Callan

December 31, 2019

Mendocino County Employees'
Retirement Association

Investment Measurement Service Quarterly Review

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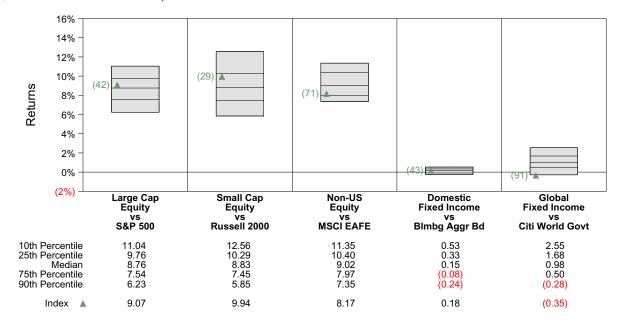
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Market Overview Active Management vs Index Returns

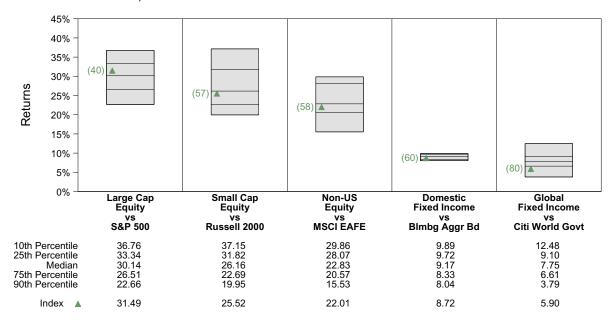
Market Overview

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

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



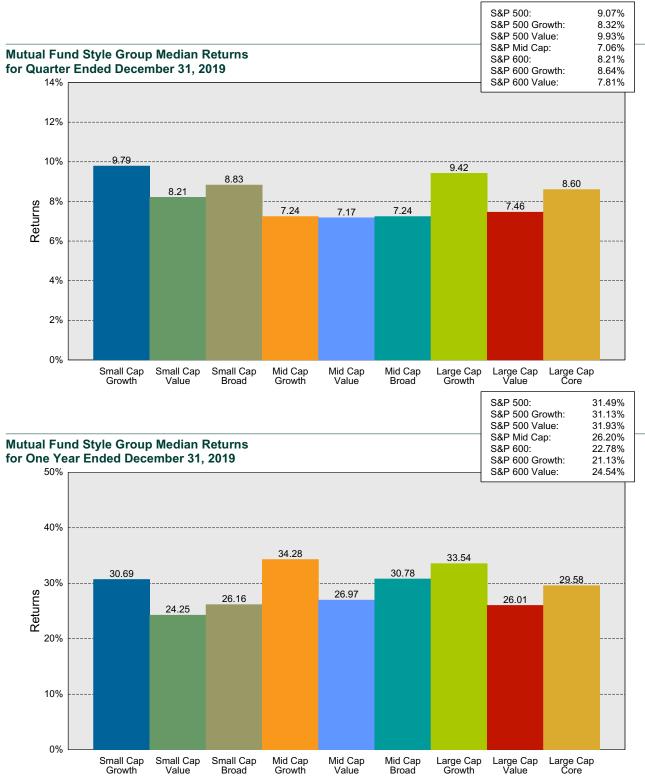
Range of Mutual Fund Returns by Asset Class One Year Ended December 31, 2019





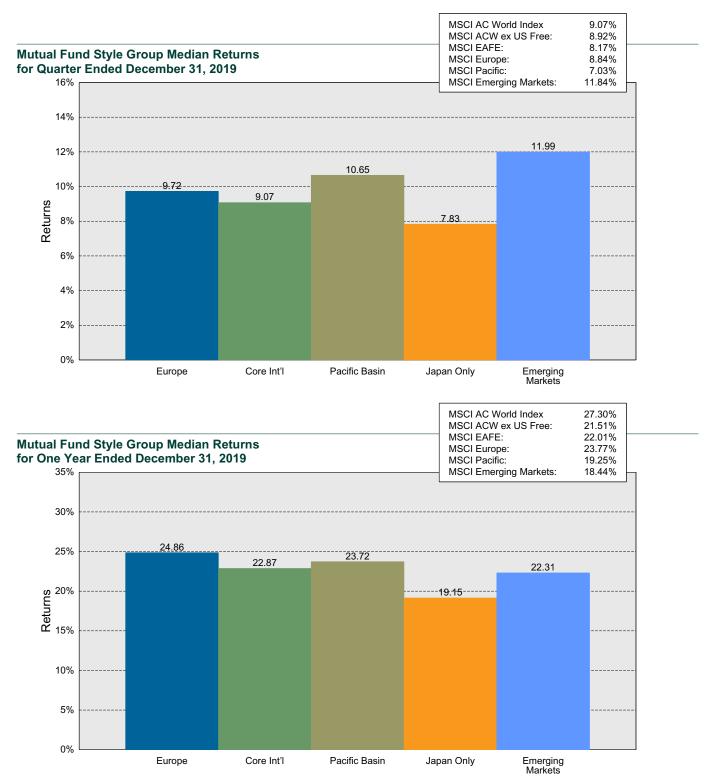
Domestic Equity Active Management Overview

The S&P 500 Index rose 9.1% in the fourth quarter, bringing its year-to-date result to a whopping 31.5%, the best calendar year return since 2013 and capping a decade of strong performance. Small cap stocks outperformed in the fourth quarter, but trailed for the year (Russell 2000: +9.9%; +25.5% vs. Russell 1000: 9.0%; +31.4%). Growth stocks outperformed for both periods (Russell 1000 Growth: +10.6%; +36.3%; Russell 1000 Value: +7.4%; +26.5). From a sector perspective, Real Estate (-0.5%) was the only sector to post a negative return in the fourth quarter, though Utilities (+0.8%) was only modestly positive. Technology and Health Care (both +14.4%) were the twin "winners." For the year, all sectors posted double-digit returns; Energy (+11.8%) and Technology (+50.3%) were the bookends.



International Equity Active Management Overview

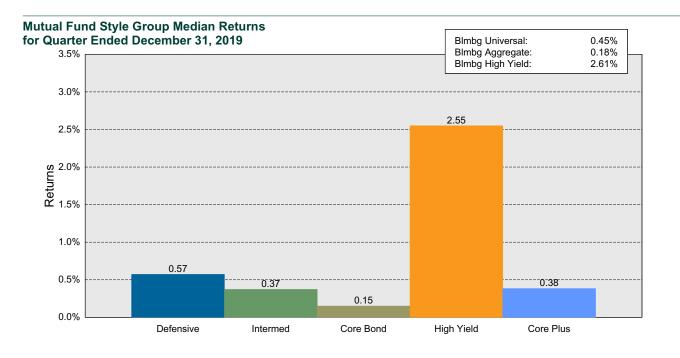
Non-U.S. developed markets trailed the U.S. but were still up sharply in the fourth quarter and 2019 (MSCI ACWI ex-USA: +8.9%; +21.5%). Virtually all countries posted positive returns for both periods, though results were varied. Emerging markets outperformed developed markets in the fourth quarter but trailed for the full year (MSCI EM Index: +11.8% +18.4%). Chile (-8.8%; -16.9%) was the only country to deliver a negative return for both periods due to a sharp decline in the Chilean peso amid civil unrest. Russia (+16.8%; +50.9%) was the top performer for the year as its central bank aggressively cut rates. Returns for the BRIC countries were mixed. Brazil (+14.2%; + 26.3%) and China (+14.7%; +23.5%) also posted strong results while returns from India (+5.3%; +7.6%) were more modest.

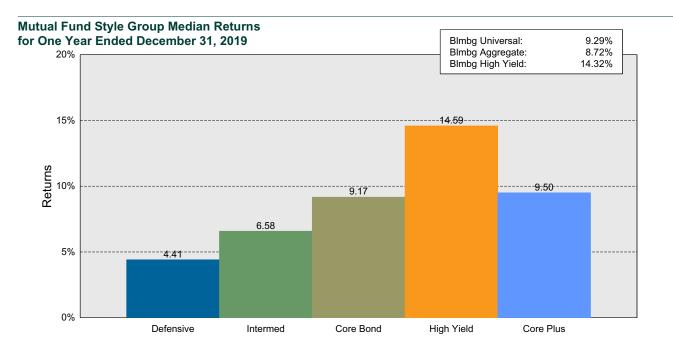




Domestic Fixed Income Active Management Overview

Fixed income markets posted strong returns in 2019 fueled both by falling interest rates and strong investor demand, especially for higher-yielding sectors. The 10-year U.S. Treasury closed the year at 1.92%, up from 1.68% at the end of the third quarter and down sharply from 2.69% at the close of 2018. The Bloomberg Barclays US Aggregate Bond Index rose 8.7%, the best calendar year return since 2002, with the lowest-quality tier of the Index up 16.4%. Fourth quarter gains were more muted at 0.2% as Treasury yields rose modestly. Corporate bonds were the best-performing sector in the fourth quarter and 2019 (Bloomberg Barclays Corporate Index: +1.2%; +14.5%). High yield corporates also posted sharp gains; the Bloomberg Barclays Corporate High Yield Index rose 2.6% in the fourth quarter and 14.3% in 2019. Leveraged loans suffered outflows throughout the year, but still posted a solid return (CS Leveraged Loan: +1.7%; +9.0%). The Bloomberg Barclays US TIPS Index sharply outperformed the Treasury Index in the fourth quarter as inflation expectations rose.







ASSET ALLOCATION AND PERFORMANCE

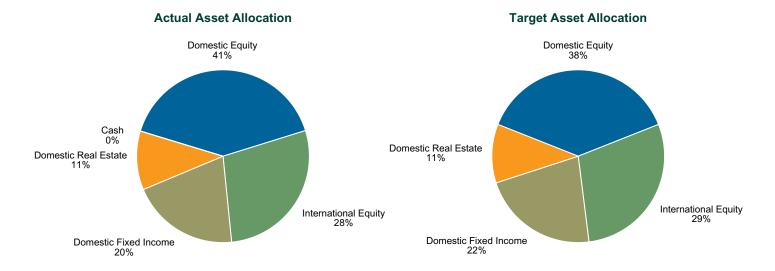
Asset Allocation and Performance

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



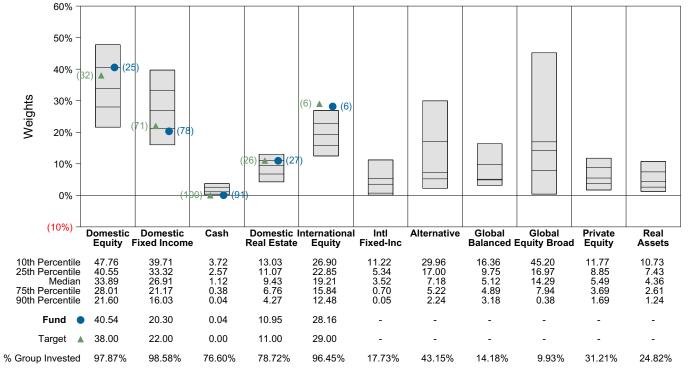
Actual vs Target Asset Allocation As of December 31, 2019

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



	\$000s	Weight		Percent	\$000s
Asset Class	Actual	Actual	Target	Difference	Difference
Domestic Equity	228,606	40.5%	38.0%	2.5%	14,343
International Equity	158,807	28.2%	29.0%	(0.8%)	(4,710)
Domestic Fixed Income	114,466	20.3%	22.0%	(1.7%)	(9,581)
Domestic Real Estate	61,754	11.0%	11.0%	(0.0%)	` (269)
Cash	217	0.0%	0.0%	0.0%	(9,581) (269) 217
Total	563,851	100.0%	100.0%		

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 December 31, 2019, with the distribution as of September 30, 2019. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	December 31, 2019				September 3	0, 2019
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Equities	\$228,606,413	40.54%	\$(2,629,677)	\$19,847,613	\$211,388,477	39.89%
Large Cap Equities	\$160,838,057	28.52%	\$(2,142,177)	\$13,819,430	\$149,160,805	28.15%
Vanguard S&P 500 Index	39,703,537	7.04%	(800,000)	3,343,230	37,160,307	7.01%
SSGA S&P Equal Weighted NL CTF	40,496,331	7.18%	(4,677)	2,903,226	37,597,782	7.10%
Boston Partners	40,233,886	7.14%	0	3,003,211	37,230,675	7.03%
Harbor Cap Appreciation	40,404,303	7.17%	(1,337,500)	4,569,762	37,172,041	7.01%
Mid Cap Equities	\$35,651,133	6.32%	\$(487,500)	\$2,942,516	\$33,196,117	6.26%
Fidelity Low Priced Stock	17,204,140	3.05%	Ó	1,905,825	15,298,315	2.89%
Janus Enterprise	18,446,993	3.27%	(487,500)	1,036,691	17,897,803	3.38%
Small Cap Equities	\$32,117,222	5.70%	\$0	\$3,085,668	\$29,031,554	5.48%
Prudential Small Cap Value	13,485,752	2.39%	0	1,001,605	12,484,146	2.36%
AB US Small Growth	18,631,471	3.30%	0	2,084,062	16,547,408	3.12%
International Equities	\$158,807,109	28.16%	\$0	\$15,502,696	\$143,304,413	27.04%
EuroPacific	29,259,241	5.19%	0	2,682,552	26,576,689	5.02%
Harbor International	31,232,961	5.54%	0	2,738,902	28,494,058	5.38%
Oakmark International	29,779,112	5.28%	0	2,983,919	26,795,192	5.06%
Mondrian International	28,567,910	5.07%	0	2,770,184	25,797,726	4.87%
T. Rowe Price Intl Small Cap	23,723,982	4.21%	0	2,445,023	21,278,959	4.02%
Investec	16,243,904	2.88%	0	1,882,116	14,361,788	2.71%
Domestic Fixed Income	\$114,465,881	20.30%	\$0	\$315,981	\$114,149,899	21.54%
Dodge & Cox Income	57,699,090	10.23%	0	484,257	57,214,834	10.80%
PIMCO	56,766,790	10.07%	0	(168,276)	56,935,066	10.74%
Real Estate	\$61,754,272	10.95%	\$(31,034)	\$856,733	\$60,928,573	11.50%
RREEF Private	31,705,799	5.62%	Ó	441,558	31,264,241	5.90%
Barings Core Property Fund	28,760,473	5.10%	0	384,141	28,376,332	5.35%
625 Kings Court	1,288,000	0.23%	(31,034)	31,034	1,288,000	0.24%
Cash	\$217,172	0.04%	\$81,018	\$(0)	\$136,154	0.03%
Total Fund	\$563,850,847	100.0%	\$(2,579,693)	\$36,523,023	\$529,907,517	100.0%



The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Equties	9.44%	29.71%	14.67%	10.80%	13.24%
Russell 3000 Index	9.10%	31.02%	14.57%	11.24%	13.42%
Large Cap Equities					
Vanguard S&P 500 Index	9.06%	31.46%	15.24%	11.67%	-
S&P 500 Index	9.07%	31.49%	15.27%	11.70%	13.56%
SSGA S&P Eq Weighted NL CTF	7.70%	29.99%	-	-	-
S&P 500 Eq Weighted	7.61%	29.24%	12.38%	9.77%	13.54%
Boston Partners	8.07%	23.65%	10.31%	7.73%	-
S&P 500 Index	9.07%	31.49%	15.27%	11.70%	13.56%
Russell 1000 Value Index	7.41%	26.54%	9.68%	8.29%	11.80%
Harbor Cap Appreciation (1)	12.45%	33.39%	21.77%	14.68%	14.58%
S&P 500 Index	9.07%	31.49%	15.27%	11.70%	13.56%
Russell 1000 Growth Index	10.62%	36.39%	20.49%	14.63%	15.22%
Mid Cap Equities					
Fidelity Low Priced Stock	12.46%	25.66%	10.61%	7.92%	11.71%
Russell MidCap Value Idx	6.36%	27.06%	8.10%	7.62%	12.41%
Janus Enterprise (2)	5.95%	35.40%	19.37%	14.57%	15.50%
Russell MidCap Growth Idx	8.17%	35.47%	17.36%	11.60%	14.24%
Small Cap Equities					
Prudential Small Cap Value (3)	8.02%	19.09%	0.95%	5.09%	-
MSCI US Small Cap Value Idx	7.34%	22.29%	5.16%	7.08%	11.16%
Russell 2000 Value Index	8.49%	22.39%	4.77%	6.99%	10.56%
AB US Small Growth (4)	12.59%	36.26%	22.29%	14.20%	16.92%
Russell 2000 Growth Index	11.39%	28.48%	12.49%	9.34%	13.01%

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



⁽¹⁾ Switched share class in June 2016.

⁽²⁾ Switched share class in July 2016.

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The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
International Equities	10.71%	23.13%	9.13%	4.98%	5.13%
MSCI ACWI ex-US Index	8.99%	22.13%	10.40%	6.01%	5.08%
EuroPacific	10.09%	27.40%	12.45%	7.41%	6.73%
Harbor International (1)	9.61%	22.63%	7.38%	3.61%	4.57%
Oakmark International (2)	11.14%	24.23%	7.43%	5.19%	7.35%
Mondrian International	10.52%	18.48%	8.14%	4.36%	-
MSCI EAFE Index	8.17%	22.01%	9.56%	5.67%	5.50%
MSCI ACWI ex-US Index	8.99%	22.13%	10.40%	6.01%	5.45%
T. Rowe Price Intl Small Cap	11.20%	24.67%	_	-	_
MSCI ACWI ex US Small Cap	11.01%	22.42%	9.65%	7.04%	6.92%
Investec	12.88%	20.91%	_	_	_
MSCI Emerging Markets Index	11.84%	18.44%	11.58%	5.61%	3.68%
Domestic Fixed Income	0.28%	9.00%	4.41%	3.47%	4.25%
Blmbg Aggregate Index	0.18%	8.72%	4.03%	3.05%	3.75%
Dodge & Cox Income	0.85%	9.73%	4.52%	3.69%	4.49%
PIMCO	(0.30%)	8.26%	4.31%	3.24%	4.19%
Blmbg Aggregate Index	0.18%	8.72%	4.03%	3.05%	3.75%
Real Estate	1.41%	6.42%	6.74%	7.85%	10.75%
		**			
Real Estate Custom Benchmark (3) RREEF Private	1.30%	5.18%	6.46%	7.94%	10.90%
	1.41%	6.26%	6.70%	8.68%	11.23%
Barings Core Property Fund NFI-ODCE Equal Weight Net	1.35% 1.30%	6.02% 5.18%	6.32% 6.46%	8.08% 8.34%	- 10.52%
625 Kings Court	2.41%	20.04%	17.62%	14.48%	10.86%
T.(15.1	0.00%	00.400/	40.05%	7.00%	0.000/
Total Fund	6.88%	20.43%	10.05%	7.29%	8.60%
Total Fund Benchmark*	6.25%	20.50%	10.31%	7.71%	8.77%

⁽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.



^{*} 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.

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.

	2019	2018	2017	2016	2015
Domestic Equties	29.71%	(6.04%)	23.74%	10.90%	(0.15%)
Russell 3000 Index	31.02%	(5.24%)	21.13%	12.74%	0.48%
Large Cap Equities					
Vanguard S&P 500 Index	31.46%	(4.42%)	21.79%	11.93%	1.37%
S&P 500 Index	31.49%	(4.38%)	21.83%	11.96%	1.38%
SSGA S&P Eq Weighted NL CTF	29.99%	(7.83%)	_	_	_
S&P 500 Eq Weighted	29.24%	(7.64%)	18.90%	14.80%	(2.20%)
Boston Partners	23.65%	(8.95%)	19.23%	13.76%	(4.99%)
S&P 500 Index	31.49%	(4.38%)	21.83%	11.96%	1.38%
Russell 1000 Value Index	26.54%	(8.27%)	13.66%	17.34%	(3.83%)
Harbor Cap Appreciation (1)	33.39%	(0.96%)	36.68%	(1.04%)	10.99%
S&P 500 Index	31.49%	(4.38%)	21.83%	11.96%	1.38%
Russell 1000 Growth Index	36.39%	(1.51%)	30.21%	7.08%	5.67%
Mid Cap Equities					
Fidelity Low Priced Stock	25.66%	(10.75%)	20.67%	8.79%	(0.56%)
Russell MidCap Value Idx	27.06%	(12.29%)	13.34%	20.00%	(4.78%)
Janus Enterprise (2)	35.40%	(0.81%)	26.65%	12.13%	3.49%
Russell MidCap Growth Idx	35.47%	(4.75%)	25.27%	7.33%	(0.20%)
Small Cap Equities					
Prudential Small Cap Value (3)	19.09%	(18.82%)	6.43%	33.99%	(7.00%)
MSCI US Small Cap Value ldx	22.29%	(12.94%)	9.22%	27.64%	(5.14%)
Russell 2000 Value Index	22.39%	(12.86%)	7.84%	31.74%	(7.47%)
AB US Small Growth (4)	36.26%	(0.60%)	35.03%	6.91%	(0.66%)
Russell 2000 Growth Index	28.48%	(9.31%)	22.17%	11.32%	(1.38%)

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



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	2019	2018	2017	2016	2015
International Equities	23.13%	(17.49%)	27.94%	2.84%	(4.62%)
MSCI ACWI ex-US Index	22.13%	(13.77%)	27.77%	5.01%	(5.25%)
EuroPacific	27.40%	(14.91%)	31.18%	1.01%	(0.48%)
Harbor International (1)	22.63%	(17.89%)	22.98%	0.27%	(3.82%)
Oakmark International (2)	24.23%	(23.51%)	30.47%	8.19%	(3.99%)
Mondrian International	18.48%	(12.71%)	22.29%	4.50%	(6.33%)
MSCI EAFE Index	22.01%	(13.79%)	25.03%	1.00%	(0.81%)
MSCI ACWI ex-US Index	22.13%	(13.77%)	27.77%	5.01%	(5.25%)
T. Rowe Price Intl Small Cap	24.67%	(18.49%)	-	-	-
MSCI ACWI ex US Small Cap	22.42%	(18.20%)	31.65%	3.91%	2.60%
Investec	20.91%	(15.80%)	-	-	_
MSCI Emerging Markets Index	18.44%	(14.57%)	37.28%	11.19%	(14.92%)
Domestic Fixed Income	9.00%	(0.28%)	4.74%	4.10%	0.07%
Blmbg Aggregate Index	8.72%	0.01%	3.54%	2.65%	0.55%
Dodge & Cox Income	9.73%	(0.31%)	4.36%	5.61%	(0.59%)
PIMČO	8.26%	(0.26%)	5.12%	2.59%	0.73%
Blmbg Aggregate Index	8.72%	0.01%	3.54%	2.65%	0.55%
Real Estate	6.42%	6.90%	6.88%	7.02%	12.14%
Real Estate Custom Benchmark (3)	5.18%	7.30%	6.92%	8.62%	11.81%
RREEF Private	6.26%	7.41%	6.43%	7.95%	15.63%
Barings Core Property Fund	6.02%	6.34%	6.59%	8.62%	12.99%
NFI-ODCE Equal Weight Net	5.18%	7.30%	6.92%	8.36%	14.18%
625 Kings Court	20.04%	7.51%	26.09%	10.01%	9.85%
Total Fund	20.43%	(6.92%)	18.89%	6.67%	0.01%
Total Fund Benchmark*	20.50%	(5.07%)	17.34%	7.78%	0.21%

⁽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.



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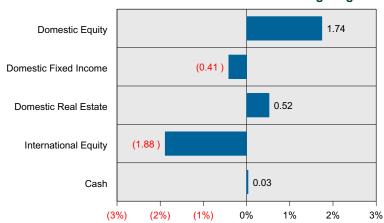
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Quarterly Total Fund Relative Attribution - December 31, 2019

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

Asset Class Under or Overweighting

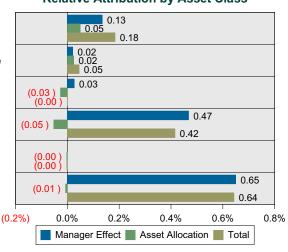


Actual vs Target Returns

Actual Target

9.44 Domestic Equity 9.10 0.28 Domestic Fixed Income 0.18 1.41 Domestic Real Estate 10.71 International Equity Cash 6.88 Total 6.23 6% 0% 2% 4% 8% 10% 12% 14%

Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended December 31, 2019

Asset Class Domestic Equity Domestic Fixed Income Domestic Real Estate International Equity Cash	Effective Actual Weight 40% e 22% 12% 27% 0%	Effective Target Weight 38% 22% 11% 29% 0%	Actual Return 9.44% 0.28% 1.41% 10.71% 0.00%	Target Return 9.10% 0.18% 1.18% 8.99% 0.00%	Manager Effect 0.13% 0.02% 0.03% 0.47% 0.00%	Asset Allocation 0.05% 0.02% (0.03%) (0.05%) (0.00%)	Total Relative Return 0.18% 0.05% (0.00%) 0.42% (0.00%)
Total			6.88% =	6.23%	+ 0.65%	+ (0.01%)	0.64%

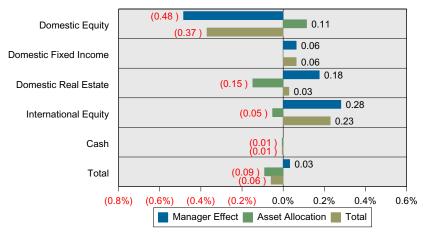
^{*} Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIXUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.



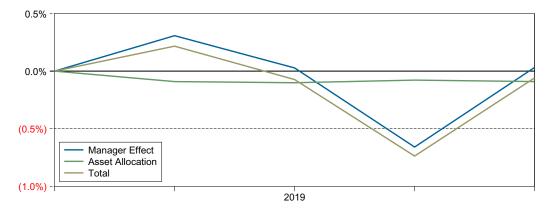
Cumulative Total Fund Relative Attribution - December 31, 2019

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

Asset Class Domestic Equity Domestic Fixed Income Domestic Real Estate International Equity Cash	Effective Actual Weight 40% 21% 12% 27% 0%	Effective Target Weight 38% 22% 11% 29% 0%	Actual Return 29.71% 9.00% 6.42% 23.13% 0.00%	Target Return 31.02% 8.72% 5.05% 22.13% 0.00%	Manager Effect (0.48%) 0.06% 0.18% 0.28% 0.00%	Asset Allocation 0.11% 0.00% (0.15%) (0.05%) (0.01%)	Total Relative Return (0.37%) 0.06% 0.03% 0.23% (0.01%)
Total			20.43% =	= 20.49%	+ 0.03% +	(0.09%)	(0.06%)

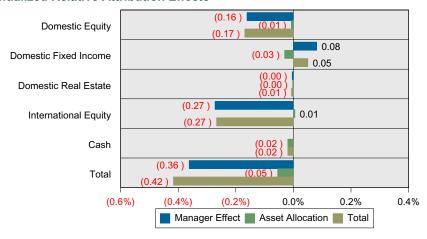
^{*} Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIXUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.



Cumulative Total Fund Relative Attribution - December 31, 2019

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

Asset Class Domestic Equity Domestic Fixed Income Domestic Real Estate International Equity Cash	Effective Actual Weight 39% 23% 10% 27% 0%	Effective Target Weight 38% 24% 10% 28% 0%	Actual Return 10.80% 3.47% 7.85% 4.98% 0.00%	Target Return 11.24% 3.05% 7.92% 6.01% 0.00%	Manager Effect (0.16%) 0.08% (0.00%) (0.27%) 0.00%	Asset Allocation (0.01%) (0.03%) (0.00%) 0.01% (0.02%)	Total Relative Return (0.17%) 0.05% (0.01%) (0.27%) (0.02%)
Total			7.29% =	7.71%	+ (0.36%) +	(0.05%)	(0.42%)

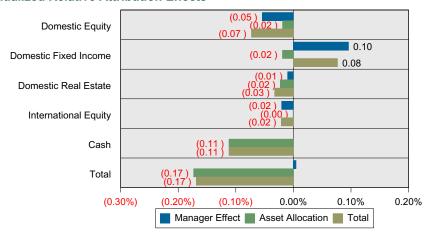
^{*} Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIXUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.



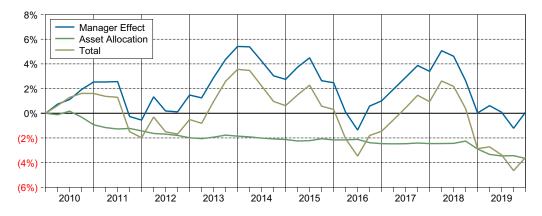
Cumulative Total Fund Relative Attribution - December 31, 2019

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

Ten Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Ten 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%	13.24%	13.42%	(0.05%)	(0.02%)	(0.07%)
Domestic Fixed Income		26%	4.25%	3.75%	0.10%	(0.02%)	0.08%
Domestic Real Estate	9%	10%	10.75%	10.89%	(0.01%)	(0.02%)	(0.03%)
International Equity	25%	26%	5.13%	5.08%	(0.02%)	(0.00%)	(0.02%)
Cash	1%	0%	0.04%	0.04%	0.00%	(0.11%)	(0.11%)
Total			8.60% =	8.76%	+ 0.00% +	(0.17%)	(0.17%)

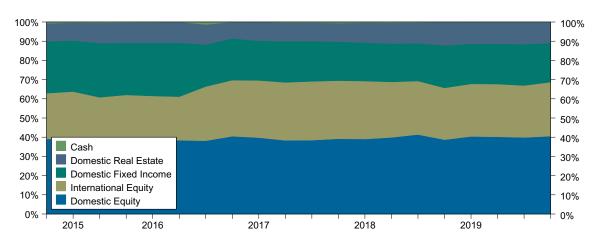
^{*} Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIXUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.



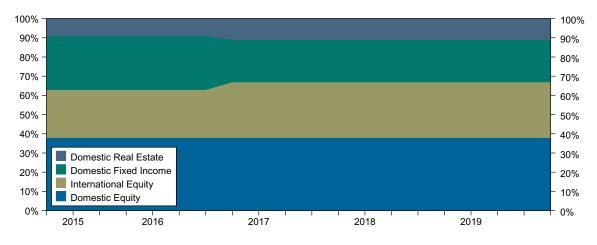
Actual vs Target Historical Asset Allocation

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

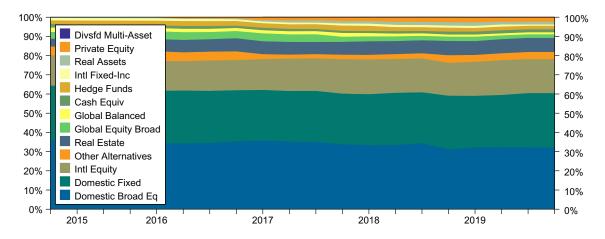
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation



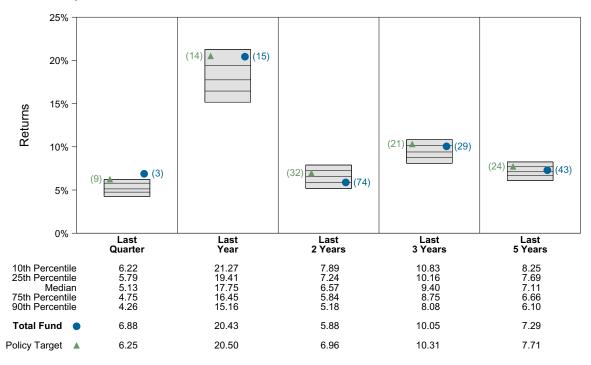
^{*} Current Quarter Target = 38.0% Russell 3000 Index, 29.0% MSCI ACWIXUS Gross, 22.0% Blmbg Aggregate and 11.0% NCREIF NFI-ODCE Eq Wt Net.



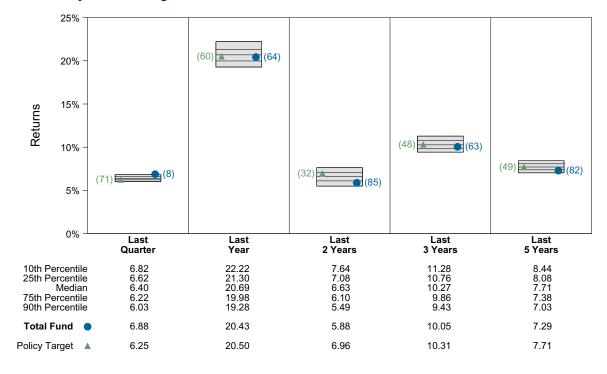
Total Fund Ranking

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

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking



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



Total Fund Period Ended December 31, 2019

Investment Philosophy

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

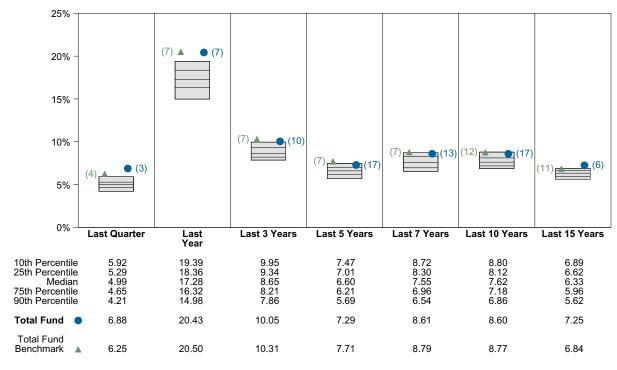
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 6.88% return for the quarter placing it in the 3 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 7 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Benchmark by 0.63% for the quarter and underperformed the Total Fund Benchmark for the year by 0.07%.

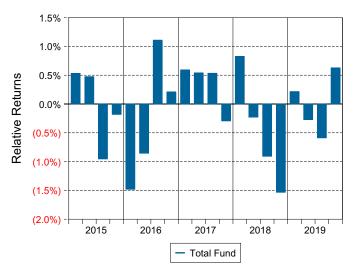
Quarterly Asset Growth

Beginning Market Value	\$529,907,517
Net New Investment	\$-2,579,693
Investment Gains/(Losses)	\$36,523,023
Ending Market Value	\$563,850,847

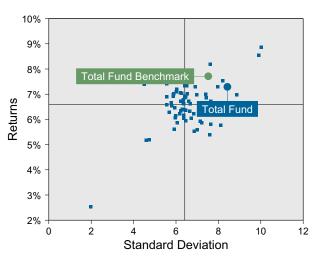
Performance vs Callan Public Fund Sponsor Database (Net)



Relative Return vs Total Fund Benchmark



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



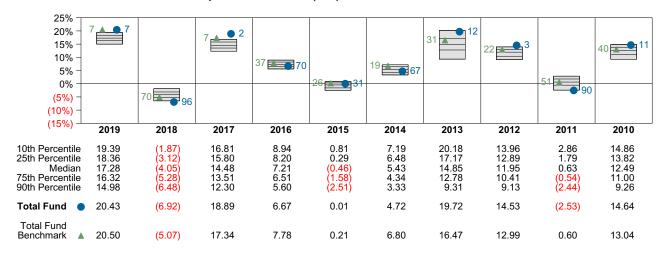


Total Fund Return Analysis Summary

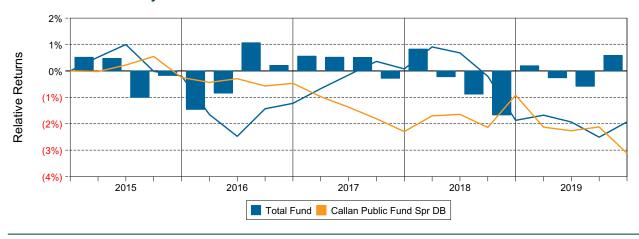
Return Analysis

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

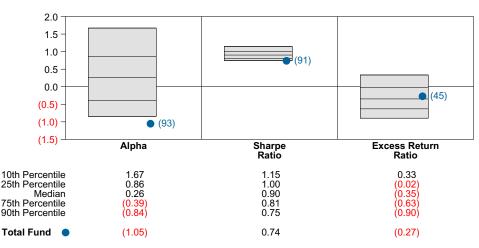
Performance vs Callan Public Fund Sponsor Database (Net)



Cumulative and Quarterly Relative Return vs Total Fund Benchmark



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

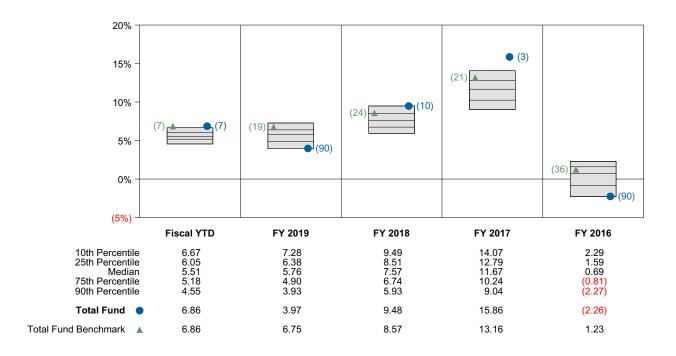


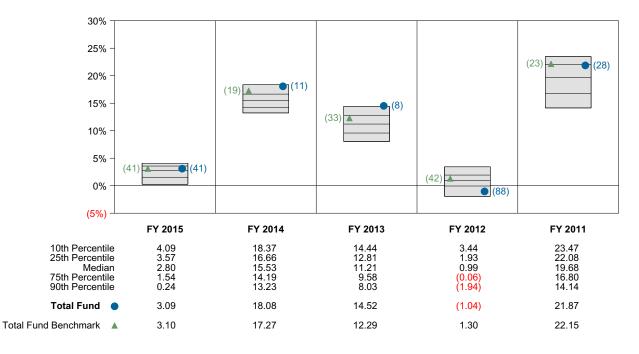


Mendocino County Employees' Retirement Association Performance vs Callan Public Fund Sponsor Database Periods Ended December 31, 2019

Return Ranking

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





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



Domestic Equity Composite Period Ended December 31, 2019

Quarterly Summary and Highlights

- Domestic Equity Composite's portfolio posted a 9.44% return for the quarter placing it in the 12 percentile of the Public Fund - Domestic Equity group for the quarter and in the 67 percentile for the last year.
- Domestic Equity Composite's portfolio outperformed the Russell 3000 Index by 0.34% for the quarter and underperformed the Russell 3000 Index for the year by 1.31%.

Quarterly Asset Growth

 Beginning Market Value
 \$211,388,477

 Net New Investment
 \$-2,629,677

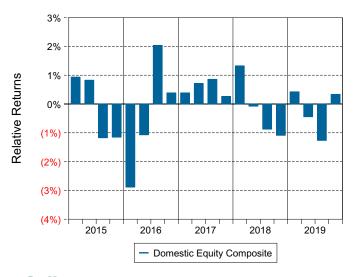
 Investment Gains/(Losses)
 \$19,847,613

 Ending Market Value
 \$228,606,413

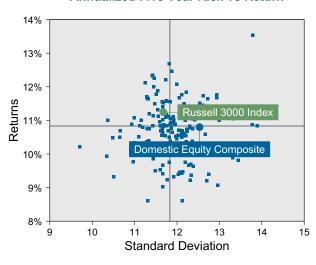
Performance vs Public Fund - Domestic Equity (Net)



Relative Return vs Russell 3000 Index



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



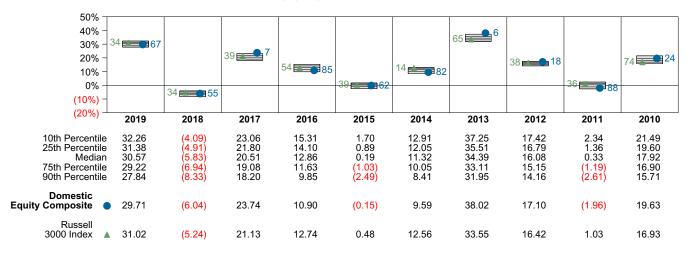


Domestic Equity Composite Return Analysis Summary

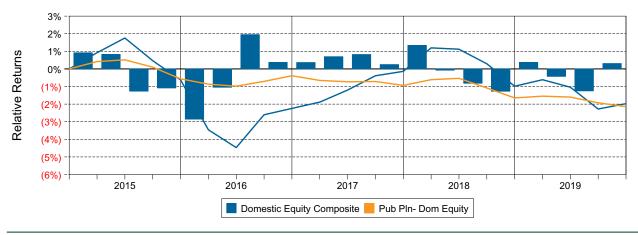
Return Analysis

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.

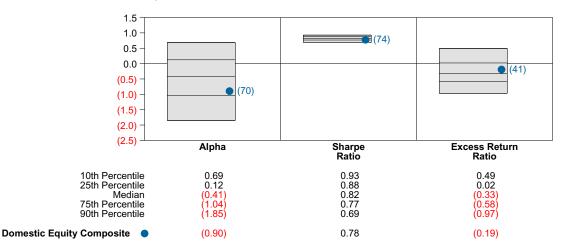
Performance vs Public Fund - Domestic Equity (Net)



Cumulative and Quarterly Relative Return vs Russell 3000 Index



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



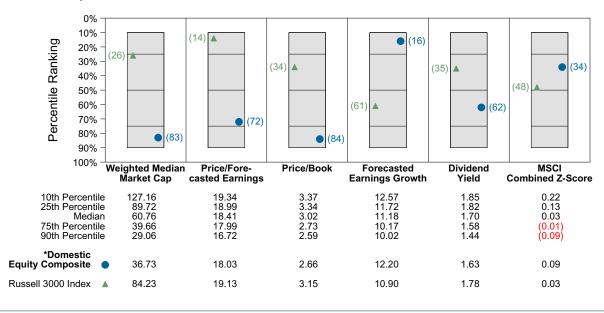


Domestic Equity Composite Equity Characteristics Analysis Summary

Portfolio Characteristics

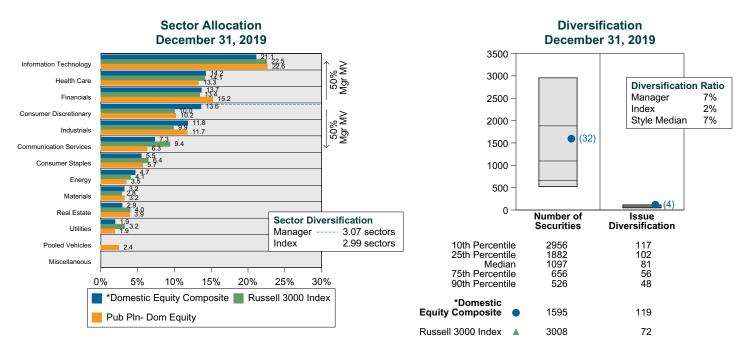
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights

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



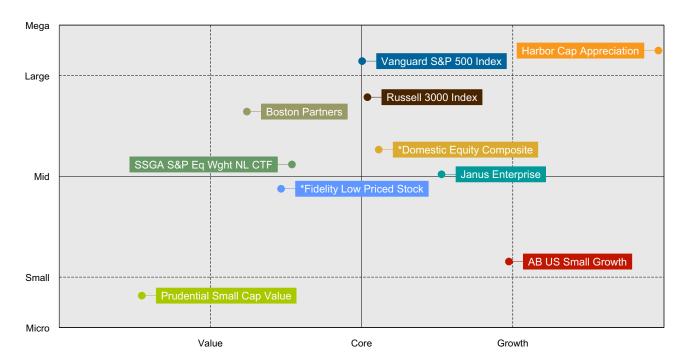
^{*12/31/19} portfolio characteristics generated using most recently available holdings (10/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



Holdings Based Style Analysis For One Quarter Ended December 31, 2019

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

Style Map Holdings for One Quarter Ended December 31, 2019



	Weight	Wtd Median	Combined	Growth	Value	Number of	Security
	%	Mkt Cap	Z-Score	Z-Score	Z-Score	Securities D	Diversification
Vanguard S&P 500 Index	17.37%	127.10	0.01	(0.01)	(0.02)	507	47.83
SSGA S&P Eq Wght NL CTF	17.71%	23.27	(0.37)	(0.19)	0.18	504	245.73
Boston Partners	17.60%	71.17	(0.61)	(0.22)	0.39	78	22.26
Harbor Cap Appreciation	17.67%	144.17	1.53	0.73	(0.81)	61	13.53
*Fidelity Low Priced Stock	7.53%	11.26	(0.43)	(0.11)	0.32	765	20.85
Janus Enterprise	8.07%	14.35	0.41	0.07	(0.34)	85	25.58
Prudential Small Cap Value	5.90%	1.59	(1.17)	(0.21)	0.96	273	68.75
AB US Small Growth	8.15%	3.82	0.76	0.07	(0.69)	96	32.82
*Domestic Equity Composite	100.00%	36.73	0.09	0.05	(0.05)	1595	119.25
Russell 3000 Index	-	84.23	0.03	(0.01)	(0.04)	3008	72.23

^{*12/31/19} portfolio characteristics generated using most recently available holdings (10/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



Vanguard S&P 500 Index Period Ended December 31, 2019

Investment Philosophy

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

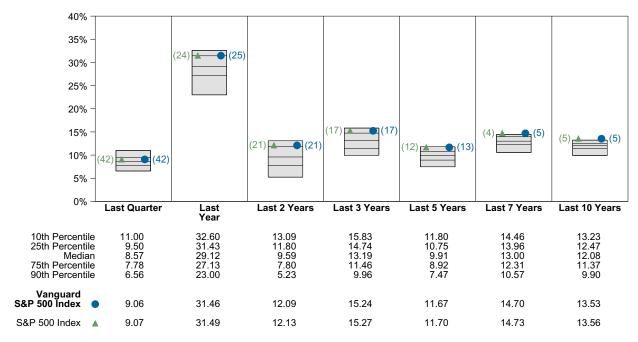
Quarterly Summary and Highlights

- Vanguard S&P 500 Index's portfolio posted a 9.06% return for the quarter placing it in the 42 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 25 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 0.02%.

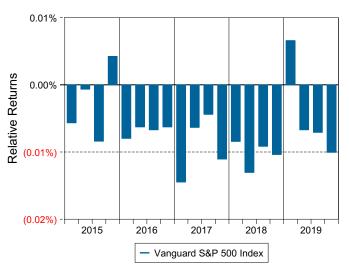
Quarterl	y Asset	Growth
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Beginning Market Value	\$37,160,307
Net New Investment	\$-800,000
Investment Gains/(Losses)	\$3,343,230
Ending Market Value	\$39,703,537

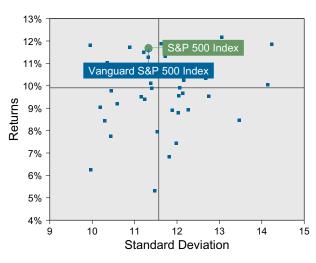
Performance vs Callan Large Cap Core Mutual Funds (Net)



Relative Return vs S&P 500 Index



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



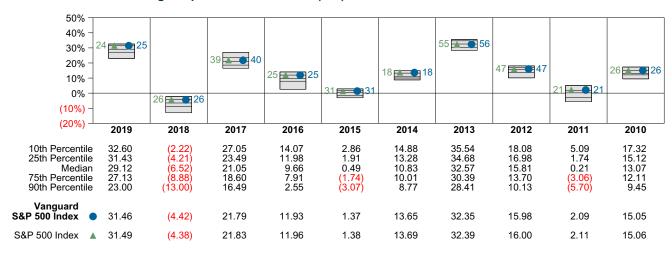


Vanguard S&P 500 Index Return Analysis Summary

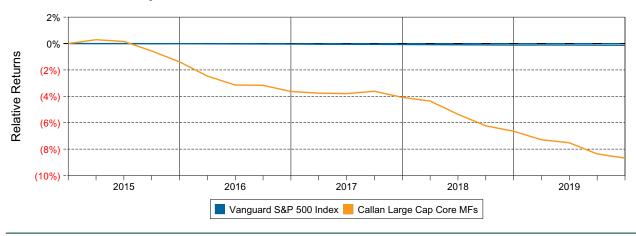
Return Analysis

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.

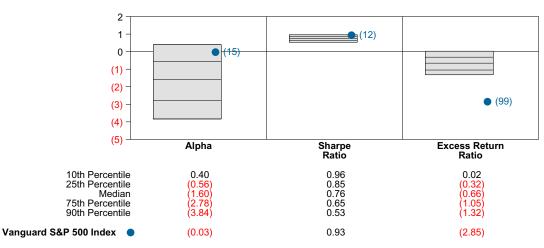
Performance vs Callan Large Cap Core Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs S&P 500 Index



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



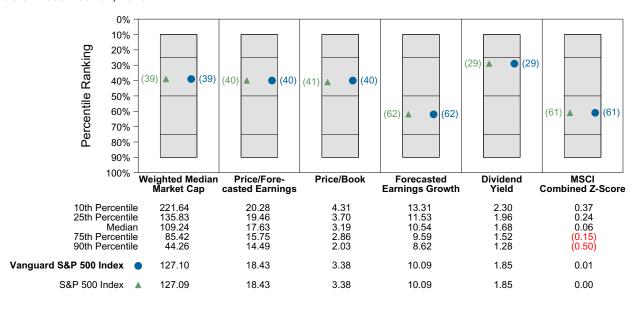


Vanguard S&P 500 Index Equity Characteristics Analysis Summary

Portfolio Characteristics

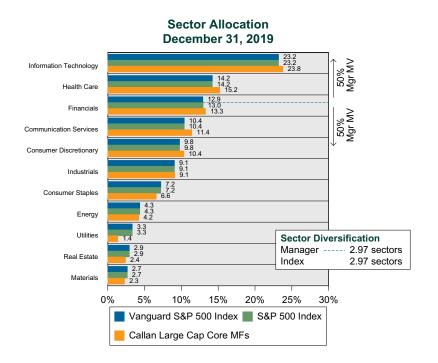
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

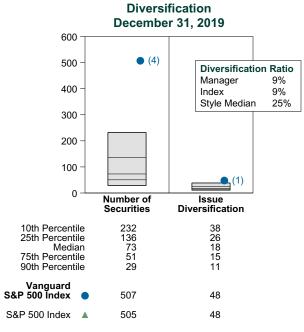
Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Core Mutual Funds as of December 31, 2019



Sector Weights

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







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

Investment Philosophy

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

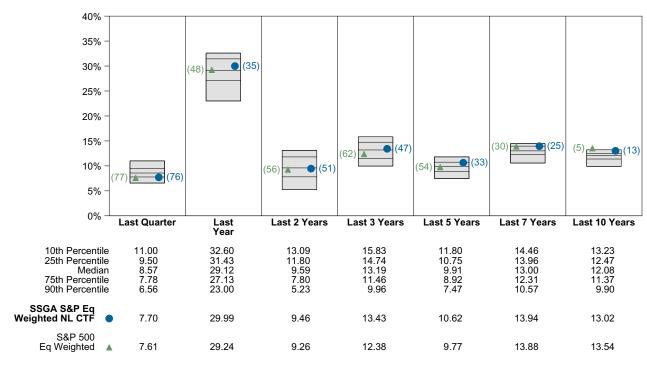
Quarterly Summary and Highlights

- SSGA S&P Eq Weighted NL CTF's portfolio posted a 7.70% return for the quarter placing it in the 76 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 35 percentile for the last year.
- SSGA S&P Eq Weighted NL CTF's portfolio outperformed the S&P 500 Eq Weighted by 0.09% for the quarter and outperformed the S&P 500 Eq Weighted for the year by 0.76%.

Quarterly Asset Growth

Beginning Market Value	\$37,597,782
Net New Investment	\$-4,677
Investment Gains/(Losses)	\$2,903,226
Ending Market Value	\$40,496,331

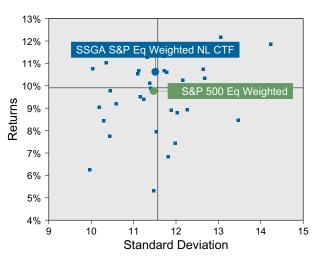
Performance vs Callan Large Cap Core Mutual Funds (Net)



Relative Return vs S&P 500 Eq Weighted



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



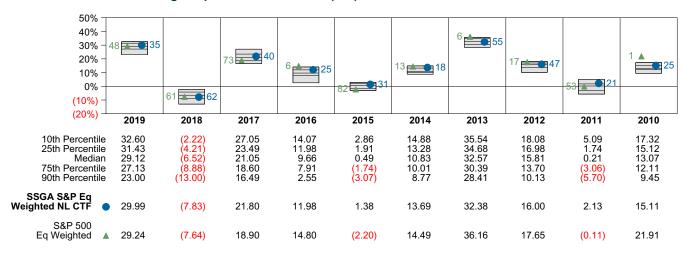


SSGA S&P Eq Weighted NL CTF Return Analysis Summary

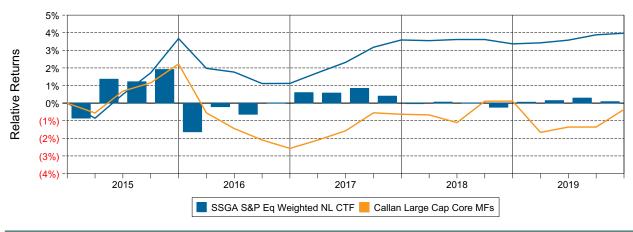
Return Analysis

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.

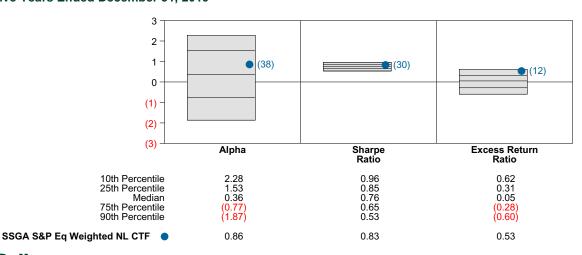
Performance vs Callan Large Cap Core Mutual Funds (Net)



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



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



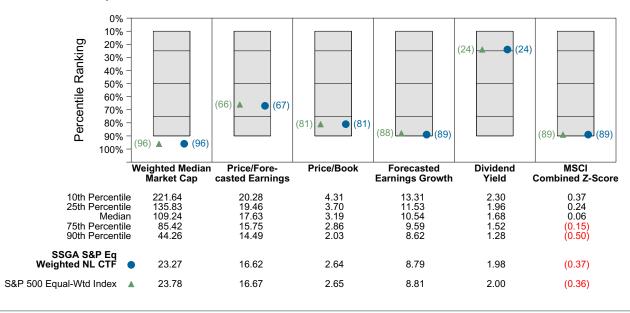


SSGA S&P Eq Weighted NL CTF Equity Characteristics Analysis Summary

Portfolio Characteristics

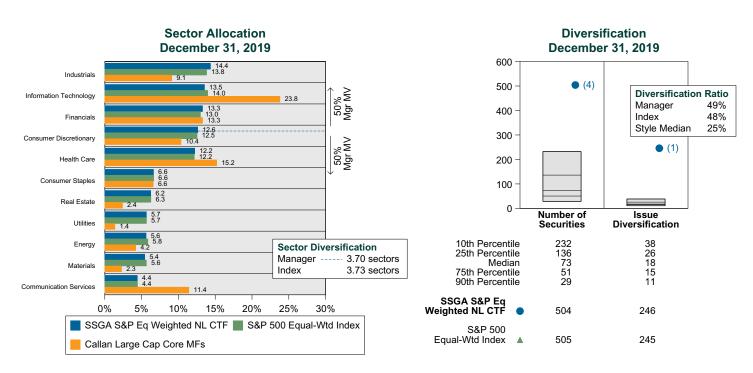
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights

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





Boston Partners Period Ended December 31, 2019

Investment Philosophy

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

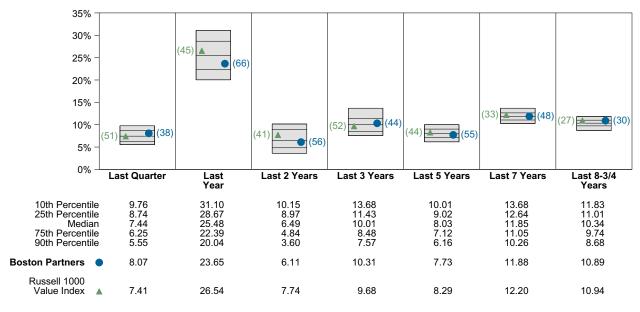
Quarterly Summary and Highlights

- Boston Partners's portfolio posted a 8.07% return for the quarter placing it in the 38 percentile of the Callan Large Cap Value Mutual Funds group for the quarter and in the 66 percentile for the last year.
- Boston Partners's portfolio outperformed the Russell 1000 Value Index by 0.66% for the quarter and underperformed the Russell 1000 Value Index for the year by 2.89%.

Quarterly	v Asset	Growth
addi toii	, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0111.

Beginning Market Value	\$37,230,675
Net New Investment	\$0
Investment Gains/(Losses)	\$3,003,211
Ending Market Value	\$40,233,886

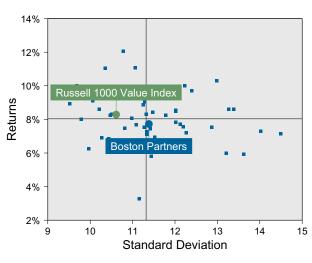
Performance vs Callan Large Cap Value Mutual Funds (Net)



Relative Return vs Russell 1000 Value Index



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



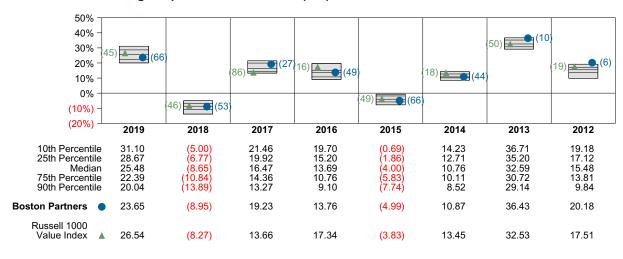


Boston Partners Return Analysis Summary

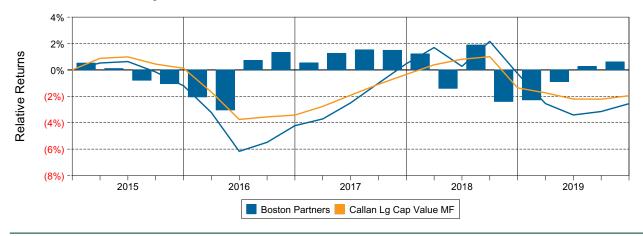
Return Analysis

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

Performance vs Callan Large Cap Value Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell 1000 Value Index



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



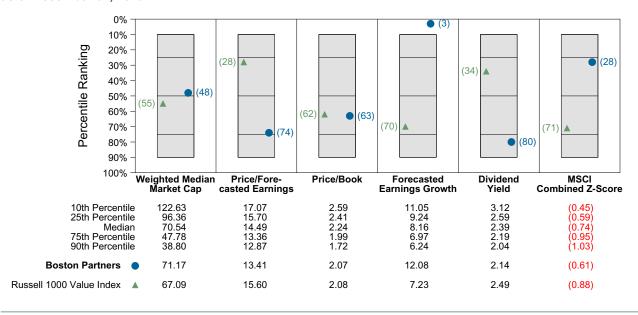


Boston Partners Equity Characteristics Analysis Summary

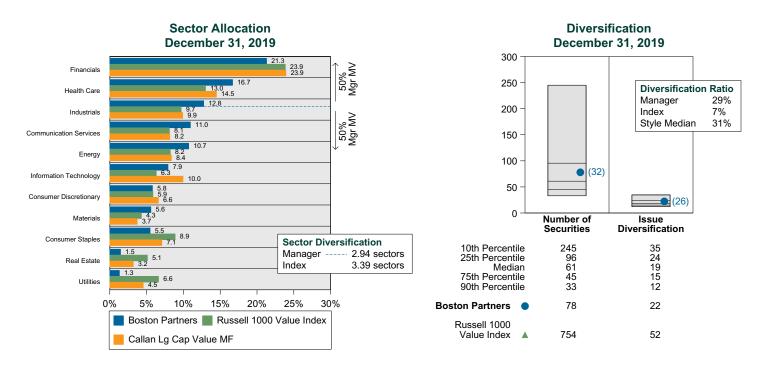
Portfolio Characteristics

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

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



Sector Weights





Harbor Cap Appreciation Period Ended December 31, 2019

Investment Philosophy

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

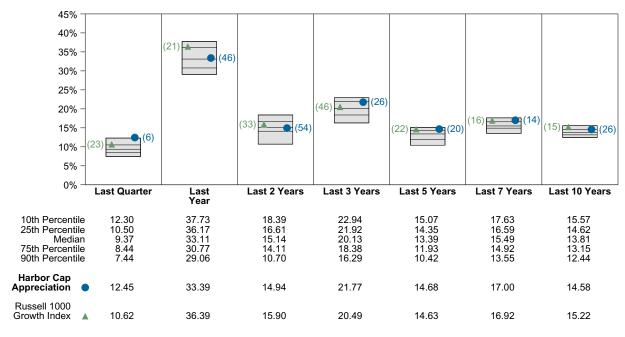
Quarterly Summary and Highlights

- Harbor Cap Appreciation's portfolio posted a 12.45% return for the quarter placing it in the 6 percentile of the Callan Large Cap Growth Mutual Funds group for the quarter and in the 46 percentile for the last year.
- Harbor Cap Appreciation's portfolio outperformed the Russell 1000 Growth Index by 1.83% for the quarter and underperformed the Russell 1000 Growth Index for the year by 3.00%.

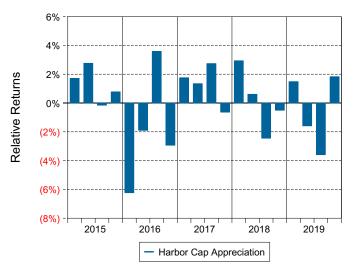
Quarterly Asset Growth

Beginning Market Value	\$37,172,041
Net New Investment	\$-1,337,500
Investment Gains/(Losses)	\$4,569,762
Ending Market Value	\$40.404.303

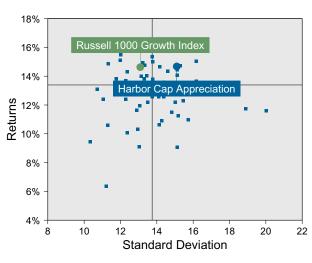
Performance vs Callan Large Cap Growth Mutual Funds (Net)



Relative Return vs Russell 1000 Growth Index



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



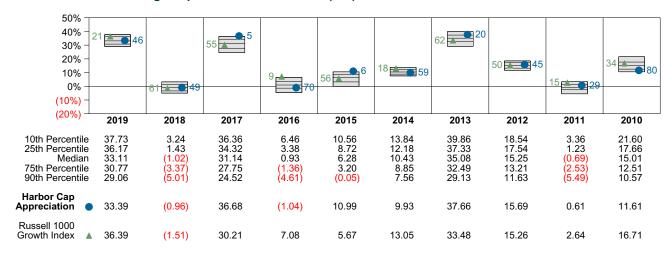


Harbor Cap Appreciation Return Analysis Summary

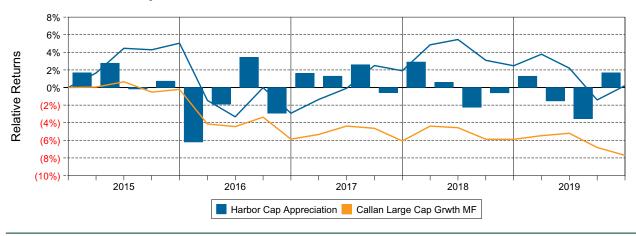
Return Analysis

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

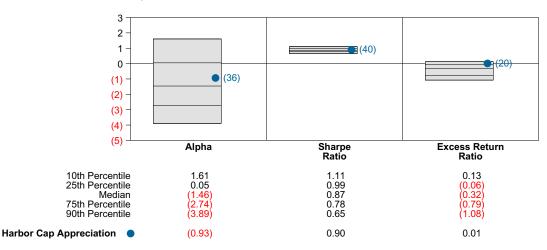
Performance vs Callan Large Cap Growth Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell 1000 Growth Index



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



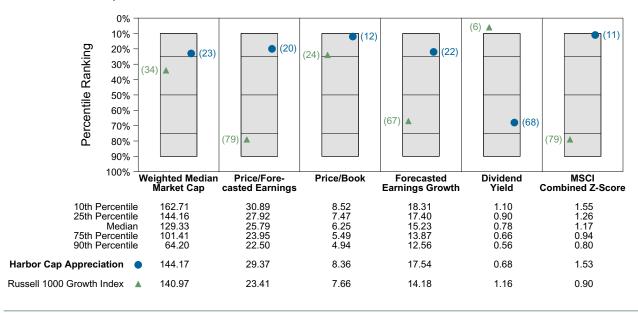


Harbor Cap Appreciation Equity Characteristics Analysis Summary

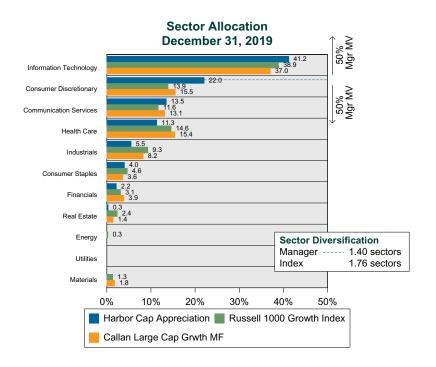
Portfolio Characteristics

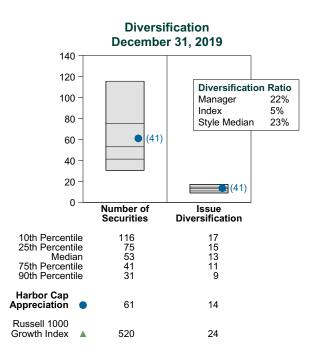
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights







Fidelity Low Priced Stock Period Ended December 31, 2019

Investment Philosophy

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

Quarterly Summary and Highlights

- Fidelity Low Priced Stock's portfolio posted a 12.46% return for the quarter placing it in the 1 percentile of the Callan Mid Cap Value Mutual Funds group for the quarter and in the 56 percentile for the last year.
- Fidelity Low Priced Stock's portfolio outperformed the Russell MidCap Value Idx by 6.10% for the quarter and underperformed the Russell MidCap Value Idx for the year by 1.40%.

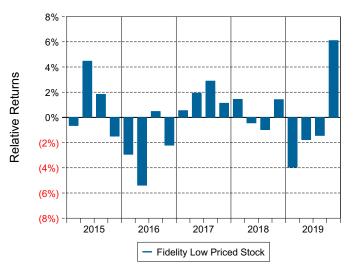
Quarterly Asset Growth

Beginning Market Value	\$15,298,315
Net New Investment	\$0
Investment Gains/(Losses)	\$1,905,825
Ending Market Value	\$17.204.140

Performance vs Callan Mid Cap Value Mutual Funds (Net)



Relative Return vs Russell MidCap Value Idx



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



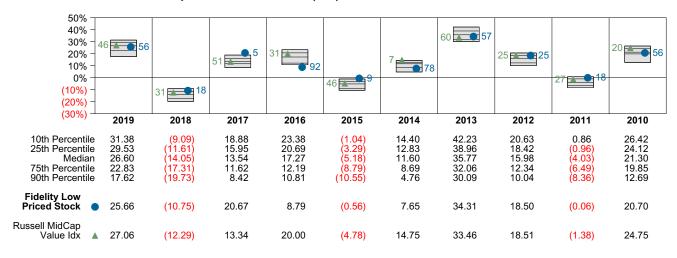


Fidelity Low Priced Stock Return Analysis Summary

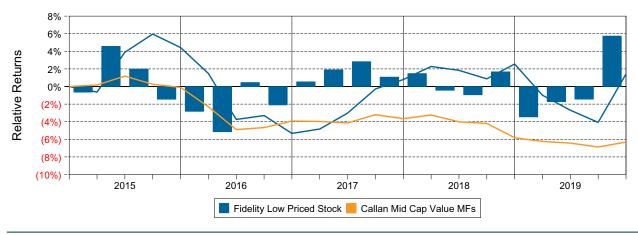
Return Analysis

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

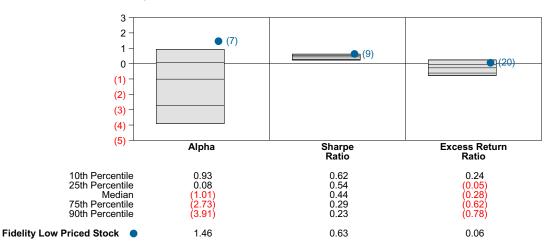
Performance vs Callan Mid Cap Value Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell MidCap Value Idx



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



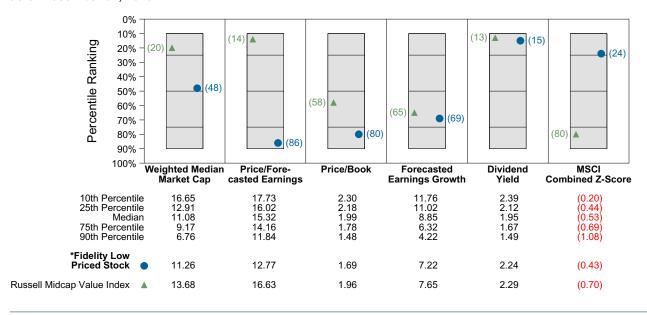


Fidelity Low Priced Stock Equity Characteristics Analysis Summary

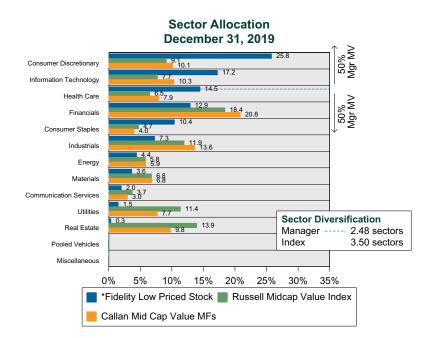
Portfolio Characteristics

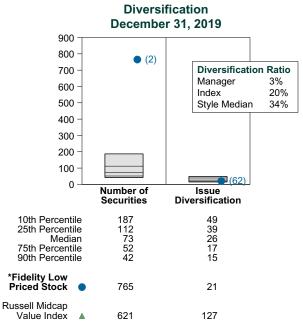
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights





^{*12/31/19} portfolio characteristics generated using most recently available holdings (10/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



Janus Enterprise Period Ended December 31, 2019

Investment Philosophy

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

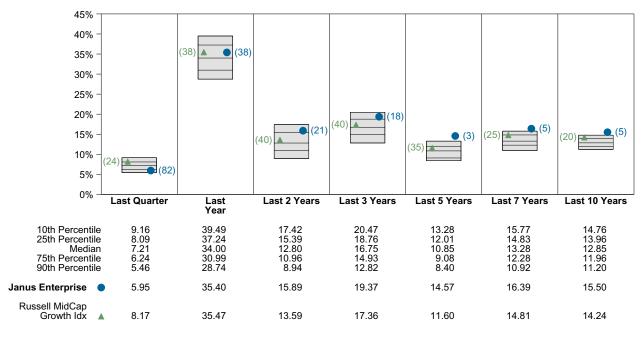
Quarterly Summary and Highlights

- Janus Enterprise's portfolio posted a 5.95% return for the quarter placing it in the 82 percentile of the Callan Mid Cap Growth Mutual Funds group for the quarter and in the 38 percentile for the last year.
- Janus Enterprise's portfolio underperformed the Russell MidCap Growth Idx by 2.23% for the quarter and underperformed the Russell MidCap Growth Idx for the year by 0.07%.

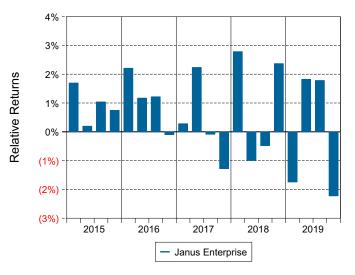
Quarterly Asset Growth

Beginning Market Value	\$17,897,803
Net New Investment	\$-487,500
Investment Gains/(Losses)	\$1,036,691
Ending Market Value	\$18,446,993

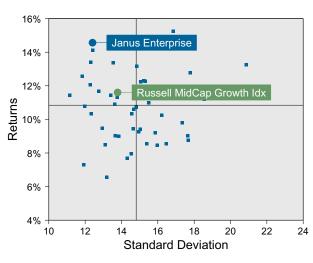
Performance vs Callan Mid Cap Growth Mutual Funds (Net)



Relative Return vs Russell MidCap Growth Idx



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



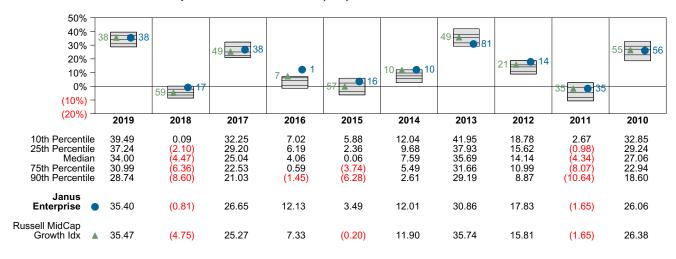


Janus Enterprise Return Analysis Summary

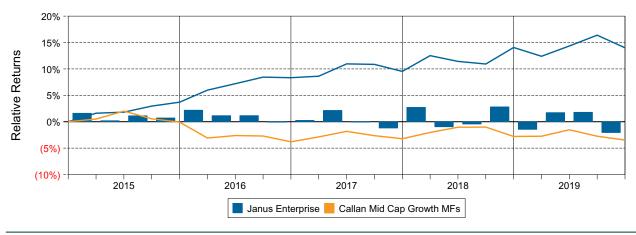
Return Analysis

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

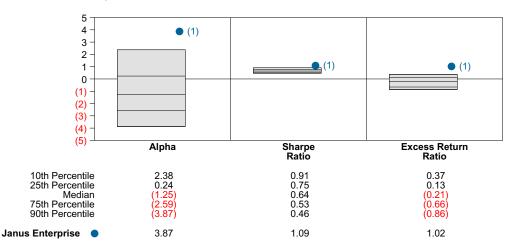
Performance vs Callan Mid Cap Growth Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell MidCap Growth Idx



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



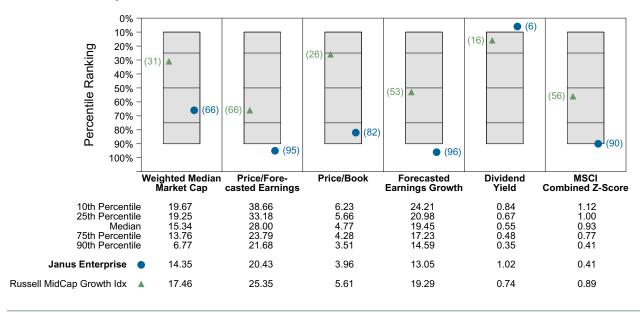


Janus Enterprise Equity Characteristics Analysis Summary

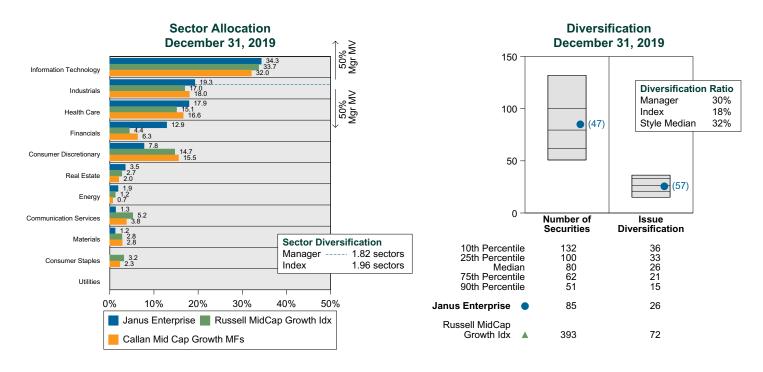
Portfolio Characteristics

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

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



Sector Weights





Prudential Small Cap Value Period Ended December 31, 2019

Investment Philosophy

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

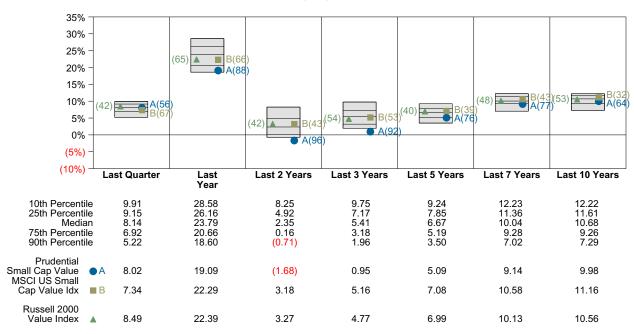
Quarterly Summary and Highlights

- Prudential Small Cap Value's portfolio posted a 8.02% return for the quarter placing it in the 56 percentile of the Callan Small Cap Value Mutual Funds group for the quarter and in the 88 percentile for the last year.
- Prudential Small Cap Value's portfolio underperformed the Russell 2000 Value Index by 0.47% for the quarter and underperformed the Russell 2000 Value Index for the year by 3.31%.

Quarterly	y Asset Growth
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Beginning Market Value	\$12,484,146
Net New Investment	\$0
Investment Gains/(Losses)	\$1,001,605
Ending Market Value	\$13,485,752

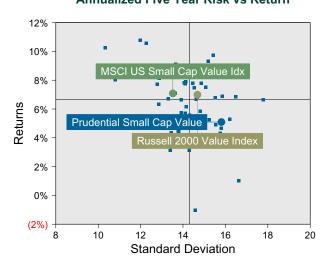
Performance vs Callan Small Cap Value Mutual Funds (Net)



Relative Return vs Russell 2000 Value Index



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



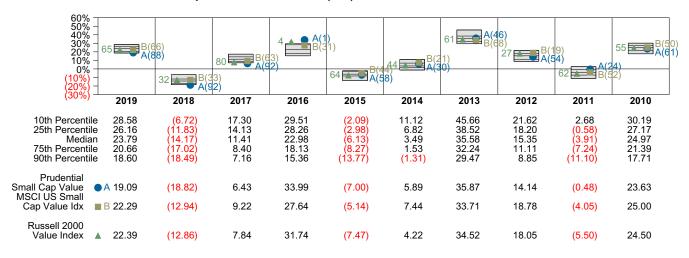


Prudential Small Cap Value Return Analysis Summary

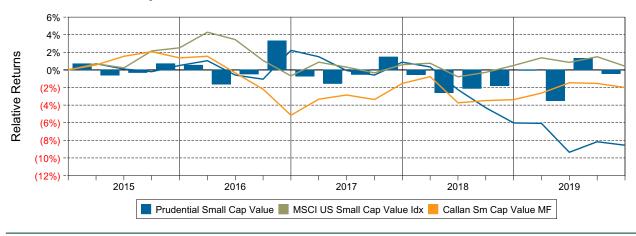
Return Analysis

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

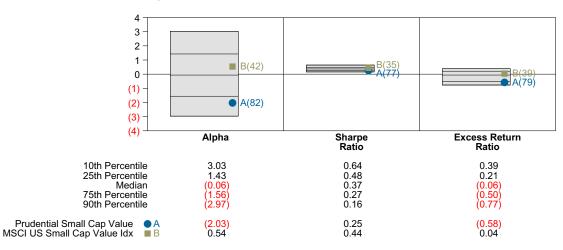
Performance vs Callan Small Cap Value Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Russell 2000 Value Index



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





Prudential Small Cap Value Equity Characteristics Analysis Summary

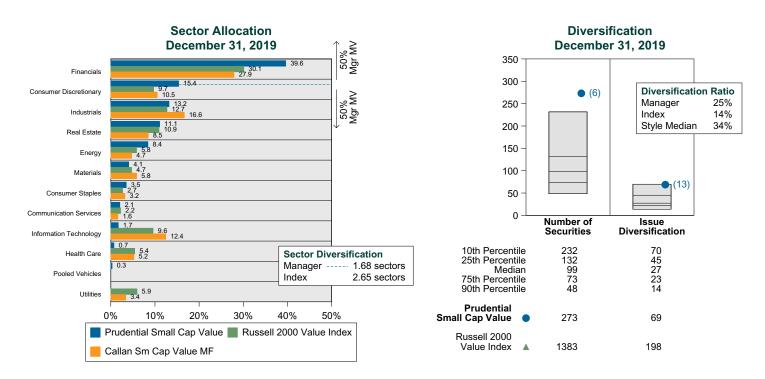
Portfolio Characteristics

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

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



Sector Weights





AB US Small Growth Period Ended December 31, 2019

Investment Philosophy

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

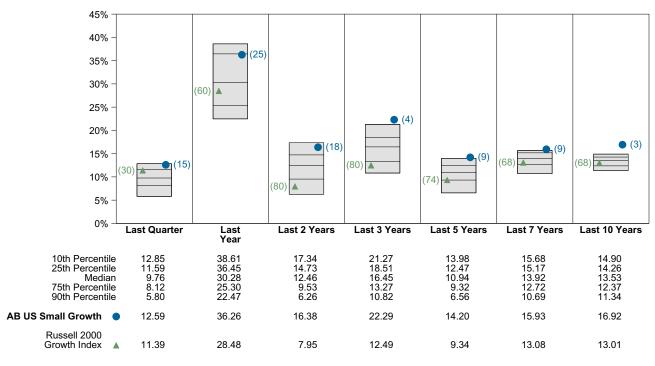
Quarterly Summary and Highlights

- AB US Small Growth's portfolio posted a 12.59% return for the quarter placing it in the 15 percentile of the Callan Small Cap Growth Mutual Funds group for the quarter and in the 25 percentile for the last year.
- AB US Small Growth's portfolio outperformed the Russell 2000 Growth Index by 1.20% for the quarter and outperformed the Russell 2000 Growth Index for the year by 7.78%.

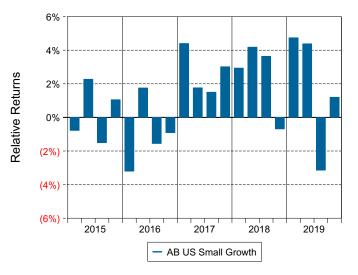
Quarterly	Asset	Growth
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Beginning Market Value	\$16,547,408
Net New Investment	\$0
Investment Gains/(Losses)	\$2,084,062
Ending Market Value	\$18,631,471

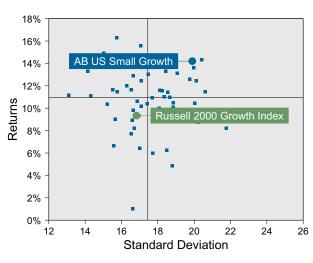
Performance vs Callan Small Cap Growth Mutual Funds (Net)



Relative Return vs Russell 2000 Growth Index



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



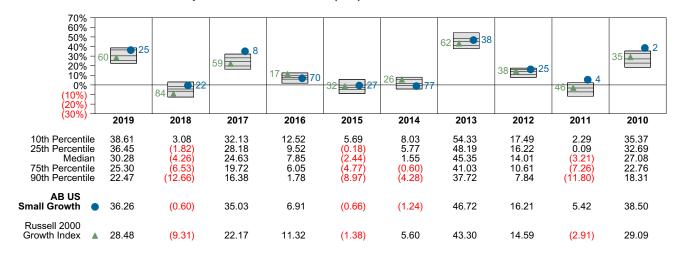


AB US Small Growth Return Analysis Summary

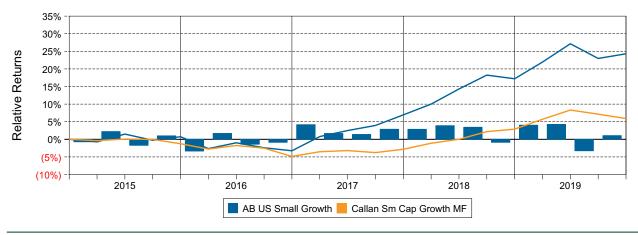
Return Analysis

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.

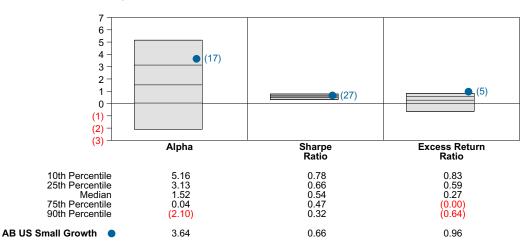
Performance vs Callan Small Cap Growth Mutual Funds (Net)



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 December 31, 2019



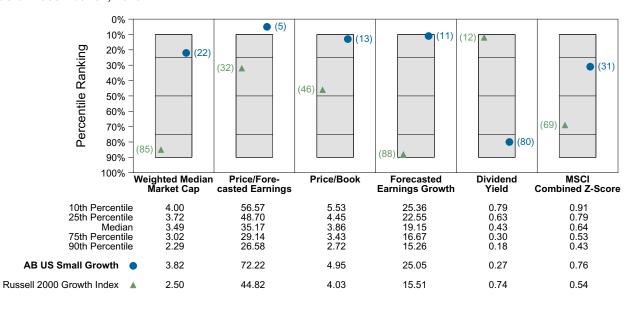


AB US Small Growth Equity Characteristics Analysis Summary

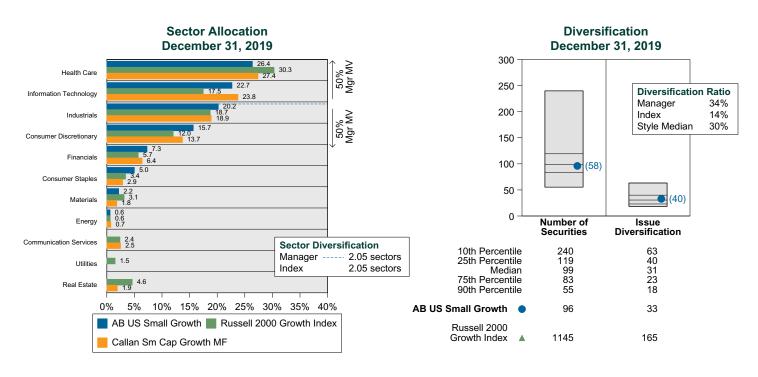
Portfolio Characteristics

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

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



Sector Weights





International Equity Composite Period Ended December 31, 2019

Quarterly Summary and Highlights

- International Equity Composite's portfolio posted a 10.71% return for the quarter placing it in the 15 percentile of the Public Fund - International Equity group for the quarter and in the 43 percentile for the last year.
- International Equity Composite's portfolio outperformed the MSCI ACWI ex-US Index by 1.73% for the quarter and outperformed the MSCI ACWI ex-US Index for the year by 0.99%.

Quarterly Asset Growth

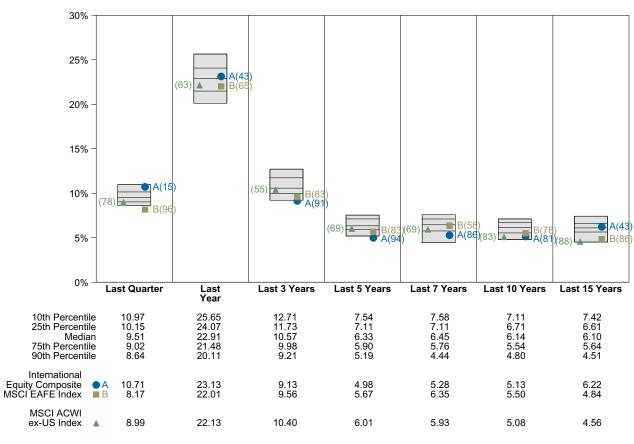
Beginning Market Value \$143,304,413

Net New Investment \$0

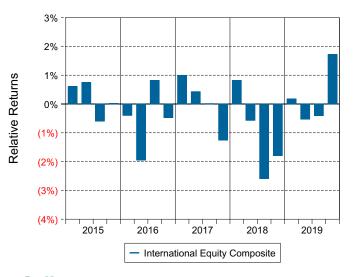
Investment Gains/(Losses) \$15,502,696

Ending Market Value \$158,807,109

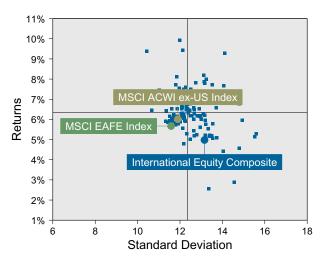
Performance vs Public Fund - International Equity (Net)



Relative Return vs MSCI ACWI ex-US Index



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



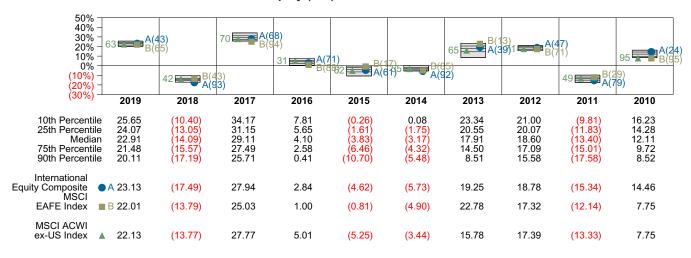


International Equity Composite Return Analysis Summary

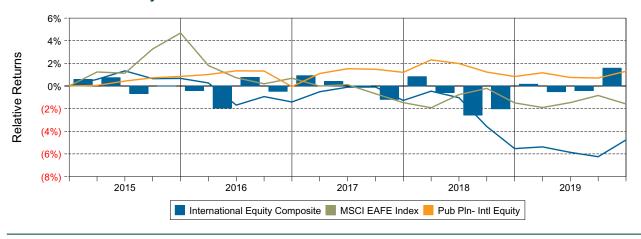
Return Analysis

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.

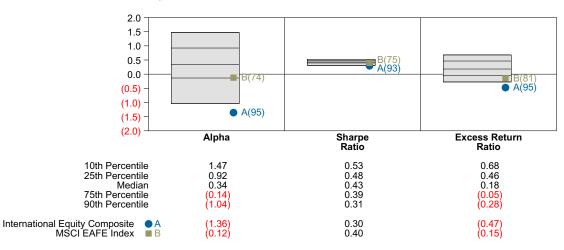
Performance vs Public Fund - International Equity (Net)



Cumulative and Quarterly Relative Return vs MSCI ACWI ex-US Index



Risk Adjusted Return Measures vs MSCI ACWI ex-US Index Rankings Against Public Fund - International Equity (Net) Five Years Ended December 31, 2019



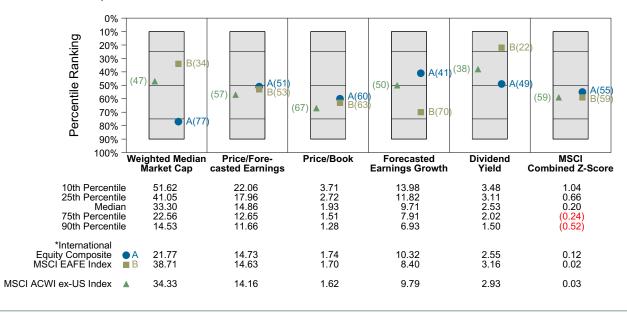


International Equity Composite Equity Characteristics Analysis Summary

Portfolio Characteristics

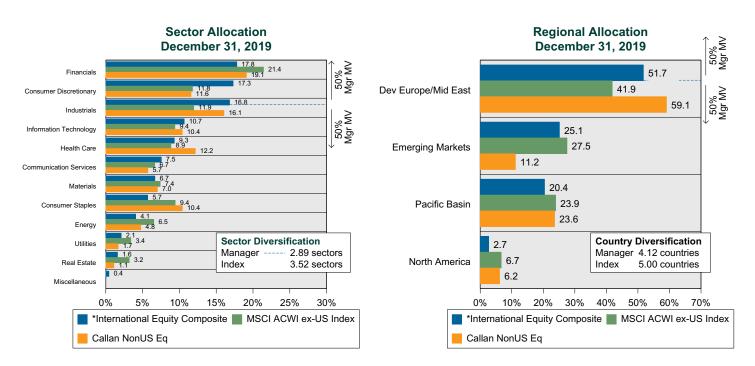
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights

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



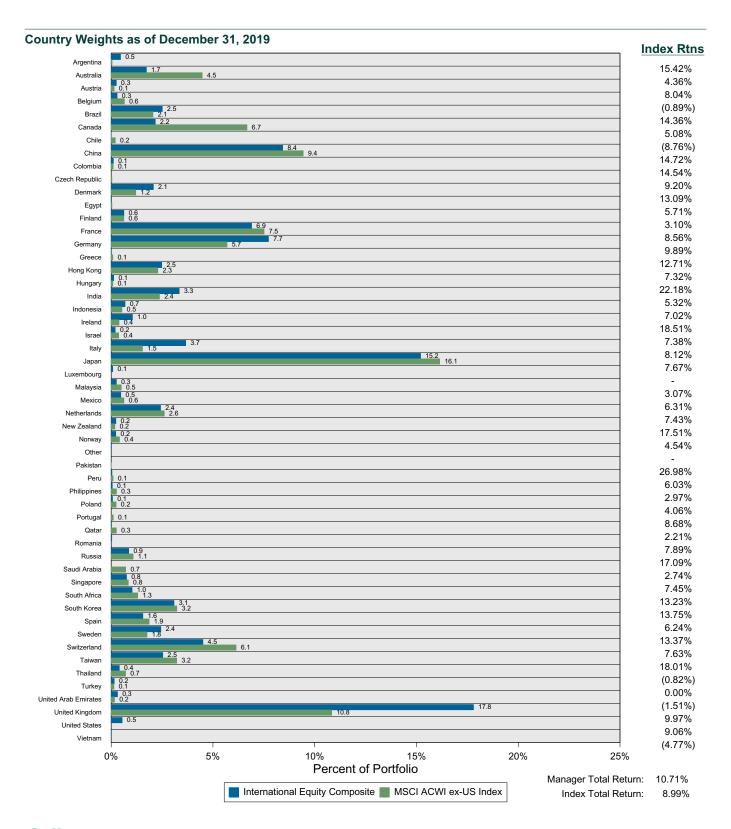
^{*12/31/19} portfolio characteristics generated using most recently available holdings (9/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



Country Allocation International Equity Composite VS MSCI ACWI ex-US Index

Country Allocation

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

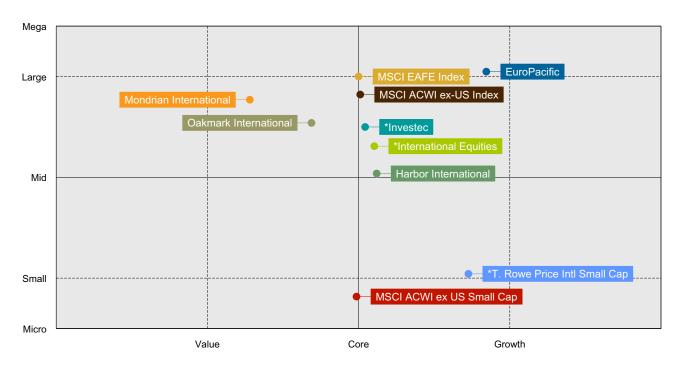




International Holdings Based Style Analysis For One Quarter Ended December 31, 2019

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

Style Map Holdings for One Quarter Ended December 31, 2019



	Weight	Wtd Median	Combined	Growth	Value	Number of	Security
	%	Mkt Cap	Z-Score	Z-Score	Z-Score	Securities D	Diversification
EuroPacific	18.42%	47.25	0.83	0.34	(0.50)	308	40.74
Harbor International	19.67%	15.13	0.13	0.01	(0.12)	363	65.99
Oakmark International	18.75%	27.43	(0.29)	(0.12)	0.16	65	15.72
Mondrian International	17.99%	33.07	(0.68)	(0.23)	0.45	101	24.48
*T. Rowe Price Intl Small Cap	14.94%	2.87	0.72	0.25	(0.47)	216	60.68
*Investec	10.23%	26.44	0.06	0.00	(0.06)	84	19.55
*International Equities	100.00%	21.77	0.12	0.04	(80.0)	936	115.36
MSCI ACWI ex US Small Cap	-	1.93	0.00	(0.02)	(0.02)	4206	698.77
MSCI EAFE Index	-	38.71	0.02	(0.03)	(0.04)	917	110.15
MSCI ACWI ex-US Index	-	34.33	0.03	(0.02)	(0.04)	2410	180.78

^{*12/31/19} portfolio characteristics generated using most recently available holdings (9/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



EuroPacific Period Ended December 31, 2019

Investment Philosophy

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

Quarterly Summary and Highlights

- EuroPacific's portfolio posted a 10.09% return for the quarter placing it in the 28 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 27 percentile for the last year.
- EuroPacific's portfolio outperformed the MSCI ACWIxUS Gross by 1.10% for the quarter and outperformed the MSCI ACWIxUS Gross for the year by 5.26%.

Quarterly	/ Asset	Growth

Beginning Market Value	\$26,576,689
Net New Investment	\$0
Investment Gains/(Losses)	\$2,682,552
Ending Market Value	\$29,259,241

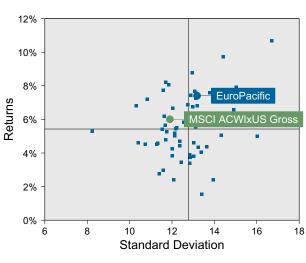
Performance vs Callan Non US Equity Mutual Funds (Net)



Relative Return vs MSCI ACWIxUS Gross



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



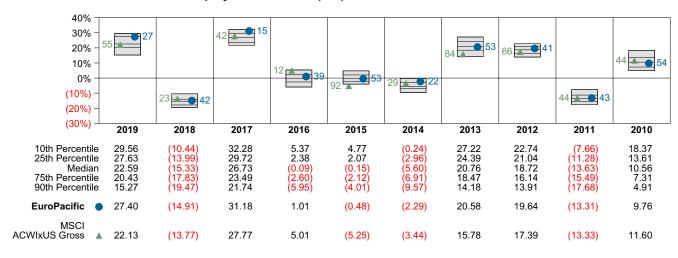


EuroPacific Return Analysis Summary

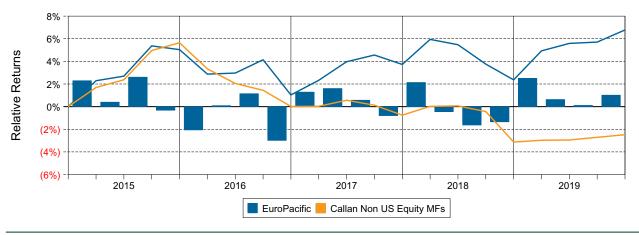
Return Analysis

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

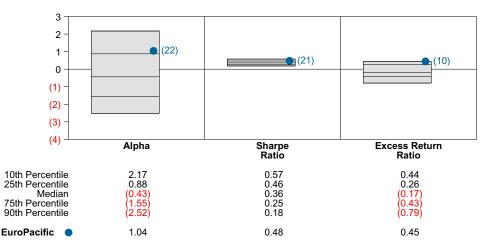
Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



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





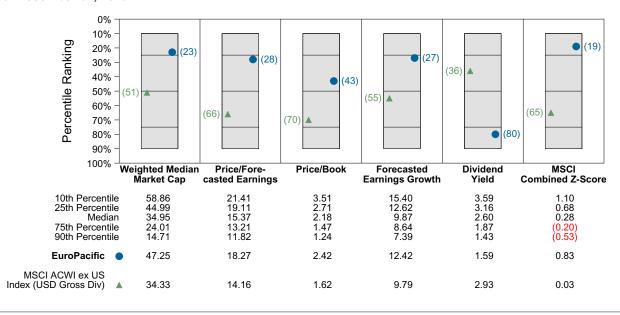
EuroPacific

Equity Characteristics Analysis Summary

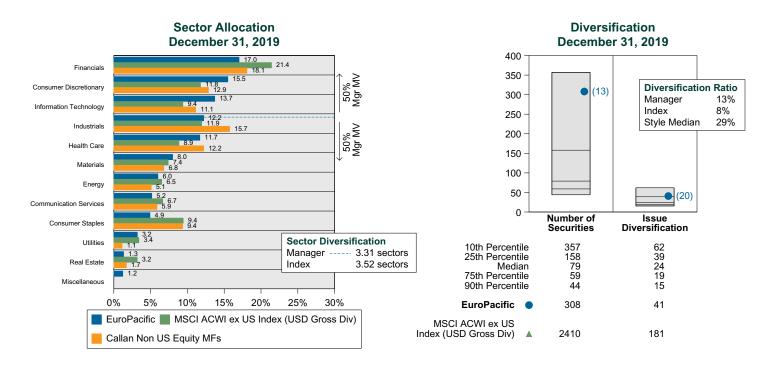
Portfolio Characteristics

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

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



Sector Weights

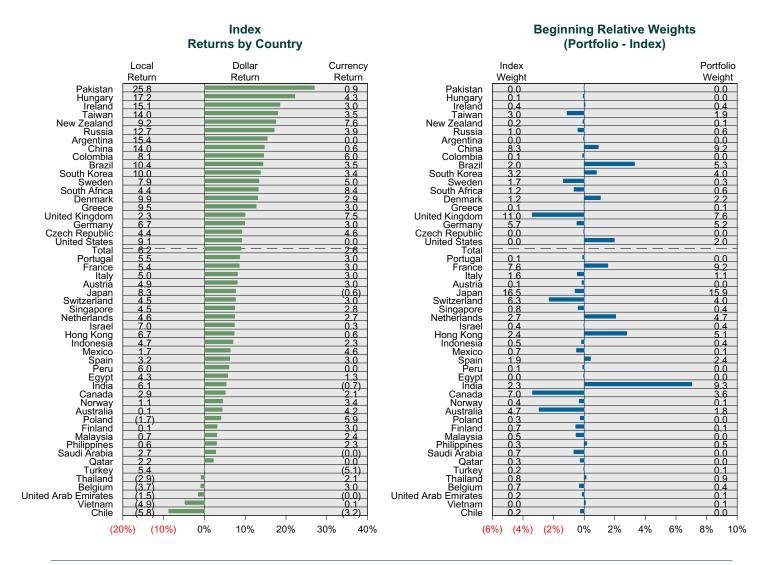


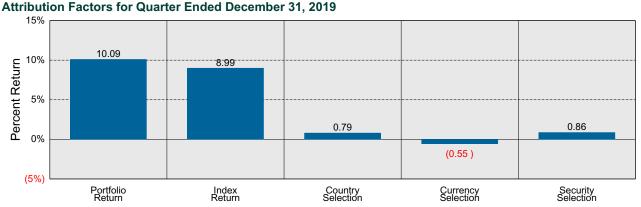


EuroPacific vs MSCI ACWIxUS Gross Attribution for Quarter Ended December 31, 2019

International Attribution

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







Harbor International Period Ended December 31, 2019

Investment Philosophy

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

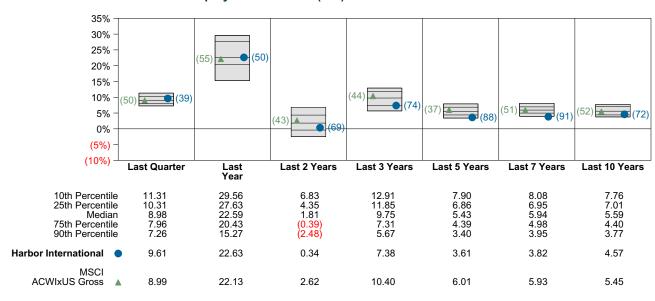
Quarterly Summary and Highlights

- Harbor International's portfolio posted a 9.61% return for the quarter placing it in the 39 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 50 percentile for the last year.
- Harbor International's portfolio outperformed the MSCI ACWIxUS Gross by 0.62% for the quarter and outperformed the MSCI ACWIxUS Gross for the year by 0.49%.

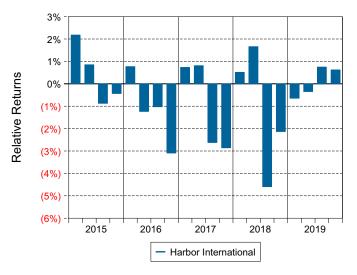
Quarterly Asset Growth

Beginning Market Value	\$28,494,058
Net New Investment	\$0
Investment Gains/(Losses)	\$2,738,902
Ending Market Value	\$31,232,961

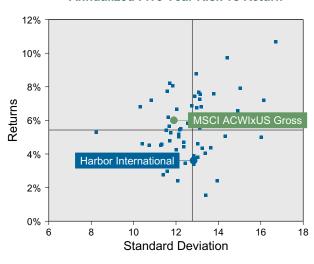
Performance vs Callan Non US Equity Mutual Funds (Net)



Relative Return vs MSCI ACWIxUS Gross



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



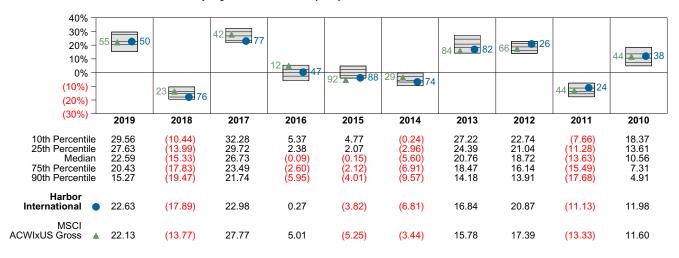


Harbor International Return Analysis Summary

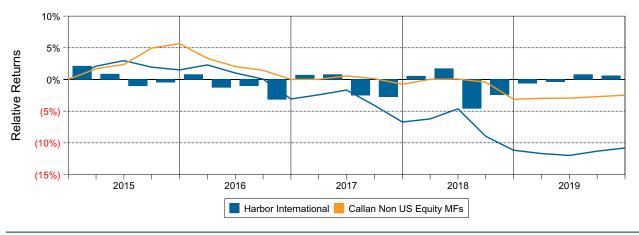
Return Analysis

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

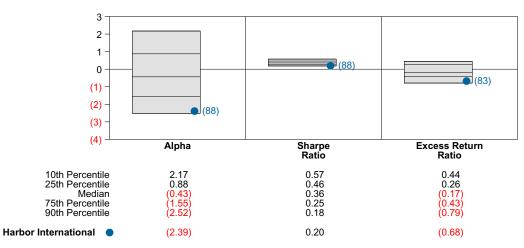
Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



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



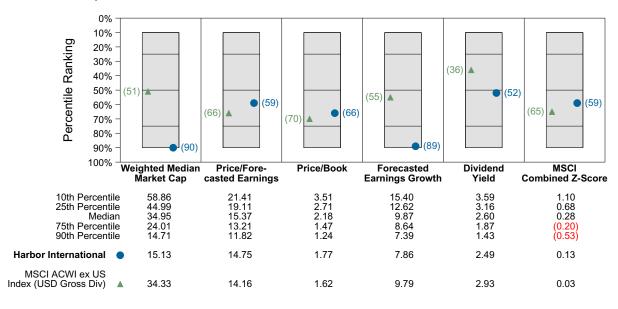


Harbor International Equity Characteristics Analysis Summary

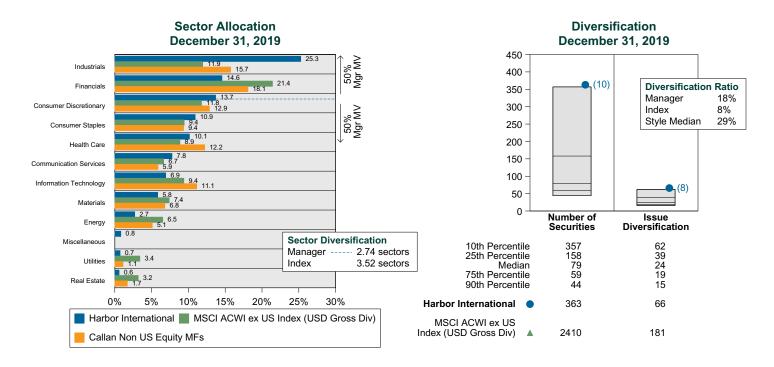
Portfolio Characteristics

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

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



Sector Weights



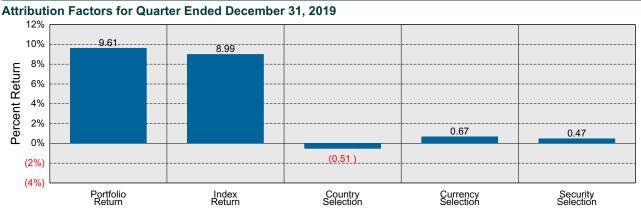


Harbor International vs MSCI ACWIxUS Gross Attribution for Quarter Ended December 31, 2019

International Attribution

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







Oakmark International Period Ended December 31, 2019

Investment Philosophy

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

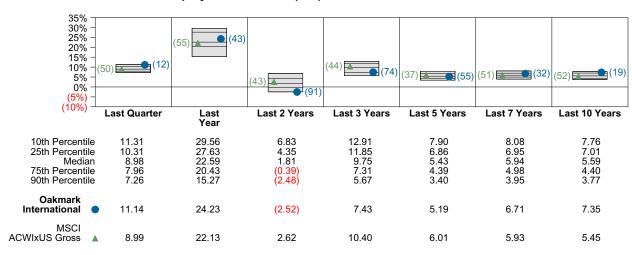
Quarterly Summary and Highlights

- Oakmark International's portfolio posted a 11.14% return for the quarter placing it in the 12 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 43 percentile for the last year.
- Oakmark International's portfolio outperformed the MSCI ACWIxUS Gross by 2.15% for the quarter and outperformed the MSCI ACWIxUS Gross for the year by 2.09%.

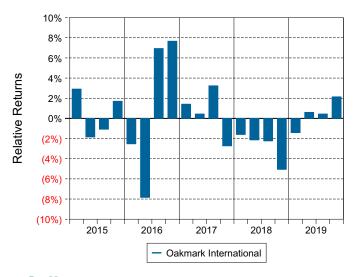
Quarterly Asset Growth

Beginning Market Value	\$26,795,192
Net New Investment	\$0
Investment Gains/(Losses)	\$2,983,919
Ending Market Value	\$29,779,112

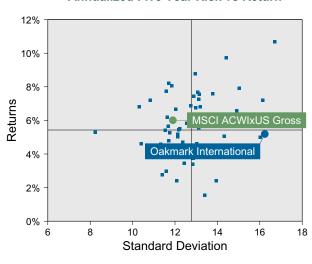
Performance vs Callan Non US Equity Mutual Funds (Net)



Relative Return vs MSCI ACWIxUS Gross



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



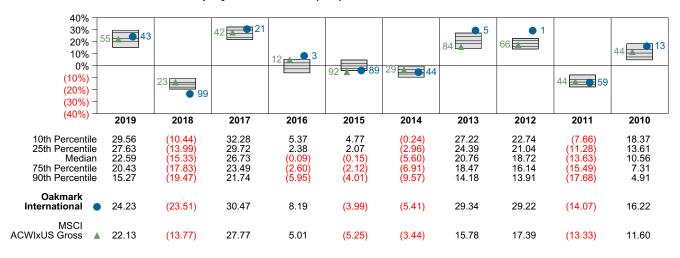


Oakmark International Return Analysis Summary

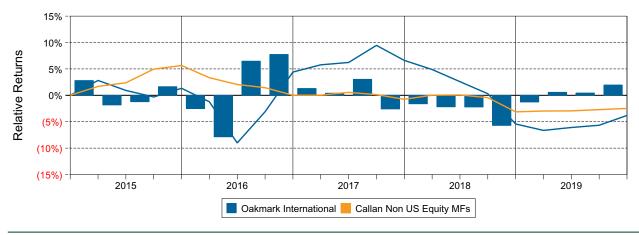
Return Analysis

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

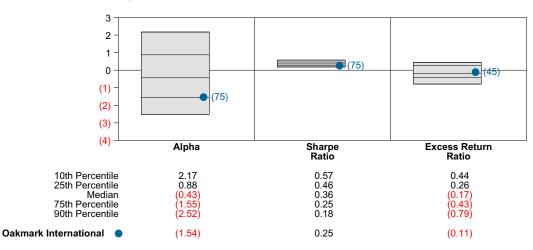
Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



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



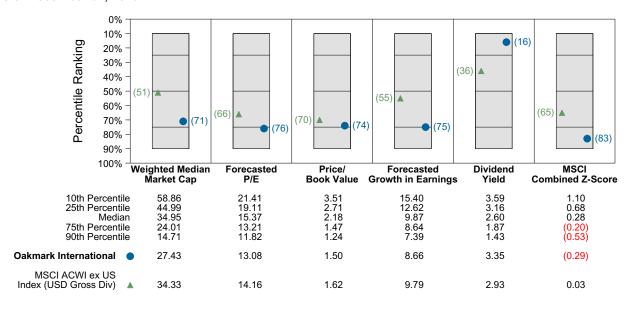


Oakmark International Equity Characteristics Analysis Summary

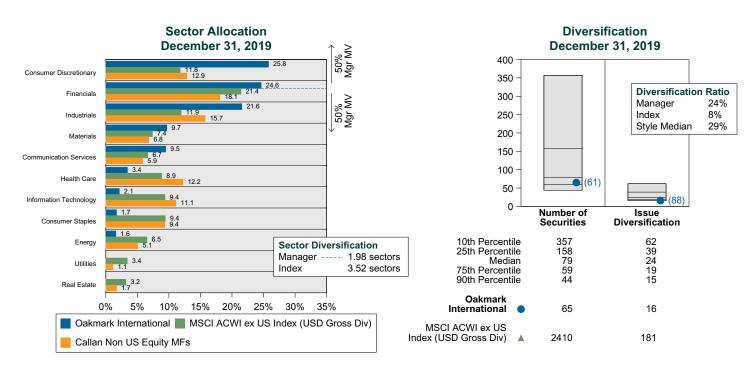
Portfolio Characteristics

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

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



Sector Weights



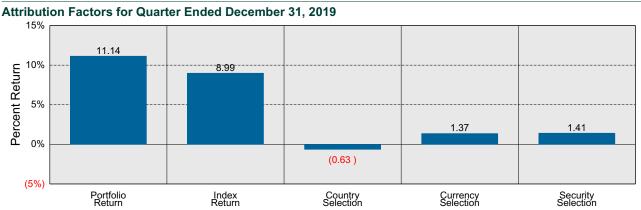


Oakmark International vs MSCI ACWIxUS Gross Attribution for Quarter Ended December 31, 2019

International Attribution

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







Mondrian International Period Ended December 31, 2019

Investment Philosophy

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

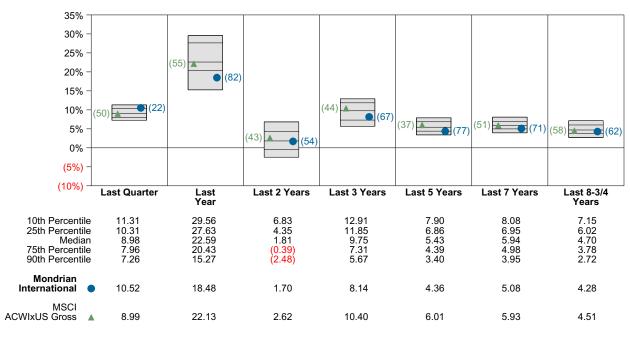
Quarterly Summary and Highlights

- Mondrian International's portfolio posted a 10.52% return for the quarter placing it in the 22 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 82 percentile for the last year.
- Mondrian International's portfolio outperformed the MSCI ACWIxUS Gross by 1.53% for the quarter and underperformed the MSCI ACWIxUS Gross for the year by 3.65%.

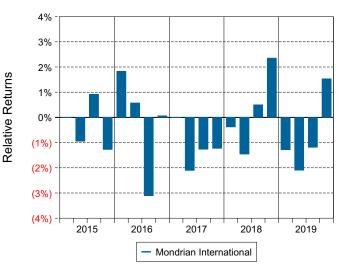
Quarterly	Asset	Growth
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Beginning Market Value	\$25,797,726
Net New Investment	\$0
Investment Gains/(Losses)	\$2,770,184
Ending Market Value	\$28 567 910

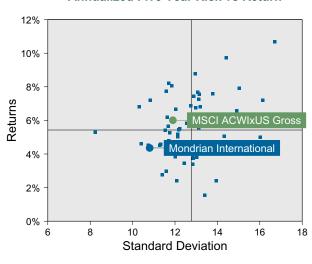
Performance vs Callan Non US Equity Mutual Funds (Net)



Relative Return vs MSCI ACWIxUS Gross



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



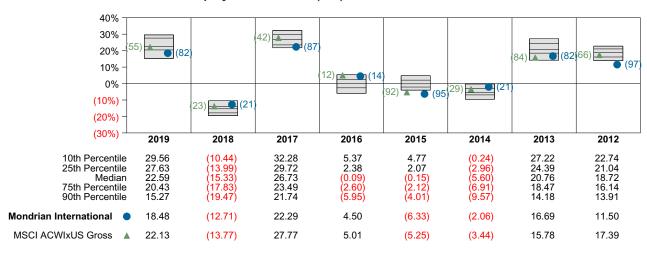


Mondrian International Return Analysis Summary

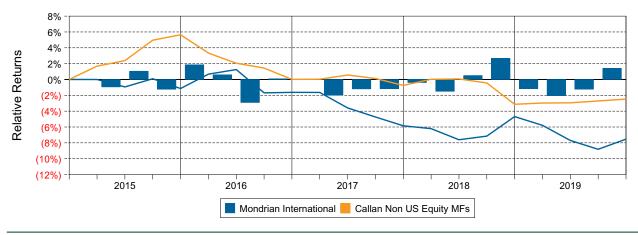
Return Analysis

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

Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs MSCI ACWIxUS Gross



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



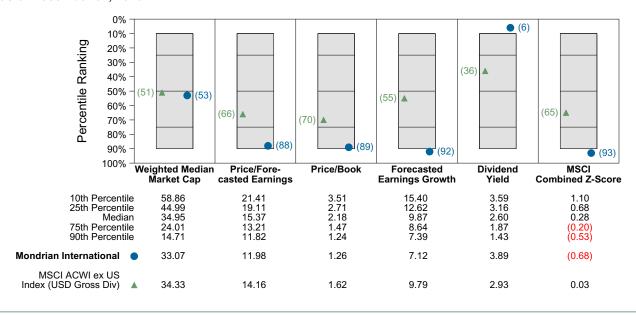


Mondrian International Equity Characteristics Analysis Summary

Portfolio Characteristics

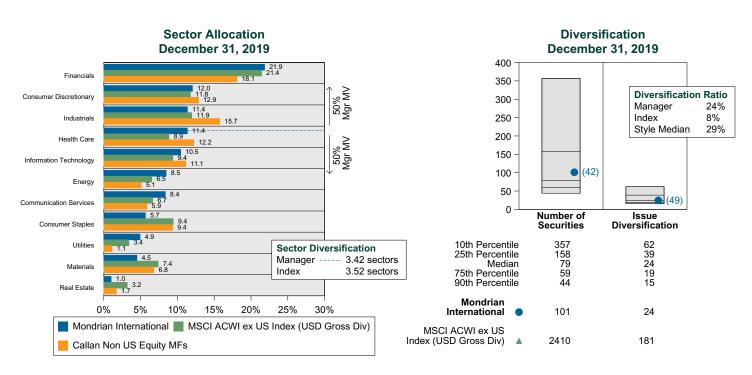
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights

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

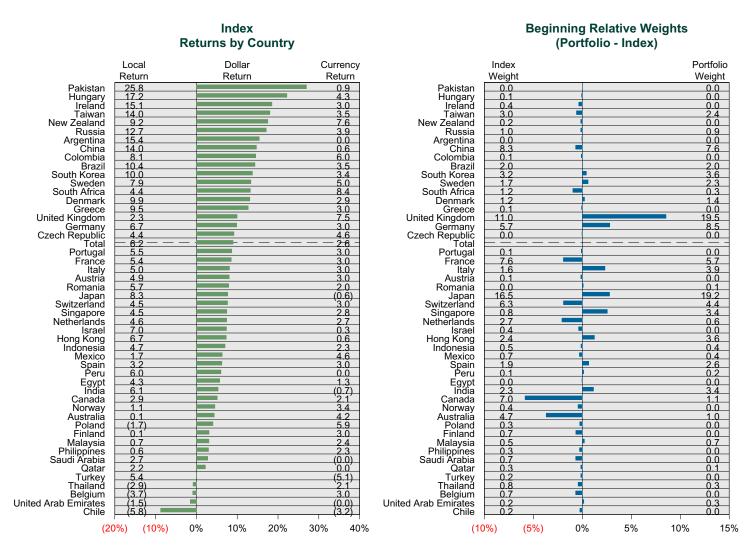


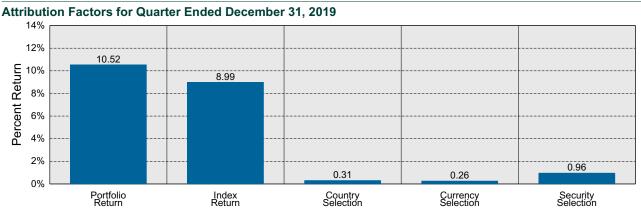


Mondrian International vs MSCI ACWIxUS Gross Attribution for Quarter Ended December 31, 2019

International Attribution

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







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

Investment Philosophy

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

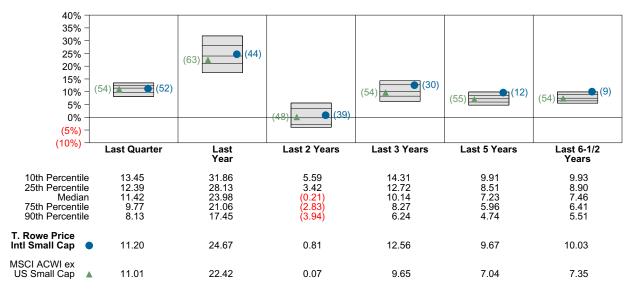
Quarterly Summary and Highlights

- T. Rowe Price Intl Small Cap's portfolio posted a 11.20% return for the quarter placing it in the 52 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 44 percentile for the last year.
- T. Rowe Price Intl Small Cap's portfolio outperformed the MSCI ACWI ex US Small Cap by 0.19% for the quarter and outperformed the MSCI ACWI ex US Small Cap for the year by 2.25%.

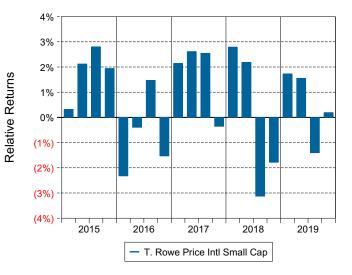
Quarterly Asset Growth

Beginning Market Value	\$21,278,959
Net New Investment	\$0
Investment Gains/(Losses)	\$2,445,023
Ending Market Value	\$23,723,982

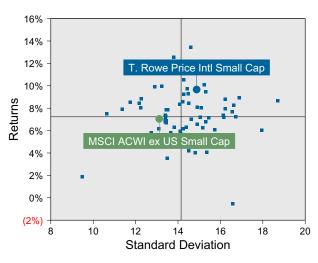
Performance vs Callan International Small Cap Mut Funds (Net)



Relative Returns vs MSCI ACWI ex US Small Cap



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



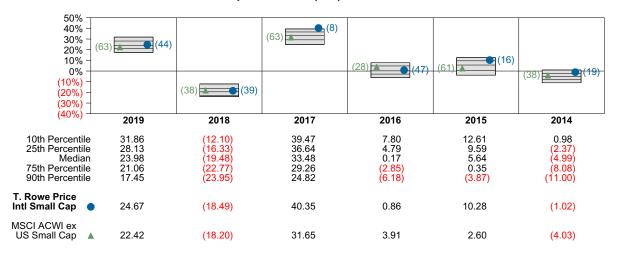


T. Rowe Price Intl Small Cap Return Analysis Summary

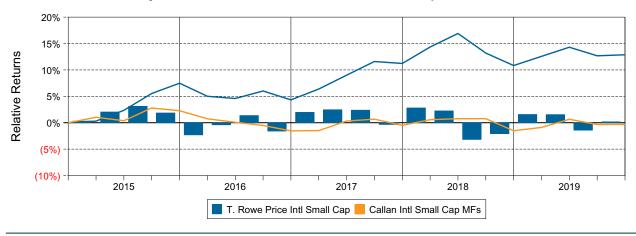
Return Analysis

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

Performance vs Callan International Small Cap Mut Funds (Net)



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



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



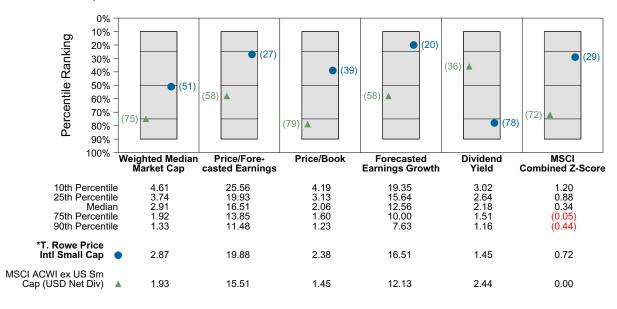


T. Rowe Price Intl Small Cap Equity Characteristics Analysis Summary

Portfolio Characteristics

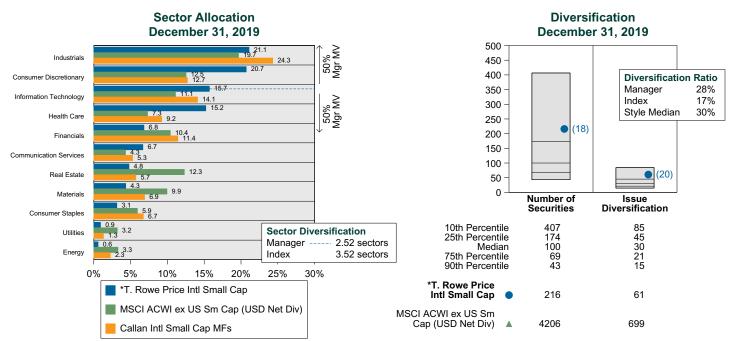
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights

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



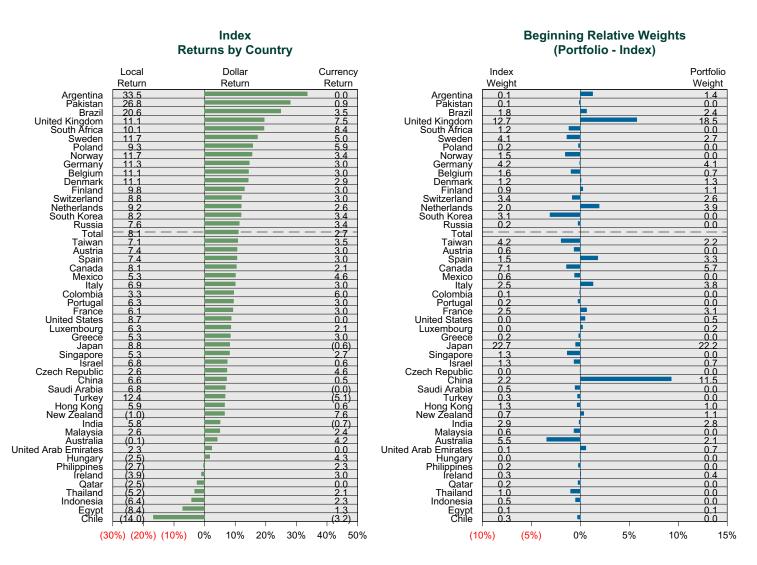
^{*12/31/19} portfolio characteristics generated using most recently available holdings (9/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

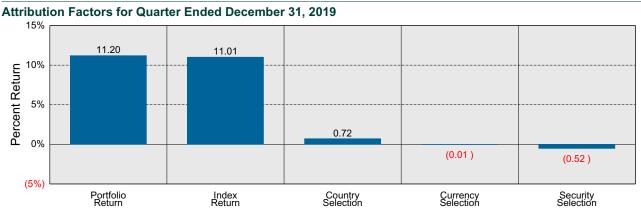


T. Rowe Price Intl Small Cap vs MSCI ACWI ex US Small Cap Attribution for Quarter Ended December 31, 2019

International Attribution

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







Investec

Period Ended December 31, 2019

Investment Philosophy

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

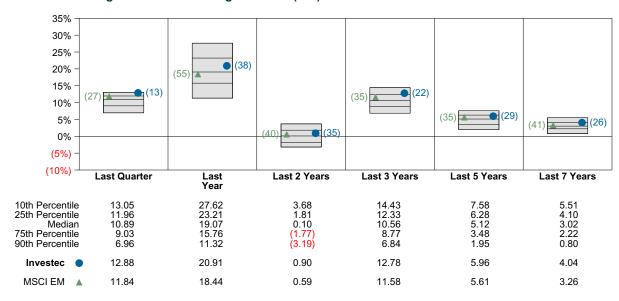
Quarterly Summary and Highlights

- Investec's portfolio posted a 12.88% return for the quarter placing it in the 13 percentile of the Morningstar Diversified Emg Mkts Fds group for the quarter and in the 38 percentile for the last year.
- Investec's portfolio outperformed the MSCI EM by 1.04% for the quarter and outperformed the MSCI EM for the year by 2.47%.

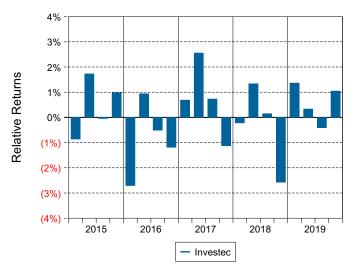
Quarterly Asset Growth

Beginning Market Value	\$14,361,788
Net New Investment	\$0
Investment Gains/(Losses)	\$1,882,116
Ending Market Value	\$16,243,904

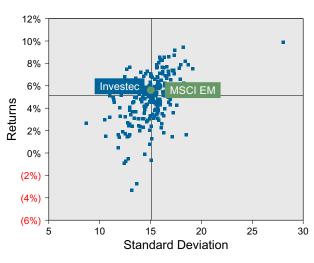
Performance vs Morningstar Diversified Emg Mkts Fds (Net)



Relative Return vs MSCI EM



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



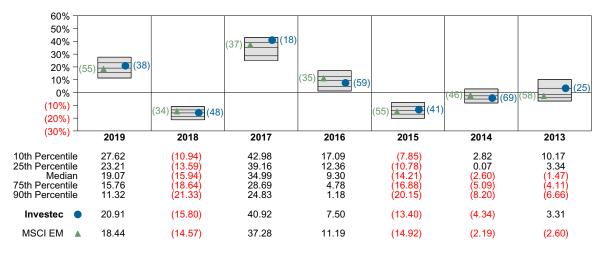


Investec Return Analysis Summary

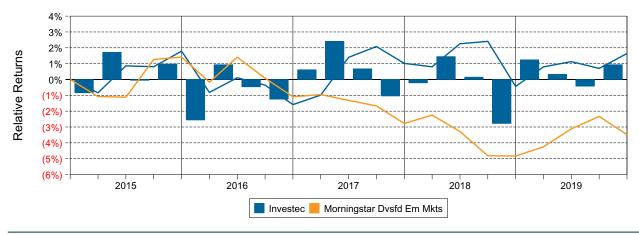
Return Analysis

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

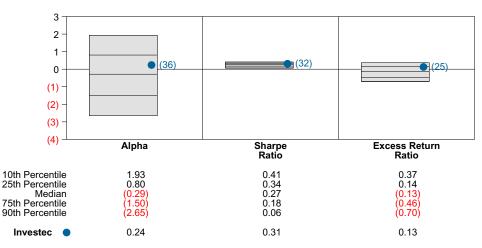
Performance vs Morningstar Diversified Emg Mkts Fds (Net)



Cumulative and Quarterly Relative Return vs MSCI EM



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





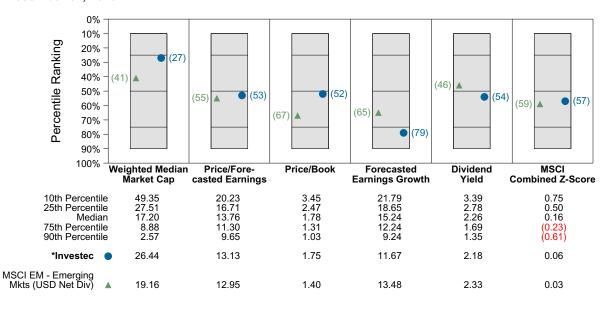
Investec

Equity Characteristics Analysis Summary

Portfolio Characteristics

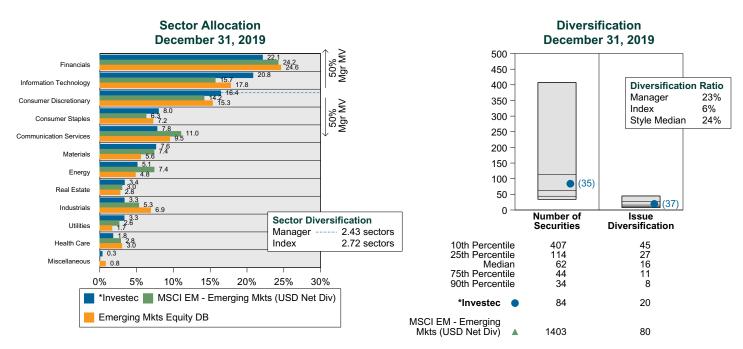
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Weights

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



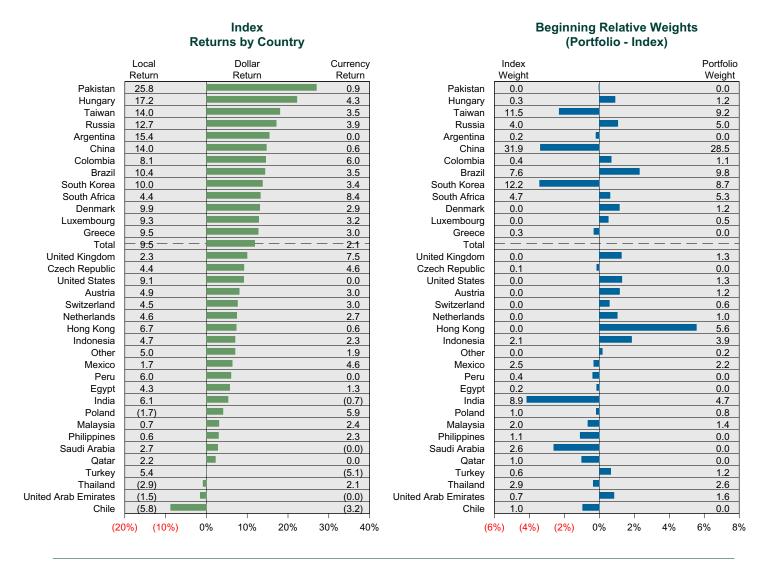
^{*12/31/19} portfolio characteristics generated using most recently available holdings (9/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

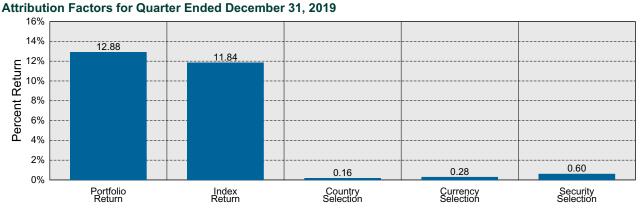


Investec vs MSCI EM Attribution for Quarter Ended December 31, 2019

International Attribution

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







Domestic Fixed Income Composite Period Ended December 31, 2019

Quarterly Summary and Highlights

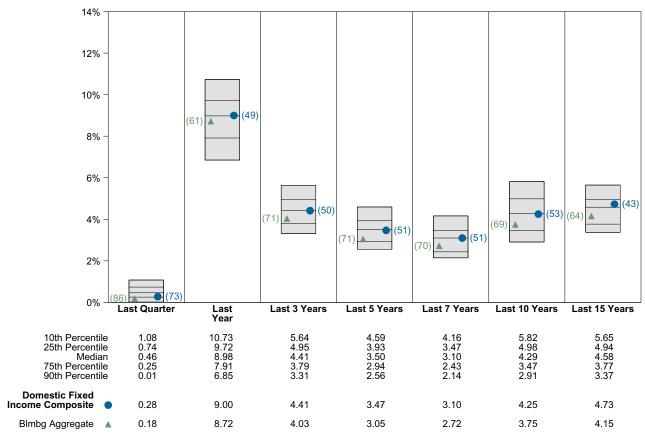
- Domestic Fixed Income Composite's portfolio posted a 0.28% return for the quarter placing it in the 73 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 49 percentile for the last year.
- Domestic Fixed Income Composite's portfolio outperformed the Blmbg Aggregate by 0.10% for the quarter and outperformed the Blmbg Aggregate for the year by 0.28%.

Quarterly Asset Growth

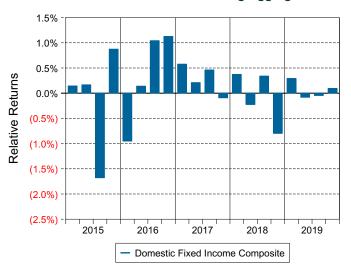
Beginning Market Value\$114,149,899Net New Investment\$0Investment Gains/(Losses)\$315,981

Ending Market Value \$114,465,881

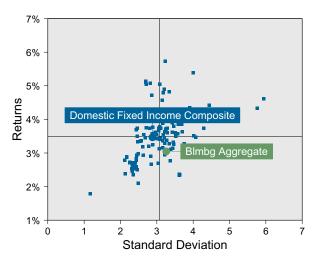
Performance vs Public Fund - Domestic Fixed (Net)



Relative Return vs Blmbg Aggregate



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



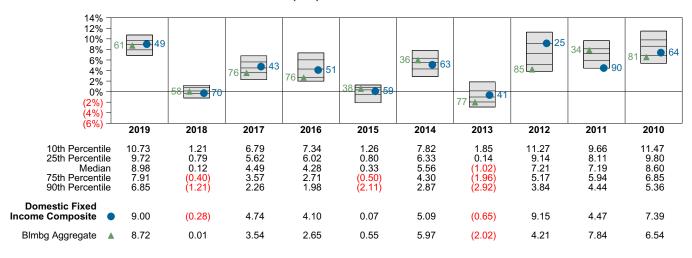


Domestic Fixed Income Composite Return Analysis Summary

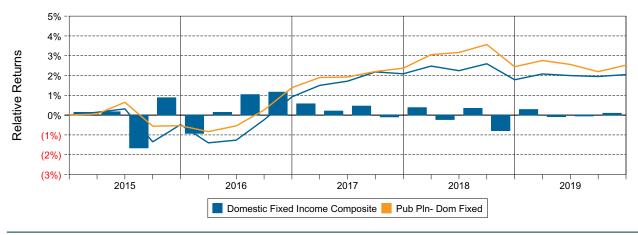
Return Analysis

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.

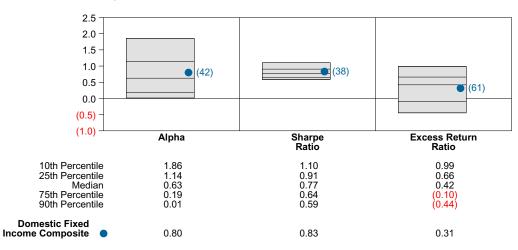
Performance vs Public Fund - Domestic Fixed (Net)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



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



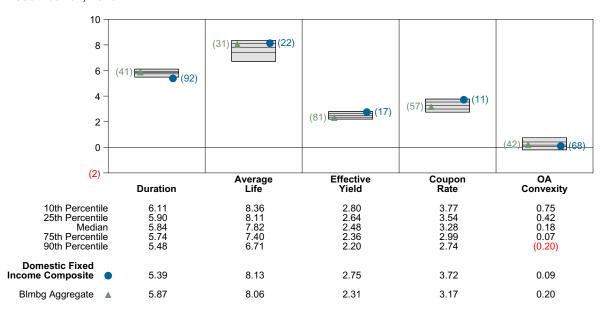


Domestic Fixed Income Composite Bond Characteristics Analysis Summary

Portfolio Characteristics

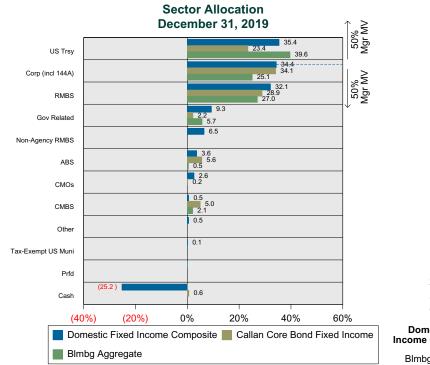
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

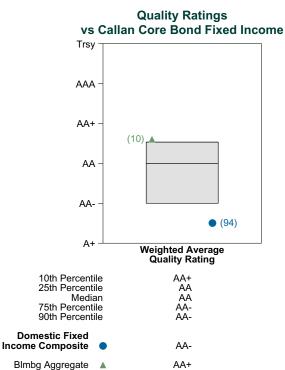
Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of December 31, 2019



Sector Allocation and Quality Ratings

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







Dodge & Cox Income Period Ended December 31, 2019

Investment Philosophy

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

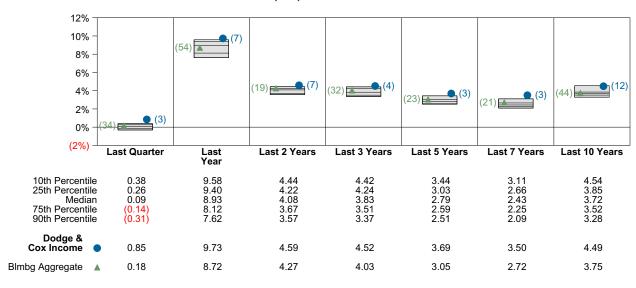
Quarterly Summary and Highlights

- Dodge & Cox Income's portfolio posted a 0.85% return for the quarter placing it in the 3 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 7 percentile for the last year.
- Dodge & Cox Income's portfolio outperformed the Blmbg Aggregate by 0.67% for the quarter and outperformed the Blmbg Aggregate for the year by 1.01%.

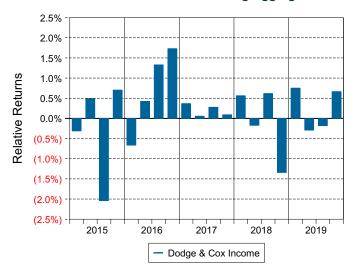
Quarterly Asset Growth

Beginning Market Value	\$57,214,834
Net New Investment	\$0
Investment Gains/(Losses)	\$484,257
Ending Market Value	\$57,699,090

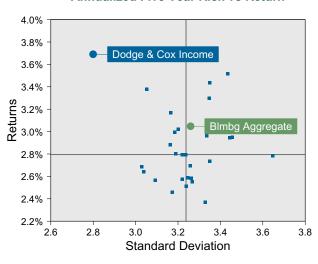
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



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



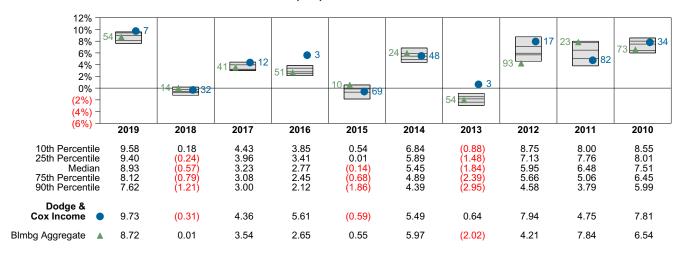


Dodge & Cox Income Return Analysis Summary

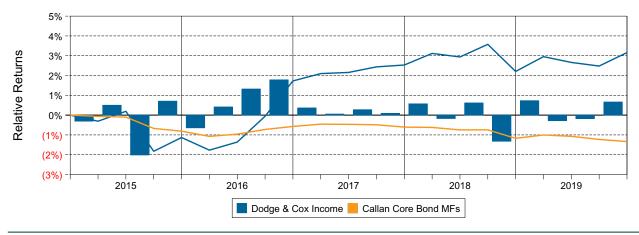
Return Analysis

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

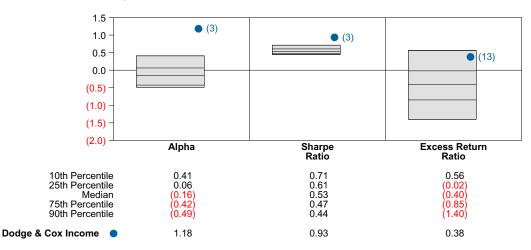
Performance vs Callan Core Bond Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



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



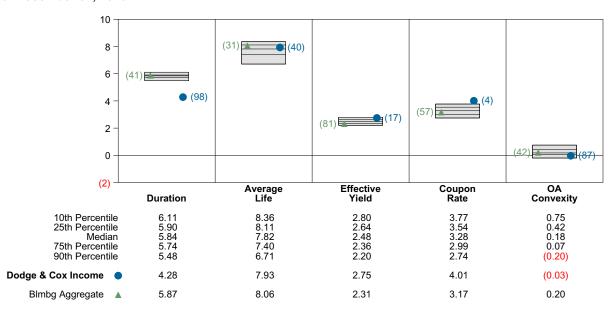


Dodge & Cox Income Bond Characteristics Analysis Summary

Portfolio Characteristics

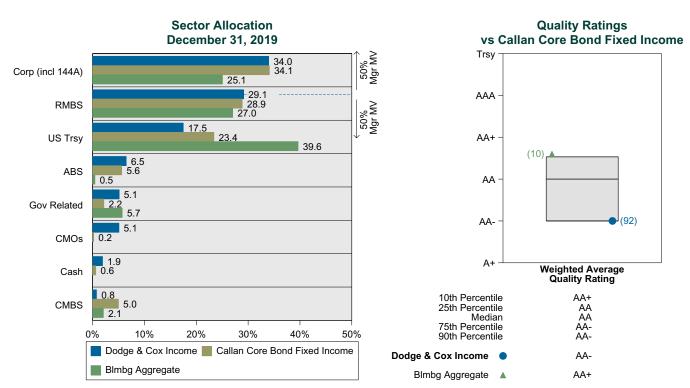
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



Sector Allocation and Quality Ratings

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





PIMCO

Period Ended December 31, 2019

Investment Philosophy

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

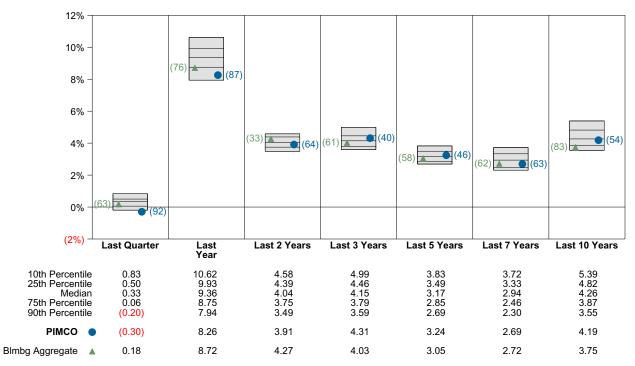
Quarterly Summary and Highlights

- PIMCO's portfolio posted a (0.30)% return for the quarter placing it in the 92 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 87 percentile for the last year.
- PIMCO's portfolio underperformed the Blmbg Aggregate by 0.48% for the quarter and underperformed the Blmbg Aggregate for the year by 0.46%.

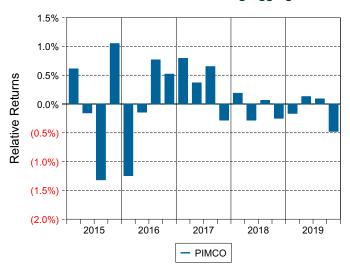
Quarterly	Asset	Growth
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Beginning Market Value	\$56,935,066
Net New Investment	\$0
Investment Gains/(Losses)	\$-168,276
Ending Market Value	\$56,766,790

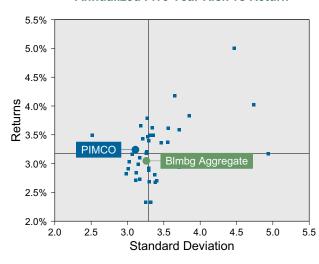
Performance vs Callan Core Plus Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



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



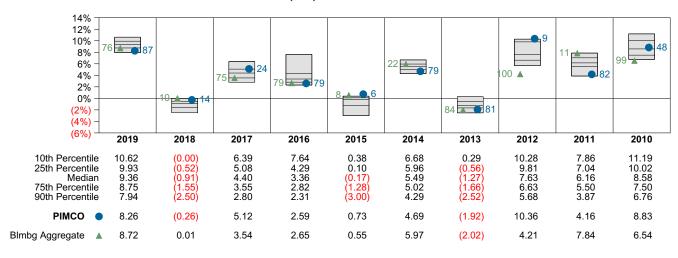


PIMCO Return Analysis Summary

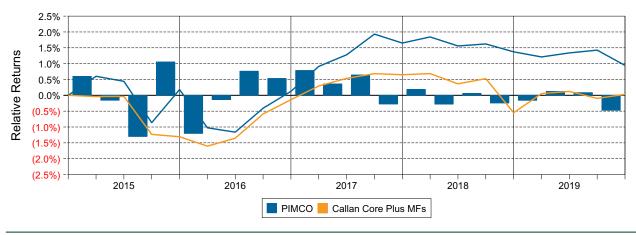
Return Analysis

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

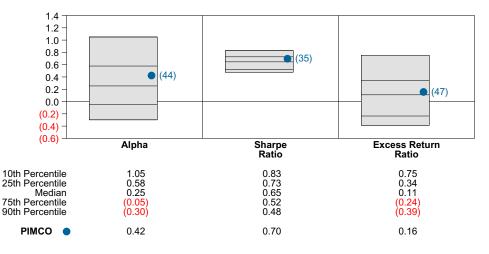
Performance vs Callan Core Plus Mutual Funds (Net)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



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





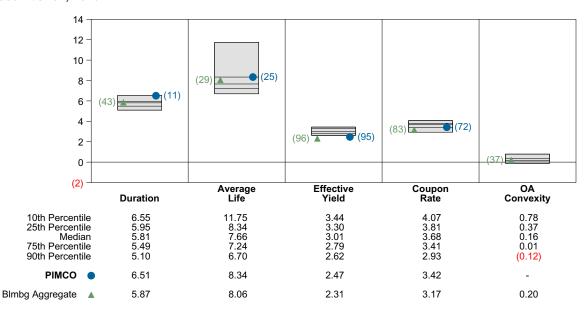
PIMCO

Bond Characteristics Analysis Summary

Portfolio Characteristics

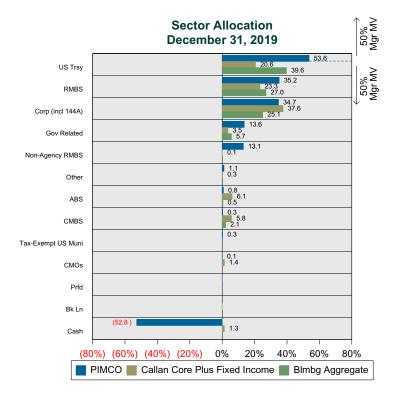
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

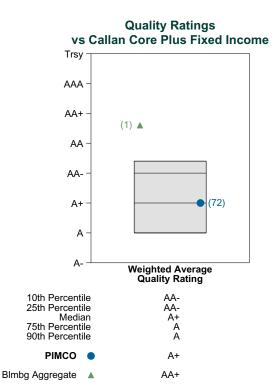
Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of December 31, 2019



Sector Allocation and Quality Ratings

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







Real Estate Composite Period Ended December 31, 2019

Quarterly Summary and Highlights

- Real Estate Composite's portfolio posted a 1.41% return for the quarter placing it in the 86 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 51 percentile for the last year.
- Real Estate Composite's portfolio outperformed the Real Estate Custom Benchmark by 0.10% for the quarter and outperformed the Real Estate Custom Benchmark for the year by 1.24%.

Quarterly Asset Growth

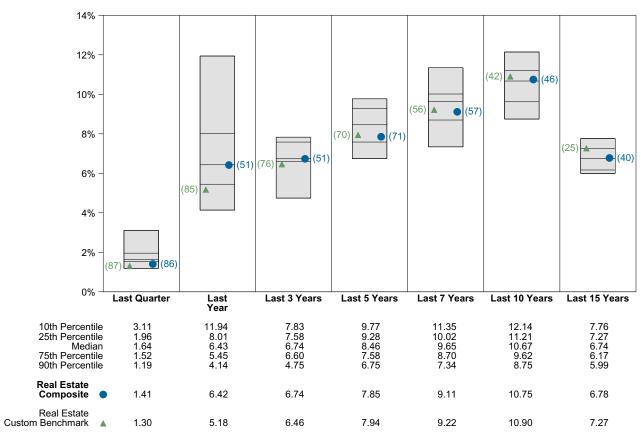
Beginning Market Value \$60,928,573

Net New Investment \$-31,034

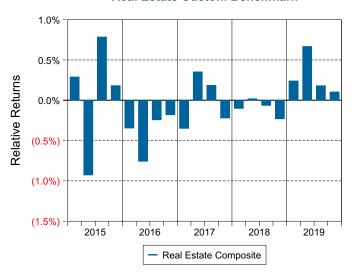
Investment Gains/(Losses) \$856,733

Ending Market Value \$61,754,272

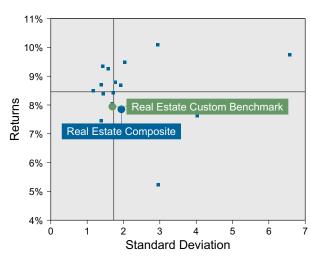
Performance vs Callan Open End Core Cmmingled Real Est (Net)



Relative Returns vs Real Estate Custom Benchmark



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





RREEF Private Period Ended December 31, 2019

Investment Philosophy

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

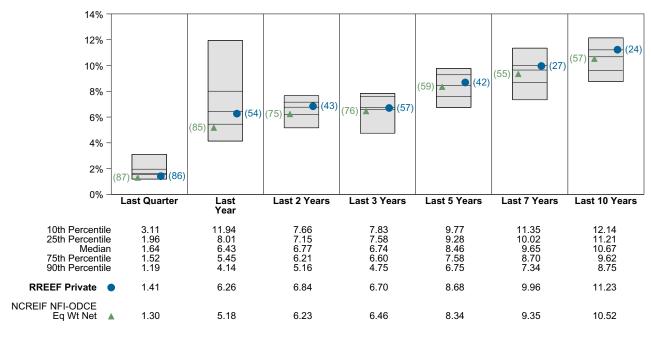
Quarterly Summary and Highlights

- RREEF Private's portfolio posted a 1.41% return for the quarter placing it in the 86 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 54 percentile for the last year.
- RREEF Private's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 0.11% for the quarter and outperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 1.09%.

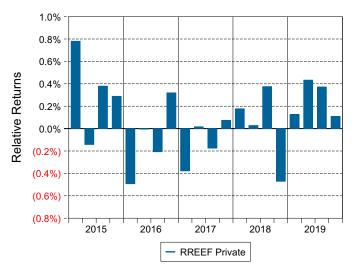
Quarterly	y Asset Growth
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Beginning Market Value	\$31,264,241
Net New Investment	\$0
Investment Gains/(Losses)	\$441,558
Ending Market Value	\$31,705,799

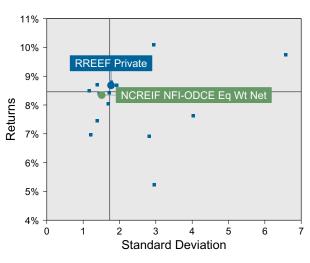
Performance vs Callan Open End Core Cmmingled Real Est (Net)



Relative Returns vs NCREIF NFI-ODCE Eq Wt Net



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





Barings Core Property Fund Period Ended December 31, 2019

Investment Philosophy

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

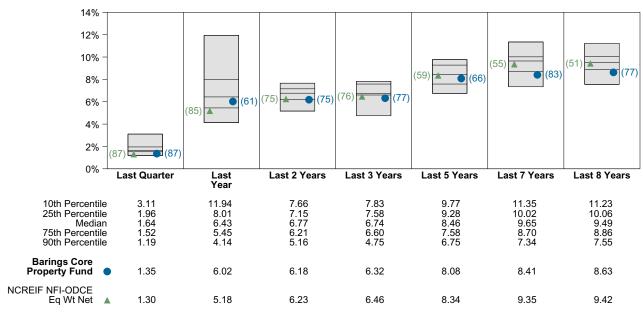
Quarterly Summary and Highlights

- Barings Core Property Fund's portfolio posted a 1.35% return for the quarter placing it in the 87 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 61 percentile for the last year.
- Barings Core Property Fund's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 0.05% for the quarter and outperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.85%.

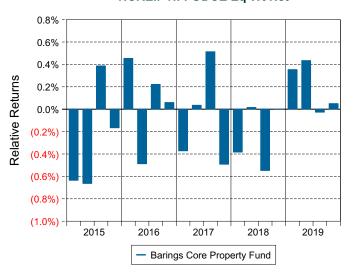
Quarterly Asset Growth

Beginning Market Value	\$28,376,332
Net New Investment	\$0
Investment Gains/(Losses)	\$384,141
Ending Market Value	\$28,760,473

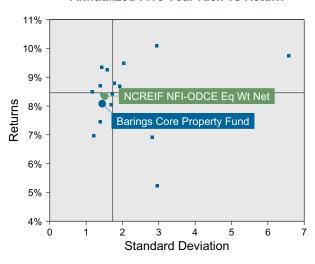
Performance vs Callan Open End Core Cmmingled Real Est (Net)



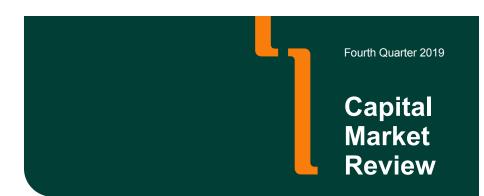
Relative Returns vs NCREIF NFI-ODCE Eq Wt Net



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









Anticipated Recession Fails to Materialize

ECONOMY

GDP grew at 2.1% for the fourth quarter, unemployment fell to a generational low, wages and incomes showed robust gains, inflation remained contained, and, of course, stock and bond markets soared in 2019. So much for the most anticipated recession in history.

Strong Gains for Year Amid Equity Boom

INSTITUTIONAL INVESTORS

Corporate DB plans gained the most among plan types in 2019. Over the last 20 years, public DB plans topped the performance list, but all plan types rose in a narrowly bound range between 6.0%-6.1%, exceeding a 60% stocks-40% bonds benchmark.

Jump in Quarter Fuels Notable Year

EQUITY

The fourth quarter closed out a near-historic year for equity markets; the S&P 500 ended 2019 up 31.5%—enough to become the second-strongest year of the decade. Global equity markets bounced back in the fourth quarter as geopolitical uncertainties abated.

Yields Are Mixed but Returns Are Strong

FIXED INCOME

Yield movement was mixed in the U.S. as short-term rates fell and long-term rates rose amid ongoing trade negotiations. Major U.S. bond indices showed strong gains for the year. Global fixed income markets also posted broad increases for the quarter and the year.

Real Estate Healthy; Real Assets Gain

REAL ESTATE/REAL ASSETS

U.S. core real estate returns continued to moderate; Industrial outperformed other property types. REITs gained but lagged global equities. Asian and European markets were affected by geopolitical tensions. Real assets returns were strong in the quarter.

Most Activity Fell Moderately in 2019

PRIVATE EQUITY

Except for fundraising, all private equity activity measures declined moderately in 2019. The drops largely owe to record-level prices throughout the year. But overall private equity and capital market liquidity remained healthy and transaction volume is brisk.

Party Like It's 1999 ... or Not

HEDGE FUNDS/MACs

While stocks celebrated the end of 2019, hedge funds were the party's designated driver. Portfolios exposed to EM and long-short equity topped those emphasizing equity market neutral or macro strategies. MAC returns varied depending on net market exposures.

DC Index Gains, Tops Age 45 TDF

DEFINED CONTRIBUTION

The Callan DC Index[™] rose 0.6% in the third quarter, compared to 0.5% for the Age 45 Target Date Fund. The Index's growth in balances of 0.1%

Index's growth in balances of 0.1% was much smaller than the first and second quarters. Asset allocation to TDFs hit 29.6%, the lowest since the first quarter of 2017.

Broad Market Quarterly Returns

U.S. Equity Russell 3000



Global ex-U.S. Equity MSCI ACWI ex USA



U.S. Fixed IncomeBloomberg Barclays Agg



Global ex-U.S. Fixed Income Bloomberg Barclays Gbl ex US



Sources: Bloomberg Barclays, FTSE Russell, MSCI

The Most Anticipated Recession in History Fails to Materialize

ECONOMY | Jay Kloepfer

Real GDP grew at 2.1% for the fourth quarter of 2019, capping off a year pretty much no one anticipated for growth or the capital markets. GDP growth for the year came in at 2.3%, unemployment fell to yet another generational low, wages and incomes continued to show robust gains, and yet inflation remained contained. The Fed paused on its path to interest rate normalization in January 2019, cut rates twice in the third quarter and once more in October, before declaring its work done. The trade war dominated headlines and jerked around market sentiment, but the actual impact on U.S. GDP growth has been held below a cumulative hit of 1 percentage point.

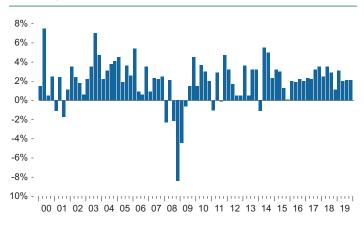
Stock markets around the globe rallied during 2019, with the S&P 500 climbing 31.5%, MSCI ACWI ex-USA up 21.5%, and MSCI Emerging Markets up 18.4%. The most eye-opening development of the year was the bond market rally following the Fed pivot in policy, driving a gain of 8.7% for the Bloomberg Barclays US Aggregate Bond Index and almost 20% for the Long Government/Credit Index. So much for the most anticipated recession in history.

Many analysts have begun touting that we already touched bottom in the global growth cycle during the fourth quarter of 2019. The "growth recession" was over before we knew it was fully upon us. The consensus short-term outlook is far more bullish than it was a year ago, although the medium-term outlook (three to five years) contains more concerns. Persistent low inflation gives central banks the cover to continue supportive monetary policy, but this support could evaporate if inflation is resurgent. The volume of corporate credit has exploded, and much of it is lower rated; any sign of real weakness in the economy raises concerns about quality and spread widening. Finally, it is entirely unclear how the current negative interest rate environment across much of Europe evolves.

Buried in the GDP numbers are several developments that support continuing growth in the U.S. economy, at least over the shorter term. First, the 2.1% increase in the fourth quarter

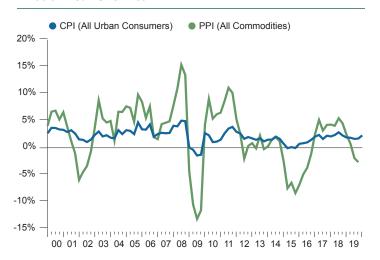
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

includes the drag on growth from the GM strike and the slowdown in Boeing 737 Max production.

Second, inventory accumulation slowed substantially in the fourth quarter, another drag on growth. The end of the GM strike, the eventual resumption of 737 Max production, and the rebuilding of inventories all point toward sustained growth in the U.S. in 2020.

Consumer spending remains strong, fueled by buoyant consumer confidence, a strong labor market, a generational low unemployment rate (3.5%), and personal income growth of just under 4%. The reversal in interest rates will find its way into lower debt costs for consumers, and household debt levels are far below pre-GFC levels. The Fed lowered the federal funds rate by 75 basis points, and given expectations for three rate INCREASES a year ago, rates now sit 150 bps lower than expected. This Fed pivot has greatly benefited interest-sensitive sectors of the economy and consumer balance sheets.

One more support for GDP growth has been a reduction in imports (which are a negative in the GDP calculation), and a corresponding increase in net exports. Imports surged in advance of the application of tariffs early in 2019. U.S. suppliers appear to have quickly found alternatives to China, increasing our imports from Asian countries ex-China to offset some of the decline in imports from China.

Not only did the recession not appear in 2019, near-term recession risks are abating. The announced phase one trade deal between the U.S. and China will suspend some tariffs and address issues of intellectual property and forced transfers of technology. The largest impact is on investor and business sentiment. World GDP growth slowed from 4% at the end of 2017 to below 3% by mid-2019, as a collection of negative shocks (Brexit, trade, geopolitical uncertainty) and lagged effects of monetary tightening hit some of the world's largest economies. The drag from these shocks has faded and monetary policy has loosened around the world. The emerging markets have already embarked on a cyclical upturn, and the developed

The Long-Term View

S&P 500 9.1 31.5 11.7 13.6 10 Russell 2000 9.9 25.5 8.2 11.8 9 Global ex-U.S. Equity MSCI EAFE 8.2 22.0 5.7 5.5 5.0 MSCI ACWI ex USA 8.9 21.5 5.5 5.0 MSCI Emerging Markets 11.8 18.4 5.6 3.7 MSCI ACWI ex USA Small Cap 11.0 22.4 7.0 6.9 5 Fixed Income	1/19
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Fixed Income	
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Bloomberg Barclays Agg 0.2 8.7 3.0 3.7	5.6
90-Day T-Bill 0.5 2.3 1.1 0.6 2	2.5
Bloomberg Barclays Long G/C -1.1 19.6 5.4 7.6	7.9
Bloomberg Barclays Gl Agg ex US 0.7 5.1 1.6 1.5	4.4
Real Estate	
NCREIF Property 1.5 6.4 8.2 10.2 9	9.3
FTSE Nareit Equity -0.8 26.0 7.2 11.9 10	10.6
Alternatives	
CS Hedge Fund 2.4 9.3 2.6 4.3 7	7.8
Cambridge PE* 0.9 9.5 12.4 13.8 15	15.3
Bloomberg Commodity 4.4 16.8 13.8 11.6 15	15.5
Gold Spot Price 3.4 18.9 5.2 3.3 5	5.7
Inflation – CPI-U 0.1 2.3 1.8 1.8 2	2.2

^{*}Data for most recent period lags by a quarter. Data as of Sept. 30, 2019. Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices, Refinitiv/Cambridge

economies are about to join them, led by the U.S. The fourth quarter of 2019 likely marked the trough in global GDP growth. The recovery in trade should help lead the way, after the collapse in trade volumes in late 2018.

Recent Quarterly Economic Indicators

	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18
Employment Cost–Total Compensation Growth	2.7%	2.8%	2.7%	2.8%	2.9%	2.8%	2.8%	2.7%
Nonfarm Business–Productivity Growth	0.0%*	-0.2%	2.5%	3.5%	0.1%	1.2%	1.8%	0.9%
GDP Growth	2.1%	2.1%	2.0%	3.1%	1.1%	2.9%	3.5%	2.5%
Manufacturing Capacity Utilization	74.9%	75.4%	75.5%	76.4%	77.0%	76.9%	76.4%	76.1%
Consumer Sentiment Index (1966=100)	97.2	93.8	98.4	94.5	98.2	98.1	98.3	98.9

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

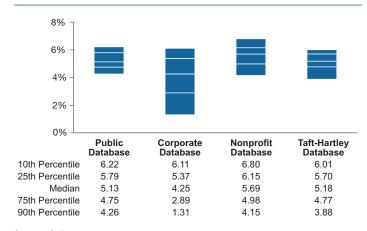
^{*} Estimated figure provided by IHS Markit

Steady Returns Continue Amid Equities Rebound

INSTITUTIONAL INVESTORS

- A quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio increased 22.2% over the one year ended Dec. 31, 2019, driven by the stock market's huge gains and exceptionally strong returns from bonds.
 All broad institutional investor groups underperformed this benchmark.
- U.S. equity markets continued their pattern of outperforming global ex-U.S. equity, a pattern that has persisted since 2018.
- Corporate defined benefit (DB) plans gained the most among plan types over the one-year period. Public DB plans trailed all investor types.
- Over most longer time periods, Taft-Hartley plans have been the top performer. Over the last 20 years, public DB plans topped the performance list, but all plan types rose in a narrowly bound range between 6.0%-6.1%. In that time period, all plan types exceeded the stocks-bonds benchmark.
- In the current market environment, institutional investors are focused on reevaluating the purpose and implementation of all diversifiers, including real assets, hedge funds and liquid alternatives, fixed income, and private markets.

Quarterly Returns, Callan Database Groups



Source: Callan

- Return enhancement remains a top priority for public and corporate DB plans and nonprofits. Corporate DB plans also see funding status as a top priority. DC plans see fees as the top priority.
- Public DB plans are also concerned about their high risk exposures but resist de-risking when their shorter-horizon projected return on assets (ROA) is lower than their longterm ROA.

Callan Database Median and Index Returns* for Periods Ended 12/31/19

Database Group	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Public Database	5.13	17.75	9.40	7.11	8.25	6.73
Corporate Database	4.25	19.87	9.55	6.96	8.40	6.80
Nonprofit Database	5.69	18.81	9.38	6.81	8.12	6.58
Taft-Hartley Database	5.18	18.00	9.36	7.50	8.66	6.59
All Institutional Investors	5.19	18.53	9.41	7.08	8.35	6.67
Large (>\$1 billion)	4.79	17.56	9.59	7.26	8.59	6.88
Medium (\$100mm - \$1bn)	5.20	18.55	9.42	7.15	8.35	6.58
Small (<\$100 million)	5.38	18.93	9.29	6.91	8.16	6.55

^{*}Returns less than one year are not annualized.

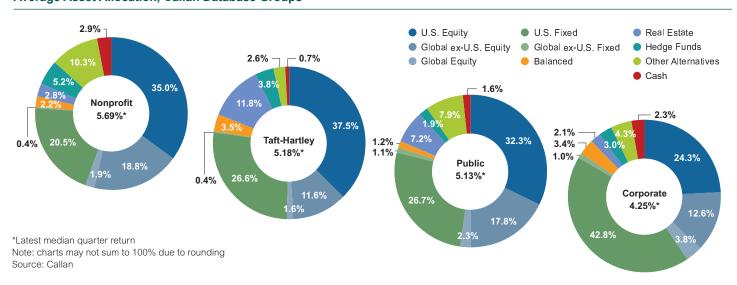
Source: Callan. Callan's database includes the following groups: public defined benefit, corporate defined benefit, nonprofits, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no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

INSTITUTIONAL INVESTORS (Continued)

- Callan has seen a surge in asset-liability studies, with substantial changes to many policy portfolios.
- Institutional investors are also taking steps to de-risk (less equity) and looking at risk mitigation (diversification and implementation), but there is some dissatisfaction with hedge funds, risk premia, and absolute return strategies. Some DB plans have terminated their hedge fund exposures; thus far, nonprofits have largely retained confidence in their hedge fund allocations.
- There are continued signs of interest in environmental, social, and governance (ESG) factors, with many public DB plans having had some discussions around the subject.
- Defined contribution (DC) plans are grappling with the implications of the SECURE Act (for Setting Every Community Up for Retirement Enhancement), whose sweeping nature means that the impact on policy cannot be underestimated within the retirement industry, since major changes (target date funds, auto features, etc.) were largely driven by previous regulatory and legislative catalysts.
- DC plans are also continuing to examine their default option, looking at the suitability of the current option in light of other alternatives both in the same asset class (often target date funds) but also in light of other options (e.g., managed accounts).

- In assessing the capital market environment, institutional investors are focused on how long the current expansion can continue. In evaluating specific investment alternatives, they face three key questions:
 - 1. Is value dead?
 - 2. Is there any hope for active management?
 - 3. Why should they bother with global ex-U.S. equities?
- For investors, the reversal in Fed policy has changed the landscape. It has created an added role for central banks. that of sustaining the expansion, which is a positive for equity ownership. The new yield environment and capital market assumptions going forward also create a challenge for investors, as they try to determine how to diversify their growth/equity risk without incurring a huge opportunity cost.
- In examining alternatives, institutional investors are looking at the most effective ways they can implement allocations in the private market. Is it worth the trouble to create a bespoke program implementation, and at what size and how much effort is required? This applies to private equity, real assets, absolute return, and diversifying assets.

Average Asset Allocation, Callan Database Groups



Equity

U.S. Equities

The fourth quarter closed out a near-historic year for equity markets, in particular the S&P 500, which ended 2019 up 31.5%—enough to claim second place behind 2013 for the strongest year of the decade (during which large cap equities only saw one down year). Both Apple (+85%) and Microsoft (+54%) reached over \$1 trillion in market cap and accounted for 15% of the S&P 500's advance for the year. Investors globally were spurred by three interest rate cuts by the Fed, a potential U.S.-China trade armistice, continued low inflation, and some clarity around Brexit.

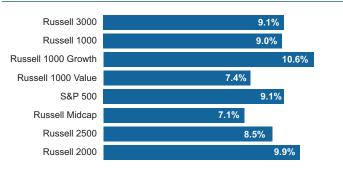
Small cap vs. large cap ► Russell 2000: +9.9% | Russell 1000: +9.0%

- Small cap trailed for most of 2019 but eclipsed large cap stocks in the fourth quarter due to notable contributions from the Health Care sector, where the biotech and pharmaceutical industries saw heightened new drug approvals and M&A activity during the quarter.
- Small growth outpaced small value for the quarter, the year, and the decade; the Russell 2000 Growth Index outpaced the Russell 2000 Value Index by 3% annualized over the past 10 years as the low interest rate environment favored growth stocks and challenged the Russell 2000 Value's heavy exposure to Financials.
- While small cap outpaced large cap in the fourth quarter, large cap stocks led for the third straight year, owing much to Tech (+50.3%) and Communication Services (+32.7%).

Growth vs. Value ► Russell 1000 Growth: +10.6% | Russell 1000 Value: +7.4%

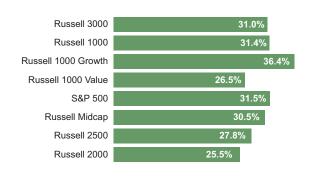
- Growth continued its dominance over value during the quarter, closing out a decade-long trend.
- Tech giants Facebook, Apple, Microsoft, and Alphabet/ Google remained meaningful contributors for the quarter, with Health Care (+14.4%) also among the top sector performers.

U.S. Equity: Quarterly Returns



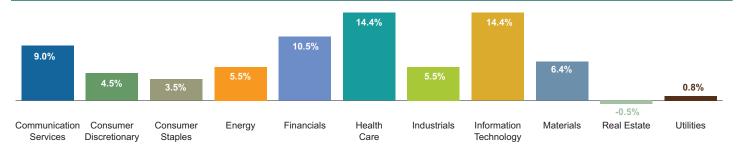
Sources: FTSE Russell and S&P Dow Jones Indices

U.S. Equity: One-Year Returns



Sources: FTSE Russell and S&P Dow Jones Indices

Quarterly Performance of Industry Sectors



Source: S&P Dow Jones Indices

The fourth quarter saw a rotation away from the more defensive sectors (e.g., Consumer Staples (+3.5%), Utilities (+0.8%), and Real Estate (-0.5%)) and into Cyclicals, further supporting growth stocks.

Global/Global ex-U.S. Equity

Global equity markets bounced back in the fourth guarter as uncertainties abated. De-escalation of the U.S.-China trade war coupled with some Brexit clarity boosted markets. With this backdrop, trade-related areas of the market led the rally.

Global/Developed ex-U.S. ► MSCI EAFE: +8.2% | MSCI World ex USA: +8.0% | MSCI ACWI ex USA: +8.9% | MSCI Pacific ex Japan: +5.8% | MSCI Japan: +7.6%

- British Prime Minister Boris Johnson gained command of the Parliament as a result of the Dec. 12 election, adding further clarity to Brexit and sparking the pound to its best quarterly results in a decade by rising 7.5% relative to the dollar.
- Accommodative policies such as a fiscal stimulus program and dovish monetary rhetoric continued to support the Japanese economy and its market.
- Despite GDP contraction of 3.2% and its first recession in a decade due to political protests, Hong Kong rose 7.3% as U.S.-China trade tensions improved.
- Every sector rose, led by Technology.

Emerging Markets ► *MSCI Emerging Markets Index:* +11.8%

- Emerging markets were the best-performing among the global ex-U.S. markets as trade war uncertainty receded.
- China soared 14.7% with easing trade tensions and expected fiscal and monetary stimulus packages in 2020.
- Brazil posted a 14.2% gain, its best quarter since late 2017, emboldened by President Jair Bolsonaro's deregulation policies, the country's 1.2% GDP growth, and pending pension reform.
- Russia was the best-performing country in 2019 (+50.9%) and a top five performer in the quarter (+16.8%) as rising oil prices over the past year helped fuel sentiment.
- Every sector generated positive returns, led by Asian technology companies, given the "phase one" trade deal, chip demands for 5G, and growth in China.

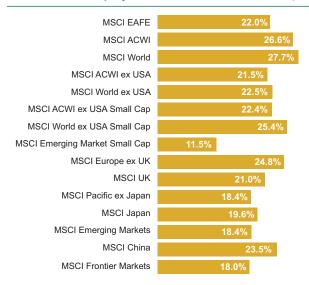
Global ex-U.S. Small Cap ► MSCI World ex USA Small Cap: +11.4% | MSCI EM Small Cap: +9.5%

- The "risk-on" market environment triggered by the U.S.-China trade war de-escalation enabled small caps to outperform large caps.
- Additional Brexit clarity drove the U.K. as the top country performer (+19.4%) within developed ex-U.S.
- Argentina (+33.5%) and Brazil (+24.8%) were two of the top EM country performers as key appointments in the Argentinian government, and deregulation and pension reform in Brazil, boosted market sentiment.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar)



Source: MSCI

Fixed Income

The Federal Open Market Committee (FOMC) cut short-term interest rates by 25 basis points once in the fourth quarter to 1.50%-1.75%, citing weak business investment and export data, along with muted inflation. The overall economic backdrop remained strong supported by a solid labor market, which led to a pause in rate cuts at the most recent FOMC meeting. The FOMC indicated its current monetary policy stance is appropriate to sustain the economic expansion. The European Central Bank kept rates steady while continuing to purchase assets in the open market. Yield movement was mixed in the U.S. as short-term rates fell and long-term rates rose amid ongoing trade negotiations.

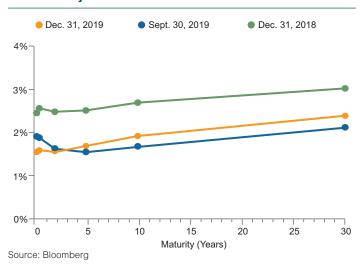
Core Fixed Income ► Bloomberg Barclays US Agg: +0.2%

- Treasuries fell 0.8% as the Treasury yield curve steepened, with yields falling on the short end and rising modestly in the intermediate and long end of the curve on expectations of stronger economic growth.
- The spread between the 2-year and 10-year Treasury remained positive, ending the year at 34 bps.
- Long Treasuries fell 4.1% as the 30-year yield rose 27 bps to end the year at 2.39% as investors favored risk assets.
- TIPS outperformed nominal Treasuries as inflation expectations rose; the 10-year breakeven spread was 1.77% at guarter end, up from 1.53% as of Sept. 30.

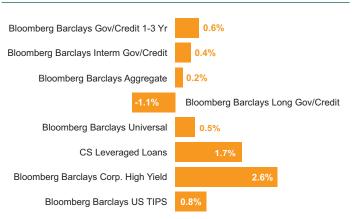
Investment-Grade Corporates ► Bloomberg Barclays Corporate (Inv. Grade): +1.2%

- Investment grade corporate credit spreads narrowed in the fourth quarter and posted the best results within the Bloomberg Barclays US Aggregate Bond Index amid a risk-on market environment; BBB-rated corporates (+1.7%) outperformed single A-rated or higher corporates (+0.7%), indicating investors' willingness to extend risk down the credit spectrum.
- Issuance in the corporate bond market was \$200 billion in the fourth quarter, which was \$8 billion lower than that from a year ago. Issuance was \$140 billion lower compared to

U.S. Treasury Yield Curves

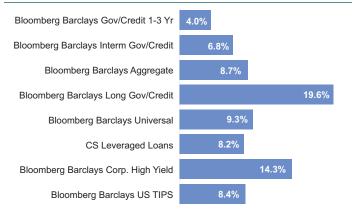


U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

FIXED INCOME (Continued)

the third quarter, as is typical toward year-end; demand remained strong amid the risk-on market tone as global investors continued their hunt for positive-yielding assets.

High Yield ► Bloomberg Barclays Corporate HY: +2.6%

- CCC-rated corporates (+3.7%) outperformed BB-rated corporates (+2.5%), as the risk-on market sentiment spurred demand for lower-rated securities.
- Spreads across credit quality buckets tightened in the fourth quarter, as the market anticipated improvements in credit fundamentals.

Leveraged Loans ► *CS Leveraged Loans*: +1.7%

- Bank loans. which have floating-rate coupons. underperformed high yield as investors shunned loans in favor of high yield bonds.
- CLO issuance remained consistent, providing technical support for the leveraged loan market.

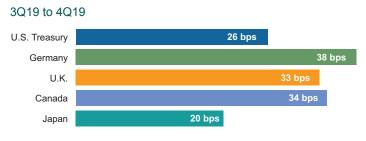
Global Fixed Income ► Bloomberg Barclays Global Aggregate (unhedged): +0.5% | (hedged): -0.5%

- Developed market sovereign bond yields rose modestly in the fourth quarter as global financial conditions improved, but ended lower on the year. The ECB kept the deposit rate steady at its December meeting; negative-yielding debt totaled less than \$12 trillion, down from \$17 trillion in the third quarter.
- The U.S. dollar declined in the fourth guarter versus the euro, Australian dollar, and British pound; however, it had a modest gain versus the Japanese yen.

Emerging Market Debt (\$US) ► JPM EMBI Global Diversified: +1.8% | (Local currency) ► JPM GBI-EM Global Diversified: +5.2%

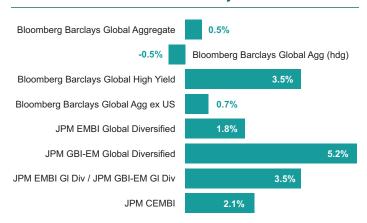
- Broadly, emerging market debt benefited from dovish global central banks and a risk-on environment.
- Within the dollar-denominated benchmark, which posted mixed results, Lebanon (-29.4%) was an outlier as the debt-to-GDP ratio continued to swell and anti-government protests persisted; Argentina rallied (+20.8%) to end the year down 23.6% as a new president was inaugurated.

Change in 10-Year Global Government Bond Yields



Source: Bloomberg Barclays

Global ex-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Global ex-U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

Returns in the local debt benchmark were largely positive, with only Chile (-6.2%) and the Dominican Republic (-0.7%) declining. South Africa (+10.2%) and Russia (+10.0%) were top performers.

Real Estate Stays the Course; Real Assets See Strong Gains

REAL ESTATE/REAL ASSETS | Munir Iman and David Welsch

Returns continue to moderate

- U.S. core real estate returns continued to be driven by income, with limited appreciation this late in the cycle.
- Returns came from net operating income (NOI) growth rather than further capitalization rate compression.
- Industrial kept outperforming other property types.
- Retail continued to show signs of depreciation.
- Defensive posturing and disciplined asset acquisitions were critical.

U.S. real estate fundamentals remain healthy

- Steady returns continued, driven by above inflation-level rent growth in many metro areas.
- Within the NCREIF Property Index, the vacancy rate for Industrial decreased; all other property types increased.
- NOI has been growing annually and is expected to be the primary return driver. Office, Apartment, and Industrial NOI growth have fallen slightly since the third quarter of 2019.

Pricing remains expensive in the U.S.

- Transaction volumes increased and remained robust.
- Capitalization rates fell slightly; the market remained close to full valuations.

Global equities outperform REITs

- Global REITs gained 2.0% in the fourth quarter compared to 9.1% for global equities (MSCI ACWI IMI).
- U.S. and global ex-U.S. REITs were trading just below NAV.
- Large cap stocks, especially those with higher debt levels, modestly outperformed.
- U.S. REITs lost 1.0% in the fourth quarter, lagging the S&P 500 Index, which rose 9.1%.

Asia impacted by trade tensions

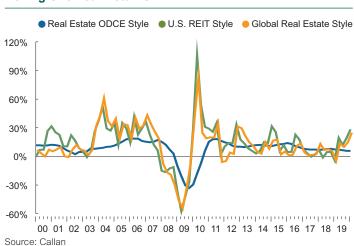
 U.S.-China trade talks and unrest in Hong Kong impacted real estate markets in the region. Managers continued to find attractive opportunities in some sectors of the market such

- as restructuring opportunities, necessity-based retail, multifamily rental, and logistics.
- The number of open-end core funds operating in the Asia Pacific market, primarily focused on Japan, Australia, South Korea, and Singapore, increased over recent years and includes both sector-diversified and sector-specific (e.g., logistics) funds.
- India had its first successful REIT IPO in 2019, contributing to the institutionalization of the asset class in that country.

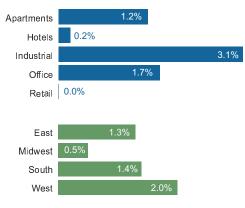
Fundamentals remain strong in Europe's gateway markets

 Political uncertainty weighed on overall economic growth throughout Europe, but real estate fundamentals remain

Rolling One-Year Returns



Sector Quarterly Returns by Property Type and Region



Source: NCREIF

REAL ESTATE/REAL ASSETS (Continued)

strong in key gateway markets given strong demand and the continued lack of new supply. Cap rates for prime real estate remained low, as real estate continued to be attractive as a result of low interest rates throughout the region.

Yields between prime and secondary real estate remained wide, providing opportunities for investors targeting transitional assets.

Infrastructure continues to mature

- Open end funds raised significant capital, and the universe of investible funds increased as the sector matured.
- The closed end fund market kept expanding, with additional offerings in infrastructure debt, emerging markets, and sector-specific areas (e.g., communications and renewables).
- Two mega funds raised in excess of \$20 billion in 2019.

NCREIF Capitalization Rates by Property Type



Source: NCREIF. Capitalization rates (net operating income / current market value (or sale price)) are appraisal-based.

Real assets mostly see gains

- Real assets returns were mostly strong in the fourth quarter. The Bloomberg Commodity Index gained 4.4% and the S&P GSCI Commodity Index was up 8.3%.
- MLPs, however, declined (Alerian MLP Index: -4.1%).
- Spot gold prices were up 3.4%.
- The **DJ-Brookfield Infrastructure Index** rose 4.0%.
- REITs (FTSE Nareit Equity Index) modestly fell (-0.8%).
- The Bloomberg Barclays TIPS Index rose 0.8%.
- For the year, returns of these indices were positive with Infrastructure (+28.7%) and REITs (+26.0%) leading the pack. MLPs (+6.6%) posted the lowest full-year return.

NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF

Note: Transaction capitalization rate is equal weighted.

Callan Database Median and Index Returns* for Periods Ended 12/31/19

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	1.6	5.8	5.8	6.8	8.4	10.5	6.8
NFI-ODCE (value wt net)	1.3	4.4	4.4	6.1	8.0	10.4	6.7
NCREIF Property	1.5	6.4	6.4	6.7	8.2	10.2	8.3
NCREIF Farmland	1.0	3.4	3.4	5.4	6.7	10.9	13.3
NCREIF Timberland	0.0	1.3	1.3	2.7	3.1	4.4	6.6
Public Real Estate							
Global Real Estate Style	2.8	24.9	24.9	10.3	7.2	9.9	7.2
FTSE EPRA Nareit Developed	1.7	21.9	21.9	8.3	5.6	8.4	
Global ex-U.S. Real Estate Style	6.8	25.0	25.0	12.3	7.0	8.4	7.1
FTSE EPRA Nareit Dev ex US	5.6	21.0	21.0	10.8	5.8	6.9	
U.S. REIT Style	0.0	28.3	28.3	9.2	7.9	12.6	8.6
EPRA Nareit Equity REITs	-0.8	26.0	26.0	8.1	7.2	11.9	7.9

*Returns less than one year are not annualized.

Sources: Callan, FTSE Russell, NCREIF

Cheap and Dear

PRIVATE EQUITY | Gary Robertson

Global private equity fundraising has now surpassed 2007's famed peak of \$615 billion for two years in a row, with \$658 billion in 2018 and \$692 billion in 2019 (unless otherwise noted, PitchBook provided all private equity data cited). Private equity market liquidity and transactions were brisk in 2019, albeit with moderate declines relative to 2018. Venture capital prices also increased year-over-year.

In 2019, the \$692 billion raised by private equity partnerships holding final closes globally was across 924 partnerships. The dollar amount rose 5% from 2018, but the number of funds fell 1%. Fourth quarter final closes totaled \$188 billion, down 11% from the third quarter. The number of funds totaled 255, up 9%.

New buyout investments for 2019 totaled 7,555, down 15% from 2018. Dollar volume fell 24% to \$522 billion. The fourth quarter saw 1,642 new investments, a 17% decline, and dollar volume fell 13% to \$137 billion.

The year produced 28,868 rounds of new investment in venture capital (VC) companies, down 12% from 2018. The year's announced volume of \$257 billion was down 13%. The fourth quarter saw 5,301 new rounds, a 27% decline, and dollar volume fell 6% to \$59 billion.

Last year also saw 2,054 buyout-backed private M&A exits, down 28% from 2018, with proceeds of \$608 billion, down 13%. The

Funds Closed 1/1/2019 to 12/31/2019

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	412	74,014	11%
Growth Equity	66	80,931	12%
Buyouts	256	381,368	55%
Mezzanine Debt	67	76,986	11%
Distressed	11	15,823	2%
Energy	9	9,724	1%
Secondary and Other	59	37,854	5%
Fund-of-funds	44	15,663	2%
Totals	924	692,363	100%

Source: PitchBook (Figures may not total due to rounding.)

fourth quarter had 420 private exits, down 23%, with proceeds of \$154 billion, down 35%. The year's 95 buyout-backed IPOs declined 41% from 2018, with proceeds of \$30 billion, down 32%. Fourth quarter buyout-backed IPOs were a bright spot, with 24 offerings, a jump of 41% from the third quarter, and \$7 billion of proceeds, up 17%.

Venture-backed M&A exits for the year totaled 1,554, down 8% from 2018. Announced dollar volume of \$122 billion was down 13%. The final quarter had 323 exits, down 19%, but announced value was up 22%. The year's 209 venture-backed IPOs fell 5% from 2018, with proceeds of \$42 billion, down 9%. The fourth quarter had 61 VC-backed offerings, an 11% rise, but the \$6 billion of proceeds dropped 33% from the third quarter.

Private Equity Performance (%) (Pooled Horizon IRRs through 9/30/2019*)

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Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	-0.37	13.01	14.56	14.39	14.83	11.41	11.02
Growth Equity	1.32	12.76	16.02	12.77	14.03	13.41	13.13
All Buyouts	1.43	8.85	15.32	12.83	14.59	13.65	12.04
Mezzanine	0.87	6.02	10.86	10.00	10.85	10.58	8.60
Credit Opportunities	-0.36	0.61	7.73	5.49	10.47	9.28	9.90
Control Distressed	1.05	4.38	8.86	7.83	11.17	10.52	10.58
All Private Equity	0.92	9.59	14.41	12.33	14.03	12.72	11.72
S&P 500	1.70	4.25	13.39	10.84	13.24	9.01	6.33

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices *Most recent data available at time of publication

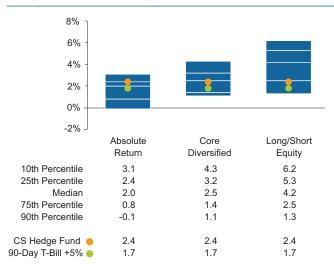
Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of Capital Market Review and other Callan publications.

Party Like it's 1999 ... or Not

HEDGE FUNDS/MACs | Jim McKee

- Hedge funds participated more cautiously in the fourth quarter risk-on market, as expected.
- Portfolios with exposure to EM and long-short equity fared much better than those emphasizing equity market neutral or macro strategies.
- In the fourth quarter, Long/Short Equity (+5.1%) rode the wave of market beta, but alpha was more sporadic, leaving little extra risk-adjusted return. Tech and health care were positive outliers.
- Equity Market Neutral (+1.1%) barely clawed back its recent September loss, with stocks lacking dispersion to create trading opportunities.
- Managed Futures fell 2.6% as bond rates reversed their downward trend, but it finished 2019 with a solid 9% gain.
- Distressed (+1.3%) continued to struggle with chronically weak credits like energy, finishing 2019 up 1.4%, making it the Credit Suisse Hedge Fund Index's weakest performer for the year, just below Equity Market Neutral (+1.6%).

Hedge Fund-of-Funds Style Group Returns



Sources: Callan, Credit Suisse, and Federal Reserve

Callan Database Median and Index Returns* for Periods Ended 12/31/19

Hedge Fund Universe	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Callan Fund-of-Funds Database	2.69	7.10	4.32	3.08	4.49	4.49
Callan Absolute Return FOF Style	1.99	5.63	3.16	3.01	4.46	4.00
Callan Core Diversified FOF Style	2.47	6.70	3.59	2.41	4.25	4.16
Callan Long/Short Equity FOF Style	4.24	12.79	5.95	4.00	5.03	5.49
Credit Suisse Hedge Fund	2.44	9.31	4.27	2.65	4.25	4.75
CS Convertible Arbitrage	3.34	8.15	3.54	3.59	4.17	3.90
CS Distressed	1.27	1.39	2.29	1.52	4.23	4.86
CS Emerging Markets	7.75	13.38	5.98	4.41	4.62	6.06
CS Equity Market Neutral	1.06	1.58	1.53	0.31	1.37	-0.58
CS Event-Driven Multi	2.66	11.42	3.79	1.11	3.17	4.73
CS Fixed Income Arb	2.29	6.10	4.54	3.69	5.44	3.80
CS Global Macro	0.75	10.38	4.04	3.16	4.73	6.18
CS Long/Short Equity	5.06	12.17	6.66	3.94	5.15	5.58
CS Managed Futures	-2.59	9.01	1.67	-0.61	1.56	2.63
CS Multi-Strategy	1.28	7.25	4.27	4.21	6.02	5.76
CS Risk Arbitrage	1.98	4.89	3.59	3.40	2.72	3.68
HFRI Asset Wtd Composite	2.32	7.57	4.45	3.21	4.46	
90-Day T-Bill + 5%	1.67	7.28	6.67	6.07	5.58	6.39

*Gross of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

Long Biased MACs rebounded; Risk Parity settled down

- MAC performance varied depending on net market exposures.
- Last quarter's 5.5% return of the 60% MSCI ACWI and 40% Bloomberg Aggregate benchmark was a tough hurdle to beat.
- Long-Biased MACs benefited from their typically heavy equity exposure, particularly EM.
- HFR Risk Parity Index targeting 10% volatility was moderately positive (+2.7%), reflecting strong stock gains partially offset by tepid bond returns.
- Eurekahedge Multi-Factor Risk Premia Index gained 3.7% based on solid returns from carry trades in risk-on markets offset by a reversal of last year's downward trend in yields.
- Absolute Return MACs edged ahead with their higherquality asset bias amid the quarter's less discriminating risk-on market.

Volatility suppressed

 With the Fed lowering rates by another quarter point in the fourth quarter while rescuing repo funding markets with unprecedented cash infusions, the Fed openly served the punch bowl of liquidity for "risk on" investors.

- Equity volatility, as illustrated by VIX, continued to settle at below-average levels, indicating fewer trading opportunities for hedge funds.
- While last quarter's melt-up reflected increased comfort with today's easy monetary and fiscal policies, a revived trade war with China or another geopolitical conflict could quickly undo that market sentiment.

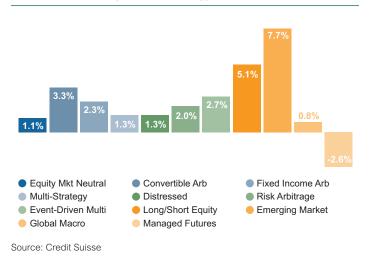
Falling cash returns remove any hint of a tailwind for hedge funds

- As short rates fell, dwindling cash returns and short interest rebates removed previously favorable trade winds from hedge fund sails.

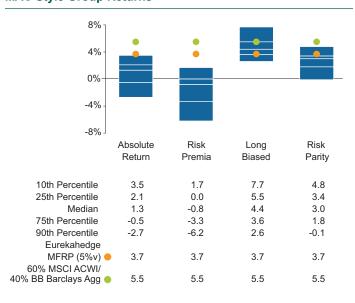
Callan Institutional Hedge Fund Peer Group to launch

To provide a more representative benchmark for our clients directly investing in hedge funds, Callan has created the Callan Institutional Hedge Fund Peer Group, a select collection of hedge funds meeting minimum size and other criteria that make them more attractive to institutional investors.

Credit Suisse Hedge Fund Strategy Returns



MAC Style Group Returns



Sources: Bloomberg Barclays, Callan, Eurekahedge, S&P Dow Jones Indices

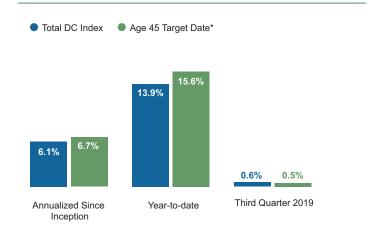
DC Index Gains Slightly but Tops Age 45 TDF

DEFINED CONTRIBUTION | Patrick Wisdom

- The Callan DC Index™ rose 0.6% in the third guarter after gains of 9.6% and 3.3% in the first and second quarters. The Age 45 Target Date Fund's smaller gain of 0.5% was largely due to its higher allocation to equity, which lagged fixed income during the quarter. The Age 45 TDF's bigger equity allocation, however, has contributed to a higher sinceinception return (6.7% vs. 6.1%).
- The Index's growth in balances of 0.1% was much smaller than the first quarter (9.8%) and second quarter (3.3%).
- U.S. fixed income saw the largest inflows for the quarter (57.7%), for the first time since the third guarter of 2010. TDFs saw the second-largest inflow (26.2%), much lower than in recent quarters. U.S. large cap equity (-52.2%), and U.S. small/mid cap equity (-19.1%) had the largest outflows.
- Third-quarter turnover (i.e., net transfer activity levels within DC plans) decreased to 0.35% from the previous quarter's 0.54%.
- The allocation to equity within the Index fell to 69.5% from 70.0% in the previous quarter, after two quarters of increases.
- The percentage of assets allocated to U.S. fixed income increased by 0.5% to 6.3%. Similarly, the allocation to stable value increased by 0.3% to an overall allocation of 10.4%.
- TDFs experienced the largest decrease in asset allocation (-0.6%). With this decrease, 29.6% of assets were allocated to TDFs, the lowest since the first quarter of 2017.
- Stable value's prevalence within DC plans decreased for the first time in eight quarters and now sits at 76%, but still up nearly 3 percentage points from a year ago.
- Fees decreased across all plan sizes from the previous year, driven by a combination of increased adoption of passive mandates, as well as lower breakpoints and the use of less expensive vehicles and share classes for active options.

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

Investment Performance



Growth Sources



Net Cash Flow Analysis (Third Quarter 2019)

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
U.S. Fixed Income	57.73%
Target Date Funds	26.18%
U.S. Smid Cap	-19.09%
U.S. Large Cap	-52.23%
Total Turnover**	0.35%

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

Note: DC Index inception date is January 2006.

- The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.
- ** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.



4th Quarter 2019

Research and Educational Programs

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

New Research from Callan's Experts

Long-Dated Private Equity Funds: More Illiquidity Please? |

In this paper, Ashley DeLuce of Callan's Private Equity Consulting Group analyzes long-dated private equity funds, which have terms of 15 years or more (some even have no fixed term), and tend to focus on stable, mature businesses that may not fit a traditional private equity investment profile. Although these companies may not generate the outsized internal rates of return associated with traditional private equity investments, they tend to have stronger downside protection. In evaluating a potential long-dated fund investment, investors need to be wary of the strategy's increased illiquidity and how it can impact annual commitment pacing.

Callan 2019 Investment Management Fee Study | This study using Callan's proprietary database is our eighth examination of



institutional investment management fee trends. The purpose of the study is to provide a detailed analysis on fee levels and trends across multiple asset classes and mandate sizes, for both active and passive management.

Gold: Real Asset, Risk Mitigator, or Pet Rock? | In this Hedge Fund Monitor, Jim McKee reviews the history of gold as a form



of money, the reasons behind the recent renaissance in gold, the potential roles of gold for institutional investors, and the alternative approaches to invest in gold-related themes. For some institutional investors, gold can play a useful role in diversifying risk or enhancing returns. For others, particularly those with

higher risk tolerances and longer time horizons, a strategic gold allocation has about as much purpose as a Pet Rock.

Quarterly Periodicals

<u>Private Equity Trends, 3Q19</u> This newsletter from Callan's Private Equity Consulting Group provides a high-level summary of private equity activity in the quarter through all the investment stages, from fundraising to exits, as well as long-term performance data.

Monthly Periodic Table of Investment Returns, November 2019

A regular update to Callan's Periodic Table covering the major public equity and fixed income asset classes.

Active vs. Passive Report, 3Q19 | This series of charts compares active managers alongside relevant benchmarks over the long term.

Market Pulse Flipbook, 3Q19 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data for U.S. and global ex-U.S. equities and fixed income, alternatives, and defined contribution plans.

<u>Capital Market Review, 3Q19</u> | This newsletter provides analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes.

Hedge Fund Quarterly, 3Q19 | Callan's Jim McKee of our Hedge Fund Research Group provides commentary on developments for hedge funds and multi-asset class (MAC) strategies.

Real Estate Indicators: Too Hot to Touch or Cool Enough to Handle? | Callan's Real Assets Consulting Group identifies seven indicators that, combined with an understanding of prevailing market dynamics, have helped signal when the institutional real estate market is overheated or cooled.

Real Assets Reporter, 3Q19 | This newsletter from our experts offers Callan's data and insights on real estate and other real asset investment topics.

Events

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

Please mark your calendar and look forward to upcoming invitations:

2020 June Regional Workshops

June 23 – San Francisco June 25 – Chicago

2020 October Regional Workshops

October 27 – Atlanta October 29 – Portland

Please also keep your eye out for upcoming Webinars in 2020! We will be sending invitations to register for these events and will also have registration links on our website at www.callan.com/webinarsupcoming.

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

Education: By the Numbers

50+

Unique pieces of research the Institute generates each year

525

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

3,700

Total attendees of the "Callan College" since 1994



Through the "Callan College," the Callan Institute offers educational sessions for industry professionals involved in the investment decision-making process. It was founded in 1994 to provide both clients and non-clients with basic- to intermediate-level instruction.

Introduction to Investments for Institutional Investors

April 21-22, 2020 – San Francisco July 21-22, 2020 – Chicago October 13-14, 2020 – Chicago

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

Learn more at www.callan.com/callan-college-intro-2/

Alternative Investments for Institutional Investors

June 16, 2020 – San Francisco November 3, 2020 – Chicago

Alternative investments like private equity, hedge funds, and real estate can play a key role in any portfolio. In this one-day session, Callan experts will provide instruction about the importance of allocations to alternatives, and how to integrate, evaluate, and monitor them.

Learn from some of Callan's senior consultants and experts, including the head of Alternatives Consulting Pete Keliuotis. The session will cover private equity, private credit, hedge funds, real estate, and real assets; why invest in alternatives; risk/return characteristics and liquidity; designing and implementing an alternatives program; and trends and case studies.

Tuition is \$2,000 per person and includes instruction, all materials, and breakfast and lunch with the instructors.

Learn more at: https://www.callan.com/callan-college-alternatives-2/



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

Greg Allen, CEO and Chief Research Officer





Equity Market Indicators

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

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

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

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

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

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

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

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

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

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



Fixed Income Market Indicators

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



International Equity Market Indicators

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

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



Real Estate Market Indicators

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



Callan Databases

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

Equity Funds

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

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

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

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

Large Cap Value - Mutual funds that invest in predominantly large capitalization companies believed to be currently undervalued in the general market. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. Valuation issues take precedence over near-term earnings prospects in the stock selection process. Invests in companies with P/E 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 an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

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

Aberdeen Standard Investments Acadian Asset Management LLC AEGON USA Investment Management Inc. Alcentra AllianceBernstein Allianz Global Investors Allianz Life Insurance Company of North America American Century Investments Amundi Pioneer Asset Management AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNP Mellon Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC Ceredex Value Advisors	Manager Name
AEGON USA Investment Management Inc. Alcentra AllianceBernstein Allianz Global Investors Allianz Life Insurance Company of North America American Century Investments Amundi Pioneer Asset Management AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Aberdeen Standard Investments
AllianzeBernstein Allianz Global Investors Allianz Life Insurance Company of North America American Century Investments Amundi Pioneer Asset Management AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNP Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Acadian Asset Management LLC
Allianz Global Investors Allianz Life Insurance Company of North America American Century Investments Amundi Pioneer Asset Management AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	AEGON USA Investment Management Inc.
Allianz Global Investors Allianz Life Insurance Company of North America American Century Investments Amundi Pioneer Asset Management AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Alcentra
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American Century Investments Amundi Pioneer Asset Management AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Allianz Global Investors
Amundi Pioneer Asset Management AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Allianz Life Insurance Company of North America
AQR Capital Management Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	American Century Investments
Ares Management LLC Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Amundi Pioneer Asset Management
Ariel Investments, LLC Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	AQR Capital Management
Atlanta Capital Management Co., LLC Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Ares Management LLC
Aviva Investors Americas AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Ariel Investments, LLC
AXA Investment Managers Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Atlanta Capital Management Co., LLC
Baillie Gifford International, LLC Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Aviva Investors Americas
Baird Advisors Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	AXA Investment Managers
Baron Capital Management, Inc. Barrow, Hanley, Mewhinney & Strauss, LLC BlackRock BMO Global Asset Management BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Baillie Gifford International, LLC
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BNP Paribas Asset Management BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	BlackRock
BNY Mellon Asset Management Boston Partners Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	BMO Global Asset Management
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Brandes Investment Partners, L.P. Brandywine Global Investment Management, LLC BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	BNY Mellon Asset Management
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BrightSphere Investment Group Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Brandes Investment Partners, L.P.
Brown Brothers Harriman & Company Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Brandywine Global Investment Management, LLC
Cadence Capital Management Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	BrightSphere Investment Group
Cambiar Investors, LLC Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Brown Brothers Harriman & Company
Capital Group Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Cadence Capital Management
Carillon Tower Advisers CastleArk Management, LLC Causeway Capital Management LLC	Cambiar Investors, LLC
CastleArk Management, LLC Causeway Capital Management LLC	Capital Group
Causeway Capital Management LLC	Carillon Tower Advisers
	CastleArk Management, LLC
	Causeway Capital Management LLC

Manager Name
Camplain Investment Partners, LLC
Chartwell Investment Partners
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
Davy Asset Management Limited
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
Financial Engines
First Hawaiian Bank Wealth Management Division
First State Investments
FIS Group, Inc.
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
Fuller & Thaler Asset Management, Inc.
GAM (USA) Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
GMO LLC
Goldman Sachs
Green Square Capital Advisors, LLC

Manager Name Manager Name Guggenheim Investments Nuveen **GW&K Investment Management OFI Global Asset Management** Harbor Capital Group Trust Osterweis Capital Management, LLC Hartford Investment Management Co. Owl Rock Heitman LLC P/E Investments Hotchkis & Wiley Capital Management, LLC Pacific Investment Management Company **HSBC Global Asset Management** Parametric Portfolio Associates LLC Impax Asset Management Limited Pathway Capital Management Income Research + Management, Inc. Peregrine Capital Management, LLC. Insight Investment Management Limited Perkins Investment Management Intech Investment Management, LLC PFM Asset Management LLC Intercontinental Real Estate Corporation **PGIM Fixed Income** Invesco PineBridge Investments Investec Asset Management North America, Inc. PNC Capital Advisors, LLC Iridian Asset Management LLC Polen Capital Management Ivy Investments Principal Global Investors J.P. Morgan Putnam Investments, LLC Janus QMA LLC Jennison Associates LLC **RBC Global Asset Management** Jenson Investment Management **Regions Financial Corporation** JO Hambro Capital Management Limited Riverbridge Partners LLC Jobs Peak Advisors Robeco Institutional Asset Management, US Inc. John Hancock Investment Management Services, LLC Rockefeller Capital Management Kayne Anderson Rudnick Investment Management, LLC Rothschild & Co. Asset Management US KeyCorp Russell Investments Lazard Asset Management Schroder Investment Management North America Inc. L & B Realty Advisors LLP Segall Bryant & Hamill Legal & General Investment Management America Smith Graham & Co. Investment Advisors, L.P. Lincoln Advisors South Texas Money Management, Ltd. **Lincoln National Corporation** Sprucegrove Investment Management Ltd. Logan Circle Partners, L.P. State Street Global Advisors Longview Partners Stone Harbor Investment Partners, L.P. Loomis, Sayles & Company, L.P. Strategic Global Advisors Lord Abbett & Company Sun Life Investment Management Los Angeles Capital Management T. Rowe Price Associates, Inc. LSV Asset Management The TCW Group, Inc. MacKay Shields LLC Thompson, Siegel & Walmsley LLC MacKenzie Investments Thornburg Investment Management, Inc. Macquarie Investment Management (MIM) Tri-Star Trust Bank Manulife Investment Management **UBS Asset Management** Marathon Asset Management, L.P. VanEck McKinley Capital Management, LLC Versus Capital Group Mellon Victory Capital Management Inc. MFS Investment Management Virtus Investment Partners, Inc. MidFirst Bank Vontobel Asset Management, Inc. Mondrian Investment Partners Limited Vova Montag & Caldwell, LLC Vulcan Value Partners, LLC Morgan Stanley Investment Management Wasatch Global Investors Mountain Lake Investment Management LLC WCM Investment Management Mountain Pacific Advisors, LLC WEDGE Capital Management MUFG Union Bank, N.A. Wellington Management Company, LLP Natixis Investment Managers Wells Fargo Asset Management Neuberger Berman Western Asset Management Company LLC **Newton Investment Management** Westfield Capital Management Company, LP Nikko Asset Management Co., Ltd. William Blair & Company LLC

Northern Trust Asset Management