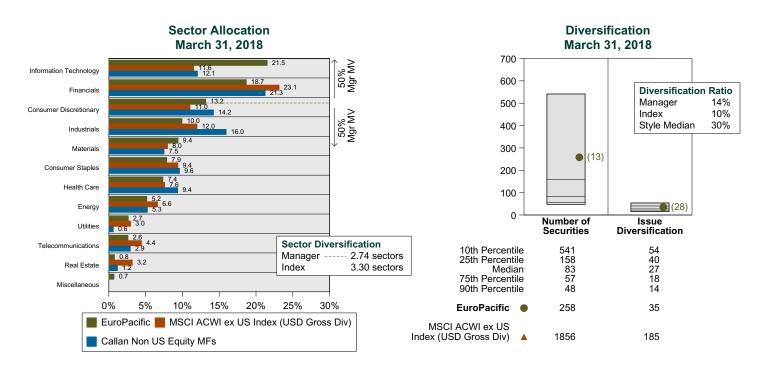
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



# **Sector Weights**

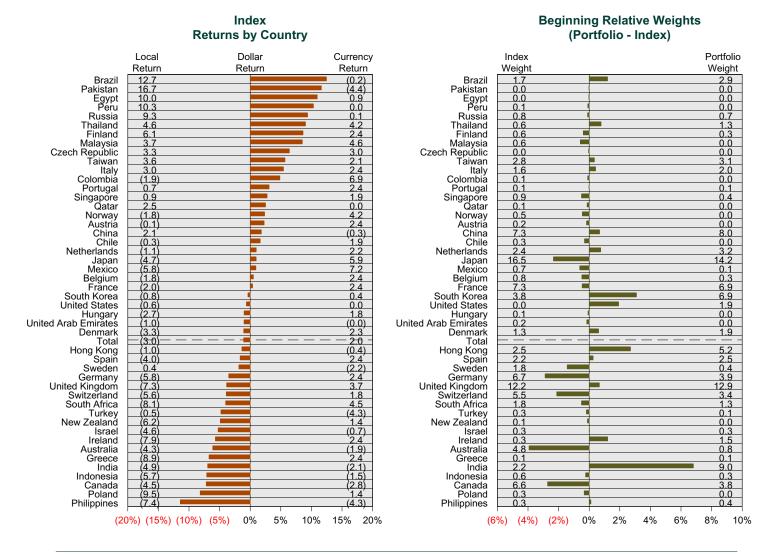
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration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



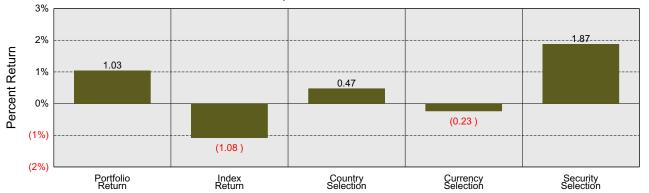
# EuroPacific vs MSCI ACWIxUS Gross Attribution for Quarter Ended March 31, 2018

#### **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.







# **Harbor International** Period Ended March 31, 2018

#### **Investment Philosophy**

The Harbor International Fund is sub-advised by Northern Cross, LLC. The investment philosophy focuses on companies with prospects of margin expansion and those that have strong franchise value or asset value. The fund takes a long-term view, expecting to hold a security for 7-10 years. Patient due diligence of companies, countries, and regions are of the utmost importance to the investment process. The team believes this due diligence, in combination with a top down investment theme, provides the best opportunity to invest in truly undervalued companies. The strategy has remained consistent in this philosophy over the past decades of international investment.

#### **Quarterly Summary and Highlights**

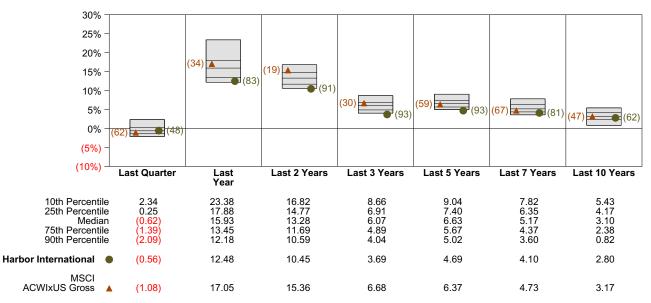
- Harbor International's portfolio posted a (0.56)% return for the quarter placing it in the 48 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 83 percentile for the last year.
- Harbor International's portfolio outperformed the MSCI ACWIxUS Gross by 0.52% for the quarter and underperformed the MSCI ACWIxUS Gross for the year by 4.57%.

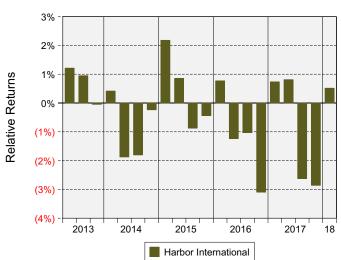
nning Market Value	\$31,020,454
New Investment	\$0

**Quarterly Asset Growth** 

Beginning Market Value	\$31,020,454
Net New Investment	\$0
Investment Gains/(Losses)	\$-174,687
Ending Market Value	\$30,845,767

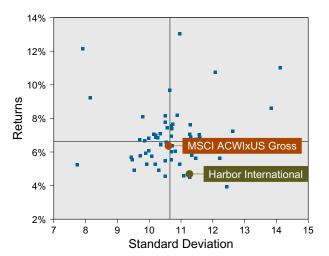






**Relative Return vs MSCI ACWIxUS Gross** 

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

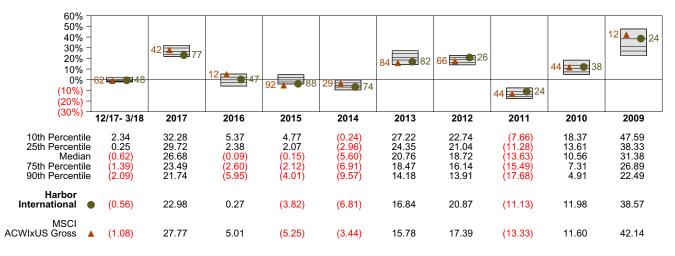


# Harbor International Return Analysis Summary

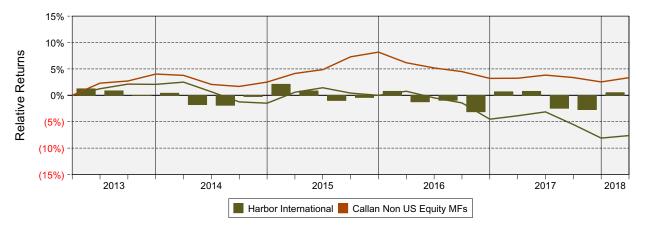
## **Return Analysis**

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

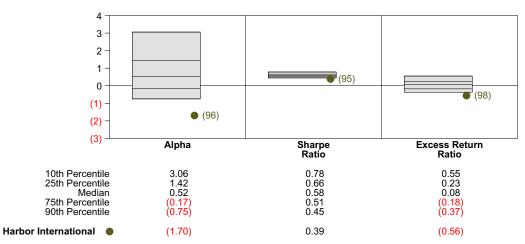
# Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



Risk Adjusted Return Measures vs MSCI ACWIxUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2018



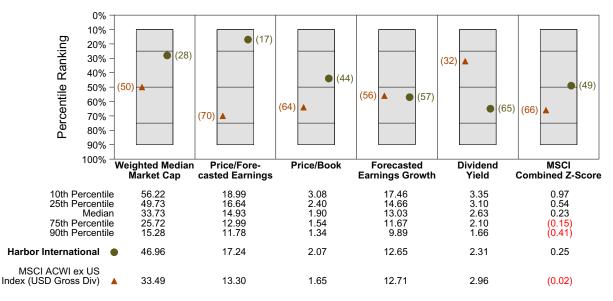


# Harbor International Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

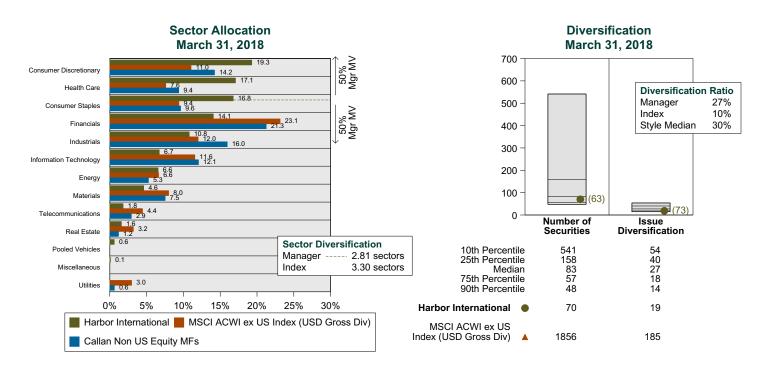
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



# **Sector Weights**

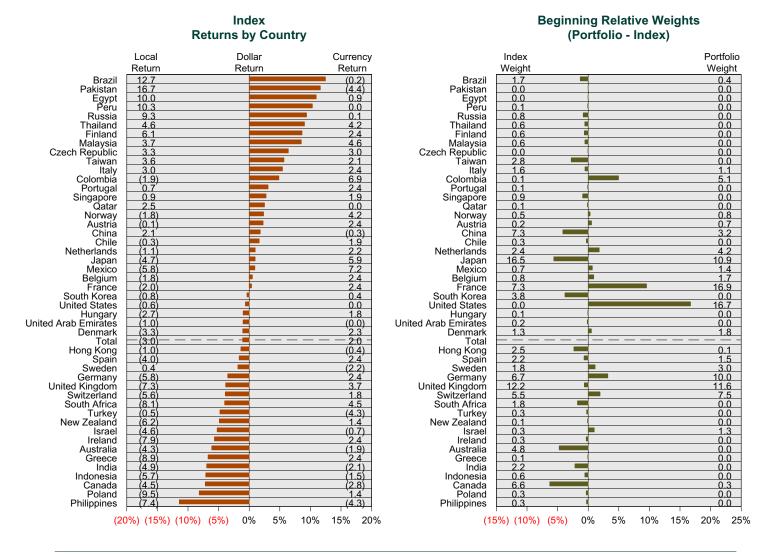
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration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

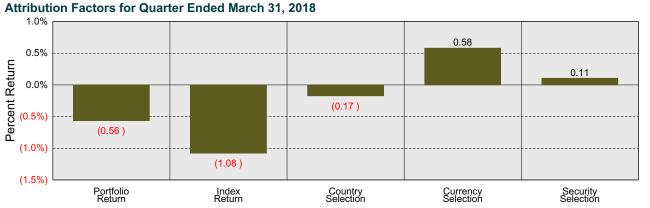


# Harbor International vs MSCI ACWIxUS Gross Attribution for Quarter Ended March 31, 2018

#### **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.





# Oakmark International Period Ended March 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**

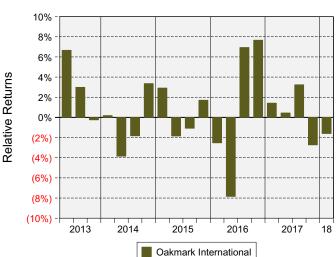
- Oakmark International's portfolio posted a (2.68)% return for the quarter placing it in the 93 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 48 percentile for the last year.
- Oakmark International's portfolio underperformed the MSCI ACWIxUS Gross by 1.60% for the quarter and underperformed the MSCI ACWIxUS Gross for the year by 0.98%.

#### Quarterly Asset Growth

Beginning Market Value	\$32,866,942
Net New Investment	\$-500,000
Investment Gains/(Losses)	\$-855,960
Ending Market Value	\$31,510,982

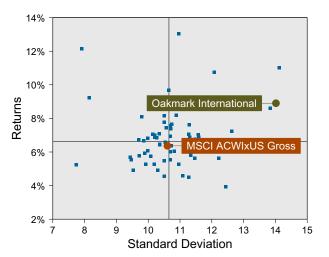
# Performance vs Callan Non US Equity Mutual Funds (Net)

30% 25% - 20% - 15% - 10% - 5% - 0% - (5%) - (10%)	(62)	(34)	(19)	(30)	(59) <b>(</b> 10)	(67)	(47) (2)
(10%)	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile 25th Percentile Median 75th Percentile 90th Percentile	2.34 0.25 (0.62) (1.39) (2.09)	23.38 17.88 15.93 13.45 12.18	16.82 14.77 13.28 11.69 10.59	8.66 6.91 6.07 4.89 4.04	9.04 7.40 6.63 5.67 5.02	7.82 6.35 5.17 4.37 3.60	5.43 4.17 3.10 2.38 0.82
Oakmark International	(2.68)	16.06	18.88	7.39	8.90	8.34	7.99
MSCI ACWIxUS Gross	(1.08)	17.05	15.36	6.68	6.37	4.73	3.17



#### **Relative Return vs MSCI ACWIxUS Gross**

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

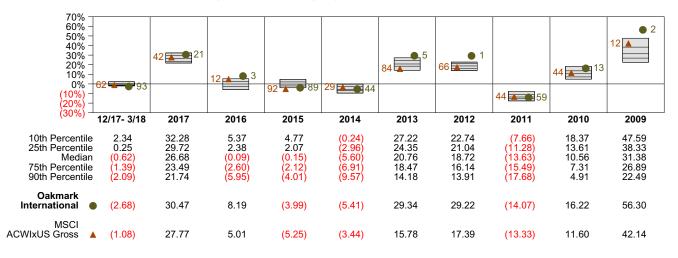


# Oakmark International Return Analysis Summary

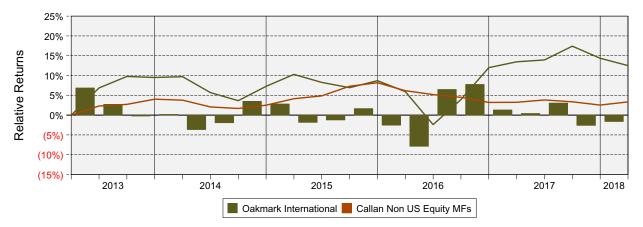
## **Return Analysis**

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

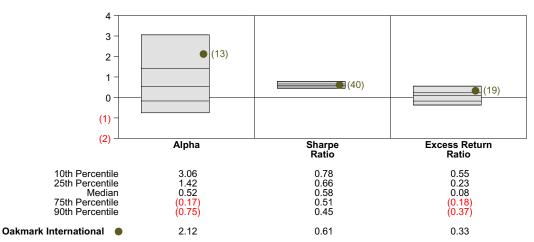
## Performance vs Callan Non US Equity Mutual Funds (Net)



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



Risk Adjusted Return Measures vs MSCI ACWIxUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2018

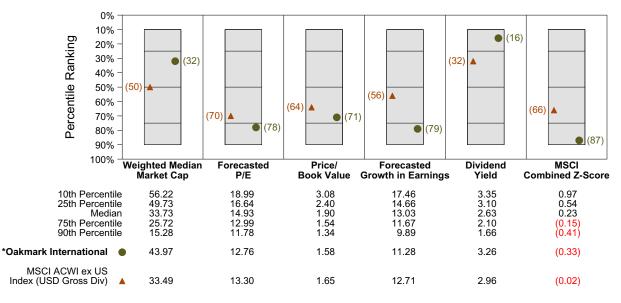


# Oakmark International Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

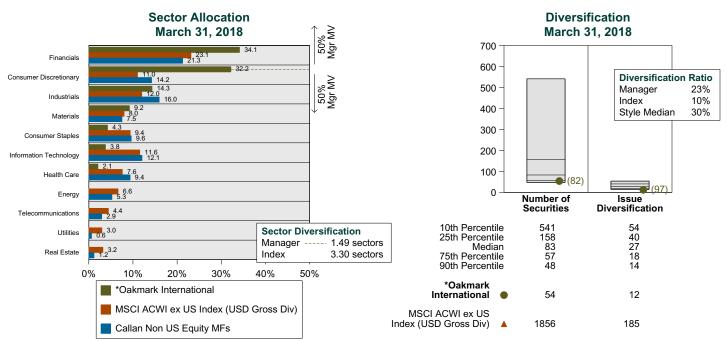
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



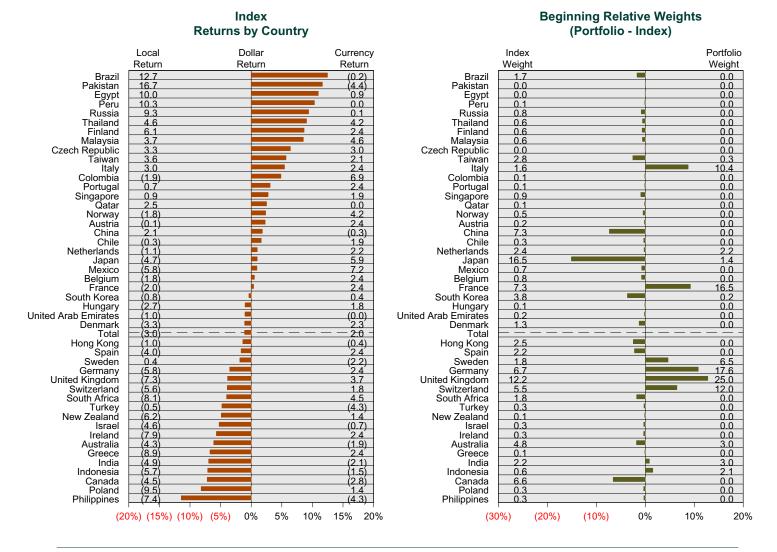
\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

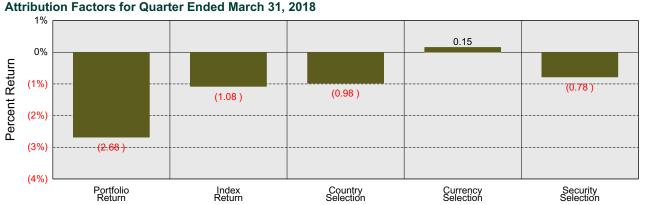


# Oakmark International vs MSCI ACWIxUS Gross Attribution for Quarter Ended March 31, 2018

#### **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.





# Mondrian International Period Ended March 31, 2018

#### **Investment Philosophy**

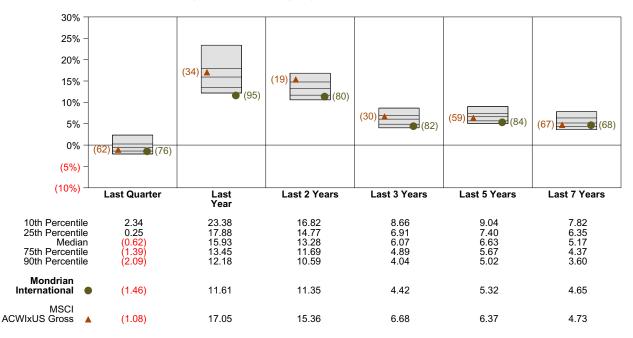
Mondrian's value driven investment philosophy is based on the belief that investments need to be evaluated in terms of their fundamental long-term value. In the management of international equity assets, they invest in securities where rigorous dividend discount analysis identifies value in terms of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

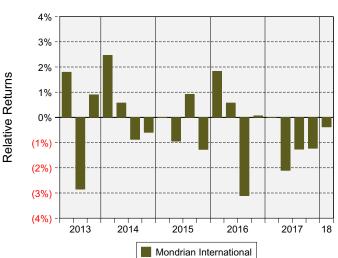
#### **Quarterly Summary and Highlights**

- Mondrian International's portfolio posted a (1.46)% return for the quarter placing it in the 76 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 95 percentile for the last year.
- Mondrian International's portfolio underperformed the MSCI ACWIxUS Gross by 0.38% for the quarter and underperformed the MSCI ACWIxUS Gross for the year by 5.44%.

Quarterly Asset Growth	
Beginning Market Value	\$27,183,128
Net New Investment	\$0
Investment Gains/(Losses)	\$-342,779
Ending Market Value	\$26,840,349

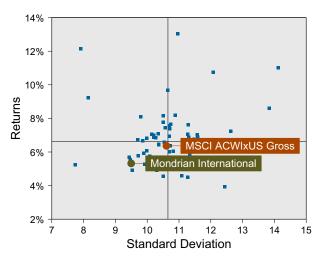
#### Performance vs Callan Non US Equity Mutual Funds (Net)





#### **Relative Return vs MSCI ACWIxUS Gross**

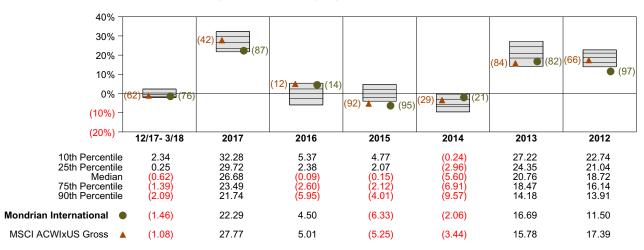
Callan Non US Equity Mutual Funds (Net) Annualized Five Year Risk vs Return



#### Mondrian International Return Analysis Summary

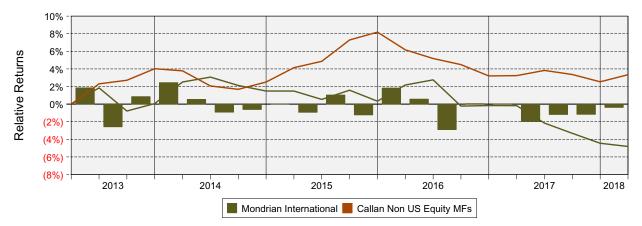
#### **Return Analysis**

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.

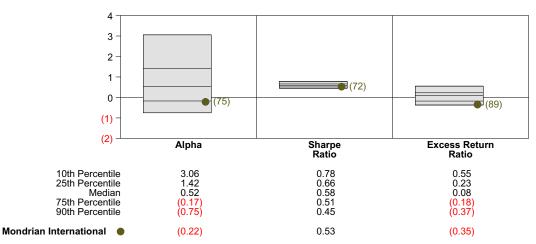


Performance vs Callan Non US Equity Mutual Funds (Net)





Risk Adjusted Return Measures vs MSCI ACWIxUS Gross Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended March 31, 2018

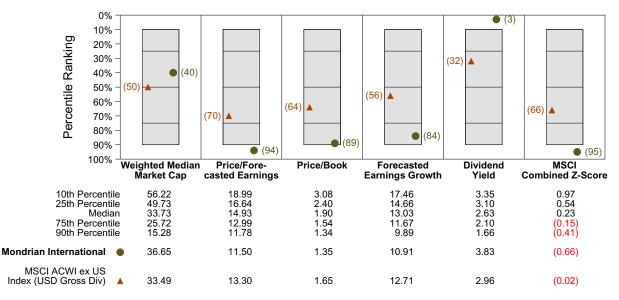


#### Mondrian International Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

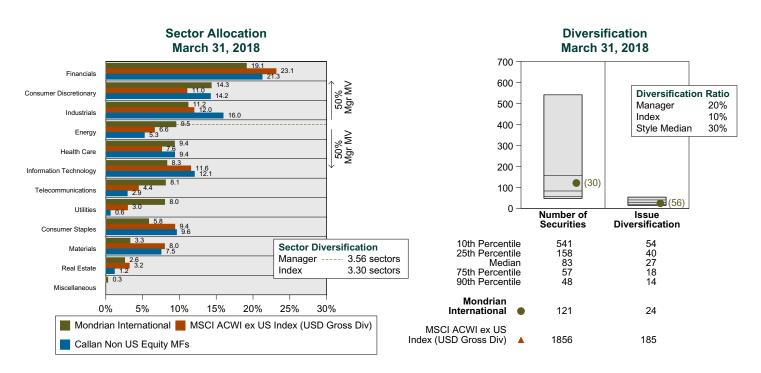
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



#### **Sector Weights**

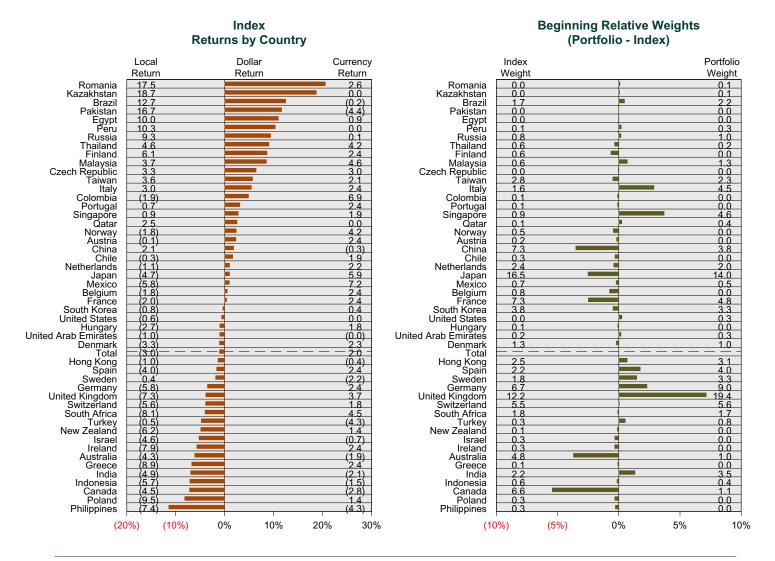
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration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

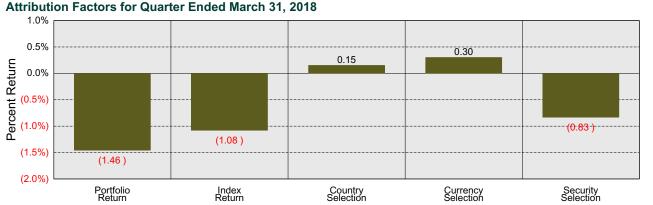


#### Mondrian International vs MSCI ACWIxUS Gross Attribution for Quarter Ended March 31, 2018

#### **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.





#### T. Rowe Price Intl Small Cap Period Ended March 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.

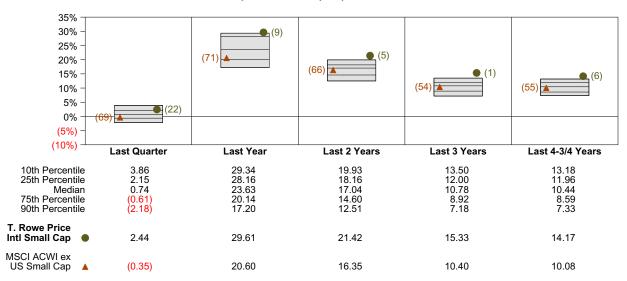
#### **Quarterly Summary and Highlights**

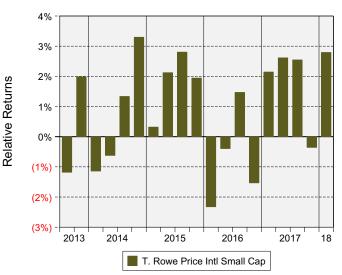
- T. Rowe Price Intl Small Cap's portfolio posted a 2.44% return for the quarter placing it in the 22 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 9 percentile for the last year.
- T. Rowe Price Intl Small Cap's portfolio outperformed the MSCI ACWI ex US Small Cap by 2.79% for the quarter and outperformed the MSCI ACWI ex US Small Cap for the year by 9.02%.

Quarterly	Asset Growth
	710001 0101111

Beginning Market Value	\$22,864,593
Net New Investment	\$0
Investment Gains/(Losses)	\$617,308
Ending Market Value	\$23,481,900

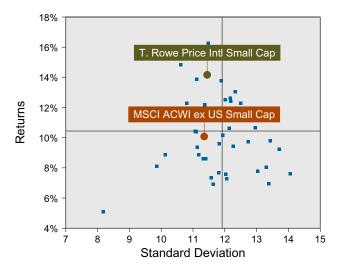






Relative Returns vs MSCI ACWI ex US Small Cap

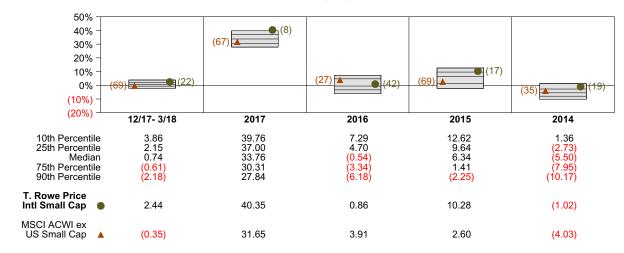
Callan International Small Cap Mut Funds (Net) Annualized Four and Three-Quarter Year Risk vs Return



#### T. Rowe Price Intl Small Cap Return Analysis Summary

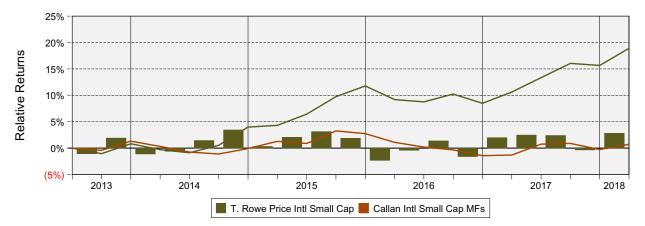
#### **Return Analysis**

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.

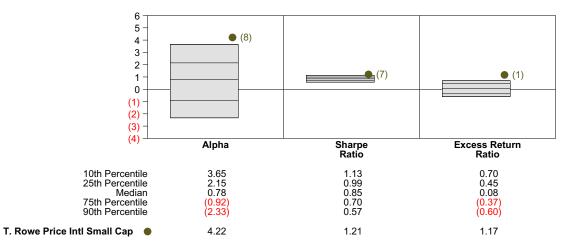


#### Performance vs Callan International Small Cap Mut Funds (Net)

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) Four and Three-Quarter Years Ended March 31, 2018

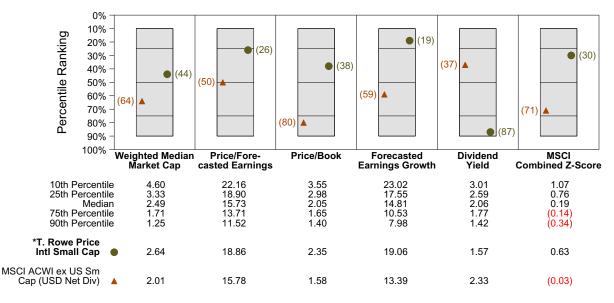


#### T. Rowe Price Intl Small Cap Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

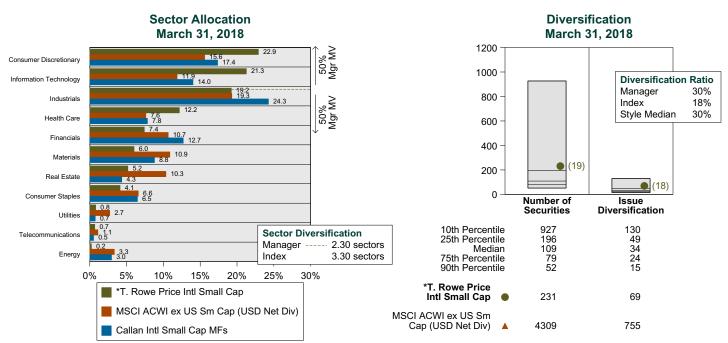
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan International Small Cap Mut Funds as of March 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.



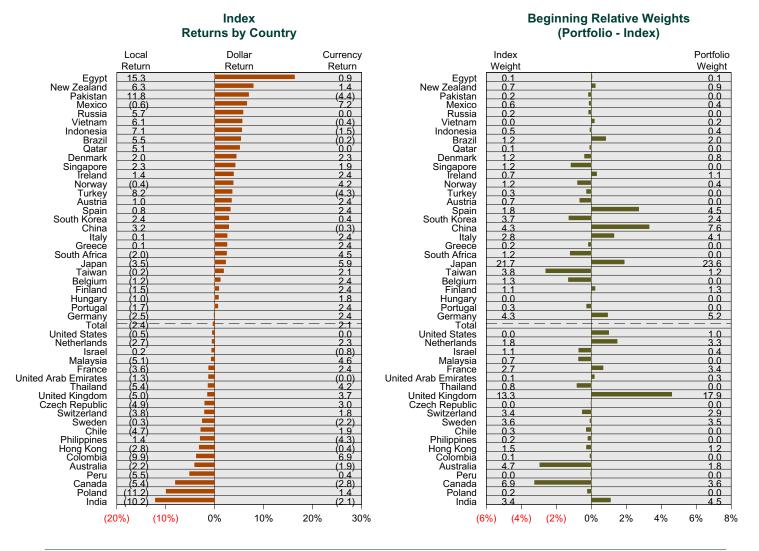
\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

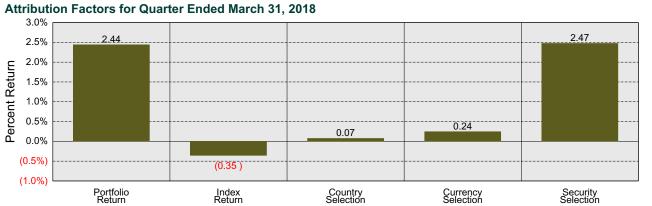


#### T. Rowe Price Intl Small Cap vs MSCI ACWI ex US Small Cap Attribution for Quarter Ended March 31, 2018

#### **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.





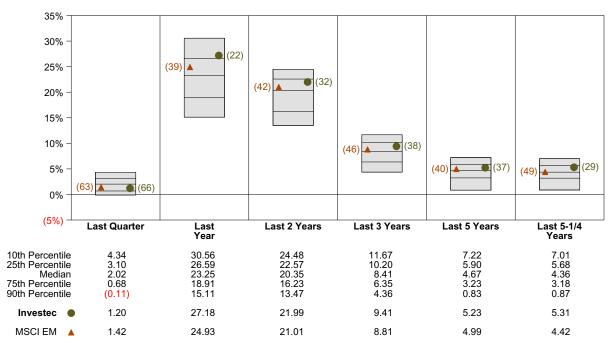
#### Investec Period Ended March 31, 2018

#### **Investment Philosophy**

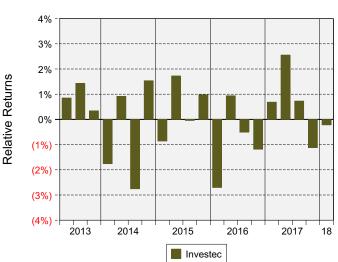
Investec's 4Factor Equity team believes that share prices are driven by four key attributes over time and investing in companies that display these characteristics will drive long-term performance. They look to invest in high quality, attractively valued companies, which are improving operating performance 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 1.20% return for the quarter placing it in the 66 percentile of the Morningstar Diversified Emg Mkts Fds group for the quarter and in the 22 percentile for the last year.
- Investec's portfolio underperformed the MSCI EM by 0.22% for the quarter and outperformed the MSCI EM for the year by 2.25%.

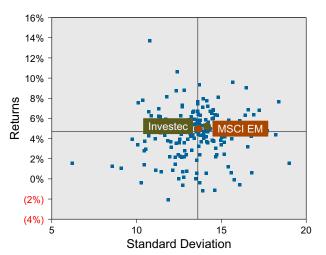






#### Relative Return vs MSCI EM

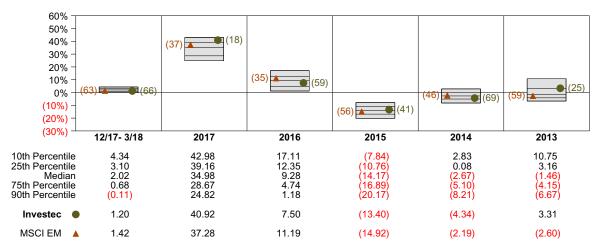
Morningstar Diversified Emg Mkts Fds (Net) Annualized Five Year Risk vs Return



#### Investec Return Analysis Summary

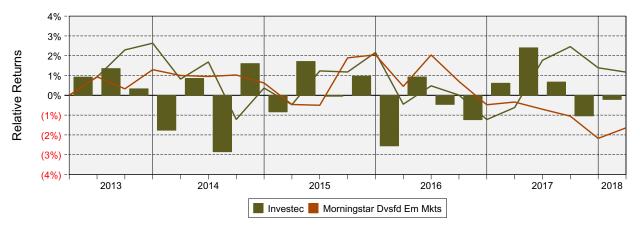
#### **Return Analysis**

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

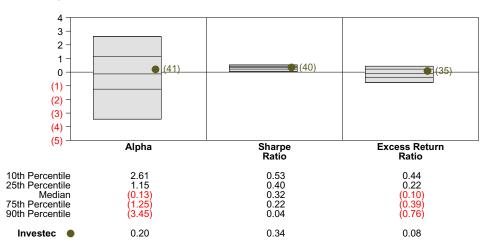


#### Performance vs Morningstar Diversified Emg Mkts Fds (Net)

#### **Cumulative and Quarterly Relative Return vs MSCI EM**



#### Risk Adjusted Return Measures vs MSCI EM Rankings Against Morningstar Diversified Emg Mkts Fds (Net) Five Years Ended March 31, 2018





#### Investec Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

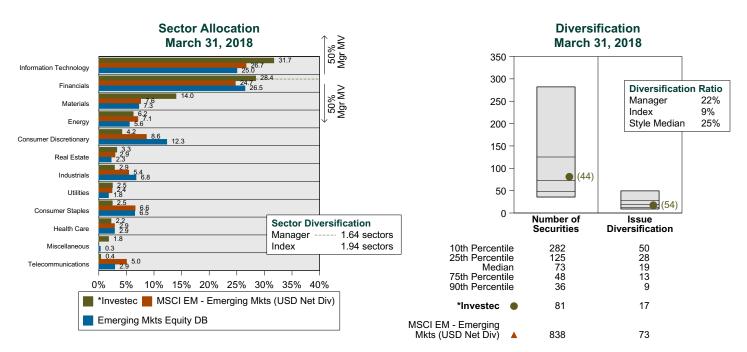
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



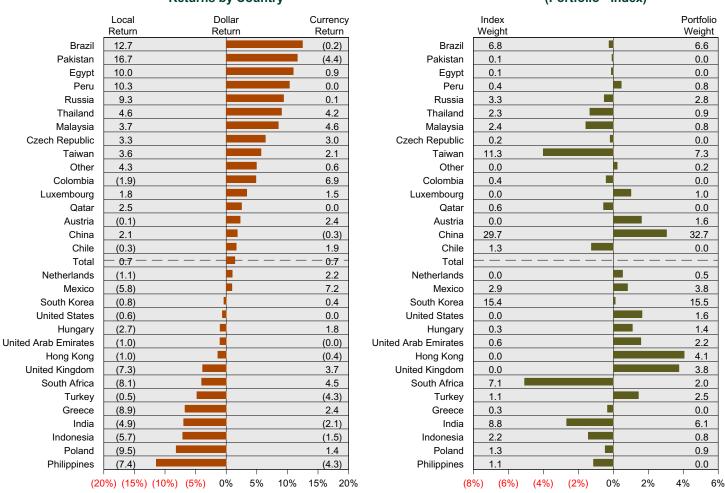
\*3/31/18 portfolio characteristics generated using most recently available holdings (12/31/17) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

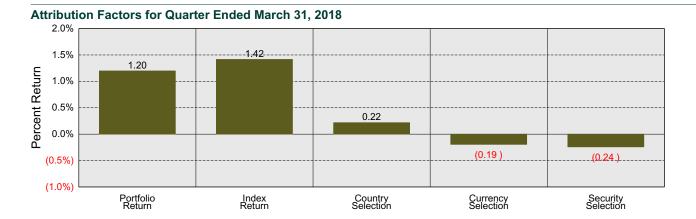


#### Investec vs MSCI EM Attribution for Quarter Ended March 31, 2018

#### **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.





Index Returns by Country

#### Beginning Relative Weights (Portfolio - Index)

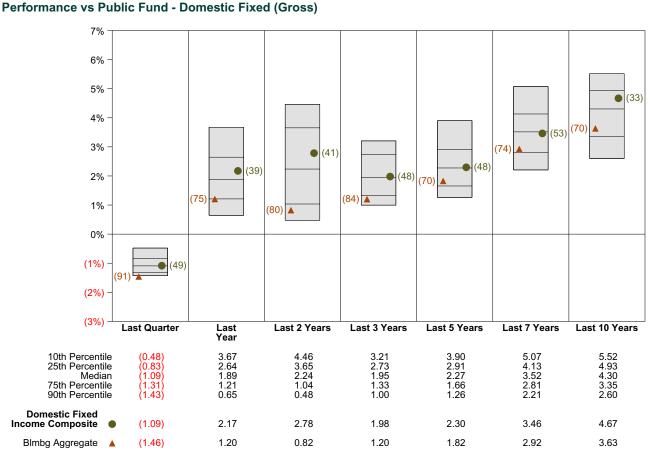
#### Domestic Fixed Income Composite Period Ended March 31, 2018

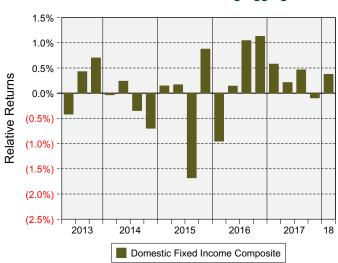
#### **Quarterly Summary and Highlights**

- Domestic Fixed Income Composite's portfolio posted a (1.09)% return for the quarter placing it in the 49 percentile of the Public Fund Domestic Fixed group for the quarter and in the 39 percentile for the last year.
- Domestic Fixed Income Composite's portfolio outperformed the Blmbg Aggregate by 0.38% for the quarter and outperformed the Blmbg Aggregate for the year by 0.97%.

#### **Quarterly Asset Growth**

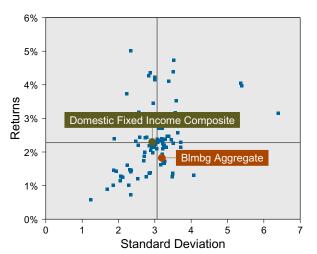
Beginning Market Value	\$105,317,448
Net New Investment	\$0
Investment Gains/(Losses)	\$-1,142,781
Ending Market Value	\$104,174,668





#### Relative Return vs Blmbg Aggregate

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

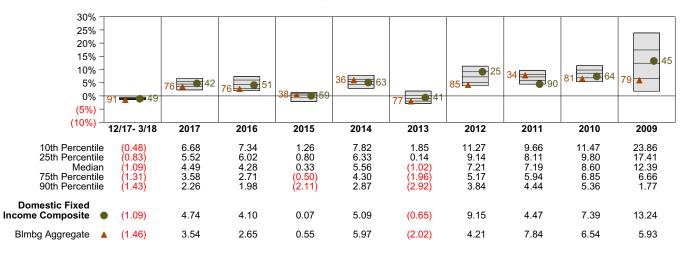


#### Domestic Fixed Income Composite Return Analysis Summary

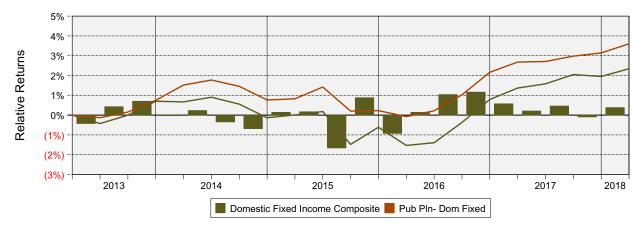
#### **Return Analysis**

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.

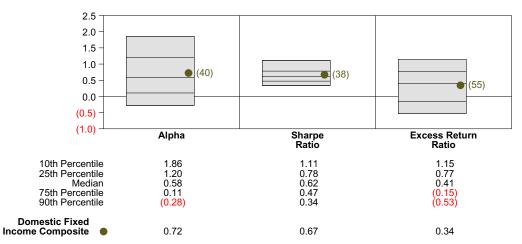
#### Performance vs Public Fund - Domestic Fixed (Gross)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Public Fund - Domestic Fixed (Gross) Five Years Ended March 31, 2018



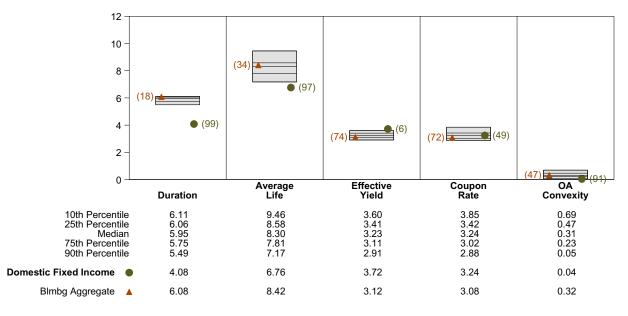


#### Domestic Fixed Income Bond Characteristics Analysis Summary

#### **Portfolio Characteristics**

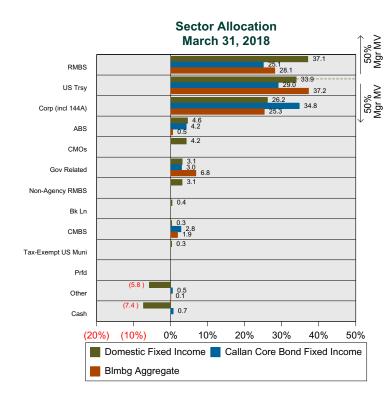
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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

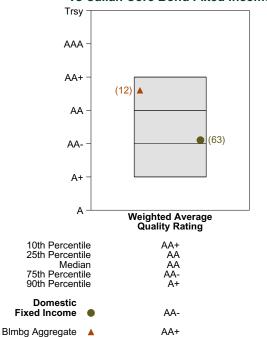


#### Sector Allocation and Quality Ratings

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.



#### Quality Ratings vs Callan Core Bond Fixed Income





#### Dodge & Cox Income Period Ended March 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.

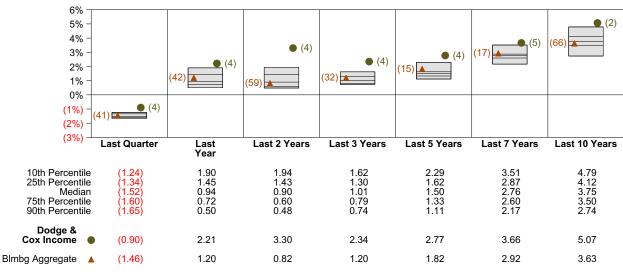
#### **Quarterly Summary and Highlights**

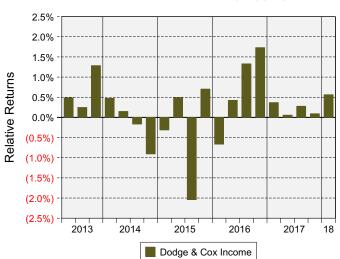
- Dodge & Cox Income's portfolio posted a (0.90)% return for the quarter placing it in the 4 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 4 percentile for the last year.
- Dodge & Cox Income's portfolio outperformed the Blmbg Aggregate by 0.56% for the quarter and outperformed the Blmbg Aggregate for the year by 1.01%.

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

Quarterly Asset Growth

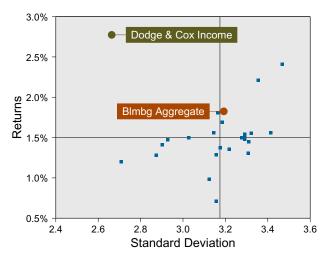
Beginning Market Value	\$52,743,263
Net New Investment	\$0
Investment Gains/(Losses)	\$-473,148
Ending Market Value	\$52,270,115





#### **Relative Return vs Blmbg Aggregate**

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

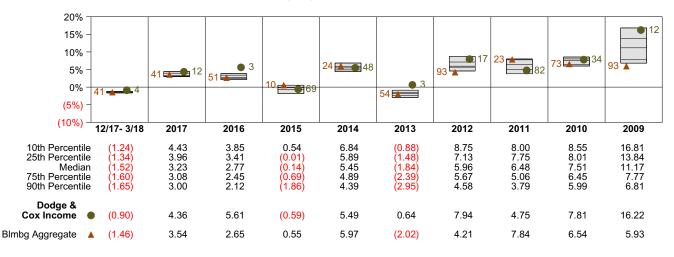


#### Dodge & Cox Income Return Analysis Summary

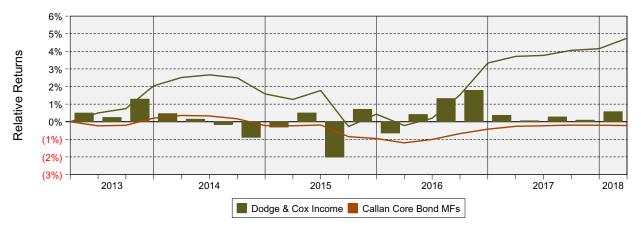
#### **Return Analysis**

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

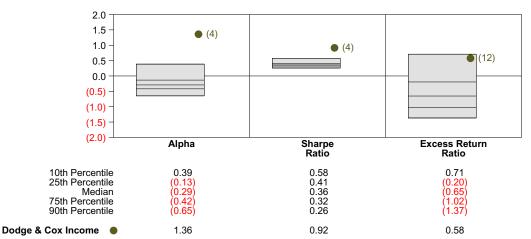
#### Performance vs Callan Core Bond Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Callan Core Bond Mutual Funds (Net) Five Years Ended March 31, 2018

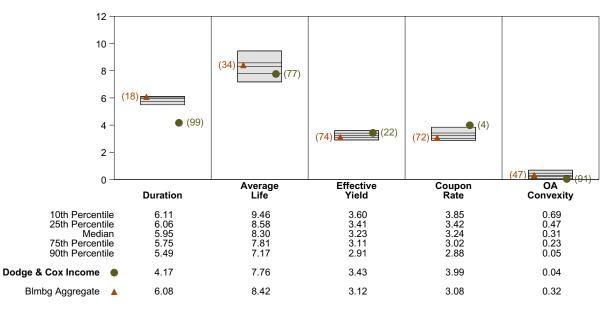


#### Dodge & Cox Income Bond Characteristics Analysis Summary

#### **Portfolio Characteristics**

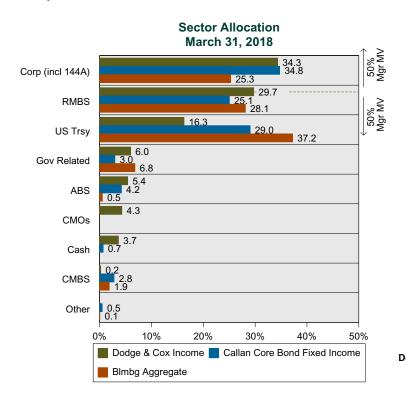
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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

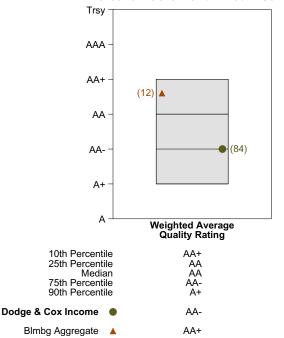


#### Sector Allocation and Quality Ratings

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.



# Quality Ratings vs Callan Core Bond Fixed Income



#### PIMCO Period Ended March 31, 2018

#### **Investment Philosophy**

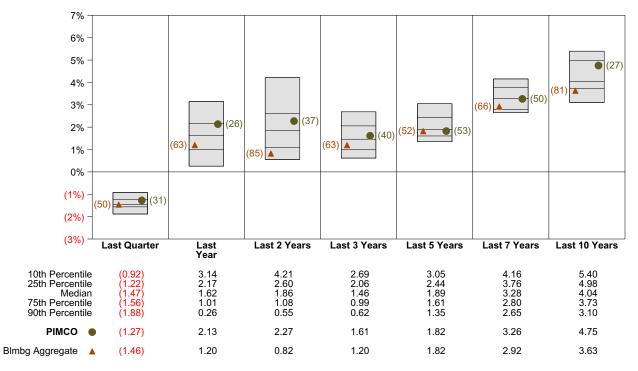
PIMCO emphasizes adding value by rotating through the major sectors of the domestic and international bond markets. They also seek to enhance returns through duration management.

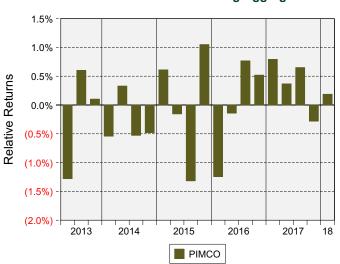
#### **Quarterly Summary and Highlights**

- PIMCO's portfolio posted a (1.27)% return for the quarter placing it in the 31 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 26 percentile for the last year.
- PIMCO's portfolio outperformed the BImbg Aggregate by 0.19% for the quarter and outperformed the BImbg Aggregate for the year by 0.93%.

Quarterly Asset Growth					
Beginning Market Value	\$52,574,185				
Net New Investment	\$0				
Investment Gains/(Losses)	\$-669,632				
Ending Market Value	\$51,904,553				

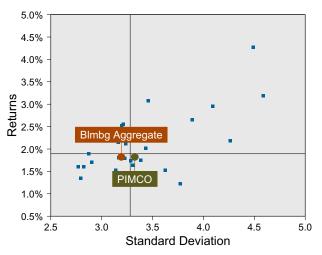
#### Performance vs Callan Core Plus Mutual Funds (Net)





#### Relative Return vs Blmbg Aggregate

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

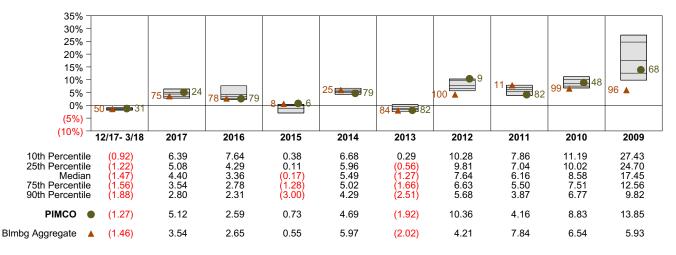


#### PIMCO Return Analysis Summary

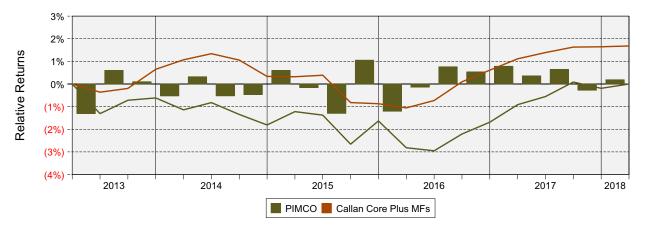
#### **Return Analysis**

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

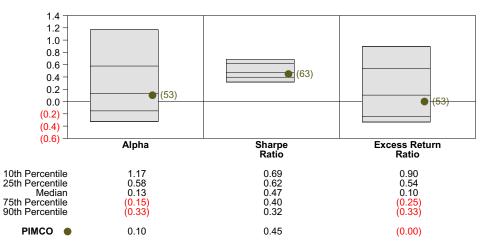
#### Performance vs Callan Core Plus Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Callan Core Plus Mutual Funds (Net) Five Years Ended March 31, 2018



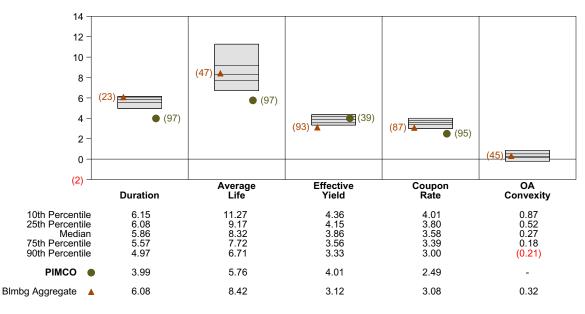


#### PIMCO Bond Characteristics Analysis Summary

#### **Portfolio Characteristics**

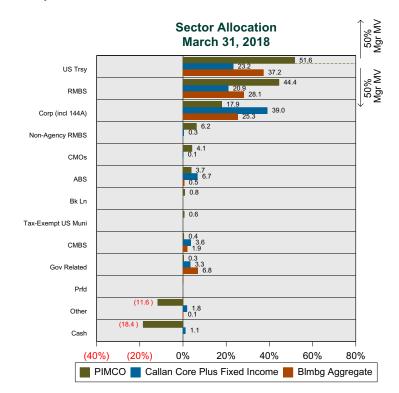
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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

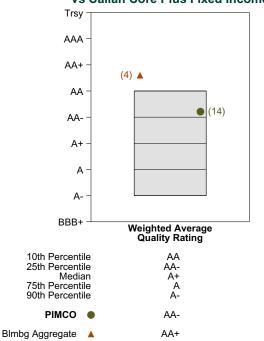


#### Sector Allocation and Quality Ratings

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.



#### Quality Ratings vs Callan Core Plus Fixed Income





Real Estate

#### RREEF Private Period Ended March 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.

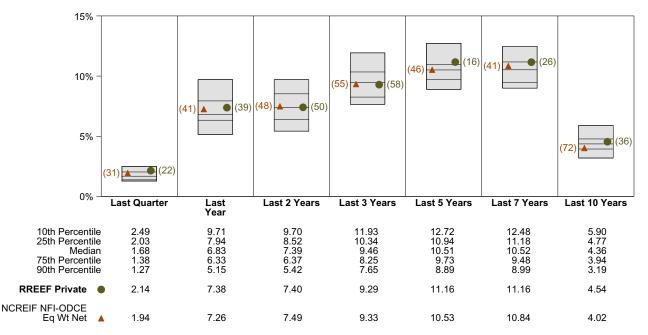
#### **Quarterly Summary and Highlights**

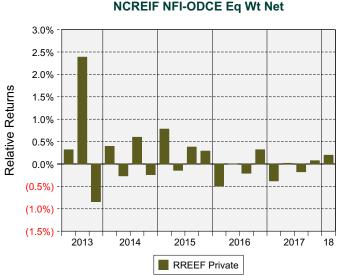
- RREEF Private's portfolio posted a 2.14% return for the quarter placing it in the 22 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 39 percentile for the last year.
- RREEF Private's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 0.20% for the quarter and outperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.12%.

#### Quarterly Asset Growth Beginning Market Value \$23,908,782

Net New Investment	\$2,400,000
Investment Gains/(Losses)	\$562,436
Ending Market Value	\$26,871,218

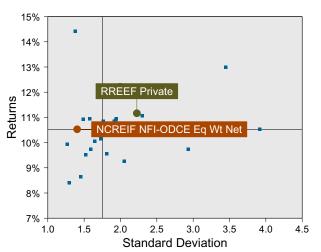






Relative Returns vs NCREIF NFI-ODCE Eq Wt Net

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



#### Barings Core Property Fund Period Ended March 31, 2018

#### **Investment Philosophy**

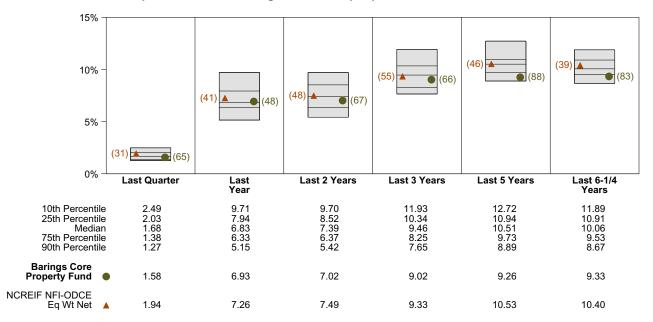
Barings believes that the investment strategy for the Core Property Fund is unique with the goal of achieving returns in excess of the benchmark index, the NFI-ODCE Index, with a level of risk associated with a core fund. The construct of the Fund relies heavily on input from Barings Research, which 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.

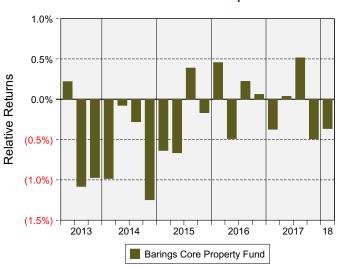
#### **Quarterly Summary and Highlights**

- Barings Core Property Fund's portfolio posted a 1.58% return for the quarter placing it in the 65 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 48 percentile for the last year.
- Barings Core Property Fund's portfolio underperformed the NCREIF NFI-ODCE Eq Wt Net by 0.36% for the quarter and underperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.32%.

Quarterly Asset Growth					
Beginning Market Value	\$25,509,274				
Net New Investment	\$0				
Investment Gains/(Losses)	\$402,222				
Ending Market Value	\$25,911,497				

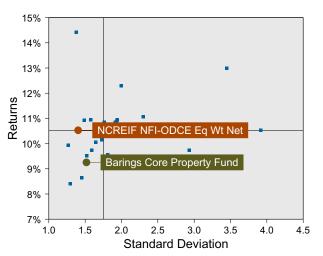
#### Performance vs Callan Open End Core Cmmingled Real Est (Net)





Relative Returns vs NCREIF NFI-ODCE Eq Wt Net

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



Capital Markets Review

# Callan



CALLAN INSTITUTE

#### First Quarter 2018

## The Slow Burn of the Current Expansion

#### ECONOMY

**2 PAGE** GDP rose 2.3% in the first quarter, lower than in much of 2017 but higher than estimates, and in spite of the market volatility that started the year. The unemployment rate remains at historically low levels, and there are early signs this is leading to wage pressure.

## NPI Chugs Along; REITs Take a Big Hit

REAL ESTATE

The NCREIF Property Index (NPI) posted positive results, while the NCREIF Open End Diversified Core Equity Index continued to see increased returns. Non-U.S. REITs outperformed U.S. REITs, but still posted negative returns.

# Diversification Appears to Pay Off

#### FUND SPONSOR

A G E P A G E The median fund sponsor in Callan's database fell 0.5% but did better than a 60% equity/40% fixed income portfolio, which dropped 1.0%. Taft-Hartley plans were the best performers by type, while large plans were best by size.

# Choppy Conditions Hit Private Markets

#### PRIVATE EQUITY

**13** PAGE With volatility returning to the public markets, private equity activity slowed somewhat, but remained brisk in absolute terms. Fundraising was down moderately. Company investments and exits trended slightly down, although venture capital funding rose.

# Volatility Returns and Markets Sag

#### EQUITY

**6 B** U.S. equities fell in the quarter amid a resurgence of volatility. Mega-Tech firms were especially hard hit amid a data scandal. Non-U.S. developed markets fell more, while emerging markets rose, helped by oil's rebound and strong economic conditions.

## Boy, That Escalated Quickly!

#### HEDGE FUNDS/MACs

**14** Despite the quarter's rocky ride for stocks and bonds, hedge fund strategies were mostly positive. The Credit Suisse Hedge Fund Index grew 0.5%, while the median manager in the Callan Hedge Fund-of-Funds Database gained 1.2%, net of all fees and expenses.

## Mixed Results for Bonds Globally

Capital

Market Review

#### FIXED INCOME

P A G E dropping by quarter's end. The Aggregate Index fell, as did investment grade and high yield bonds. Currency movements drove fixed income returns globally. Local currency emerging market debt was a top performer.

# DC Plans Post Best Returns in Four Years

#### DEFINED CONTRIBUTION

**15** PAGE The Callan DC Index<sup>™</sup> gained 16.5% in 2017, its best year since 2013. But the Index trailed the Age 45 Target Date Fund, which gained 19.3%. DC plan balances rose 16.5% over the year, driven primarily by market returns. Non-U.S. equities saw notable inflows.

#### **Broad Market Quarterly Returns**



Sources: Bloomberg Barclays, MSCI, FTSE Russell

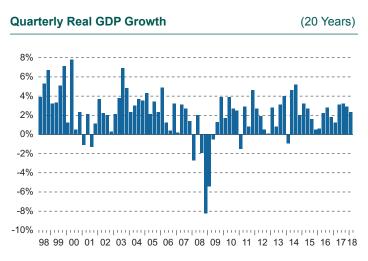
# **Slow Burn**

#### ECONOMY | Jay Kloepfer

After a weak first quarter, the U.S. economy closed out 2017 with decent momentum, as GDP grew at a robust 3% annualized rate for the remaining three quarters. The first quarter of 2018 will likely be remembered for its sudden, brief correction and the return of volatility. True to form, however, the U.S. economy continued to post solid growth, ignoring the uncertainty introduced by the stock market gyrations, just as it ignored the geopolitical uncertainty humming in the background over the last 18 months. The 2.3% gain was a step down from the string of 3% increases but actually higher than most estimates. The unexpected strength in first-quarter GDP growth came from net exports (imports were less than expected, exports were greater), from fixed investment in buildings and capital, and from government expenditures.

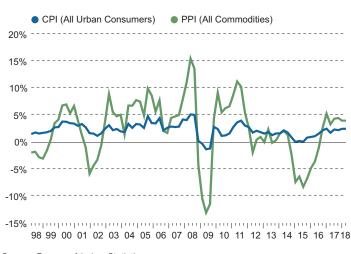
Growth expectations had been tempered by the depletion of inventories and signs of slowing consumer spending at the end of 2017. However, consumers remained optimistic during the first quarter, even after the market turmoil in February, with the University of Michigan's Index of Consumer Confidence hitting a 14-year high in March. Strong labor markets are a clear contributor to confidence. In the U.S., the unemployment rate fell to 4.1% in the fourth quarter of 2017, a generational low, and remained at that rate through the first quarter of 2018. Initial claims for unemployment insurance have fallen to the lowest level since 1969.

The slow burn in the current expansion may enable it to continue for some time. This recovery is one of the longest on record at 105 months, but also one of the slowest, with average GDP growth in the U.S. of just 2.2%. Expansions do not die of old age; rather they collapse under the weight of imbalances that become untenable. Thus far into this slow burn, signs of severe imbalances are few, although several potential ones come to mind: tight labor markets, inflation, housing shortages in select urban areas, and rich asset prices kept aloft by the continued growth in the economy.



Source: Bureau of Economic Analysis

#### Inflation Year-Over-Year



Source: Bureau of Labor Statistics

Inflation may finally be poised to become the problem we all expected to arise after years of sustained monetary and fiscal stimulus. The CPI-U notched a year-over-year gain of 2.4% in the first quarter, with core inflation reporting a 2.1% increase. While this sounds very modest, the CPI-U has been inching steadily upward since bottoming out in 2015, when oil prices collapsed. One of the most profound conundrums has been the

lack of wage pressure while the unemployment rate has steadily fallen to historically low levels. Average hourly earnings were stuck at 2% growth, and only recently has the rate of growth begun to rise. In fact, the report of wage growth coming in close to 3% in January was one of the catalysts cited for the spike in market volatility in early February, spurring fears of inflation among investors. Wage growth did not jump higher than 3% in February and March, but stronger wage growth will feed into core inflation. The Employment Cost Index, which includes benefit costs along with wages and salaries, rose 2.7% year-overyear in the first quarter, the highest rate of growth since 2007. Barring another collapse in energy prices or a sudden downturn in global growth, inflation momentum will keep building.

Continued growth and the potential pickup in inflation give the Fed cover for more interest rate hikes. One development of interest is the potential for an inverted yield curve. The Fed raised interest rates three times in 2017 and again in March 2018, which shifted the short end of the yield curve up, but the long end barely budged. As a result, the curve flattened substantially. The Fed is telegraphing up to three more rate hikes this year, and if the long end of the curve remains anchored, the potential increases for the curve to invert, where yields on longer maturities are lower than those for shorter maturities. An inverted yield curve can suggest the onset of recession: investors bid up the price of longer-dated debt (driving down yields) in anticipation of a slowing economy, leading to an expected cut in interest rates and increased demand for bonds. An inverted yield curve does not cause a recession, but it does reflect the opinions and concerns of market participants. Complicating the story here is that while the Fed has begun to unwind its balance

#### U.S. ECONOMY (Continued)

#### The Long-Term View

Index	2018 1st Qtr	Periods Year		Dec. 3 10 Yrs	·
U.S. Equity	10t dti		••		
Russell 3000	-0.64	21.13	15.58	8.60	9.72
S&P 500	-0.76	21.83	15.79	8.50	9.69
Russell 2000	-0.08	14.65	14.12	8.71	9.54
Non-U.S. Equity					
MSCI ACWI ex USA	-1.18	27.19	6.80	1.84	_
MSCI Emerging Markets	1.42	37.28	4.35	1.68	_
MSCI ACWI ex USA Small Cap	-0.35	31.65	10.03	4.69	_
Fixed Income					
Bloomberg Barclays Agg	-1.46	3.54	2.10	4.01	5.48
90-Day T-Bill	0.35	0.86	0.27	0.39	2.60
Bloomberg Barclays Long G/C	-3.58	10.71	4.43	7.26	7.67
Bloomberg Barclays GI Agg ex US	3.62	10.51	-0.20	2.40	5.02
Real Estate					
NCREIF Property	1.70	6.96	10.19	6.08	9.12
FTSE NAREIT Equity	-8.20	5.23	9.46	7.44	10.76
Alternatives					
CS Hedge Fund	0.47	7.12	4.23	3.24	_
Cambridge PE*	5.11	19.38	13.90	9.10	15.62
Bloomberg Commodity	-0.40	1.70	-8.45	-6.83	2.47
Gold Spot Price	1.37	13.68	-4.82	4.56	5.63
Inflation – CPI-U	1.23	2.11	1.43	1.61	2.23

\*Data for most recent period lags by a quarter

Sources: Bloomberg Barclays, Bloomberg, Credit Suisse, FTSE, MSCI, NCREIF, FTSE Russell, Standard & Poor's, Thomson Reuters/Cambridge, Bureau of Economic Analysis

sheet, which suggests it could be selling bonds and putting upward pressure on rates, demand remains strong on the long end of the yield curve, as yields in the U.S. are substantially above those overseas.

#### **Recent Quarterly Economic Indicators**

	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16
Employment Cost–Total Compensation Growth	2.7%	2.6%	2.5%	2.4%	2.4%	2.2%	2.3%	2.3%
Nonfarm Business–Productivity Growth	-0.4%	0.0%	2.6%	1.7%	0.2%	1.1%	2.4%	0.9%
GDP Growth	2.3%	2.9%	3.2%	3.1%	1.2%	1.8%	2.8%	2.2%
Manufacturing Capacity Utilization	75.6%	75.2%	74.4%	74.9%	74.6%	74.4%	74.3%	74.4%
Consumer Sentiment Index (1966=100)	98.9	98.4	95.1	96.4	97.2	93.2	90.3	92.4

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

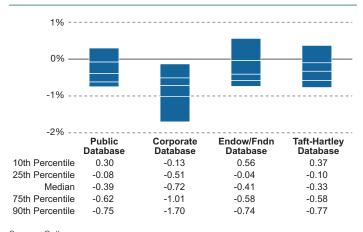
# **Diversification Appears to Pay Off in First Quarter**

#### **FUND SPONSOR**

In the first quarter, the median fund sponsor in Callan's database fell 0.5%, compared to a 1.0% drop for a quarterly rebalanced portfolio made up of 60% S&P 500 Index/40% Bloomberg Barclays US Aggregate Bond Index. Taft-Hartley funds (-0.3%) were the best performers in the quarter, followed by public plans (-0.4%), endowments and foundations (-0.4%), and corporate plans (-0.7%). Large plans with greater than \$1 billion in assets under management did best by plan size, fall-ing by 0.4%, followed by medium (\$100 million–\$1 billion) and small (under \$100 million) plans. Plans in Callan's database invest in a wider array of assets than a 60/40 portfolio, indicating diversification may have been a benefit in the quarter, which saw declines for both bonds and stocks.

Over the last 10 years, corporate plans (+6.5%) did best, followed by Taft-Hartley plans (+6.4%), and public plans and E&Fs (both +6.3%). The median plan sponsor increased 6.4%, while the 60-40 portfolio rose 7.5%.

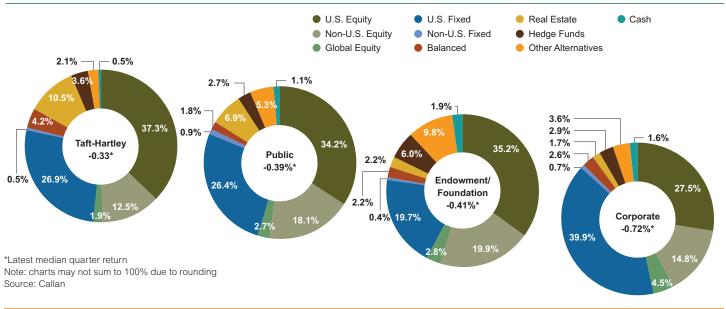
Strategic planning by sponsors has recently touched on a number of common themes:



#### **Callan Fund Sponsor Returns for the Quarter**

Source: Callan

- The impact of tax reform, particularly its effects on pensions and non-profits, and the varied implications for different asset classes.
- Adjusting to lower capital market return expectations. Callan's 2018 10-year projections are unchanged from last year, which means they remain low. Diversification and discipline remain the key points of emphasis, and Callan advises caution when reaching for return/yield.



Callan Fund Sponsor Average Asset Allocation

# 4 | Callan

#### FUND SPONSOR (Continued)

Both stock and bond valuations remain high, and market volatility is back-but is within normal bounds. Many clients are wondering if there is a need for inflation-hedging strategies despite inflation being benign.

Low interest rates and low return expectations continue to drive strategic allocation planning. Many fund sponsors feel compelled to take on substantial market risk to reach their return goals. Sponsors are evaluating whether there is anything more they can do to tamp down the risk within the growth allocation, short of actually reducing the allocation to growth assets. Actuarial assumptions and spending rates are being reduced by some sponsors.

Callan research on trends in the institutional investment marketplace found that several interesting themes have developed over the past three years, many related to capital market expectations and fees:

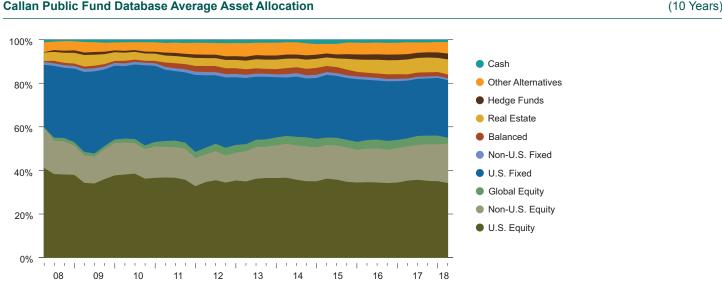
- A continuing interest in passive investing, although the level of interest has decreased slightly
- A meaningful percentage of fund sponsors are considering new or additional investments in private assets

Specific areas of focus by plan types include:

Corporate Funds: Most corporate defined benefit (DB) clients have embraced de-risking (increasing fixed income and extending duration) and are at different stages of this process. The extent to which corporate plan sponsors implement de-risking in the coming year depends largely on the movement of interest rates. As rates rise and DB plans move forward with de-risking plans, allocations to equity and alternative investments are likely to decrease.

Public and E&F Funds: Public plans and endowments and foundations are focused on return enhancement. However, risk-as well as funded status for public plans-were sources of ongoing concerns in the more volatile markets of the first quarter.

Defined Contribution: Driven by regulatory and legislative requirements, DC plans continue to review fees and recordkeepers. Recently, activity has been focused on investment structures that reduce the number of options in a plan.



#### **Callan Public Fund Database Average Asset Allocation**

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. Stocks: Dow, S&P 500 Fall, First Time Since '15



Volatility returned in the first quarter, with the **Dow Jones Industrial Average** and **S&P 500 Index** both finishing lower—a first since the third

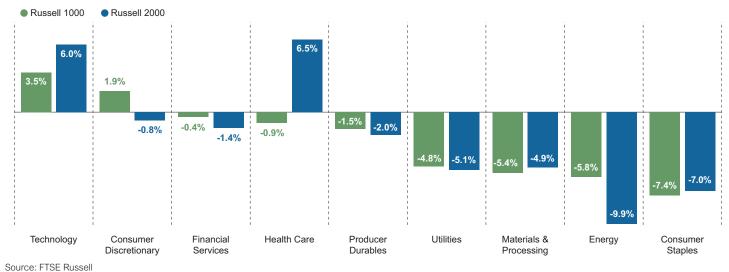
quarter of 2015. After starting strong on the back of solid earnings and tax law changes, U.S. equities faltered in the second part of the quarter over concerns about a more aggressive global trade policy and uncertainty over the pace of interest rate hikes. The S&P 500's modest quarterly loss (-0.8%) belied volatile intra-quarter results. The Index experienced six days of movements greater than 2% during the quarter (versus none in 2017). And the Index reached a record high on Jan. 26, then fell about 8% to close the quarter. Volatility as measured by the VIX Index skyrocketed by 116% on Feb. 5 when the market sank 4%.

Small capitalization stocks outperformed large caps (**Russell 1000:** -0.7%; **Russell 2000:** -0.1%), though sector performance was mixed. The prospect of a trade war with China weighed on large caps since many of these companies are exposed to international markets (S&P 500 aggregate exposure

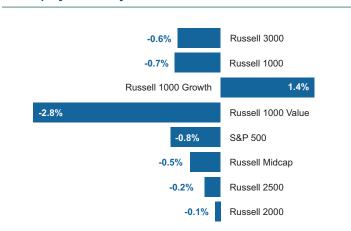
is approximately 40%) while small caps were less affected as they tend to derive a higher proportion of their revenue from domestic markets (approximately 80-90%) and benefit from a more protectionist policy.

In mid-March, some mega-cap Tech firms saw their stock prices drop in the wake of Facebook's Cambridge Analytica scandal, leading to declining trust for the industry and negative investor sentiment. The market began pricing in the potential for more regulatory oversight for these internet companies. Performance for the "FANGs" split during the quarter, with Facebook and Google down while Netflix and Amazon advanced.

Growth continued to top value (**Russell 1000 Growth:** +1.4%; **Russell 1000 Value:** -2.8%). Value trailed as the prospect of increased inflation and accelerating interest rates weighed on interest rate-sensitive sectors (Financials: -1.0%; Real Estate: -5.0%; Utilities: -3.3%). Energy (-5.9%) also took a hit despite a more promising outlook for the sector as the Saudis agreed to continued oil production cuts into 2019; performance for the first quarter was impacted by Exxon Mobil and Chevron missing fourth quarter earnings expectations.



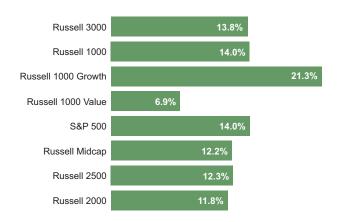
#### **Quarterly Performance of Select Sectors**



Sources: FTSE Russell and Standard & Poor's

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

**U.S. Equity: Quarterly Returns** 



Sources: FTSE Russell and Standard & Poor's

Despite the increased volatility and price drop in the broader index, defensive sectors underperformed cyclicals due in large part to the rising interest rate environment. Technology (+3.5%) and Consumer Discretionary (+3.1%) were the only two sectors that posted positive returns. Telecommunications (-7.5%) and Staples (-7.1%) were the two worst-performing sectors.

#### Global Stocks: Spooked Markets Lag



Despite positive economic data, non-U.S. developed equity underperformed U.S. as non-U.S. equity markets were spooked by

#### **GLOBAL EQUITY** (Continued)

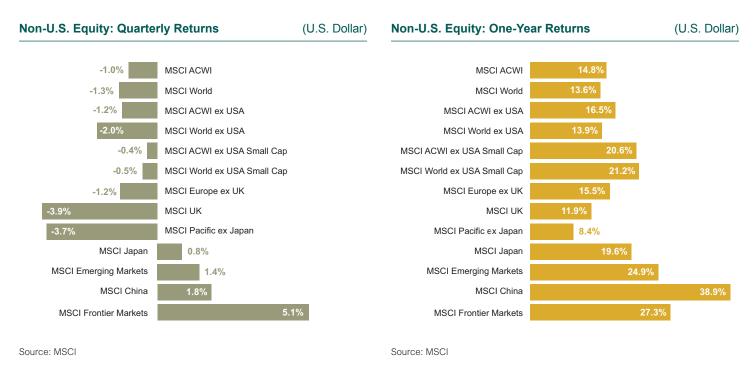
geopolitical tension and market volatility along with fears of rising U.S. interest rates and inflation (**MSCI World ex USA:** -2.0%; **MSCI Europe:** -2.0%). Emerging markets continued to outpace developed, fueled by a soft dollar and synchronized global growth; however, fears of inflation and its implication on the trajectory of U.S. monetary policy—as well as a potential trade war between the U.S. and China—weighed on the market. Developed non-U.S. small cap outperformed large cap given the risk-on market environment spurred by synchronized global growth.

While developed non-U.S. equity market returns were negative, results were helped by U.S. dollar weakness. Overall, the **MSCI EAFE** fell 4.3% in local terms but only 1.5% in U.S. dollar terms. The U.S. dollar has been hurt by growing worries over a trade war with China as well as signs that rates may be poised to rise in other countries as global economies improve. Likewise, Brexit woes sank the U.K. market (-8%) but the pound's appreciation versus the dollar offset a good portion of the loss for U.S. investors; on that basis the country fell 4%. The euro-zone recovery continued, with GDP growth of 2.7% in the quarter year-over-year driving the euro up 2%—and the pound by nearly 4%—relative to the dollar.

Japan's economy grew by 1.6% fueled by infrastructure development ahead of the 2020 Olympics, enabling the yen to surge by 6% relative to the dollar. It hit a 17-month high as worries over trade policy spurred demand for the safe-haven currency and was the best-performing currency among developed markets. In local terms, Japan equities fell nearly 6%, but the strength of the yen brought returns in U.S. dollar terms to +0.8%.

The only sectors that posted positive returns were Consumer Discretionary, Tech, and Utilities. Positive earnings supported the Tech sector (top performer), and Utilities benefited as investors fled to safety amid market volatility and yield curve flattening in March. Telecom struggled as competition for wireless services within the euro-zone eroded profitability, and Staples was notably challenged due to fears of interest rates returning to normal levels and the prospect of beleaguered growth.

#### **GLOBAL EQUITY** (Continued)



Growth outpaced value, and earnings growth and quality factors were in favor as markets were jittery in light of the global economy's looming risks. As such, high-beta, cyclical sectors and factors struggled.

#### **Emerging Markets: Oil Propels Shares Higher**

+1.4%

The **MSCI Emerging Markets Index** rose 1.4%. Brazil (+12%) and Russia (+9%) were among the best performers due to climbing oil prices and

improving economic conditions. China (+2%) continued to thrive despite trade tension with the United States and a slowdown for Chinese tech companies; China's supply-side reforms are kicking in and economic growth in retail and home sales exceeded expectations, driving up returns for the Financials and Real Estate sectors.

Although India announced better-than-expected GDP growth of 7.2%, the country notably lagged (-7%) due to poor market sentiment surrounding asset-quality issues at large state-owned banks and relative valuations of Indian equities. Supported by rising oil prices, Energy was the best performing sector; conversely, Consumer Discretionary fared worst, weighed down by India. Value and sentiment factors were in favor as the economic recovery story gained traction and momentum; however, quality factors also added value given that this is the mid-cycle of the recovery.

#### Non-U.S. Small Cap: Growth in Favor This Quarter

# -0.4%

Developed non-U.S. small cap outperformed large cap (**MSCI World ex USA Small Cap:** -0.5%) given the risk-on market environment spurred

by synchronized global growth, although within emerging markets, small cap lagged large cap (**MSCI Emerging Markets Small Cap:** +0.2%).

Growth was favored in both developed and emerging market small cap, as growth-oriented sectors such as Health Care and Consumer Staples outperformed cyclical sectors.

# **Global Fixed Income**

#### U.S. Bonds: Fear, Uncertainty Roil Markets

# -1.5% BB AGGREGATE

The 10-year U.S. Treasury yield marched steadily higher through most of January and February in response to positive economic data, then equity

market weakness and concerns over a looming trade war led to falling yields in March. New Fed Chair Jerome Powell announced his first rate hike (as widely expected) in March, raising the Fed Funds target rate to 1.50%–1.75%. The 10-year U.S. Treasury yield climbed to a peak of nearly 3% during the quarter before closing at 2.74%, 34 basis points higher than at year-end. Two-year U.S. Treasury note yields rose nearly 40 bps to 2.27%, the highest since 2008, and the note fell 0.1% for the quarter, while the 10-year Treasury dropped 2.4% and the 30-year Treasury plunged almost 4%. Interest rates rose approximately 30 bps across the U.S. Treasury yield curve. TIPS outperformed nominal Treasuries, and the 10-year breakeven inflation rate rose to 2.05% from 1.96% at year-end.

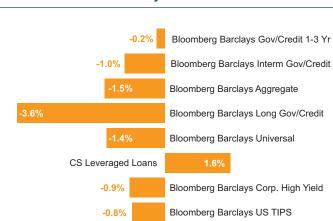
The **Bloomberg Barclays US Aggregate Bond Index** fell 1.5%, with corporate and securitized sectors underperforming Treasuries. Volatility picked up across risk assets as geopolitical uncertainties took center stage; market expectations reflect the possibility of four rate hikes in 2018, up from a projected three



#### **U.S. Treasury Yield Curves**



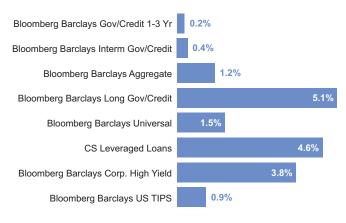
at the end of 2017. In a sharp reversal from 2017's relative performance, investment grade corporates underperformed likeduration Treasuries by 80 bps during the quarter and dropped 2.3%. Investors were fairly sanguine as they reassessed fairly healthy balance sheets juxtaposed with fair-to-rich valuations. New issuance was down 13% when compared to a similar time period a year ago, yet demand remained strong with oversubscriptions by two to three times. Outside of investment grade, the **Bloomberg Barclays High Yield Index** fell 0.9% while the



#### **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)

**S&P/LSTA Leveraged Loan Index**, which includes floating rate loans and thus benefited from rising rates, rose 1.4%.

High yield corporates dropped 0.9% and outperformed the Aggregate. Corporate fundamentals remained healthy as earnings growth supported debt coverage. Default rates remained benign because many companies had already reorganized debt in 2016. About 75% of new issuance proceeds were used for refinancing. Valuations remained near historical highs.

Bank loans rose 1.4% and outperformed the Aggregate. Healthy balance sheets, strong demand for collateralized loan obligation (CLO) formation, and higher short-term interest rates bode well for the sector this guarter.

#### **Global Bonds: Currency Changes Drive Returns**

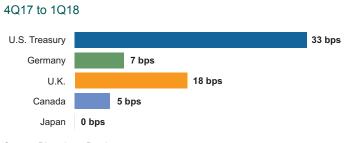
+3.4% BB GBL AGG EX US The **Bloomberg Barclays Global Aggregate Index** (hedged) fell 0.1% (versus a gain of 1.4% for the unhedged version) as developed non-

U.S. fixed income market returns were helped by U.S. dollar weakness. Generally, currency movements drove fixed income returns across countries more than interest rate changes in the first quarter. The U.S. dollar has been hurt by growing worries over a trade war with China as well as signs that rates may be poised to rise in other countries as global economies improve. As in the U.S., global credit underperformed government bonds.

Local currency emerging market debt was a top-performing asset class in the first quarter; the **JPM GBI-EM Global Diversified** gained 4.4%. Returns were positive for most countries in local terms and further boosted by U.S. dollar weakness. U.S. dollar-denominated emerging market debt did not perform as well, dropping 1.7% as measured by **JPM's EMBI Global Diversified Index**.

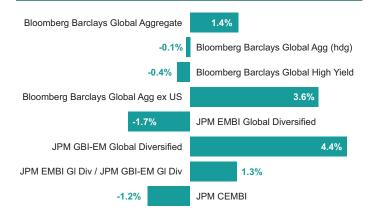
Municipal bonds underperformed Treasuries in the first quarter in spite of shrinking supply and continued inflows to the sector. As a result, the ratio of the yield of AAA-rated 10-year municipals relative to the 10-year U.S. Treasury climbed to 89% as of quarter-end, up from 81% at the end of the year. Further, the municipal curve steepened as longer maturities underperformed. Municipal bond fundamentals broadly remained strong, and Moody's reported that ratings upgrades outpaced downgrades for the third consecutive year in 2017. The **Bloomberg Barclays Municipal Bond Index** dropped 1.1% and the shorter duration **1-10 Year Blend Index** fell 0.7%.

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



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

# NPI Chugs Along; REITs Take a Big Hit

#### **REAL ESTATE** | Kevin Nagy

The **NCREIF Property Index (NPI)** gained 1.7% during the first quarter (1.1% from income and 0.6% from appreciation). This marked the 38th consecutive quarter of positive returns for the Index.

Industrial (+3.3%) was the best-performing sector for the eighth consecutive quarter with Office (+1.8%) and Apartments (+1.5%) also posting strong returns; Retail (+0.7%) was the worst performer. Retail and Hotels (+1.0%) were the only property types to experience negative appreciation returns, gaining only because of income returns. The West (+2.2%) region was the strongest performer for the seventh quarter in a row, and the East trailed (+1.2%). The West also was the only region with an appreciation return above 1%. Transaction volume decreased more than 22% to \$8.95 billion, down from \$11.50 billion in the fourth quarter, but up 28% from the first quarter of 2017. Appraisal capitalization rates fell 20 basis points to 4.35%. Transaction capitalization fell further, dropping 44 bps to 5.41%. The spread between appraisal and transactional rates decreased to 106 bps.

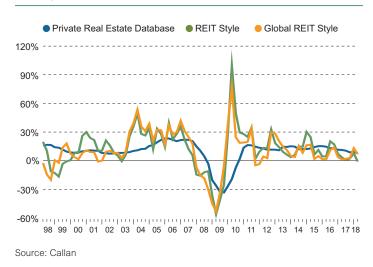
Occupancy rates dropped slightly to 93.5%, down 5 bps from the fourth quarter but up 57 bps from the first quarter of 2017. Apartment, Retail, and Office occupancy rates increased slightly while Industrial ticked down marginally.

The **NCREIF Open End Diversified Core Equity Index** rose 2.2% (1.0% from income and 1.2% from appreciation), a 13 bps increase from the fourth quarter of 2017. The appreciation return increased for the fourth quarter in a row and overtook income for the first time since the fourth quarter of 2015. Leverage dropped 3 bps to 21.1%.

Global Real Estate Investment Trusts (REITs), tracked by the **FTSE EPRA/NAREIT Developed REIT Index** (USD), outperformed U.S. REITs but still lost 4.3% during the first quarter. The median active global REIT manager, as measured by **Callan's Global REIT Peer Group**, fell 3.5%, beating the Index. U.S. REITs, as measured by the **FTSE NAREIT Equity REITs Index**, lost 8.2% for the quarter. The median active U.S. REIT manager, as measured by **Callan's REIT Peer Group**, lost merely 6.6%, also beating the Index.

U.S. REITs had a terrible start to 2018, down 11.6% through the end of February primarily due to an increase in interest rates and concerns over a trade war between the U.S. and China. A stronger March offset some of the damage but was not enough to push performance into positive territory. Timber (+1.8%) and Infrastructure (+1.4%) were the only sectors to experience positive returns. Diversified (-15.8%), Specialty (-11.7%), and Retail (-11.2%) were hit the hardest. Strong earnings and a positive growth outlook for the broader economy helped buoy REITs toward the end of the quarter.

#### **Rolling One-Year Returns**



# REAL ESTATE (Continued)

Europe, as represented by the **FTSE EPRA/NAREIT Europe Index**, outperformed the United States, only losing 0.9% in U.S. dollar terms. U.K. REITs outperformed their continental counterparts in dollar terms but fared worse in local currency terms. The region was held back by geopolitical concerns, and economic growth, while still positive, fell from the frantic pace of late 2017 to more normal levels.

The Asia-Pacific region, represented by the **FTSE EPRA/ NAREIT Asia Index,** declined 0.3%, outperforming all other regions. Japan jumped 7.3% in U.S. dollar terms, due mostly to weakness in the American currency, easily outpacing its neighbors to be the best-performing country in the region. Foreign capital flowed into Japanese REITs (J-REITs) and helped boost prices, even as they experienced continued net outflows. Low vacancy and increasing rents also contributed to the large gains.

# Private Real Estate Database REIT Style Global R

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

#### NCREIF Capitalization Rates by Property Type



#### **NCREIF Transaction and Appraisal Capitalization Rates**

# **Choppy Conditions Hit Private Markets**

# PRIVATE EQUITY | Gary Robertson

Based on preliminary data, first quarter private equity partnership commitments totaled \$66.5 billion, with 242 new partnerships formed, according to *Private Equity Analyst*. The number of funds fell 22% from 310 in the first quarter of 2017, and the dollar volume declined 17% from \$80.0 billion. The absolute pace of fundraising remains heated, and Callan recommends vigilance in commitment pacing during this frothy market.

According to *Buyouts* newsletter, activity remained brisk as buyout funds closed 587 investments with \$29.8 billion in disclosed deal value. The number of investments is larger than in any quarter in 2017, yet the announced dollar volume is lower than in any of last year's quarters. The \$5.6 billion purchase of power company Calpine by Energy Capital Partners and others was the quarter's largest buyout. Nine acquisitions with announced values of \$1 billion or more closed in the quarter.

According to the National Venture Capital Association, new investments in venture capital companies totaled 1,693 rounds of financing with \$28.2 billion of announced value. The number of investments was down 18% from the prior quarter, but the announced value was up 33%. The median pre-money valuation continues to increase; only Series D+ fell, down 20%.

#### Funds Closed January 1 to March 31, 2018

Strategy	No. of Funds	Amt (\$mm)	Percent
Venture Capital	111	6,034	9%
Buyouts	91	52,481	79%
Private Debt	18	4,133	6%
Secondary and Other	10	2,231	3%
Fund-of-funds	12	1,593	2%
Totals	242	66,472	100%

Source: Private Equity Analyst

Figures may not total due to rounding.

There were 164 private M&A exits of buyout-backed companies, *Buyouts* reports, with disclosed values totaling \$28.3 billion. The exits count was up from the prior quarter's 159, and the announced value declined from \$55.3 billion. There were 11 buyout-backed IPOs in the first quarter raising an aggregate \$3.9 billion, up from only four totaling \$860 million previously.

Venture-backed M&A exits totaled 188 transactions and disclosed value hit \$8.1 billion. Both figures declined from the fourth quarter, which had 200 sales with announced values totaling \$12.6 billion. There were 15 VC-backed IPOs in the first quarter with a combined float of \$2.1 billion. For comparison, the fourth quarter of 2017 had 22 IPOs and total issuance of \$3.1 billion.

Please see our upcoming issue of *Private Markets Trends* for more in-depth coverage.

# Private Equity Performance Database (%) (Pooled Horizon IRRs through September 30, 2017\*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	3.52	8.82	12.30	15.51	9.47	9.00	17.94
Growth Equity	4.90	15.83	10.68	13.21	10.06	12.60	13.13
All Buyouts	4.63	19.33	12.61	14.35	8.78	14.39	12.53
Mezzanine	4.16	13.07	9.43	10.15	9.02	9.47	8.64
Distressed	2.34	12.85	5.72	9.73	9.35	10.98	10.34
All Private Equity	2.39	14.92	9.03	11.35	9.13	11.33	11.34
S&P 500	4.21	16.02	11.57	13.84	9.08	12.65	12.86

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.

# **Boy, That Escalated Quickly!**

# HEDGE FUNDS/MACs | Jim McKee

Hints that an overheated U.S. economy may be unable to absorb significant fiscal stimulus ahead spooked markets in the first quarter. The resulting spasm of risk-off behavior caused the VIX, a measure of equity volatility, to more than double on one day, Feb. 5, leading to significant losses among volatility sellers. Despite the quarter's rocky ride for stocks and bonds, with major indices down for the quarter, hedge fund strategies were mostly positive.

As a proxy of unmanaged hedge fund interests without implementation costs, the **Credit Suisse Hedge Fund Index (CS HFI)** grew 0.5%. Despite the quarter's negative market beta, *Long/Short Equity* (+1.0%) provided investors with some positive alpha. Representing actual hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Database** gained 1.2%, net of all fees and expenses. Within that database, the median *Callan Long/Short Equity FOF* matched the *Callan Absolute Return FOF* with 1.2% gains, while the *Core Diversified FOF* returned 0.9%.

As a benchmark for alternative beta, the **Credit Suisse Neuberger Multi-Asset Risk Premia Index** lost 0.7% in the first quarter based upon a 5% volatility target. Within this Index, *Equity Momentum* and *Equity Value* both lost 4.4%. Most of the **Callan Multi-Asset Class (MAC)** style groups experienced weakness in the quarter, which was consistent with the market index and alternative beta returns cited above. Only *Absolute Return* (+0.2%) eked out a gain. *Risk Parity* (-1.3%) fell the most. Though normally less correlated with markets, *Risk Premia* (-0.7%) exhibited higher-thanexpected losses during February's sell-off.

#### Callan Database Median and Index Returns\* for Periods ended March 31, 2018

Hedge Fund Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Fund-of-Funds Database	1.16	5.34	2.51	4.28	3.51	5.04
Callan Absolute Return FOF Style	1.23	4.82	2.67	4.18	3.25	4.76
Callan Core Diversified FOF Style	0.87	5.12	1.77	3.94	3.25	5.09
Callan Long/Short Equity FOF Style	1.16	7.76	3.54	5.54	3.78	6.03
Credit Suisse Hedge Fund Index	0.47	5.43	1.82	3.61	3.49	5.89
HFRI Asset Wtd Composite	0.57	5.17	2.21	4.02	3.66	_
HFRI Fund Wtd Comp	-0.16	5.55	3.51	4.65	4.25	6.44
HFRI Equity Hedge (Total)	0.59	9.70	5.29	5.70	3.87	6.18
HFRI Event-Driven (Total)	0.15	5.18	4.11	4.73	4.54	7.10
HFRI Macro (Total) Index	-1.25	1.02	-0.85	0.89	1.42	4.42
HFRI Relative Value (Total)	0.92	4.51	4.06	4.16	5.84	6.61
90-Day T-Bill + 5%	1.57	6.11	5.53	5.34	5.34	6.28
Liquid Alternative Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Absolute Return MAC	0.21	2.65	1.92	3.12	-	_
Callan Risk Premia MAC	-0.74	3.08	1.42	3.02	6.85	-
Callan Long-Biased MAC	-0.50	9.32	3.84	5.37	5.98	8.87
Callan Risk Parity MAC	-1.33	7.81	4.27	4.61	6.93	-
60% S&P 500/40% BB Agg	-0.97	8.81	6.99	8.72	7.42	7.85
CS NB MARP Index (5%v)	-0.70	-1.81	1.27	3.10	6.54	_
SG Trend Index	-3.88	-0.91	-5.01	1.80	1.91	3.59

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

# **DC Plans Post Best Returns in Four Years**

# DEFINED CONTRIBUTION | Tom Szkwarla

The Callan DC Index<sup>™</sup> gained 16.5% in 2017, its best year since 2013. Despite this, the Index trailed the Age 45 Target Date Fund—the average of target date funds appropriate for participants aged 45 and retiring at age 65—which gained 19.3%. Since inception, the DC Index's annual return of 6.3% has trailed the Age 45 Target Date Fund by 79 basis points.

A new feature of the Index, the DC Fee Analysis chart, measures the average total investment management fee by plan size. Mega plans have driven down their fees to an average of 33 basis points, while smaller plans pay progressively more.

The average DC plan balance grew 16.5% for the year ended Dec. 31, 2017, with market returns accounting for nearly all that.

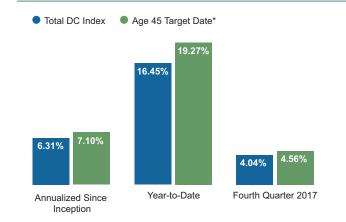
For the third consecutive quarter, non-U.S. equities have experienced notable inflows. Outflows came primarily from stable value (more than a third of the total) and company stock. As usual, target date funds (TDFs) attracted the majority of assets during the quarter, absorbing approximately 62 cents of every dollar that flowed into DC funds. Turnover (i.e., net transfer activity levels within DC plans) for the quarter, at 0.53%, fell below the since-inception average (0.63%).

The Callan DC Index's overall equity allocation ended at 71%, only slightly below its 2007 peak of 73%. TDFs accounted for 30.8% of total assets, an all-time high. U.S. large cap equity continued to hold the second-largest allocation, at 23.6%.

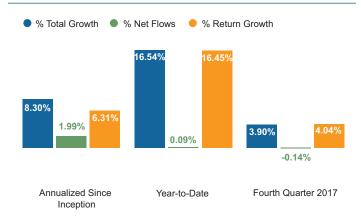
When TDFs are held within a DC plan (92% of the total), they hold 33.6% of assets, more than any other option. U.S. large cap equity funds, offered in all plans, are the second most utilized option (23.6%).

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 (Fourth Quarter 2017)** (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	61.81%
Non-U.S. Equity	24.86%
Stable Value	-36.21%
Company Stock	-25.94%
Total Turnover**	0.53%

Data provided here is the most recent available at time of publication. Source: Callan DC Index

Note: DC Index inception date is January 2006.

- $^{\ast}$  The Age 45 Fund transitioned from the average 2030 TDF to the 2035 TDF in June 2013.
- \*\* Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

Callan Research/Education

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CALLAN INSTITUTE

1st Quarter 2018

# Education

# **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



The Callan Periodic Table of Investment Returns | We are pleased to offer both our Classic Periodic Table, depicting annual returns for 10 asset classes ranked from best to worst performance for each calendar year,

and our Collection, offering 10 additional versions, including real estate indices, hedge fund strategy indices, and key indices ranked relative to inflation.

**Callan's 2018-2027 Capital Market Projections** | Callan develops long-term capital market projections at the start of each year, detailing our expectations for return, volatility, and correlation for broad asset classes. These projections represent our best thinking regarding a longer-term outlook and are critical for strategic planning as our investor clients set investment expectations over five-year, tenyear, and longer time horizons.



How Callan Categorizes Multi-Asset Class Strategies | In the wake of the Global Financial Crisis, a new generation of multi-asset class (MAC) products emerged that emphasized risk manage-

ment and expanded their toolkits to include shorting and derivatives. Callan groups these "outcome-oriented" MACs into four broad categories: Risk Parity, Risk Premia, Absolute Return, and Long Biased.

**Treasuries for the Long Run |** Callan's James Van Heuit analyzed whether long-term Treasuries can serve as an effective hedge against equity losses. He concluded that long-term Treasuries have a mixed record of offsetting equity risk. The potential protection offered by long-term Treasuries comes with the risk of underperformance over some time periods. Other types of bonds, he found, may offer less protection, but also have less volatility. **2018 DC Trends Survey** | Callan's 11th Annual DC Trends Survey from our Defined Contribution Group highlights plan sponsors' key themes from 2017 and expectations for 2018.

#### Periodicals

**Hedge Fund Monitor, 1st Quarter 2018** | Jim McKee explains Form ADV changes and how to use them to evaluate advisers.

**DC Observer, 1st Quarter 2018** | Non-qualified deferred compensation plans (NQDCs) may look and sound like qualified defined contribution (DC) plans, but the two are actually quite different. This quarter's commentary explores approaches to designing the NQDC plan investment menu as well as some of the considerations around informally funding the liabilities.

Active vs. Passive Report, 4th Quarter 2017 | This series of charts maps active managers alongside relevant benchmarks over the last two decades.

**Market Pulse Flipbook, 4th Quarter 2017** | A quarterly market reference guide covering investment and fund sponsor trends in the U.S. economy, U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution.

**Capital Market Review, 4th Quarter 2017** | This quarterly publication provides analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes.

**Private Markets Trends, Winter 2018 |** This newsletter offers the latest data on activity in private equity fundraising, buyouts, venture capital, and returns for this asset class.

# **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 June **Regional Workshops** will be held on June 12 in San Francisco and June 13 in Denver. Please visit our Event page on our website (https://www.callan.com/events/) for additional information on these workshops.

We've added on-demand webinars to our online research library. Access our library of pre-recorded webinars on specific investment-related topics at www.callan.com/ondemandwebinar/.

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

# The Center for Investment Training Educational Sessions

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

# Introduction to Investments

San Francisco, July 24-25, 2018 Chicago, October 2-3, 2018

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 assetmanagement 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, CEO and CRO

Definitions

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

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# **Fixed Income Market Indicators**

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

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# **International Equity Market Indicators**

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

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

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# **Real Estate Market Indicators**

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

# **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 rations 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	Manager Name
Acadian Asset Management LLC	Chartwell Investment Partners
AEGON USA Investment Management	Citi US Pension Investments
Affiliated Managers Group, Inc.	ClearBridge Investments, LLC
Alcentra	Cohen & Steers Capital Management, Inc.
AllianceBernstein	Columbia Management Investment Advisers, LLC
Allianz Global Investors	Columbus Circle Investors
Allianz Life Insurance Company of North America	Cove Street Capital LLC
American Century Investments	Credit Suisse Asset Management
Apollo Global Management	DePrince, Race & Zollo, Inc.
AQR Capital Management	D.E. Shaw Investment Management, L.L.C.
Ares Management LLC	Deutsche Asset Management
Ariel Investments, LLC	Diamond Hill Capital Management, Inc.
Artisan Holdings	Dimensional Fund Advisors LP
Atlanta Capital Management Co., LLC	Doubleline
Aviva Investors Americas	Duff & Phelps Investment Mgmt. Co.
AXA Investment Managers	EARNEST Partners, LLC
Baillie Gifford Overseas Limited	Eaton Vance Management
Baird Advisors	Epoch Investment Partners, Inc.
Bank of America	Fayez Sarofim & Company
Baron Capital Management, Inc.	Federated Investors
Barrow, Hanley, Mewhinney & Strauss, LLC	Fidelity Institutional Asset Management
BlackRock	Fidelity Management & Research
BMO Global Asset Management	Fiera Capital Corporation
BNP Paribas Asset Management	First Eagle Investment Management, LLC
BNY Mellon Asset Management	First Hawaiian Bank Wealth Management Division
Boston Partners	Fisher Investments
Brandes Investment Partners, L.P.	Franklin Templeton
Brandywine Global Investment Management, LLC	Franklin Templeton Institutional
Brown Brothers Harriman & Company	Fred Alger Management, Inc.
Cambiar Investors, LLC	GAM (USA) Inc.
Capital Group	Geode Capital Management, LLC
Carillon Tower Advisers	GlobeFlex Capital, L.P.
CastleArk Management, LLC	GMO
Causeway Capital Management	Goldman Sachs Asset Management

Callan Knowledge. Experience. Integrity.

# Manager Name

Manager Name
Green Square Capital LLC
Guggenheim Investments
Gurtin Municipal Bond Management
GW&K Investment Management
Harbor Capital Group Trust
Hartford Funds
Hartford Investment Management Co.
Heitman LLC
Henderson Global Investors
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Income Research + Management, Inc.
IndexIQ/Mainstay
Insight Investment Management Limited
Intech Investment Management, LLC
Invesco
Investec Asset Management
lvy Investments
Janus Henderson Investors
Jennison Associates LLC
Jensen Investment Management
Jobs Peak Advisors
J.P. Morgan Asset Management
J.P. Morgan Chase & Company
KeyCorp
· · ·
Lazard Asset Management
Legal & General Investment Management America Lincoln Advisors
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
Manulife Asset Management
Marathon Asset Management
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
OFI Global Asset Management Old Mutual Asset Management O'Shaughnessy Asset Management, LLC

# Manager Name

Pacific Investment Management Company	
Pathway Capital Management	
Peregrine Capital Management, Inc.	
Perkins Investment Management	
PGIM	
PGIM Fixed Income	
Pier Capital, LLC	
PineBridge Investments Pioneer Investments	
PNC Capital Advisors, LLC	
Principal Global Investors	
Private Advisors, LLC	
Putnam Investments, LLC	
QMA	
RBC Global Asset Management	
Regions Financial Corporation	
Robeco Institutional Asset Management, US Inc.	
Rockefeller & Co., Inc.	
Rothschild Asset Management, Inc.	
Russell Investments	
S&P Global, Inc.	
Sands Capital Management	
Santander Global Facilities	
Schroder Investment Management North America Inc.	
Shelton Capital Management	
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 Hartford	
The London Company	
The TCW Group, Inc.	
Thompson, Siegel & Walmsley LLC	
Thornburg Investment Management, Inc.	
Tri-Star Trust Bank	
UBS Asset Management	
Van Eck Global	
Velanne Asset Management Ltd.	
Versus Capital Group	
Victory Capital Management Inc.	
Virtus Investment Partners, Inc.	
Vontobel Asset Management, Inc.	
Voya Financial	
Voya Investment Management	
WCM Investment Management	
WEDGE Capital Management	
Wellington Management Company, LLP	
Wellington Management Company, LLP Wells Capital Management	
Wellington Management Company, LLP	