Callan

March 31, 2019

# City of Fort Pierce Retirement and Benefit System

## Investment Measurement Service Quarterly Review

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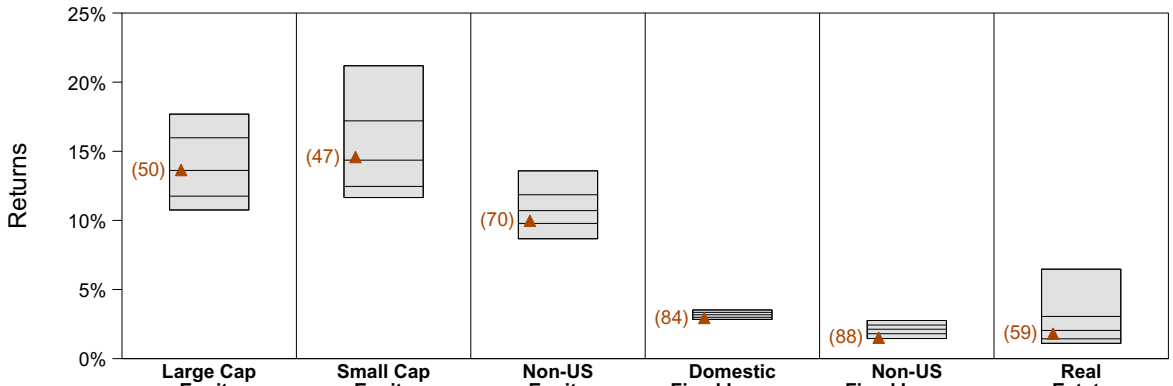
Active Management
Overview

# Market Overview
# Active Management vs Index Returns

## Market Overview

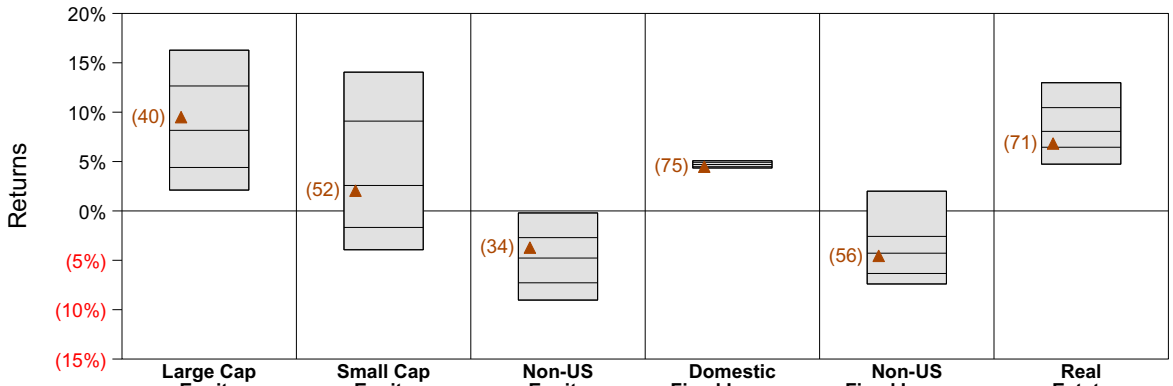
The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also 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 Separate Account Manager Returns by Asset Class
## One Quarter Ended March 31, 2019




| | Large Cap Equity vs S&P 500 | Small Cap Equity vs Russell 2000 | Non-US Equity vs MSCI EAFE | Domestic Fixed Income vs Blmbg Aggr Bd | Non-US Fixed Income vs Citi Non-US Govt | Real Estate vs NCREIF Index |
|---|---|---|---|---|---|---|
| 10th Percentile | 17.69 | 21.19 | 13.59 | 3.52 | 2.76 | 6.47 |
| 25th Percentile | 15.98 | 17.20 | 11.86 | 3.35 | 2.43 | 3.05 |
| Median | 13.61 | 14.36 | 10.71 | 3.17 | 2.13 | 2.04 |
| 75th Percentile | 11.75 | 12.46 | 9.78 | 2.99 | 1.80 | 1.43 |
| 90th Percentile | 10.75 | 11.65 | 8.67 | 2.84 | 1.45 | 1.11 |
| Index ▲ | 13.65 | 14.58 | 9.98 | 2.94 | 1.52 | 1.80 |

## Range of Separate Account Manager Returns by Asset Class
## One Year Ended March 31, 2019



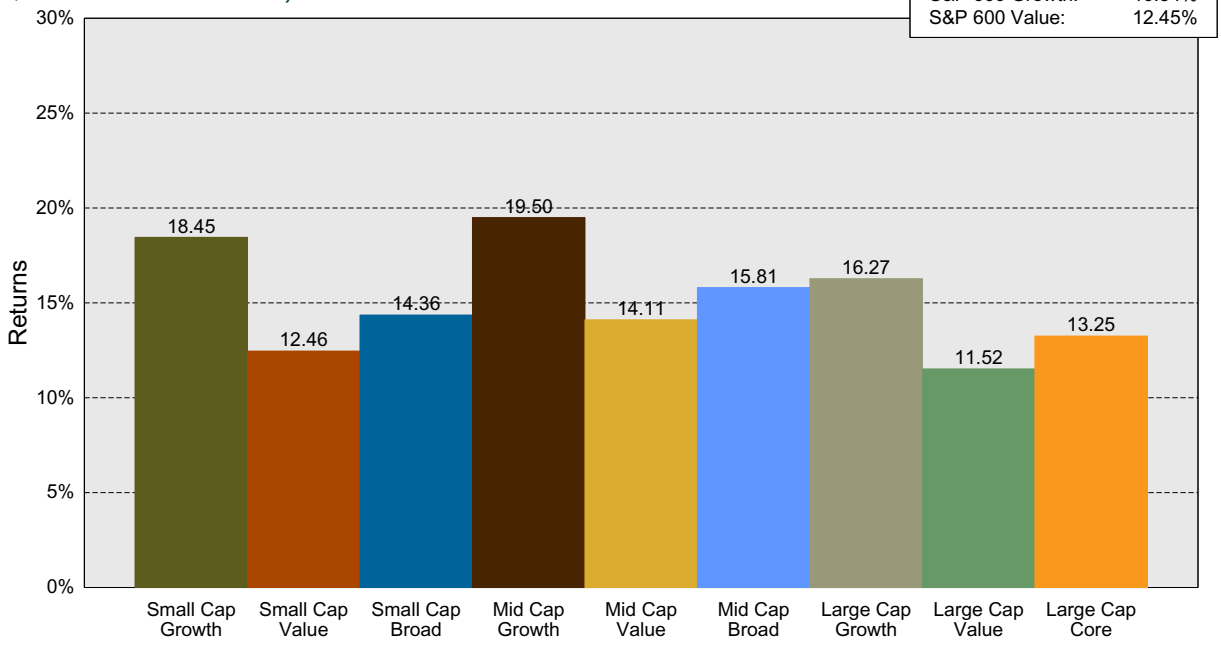

| | Large Cap Equity vs S&P 500 | Small Cap Equity vs Russell 2000 | Non-US Equity vs MSCI EAFE | Domestic Fixed Income vs Blmbg Aggr Bd | Non-US Fixed Income vs Citi Non-US Govt | Real Estate vs NCREIF Index |
|---|---|---|---|---|---|---|
| 10th Percentile | 16.28 | 14.05 | (0.20) | 5.08 | 2.00 | 12.98 |
| 25th Percentile | 12.66 | 9.09 | (2.70) | 4.92 | (2.58) | 10.46 |
| Median | 8.16 | 2.58 | (4.77) | 4.70 | (4.28) | 8.05 |
| 75th Percentile | 4.40 | (1.67) | (7.28) | 4.48 | (6.33) | 6.45 |
| 90th Percentile | 2.11 | (3.93) | (9.03) | 4.35 | (7.40) | 4.74 |
| Index ▲ | 9.50 | 2.05 | (3.71) | 4.48 | (4.55) | 6.83 |

## Domestic Equity
## Active Management Overview

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

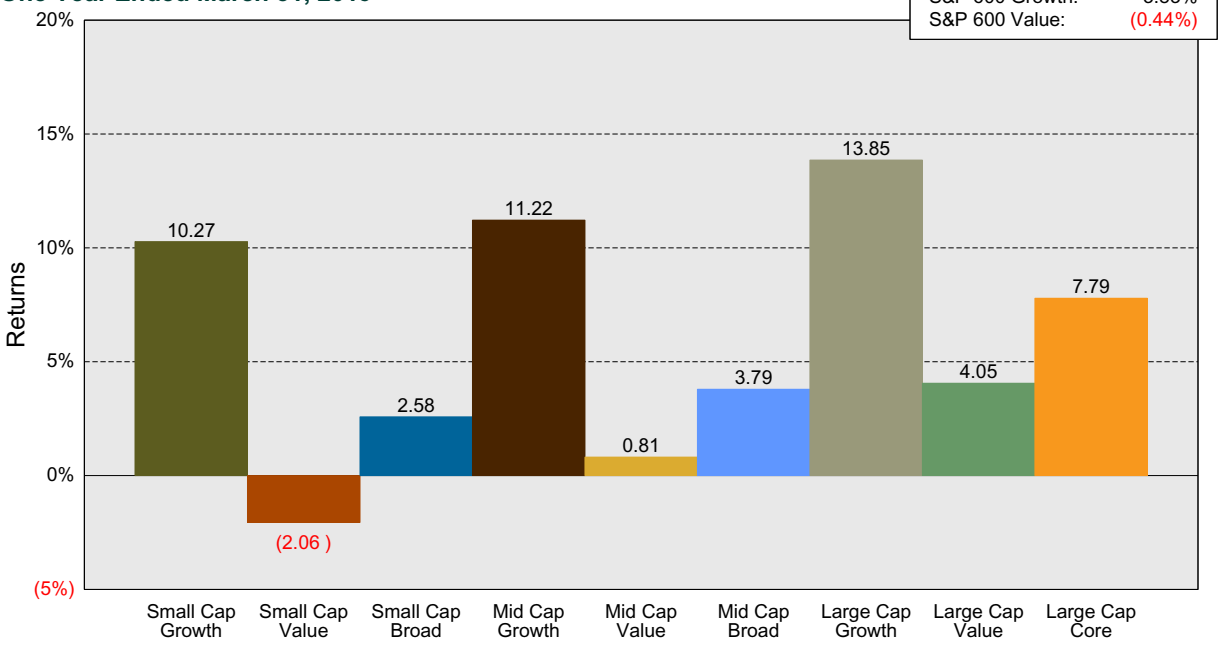
### Separate Account Style Group Median Returns for Quarter Ended March 31, 2019

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




### Separate Account Style Group Median Returns for One Year Ended March 31, 2019

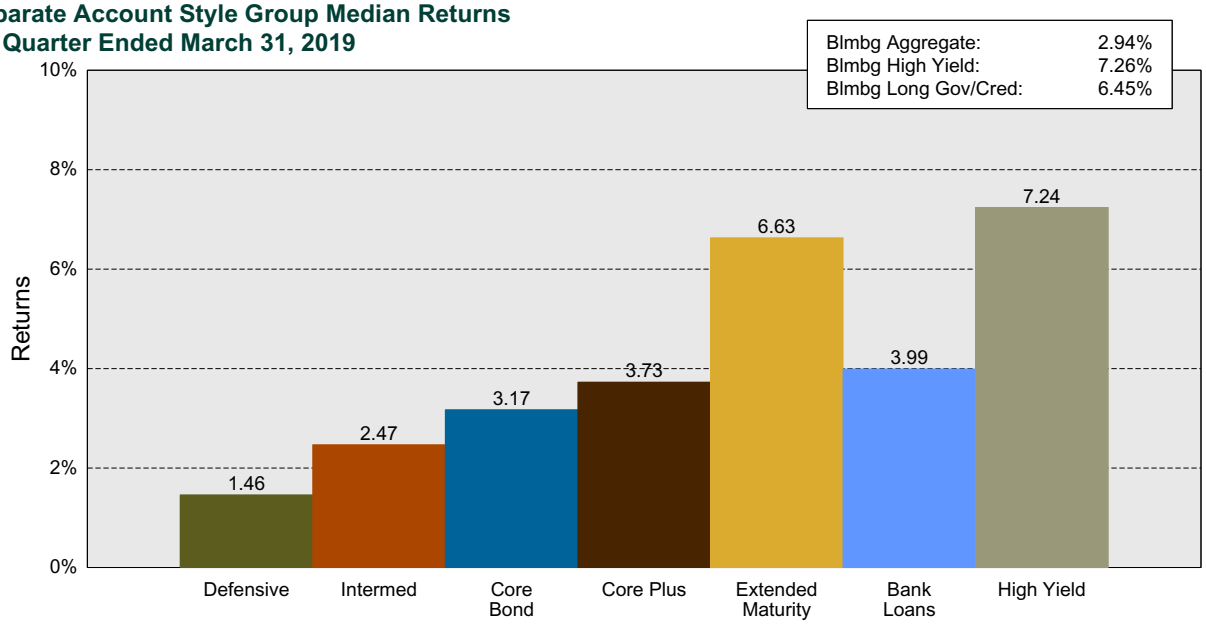
| | |
|---|---|
| S&P 500: | 9.50% |
| S&P 500 Growth: | 12.77% |
| S&P 500 Value: | 5.93% |
| S&P Mid Cap: | 2.59% |
| S&P 600: | 1.57% |
| S&P 600 Growth: | 3.83% |
| S&P 600 Value: | (0.44%) |



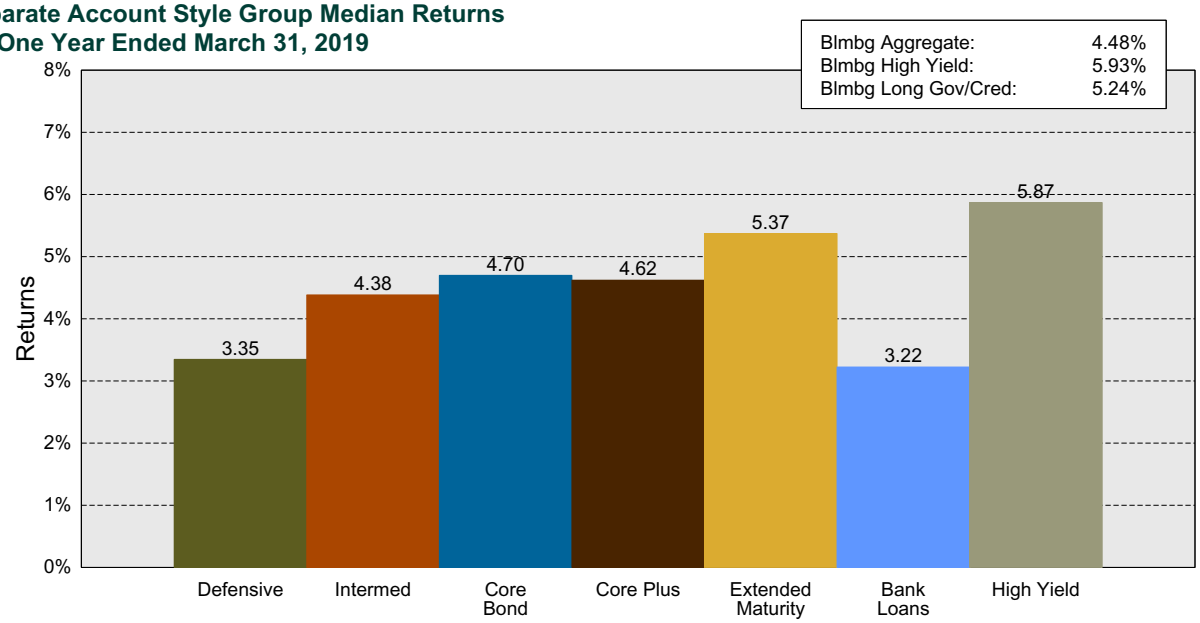
## Domestic Fixed Income
## Active Management Overview

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

### Separate Account Style Group Median Returns for Quarter Ended March 31, 2019




### Separate Account Style Group Median Returns for One Year Ended March 31, 2019

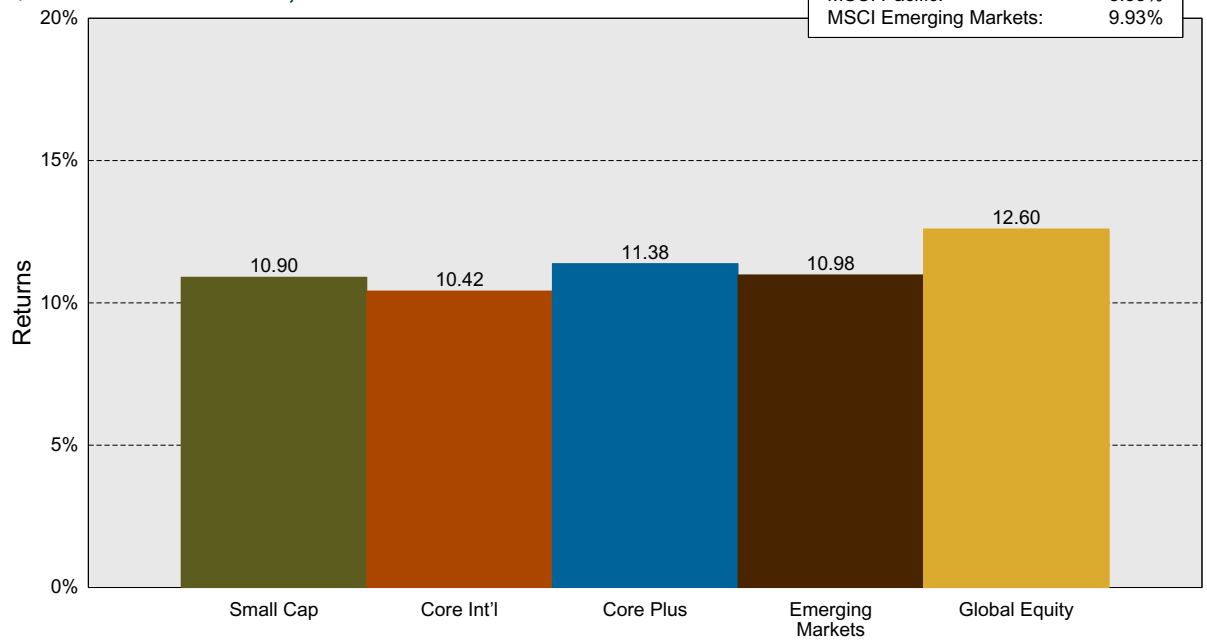


## International Equity
## Active Management Overview

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

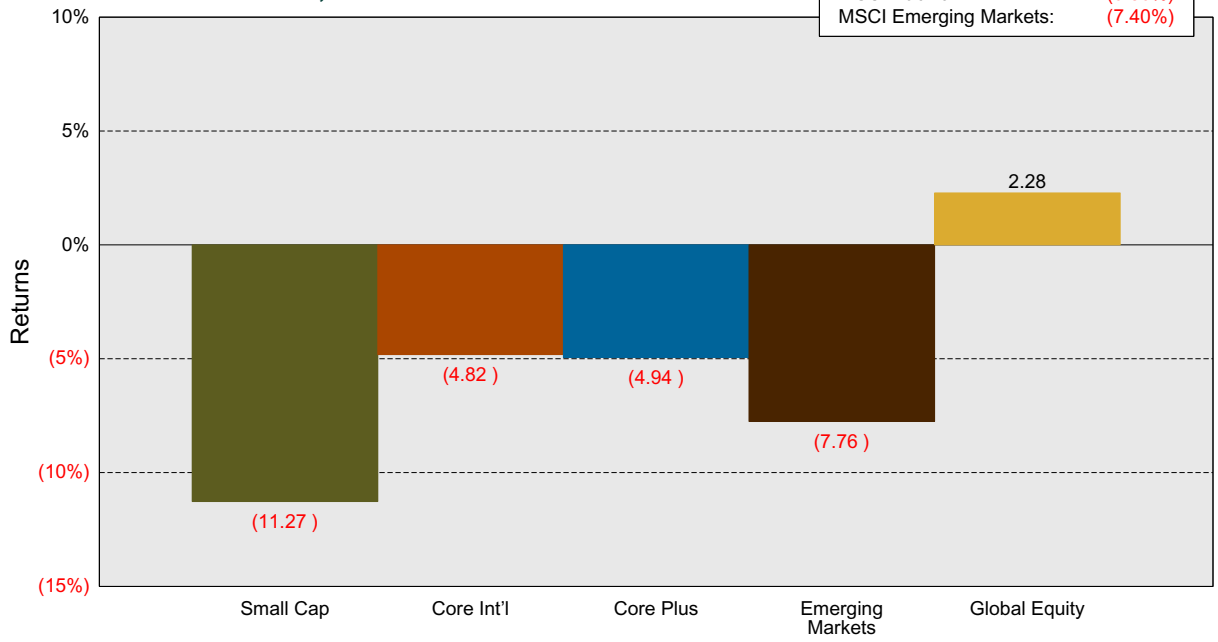
### Separate Account Style Group Median Returns for Quarter Ended March 31, 2019

| | |
|---|---|
| MSCI AC World Index | 12.33% |
| MSCI ACW ex US Free: | 10.31% |
| MSCI EAFE: | 9.98% |
| MSCI Europe: | 10.84% |
| MSCI Pacific: | 8.53% |
| MSCI Emerging Markets: | 9.93% |




### Separate Account Style Group Median Returns for One Year Ended March 31, 2019

| | |
|---|---|
| MSCI AC World Index | 3.17% |
| MSCI ACW ex US Free: | (4.21%) |
| MSCI EAFE: | (3.71%) |
| MSCI Europe: | (3.72%) |
| MSCI Pacific: | (3.86%) |
| MSCI Emerging Markets: | (7.40%) |

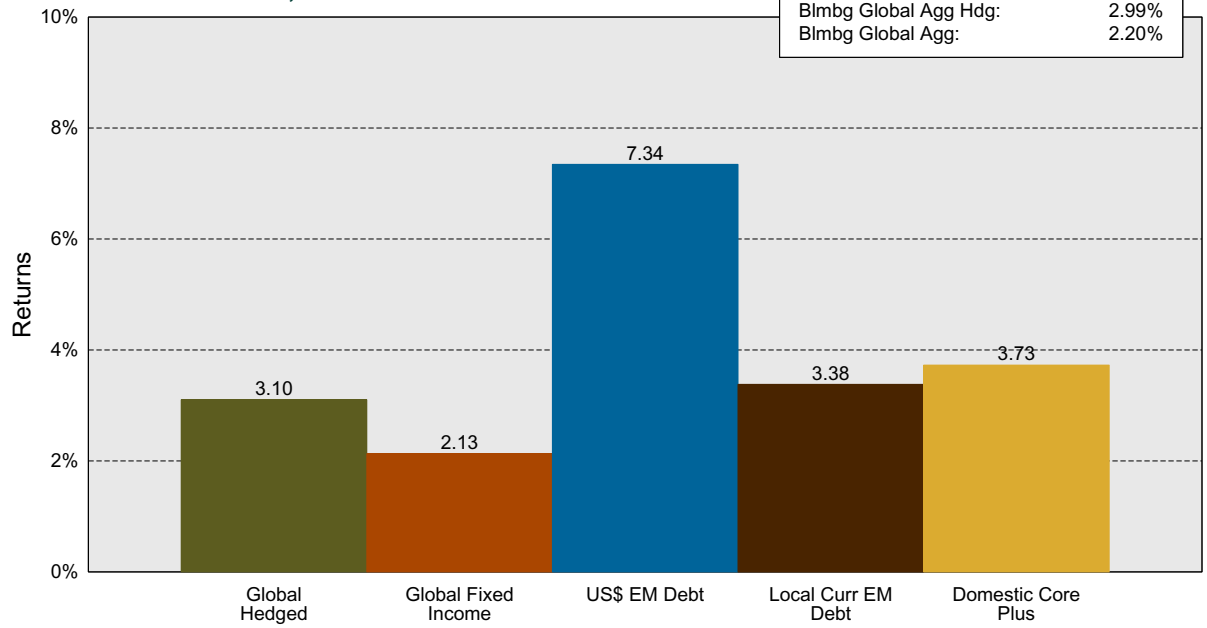


## Global Fixed Income
## Active Management Overview

Overseas, yields across developed markets fell. The Global Aggregate Index rose 2.2% for the quarter on an unhedged basis. On a hedged basis, the Index gained 3.0%. The dollar appreciated modestly vs. the euro and yen, but lost ground vs. the U.K. pound and Canadian dollar. In Germany, the yield on the 10-year bond turned negative for the first time since late 2016 and closed the quarter at -0.07%. Emerging market debt also benefited from the reversal in risk appetite. The U.S. dollar-denominated JPM EMBI Global Diversified Index gained 7.0% with none of the index's 60+ countries delivering a negative result. Local currency emerging market debt, as measured by the JPM GBI-EM Global Diversified Index, was up a more modest 2.9%, with notable underperformers being Turkey (-10.2%) and Argentina (-10.5%).

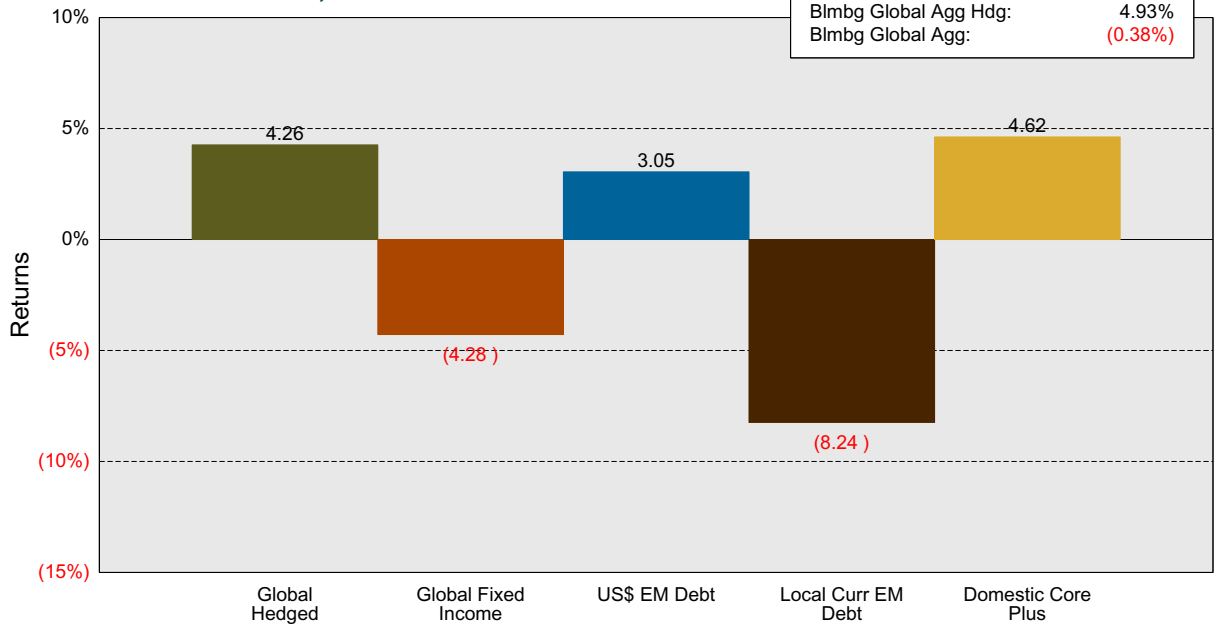
### Separate Account Style Group Median Returns for Quarter Ended March 31, 2019

| | |
|---|---|
| JPM EMBI GI Div: | 6.95% |
| JPM GBI EM GI Div: | 2.92% |
| Blmbg Aggregate: | 2.94% |
| Blmbg Global Agg Hdg: | 2.99% |
| Blmbg Global Agg: | 2.20% |




### Separate Account Style Group Median Returns for One Year Ended March 31, 2019

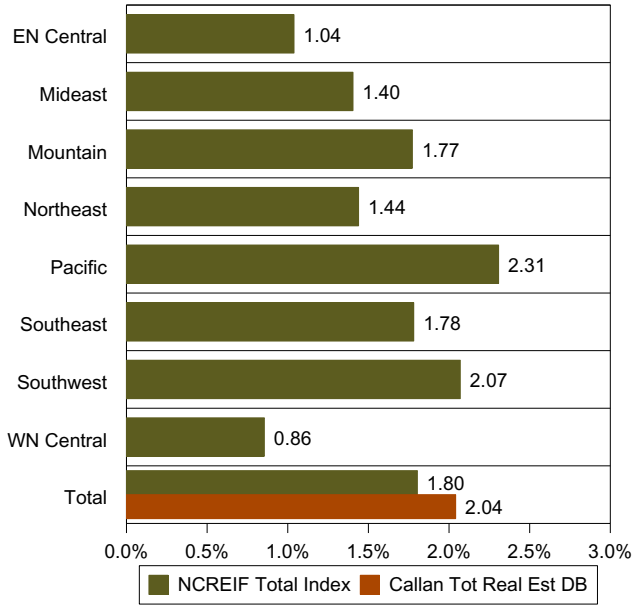
| | |
|---|---|
| JPM EMBI GI Div: | 4.21% |
| JPM GBI EM GI Div: | (7.56%) |
| Blmbg Aggregate: | 4.48% |
| Blmbg Global Agg Hdg: | 4.93% |
| Blmbg Global Agg: | (0.38%) |



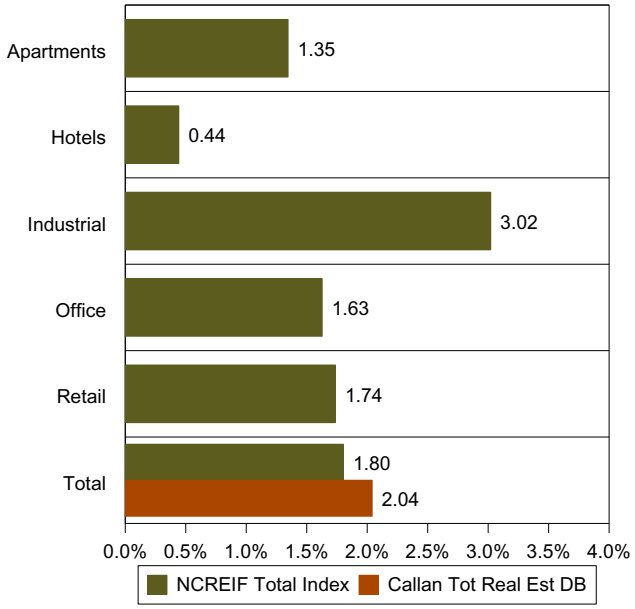
## Real Estate
## Market Overview

The NCREIF Property Index (NPI) gained 1.8% during the first quarter (1.1% from income and 0.7% from appreciation). This marked the 42nd consecutive quarter of positive returns for the index. Industrial (+3.0%) was the best-performing sector for the twelfth consecutive quarter, with Retail (+1.7%), Office (+1.6%), Apartments (+1.4%), and Hotels (+0.4%) also posting positive returns. The West region was the strongest performer for the eleventh quarter in a row, up 2.2%, and the Midwest trailed with a 1.0% return. The Midwest also had a negative appreciation return of -0.1%. Transaction volume decreased 53% to $5.5 billion, down from $11.8 billion in the fourth quarter. Transaction volume was 38% lower than 1st quarter 2018.

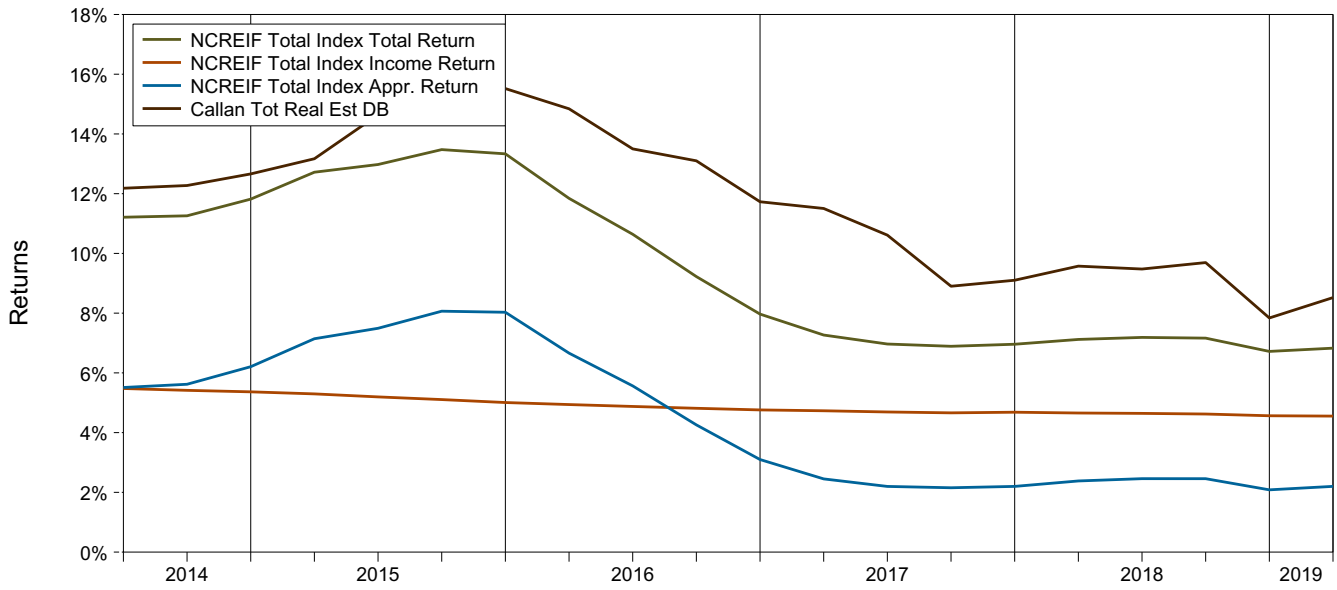
**NCREIF Total Index Returns by Geographic Area**
**Quarter Ended March 31, 2019**




**NCREIF Total Index Returns by Property Type**
**Quarter Ended March 31, 2019**




### Rolling 1 Year Returns



Asset Allocation
and Performance

# ASSET ALLOCATION AND PERFORMANCE

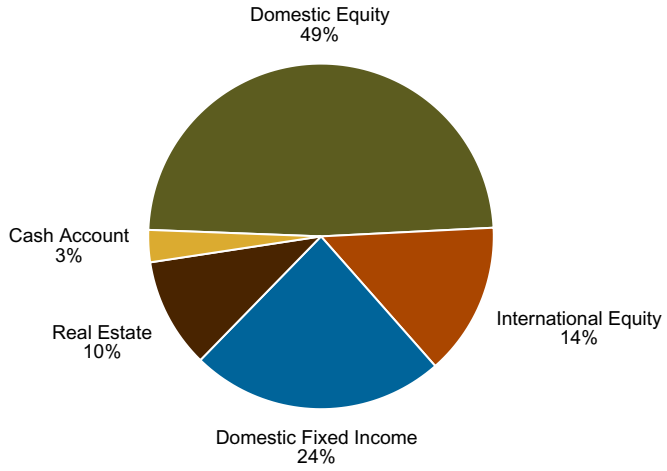
## Asset Allocation and Performance

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

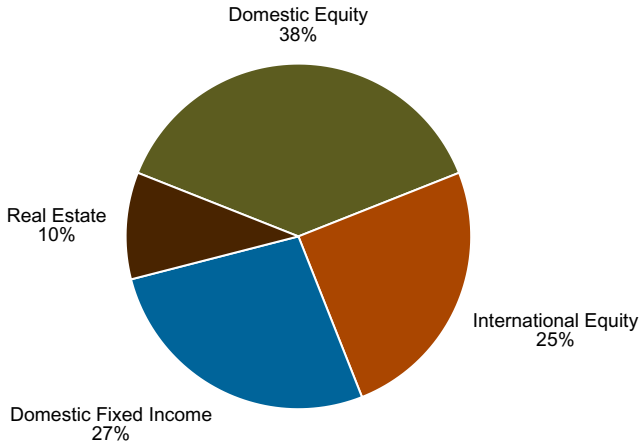
## Actual vs Target Asset Allocation
## As of March 31, 2019

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

### Actual Asset Allocation

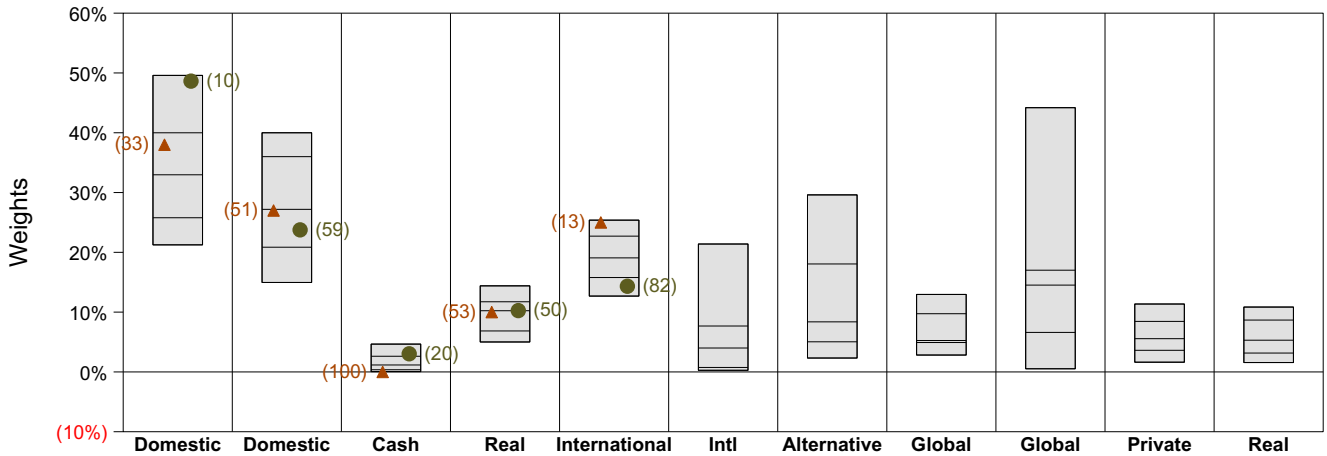



### Target Asset Allocation




| Asset Class | $000s Actual | Weight Actual | Target | Percent Difference | $000s Difference |
|---|---|---|---|---|---|
| Domestic Equity | 97,981 | 48.6% | 38.0% | 10.6% | 21,422 |
| International Equity | 28,865 | 14.3% | 25.0% | (10.7%) | (21,502) |
| Domestic Fixed Income | 47,859 | 23.8% | 27.0% | (3.2%) | (6,538) |
| Real Estate | 20,659 | 10.3% | 10.0% | 0.3% | 512 |
| Cash Account | 6,106 | 3.0% | 0.0% | 3.0% | 6,106 |
| Total | 201,471 | 100.0% | 100.0% | | |

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



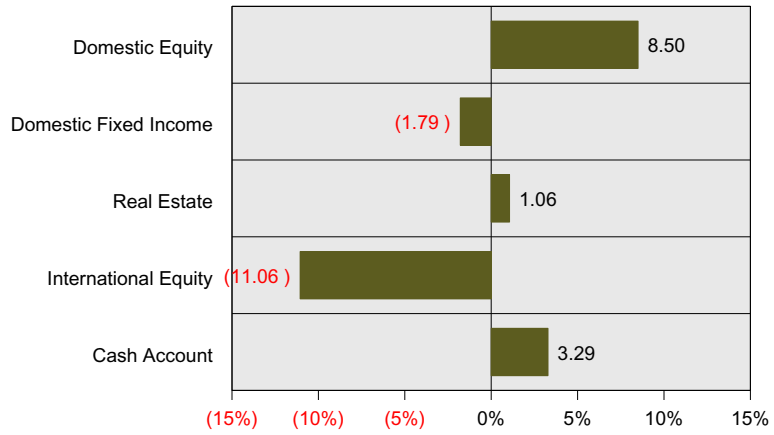

| | Domestic Equity | Domestic Fixed Income | Cash Account | Real Estate | International Equity | Intl Fixed-Inc | Alternative | Global Balanced | Global Equity Broad | Private Equity | Real Assets |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 49.59 | 40.00 | 4.66 | 14.40 | 25.38 | 21.39 | 29.61 | 12.96 | 44.19 | 11.36 | 10.85 |
| 25th Percentile | 39.99 | 36.00 | 2.62 | 11.73 | 22.71 | 7.68 | 18.06 | 9.73 | 17.01 | 8.45 | 8.67 |
| Median | 32.97 | 27.19 | 1.16 | 10.23 | 19.07 | 4.00 | 8.37 | 5.25 | 14.52 | 5.56 | 5.31 |
| 75th Percentile | 25.78 | 20.85 | 0.37 | 6.85 | 15.79 | 0.75 | 5.04 | 4.92 | 6.61 | 3.61 | 3.16 |
| 90th Percentile | 21.25 | 14.96 | 0.06 | 5.01 | 12.68 | 0.27 | 2.32 | 2.82 | 0.53 | 1.63 | 1.57 |
| **Fund** ● | 48.63 | 23.75 | 3.03 | 10.25 | 14.33 | - | - | - | - | - | - |
| Target ▲ | 38.00 | 27.00 | 0.00 | 10.00 | 25.00 | - | - | - | - | - | - |
| % Group Invested | 98.57% | 96.43% | 78.57% | 76.43% | 96.43% | 15.71% | 40.69% | 17.14% | 11.43% | 30.00% | 24.29% |

* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

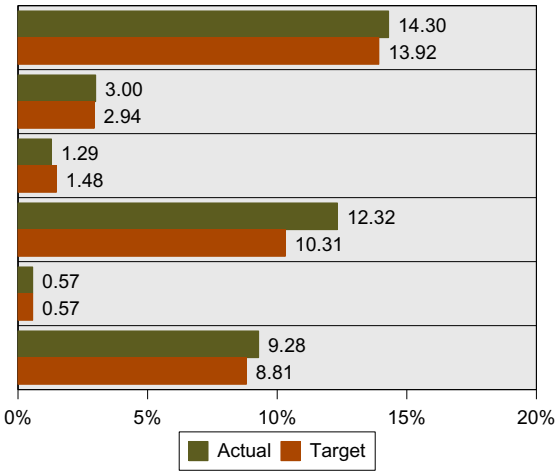
## Quarterly Total Fund Relative Attribution - March 31, 2019

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

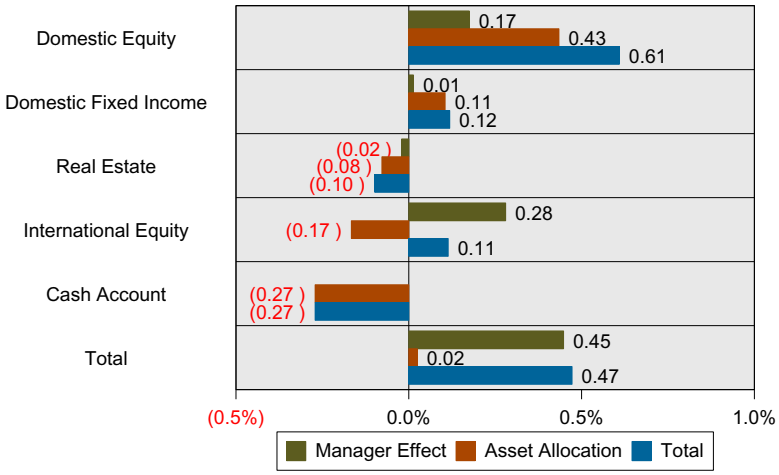
### Asset Class Under or Overweighting




### Actual vs Target Returns




### Relative Attribution by Asset Class




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

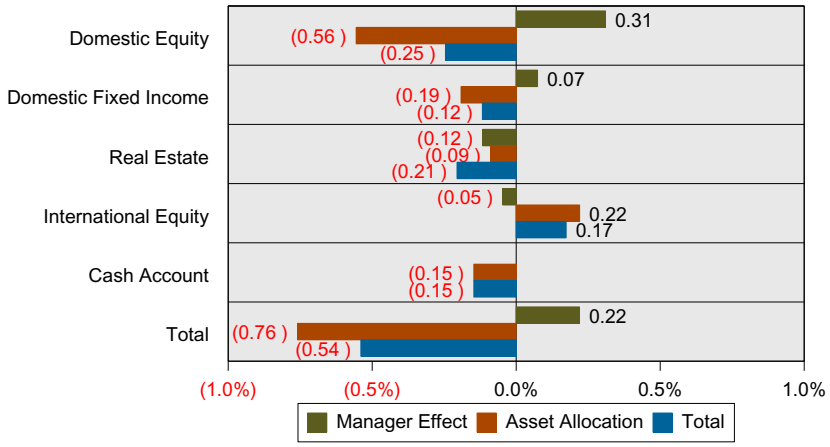
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|---|---|---|---|---|---|---|---|
| Domestic Equity | 47% | 38% | 14.30% | 13.92% | 0.17% | 0.43% | 0.61% |
| Domestic Fixed Income | 25% | 27% | 3.00% | 2.94% | 0.01% | 0.11% | 0.12% |
| Real Estate | 11% | 10% | 1.29% | 1.48% | (0.02%) | (0.08%) | (0.10%) |
| International Equity | 14% | 25% | 12.32% | 10.31% | 0.28% | (0.17%) | 0.11% |
| Cash Account | 3% | 0% | 0.57% | 0.57% | 0.00% | (0.27%) | (0.27%) |
| **Total** | | | **9.28%** | **= 8.81%** | **+ 0.45%** | **+ 0.02%** | **0.47%** |

* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

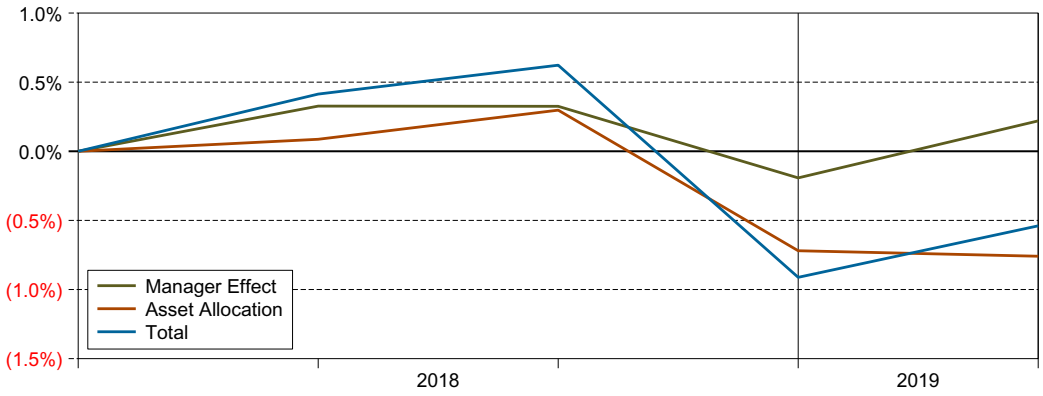
## Cumulative Total Fund Relative Attribution - March 31, 2019

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

### One Year Relative Attribution Effects




### Cumulative Relative Attribution Effects




### One Year Relative Attribution Effects

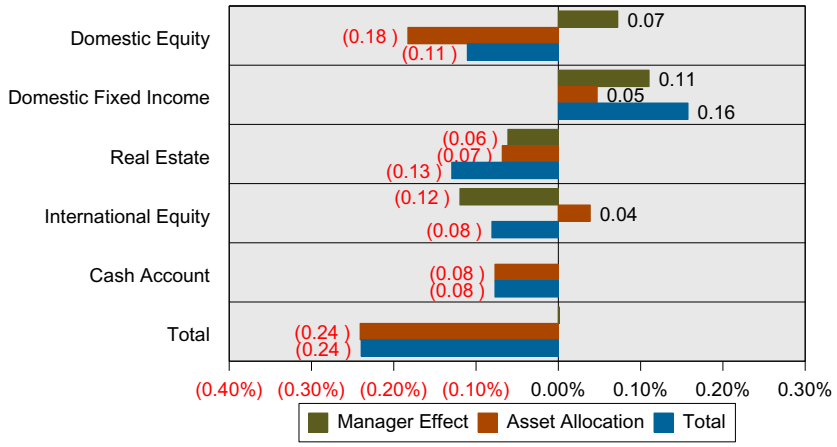
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|---|---|---|---|---|---|---|---|
| Domestic Equity | 50% | 43% | 7.90% | 7.26% | 0.31% | (0.56%) | (0.25%) |
| Domestic Fixed Income | 24% | 27% | 4.80% | 4.48% | 0.07% | (0.19%) | (0.12%) |
| Real Estate | 11% | 10% | 5.72% | 6.80% | (0.12%) | (0.09%) | (0.21%) |
| International Equity | 15% | 20% | (4.58%) | (4.21%) | (0.05%) | 0.22% | 0.17% |
| Cash Account | 1% | 0% | 1.97% | 1.97% | 0.00% | (0.15%) | (0.15%) |
| **Total** | | | **4.77%** | **= 5.31%** | **+ 0.22%** | **+ (0.76%)** | **(0.54%)** |

* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

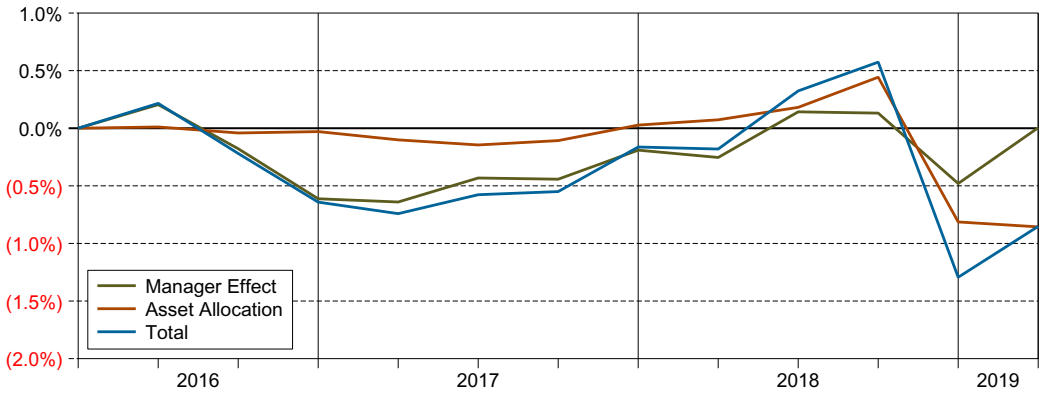
## Cumulative Total Fund Relative Attribution - March 31, 2019

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

### Three Year Annualized Relative Attribution Effects




### Cumulative Relative Attribution Effects




### Three Year Annualized Relative Attribution Effects

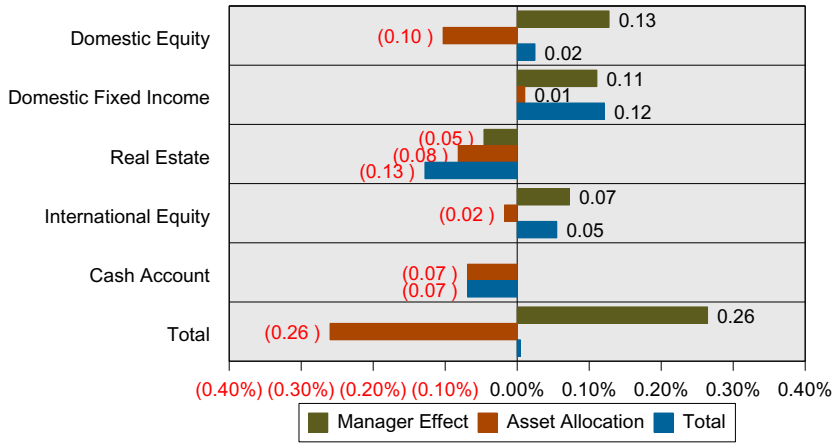
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|---|---|---|---|---|---|---|---|
| Domestic Equity | 49% | 46% | 13.25% | 13.11% | 0.07% | (0.18%) | (0.11%) |
| Domestic Fixed Income | 25% | 27% | 2.45% | 2.03% | 0.11% | 0.05% | 0.16% |
| Real Estate | 11% | 10% | 6.72% | 7.26% | (0.06%) | (0.07%) | (0.13%) |
| International Equity | 15% | 17% | 7.23% | 8.09% | (0.12%) | 0.04% | (0.08%) |
| Cash Account | 1% | 0% | 1.06% | 1.06% | 0.00% | (0.08%) | (0.08%) |
| **Total** | | | **8.73%** | **= 8.97%** | **+ 0.00%** | **+ (0.24%)** | **(0.24%)** |

* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

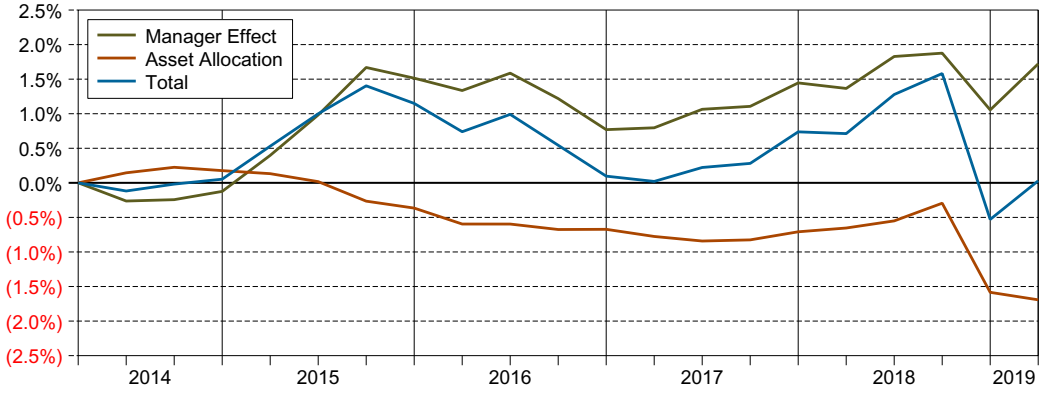
## Cumulative Total Fund Relative Attribution - March 31, 2019

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

### Five Year Annualized Relative Attribution Effects




### Cumulative Relative Attribution Effects




### Five Year Annualized Relative Attribution Effects

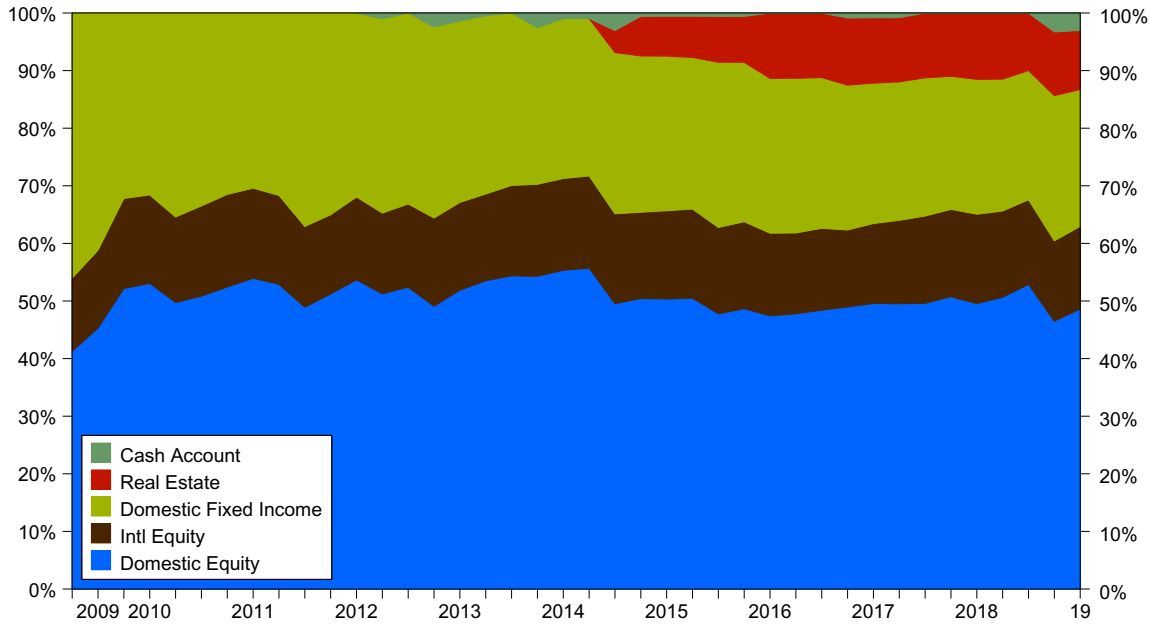
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|---|---|---|---|---|---|---|---|
| Domestic Equity | 49% | 47% | 10.24% | 9.97% | 0.13% | (0.10%) | 0.02% |
| Domestic Fixed Income | 26% | 28% | 3.16% | 2.74% | 0.11% | 0.01% | 0.12% |
| Real Estate | 9% | 9% | - | - | (0.05%) | (0.08%) | (0.13%) |
| International Equity | 15% | 16% | 2.99% | 2.57% | 0.07% | (0.02%) | 0.05% |
| Cash Account | 1% | 0% | 0.64% | 0.64% | 0.00% | (0.07%) | (0.07%) |
| **Total** | | | **6.96%** | **= 6.96%** | **+ 0.26%** | **+ (0.26%)** | **0.00%** |

* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

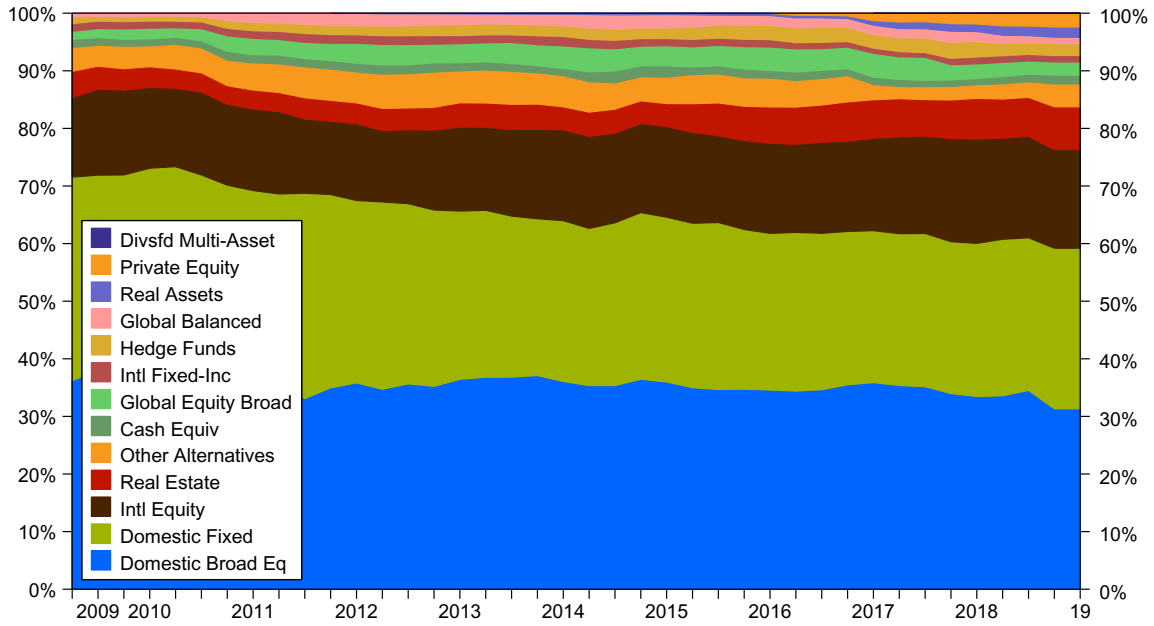
## Actual Historical Asset Allocation

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, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

### Actual Historical Asset Allocation



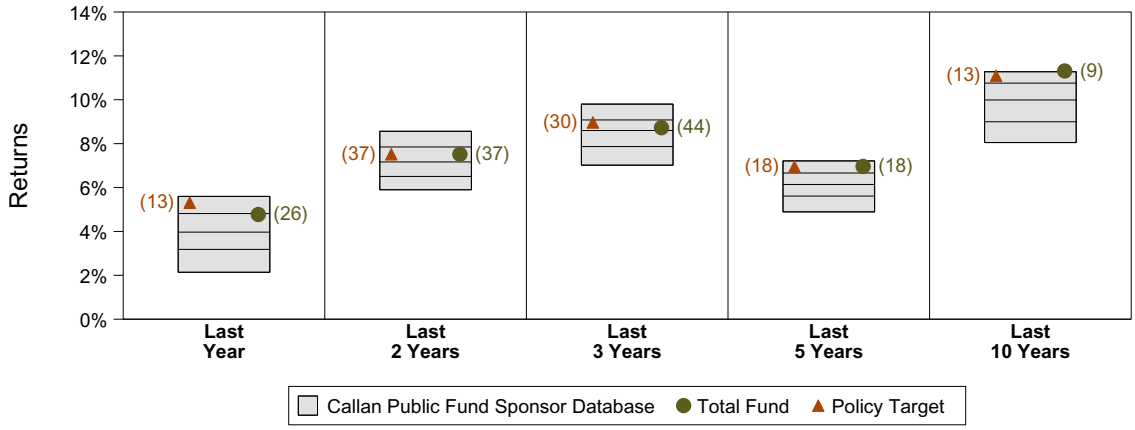

### Average Callan Public Fund Sponsor Database Historical Asset Allocation



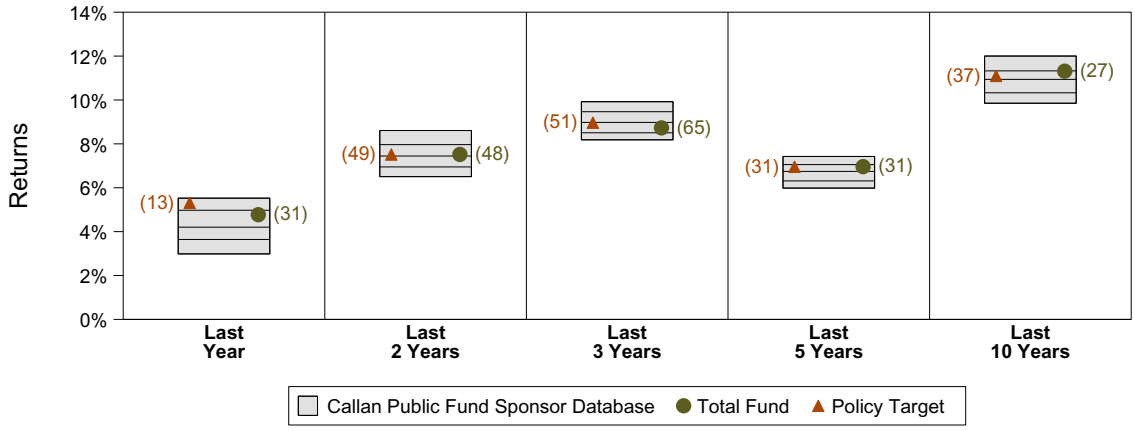
## Total Fund Ranking

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

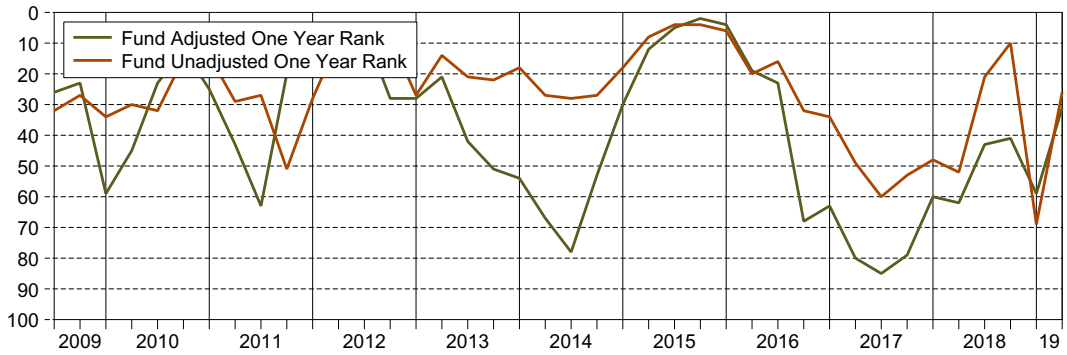
### Callan Public Fund Sponsor Database




### Asset Allocation Adjusted Ranking




### Rolling One Year Ranking vs Callan Public Fund Sponsor Database

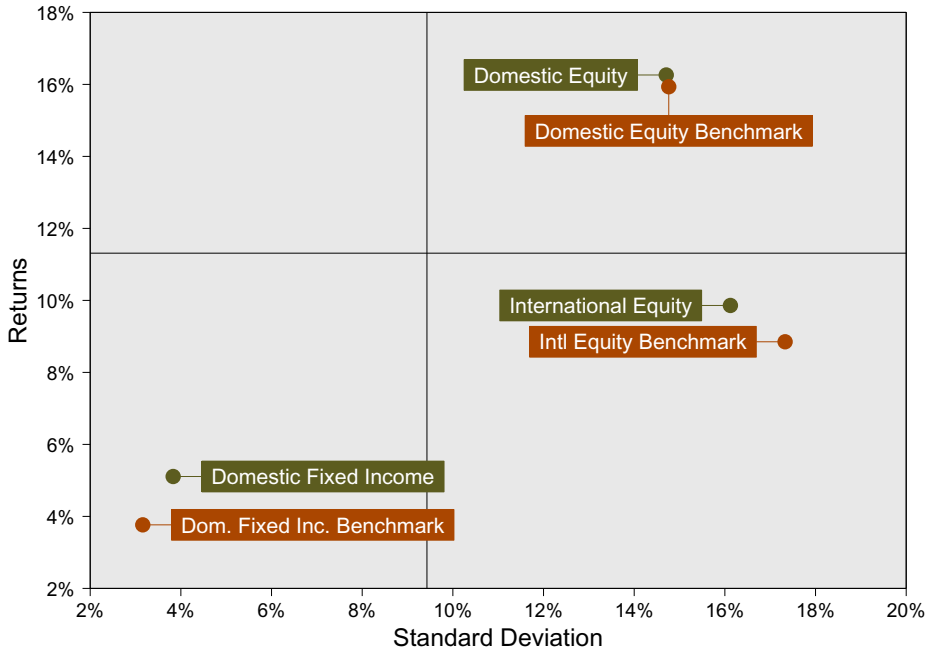



* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

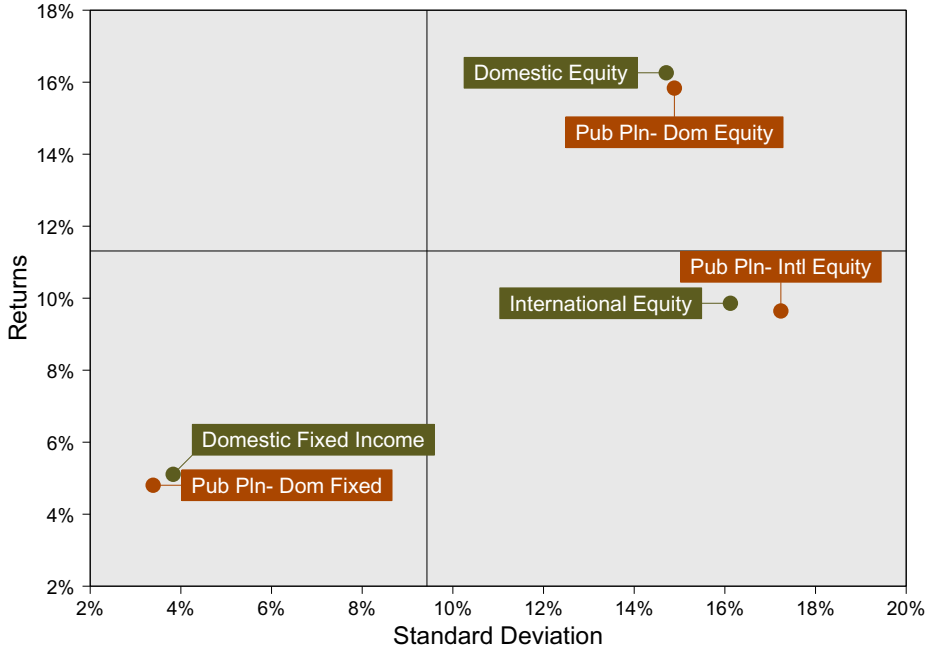
## Asset Class Risk and Return

The charts below show the ten year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

### Ten Year Annualized Risk vs Return
### Asset Classes vs Benchmark Indices



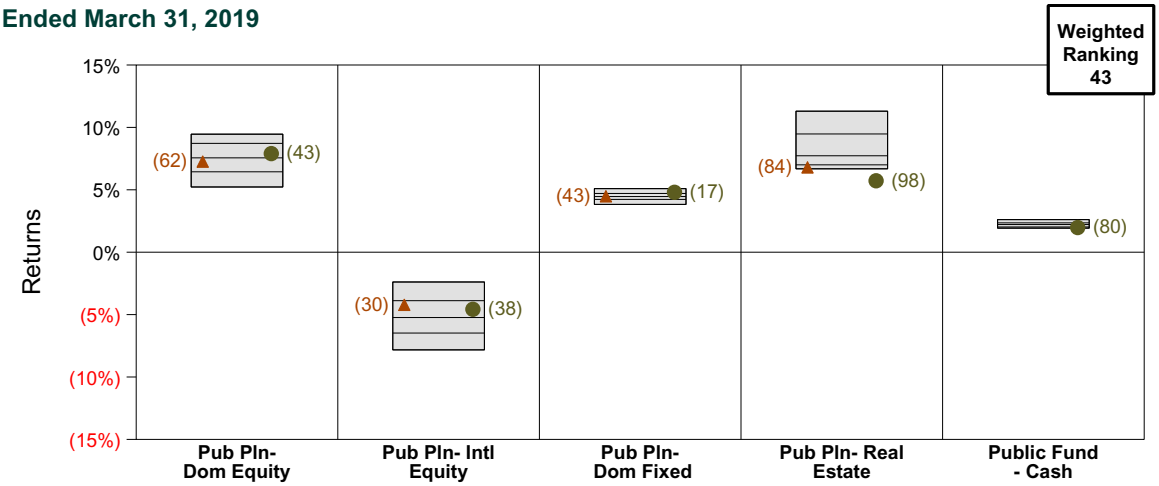

### Ten Year Annualized Risk vs Return
### Asset Classes vs Asset Class Median



## Asset Class Rankings

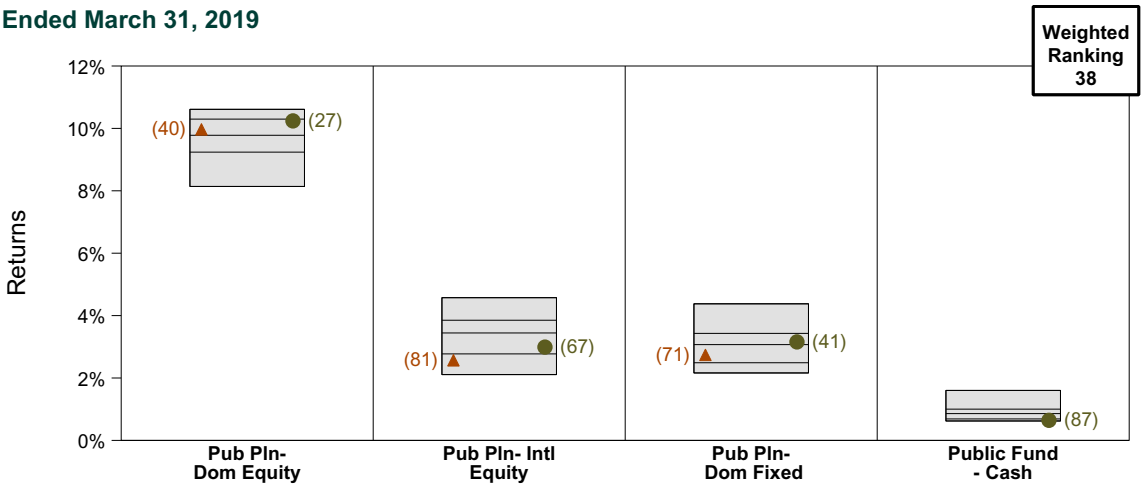
The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used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

### Total Asset Class Performance
### One Year Ended March 31, 2019




| | Pub Pln- Dom Equity | Pub Pln- Intl Equity | Pub Pln- Dom Fixed | Pub Pln- Real Estate | Public Fund - Cash |
|---|---|---|---|---|---|
| 10th Percentile | 9.46 | (2.39) | 5.09 | 11.30 | 2.61 |
| 25th Percentile | 8.72 | (3.88) | 4.71 | 9.47 | 2.35 |
| Median | 7.56 | (5.24) | 4.46 | 7.73 | 2.22 |
| 75th Percentile | 6.44 | (6.48) | 4.23 | 7.00 | 2.02 |
| 90th Percentile | 5.22 | (7.83) | 3.83 | 6.68 | 1.93 |
| **Asset Class Composite** ● | 7.90 | (4.58) | 4.80 | 5.72 | 1.97 |
| Composite Benchmark ▲ | 7.26 | (4.21) | 4.48 | 6.80 | - |

### Total Asset Class Performance
### Five Years Ended March 31, 2019



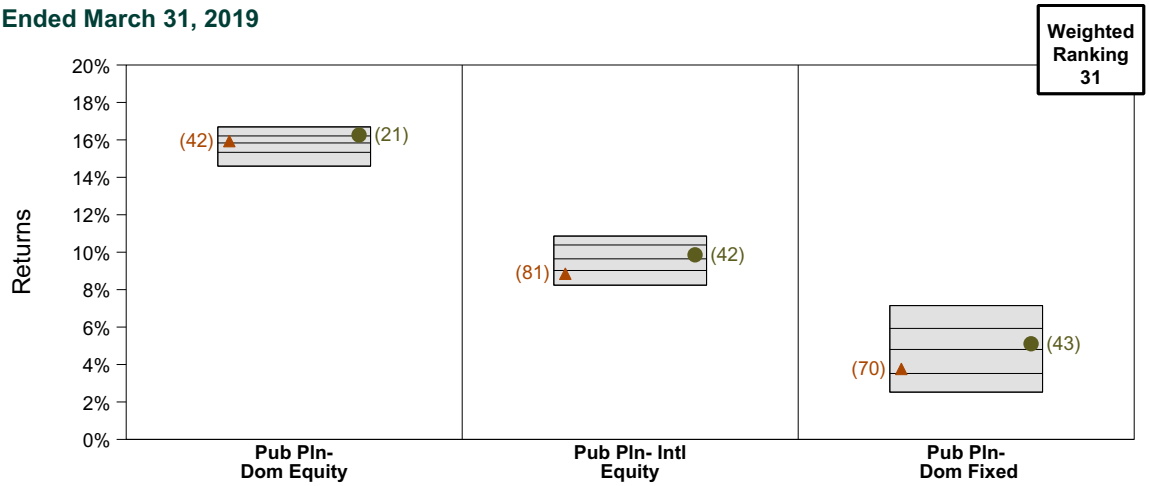

| | Pub Pln- Dom Equity | Pub Pln- Intl Equity | Pub Pln- Dom Fixed | Public Fund - Cash |
|---|---|---|---|---|
| 10th Percentile | 10.61 | 4.57 | 4.38 | 1.60 |
| 25th Percentile | 10.30 | 3.85 | 3.43 | 1.00 |
| Median | 9.78 | 3.44 | 3.07 | 0.86 |
| 75th Percentile | 9.24 | 2.77 | 2.49 | 0.69 |
| 90th Percentile | 8.14 | 2.11 | 2.16 | 0.62 |
| **Asset Class Composite** ● | 10.24 | 2.99 | 3.16 | 0.64 |
| Composite Benchmark ▲ | 9.97 | 2.57 | 2.74 | - |

* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

## Asset Class Rankings

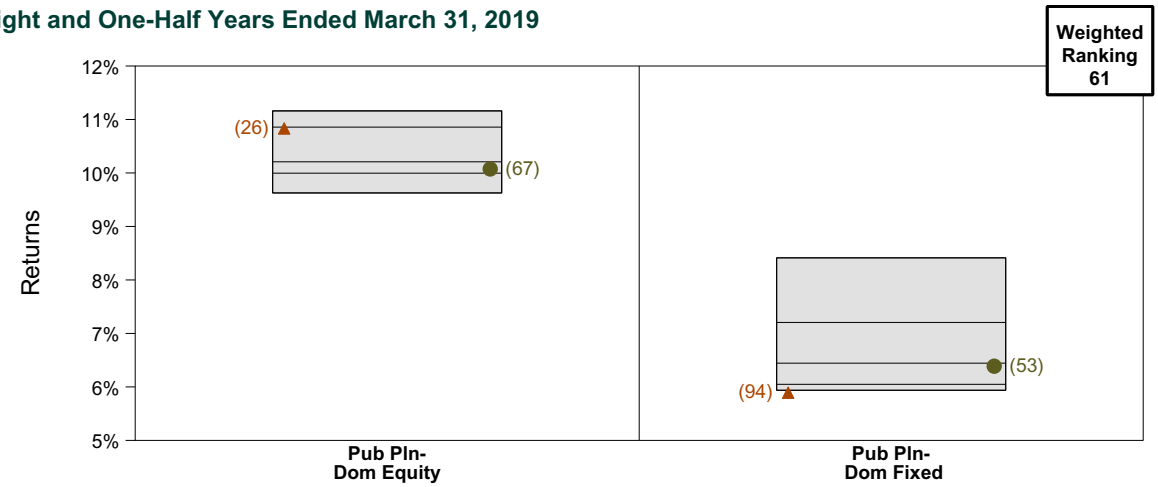
The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used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

### Total Asset Class Performance
### Ten Years Ended March 31, 2019




| | Pub Pln- Dom Equity | Pub Pln- Intl Equity | Pub Pln- Dom Fixed |
|---|---|---|---|
| 10th Percentile | 16.69 | 10.86 | 7.15 |
| 25th Percentile | 16.21 | 10.39 | 5.93 |
| Median | 15.84 | 9.64 | 4.80 |
| 75th Percentile | 15.33 | 9.02 | 3.52 |
| 90th Percentile | 14.60 | 8.24 | 2.52 |
| **Asset Class Composite** ● | 16.26 | 9.86 | 5.11 |
| Composite Benchmark ▲ | 15.93 | 8.85 | 3.77 |

### Total Asset Class Performance
### Twenty-Eight and One-Half Years Ended March 31, 2019




| | Pub Pln- Dom Equity | Pub Pln- Dom Fixed |
|---|---|---|
| 10th Percentile | 11.16 | 8.41 |
| 25th Percentile | 10.86 | 7.21 |
| Median | 10.21 | 6.44 |
| 75th Percentile | 10.00 | 6.05 |
| 90th Percentile | 9.63 | 5.94 |
| **Asset Class Composite** ● | 10.08 | 6.39 |
| Composite Benchmark ▲ | 10.83 | 5.89 |

* Current Quarter Target = 27.0% Blmbg Aggregate, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Eq Wt Net, 6.0% S&P Mid Cap 400 Index, 3.0% Russell 2000 Growth Index and 3.0% Russell 2000 Value Index.

## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2019, with the distribution as of December 31, 2018.

### Asset Distribution Across Investment Managers

| | March 31, 2019 | | | | | December 31, 2018 | | |
|---|---|---|---|---|---|---|---|---|
| | Market Value | Weight | (min) | Target | (max) | Market Value | Weight | Target |
| **Domestic Equity** | **$97,980,944** | **48.63%** | **30.00%** | **38.00%** | **44.00%** | **$85,761,884** | **46.50%** | **38.00%** |
| Emerald Advisers, Inc. | 9,375,773 | 4.65% | 2.00% | 3.00% | 4.00% | 7,735,082 | 4.19% | 3.00% |
| Ceredex Value Advisors | 7,531,880 | 3.74% | 2.00% | 3.00% | 4.00% | 6,775,310 | 3.67% | 3.00% |
| SSgA S&P 500 Index | 65,722,297 | 32.62% | 22.00% | 26.00% | 30.00% | 57,838,624 | 31.36% | 26.00% |
| SSgA S&P 400 Index | 15,350,993 | 7.62% | 4.00% | 6.00% | 6.00% | 13,412,868 | 7.27% | 6.00% |
| **International Equity** | **$28,865,469** | **14.33%** | **21.00%** | **25.00%** | **29.00%** | **$25,720,440** | **13.94%** | **25.00%** |
| Morgan Stanley Int'l Equity | 13,724,330 | 6.81% | 8.75% | 10.00% | 10.75% | 12,333,714 | 6.69% | 10.00% |
| Morgan Stanley Emerging Mkts. | 1,240,319 | 0.62% | 2.00% | 2.50% | 4.50% | 1,156,195 | 0.63% | 2.50% |
| William Blair & Company | 13,900,821 | 6.90% | 10.50% | 12.50% | 12.50% | 12,230,532 | 6.63% | 12.50% |
| **Domestic Fixed Income** | **$47,858,622** | **23.75%** | **22.00%** | **27.00%** | **32.00%** | **$46,501,332** | **25.21%** | **27.00%** |
| Richmond Capital Management | 47,858,622 | 23.75% | 22.00% | 27.00% | 32.00% | 46,501,332 | 25.21% | 27.00% |
| **Real Estate** | **$20,659,338** | **10.25%** | **5.00%** | **10.00%** | **12.00%** | **$20,395,692** | **11.06%** | **10.00%** |
| Heitman | 20,659,338 | 10.25% | 5.00% | 10.00% | 12.00% | 20,395,692 | 11.06% | 10.00% |
| **Cash Account** | **$6,106,270** | **3.03%** | **0.00%** | **0.00%** | **1.00%** | **$6,071,920** | **3.29%** | **0.00%** |
| **Total Fund** | **$201,470,643** | **100.0%** | | **100.0%** | | **$184,451,268** | **100.0%** | **100.0%** |

## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2019, with the distribution as of December 31, 2018. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

### Asset Distribution Across Investment Managers

| | March 31, 2019 | | | | | December 31, 2018 | | |
|---|---|---|---|---|---|---|---|---|
| | Market Value | Weight | Target | Net New Inv. | Inv. Return | Market Value | Weight | Target |
| **Domestic Equity** | **$97,980,944** | **48.63%** | **38.00%** | **$(40,741)** | **$12,259,801** | **$85,761,884** | **46.50%** | **38.00%** |
| Emerald Advisers, Inc. | 9,375,773 | 4.65% | 3.00% | (15,752) | 1,656,443 | 7,735,082 | 4.19% | 3.00% |
| Ceredex Value Advisors | 7,531,880 | 3.74% | 3.00% | (15,217) | 771,787 | 6,775,310 | 3.67% | 3.00% |
| SSgA S&P 500 Index | 65,722,297 | 32.62% | 26.00% | (6,892) | 7,890,565 | 57,838,624 | 31.36% | 26.00% |
| SSgA S&P 400 Index | 15,350,993 | 7.62% | 6.00% | (2,881) | 1,941,006 | 13,412,868 | 7.27% | 6.00% |
| **International Equity** | **$28,865,469** | **14.33%** | **25.00%** | **$(23,606)** | **$3,168,635** | **$25,720,440** | **13.94%** | **25.00%** |
| Morgan Stanley Int'l Equity | 13,724,330 | 6.81% | 10.00% | (23,606) | 1,414,222 | 12,333,714 | 6.69% | 10.00% |
| Morgan Stanley Emerging Mkts. | 1,240,319 | 0.62% | 2.50% | 0 | 84,124 | 1,156,195 | 0.63% | 2.50% |
| William Blair & Company | 13,900,821 | 6.90% | 12.50% | 0 | 1,670,289 | 12,230,532 | 6.63% | 12.50% |
| **Domestic Fixed Income** | **$47,858,622** | **23.75%** | **27.00%** | **$(34,928)** | **$1,392,218** | **$46,501,332** | **25.21%** | **27.00%** |
| Richmond Capital Management | 47,858,622 | 23.75% | 27.00% | (34,928) | 1,392,218 | 46,501,332 | 25.21% | 27.00% |
| **Real Estate** | **$20,659,338** | **10.25%** | **10.00%** | **$0** | **$263,646** | **$20,395,692** | **11.06%** | **10.00%** |
| Heitman | 20,659,338 | 10.25% | 10.00% | 0 | 263,646 | 20,395,692 | 11.06% | 10.00% |
| **Cash Account** | **$6,106,270** | **3.03%** | **0.00%** | **$0** | **$34,350** | **$6,071,920** | **3.29%** | **0.00%** |
| **Total Fund** | **$201,470,643** | **100.0%** | **100.0%** | **$(99,276)** | **$17,118,651** | **$184,451,268** | **100.0%** | **100.0%** |

## Investment Manager Returns and Peer Group Rankings

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

### Returns and Rankings for Periods Ended March 31, 2019

| | Last Quarter | | Last Year | | Last 3 Years | | Last 5 Years | | Last 7 Years | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Domestic Equity** | **14.30%** | **32** | **7.90%** | **43** | **13.25%** | **50** | **10.24%** | **27** | **12.61%** | **24** |
| Domestic Equity Benchmark | 13.92% | 56 | 7.26% | 62 | 13.11% | 56 | 9.97% | 40 | 12.35% | 39 |
| Pub Pln- Dom Equity | 14.03% | | 7.56% | | 13.23% | | 9.78% | | 12.26% | |
| Emerald Advisers, Inc. | 21.43% | 26 | 10.22% | 51 | 18.02% | 52 | 11.09% | 34 | 14.50% | 26 |
| Russell 2000 Growth Index | 17.14% | 59 | 3.85% | 89 | 14.87% | 83 | 8.41% | 78 | 11.79% | 76 |
| Callan Small Cap Growth | 18.45% | | 10.27% | | 18.53% | | 10.05% | | 13.39% | |
| Ceredex Value Advisors | 11.39% | 81 | 2.43% | 15 | 9.83% | 39 | 7.02% | 31 | 10.71% | 46 |
| Russell 2000 Index | 14.58% | 11 | 2.05% | 16 | 12.92% | 11 | 7.05% | 31 | 10.74% | 45 |
| Russell 2000 Value Index | 11.93% | 72 | 0.17% | 26 | 10.86% | 26 | 5.59% | 69 | 9.61% | 81 |
| Callan Small Cap Value | 12.46% | | (2.06%) | | 9.44% | | 6.26% | | 10.59% | |
| SSgA S&P 500 Index | 13.64% | 43 | 9.51% | 30 | 13.54% | 33 | 10.96% | 27 | 12.89% | 41 |
| Standard & Poor's 500 | 13.65% | 43 | 9.50% | 31 | 13.51% | 33 | 10.91% | 27 | 12.85% | 41 |
| Callan Large Cap Core | 13.25% | | 7.79% | | 12.90% | | 10.32% | | 12.48% | |
| SSgA S&P 400 Index | 14.47% | 71 | 2.56% | 62 | 11.22% | 52 | 8.28% | 51 | 11.40% | 58 |
| S&P Mid Cap 400 Index | 14.49% | 71 | 2.59% | 62 | 11.24% | 52 | 8.29% | 51 | 11.39% | 58 |
| Callan Mid Capitalization | 15.81% | | 3.79% | | 11.60% | | 8.38% | | 11.71% | |
| **International Equity** | **12.32%** | **5** | **(4.58%)** | **38** | **7.23%** | **87** | **2.99%** | **67** | **5.86%** | **44** |
| International Equity Benchmark | 10.31% | 45 | (4.21%) | 30 | 8.09% | 63 | 2.57% | 81 | 4.73% | 83 |
| Pub Pln- Intl Equity | 10.28% | | (5.24%) | | 8.39% | | 3.44% | | 5.64% | |
| Morgan Stanley Int'l Equity | 11.47% | 21 | (1.75%) | 12 | 7.52% | 42 | 3.05% | 60 | 6.24% | 65 |
| MSCI EAFE Index | 9.98% | 83 | (3.71%) | 21 | 7.27% | 51 | 2.33% | 78 | 5.63% | 88 |
| Callan NonUS Dev Core Eq | 10.36% | | (4.86%) | | 7.30% | | 3.21% | | 6.64% | |
| Morgan Stanley Emerging Mkts. | 7.28% | 90 | (12.93%) | 84 | 6.90% | 94 | 1.93% | 86 | 2.08% | 66 |
| MSCI EM BM | 9.93% | 70 | (7.40%) | 37 | 10.68% | 50 | 3.68% | 59 | 2.69% | 51 |
| Callan Emerging Equity MF | 10.64% | | (9.20%) | | 10.66% | | 3.89% | | 2.89% | |
| William Blair & Company | 13.66% | 6 | (6.44%) | 58 | 6.96% | 39 | 3.05% | 33 | 5.87% | 39 |
| MSCI ACWI x US (Net) | 10.31% | 53 | (4.21%) | 35 | 8.09% | 29 | 2.57% | 47 | 4.73% | 75 |
| Callan Non US Equity MFs | 10.64% | | (5.75%) | | 6.50% | | 2.17% | | 5.25% | |
| **Domestic Fixed Income** | **3.00%** | **65** | **4.80%** | **17** | **2.45%** | **60** | **3.16%** | **41** | **3.07%** | **47** |
| Domestic Fixed Income Benchmark | 2.94% | 67 | 4.48% | 43 | 2.03% | 76 | 2.74% | 71 | 2.48% | 71 |
| Blmbg Aggregate Index | 2.94% | 67 | 4.48% | 43 | 2.03% | 76 | 2.74% | 71 | 2.48% | 71 |
| Pub Pln- Dom Fixed | 3.27% | | 4.46% | | 2.84% | | 3.07% | | 3.04% | |
| Richmond Capital Management | 3.00% | 74 | 4.80% | 34 | 2.45% | 55 | 3.16% | 39 | 3.07% | 37 |
| Blended Benchmark(2) | 2.94% | 84 | 4.48% | 75 | 2.03% | 89 | 2.74% | 91 | 2.60% | 89 |
| Callan Core Bond FI | 3.17% | | 4.70% | | 2.52% | | 3.05% | | 2.94% | |
| **Real Estate** | **1.29%** | **76** | **5.72%** | **98** | **6.72%** | **91** | **-** | | **-** | |
| Real Estate Benchmark | 1.48% | 57 | 6.80% | 84 | 7.26% | 64 | - | | - | |
| Pub Pln- Real Estate | 1.48% | | 7.73% | | 7.87% | | 9.48% | | 10.39% | |
| Heitman | 1.29% | 69 | 5.72% | 93 | 6.72% | 66 | - | | - | |
| NFI-ODCE Equal Weight Net | 1.48% | 58 | 6.80% | 63 | 7.26% | 46 | 9.42% | 49 | 9.87% | 44 |
| Callan OE Core Cmngld RE | 1.61% | | 7.36% | | 7.08% | | 9.40% | | 9.80% | |
| **Total Fund** | **9.28%** | **15** | **4.77%** | **26** | **8.73%** | **44** | **6.96%** | **18** | **8.53%** | **13** |
| Total Fund Benchmark(1) | 8.81% | 25 | 5.31% | 13 | 8.97% | 30 | 6.96% | 18 | 8.21% | 22 |
| CPI + 5% | 2.40% | 99 | 6.77% | 2 | 7.19% | 88 | 6.28% | 43 | 6.31% | 87 |
| Callan Public Fund Spr DB | 8.14% | | 3.97% | | 8.60% | | 6.14% | | 7.43% | |

(1) The Total Fund Benchmark consists of 26% S&P 500 Index, 27% Blmbg Aggregate Index, 25% MSCI ACWI ex US (Net), 10% NFI-ODCE Equal Weight Net, 6% S&P MidCap 400, 3% Russell 2000 Growth and 3% Russell 2000 Value.
(2) Blmbg Gov/Credit Bond Index through May 31, 2013 and Blmbg Aggregate thereafter.

## Investment Manager Returns and Peer Group Rankings

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

**Returns and Rankings for Periods Ended March 31, 2019**

| | Last 10 Years | | Last 15 Years | | Last 20 Years | | Last 28-1/2 Years | |
|---|---|---|---|---|---|---|---|---|
| **Domestic Equity** | **16.26%** | **21** | **9.23%** | **9** | **7.63%** | **10** | **10.08%** | **67** |
| Domestic Equity Benchmark | 15.93% | 42 | 8.69% | 41 | 7.07% | 45 | 10.83% | 26 |
| Pub Pln- Dom Equity | 15.84% | | 8.61% | | 7.02% | | 10.21% | |
| Emerald Advisers, Inc. | 19.38% | 22 | 10.73% | 47 | - | | - | |
| Russell 2000 Growth Index | 16.52% | 81 | 8.71% | 87 | 7.08% | 95 | 9.27% | 99 |
| Callan Small Cap Growth | 18.44% | | 10.68% | | 10.46% | | 13.40% | |
| Ceredex Value Advisors | 15.39% | 69 | 10.55% | 9 | 12.44% | 30 | - | |
| Russell 2000 Index | 15.36% | 69 | 8.04% | 82 | 8.44% | 98 | 10.69% | 97 |
| Russell 2000 Value Index | 14.12% | 91 | 7.24% | 89 | 9.40% | 93 | 11.68% | 95 |
| Callan Small Cap Value | 16.19% | | 8.65% | | 11.48% | | 13.73% | |
| SSgA S&P 500 Index | 15.97% | 32 | 8.62% | 75 | 6.08% | 85 | - | |
| Standard & Poor's 500 | 15.92% | 34 | 8.57% | 77 | 6.04% | 88 | 10.40% | 87 |
| Callan Large Cap Core | 15.57% | | 8.98% | | 6.97% | | 11.14% | |
| SSgA S&P 400 Index | 16.29% | 57 | 9.55% | 66 | 10.12% | 60 | - | |
| S&P Mid Cap 400 Index | 16.28% | 57 | 9.52% | 67 | 10.08% | 64 | 13.00% | 55 |
| Callan Mid Capitalization | 16.51% | | 9.99% | | 10.41% | | 13.26% | |
| **International Equity** | **9.86%** | **42** | **6.17%** | **52** | **6.10%** | **26** | **-** | |
| International Equity Benchmark | 8.85% | 81 | 5.58% | 75 | 4.63% | 81 | 6.10% | 89 |
| Pub Pln- Intl Equity | 9.64% | | 6.18% | | 5.46% | | 7.10% | |
| Morgan Stanley Int'l Equity | 9.11% | 87 | 5.97% | 63 | 6.94% | 10 | - | |
| MSCI EAFE Index | 8.96% | 88 | 5.11% | 97 | 3.94% | 99 | 5.75% | 96 |
| Callan NonUS Dev Core Eq | 10.38% | | 6.27% | | 5.44% | | 6.65% | |
| Morgan Stanley Emerging Mkts. | 8.26% | 76 | 6.95% | 79 | 8.05% | 82 | - | |
| MSCI EM BM | 8.95% | 59 | 7.92% | 43 | - | | - | |
| Callan Emerging Equity MF | 9.24% | | 7.75% | | 8.92% | | - | |
| William Blair & Company | 10.70% | 19 | 6.14% | 27 | - | | - | |
| MSCI ACWI x US (Net) | 8.85% | 58 | 5.58% | 47 | - | | - | |
| Callan Non US Equity MFs | 9.06% | | 5.51% | | 4.75% | | 6.49% | |
| **Domestic Fixed Income** | **5.11%** | **43** | **4.41%** | **46** | **5.27%** | **42** | **6.39%** | **53** |
| Domestic Fixed Income Benchmark | 3.77% | 70 | 3.89% | 64 | 4.73% | 79 | 5.89% | 94 |
| Blmbg Aggregate Index | 3.77% | 70 | 3.89% | 64 | 4.73% | 79 | 5.89% | 94 |
| Pub Pln- Dom Fixed | 4.80% | | 4.33% | | 5.19% | | 6.44% | |
| Richmond Capital Management | 5.11% | 24 | 4.41% | 49 | 5.27% | 42 | 6.52% | 25 |
| Blended Benchmark(2) | 3.93% | 95 | 3.86% | 94 | 4.78% | 91 | 5.96% | 93 |
| Callan Core Bond FI | 4.61% | | 4.37% | | 5.18% | | 6.37% | |
| **Total Fund** | **11.31%** | **9** | **7.55%** | **6** | **7.05%** | **8** | **8.82%** | **31** |
| Total Fund Benchmark(1) | 11.10% | 13 | 7.08% | 24 | 6.47% | 31 | 8.87% | 29 |
| CPI + 5% | 6.81% | 98 | 7.05% | 26 | 7.17% | 5 | 7.26% | 94 |
| Callan Public Fund Spr DB | 9.99% | | 6.54% | | 6.21% | | 8.49% | |

(1) The Total Fund Benchmark consists of 26% S&P 500 Index, 27% Blmbg Aggregate Index, 25% MSCI ACWI ex US (Net), 10% NFI-ODCE Equal Weight Net, 6% S&P MidCap 400, 3% Russell 2000 Growth and 3% Russell 2000 Value.
(2) Blmbg Gov/Credit Bond Index through May 31, 2013 and Blmbg Aggregate thereafter.

## Investment Manager Returns and Peer Group Rankings

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

| | 12/2018-3/2019 | | 2018 | | 2017 | | 2016 | | 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Domestic Equity** | **14.30%** | **32** | **(6.60%)** | **68** | **20.70%** | **45** | **14.61%** | **19** | **0.82%** | **27** |
| Domestic Equity Benchmark | 13.92% | 56 | (6.48%) | 65 | 19.85% | 66 | 14.77% | 15 | (0.05%) | 58 |
| Pub Pln- Dom Equity | 14.03% | | (5.83%) | | 20.51% | | 12.86% | | 0.19% | |
| Emerald Advisers, Inc. | 21.43% | 26 | (10.81%) | 92 | 29.11% | 26 | 10.97% | 37 | 4.66% | 13 |
| Russell 2000 Growth Index | 17.14% | 59 | (9.31%) | 85 | 22.17% | 70 | 11.32% | 36 | (1.38%) | 50 |
| Callan Small Cap Growth | 18.45% | | (3.04%) | | 25.74% | | 8.62% | | (1.29%) | |
| Ceredex Value Advisors | 11.39% | 81 | (11.34%) | 14 | 11.12% | 35 | 30.95% | 26 | (4.47%) | 57 |
| Russell 2000 Index | 14.58% | 11 | (11.01%) | 13 | 14.65% | 12 | 21.31% | 92 | (4.41%) | 57 |
| Russell 2000 Value Index | 11.93% | 72 | (12.86%) | 23 | 7.84% | 65 | 31.74% | 14 | (7.47%) | 83 |
| Callan Small Cap Value | 12.46% | | (14.79%) | | 9.19% | | 27.86% | | (3.73%) | |
| SSgA S&P 500 Index | 13.64% | 43 | (4.36%) | 32 | 21.86% | 47 | 12.03% | 21 | 1.46% | 48 |
| Standard & Poor's 500 | 13.65% | 43 | (4.38%) | 32 | 21.83% | 48 | 11.96% | 21 | 1.38% | 51 |
| Callan Large Cap Core | 13.25% | | (5.35%) | | 21.65% | | 10.42% | | 1.40% | |
| SSgA S&P 400 Index | 14.47% | 71 | (11.10%) | 56 | 16.22% | 70 | 20.73% | 14 | (2.15%) | 65 |
| S&P 400 Mid Cap Index | 14.49% | 71 | (11.08%) | 56 | 16.24% | 70 | 20.74% | 14 | (2.18%) | 65 |
| Callan Mid Capitalization | 15.81% | | (10.55%) | | 19.58% | | 12.23% | | (0.80%) | |
| **International Equity** | **12.32%** | **5** | **(15.33%)** | **71** | **28.22%** | **62** | **(1.46%)** | **95** | **0.15%** | **7** |
| International Equity Benchmark | 10.31% | 45 | (14.20%) | 52 | 27.19% | 79 | 4.50% | 41 | (5.66%) | 67 |
| Pub Pln- Intl Equity | 10.28% | | (14.04%) | | 29.11% | | 4.10% | | (3.83%) | |
| Morgan Stanley Int'l Equity | 11.47% | 21 | (12.86%) | 21 | 26.28% | 50 | (0.82%) | 77 | 1.17% | 50 |
| MSCI EAFE Index | 9.98% | 83 | (13.79%) | 29 | 25.03% | 62 | 1.00% | 49 | (0.81%) | 76 |
| Callan NonUS Dev Core Eq | 10.36% | | (15.26%) | | 26.32% | | 0.94% | | 1.15% | |
| Morgan Stanley Emerging Mkts. | 7.28% | 90 | (17.32%) | 55 | 34.97% | 63 | 6.73% | 86 | (10.33%) | 19 |
| MSCI EM BM | 9.93% | 70 | (14.57%) | 23 | 37.28% | 53 | 11.19% | 59 | (14.92%) | 59 |
| Callan Emerging Equity MF | 10.64% | | (16.91%) | | 37.69% | | 11.97% | | (13.88%) | |
| William Blair & Company | 13.66% | 6 | (17.50%) | 74 | 29.53% | 32 | (2.40%) | 77 | 0.09% | 48 |
| MSCI ACWI x US (Net) | 10.31% | 53 | (14.20%) | 33 | 27.19% | 47 | 4.50% | 15 | (5.66%) | 93 |
| Callan Non US Equity MFs | 10.64% | | (15.04%) | | 26.90% | | 0.23% | | 0.02% | |
| **Domestic Fixed Income** | **3.00%** | **65** | **0.36%** | **41** | **3.82%** | **68** | **3.15%** | **69** | **1.17%** | **13** |
| Domestic Fixed Income Benchmark | 2.94% | 67 | 0.01% | 58 | 3.54% | 76 | 2.65% | 76 | 0.55% | 38 |
| Blmbg Aggregate Index | 2.94% | 67 | 0.01% | 58 | 3.54% | 76 | 2.65% | 76 | 0.55% | 38 |
| Pub Pln- Dom Fixed | 3.27% | | 0.14% | | 4.49% | | 4.28% | | 0.33% | |
| Richmond Capital Management | 3.00% | 74 | 0.36% | 24 | 3.82% | 65 | 3.15% | 49 | 1.17% | 23 |
| Blended Benchmark(2) | 2.94% | 84 | 0.01% | 62 | 3.54% | 87 | 2.65% | 86 | 0.55% | 71 |
| Callan Core Bond FI | 3.17% | | 0.11% | | 3.96% | | 3.14% | | 0.84% | |
| **Real Estate** | **1.29%** | **76** | **6.39%** | **80** | **5.88%** | **84** | **8.83%** | **48** | **14.68%** | **19** |
| Real Estate Benchmark | 1.48% | 57 | 7.30% | 63 | 6.92% | 68 | 8.36% | 54 | 14.18% | 24 |
| Pub Pln- Real Estate | 1.48% | | 7.77% | | 7.70% | | 8.50% | | 12.31% | |
| Heitman | 1.29% | 69 | 6.39% | 83 | 5.88% | 82 | 8.83% | 44 | 14.68% | 42 |
| NFI-ODCE Equal Weight Net | 1.48% | 58 | 7.30% | 50 | 6.92% | 48 | 8.36% | 56 | 14.18% | 56 |
| Callan OE Core Cmngld RE | 1.61% | | 7.32% | | 6.84% | | 8.67% | | 14.40% | |
| **Total Fund** | **9.28%** | **15** | **(4.81%)** | **69** | **15.56%** | **48** | **8.21%** | **34** | **1.82%** | **6** |
| Total Fund Benchmark(1) | 8.81% | 25 | (3.89%) | 50 | 15.02% | 55 | 9.29% | 8 | 0.78% | 27 |
| CPI + 5% | 2.40% | 99 | 6.77% | 1 | 7.18% | 97 | 6.99% | 72 | 5.39% | 1 |
| Callan Public Fund Spr DB | 8.14% | | (3.89%) | | 15.46% | | 7.74% | | 0.06% | |

(1) The Total Fund Benchmark consists of 26% S&P 500 Index, 27% Blmbg Aggregate Index, 25% MSCI ACWI ex US (Net), 10% NFI-ODCE Equal Weight Net, 6% S&P MidCap 400, 3% Russell 2000 Growth and 3% Russell 2000 Value.
(2) Blmbg Gov/Credit Bond Index through May 31, 2013 and Blmbg Aggregate thereafter.

## Investment Manager Returns and Peer Group Rankings

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

| | 2014 | | 2013 | | 2012 | | 2011 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Domestic Equity** | **11.57%** | **41** | **34.24%** | **53** | **16.71%** | **26** | **1.05%** | **35** | **19.21%** | **30** |
| Domestic Equity Benchmark | 11.86% | 27 | 33.54% | 65 | 16.35% | 41 | 0.65% | 46 | 18.48% | 43 |
| Pub Pln- Dom Equity | 11.32% | | 34.39% | | 16.08% | | 0.33% | | 17.92% | |
| Emerald Advisers, Inc. | 7.68% | 23 | 50.59% | 34 | 18.54% | 14 | (0.87%) | 44 | 29.83% | 39 |
| Russell 2000 Growth Index | 5.60% | 32 | 43.30% | 74 | 14.59% | 50 | (2.91%) | 61 | 29.09% | 44 |
| Callan Small Cap Growth | 3.40% | | 46.83% | | 14.55% | | (1.35%) | | 28.81% | |
| Ceredex Value Advisors | 3.03% | 86 | 35.87% | 75 | 19.31% | 40 | (3.36%) | 45 | 30.78% | 29 |
| Russell 2000 Index | 4.89% | 72 | 38.82% | 50 | 16.35% | 70 | (4.18%) | 55 | 26.85% | 56 |
| Russell 2000 Value Index | 4.22% | 82 | 34.52% | 81 | 18.05% | 50 | (5.50%) | 65 | 24.50% | 76 |
| Callan Small Cap Value | 5.81% | | 38.72% | | 18.12% | | (3.72%) | | 27.38% | |
| SSgA S&P 500 Index | 13.72% | 48 | 32.44% | 77 | 16.06% | 48 | 2.14% | 35 | 15.14% | 42 |
| Standard & Poor's 500 | 13.69% | 48 | 32.39% | 77 | 16.00% | 48 | 2.11% | 36 | 15.06% | 42 |
| Callan Large Cap Core | 13.63% | | 34.49% | | 15.89% | | 1.46% | | 14.20% | |
| SSgA S&P 400 Index | 9.75% | 51 | 33.67% | 76 | 17.94% | 37 | (1.69%) | 47 | 26.59% | 38 |
| S&P 400 Mid Cap Index | 9.77% | 51 | 33.50% | 77 | 17.88% | 37 | (1.73%) | 47 | 26.64% | 38 |
| Callan Mid Capitalization | 9.88% | | 35.84% | | 16.26% | | (1.92%) | | 25.49% | |
| **International Equity** | **(3.84%)** | **66** | **19.19%** | **40** | **22.38%** | **4** | **(11.38%)** | **20** | **14.23%** | **25** |
| International Equity Benchmark | (3.87%) | 67 | 15.29% | 69 | 16.83% | 79 | (13.71%) | 57 | 11.15% | 62 |
| Pub Pln- Intl Equity | (3.17%) | | 17.91% | | 18.60% | | (13.40%) | | 12.11% | |
| Morgan Stanley Int'l Equity | (5.13%) | 59 | 21.72% | 75 | 20.71% | 36 | (7.40%) | 17 | 6.96% | 87 |
| MSCI EAFE Index | (4.90%) | 57 | 22.78% | 66 | 17.32% | 68 | (12.14%) | 58 | 7.75% | 81 |
| Callan NonUS Dev Core Eq | (4.45%) | | 24.76% | | 18.70% | | (11.49%) | | 9.98% | |
| Morgan Stanley Emerging Mkts. | (4.47%) | 59 | (0.80%) | 36 | 20.19% | 27 | (18.41%) | 36 | 18.49% | 57 |
| MSCI EM BM | (2.19%) | 35 | (2.60%) | 58 | 18.23% | 48 | (18.42%) | 37 | 18.88% | 45 |
| Callan Emerging Equity MF | (4.02%) | | (2.19%) | | 17.78% | | (19.02%) | | 18.55% | |
| William Blair & Company | (2.66%) | 24 | 18.90% | 74 | 24.11% | 8 | (13.66%) | 56 | 20.10% | 8 |
| MSCI ACWI x US (Net) | (3.87%) | 32 | 15.29% | 87 | 16.83% | 73 | (13.71%) | 56 | 11.15% | 46 |
| Callan Non US Equity MFs | (5.48%) | | 21.05% | | 18.98% | | (13.51%) | | 10.56% | |
| **Domestic Fixed Income** | **6.48%** | **21** | **(1.44%)** | **62** | **5.85%** | **69** | **9.38%** | **11** | **8.60%** | **50** |
| Domestic Fixed Income Benchmark | 5.97% | 36 | (2.02%) | 77 | 4.21% | 85 | 7.84% | 34 | 6.54% | 81 |
| Blmbg Aggregate Index | 5.97% | 36 | (2.02%) | 77 | 4.21% | 85 | 7.84% | 34 | 6.54% | 81 |
| Pub Pln- Dom Fixed | 5.56% | | (1.02%) | | 7.21% | | 7.19% | | 8.60% | |
| Richmond Capital Management | 6.48% | 34 | (1.44%) | 48 | 5.85% | 61 | 9.38% | 1 | 8.60% | 13 |
| Blended Benchmark(2) | 5.97% | 70 | (2.00%) | 84 | 4.82% | 89 | 8.74% | 12 | 6.59% | 91 |
| Callan Core Bond FI | 6.19% | | (1.47%) | | 6.16% | | 7.87% | | 7.56% | |
| **Total Fund** | **7.45%** | **18** | **19.40%** | **18** | **13.67%** | **27** | **1.83%** | **28** | **14.87%** | **14** |
| Total Fund Benchmark(1) | 7.41% | 19 | 17.57% | 33 | 12.30% | 58 | 1.53% | 34 | 13.73% | 36 |
| CPI + 5% | 5.33% | 67 | 6.46% | 95 | 6.68% | 96 | 8.21% | 1 | 6.68% | 97 |
| Callan Public Fund Spr DB | 6.03% | | 15.73% | | 12.66% | | 0.91% | | 12.99% | |

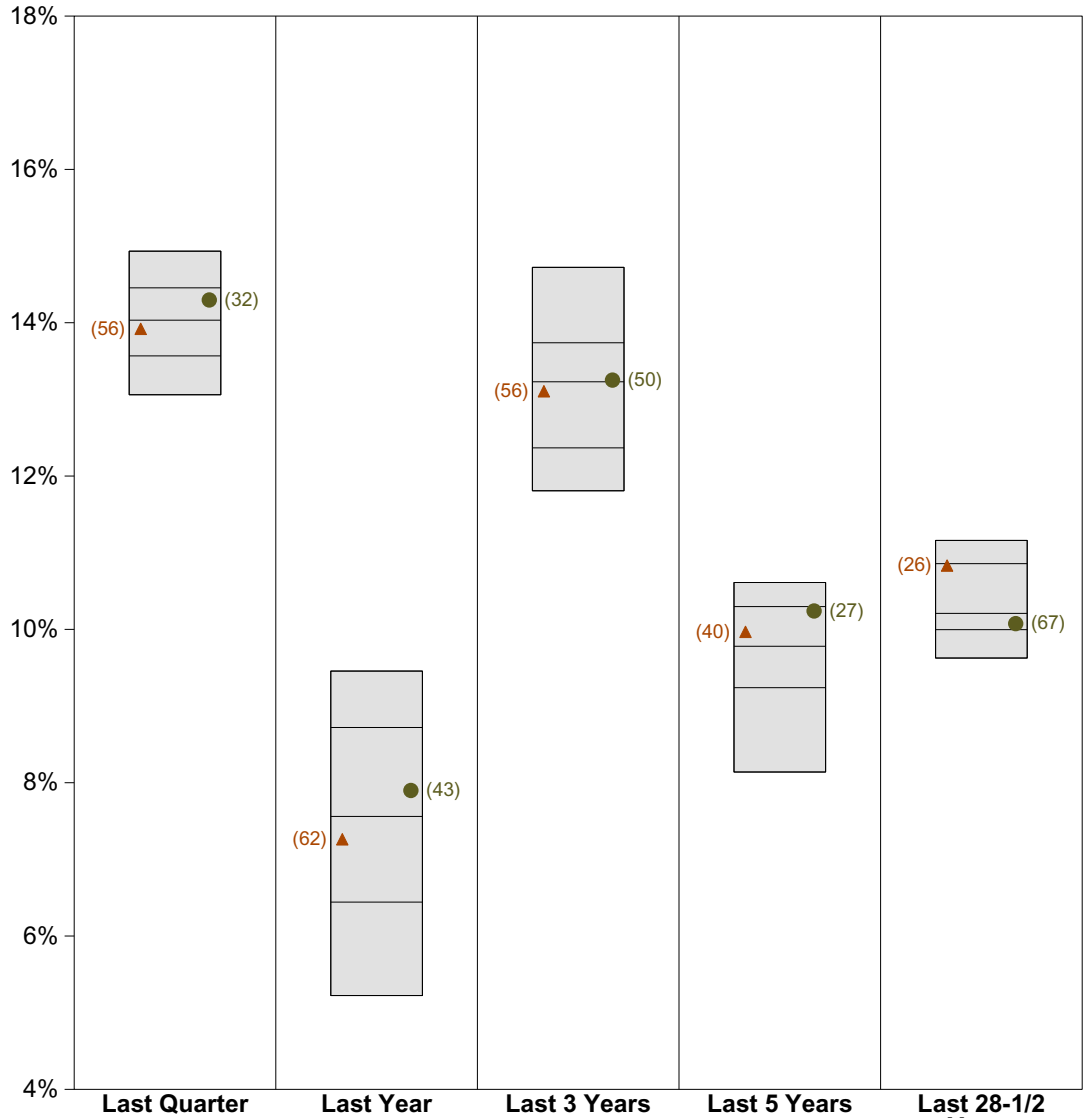
(1) The Total Fund Benchmark consists of 26% S&P 500 Index, 27% Blmbg Aggregate Index, 25% MSCI ACWI ex US (Net), 10% NFI-ODCE Equal Weight Net, 6% S&P MidCap 400, 3% Russell 2000 Growth and 3% Russell 2000 Value.
(2) Blmbg Gov/Credit Bond Index through May 31, 2013 and Blmbg Aggregate thereafter.

Manager Analysis

## City of Fort Pierce
## Performance vs Public Fund - Domestic Equity
## Periods Ended March 31, 2019

### Return Ranking

The chart below illustrates fund rankings over various periods versus the Public Fund - Domestic Equity. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Public Fund - Domestic Equity. 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.

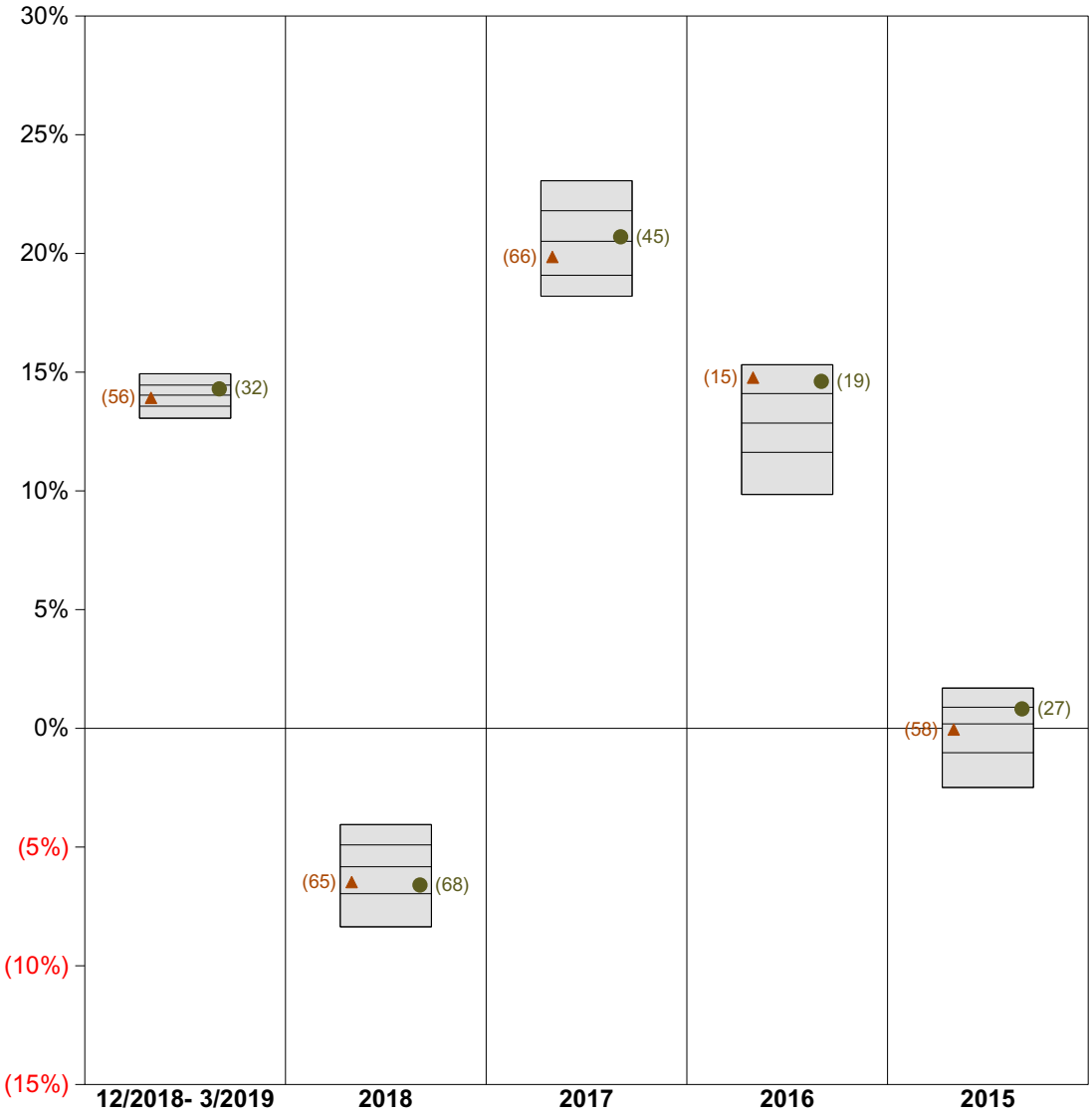



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 28-1/2 Years |
|---|---|---|---|---|---|
| 10th Percentile | 14.93 | 9.46 | 14.72 | 10.61 | 11.16 |
| 25th Percentile | 14.46 | 8.72 | 13.74 | 10.30 | 10.86 |
| Median | 14.03 | 7.56 | 13.23 | 9.78 | 10.21 |
| 75th Percentile | 13.57 | 6.44 | 12.37 | 9.24 | 10.00 |
| 90th Percentile | 13.06 | 5.22 | 11.81 | 8.14 | 9.63 |
| **Equity Composite** ● | 14.30 | 7.90 | 13.25 | 10.24 | 10.08 |
| Domestic Equity Benchmark ▲ | 13.92 | 7.26 | 13.11 | 9.97 | 10.83 |

## City of Fort Pierce
## Performance vs Public Fund - Domestic Equity
## Recent Periods

### Return Ranking

The chart below illustrates fund rankings over various periods versus the Public Fund - Domestic Equity. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Public Fund - Domestic Equity. 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.




| | 12/2018- 3/2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|
| 10th Percentile | 14.93 | (4.05) | 23.06 | 15.31 | 1.70 |
| 25th Percentile | 14.46 | (4.91) | 21.80 | 14.10 | 0.89 |
| Median | 14.03 | (5.83) | 20.51 | 12.86 | 0.19 |
| 75th Percentile | 13.57 | (6.96) | 19.08 | 11.63 | (1.03) |
| 90th Percentile | 13.06 | (8.36) | 18.20 | 9.85 | (2.49) |
| **Equity Composite** ● | 14.30 | (6.60) | 20.70 | 14.61 | 0.82 |
| Domestic Equity Benchmark ▲ | 13.92 | (6.48) | 19.85 | 14.77 | (0.05) |

## Emerald Advisers, Inc.
## Period Ended March 31, 2019

### Investment Philosophy

Emerald is dedicated to fundamental, bottom-up research designed to identify unrecognized, under-researched and undervalued growth companies.

### Quarterly Summary and Highlights

- Emerald Advisers, Inc.'s portfolio posted a 21.43% return for the quarter placing it in the 26 percentile of the Callan Small Cap Growth group for the quarter and in the 51 percentile for the last year.
- Emerald Advisers, Inc.'s portfolio outperformed the Russell 2000 Growth Index by 4.29% for the quarter and outperformed the Russell 2000 Growth Index for the year by 6.37%.

### Quarterly Asset Growth

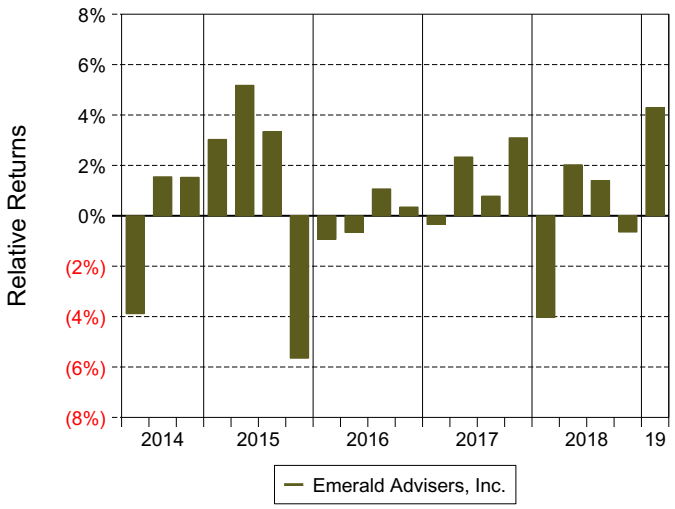
| | |
|---|---|
| Beginning Market Value | $7,735,082 |
| Net New Investment | $-15,752 |
| Investment Gains/(Losses) | $1,656,443 |
| Ending Market Value | $9,375,773 |

**Percent Cash: 2.5%**

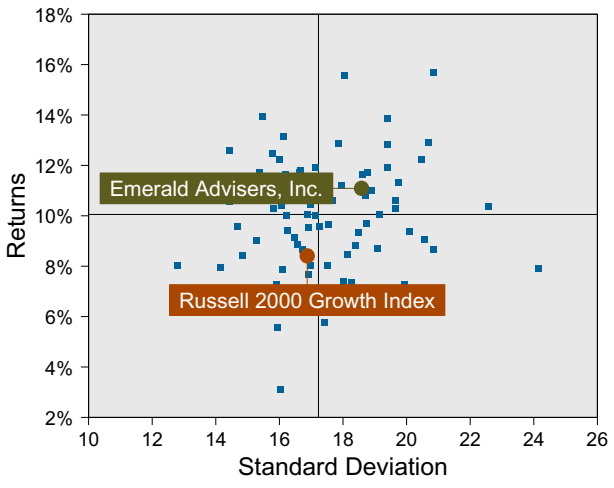
### Performance vs Callan Small Cap Growth (Gross)

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years |
|---|---|---|---|---|---|---|
| 10th Percentile | 23.63 | 17.98 | 24.35 | 12.86 | 20.26 | 12.21 |
| 25th Percentile | 21.87 | 14.41 | 21.56 | 11.72 | 19.32 | 11.44 |
| Median | 18.45 | 10.27 | 18.53 | 10.05 | 18.44 | 10.68 |
| 75th Percentile | 15.31 | 6.69 | 15.60 | 8.67 | 17.24 | 9.80 |
| 90th Percentile | 13.85 | 3.68 | 12.97 | 7.37 | 16.08 | 8.40 |
| **Emerald Advisers, Inc.** ● | 21.43 | 10.22 | 18.02 | 11.09 | 19.38 | 10.73 |
| Russell 2000 Growth Index ▲ | 17.14 | 3.85 | 14.87 | 8.41 | 16.52 | 8.71 |

### Relative Return vs Russell 2000 Growth Index




### Callan Small Cap Growth (Gross) Annualized Five Year Risk vs Return

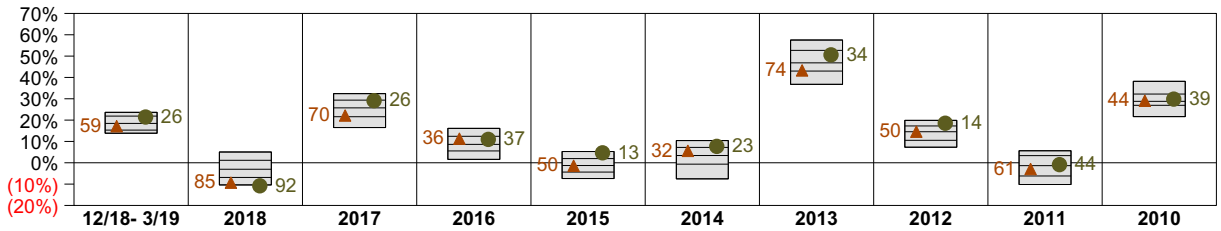


# Emerald Advisers, Inc.
# Return Analysis Summary

## Return Analysis

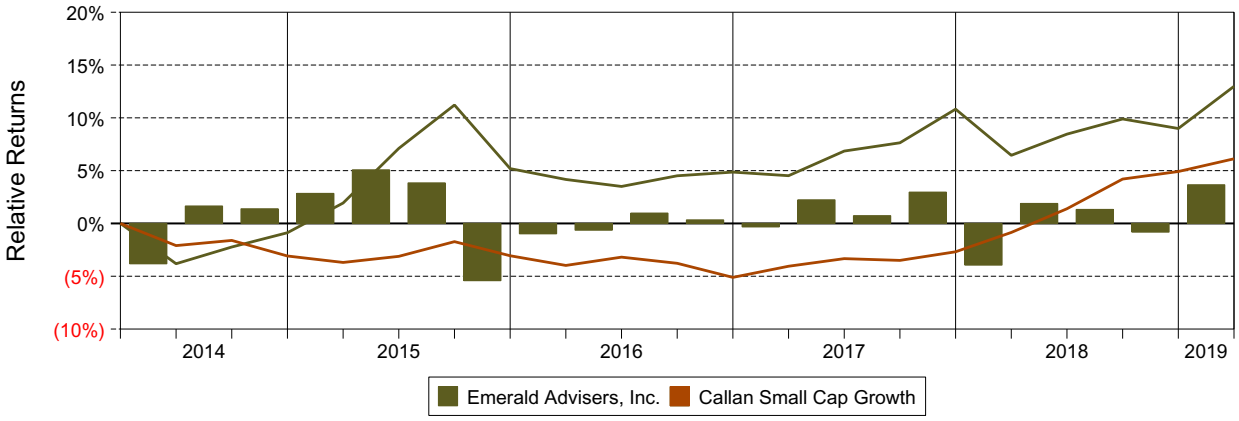
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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 (Gross)

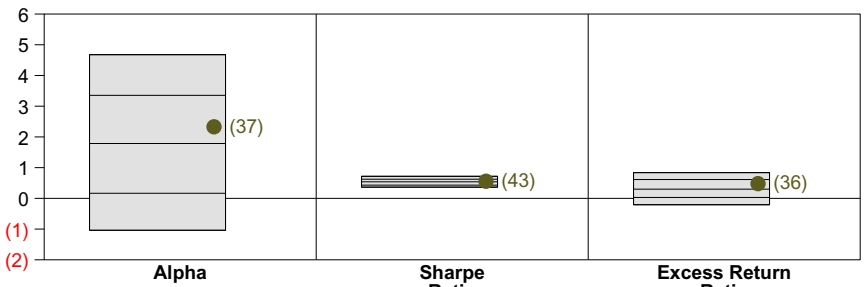



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 23.63 | 5.05 | 32.41 | 16.12 | 5.28 | 10.42 | 57.54 | 19.87 | 5.64 | 38.18 |
| 25th Percentile | 21.87 | 1.17 | 29.36 | 12.41 | 1.96 | 7.20 | 52.68 | 17.26 | 3.35 | 32.21 |
| Median | 18.45 | (3.04) | 25.74 | 8.62 | (1.29) | 3.40 | 46.83 | 14.55 | (1.35) | 28.81 |
| 75th Percentile | 15.31 | (6.87) | 21.58 | 5.55 | (4.36) | (0.64) | 42.98 | 10.52 | (6.19) | 26.94 |
| 90th Percentile | 13.85 | (10.39) | 16.51 | 1.59 | (7.38) | (7.54) | 36.77 | 7.28 | (10.18) | 21.64 |
| **Emerald Advisers, Inc.** ● | 21.43 | (10.81) | 29.11 | 10.97 | 4.66 | 7.68 | 50.59 | 18.54 | (0.87) | 29.83 |
| Russell 2000 Growth Index ▲ | 17.14 | (9.31) | 22.17 | 11.32 | (1.38) | 5.60 | 43.30 | 14.59 | (2.91) | 29.09 |

## 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 (Gross)
## Five Years Ended March 31, 2019



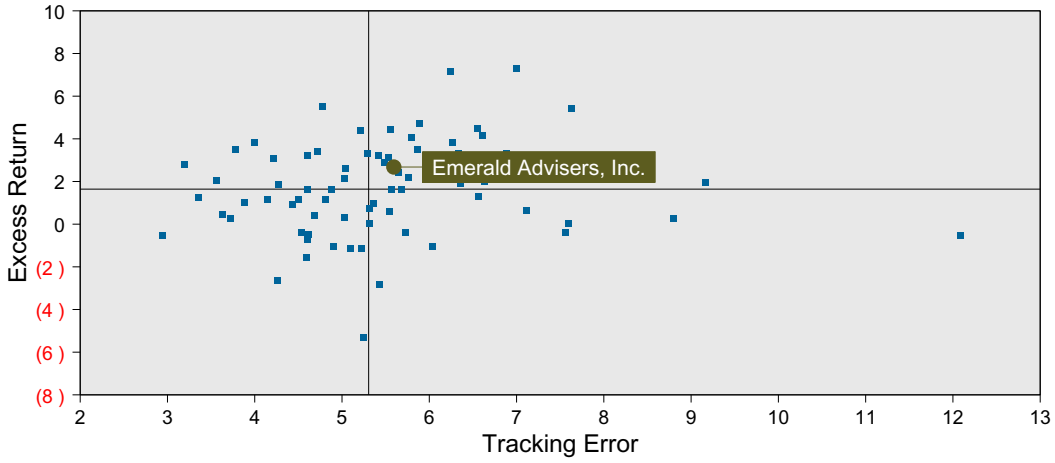

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 4.68 | 0.72 | 0.84 |
| 25th Percentile | 3.35 | 0.62 | 0.61 |
| Median | 1.79 | 0.54 | 0.30 |
| 75th Percentile | 0.17 | 0.43 | 0.03 |
| 90th Percentile | (1.04) | 0.36 | (0.21) |
| **Emerald Advisers, Inc.** ● | 2.33 | 0.56 | 0.48 |

# Emerald Advisers, Inc.
# Risk Analysis Summary

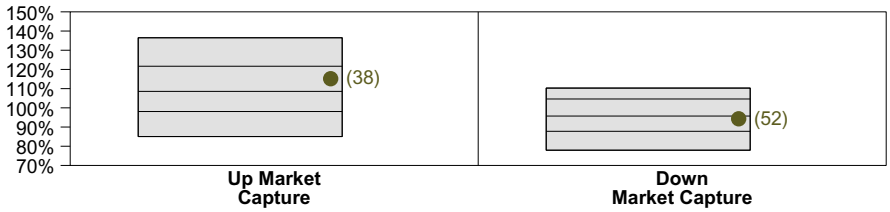
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

## Risk Analysis vs Callan Small Cap Growth (Gross)
## Five Years Ended March 31, 2019

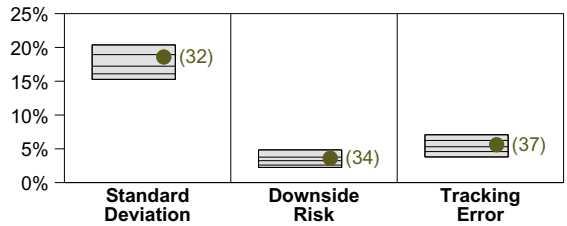


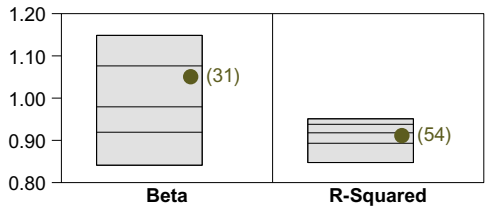

## Market Capture vs Russell 2000 Growth Index
## Rankings Against Callan Small Cap Growth (Gross)
## Five Years Ended March 31, 2019




| | Up Market Capture | Down Market Capture |
|---|---|---|
| 10th Percentile | 136.50 | 110.29 |
| 25th Percentile | 121.66 | 104.62 |
| Median | 108.57 | 95.72 |
| 75th Percentile | 98.08 | 87.78 |
| 90th Percentile | 85.04 | 77.93 |
| **Emerald Advisers, Inc.** ● | 115.17 | 94.29 |

## Risk Statistics Rankings vs Russell 2000 Growth Index
## Rankings Against Callan Small Cap Growth (Gross)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 20.37 | 4.84 | 7.08 |
| 25th Percentile | 18.94 | 3.77 | 6.24 |
| Median | 17.23 | 3.24 | 5.31 |
| 75th Percentile | 16.10 | 2.59 | 4.59 |
| 90th Percentile | 15.27 | 2.25 | 3.79 |
| **Emerald Advisers, Inc.** ● | 18.58 | 3.61 | 5.59 |

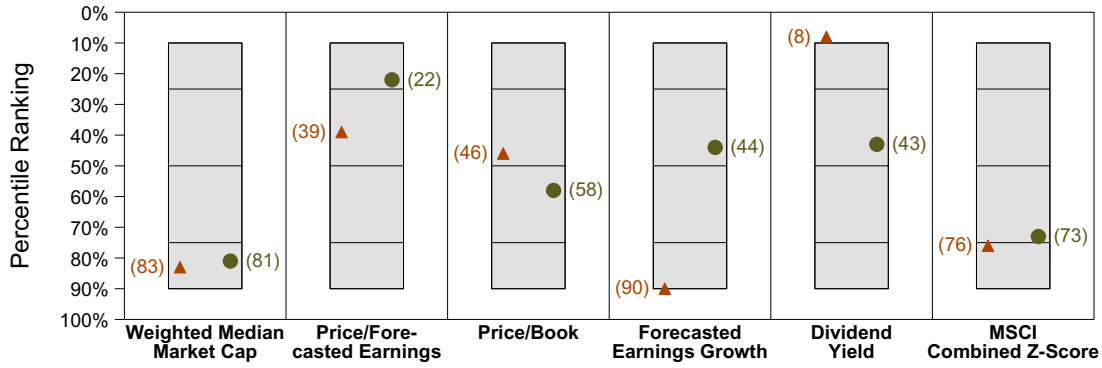
| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.15 | 0.95 |
| 25th Percentile | 1.08 | 0.94 |
| Median | 0.98 | 0.92 |
| 75th Percentile | 0.92 | 0.89 |
| 90th Percentile | 0.84 | 0.85 |
| **Emerald Advisers, Inc.** ● | 1.05 | 0.91 |

# Emerald Advisers, Inc.
# 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
## as of March 31, 2019

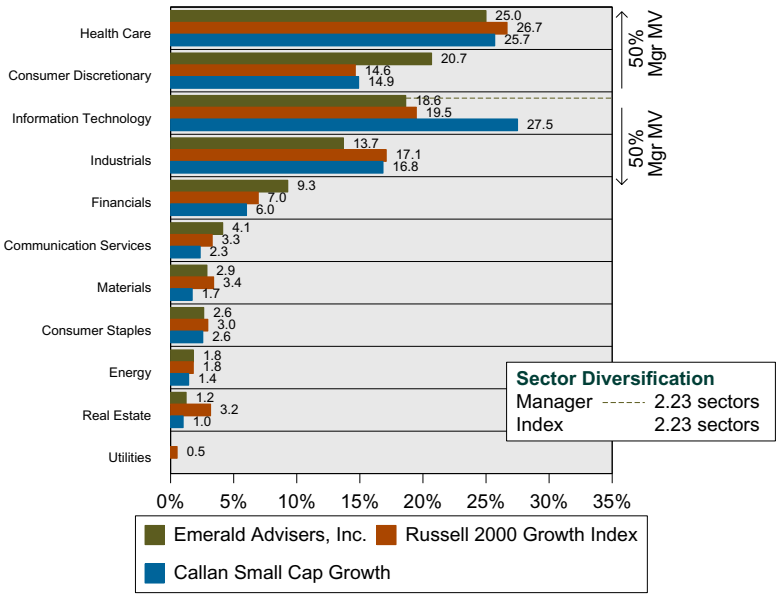



| | Weighted Median Market Cap | Price/Fore-casted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| 10th Percentile | 3.74 | 50.73 | 5.03 | 25.98 | 0.67 | 0.94 |
| 25th Percentile | 3.39 | 41.21 | 4.37 | 23.19 | 0.58 | 0.84 |
| Median | 2.99 | 32.07 | 3.63 | 21.03 | 0.43 | 0.74 |
| 75th Percentile | 2.50 | 25.81 | 3.34 | 18.11 | 0.30 | 0.58 |
| 90th Percentile | 2.00 | 20.52 | 2.88 | 16.62 | 0.15 | 0.51 |
| **Emerald Advisers, Inc.** ● | 2.40 | 41.89 | 3.51 | 21.46 | 0.50 | 0.60 |
| Russell 2000 Growth Index ▲ | 2.31 | 35.21 | 3.74 | 16.61 | 0.69 | 0.57 |

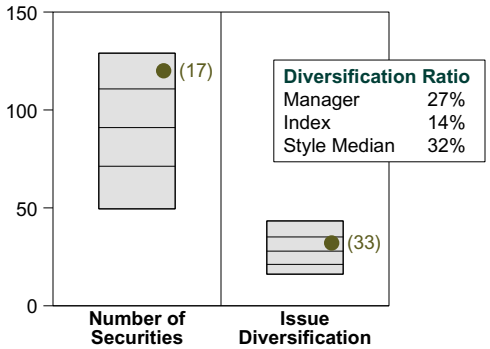
## Sector Weights

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

### Sector Allocation
### March 31, 2019




### Diversification
### March 31, 2019




| | Number of Securities | Issue Diversification |
|---|---|---|
| 10th Percentile | 129 | 43 |
| 25th Percentile | 111 | 35 |
| Median | 91 | 28 |
| 75th Percentile | 71 | 21 |
| 90th Percentile | 50 | 16 |
| **Emerald Advisers, Inc.** ● | 120 | 32 |
| Russell 2000 Growth Index ▲ | 1234 | 172 |

# Emerald Advisers, Inc.
# Top 10 Portfolio Holdings Characteristics
# as of March 31, 2019

## 10 Largest Holdings

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Chegg Inc | Consumer Discretionary | $276,599 | 2.9% | 34.06% | 4.42 | 53.31 | 0.00% | 20.00% |
| Planet Fitness Inc Cl A | Consumer Discretionary | $204,786 | 2.2% | 28.16% | 5.76 | 42.32 | 0.00% | 24.20% |
| Five Below Inc | Consumer Discretionary | $194,078 | 2.0% | 21.43% | 6.93 | 39.00 | 0.00% | 21.18% |
| Rapid7 Inc | Information Technology | $180,172 | 1.9% | 62.42% | 2.43 | 377.69 | 0.00% | (0.46)% |
| Trex Co Inc | Industrials | $167,950 | 1.8% | 3.64% | 3.62 | 23.22 | 0.00% | 39.26% |
| Forescout Technologies Inc | Information Technology | $162,611 | 1.7% | 61.30% | 1.87 | (157.56) | 0.00% | - |
| Ciena Corp | Information Technology | $162,168 | 1.7% | 10.02% | 5.82 | 18.48 | 0.00% | 13.20% |
| Neogenomics Inc | Health Care | $159,158 | 1.7% | 62.25% | 1.93 | 79.00 | 0.00% | 31.68% |
| Varonis Sys Inc | Information Technology | $151,102 | 1.6% | 12.72% | 1.79 | 435.26 | 0.00% | 48.80% |
| Tandem Diabetes Care Inc | Health Care | $149,670 | 1.6% | 67.26% | 3.67 | (97.99) | 0.00% | - |

## 10 Best Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Insmed Inc Com Par $.01 | Health Care | $104,332 | 1.1% | 122.50% | 2.25 | (8.30) | 0.00% | - |
| Everi Hldgs Inc | Information Technology | $39,240 | 0.4% | 104.27% | 0.74 | 37.57 | 0.00% | (32.86)% |
| Yeti Hldgs Inc | Consumer Discretionary | $46,373 | 0.5% | 103.84% | 2.55 | 28.30 | 0.00% | 47.10% |
| Zscaler Inc | Information Technology | $35,465 | 0.4% | 80.90% | 8.81 | 446.10 | 0.00% | - |
| Tandem Diabetes Care Inc | Health Care | $149,670 | 1.6% | 67.26% | 3.67 | (97.99) | 0.00% | - |
| Quantenna Communications Inc | Information Technology | $43,064 | 0.5% | 64.93% | 0.93 | 27.65 | 0.00% | 29.76% |
| Ehealth Inc | Financials | $92,887 | 1.0% | 63.10% | 1.41 | 44.03 | 0.00% | 56.43% |
| Rapid7 Inc | Information Technology | $180,172 | 1.9% | 62.42% | 2.43 | 377.69 | 0.00% | (0.46)% |
| Neogenomics Inc | Health Care | $159,158 | 1.7% | 62.25% | 1.93 | 79.00 | 0.00% | 31.68% |
| Forescout Technologies Inc | Information Technology | $162,611 | 1.7% | 61.30% | 1.87 | (157.56) | 0.00% | - |

## 10 Worst Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Karyopharm Therapeutics Inc | Health Care | $33,434 | 0.4% | (37.67)% | 0.36 | (1.70) | 0.00% | - |
| Inogen Inc | Health Care | $19,455 | 0.2% | (30.72)% | 2.09 | 47.40 | 0.00% | 15.55% |
| Green Dot Corp Cl A | Financials | $93,644 | 1.0% | (23.86)% | 3.21 | 16.05 | 0.00% | 18.03% |
| Vocera Communications Inc | Health Care | $89,987 | 0.9% | (19.79)% | 0.97 | 61.06 | 0.00% | 169.92% |
| Adamas Pharmaceuticals Inc | Health Care | $16,694 | 0.2% | (16.74)% | 0.20 | (1.85) | 0.00% | 17.90% |
| New Fortress Energy LLC Cl A Shs Rp | Energy | $38,894 | 0.4% | (16.45)% | 0.24 | (131.24) | 0.00% | - |
| Dycom Inds Inc | Industrials | $37,165 | 0.4% | (14.77)% | 1.44 | 17.41 | 0.00% | 8.49% |
| Assembly Biosciences Inc | Health Care | $36,230 | 0.4% | (13.58)% | 0.50 | (4.27) | 0.00% | - |
| Haemonetics Corp Mass | Health Care | $54,238 | 0.6% | (12.82)% | 4.46 | 30.29 | 0.00% | 12.00% |
| Atricure Inc | Health Care | $50,392 | 0.5% | (12.45)% | 1.03 | (37.47) | 0.00% | - |

# Ceredex Value Advisors
# Period Ended March 31, 2019

## Investment Philosophy

Ceredex Value Advisors seeks to provide long-term capital appreciation and income by investing primarily in U.S. companies with market capitalization less than $3 billion, and which managers believe are undervalued in the market place at the time of purchase.

## Quarterly Summary and Highlights

- Ceredex Value Advisors's portfolio posted a 11.39% return for the quarter placing it in the 81 percentile of the Callan Small Cap Value group for the quarter and in the 15 percentile for the last year.
- Ceredex Value Advisors's portfolio underperformed the Russell 2000 Value Index by 0.53% for the quarter and outperformed the Russell 2000 Value Index for the year by 2.26%.

## Quarterly Asset Growth

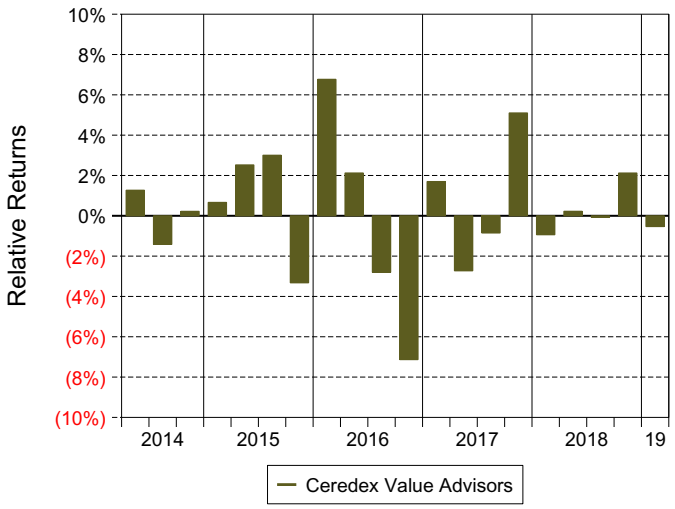
| | |
|---|---|
| Beginning Market Value | $6,775,310 |
| Net New Investment | $-15,217 |
| Investment Gains/(Losses) | $771,787 |
| Ending Market Value | $7,531,880 |

**Percent Cash: 3.7%**

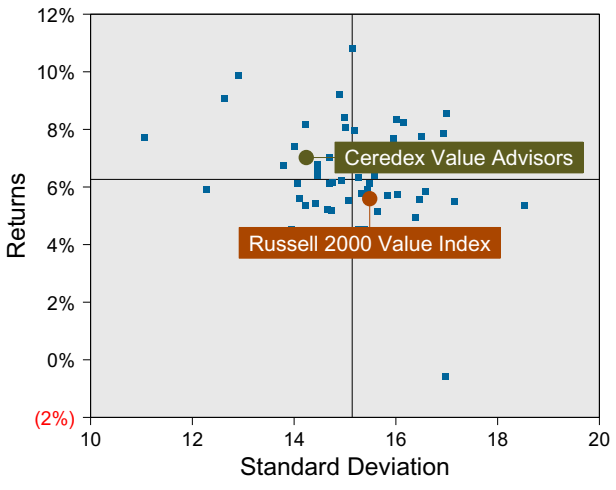
## Performance vs Callan Small Cap Value (Gross)

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 20 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 14.86 | 3.21 | 13.06 | 8.41 | 18.87 | 10.19 | 13.22 |
| 25th Percentile | 13.91 | 0.27 | 11.04 | 7.60 | 17.46 | 9.58 | 12.77 |
| Median | 12.46 | (2.06) | 9.44 | 6.26 | 16.19 | 8.65 | 11.48 |
| 75th Percentile | 11.76 | (4.00) | 8.47 | 5.45 | 15.12 | 8.30 | 10.87 |
| 90th Percentile | 11.12 | (5.92) | 7.59 | 4.51 | 14.26 | 7.16 | 9.90 |
| **Ceredex Value Advisors** ● | 11.39 | 2.43 | 9.83 | 7.02 | 15.39 | 10.55 | 12.44 |
| Russell 2000 Value Index ▲ | 11.93 | 0.17 | 10.86 | 5.59 | 14.12 | 7.24 | 9.40 |

## Relative Return vs Russell 2000 Value Index




## Callan Small Cap Value (Gross) Annualized Five Year Risk vs Return

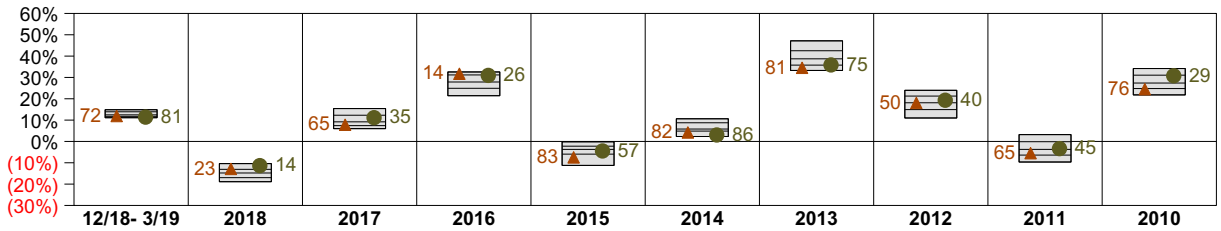


# Ceredex Value Advisors
# Return Analysis Summary

## Return Analysis

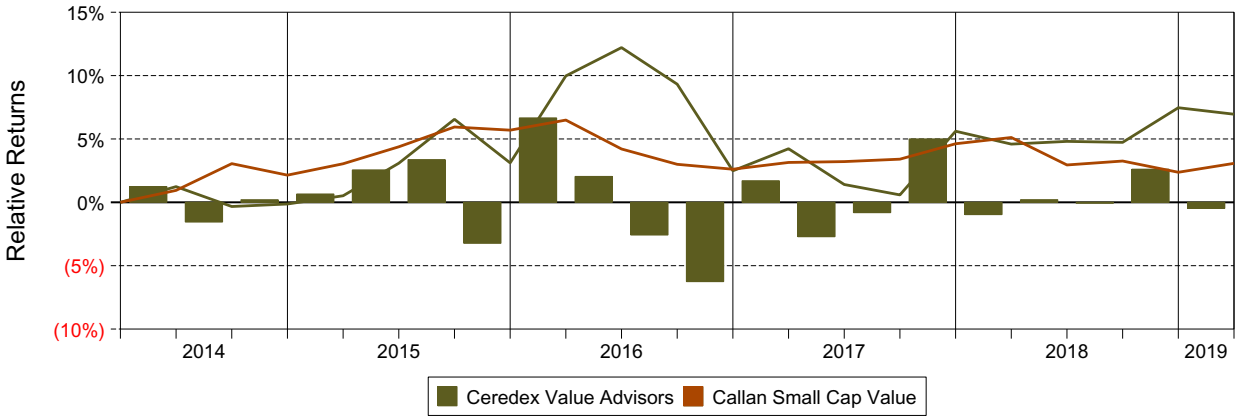
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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 (Gross)

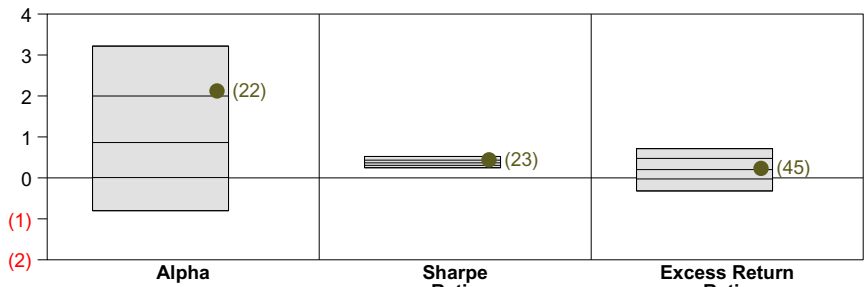



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 14.86 | (10.39) | 15.41 | 32.58 | (0.16) | 10.62 | 47.16 | 23.97 | 3.20 | 34.18 |
| 25th Percentile | 13.91 | (13.07) | 12.28 | 31.17 | (2.23) | 8.75 | 42.51 | 21.27 | (0.13) | 31.06 |
| Median | 12.46 | (14.79) | 9.19 | 27.86 | (3.73) | 5.81 | 38.72 | 18.12 | (3.72) | 27.38 |
| 75th Percentile | 11.76 | (16.98) | 7.41 | 24.91 | (5.95) | 4.85 | 35.78 | 14.93 | (6.40) | 24.79 |
| 90th Percentile | 11.12 | (18.88) | 6.00 | 21.44 | (11.23) | 2.31 | 33.27 | 10.98 | (9.65) | 21.82 |
| **Ceredex Value Advisors** ● | 11.39 | (11.34) | 11.12 | 30.95 | (4.47) | 3.03 | 35.86 | 19.31 | (3.36) | 30.78 |
| Russell 2000 Value Index ▲ | 11.93 | (12.86) | 7.84 | 31.74 | (7.47) | 4.22 | 34.52 | 18.05 | (5.50) | 24.50 |

## 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 (Gross)
## Five Years Ended March 31, 2019



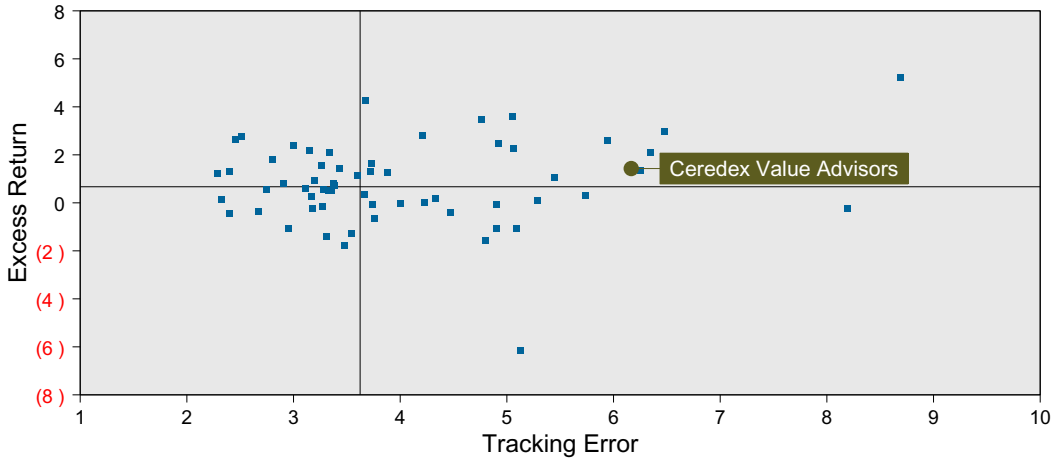

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 3.22 | 0.52 | 0.71 |
| 25th Percentile | 2.00 | 0.43 | 0.48 |
| Median | 0.86 | 0.37 | 0.20 |
| 75th Percentile | 0.01 | 0.31 | (0.03) |
| 90th Percentile | (0.80) | 0.25 | (0.32) |
| **Ceredex Value Advisors** ● | 2.12 | 0.44 | 0.23 |

# Ceredex Value Advisors
# Risk Analysis Summary

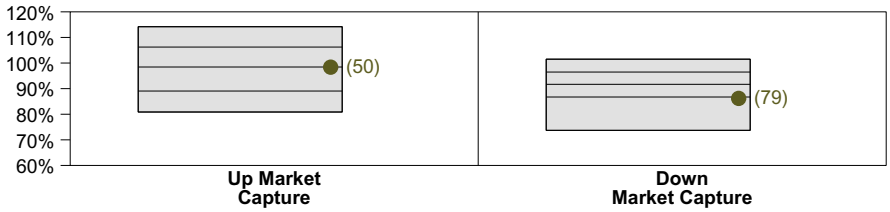
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

## Risk Analysis vs Callan Small Cap Value (Gross)
## Five Years Ended March 31, 2019

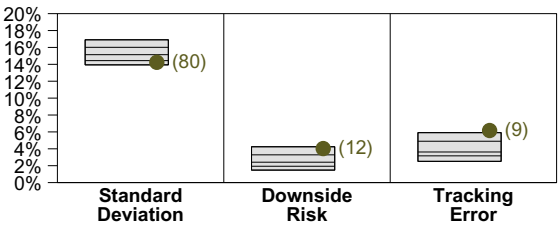


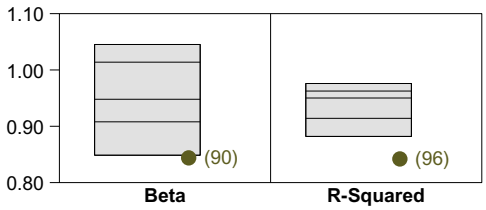

## Market Capture vs Russell 2000 Value Index
## Rankings Against Callan Small Cap Value (Gross)
## Five Years Ended March 31, 2019




| | Up Market Capture | Down Market Capture |
|---|---|---|
| 10th Percentile | 114.19 | 101.52 |
| 25th Percentile | 106.24 | 96.48 |
| Median | 98.44 | 91.69 |
| 75th Percentile | 89.07 | 86.73 |
| 90th Percentile | 80.86 | 73.71 |
| **Ceredex Value Advisors** | 98.38 | 86.18 |

## Risk Statistics Rankings vs Russell 2000 Value Index
## Rankings Against Callan Small Cap Value (Gross)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 16.90 | 4.24 | 5.91 |
| 25th Percentile | 16.01 | 3.29 | 4.90 |
| Median | 15.14 | 2.41 | 3.62 |
| 75th Percentile | 14.44 | 1.93 | 3.16 |
| 90th Percentile | 13.94 | 1.48 | 2.52 |
| **Ceredex Value Advisors** | 14.24 | 4.03 | 6.17 |

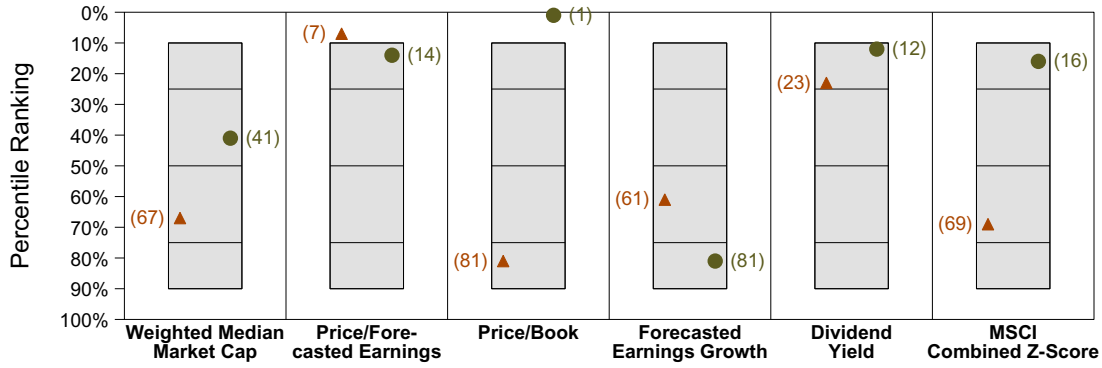
| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.05 | 0.98 |
| 25th Percentile | 1.01 | 0.96 |
| Median | 0.95 | 0.95 |
| 75th Percentile | 0.91 | 0.91 |
| 90th Percentile | 0.85 | 0.88 |
| **Ceredex Value Advisors** | 0.84 | 0.84 |

# Ceredex Value Advisors
# 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
## as of March 31, 2019

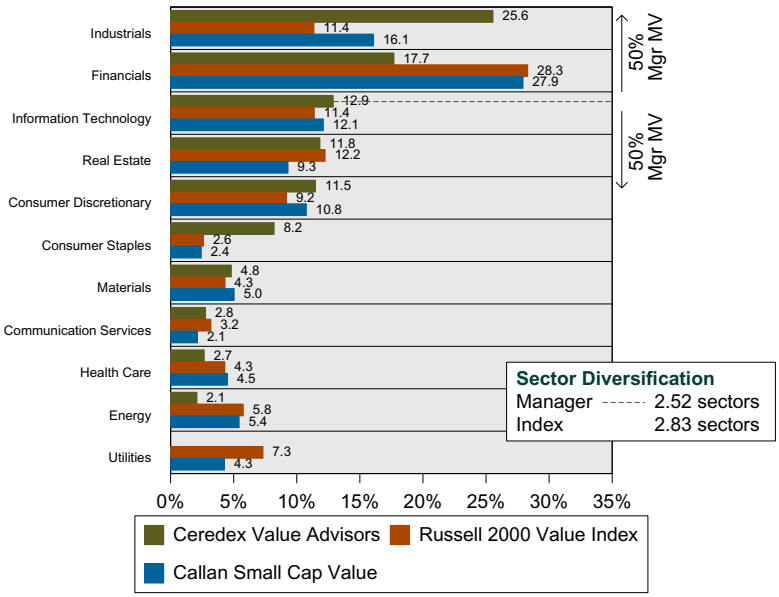



| | Weighted Median Market Cap | Price/Fore-casted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| 10th Percentile | 2.89 | 15.45 | 1.77 | 14.14 | 2.99 | (0.24) |
| 25th Percentile | 2.39 | 14.35 | 1.66 | 12.59 | 2.11 | (0.37) |
| Median | 2.02 | 13.48 | 1.55 | 11.00 | 1.76 | (0.49) |
| 75th Percentile | 1.61 | 12.62 | 1.37 | 9.35 | 1.60 | (0.62) |
| 90th Percentile | 1.39 | 11.49 | 1.24 | 7.92 | 1.35 | (0.73) |
| **Ceredex Value Advisors** ● | 2.10 | 15.08 | 2.20 | 8.96 | 2.68 | (0.32) |
| Russell 2000 Value Index ▲ | 1.86 | 15.80 | 1.33 | 10.47 | 2.21 | (0.57) |

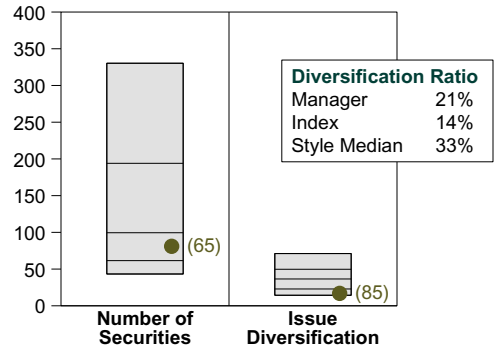
## Sector Weights

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

### Sector Allocation
### March 31, 2019




### Diversification
### March 31, 2019




| | Number of Securities | Issue Diversification |
|---|---|---|
| 10th Percentile | 330 | 71 |
| 25th Percentile | 194 | 50 |
| Median | 100 | 37 |
| 75th Percentile | 61 | 23 |
| 90th Percentile | 43 | 14 |
| **Ceredex Value Advisors** ● | 81 | 17 |
| Russell 2000 Value Index ▲ | 1359 | 194 |

# Ceredex Value Advisors
# Top 10 Portfolio Holdings Characteristics
# as of March 31, 2019

## 10 Largest Holdings

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Power Integrations Inc | Information Technology | $363,688 | 4.8% | 14.96% | 2.03 | 27.88 | 0.97% | 7.26% |
| Energizer Hldgs Inc New Com | Consumer Staples | $305,524 | 4.1% | 0.16% | 3.14 | 13.86 | 2.67% | 6.10% |
| Kemper Corp Del | Financials | $304,560 | 4.0% | 15.06% | 4.94 | 13.73 | 1.31% | 10.00% |
| B & G Foods Inc New | Consumer Staples | $266,178 | 3.5% | (13.88)% | 1.59 | 13.16 | 7.78% | 4.40% |
| Physicians Rlty Tr | Real Estate | $263,340 | 3.5% | 19.06% | 3.43 | 83.60 | 4.89% | 14.05% |
| Childrens Pl Inc | Consumer Discretionary | $262,656 | 3.5% | 7.92% | 1.54 | 16.16 | 2.30% | 9.70% |
| Outfront Media Inc | Real Estate | $243,360 | 3.2% | 31.22% | 3.29 | 20.80 | 6.15% | 4.70% |
| Evercore Inc | Financials | $218,400 | 2.9% | 27.86% | 3.73 | 11.20 | 2.20% | 15.60% |
| Tanger Factory Outlet | Real Estate | $190,918 | 2.5% | 5.35% | 1.97 | 22.88 | 6.77% | 3.30% |
| Miller Herman Inc | Industrials | $172,382 | 2.3% | 16.93% | 2.07 | 11.11 | 2.25% | 9.83% |

## 10 Best Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| U S Silica Hldgs Inc | Energy | $95,480 | 1.3% | 71.27% | 1.28 | 68.62 | 1.44% | 1.62% |
| Alexander & Baldwin Inc New | Real Estate | $80,950 | 1.1% | 39.31% | 1.83 | 37.86 | 2.28% | (13.70)% |
| Outfront Media Inc | Real Estate | $243,360 | 3.2% | 31.22% | 3.29 | 20.80 | 6.15% | 4.70% |
| Covanta Hldg Corp | Industrials | $152,328 | 2.0% | 30.85% | 2.27 | 211.10 | 5.78% | (13.46)% |
| Carpenter Technology | Materials | $64,190 | 0.9% | 29.32% | 2.17 | 11.76 | 1.74% | 21.96% |
| Evercore Inc | Financials | $218,400 | 2.9% | 27.86% | 3.73 | 11.20 | 2.20% | 15.60% |
| Apogee Enterprises | Industrials | $131,215 | 1.7% | 26.23% | 1.02 | 10.79 | 1.87% | 23.29% |
| Haynes International Inc | Materials | $19,698 | 0.3% | 25.13% | 0.41 | 16.20 | 2.68% | (24.93)% |
| Cohen & Steers Inc | Financials | $88,767 | 1.2% | 24.22% | 2.00 | 17.87 | 3.41% | 3.34% |
| Altra Indl Motion Corp | Industrials | $55,890 | 0.7% | 24.12% | 2.00 | 9.48 | 2.19% | 9.26% |

## 10 Worst Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Enersys | Industrials | $65,160 | 0.9% | (24.18)% | 2.81 | 10.67 | 1.07% | 2.78% |
| Tupperware Brands Corp | Consumer Discretionary | $7,674 | 0.1% | (18.53)% | 1.24 | 6.18 | 4.22% | (3.92)% |
| Greenbrier Cos Inc | Industrials | $48,345 | 0.6% | (18.00)% | 1.04 | 7.94 | 3.10% | (1.54)% |
| B & G Foods Inc New | Consumer Staples | $266,178 | 3.5% | (13.88)% | 1.59 | 13.16 | 7.78% | 4.40% |
| Cathay Gen Bancorp | Financials | $64,429 | 0.9% | (9.10)% | 2.73 | 9.59 | 3.66% | 8.00% |
| Matthews Intl Corp Cl A | Industrials | $25,865 | 0.3% | (8.55)% | 1.18 | 8.73 | 2.17% | 9.04% |
| Cohu Inc | Information Technology | $36,875 | 0.5% | (7.44)% | 0.60 | 16.14 | 1.63% | 37.87% |
| Horace Mann Educators | Financials | $66,899 | 0.9% | (5.26)% | 1.44 | 14.47 | 3.27% | 12.70% |
| Penske Automotive Group Inc Com | Consumer Discretionary | $107,160 | 1.4% | (4.41)% | 3.76 | 7.93 | 3.40% | 4.40% |
| Comtech Telecom. | Information Technology | $60,372 | 0.8% | (2.86)% | 0.56 | 21.07 | 1.72% | (13.13)% |

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

## Investment Philosophy

State Street's S&P 500 Index Fund seeks to replicate the total return of the S&P 500 Index.

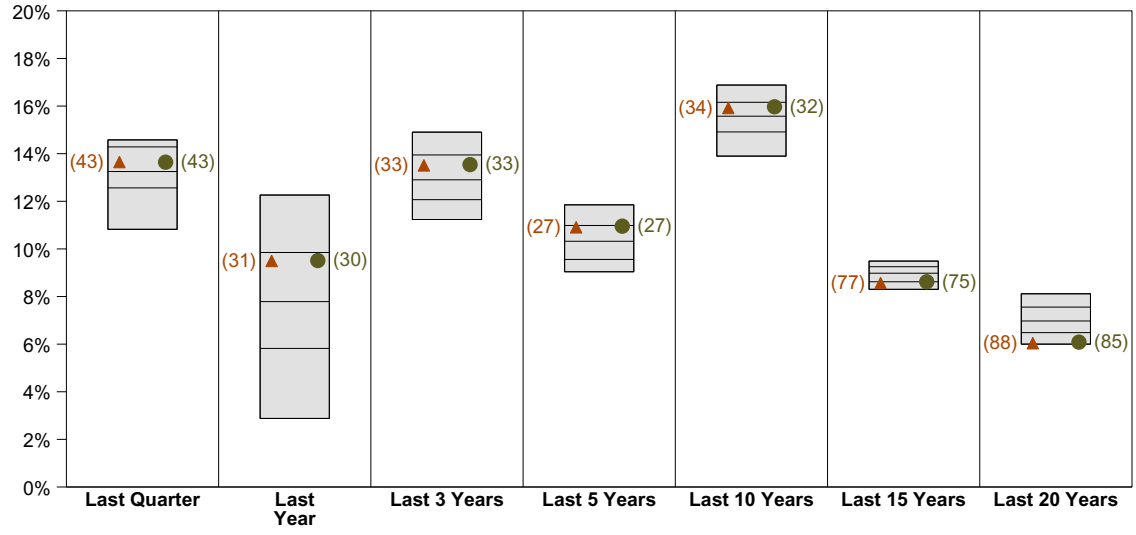
## Quarterly Summary and Highlights

- SSgA S&P 500 Index's portfolio posted a 13.64% return for the quarter placing it in the 43 percentile of the Callan Large Cap Core group for the quarter and in the 30 percentile for the last year.
- SSgA S&P 500 Index's portfolio underperformed the S&P 500 Index by 0.01% for the quarter and outperformed the S&P 500 Index for the year by 0.02%.

## Quarterly Asset Growth

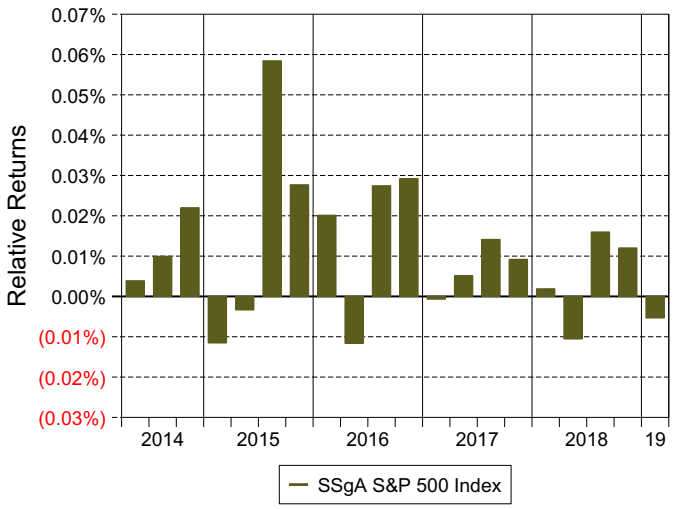
| | |
|---|---|
| Beginning Market Value | $57,838,624 |
| Net New Investment | $-6,892 |
| Investment Gains/(Losses) | $7,890,565 |
| Ending Market Value | $65,722,297 |

## Performance vs Callan Large Cap Core (Gross)

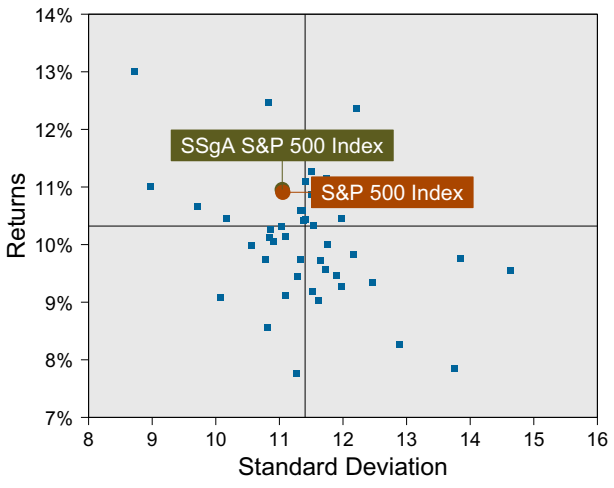



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 20 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 14.58 | 12.26 | 14.90 | 11.85 | 16.88 | 9.49 | 8.12 |
| 25th Percentile | 14.29 | 9.85 | 13.95 | 10.98 | 16.16 | 9.25 | 7.56 |
| Median | 13.25 | 7.79 | 12.90 | 10.32 | 15.57 | 8.98 | 6.97 |
| 75th Percentile | 12.56 | 5.82 | 12.07 | 9.56 | 14.91 | 8.62 | 6.48 |
| 90th Percentile | 10.82 | 2.88 | 11.24 | 9.04 | 13.90 | 8.30 | 6.00 |
| **SSgA S&P 500 Index** ● | 13.64 | 9.51 | 13.54 | 10.96 | 15.97 | 8.62 | 6.08 |
| S&P 500 Index ▲ | 13.65 | 9.50 | 13.51 | 10.91 | 15.92 | 8.57 | 6.04 |

## Relative Return vs S&P 500 Index




## Callan Large Cap Core (Gross) Annualized Five Year Risk vs Return

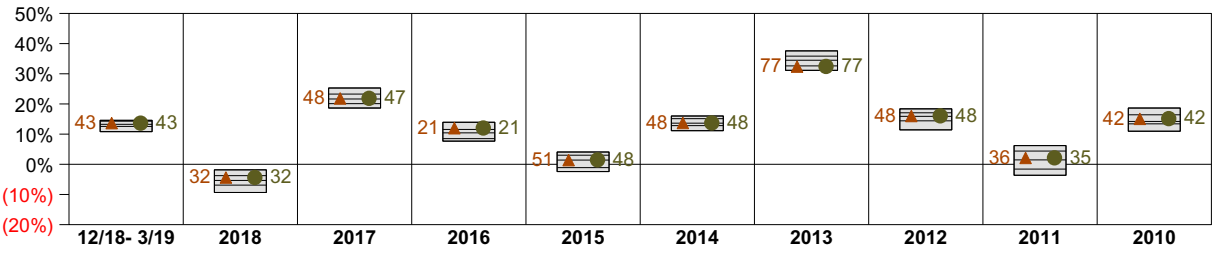


# SSgA S&P 500 Index
# Return Analysis Summary

## Return Analysis

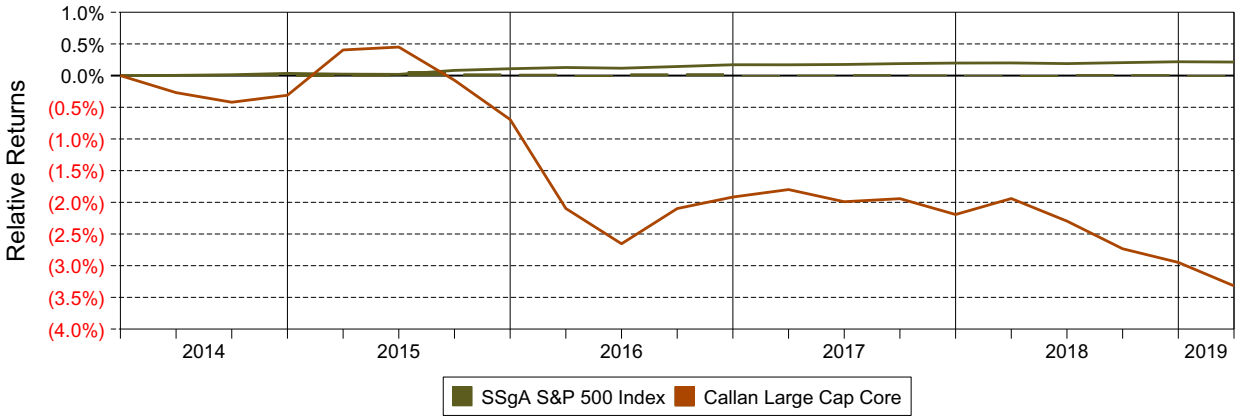
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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 (Gross)

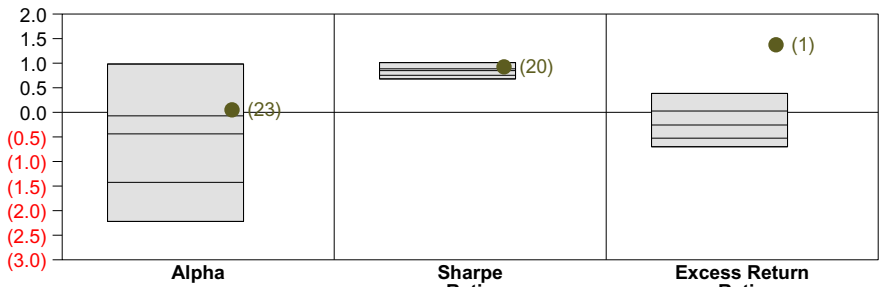



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 14.58 | (1.83) | 25.28 | 13.93 | 4.08 | 16.01 | 37.59 | 18.38 | 6.19 | 18.65 |
| 25th Percentile | 14.29 | (3.76) | 23.27 | 11.55 | 3.01 | 15.12 | 35.85 | 17.07 | 4.38 | 16.40 |
| Median | 13.25 | (5.35) | 21.65 | 10.42 | 1.40 | 13.63 | 34.49 | 15.89 | 1.46 | 14.20 |
| 75th Percentile | 12.56 | (6.90) | 20.10 | 8.50 | (1.10) | 12.82 | 32.61 | 14.41 | (1.59) | 13.41 |
| 90th Percentile | 10.82 | (9.34) | 18.65 | 7.68 | (2.41) | 11.14 | 31.14 | 11.41 | (3.64) | 10.96 |
| **SSgA S&P 500 Index** ● | 13.64 | (4.36) | 21.86 | 12.03 | 1.46 | 13.72 | 32.44 | 16.06 | 2.14 | 15.14 |
| S&P 500 Index ▲ | 13.65 | (4.38) | 21.83 | 11.96 | 1.38 | 13.69 | 32.39 | 16.00 | 2.11 | 15.06 |

## 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 (Gross)
## Five Years Ended March 31, 2019



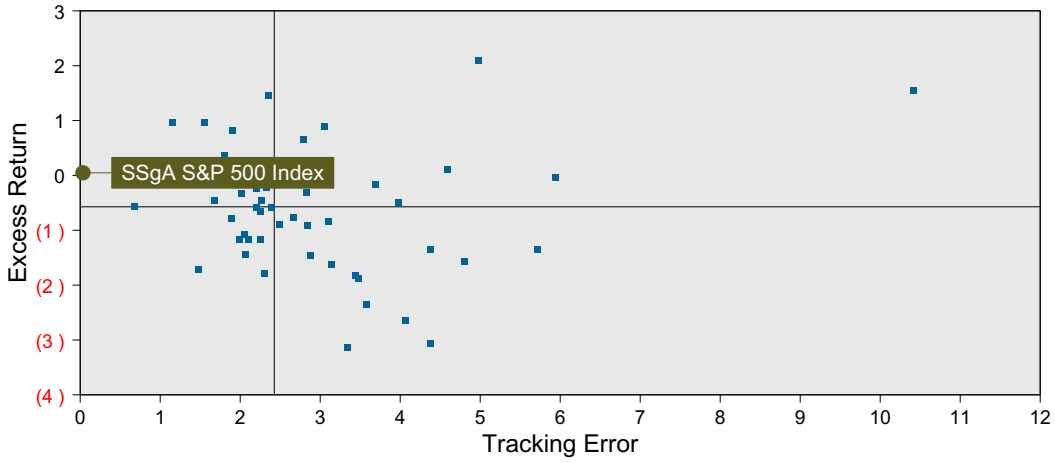

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 0.98 | 1.01 | 0.38 |
| 25th Percentile | (0.07) | 0.89 | 0.03 |
| Median | (0.44) | 0.85 | (0.26) |
| 75th Percentile | (1.42) | 0.75 | (0.53) |
| 90th Percentile | (2.22) | 0.68 | (0.70) |
| **SSgA S&P 500 Index** ● | 0.05 | 0.92 | 1.37 |

# SSgA S&P 500 Index
# Risk Analysis Summary

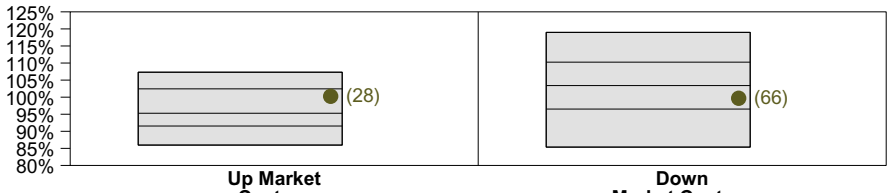
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

## Risk Analysis vs Callan Large Cap Core (Gross)
## Five Years Ended March 31, 2019

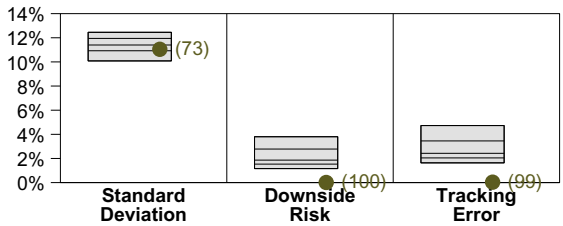



## Market Capture vs S&P 500 Index
## Rankings Against Callan Large Cap Core (Gross)
## Five Years Ended March 31, 2019

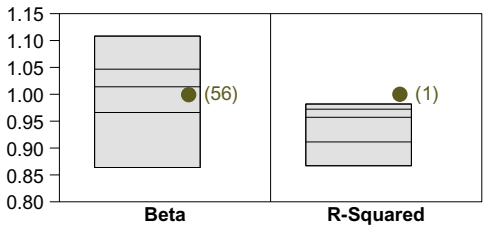



| | Up Market Capture | Down Market Capture |
|---|---|---|
| 10th Percentile | 107.32 | 118.98 |
| 25th Percentile | 102.43 | 110.26 |
| Median | 95.29 | 103.40 |
| 75th Percentile | 91.54 | 96.51 |
| 90th Percentile | 85.96 | 85.37 |
| **SSgA S&P 500 Index** ● | 100.26 | 99.68 |

## Risk Statistics Rankings vs S&P 500 Index
## Rankings Against Callan Large Cap Core (Gross)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 12.45 | 3.80 | 4.73 |
| 25th Percentile | 11.95 | 2.78 | 3.45 |
| Median | 11.40 | 1.86 | 2.43 |
| 75th Percentile | 10.92 | 1.53 | 2.05 |
| 90th Percentile | 10.08 | 1.16 | 1.63 |
| **SSgA S&P 500 Index** ● | 11.04 | 0.01 | 0.03 |



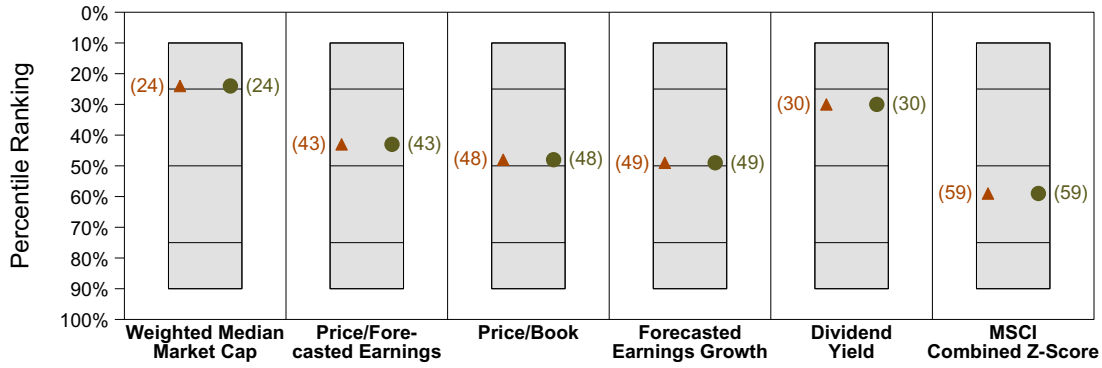

| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.11 | 0.98 |
| 25th Percentile | 1.05 | 0.97 |
| Median | 1.01 | 0.96 |
| 75th Percentile | 0.97 | 0.91 |
| 90th Percentile | 0.86 | 0.87 |
| **SSgA S&P 500 Index** ● | 1.00 | 1.00 |

# SSgA 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
## as of March 31, 2019

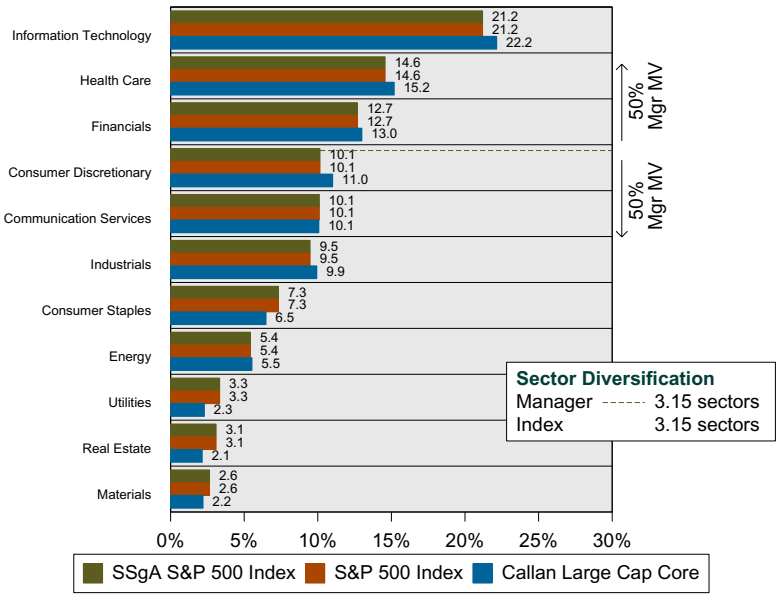



| | Weighted Median Market Cap | Price/Fore-casted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| 10th Percentile | 133.43 | 18.54 | 3.57 | 17.79 | 2.19 | 0.30 |
| 25th Percentile | 116.79 | 17.41 | 3.37 | 15.36 | 2.07 | 0.18 |
| Median | 106.75 | 16.32 | 3.11 | 13.85 | 1.86 | 0.05 |
| 75th Percentile | 74.10 | 14.90 | 2.78 | 12.97 | 1.65 | (0.11) |
| 90th Percentile | 40.41 | 13.69 | 2.58 | 11.09 | 1.44 | (0.39) |
| **SSgA S&P 500 Index** ● | 118.03 | 16.59 | 3.12 | 13.97 | 2.00 | (0.04) |
| S&P 500 Index ▲ | 118.03 | 16.59 | 3.12 | 13.97 | 2.00 | (0.04) |

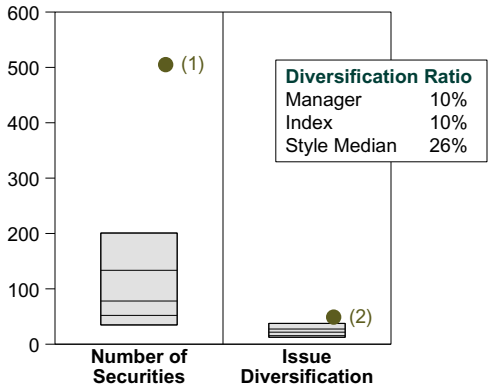
## Sector Weights

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

### Sector Allocation
### March 31, 2019




### Diversification
### March 31, 2019




| | Number of Securities | Issue Diversification |
|---|---|---|
| 10th Percentile | 201 | 38 |
| 25th Percentile | 134 | 27 |
| Median | 78 | 22 |
| 75th Percentile | 52 | 15 |
| 90th Percentile | 35 | 13 |
| **SSgA S&P 500 Index** ● | 505 | 49 |
| S&P 500 Index ▲ | 505 | 49 |

# SSgA S&P 500 Index
# Top 10 Portfolio Holdings Characteristics
# as of March 31, 2019

## 10 Largest Holdings

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Microsoft Corp | Information Technology | $2,518,829 | 3.8% | 16.62% | 904.86 | 24.33 | 1.56% | 13.50% |
| Apple Inc | Information Technology | $2,368,576 | 3.6% | 20.94% | 895.67 | 15.71 | 1.54% | 13.00% |
| Amazon.Com | Consumer Discretionary | $2,045,315 | 3.1% | 18.56% | 874.71 | 58.29 | 0.00% | 52.83% |
| Facebook Inc Cl A | Communication Services | $1,106,909 | 1.7% | 27.16% | 397.64 | 21.13 | 0.00% | 14.10% |
| Berkshire Hathaway Inc Del Cl B New | Financials | $1,087,415 | 1.7% | (1.61)% | 275.56 | 19.22 | 0.00% | 23.30% |
| Johnson & Johnson | Health Care | $1,036,303 | 1.6% | 9.04% | 372.23 | 16.03 | 2.58% | 6.37% |
| Alphabet Inc Cl C | Communication Services | $1,003,921 | 1.5% | 13.30% | 409.83 | 23.98 | 0.00% | 17.41% |
| Alphabet Inc Cl A | Communication Services | $980,723 | 1.5% | 12.63% | 352.31 | 24.09 | 0.00% | 17.41% |
| Exxon Mobil Corp | Energy | $952,986 | 1.5% | 19.81% | 342.17 | 17.54 | 4.06% | 18.00% |
| JPMorgan Chase & Co | Financials | $922,650 | 1.4% | 4.55% | 331.45 | 10.19 | 3.16% | 9.63% |

## 10 Best Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Coty Inc Com Cl A | Consumer Staples | $14,430 | 0.0% | 77.29% | 8.64 | 16.08 | 4.35% | 7.65% |
| Chipotle Mexican Grill Inc | Consumer Discretionary | $48,126 | 0.1% | 64.50% | 19.69 | 53.98 | 0.00% | 24.00% |
| Xerox Corp | Information Technology | $17,792 | 0.0% | 63.11% | 7.35 | 8.37 | 3.13% | (5.30)% |
| Hess Corp | Energy | $42,678 | 0.1% | 49.35% | 18.25 | (336.48) | 1.66% | (17.73)% |
| Xilinx | Information Technology | $89,352 | 0.1% | 49.35% | 32.10 | 33.12 | 1.14% | 11.50% |
| Arista Networks Inc | Information Technology | $45,741 | 0.1% | 49.25% | 23.81 | 32.64 | 0.00% | 18.52% |
| Celgene Corp | Health Care | $184,446 | 0.3% | 47.20% | 66.26 | 8.45 | 0.00% | 16.30% |
| Cadence Design System Inc | Information Technology | $49,569 | 0.1% | 46.07% | 17.86 | 30.65 | 0.00% | 12.00% |
| Hanesbrands Inc | Consumer Discretionary | $17,989 | 0.0% | 43.84% | 6.46 | 10.12 | 3.36% | (0.28)% |
| Ulta Salon Cosmetcs & Frag I | Consumer Discretionary | $54,698 | 0.1% | 42.43% | 20.51 | 26.53 | 0.00% | 17.89% |

## 10 Worst Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| The Kraft Heinz Company | Consumer Staples | $56,523 | 0.1% | (23.19)% | 39.81 | 11.50 | 4.90% | (4.16)% |
| Biogen Inc | Health Care | $129,435 | 0.2% | (21.45)% | 46.50 | 8.21 | 0.00% | 4.00% |
| Centurylink Inc | Communication Services | $31,740 | 0.0% | (19.25)% | 12.95 | 9.82 | 8.34% | 11.44% |
| Macys Inc | Consumer Discretionary | $20,569 | 0.0% | (18.02)% | 7.39 | 7.78 | 6.28% | (5.53)% |
| Cvs Health Corp | Health Care | $194,722 | 0.3% | (17.06)% | 69.95 | 7.78 | 3.71% | 6.40% |
| Newell Brands Inc | Consumer Discretionary | $16,610 | 0.0% | (16.33)% | 6.49 | 9.92 | 6.00% | (31.60)% |
| Cigna Corp New | Health Care | $170,141 | 0.3% | (15.30)% | 61.06 | 9.47 | 0.02% | 14.60% |
| Abiomed Inc | Health Care | $35,843 | 0.1% | (12.14)% | 12.88 | 57.59 | 0.00% | 65.38% |
| Cme Group Inc | Financials | $163,909 | 0.2% | (12.13)% | 58.89 | 23.02 | 1.82% | 5.60% |
| Abbvie Inc Com | Health Care | $330,914 | 0.5% | (11.48)% | 119.13 | 9.08 | 5.31% | 8.77% |

# SSgA S&P 400 Index
# Period Ended March 31, 2019

## Investment Philosophy

The objective of State Street's S&P MidCap 400 Index is to seek an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark index over the long term.

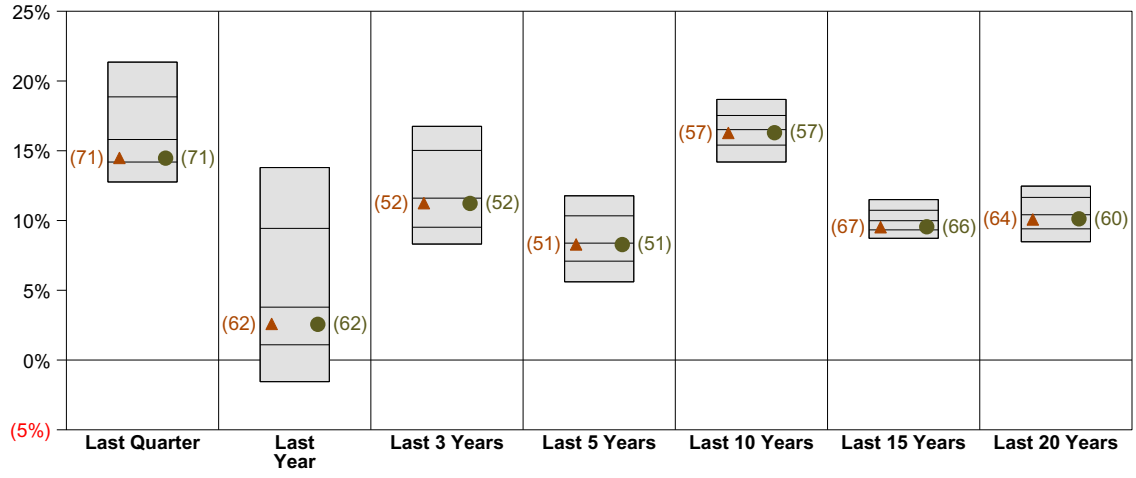
## Quarterly Summary and Highlights

- SSgA S&P 400 Index's portfolio posted a 14.47% return for the quarter placing it in the 71 percentile of the Callan Mid Capitalization group for the quarter and in the 62 percentile for the last year.
- SSgA S&P 400 Index's portfolio underperformed the S&P Mid Cap 400 Index by 0.02% for the quarter and underperformed the S&P Mid Cap 400 Index for the year by 0.03%.

## Quarterly Asset Growth

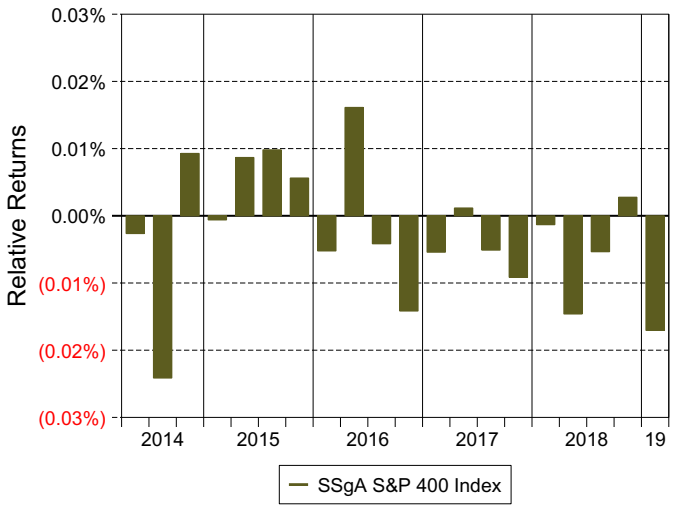
| | |
|---|---|
| Beginning Market Value | $13,412,868 |
| Net New Investment | $-2,881 |
| Investment Gains/(Losses) | $1,941,006 |
| Ending Market Value | $15,350,993 |

## Performance vs Callan Mid Capitalization (Gross)

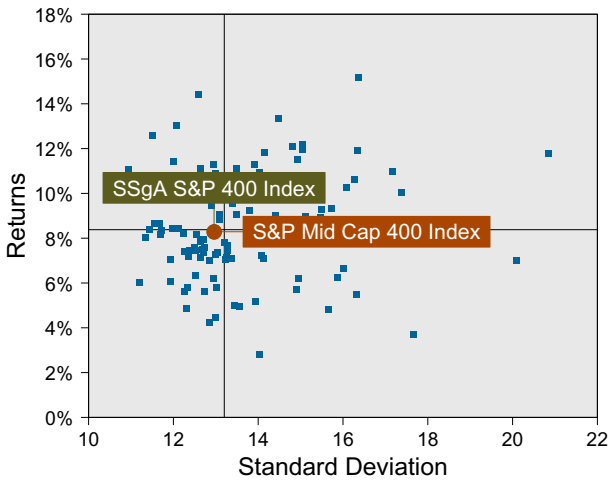



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 20 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 21.35 | 13.79 | 16.75 | 11.77 | 18.68 | 11.50 | 12.47 |
| 25th Percentile | 18.86 | 9.44 | 15.02 | 10.34 | 17.53 | 10.73 | 11.66 |
| Median | 15.81 | 3.79 | 11.60 | 8.38 | 16.51 | 9.99 | 10.41 |
| 75th Percentile | 14.19 | 1.09 | 9.52 | 7.09 | 15.41 | 9.33 | 9.40 |
| 90th Percentile | 12.76 | (1.55) | 8.31 | 5.61 | 14.19 | 8.72 | 8.48 |
| **SSgA S&P 400 Index** ● | 14.47 | 2.56 | 11.22 | 8.28 | 16.29 | 9.55 | 10.12 |
| S&P Mid Cap 400 Index ▲ | 14.49 | 2.59 | 11.24 | 8.29 | 16.28 | 9.52 | 10.08 |

## Relative Return vs S&P Mid Cap 400 Index




## Callan Mid Capitalization (Gross) Annualized Five Year Risk vs Return

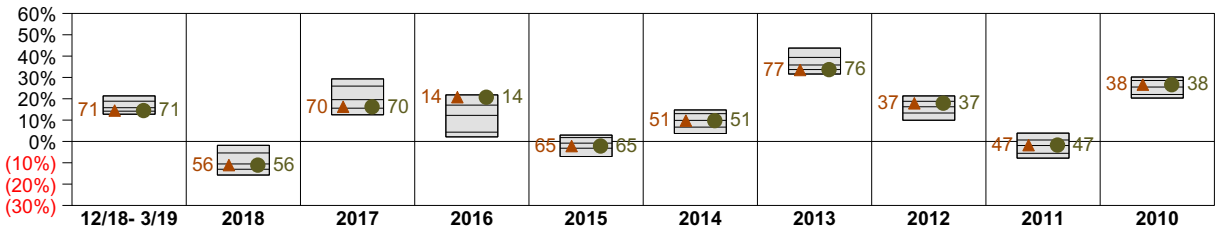


# SSgA S&P 400 Index
# Return Analysis Summary

## Return Analysis

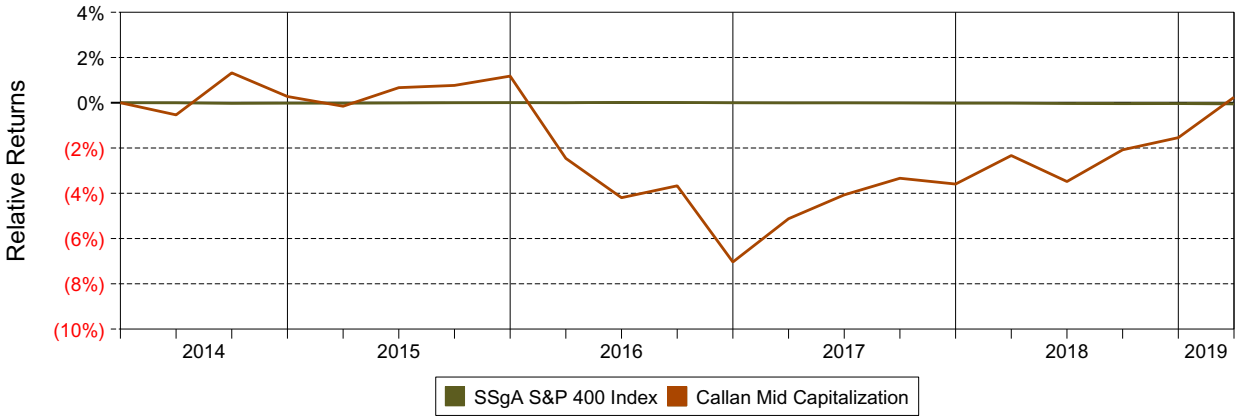
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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

## Performance vs Callan Mid Capitalization (Gross)

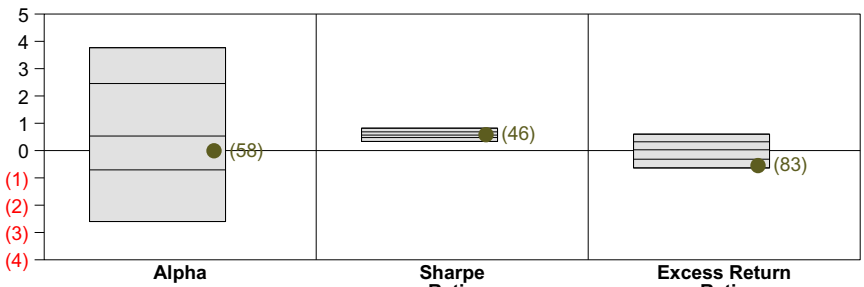



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 21.35 | (1.83) | 29.31 | 21.83 | 2.97 | 14.76 | 43.76 | 21.34 | 3.90 | 30.19 |
| 25th Percentile | 18.86 | (5.40) | 25.93 | 17.03 | 1.80 | 13.03 | 39.39 | 18.82 | 0.68 | 28.56 |
| Median | 15.81 | (10.55) | 19.58 | 12.23 | (0.80) | 9.88 | 35.84 | 16.26 | (1.92) | 25.49 |
| 75th Percentile | 14.19 | (13.03) | 15.59 | 4.35 | (3.18) | 6.72 | 33.70 | 13.33 | (5.57) | 22.01 |
| 90th Percentile | 12.76 | (15.76) | 12.48 | 2.13 | (7.07) | 3.72 | 31.60 | 9.94 | (7.83) | 20.33 |
| **SSgA S&P 400 Index** ● | 14.47 | (11.10) | 16.22 | 20.73 | (2.15) | 9.75 | 33.67 | 17.94 | (1.69) | 26.59 |
| S&P Mid Cap 400 Index ▲ | 14.49 | (11.08) | 16.24 | 20.74 | (2.18) | 9.77 | 33.50 | 17.88 | (1.73) | 26.64 |

## Cumulative and Quarterly Relative Return vs S&P Mid Cap 400 Index




## Risk Adjusted Return Measures vs S&P Mid Cap 400 Index
## Rankings Against Callan Mid Capitalization (Gross)
## Five Years Ended March 31, 2019



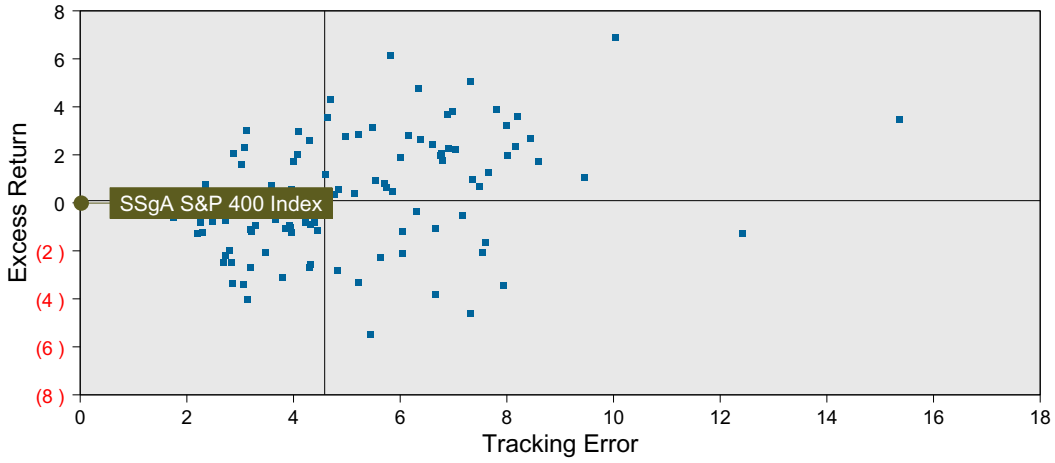

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 3.77 | 0.82 | 0.60 |
| 25th Percentile | 2.45 | 0.69 | 0.32 |
| Median | 0.53 | 0.57 | 0.03 |
| 75th Percentile | (0.71) | 0.48 | (0.32) |
| 90th Percentile | (2.60) | 0.33 | (0.64) |
| **SSgA S&P 400 Index** ● | (0.01) | 0.58 | (0.55) |

# SSgA S&P 400 Index
# Risk Analysis Summary

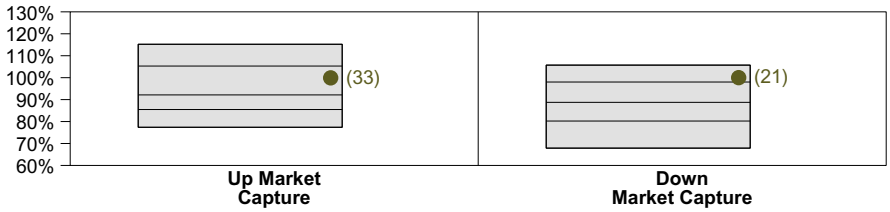
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

## Risk Analysis vs Callan Mid Capitalization (Gross)
## Five Years Ended March 31, 2019

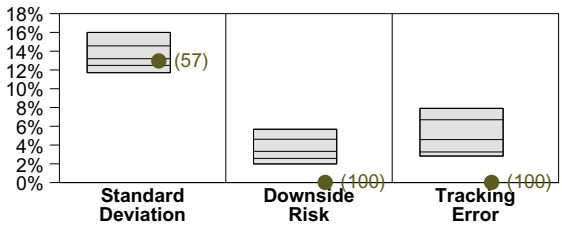


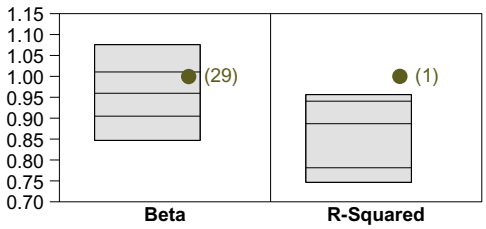

## Market Capture vs S&P 400 Mid Cap Index
## Rankings Against Callan Mid Capitalization (Gross)
## Five Years Ended March 31, 2019




| | Up Market Capture | Down Market Capture |
|---|---|---|
| 10th Percentile | 115.22 | 105.72 |
| 25th Percentile | 105.30 | 98.01 |
| Median | 92.14 | 88.76 |
| 75th Percentile | 85.48 | 80.24 |
| 90th Percentile | 77.39 | 67.89 |
| **SSgA S&P 400 Index** | 99.91 | 100.01 |

## Risk Statistics Rankings vs S&P 400 Mid Cap Index
## Rankings Against Callan Mid Capitalization (Gross)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 16.00 | 5.68 | 7.91 |
| 25th Percentile | 14.56 | 4.62 | 6.70 |
| Median | 13.20 | 3.33 | 4.58 |
| 75th Percentile | 12.49 | 2.58 | 3.27 |
| 90th Percentile | 11.71 | 1.99 | 2.83 |
| **SSgA S&P 400 Index** | 12.96 | 0.02 | 0.02 |

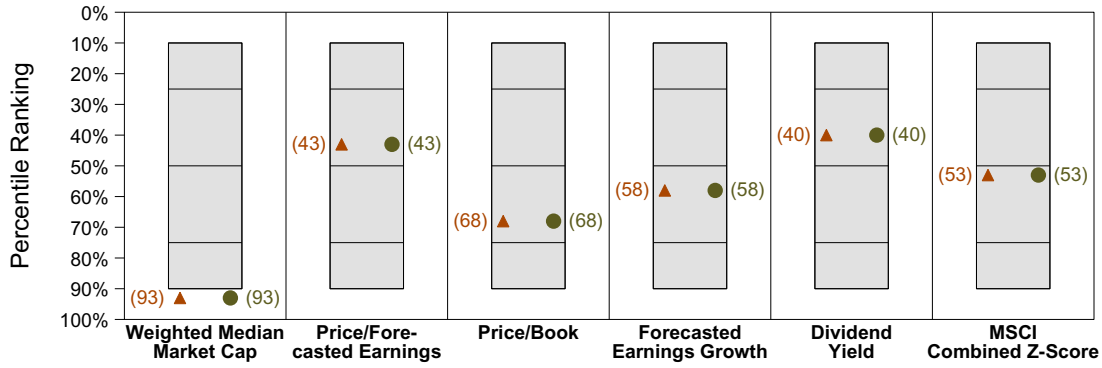
| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.08 | 0.96 |
| 25th Percentile | 1.01 | 0.94 |
| Median | 0.96 | 0.89 |
| 75th Percentile | 0.90 | 0.78 |
| 90th Percentile | 0.85 | 0.75 |
| **SSgA S&P 400 Index** | 1.00 | 1.00 |

# SSgA S&P 400 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 Mid Capitalization
## as of March 31, 2019

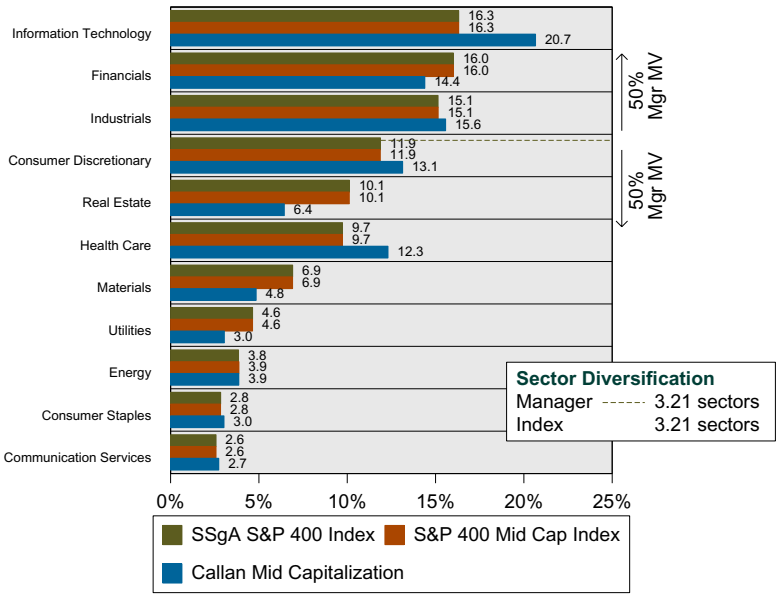



| | Weighted Median Market Cap | Price/Fore-casted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| 10th Percentile | 16.82 | 26.32 | 5.10 | 21.09 | 2.14 | 0.94 |
| 25th Percentile | 14.16 | 22.57 | 4.40 | 16.80 | 1.95 | 0.75 |
| Median | 11.59 | 15.98 | 2.44 | 13.57 | 1.41 | (0.06) |
| 75th Percentile | 9.09 | 14.07 | 2.04 | 11.52 | 0.66 | (0.45) |
| 90th Percentile | 6.42 | 13.09 | 1.79 | 9.89 | 0.52 | (0.63) |
| **SSgA S&P 400 Index** ● | 5.03 | 16.59 | 2.13 | 12.59 | 1.67 | (0.12) |
| S&P 400 Mid Cap Index ▲ | 5.03 | 16.59 | 2.13 | 12.59 | 1.67 | (0.12) |

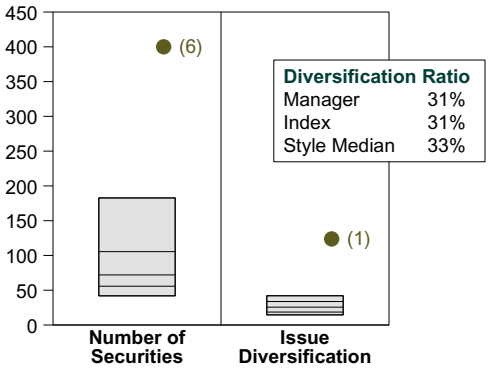
## Sector Weights

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

### Sector Allocation
### March 31, 2019




### Diversification
### March 31, 2019




| | Number of Securities | Issue Diversification |
|---|---|---|
| 10th Percentile | 183 | 42 |
| 25th Percentile | 106 | 34 |
| Median | 72 | 26 |
| 75th Percentile | 56 | 19 |
| 90th Percentile | 42 | 15 |
| **SSgA S&P 400 Index** ● | 400 | 124 |
| S&P 400 Mid Cap Index ▲ | 401 | 124 |

# SSgA S&P 400 Index
# Top 10 Portfolio Holdings Characteristics
# as of March 31, 2019

## 10 Largest Holdings

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Idex Corp | Industrials | $105,359 | 0.7% | 20.56% | 11.50 | 25.99 | 1.13% | 12.50% |
| Zebra Technologies A | Information Technology | $103,402 | 0.7% | 31.59% | 11.29 | 16.57 | 0.00% | 27.91% |
| Steris Plc Shs Usd | Health Care | $99,204 | 0.6% | 20.16% | 10.83 | 24.20 | 1.06% | 12.36% |
| Dominos Pizza Inc | Consumer Discretionary | $97,029 | 0.6% | 4.35% | 10.60 | 26.38 | 1.01% | 13.80% |
| Ultimate Software Group Inc | Information Technology | $95,805 | 0.6% | 34.82% | 10.46 | 50.08 | 0.00% | 20.00% |
| Trimble Navigation Ltd | Information Technology | $93,078 | 0.6% | 22.76% | 10.19 | 18.80 | 0.00% | 6.16% |
| Ptc Inc | Information Technology | $90,149 | 0.6% | 11.19% | 10.94 | 42.23 | 0.00% | 35.20% |
| Camden Ppty Tr | Real Estate | $89,843 | 0.6% | 16.18% | 10.07 | 52.59 | 3.15% | (3.79)% |
| Ugi Corp New | Utilities | $88,252 | 0.6% | 4.37% | 9.63 | 19.55 | 1.88% | 8.00% |
| Lennox Intl Inc | Industrials | $86,904 | 0.6% | 21.10% | 10.54 | 21.25 | 0.97% | 16.59% |

## 10 Best Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Versum Matls LLC Com | Information Technology | $50,248 | 0.3% | 81.89% | 5.49 | 20.51 | 0.64% | 16.22% |
| Tenet Healthcare Corp | Health Care | $22,058 | 0.1% | 68.26% | 2.97 | 11.83 | 0.00% | 48.33% |
| Universal Display Corp | Information Technology | $59,338 | 0.4% | 63.46% | 7.20 | 61.93 | 0.26% | 30.00% |
| Lendingtree, Inc | Financials | $24,141 | 0.2% | 60.11% | 4.51 | 42.29 | 0.00% | 36.30% |
| Avis Budget Group | Industrials | $20,513 | 0.1% | 55.07% | 2.65 | 8.66 | 0.00% | 18.20% |
| Bed Bath & Beyond | Consumer Discretionary | $21,594 | 0.1% | 51.69% | 2.34 | 9.57 | 3.77% | (18.20)% |
| Apergy Corp Com | Energy | $29,235 | 0.2% | 51.62% | 3.18 | 25.28 | 0.00% | 24.90% |
| Stericycle Inc | Industrials | $42,459 | 0.3% | 48.32% | 4.94 | 14.85 | 0.00% | 0.78% |
| New York Times Co A | Communication Services | $42,687 | 0.3% | 47.63% | 5.42 | 38.42 | 0.61% | 14.50% |
| Chesapeake Energy Corp | Energy | $29,803 | 0.2% | 47.62% | 5.06 | 5.38 | 0.00% | 5.70% |

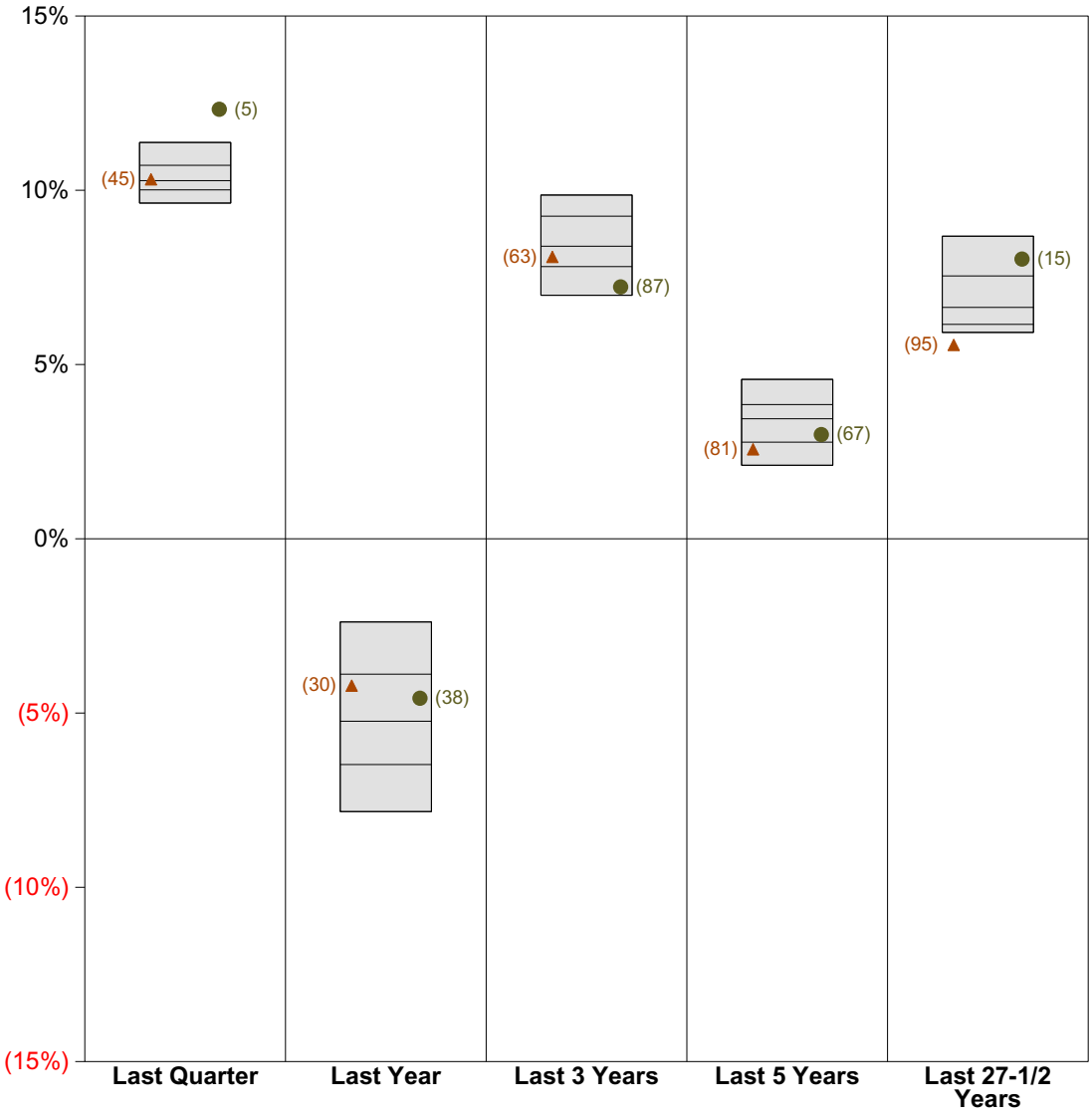
## 10 Worst Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Weight Watchers Intl Inc New | Consumer Discretionary | $7,189 | 0.0% | (47.73)% | 1.35 | 14.09 | 0.00% | 8.83% |
| Uniti Group Inc | Real Estate | $18,395 | 0.1% | (27.81)% | 2.05 | 43.71 | 1.79% | - |
| Green Dot Corp Cl A | Financials | $26,403 | 0.2% | (23.73)% | 3.21 | 16.05 | 0.00% | 18.03% |
| Inogen Inc | Health Care | $15,645 | 0.1% | (23.19)% | 2.09 | 47.40 | 0.00% | 15.55% |
| Realogy Hldgs Corp | Real Estate | $11,961 | 0.1% | (21.77)% | 1.30 | 8.60 | 3.16% | 0.88% |
| Nu Skin Asia Inc Cl A | Consumer Staples | $24,215 | 0.2% | (21.51)% | 2.65 | 11.86 | 3.05% | 11.35% |
| Tupperware Brands Corp | Consumer Discretionary | $11,579 | 0.1% | (18.14)% | 1.24 | 6.18 | 4.22% | (3.92)% |
| Genworth Financial A | Financials | $17,768 | 0.1% | (17.81)% | 1.92 | 3.28 | 0.00% | 0.36% |
| Mednax Inc | Health Care | $22,085 | 0.1% | (17.67)% | 2.39 | 7.10 | 0.00% | 9.26% |
| Healthcare Svcs Grp Inc | Industrials | $22,387 | 0.1% | (17.49)% | 2.44 | 21.15 | 2.38% | 9.02% |

# City of Fort Pierce
# Performance vs Public Fund - International Equity
# Periods Ended March 31, 2019

## Return Ranking

The chart below illustrates fund rankings over various periods versus the Public Fund - International Equity. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Public Fund - International Equity. 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.

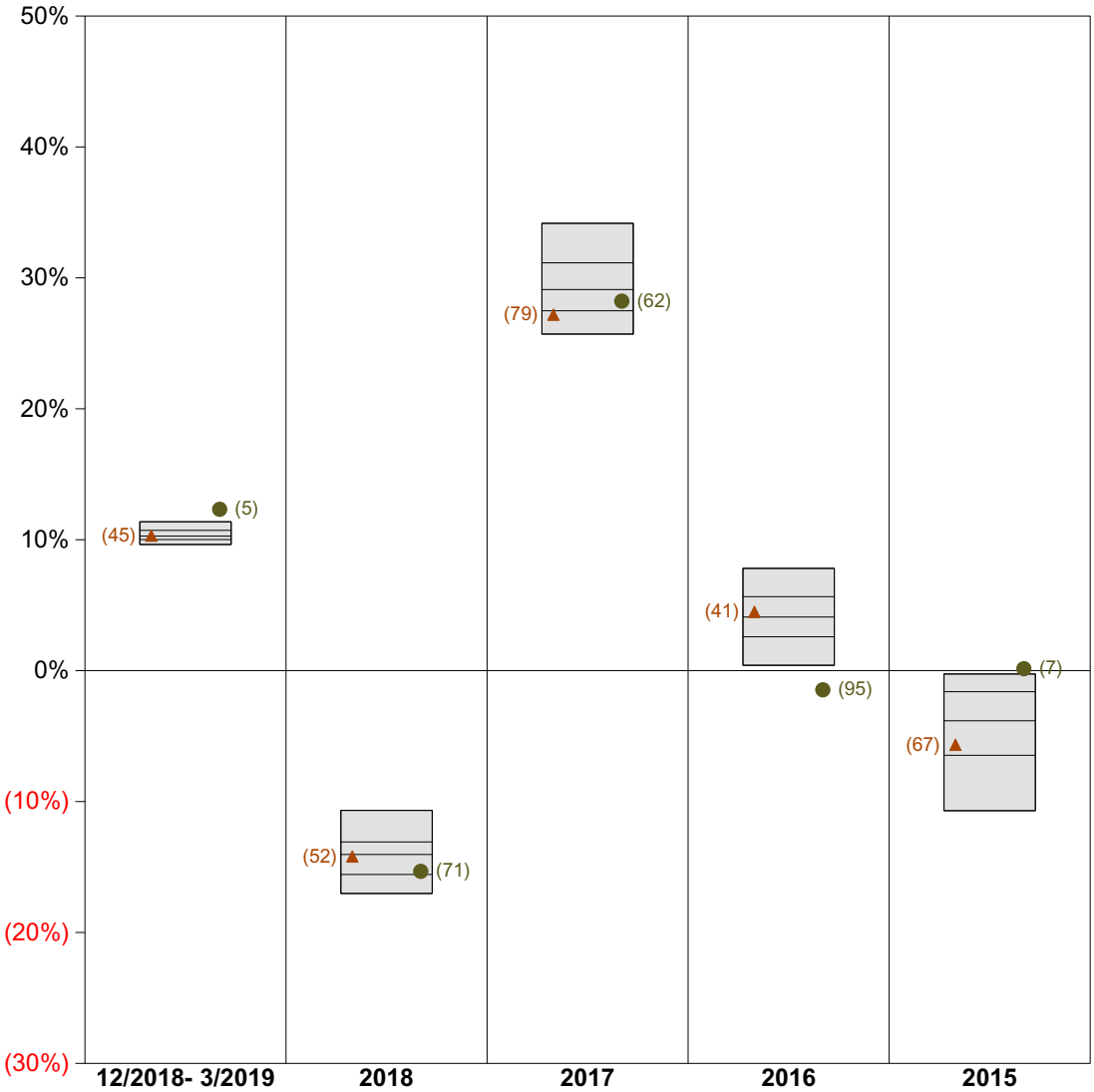



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 27-1/2 Years |
|---|---|---|---|---|---|
| 10th Percentile | 11.37 | (2.39) | 9.86 | 4.57 | 8.68 |
| 25th Percentile | 10.72 | (3.88) | 9.26 | 3.85 | 7.54 |
| Median | 10.28 | (5.24) | 8.39 | 3.44 | 6.64 |
| 75th Percentile | 10.01 | (6.48) | 7.81 | 2.77 | 6.15 |
| 90th Percentile | 9.63 | (7.83) | 6.99 | 2.11 | 5.92 |
| **Int'l Equity Composite** ● | 12.32 | (4.58) | 7.23 | 2.99 | 8.03 |
| Intl Equity Benchmark ▲ | 10.31 | (4.21) | 8.09 | 2.57 | 5.56 |

# City of Fort Pierce
# Performance vs Public Fund - International Equity
# Recent Periods

## Return Ranking

The chart below illustrates fund rankings over various periods versus the Public Fund - International Equity. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Public Fund - International Equity. 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.




| | 12/2018- 3/2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|
| 10th Percentile | 11.37 | (10.67) | 34.17 | 7.81 | (0.26) |
| 25th Percentile | 10.72 | (13.08) | 31.15 | 5.65 | (1.61) |
| Median | 10.28 | (14.04) | 29.11 | 4.10 | (3.83) |
| 75th Percentile | 10.01 | (15.57) | 27.49 | 2.58 | (6.46) |
| 90th Percentile | 9.63 | (17.02) | 25.71 | 0.41 | (10.70) |
| **Int'l Equity Composite** ● | 12.32 | (15.33) | 28.22 | (1.46) | 0.15 |
| Intl Equity Benchmark ▲ | 10.31 | (14.20) | 27.19 | 4.50 | (5.66) |

# Morgan Stanley Int'l Equity
# Period Ended March 31, 2019

## Investment Philosophy

The International Equity team uses a value-driven, bottom-up approach to maximize return potential, combined with sufficient diversification to minimize investment risk.

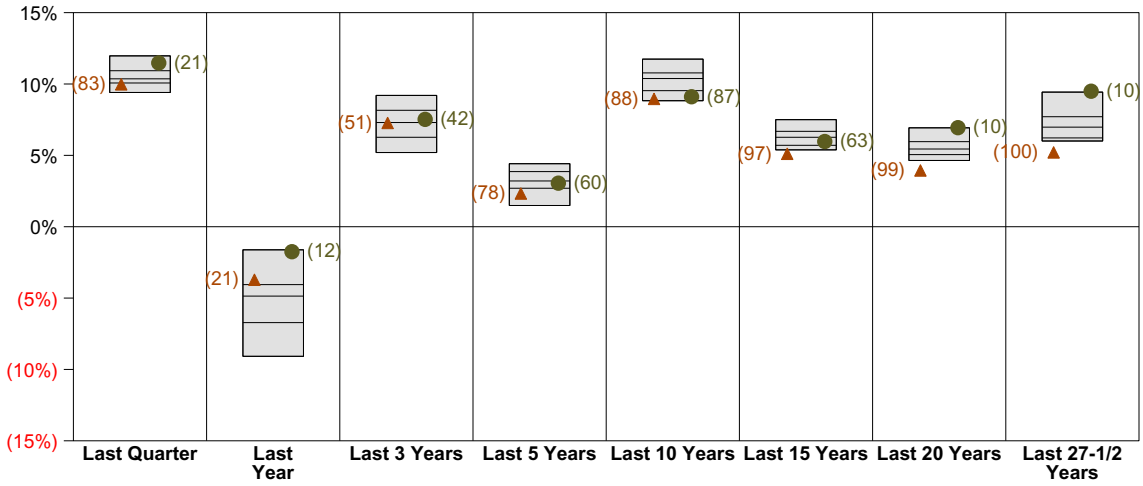
## Quarterly Summary and Highlights

- Morgan Stanley Int'l Equity's portfolio posted a 11.47% return for the quarter placing it in the 21 percentile of the Callan Non-US Developed Core Equity group for the quarter and in the 12 percentile for the last year.
- Morgan Stanley Int'l Equity's portfolio outperformed the MSCI EAFE by 1.50% for the quarter and outperformed the MSCI EAFE for the year by 1.96%.

## Quarterly Asset Growth

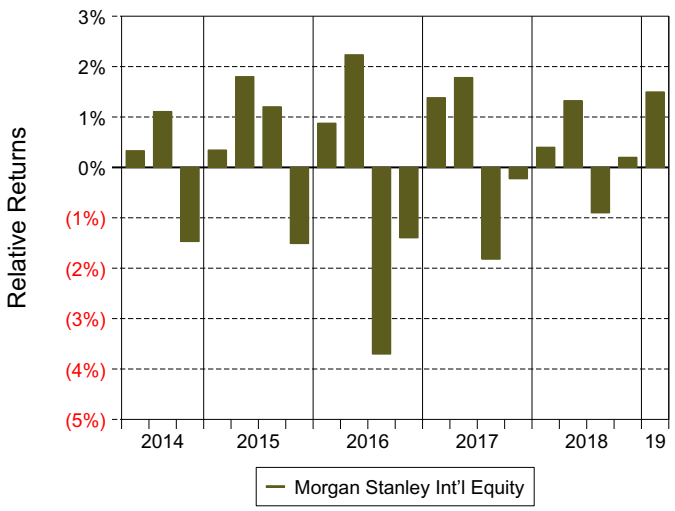
| | |
|---|---|
| Beginning Market Value | $12,333,714 |
| Net New Investment | $-23,606 |
| Investment Gains/(Losses) | $1,414,222 |
| Ending Market Value | $13,724,330 |

## Performance vs Callan Non-US Developed Core Equity (Gross)

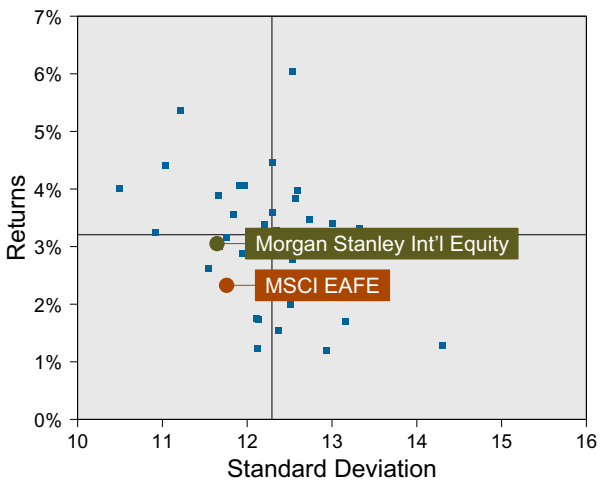



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 20 Years | Last 27-1/2 Years |
|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 11.97 | (1.62) | 9.20 | 4.42 | 11.74 | 7.50 | 6.93 | 9.43 |
| 25th Percentile | 10.93 | (4.06) | 8.16 | 3.86 | 10.78 | 6.68 | 5.96 | 7.71 |
| Median | 10.36 | (4.86) | 7.30 | 3.21 | 10.38 | 6.27 | 5.44 | 6.98 |
| 75th Percentile | 10.07 | (6.72) | 6.27 | 2.70 | 9.53 | 5.70 | 5.05 | 6.22 |
| 90th Percentile | 9.41 | (9.08) | 5.20 | 1.49 | 8.83 | 5.38 | 4.64 | 6.01 |
| **Morgan Stanley Int'l Equity** | 11.47 | (1.75) | 7.52 | 3.05 | 9.11 | 5.97 | 6.94 | 9.49 |
| MSCI EAFE | 9.98 | (3.71) | 7.27 | 2.33 | 8.96 | 5.11 | 3.94 | 5.21 |

## Relative Return vs MSCI EAFE




## Callan Non-US Developed Core Equity (Gross) Annualized Five Year Risk vs Return

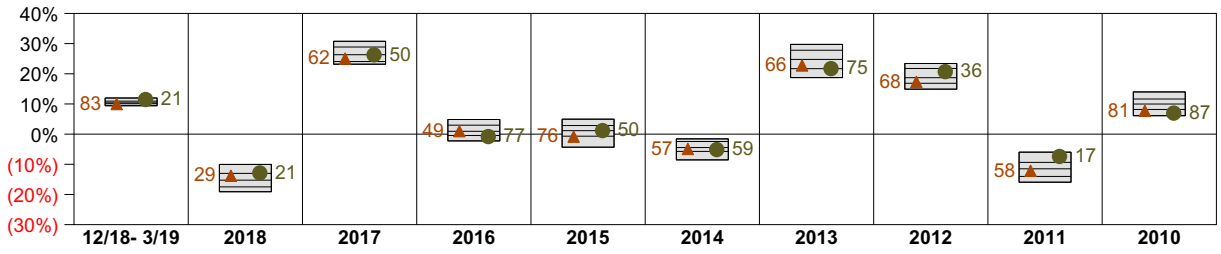


# Morgan Stanley Int'l Equity
# Return Analysis Summary

## Return Analysis

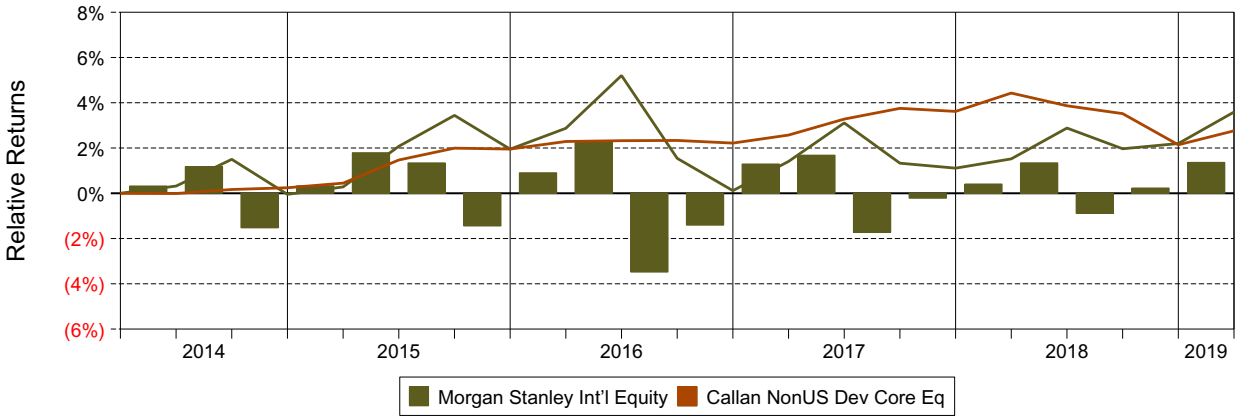
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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 Developed Core Equity (Gross)

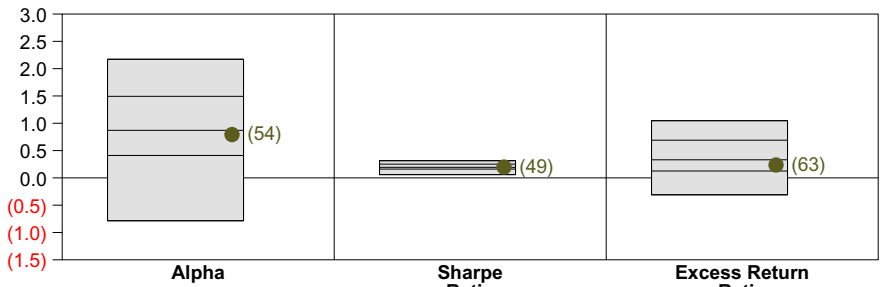



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 11.97 | (10.05) | 30.76 | 4.85 | 4.96 | (1.58) | 29.74 | 23.41 | (5.98) | 13.99 |
| 25th Percentile | 10.93 | (13.01) | 28.87 | 2.96 | 2.84 | (2.44) | 27.80 | 21.76 | (9.36) | 11.64 |
| Median | 10.36 | (15.26) | 26.32 | 0.94 | 1.15 | (4.45) | 24.76 | 18.70 | (11.49) | 9.98 |
| 75th Percentile | 10.07 | (17.48) | 24.06 | (0.44) | (0.68) | (5.73) | 21.69 | 16.85 | (14.02) | 8.17 |
| 90th Percentile | 9.41 | (19.10) | 23.17 | (2.25) | (4.33) | (8.54) | 18.73 | 14.90 | (15.94) | 6.11 |
| **Morgan Stanley Int'l Equity** ● | 11.47 | (12.86) | 26.28 | (0.82) | 1.17 | (5.13) | 21.72 | 20.71 | (7.40) | 6.96 |
| MSCI EAFE ▲ | 9.98 | (13.79) | 25.03 | 1.00 | (0.81) | (4.90) | 22.78 | 17.32 | (12.14) | 7.75 |

## Cumulative and Quarterly Relative Return vs MSCI EAFE




## Risk Adjusted Return Measures vs MSCI EAFE
## Rankings Against Callan Non-US Developed Core Equity (Gross)
## Five Years Ended March 31, 2019



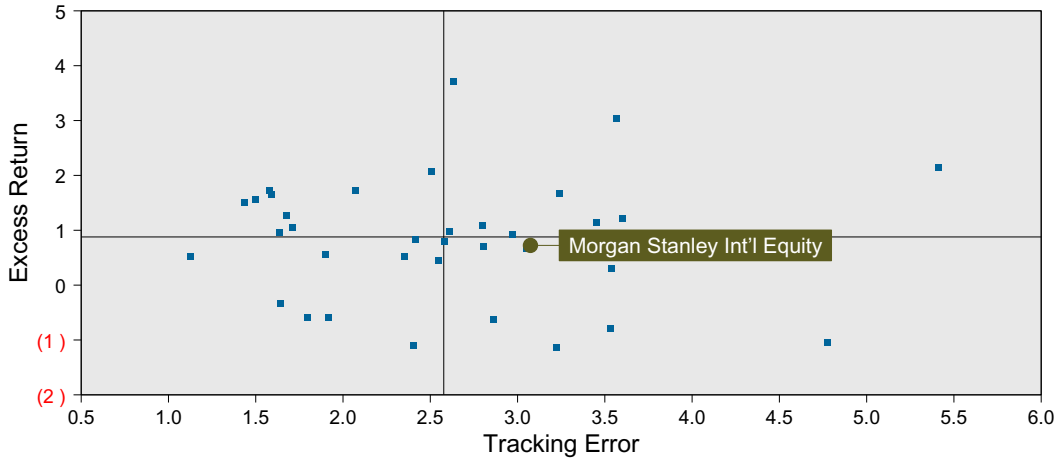

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 2.17 | 0.31 | 1.05 |
| 25th Percentile | 1.49 | 0.25 | 0.69 |
| Median | 0.87 | 0.19 | 0.33 |
| 75th Percentile | 0.41 | 0.16 | 0.13 |
| 90th Percentile | (0.79) | 0.06 | (0.31) |
| **Morgan Stanley Int'l Equity** ● | 0.79 | 0.20 | 0.24 |

# Morgan Stanley Int'l Equity
# Risk Analysis Summary

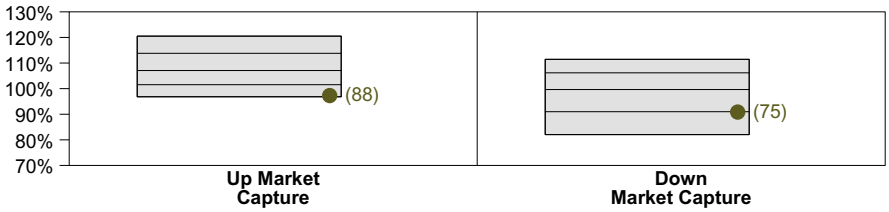
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

## Risk Analysis vs Callan Non-US Developed Core Equity (Gross)
## Five Years Ended March 31, 2019

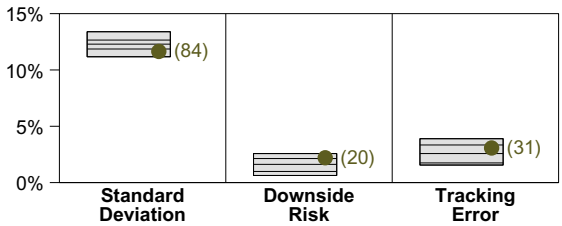


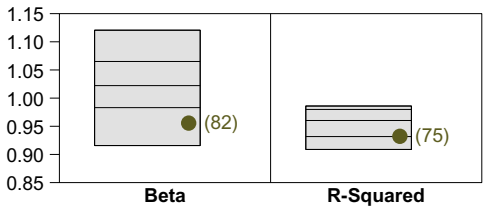

## Market Capture vs MSCI EAFE Index (USD Net Div)
## Rankings Against Callan Non-US Developed Core Equity (Gross)
## Five Years Ended March 31, 2019




| | Up Market Capture | Down Market Capture |
|---|---|---|
| 10th Percentile | 120.51 | 111.45 |
| 25th Percentile | 113.80 | 106.17 |
| Median | 107.08 | 99.64 |
| 75th Percentile | 101.54 | 90.98 |
| 90th Percentile | 96.82 | 82.05 |
| **Morgan Stanley Int'l Equity** | 97.29 | 90.85 |

## Risk Statistics Rankings vs MSCI EAFE Index (USD Net Div)
## Rankings Against Callan Non-US Developed Core Equity (Gross)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 13.40 | 2.58 | 3.90 |
| 25th Percentile | 12.65 | 2.13 | 3.34 |
| Median | 12.29 | 1.62 | 2.58 |
| 75th Percentile | 11.86 | 0.99 | 1.75 |
| 90th Percentile | 11.17 | 0.63 | 1.56 |
| **Morgan Stanley Int'l Equity** | 11.64 | 2.20 | 3.07 |

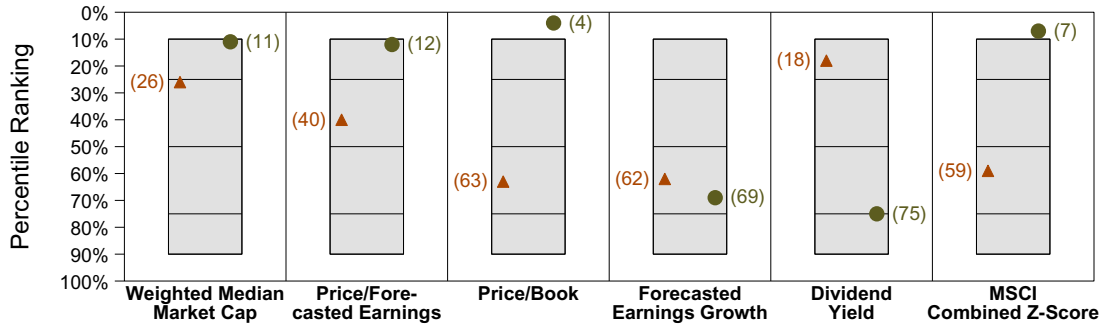
| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.12 | 0.99 |
| 25th Percentile | 1.07 | 0.98 |
| Median | 1.02 | 0.96 |
| 75th Percentile | 0.98 | 0.93 |
| 90th Percentile | 0.92 | 0.91 |
| **Morgan Stanley Int'l Equity** | 0.96 | 0.93 |

# Morgan Stanley Int'l Equity
# 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.

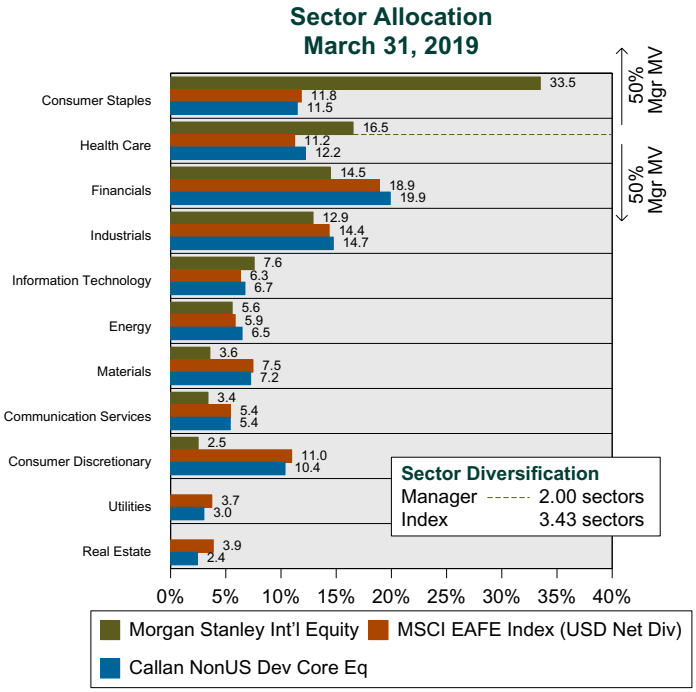
## Portfolio Characteristics Percentile Rankings
## Rankings Against Callan Non-US Developed Core Equity
## as of March 31, 2019

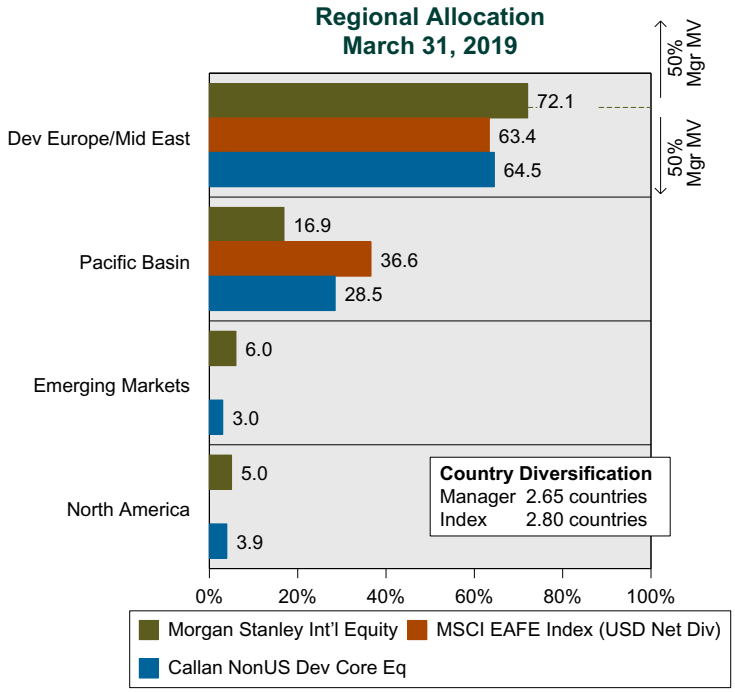



| | Weighted Median Market Cap | Price/Fore-casted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| 10th Percentile | 52.14 | 15.37 | 1.86 | 12.45 | 3.50 | 0.25 |
| 25th Percentile | 37.28 | 14.00 | 1.79 | 11.04 | 3.30 | 0.13 |
| Median | 28.71 | 12.86 | 1.66 | 9.55 | 3.11 | 0.03 |
| 75th Percentile | 24.97 | 11.97 | 1.53 | 8.30 | 2.95 | (0.12) |
| 90th Percentile | 12.76 | 11.35 | 1.35 | 7.87 | 2.67 | (0.27) |
| **Morgan Stanley Int'l Equity** ● | 51.71 | 14.75 | 2.31 | 8.60 | 2.96 | 0.36 |
| MSCI EAFE Index (USD Net Div) ▲ | 36.34 | 13.37 | 1.59 | 8.97 | 3.41 | (0.02) |

## Sector Weights

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



# Morgan Stanley Int'l Equity
# Top 10 Portfolio Holdings Characteristics
# as of March 31, 2019

## 10 Largest Holdings

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Reckitt Benckiser Group Plc | Consumer Staples | $631,311 | 4.6% | 8.59% | 58.85 | 17.93 | 2.67% | 6.00% |
| Unilever NV Cert of Shs | Consumer Staples | $599,504 | 4.4% | 8.11% | 99.69 | 19.96 | 2.99% | 7.22% |
| Sap Se Shs | Information Technology | $495,690 | 3.6% | 15.92% | 141.94 | 21.05 | 1.46% | 10.20% |
| Novartis | Health Care | $483,977 | 3.5% | 16.42% | 245.31 | 17.32 | 2.98% | 6.92% |
| Kirin Hldgs Company Ltd Shs | Consumer Staples | $455,978 | 3.3% | 14.11% | 21.82 | 16.94 | 1.93% | 4.20% |
| Glaxosmithkline Plc Ord | Health Care | $447,749 | 3.3% | 11.20% | 103.78 | 14.10 | 5.01% | 3.40% |
| Relx Plc Shs | Industrials | $421,847 | 3.1% | 3.89% | 41.90 | 17.72 | 2.56% | 7.61% |
| Pernod Ricard Act Ord | Consumer Staples | $417,542 | 3.0% | 9.67% | 47.68 | 23.56 | 1.47% | 10.70% |
| Sanofi Shs | Health Care | $415,099 | 3.0% | 2.22% | 110.26 | 13.30 | 3.90% | 6.48% |
| Aia Group Ltd Com Par Usd 1 | Financials | $395,842 | 2.9% | 19.91% | 120.23 | 17.87 | 1.41% | 25.04% |

## 10 Best Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Neste Oil | Energy | $197,063 | 1.4% | 38.53% | 27.35 | 18.17 | 2.40% | 10.90% |
| Constellation Software Inc Com | Information Technology | $354,121 | 2.6% | 35.87% | 17.96 | 24.49 | 0.47% | 12.35% |
| British American Tobacco | Consumer Staples | $380,881 | 2.8% | 32.80% | 95.47 | 10.08 | 6.17% | 6.34% |
| Lg Household & Health | Consumer Staples | $261,360 | 1.9% | 27.62% | 19.50 | 28.53 | 0.65% | 15.05% |
| Keyence Corp Ord | Information Technology | $167,384 | 1.2% | 22.98% | 75.77 | 32.85 | 0.22% | 10.40% |
| Aia Group Ltd Com Par Usd 1 | Financials | $395,842 | 2.9% | 19.91% | 120.23 | 17.87 | 1.41% | 25.04% |
| Heineken Nv | Consumer Staples | $384,034 | 2.8% | 19.70% | 60.85 | 20.88 | 1.70% | 6.95% |
| Deutsche Post Ag Bonn Namen Akt | Industrials | $232,657 | 1.7% | 19.22% | 40.21 | 12.69 | 3.97% | 5.20% |
| Heidelbergcement Ag Shs | Materials | $129,063 | 0.9% | 18.37% | 14.27 | 9.96 | 3.28% | 8.20% |
| Loreal | Consumer Staples | $303,591 | 2.2% | 17.07% | 150.88 | 30.87 | 1.61% | 7.40% |

## 10 Worst Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Bayer A G Namen -Akt | Health Care | $278,362 | 2.0% | (6.95)% | 60.26 | 8.14 | 4.87% | 10.80% |
| Henkel Ag & Co Kgaa Inhaber Vorzugsa | Consumer Staples | $393,712 | 2.9% | (6.85)% | 18.20 | 15.85 | 2.03% | 2.60% |
| Danske Bank A/S Shs | Financials | $65,128 | 0.5% | (5.06)% | 15.74 | 6.61 | 7.28% | (5.51)% |
| Bt Group Plc Shs | Communication Services | $141,799 | 1.0% | (4.20)% | 28.83 | 8.77 | 6.80% | (1.25)% |
| Minth Group Ltd Shs | Consumer Discretionary | $69,058 | 0.5% | (2.43)% | 3.61 | 10.97 | 2.68% | 13.10% |
| Ferguson Plc Ord | Industrials | $69,344 | 0.5% | (0.40)% | 14.76 | 12.11 | 3.04% | 7.40% |
| Mizuho Financial Grp Inc Tok Shs | Financials | $89,708 | 0.7% | 0.00% | 39.30 | 8.61 | 4.38% | (1.50)% |
| Toyota Motor Corp | Consumer Discretionary | $95,950 | 0.7% | 0.39% | 191.24 | 7.94 | 3.39% | 4.40% |
| Barrick Gold Corp | Materials | $247,709 | 1.8% | 1.26% | 24.02 | 33.36 | 1.17% | (14.20)% |
| Lion Corp | Consumer Staples | $131,004 | 1.0% | 1.73% | 6.30 | 30.64 | 0.86% | 61.09% |

# Morgan Stanley Emerging Mkts.
# Period Ended March 31, 2019

## Investment Philosophy

Morgan Stanley's fund objective is long-term capital appreciation. The fund invests at least 80% of its net assets in growth-oriented equity securities of issuers located in emerging market countries.

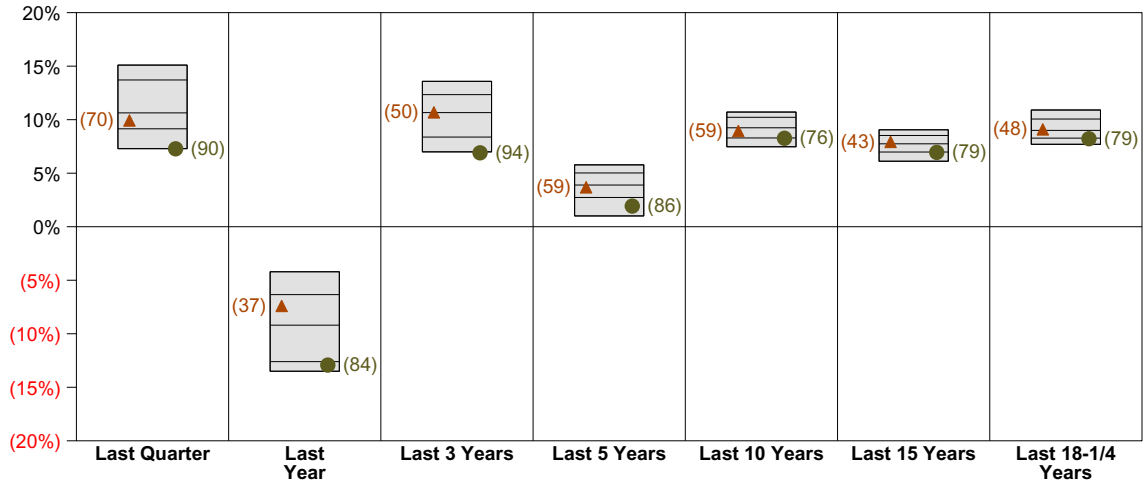
## Quarterly Summary and Highlights

- Morgan Stanley Emerging Mkts.'s portfolio posted a 7.28% return for the quarter placing it in the 90 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter and in the 84 percentile for the last year.
- Morgan Stanley Emerging Mkts.'s portfolio underperformed the MSCI EM BM by 2.65% for the quarter and underperformed the MSCI EM BM for the year by 5.53%.

## Quarterly Asset Growth

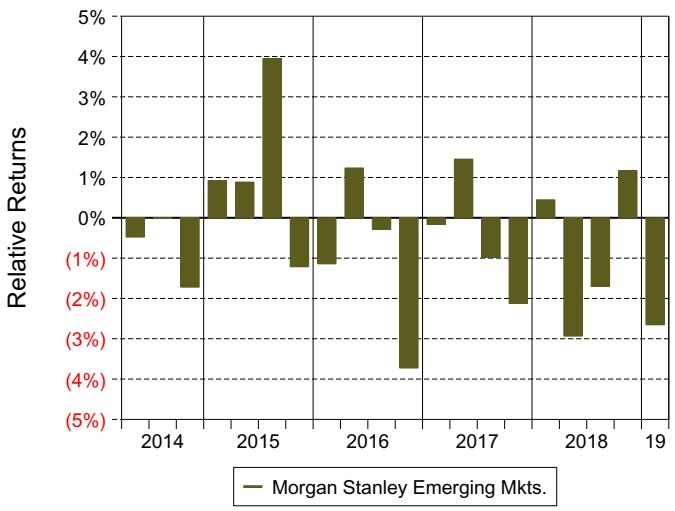
| | |
|---|---|
| Beginning Market Value | $1,156,195 |
| Net New Investment | $0 |
| Investment Gains/(Losses) | $84,124 |
| Ending Market Value | $1,240,319 |

## Performance vs Callan Emerging Markets Equity Mut Funds (Institutional Net)

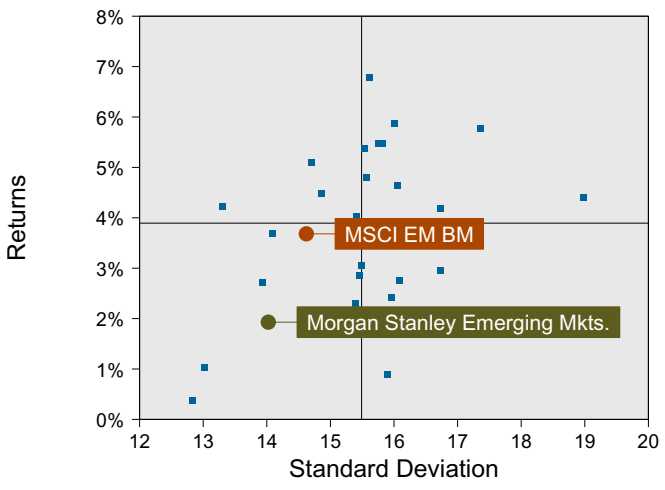



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 18-1/4 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 15.10 | (4.21) | 13.58 | 5.78 | 10.71 | 9.06 | 10.91 |
| 25th Percentile | 13.71 | (6.34) | 12.34 | 5.02 | 10.22 | 8.53 | 10.06 |
| Median | 10.64 | (9.20) | 10.66 | 3.89 | 9.24 | 7.75 | 9.00 |
| 75th Percentile | 9.15 | (12.60) | 8.38 | 2.73 | 8.29 | 6.98 | 8.28 |
| 90th Percentile | 7.29 | (13.50) | 6.99 | 1.01 | 7.47 | 6.12 | 7.70 |
| **Morgan Stanley Emerging Mkts.** ● | 7.28 | (12.93) | 6.90 | 1.93 | 8.26 | 6.95 | 8.22 |
| MSCI EM BM ▲ | 9.93 | (7.40) | 10.68 | 3.68 | 8.95 | 7.92 | 9.10 |

## Relative Return vs MSCI EM BM




## Callan Emerging Markets Equity Mut Funds (Institutional Net) Annualized Five Year Risk vs Return

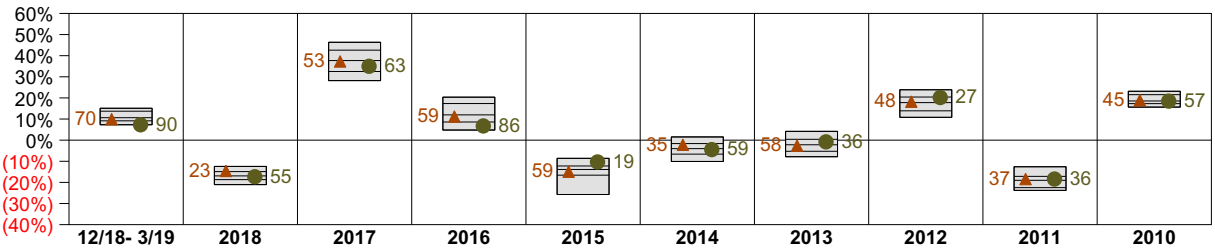


# Morgan Stanley Emerging Mkts.
# Return Analysis Summary

## Return Analysis

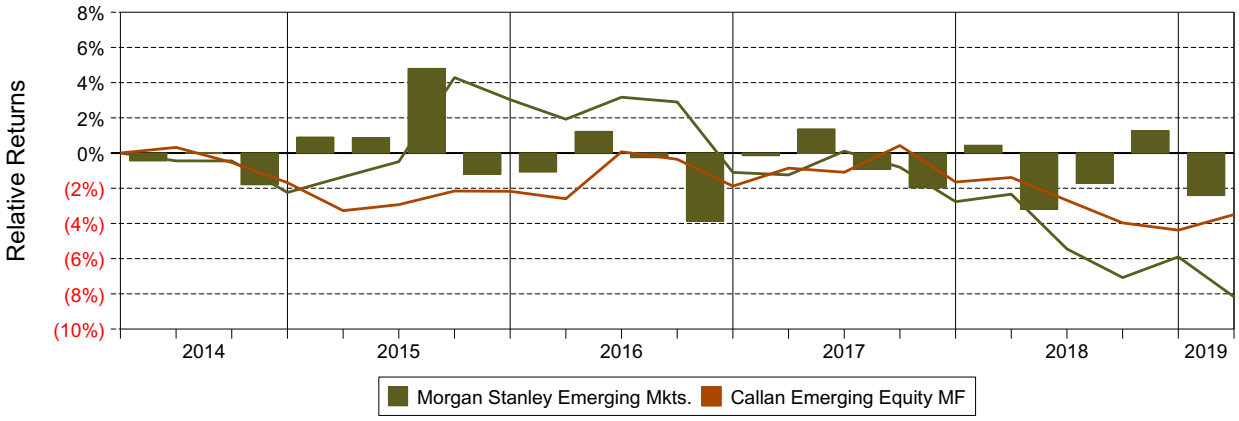
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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

## Performance vs Callan Emerging Markets Equity Mut Funds (Institutional Net)

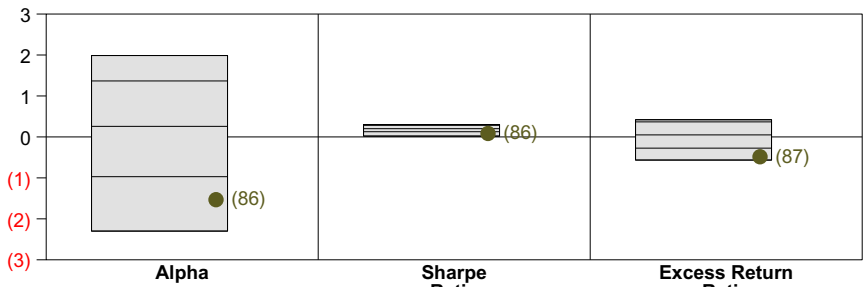



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 15.10 | (12.44) | 46.33 | 20.35 | (8.62) | 1.53 | 4.16 | 23.86 | (12.58) | 23.15 |
| 25th Percentile | 13.71 | (14.89) | 42.62 | 17.34 | (12.22) | (1.61) | 0.40 | 20.42 | (17.14) | 21.54 |
| Median | 10.64 | (16.91) | 37.69 | 11.97 | (13.88) | (4.02) | (2.19) | 17.78 | (19.02) | 18.55 |
| 75th Percentile | 9.15 | (18.68) | 32.52 | 8.60 | (16.57) | (6.61) | (5.26) | 13.88 | (22.48) | 17.30 |
| 90th Percentile | 7.29 | (21.05) | 28.19 | 4.78 | (25.74) | (10.09) | (7.85) | 10.81 | (23.79) | 15.64 |
| **Morgan Stanley Emerging Mkts.** ● | 7.28 | (17.32) | 34.97 | 6.73 | (10.33) | (4.47) | (0.80) | 20.19 | (18.41) | 18.49 |
| MSCI EM BM ▲ | 9.93 | (14.57) | 37.28 | 11.19 | (14.92) | (2.19) | (2.60) | 18.23 | (18.42) | 18.88 |

## Cumulative and Quarterly Relative Return vs MSCI EM BM




## Risk Adjusted Return Measures vs MSCI EM BM
## Rankings Against Callan Emerging Markets Equity Mut Funds (Institutional Net)
## Five Years Ended March 31, 2019



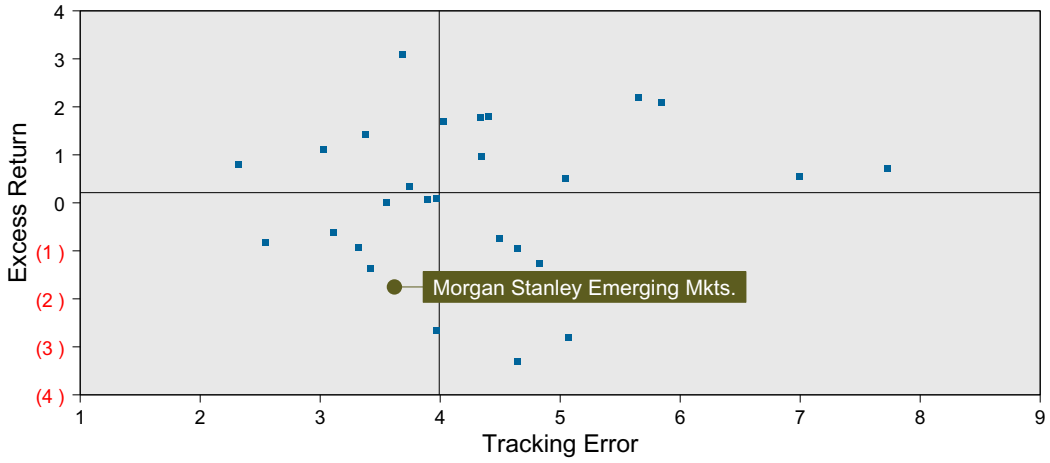

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 1.99 | 0.30 | 0.42 |
| 25th Percentile | 1.37 | 0.28 | 0.37 |
| Median | 0.26 | 0.20 | 0.05 |
| 75th Percentile | (0.97) | 0.13 | (0.27) |
| 90th Percentile | (2.30) | 0.02 | (0.56) |
| **Morgan Stanley Emerging Mkts.** ● | (1.53) | 0.08 | (0.48) |

# Morgan Stanley Emerging Mkts.
# Risk Analysis Summary

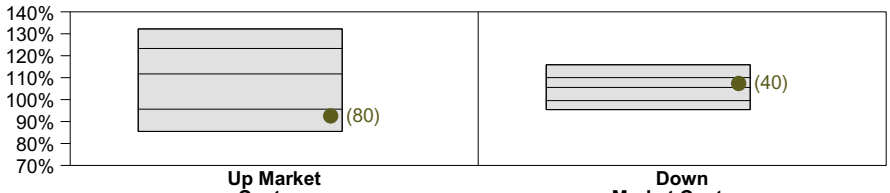
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

## Risk Analysis vs Callan Emerging Markets Equity Mut Funds (Institutional Net)
## Five Years Ended March 31, 2019

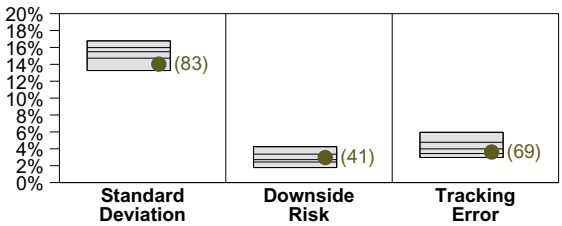


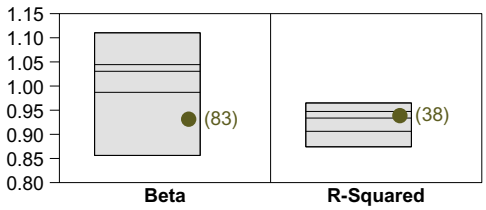

## Market Capture vs MSCI EM BM
## Rankings Against Callan Emerging Markets Equity Mut Funds (Institutional Net)
## Five Years Ended March 31, 2019




| | Up Market Capture | Down Market Capture |
|---|---|---|
| 10th Percentile | 132.22 | 115.88 |
| 25th Percentile | 123.30 | 110.03 |
| Median | 111.71 | 105.55 |
| 75th Percentile | 95.64 | 99.54 |
| 90th Percentile | 85.51 | 95.44 |
| **Morgan Stanley Emerging Mkts.** | 92.55 | 107.36 |

## Risk Statistics Rankings vs MSCI EM BM
## Rankings Against Callan Emerging Markets Equity Mut Funds (Institutional Net)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 16.78 | 4.25 | 5.95 |
| 25th Percentile | 15.98 | 3.37 | 4.77 |
| Median | 15.49 | 2.72 | 3.99 |
| 75th Percentile | 14.73 | 2.44 | 3.44 |
| 90th Percentile | 13.26 | 1.78 | 2.97 |
| **Morgan Stanley Emerging Mkts.** | 14.02 | 2.96 | 3.62 |

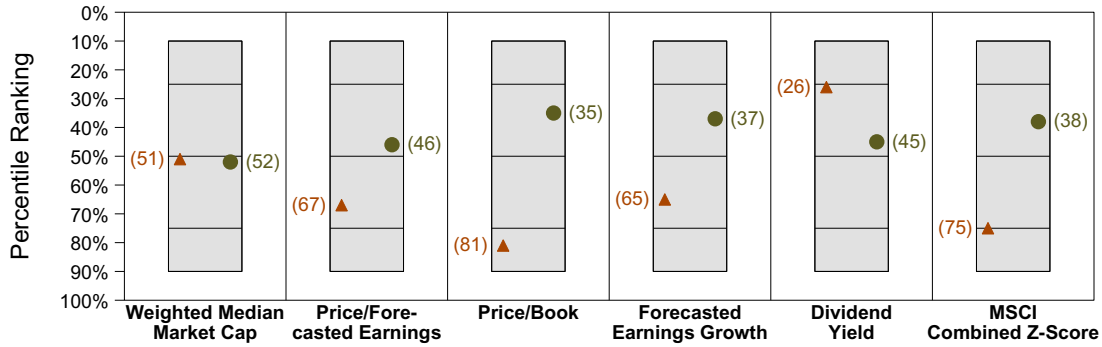
| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.11 | 0.97 |
| 25th Percentile | 1.04 | 0.95 |
| Median | 1.03 | 0.93 |
| 75th Percentile | 0.99 | 0.91 |
| 90th Percentile | 0.86 | 0.87 |
| **Morgan Stanley Emerging Mkts.** | 0.93 | 0.94 |

# Morgan Stanley Emerging Mkts.
# 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 Emerging Markets Equity Mut Funds
## as of March 31, 2019

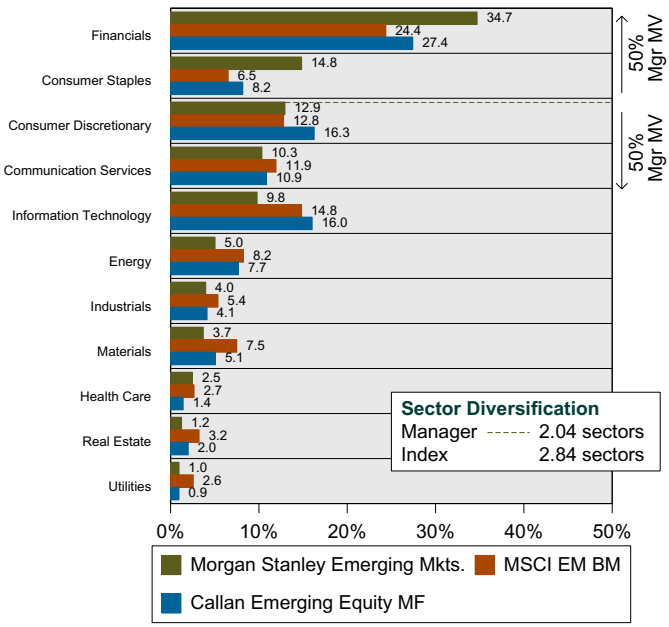



| | Weighted Median Market Cap | Price/Fore-casted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| 10th Percentile | 46.72 | 18.25 | 3.63 | 18.44 | 3.66 | 0.72 |
| 25th Percentile | 40.34 | 16.03 | 2.64 | 16.66 | 2.66 | 0.66 |
| Median | 21.17 | 13.18 | 1.95 | 15.17 | 2.28 | 0.25 |
| 75th Percentile | 17.00 | 11.44 | 1.69 | 14.21 | 1.98 | (0.03) |
| 90th Percentile | 12.63 | 10.66 | 1.37 | 10.89 | 1.76 | (0.42) |
| **Morgan Stanley Emerging Mkts.** ● | 20.16 | 14.26 | 2.24 | 15.60 | 2.37 | 0.36 |
| MSCI EM BM ▲ | 20.79 | 11.96 | 1.61 | 14.92 | 2.62 | (0.03) |

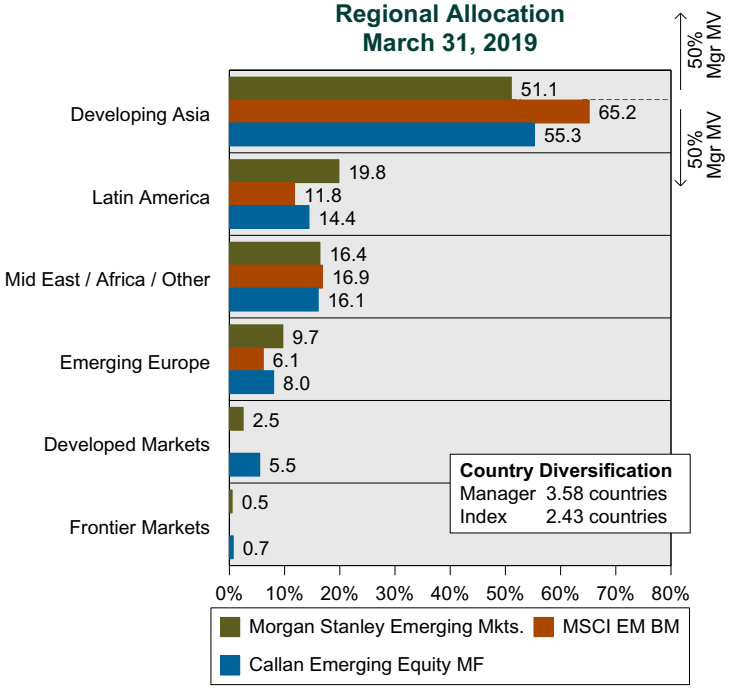
## Sector Weights

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.

### Sector Allocation
### March 31, 2019




### Regional Allocation
### March 31, 2019



# Morgan Stanley Emerging Mkts.
# Top 10 Portfolio Holdings Characteristics
# as of March 31, 2019

## 10 Largest Holdings

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Tencent Holdings Limited Shs Par Hkd | Communication Services | $58,902 | 4.7% | 14.67% | 437.82 | 29.73 | 0.28% | 22.04% |
| Taiwan Semicond Manufac Co L Shs | Information Technology | $54,756 | 4.4% | 8.57% | 206.55 | 17.99 | 3.26% | 7.10% |
| Alibaba Group Hldg Ltd Sponsored Ads | Consumer Discretionary | $36,933 | 3.0% | 33.11% | 472.94 | 27.07 | 0.00% | 24.20% |
| China Construction Bank Shs H | Financials | $33,441 | 2.7% | 3.92% | 206.12 | 5.19 | 5.31% | 3.69% |
| Bank of China Ltd Shs | Financials | $23,647 | 1.9% | 5.03% | 37.92 | 4.78 | 6.04% | 5.71% |
| Samsung Electronics Co Ltd Ord | Information Technology | $23,327 | 1.9% | 14.47% | 234.83 | 10.55 | 3.17% | (2.70)% |
| Pt Bank Central Asia Tbk Shs | Financials | $22,423 | 1.8% | 7.73% | 47.57 | 22.41 | 0.94% | 13.88% |
| Itau Unibanco Holding Sa Pfd Shs | Financials | $19,559 | 1.6% | 1.42% | 42.87 | 11.33 | 5.66% | 12.30% |
| Grupo Financiero Banorte S A Ord O S | Financials | $19,291 | 1.6% | 12.79% | 15.69 | 8.22 | 3.27% | 18.59% |
| Compania De Minas Buenaventu Sponsor | Materials | $18,456 | 1.5% | 6.54% | 4.65 | (109.10) | 0.71% | - |

## 10 Best Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Yihai Intl.Hldg. | Consumer Staples | $820 | 0.1% | 82.12% | 4.66 | 41.61 | 0.50% | - |
| Universal Scien.Indl.'a' | Information Technology | $4,290 | 0.3% | 74.78% | 4.99 | 20.45 | 1.20% | 31.83% |
| New Oriental Ed & Tech Grp I Spon Ad | Consumer Discretionary | $9,948 | 0.8% | 64.37% | 14.30 | 28.83 | 0.00% | 17.02% |
| Kweichow Moutai Co. A | Consumer Staples | $11,504 | 0.9% | 47.88% | 159.64 | 25.61 | 1.29% | 16.23% |
| Largan Precision Co Ltd Shs | Information Technology | $3,190 | 0.3% | 42.69% | 20.02 | 20.76 | 1.58% | 14.04% |
| Tal Ed Group Ads Repstg Com | Consumer Discretionary | $5,662 | 0.5% | 35.23% | 12.83 | 50.67 | 0.00% | 40.20% |
| Anhui Conch Cmt.Co. | Materials | $9,530 | 0.8% | 33.22% | 22.72 | 6.88 | 3.14% | 15.82% |
| Alibaba Group Hldg Ltd Sponsored Ads | Consumer Discretionary | $36,933 | 3.0% | 33.11% | 472.94 | 27.07 | 0.00% | 24.20% |
| Cspc Pharmaceutical Group Lt Shs | Health Care | $6,351 | 0.5% | 28.86% | 11.60 | 19.18 | 1.23% | 17.20% |
| Lg Household & Health | Consumer Staples | $8,483 | 0.7% | 27.62% | 19.50 | 28.53 | 0.65% | 15.05% |

## 10 Worst Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| China Resources Power Hldgs Shs | Utilities | $2,884 | 0.2% | (21.85)% | 7.23 | 7.02 | 2.78% | 36.69% |
| Alsea Sa De Cv Mexico Shs | Consumer Discretionary | $5,628 | 0.5% | (18.96)% | 1.75 | 26.92 | 1.92% | 16.42% |
| Samsungbiologics | Health Care | $1,210 | 0.1% | (16.67)% | 18.62 | 116.41 | 0.00% | - |
| Malaysia Airports Holdings B Shs | Industrials | $4,800 | 0.4% | (12.55)% | 2.94 | 21.62 | 1.80% | 34.53% |
| E-Mart Co Ltd | Consumer Staples | $2,707 | 0.2% | (12.50)% | 4.22 | 10.66 | 1.16% | (3.19)% |
| Pt Astra International Tbk Shs New | Consumer Discretionary | $9,194 | 0.7% | (11.43)% | 20.82 | 12.44 | 2.59% | 9.88% |
| Avi | Consumer Staples | $6,368 | 0.5% | (11.42)% | 2.21 | 16.30 | 4.71% | 4.70% |
| Eicher Motors | Consumer Discretionary | $7,257 | 0.6% | (10.58)% | 8.09 | 20.46 | 0.54% | 15.50% |
| Ashok Leyland | Industrials | $10,089 | 0.8% | (10.24)% | 3.87 | 12.82 | 2.66% | 6.74% |
| Maruti Udyog | Consumer Discretionary | $11,673 | 0.9% | (9.92)% | 29.10 | 22.45 | 1.20% | 6.29% |

## William Blair & Company
## Period Ended March 31, 2019

### Investment Philosophy

William Blair & Company focuses on companies with above-average growth prospects where growth can be sustained through leading or franchise positions in terms of proprietary products, marketing dominance, or cost/asset base advantage.

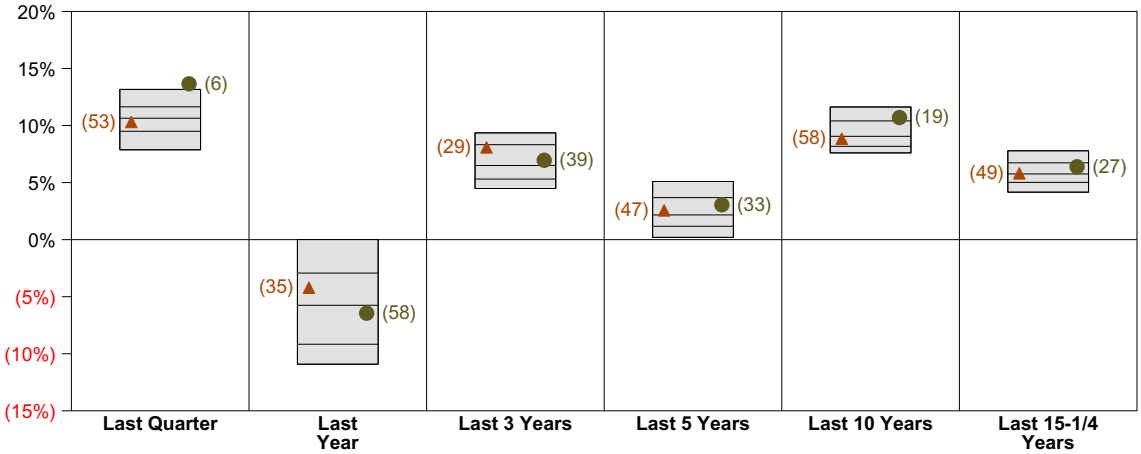
### Quarterly Summary and Highlights

- William Blair & Company's portfolio posted a 13.66% return for the quarter placing it in the 6 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 58 percentile for the last year.
- William Blair & Company's portfolio outperformed the MSCI ACWI ex US by 3.34% for the quarter and underperformed the MSCI ACWI ex US for the year by 2.23%.

### Quarterly Asset Growth

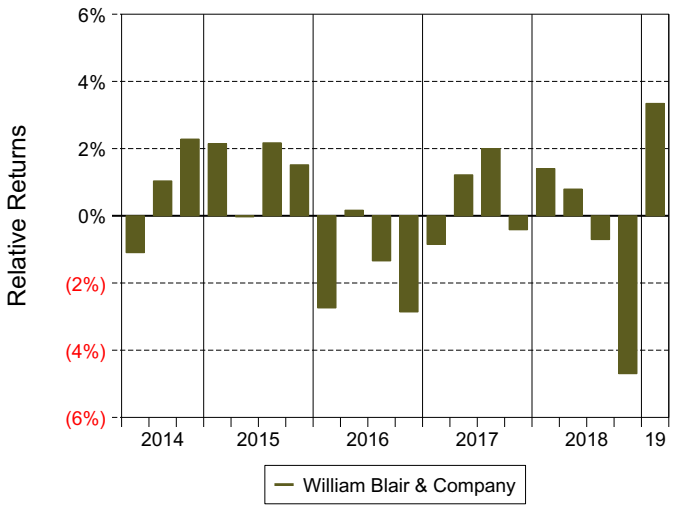
| | |
|---|---|
| Beginning Market Value | $12,230,532 |
| Net New Investment | $0 |
| Investment Gains/(Losses) | $1,670,289 |
| Ending Market Value | $13,900,821 |

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

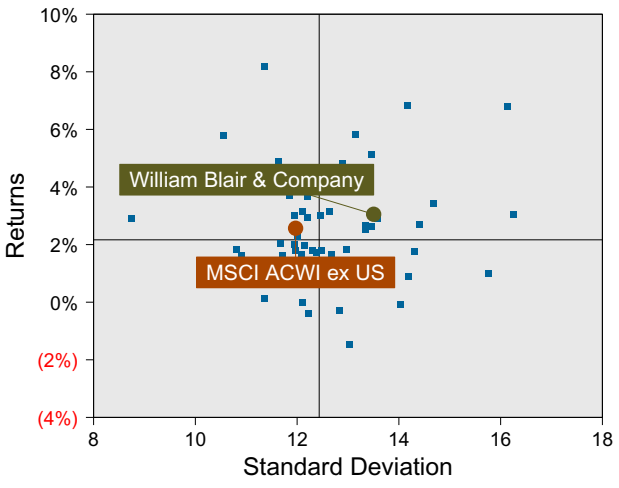



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15-1/4 Years |
|---|---|---|---|---|---|---|
| 10th Percentile | 13.17 | 0.01 | 9.36 | 5.10 | 11.63 | 7.79 |
| 25th Percentile | 11.64 | (2.93) | 8.32 | 3.68 | 10.41 | 6.73 |
| Median | 10.64 | (5.75) | 6.50 | 2.17 | 9.06 | 5.76 |
| 75th Percentile | 9.50 | (9.17) | 5.31 | 1.17 | 8.18 | 5.02 |
| 90th Percentile | 7.88 | (10.92) | 4.48 | 0.20 | 7.60 | 4.16 |
| **William Blair & Company** ● | 13.66 | (6.44) | 6.96 | 3.05 | 10.70 | 6.39 |
| MSCI ACWI ex US ▲ | 10.31 | (4.21) | 8.09 | 2.57 | 8.85 | 5.81 |

### Relative Return vs MSCI ACWI ex US




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

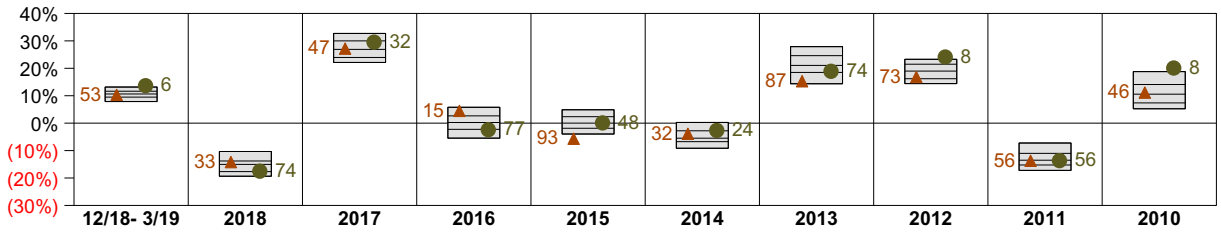


# William Blair & Company
# Return Analysis Summary

## Return Analysis

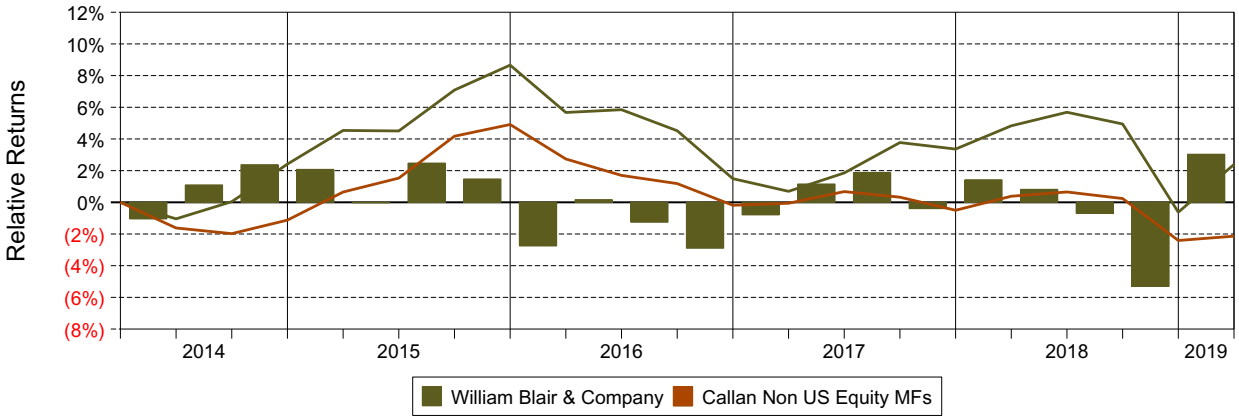
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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 (Institutional Net)

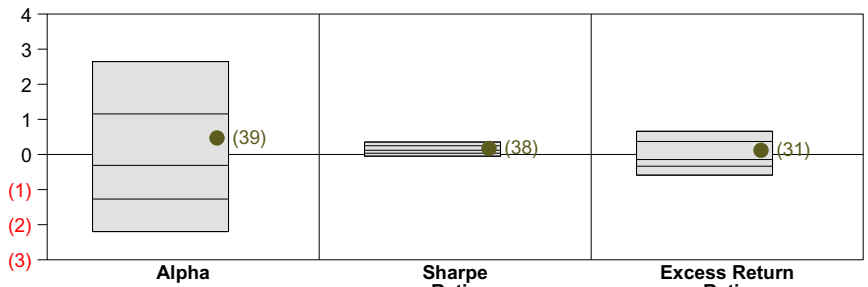



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 13.17 | (10.33) | 32.71 | 5.78 | 4.89 | 0.25 | 27.89 | 23.27 | (7.24) | 18.79 |
| 25th Percentile | 11.64 | (13.79) | 30.00 | 2.66 | 2.35 | (2.78) | 24.61 | 21.49 | (11.01) | 14.09 |
| Median | 10.64 | (15.04) | 26.90 | 0.23 | 0.02 | (5.48) | 21.05 | 18.98 | (13.51) | 10.56 |
| 75th Percentile | 9.50 | (17.67) | 23.95 | (2.25) | (1.86) | (6.75) | 18.50 | 16.20 | (15.26) | 7.39 |
| 90th Percentile | 7.88 | (19.35) | 22.13 | (5.47) | (3.96) | (9.16) | 14.36 | 14.42 | (17.22) | 5.24 |
| **William Blair & Company** ● | 13.66 | (17.50) | 29.53 | (2.40) | 0.09 | (2.66) | 18.90 | 24.11 | (13.66) | 20.10 |
| MSCI ACWI ex US ▲ | 10.31 | (14.20) | 27.19 | 4.50 | (5.66) | (3.87) | 15.29 | 16.83 | (13.71) | 11.15 |

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




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



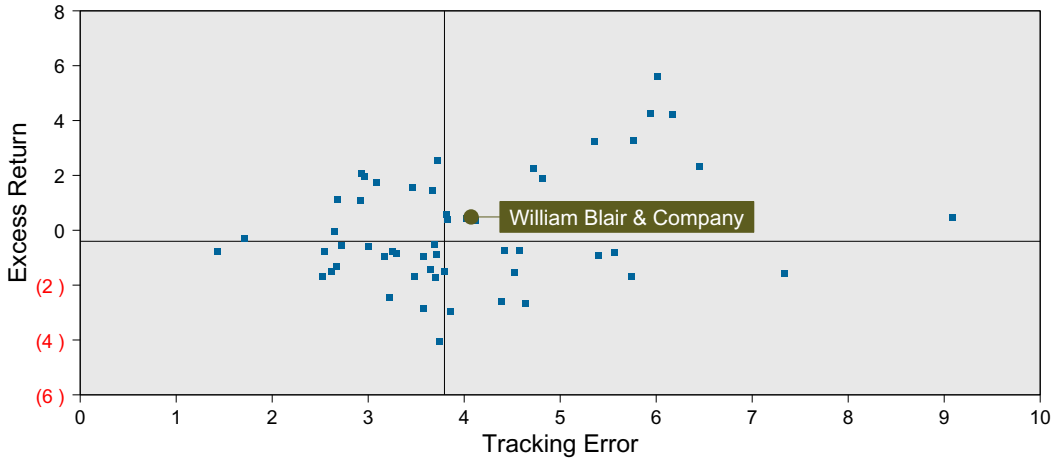

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 2.65 | 0.35 | 0.66 |
| 25th Percentile | 1.16 | 0.25 | 0.37 |
| Median | (0.31) | 0.12 | (0.14) |
| 75th Percentile | (1.27) | 0.04 | (0.33) |
| 90th Percentile | (2.20) | (0.05) | (0.59) |
| **William Blair & Company** ● | 0.47 | 0.17 | 0.12 |

# William Blair & Company
# Risk Analysis Summary

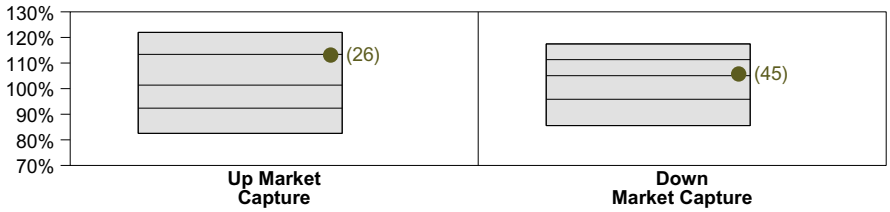
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

## Risk Analysis vs Callan Non US Equity Mutual Funds (Institutional Net)
## Five Years Ended March 31, 2019

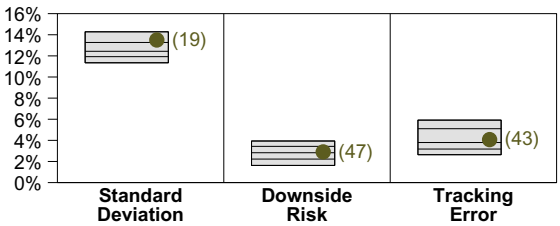


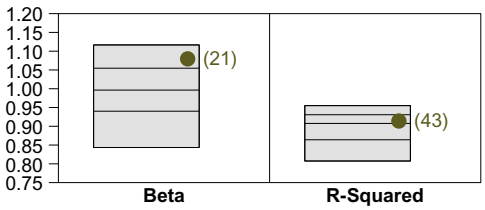

## Market Capture vs MSCI ACWI ex US Index (USD Net Div)
## Rankings Against Callan Non US Equity Mutual Funds (Institutional Net)
## Five Years Ended March 31, 2019




| | Up Market Capture | Down Market Capture |
|---|---|---|
| 10th Percentile | 121.98 | 117.47 |
| 25th Percentile | 113.39 | 111.33 |
| Median | 101.37 | 105.06 |
| 75th Percentile | 92.38 | 95.84 |
| 90th Percentile | 82.53 | 85.57 |
| **William Blair & Company** | 113.11 | 105.73 |

## Risk Statistics Rankings vs MSCI ACWI ex US Index (USD Net Div)
## Rankings Against Callan Non US Equity Mutual Funds (Institutional Net)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 14.28 | 3.94 | 5.92 |
| 25th Percentile | 13.27 | 3.43 | 5.10 |
| Median | 12.43 | 2.83 | 3.79 |
| 75th Percentile | 11.93 | 2.23 | 3.18 |
| 90th Percentile | 11.35 | 1.63 | 2.64 |
| **William Blair & Company** | 13.50 | 2.90 | 4.07 |

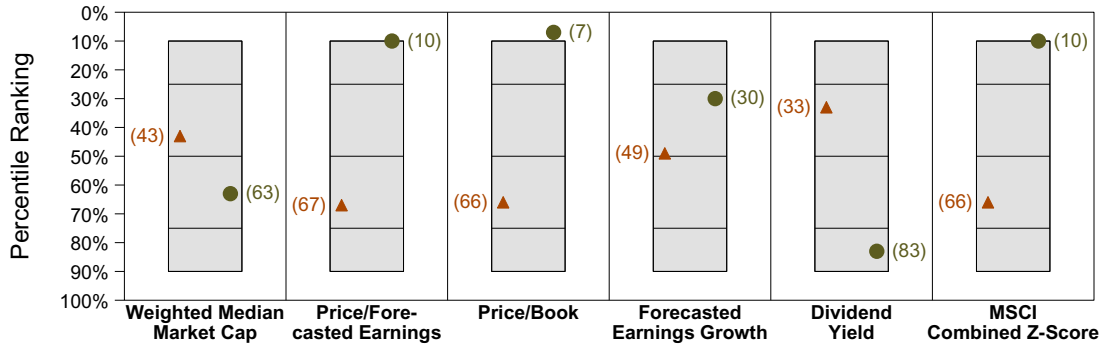
| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.12 | 0.96 |
| 25th Percentile | 1.05 | 0.93 |
| Median | 1.00 | 0.91 |
| 75th Percentile | 0.94 | 0.86 |
| 90th Percentile | 0.84 | 0.81 |
| **William Blair & Company** | 1.08 | 0.91 |

# William Blair & Company
# Equity Characteristics Analysis Summary

## Portfolio Characteristics

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

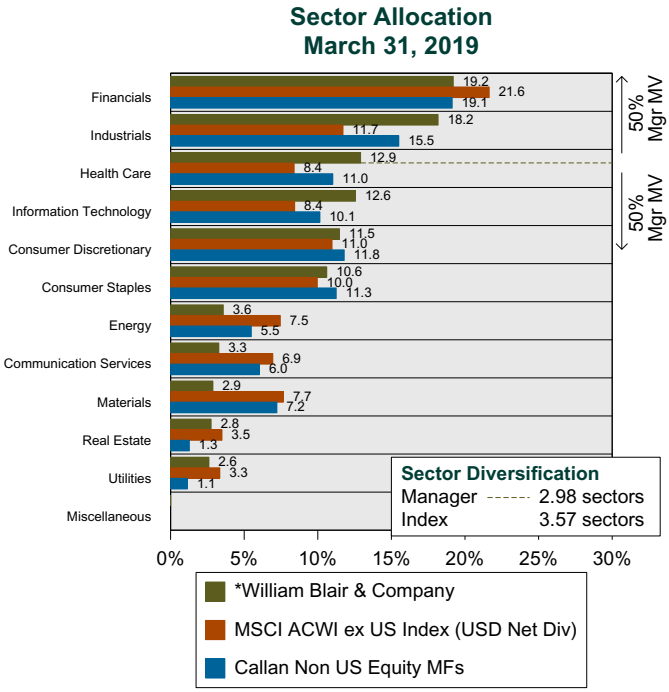
## Portfolio Characteristics Percentile Rankings
## Rankings Against Callan Non US Equity Mutual Funds
## as of March 31, 2019

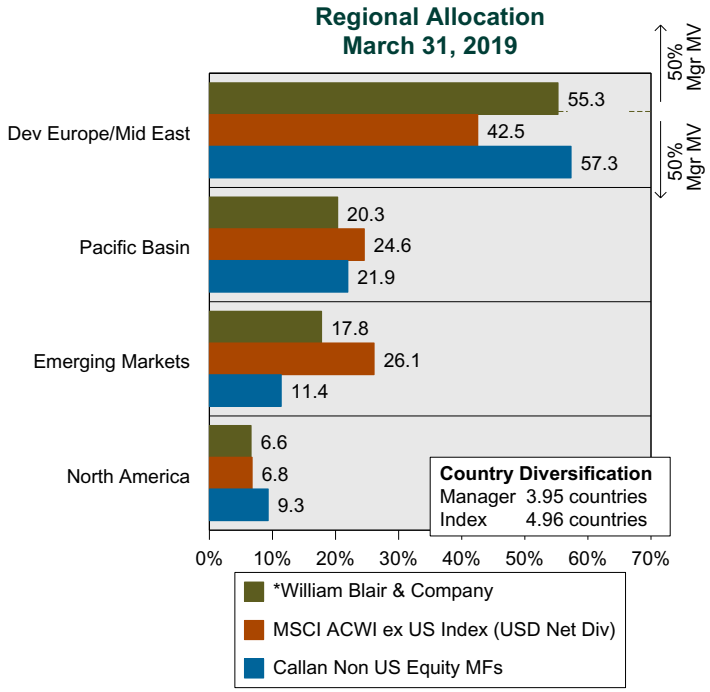



| | Weighted Median Market Cap | Price/Fore-casted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| 10th Percentile | 49.01 | 19.38 | 3.19 | 14.37 | 3.71 | 0.97 |
| 25th Percentile | 40.44 | 16.69 | 2.59 | 13.04 | 3.45 | 0.63 |
| Median | 29.68 | 14.22 | 1.91 | 10.30 | 2.78 | 0.21 |
| 75th Percentile | 21.70 | 12.62 | 1.45 | 8.88 | 2.26 | (0.23) |
| 90th Percentile | 12.34 | 11.11 | 1.18 | 8.12 | 1.76 | (0.51) |
| ***William Blair & Company** ● | 26.58 | 19.38 | 3.27 | 12.54 | 1.94 | 0.97 |
| MSCI ACWI ex US Index (USD Net Div) ▲ | 32.68 | 13.01 | 1.61 | 10.38 | 3.19 | (0.02) |

## Sector Weights

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




*3/31/19 portfolio characteristics generated using most recently available holdings (2/28/19) 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.

# William Blair & Company
# Top 10 Portfolio Holdings Characteristics
# as of March 31, 2019

## 10 Largest Holdings

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Aia Group Ltd Com Par Usd 1 | Financials | $276,134 | 2.0% | 19.91% | 120.23 | 17.87 | 1.41% | 25.04% |
| Alibaba Group Hldg Ltd Sponsored Ads | Consumer Discretionary | $256,149 | 1.8% | 33.11% | 472.94 | 27.07 | 0.00% | 24.20% |
| Novartis | Health Care | $247,936 | 1.8% | 16.42% | 245.31 | 17.32 | 2.98% | 6.92% |
| Rogers Communications Inc Cl A Conv | Consumer Staples | $241,109 | 1.7% | 6.31% | 6.02 | 22.58 | 2.65% | 10.80% |
| Compass Group Plc Ord | Consumer Discretionary | $238,270 | 1.7% | 13.66% | 37.30 | 20.84 | 2.09% | 7.25% |
| Unilever NV Cert of Shs | Consumer Staples | $236,462 | 1.7% | 8.11% | 99.69 | 19.96 | 2.99% | 7.22% |
| Airbus Se Shs | Industrials | $228,764 | 1.6% | 38.50% | 102.78 | 18.97 | 1.40% | 16.05% |
| Tencent Holdings Limited Shs Par Hkd | Communication Services | $227,646 | 1.6% | 14.67% | 437.82 | 29.73 | 0.28% | 22.04% |
| Astrazeneca Plc Ord | Health Care | $217,576 | 1.6% | 9.36% | 101.31 | 20.89 | 3.51% | 13.80% |
| Lonza Group Ag Zuerich Namen Akt | Health Care | $212,198 | 1.5% | 20.01% | 23.09 | 23.89 | 0.89% | 9.55% |

## 10 Best Performers

| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Greggs | Consumer Discretionary | $53,279 | 0.4% | 48.62% | 2.42 | 23.31 | 1.94% | 11.10% |
| Kweichow Moutai Co. A | Consumer Staples | $85,332 | 0.6% | 47.88% | 159.64 | 25.61 | 1.29% | 16.23% |
| Shimadzu Corp Shs | Information Technology | $43,927 | 0.3% | 46.50% | 8.56 | 26.35 | 0.81% | 10.92% |
| Li Ning Company Limited Shs | Consumer Discretionary | $42,846 | 0.3% | 46.28% | 3.44 | 24.52 | 0.83% | 35.60% |
| Technopro Holdings | Industrials | $59,820 | 0.4% | 44.12% | 2.16 | 22.21 | 1.82% | 7.25% |
| Fevertree Drinks | Consumer Staples | $35,075 | 0.3% | 40.46% | 4.57 | 48.33 | 0.48% | 22.29% |
| Neste Oil | Energy | $128,832 | 0.9% | 38.53% | 27.35 | 18.17 | 2.40% | 10.90% |
| Airbus Se Shs | Industrials | $228,764 | 1.6% | 38.50% | 102.78 | 18.97 | 1.40% | 16.05% |
| Aveva Group Plc Shs New | Information Technology | $38,974 | 0.3% | 37.22% | 6.78 | 33.31 | 1.27% | 12.59% |
| Nihon M & A Center Inc Shs | Industrials | $39,063 | 0.3% | 35.98% | 4.49 | 42.90 | 0.76% | 26.02% |

## 10 Worst Performers

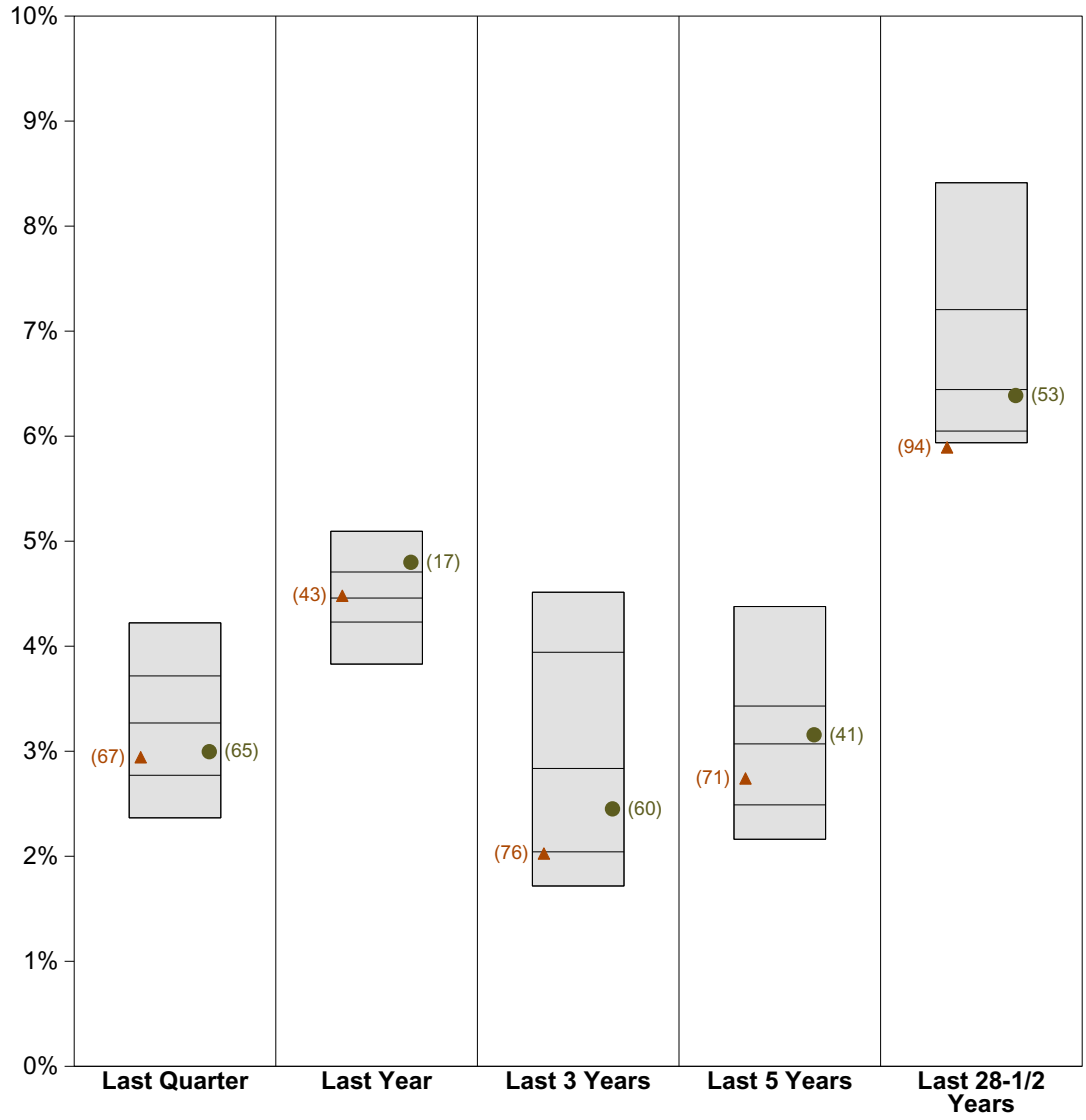
| Stock | Sector | Ending Market Value | Percent of Portfolio | Qtrly Return | Market Capital | Price/ Forecasted Earnings Ratio | Dividend Yield | Forecasted Growth in Earnings |
|---|---|---|---|---|---|---|---|---|
| Costa Group Holdings Ltd Common Stoc | Consumer Staples | $12,825 | 0.1% | (29.43)% | 1.17 | 21.11 | 3.75% | 23.74% |
| Green Cross Coa Co. | Consumer Staples | $14,916 | 0.1% | (24.58)% | 3.56 | 18.65 | 1.12% | 9.76% |
| Mr Price Group Ltd Shs | Consumer Discretionary | $18,821 | 0.1% | (23.20)% | 3.37 | 15.00 | 3.52% | 11.25% |
| Nmc Health | Health Care | $18,479 | 0.1% | (14.59)% | 6.20 | 15.88 | 0.79% | 33.50% |
| Pt Astra International Tbk Shs New | Consumer Discretionary | $32,735 | 0.2% | (11.43)% | 20.82 | 12.44 | 2.59% | 9.88% |
| Topcon Corp Ord | Information Technology | $21,144 | 0.2% | (10.68)% | 1.28 | 17.64 | 1.68% | (9.97)% |
| Renishaw Plc Ord .10 Par | Information Technology | $20,427 | 0.1% | (10.27)% | 3.52 | 21.67 | 1.62% | 5.30% |
| Monotaro Co Ltd Osaka Shs | Industrials | $27,080 | 0.2% | (10.23)% | 5.57 | 49.96 | 0.53% | 17.15% |
| Maruti Udyog | Consumer Discretionary | $45,263 | 0.3% | (9.92)% | 29.10 | 22.45 | 1.20% | 6.29% |
| Motherson Sumi Sys. | Consumer Discretionary | $17,670 | 0.1% | (9.58)% | 6.82 | 18.95 | 1.00% | 20.08% |

*3/31/19 portfolio characteristics generated using most recently available holdings (2/28/19) 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.

# City of Fort Pierce
# Performance vs Public Fund - Domestic Fixed
# Periods Ended March 31, 2019

## Return Ranking

The chart below illustrates fund rankings over various periods versus the Public Fund - Domestic Fixed. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Public Fund - Domestic Fixed. 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.

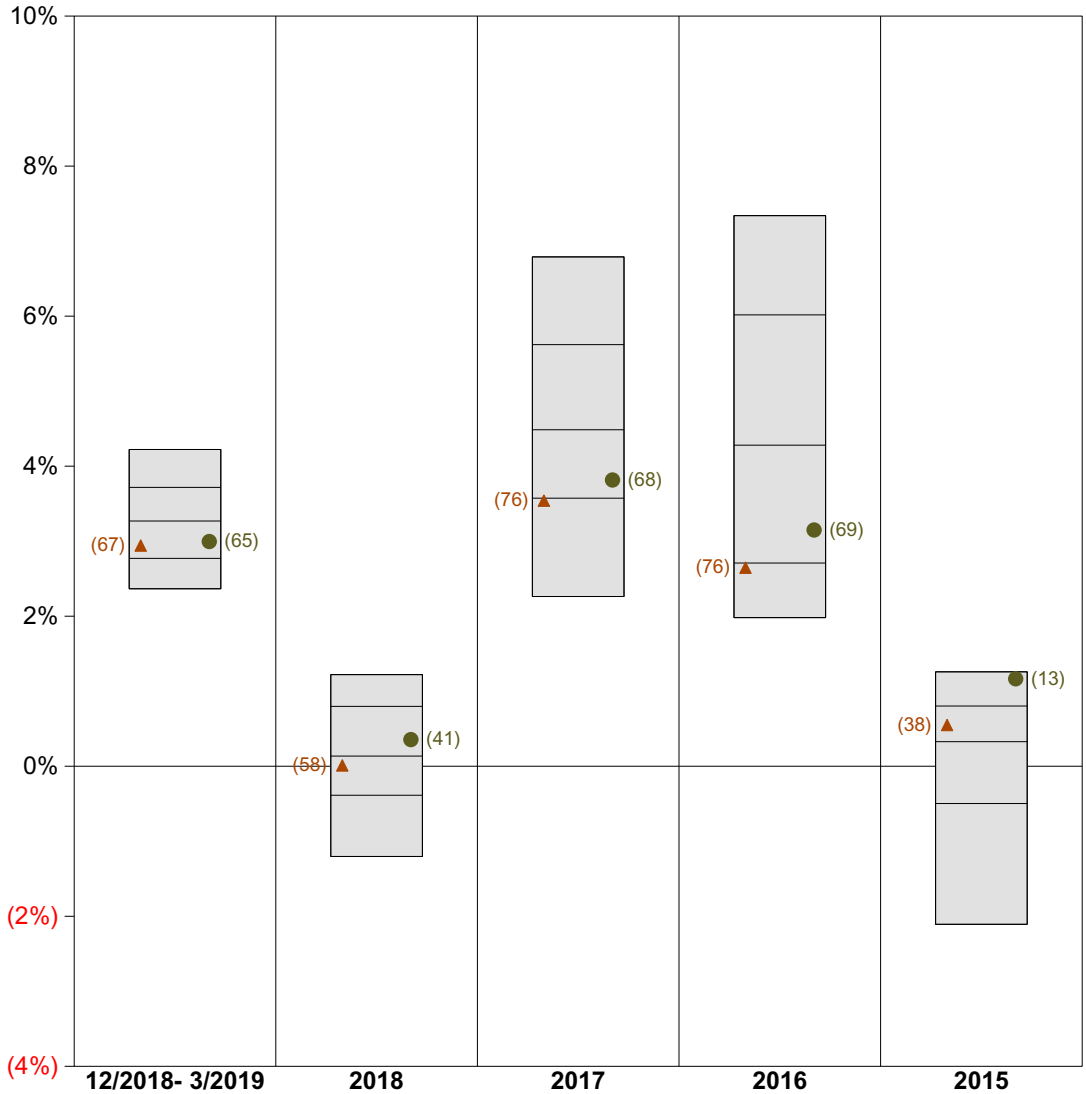



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 28-1/2 Years |
|---|---|---|---|---|---|
| 10th Percentile | 4.22 | 5.09 | 4.51 | 4.38 | 8.41 |
| 25th Percentile | 3.72 | 4.71 | 3.94 | 3.43 | 7.21 |
| Median | 3.27 | 4.46 | 2.84 | 3.07 | 6.44 |
| 75th Percentile | 2.77 | 4.23 | 2.04 | 2.49 | 6.05 |
| 90th Percentile | 2.37 | 3.83 | 1.72 | 2.16 | 5.94 |
| **Domestic Fixed Income** ● | 3.00 | 4.80 | 2.45 | 3.16 | 6.39 |
| Domestic FI Benchmark ▲ | 2.94 | 4.48 | 2.03 | 2.74 | 5.89 |

## City of Fort Pierce
## Performance vs Public Fund - Domestic Fixed
## Recent Periods

### Return Ranking

The chart below illustrates fund rankings over various periods versus the Public Fund - Domestic Fixed. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Public Fund - Domestic Fixed. 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.




| | 12/2018- 3/2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|
| 10th Percentile | 4.22 | 1.22 | 6.79 | 7.34 | 1.26 |
| 25th Percentile | 3.72 | 0.80 | 5.62 | 6.02 | 0.80 |
| Median | 3.27 | 0.14 | 4.49 | 4.28 | 0.33 |
| 75th Percentile | 2.77 | (0.39) | 3.57 | 2.71 | (0.50) |
| 90th Percentile | 2.37 | (1.20) | 2.26 | 1.98 | (2.11) |
| **Domestic Fixed Income** ● | 3.00 | 0.36 | 3.82 | 3.15 | 1.17 |
| Domestic FI Benchmark ▲ | 2.94 | 0.01 | 3.54 | 2.65 | 0.55 |

# Richmond Capital Management
# Period Ended March 31, 2019

## Investment Philosophy

Richmond's investment philosophy is that superior returns can be achieved, over time, by focusing on value. They acknowledge that it is not always possible to predict short term movement in the financial markets. However, they believe that it is possible, through careful analysis and security selection, to choose securities which will provide superior returns over market cycles. Their search for value as always overlaid by a focus on yield (income). They believe that bond portfolios which are composed of undervalued securities and additional yield have a strong bias to provide superior returns over time. *** Blmbg Gov/Credit Bond Index through May 31, 2013 and Blmbg Aggregate Index thereafter.**

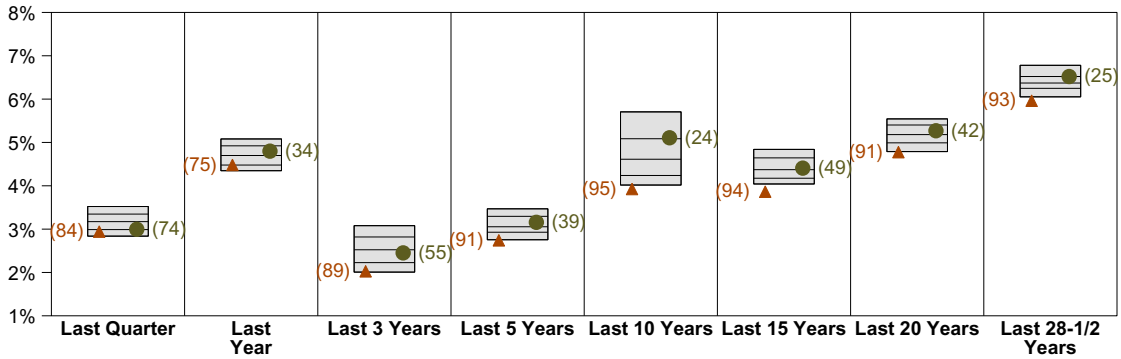
## Quarterly Summary and Highlights

- Richmond Capital Management's portfolio posted a 3.00% return for the quarter placing it in the 74 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 34 percentile for the last year.
- Richmond Capital Management's portfolio outperformed the Blended Benchmark* by 0.05% for the quarter and outperformed the Blended Benchmark* for the year by 0.32%.

## Quarterly Asset Growth

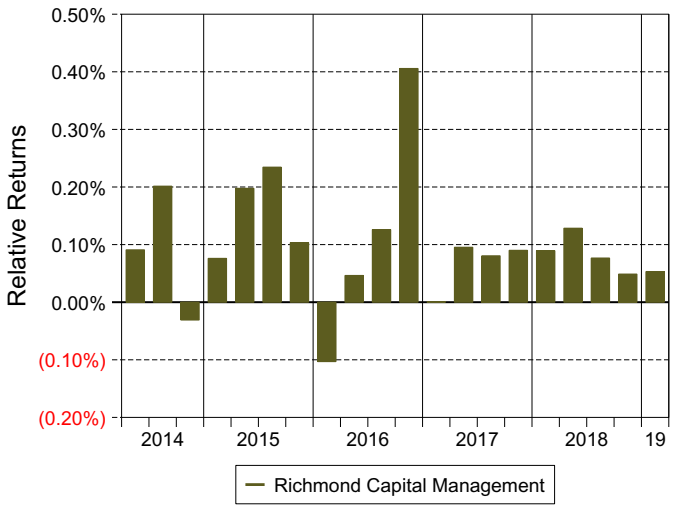
| | |
|---|---|
| Beginning Market Value | $46,501,332 |
| Net New Investment | $-34,928 |
| Investment Gains/(Losses) | $1,392,218 |
| Ending Market Value | $47,858,622 |

## Performance vs Callan Core Bond Fixed Income (Gross)

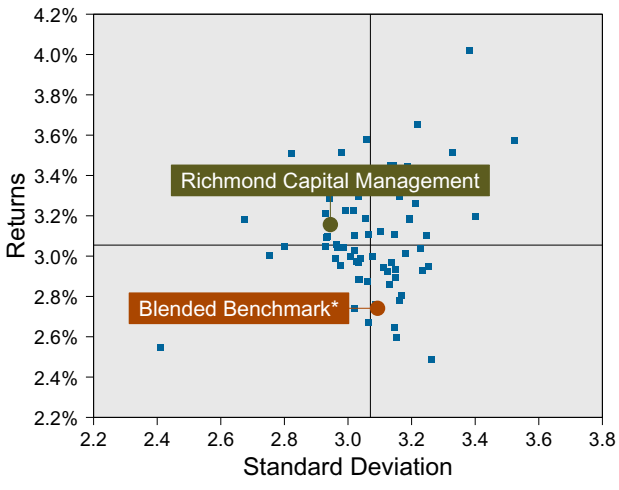



| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years | Last 20 Years | Last 28-1/2 Years |
|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 3.52 | 5.08 | 3.08 | 3.47 | 5.71 | 4.84 | 5.54 | 6.78 |
| 25th Percentile | 3.35 | 4.92 | 2.82 | 3.30 | 5.09 | 4.64 | 5.40 | 6.52 |
| Median | 3.17 | 4.70 | 2.52 | 3.05 | 4.61 | 4.37 | 5.18 | 6.37 |
| 75th Percentile | 2.99 | 4.48 | 2.23 | 2.93 | 4.24 | 4.17 | 4.99 | 6.25 |
| 90th Percentile | 2.84 | 4.35 | 2.01 | 2.76 | 4.02 | 4.04 | 4.79 | 6.05 |
| **Richmond Capital Management** ● | 3.00 | 4.80 | 2.45 | 3.16 | 5.11 | 4.41 | 5.27 | 6.52 |
| Blended Benchmark* ▲ | 2.94 | 4.48 | 2.03 | 2.74 | 3.93 | 3.86 | 4.78 | 5.96 |

## Relative Return vs Blended Benchmark*




## Callan Core Bond Fixed Income (Gross) Annualized Five Year Risk vs Return

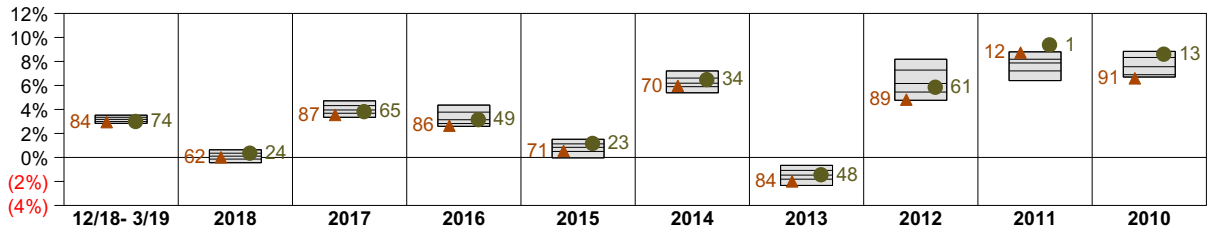


# Richmond Capital Management
# Return Analysis Summary

## Return Analysis

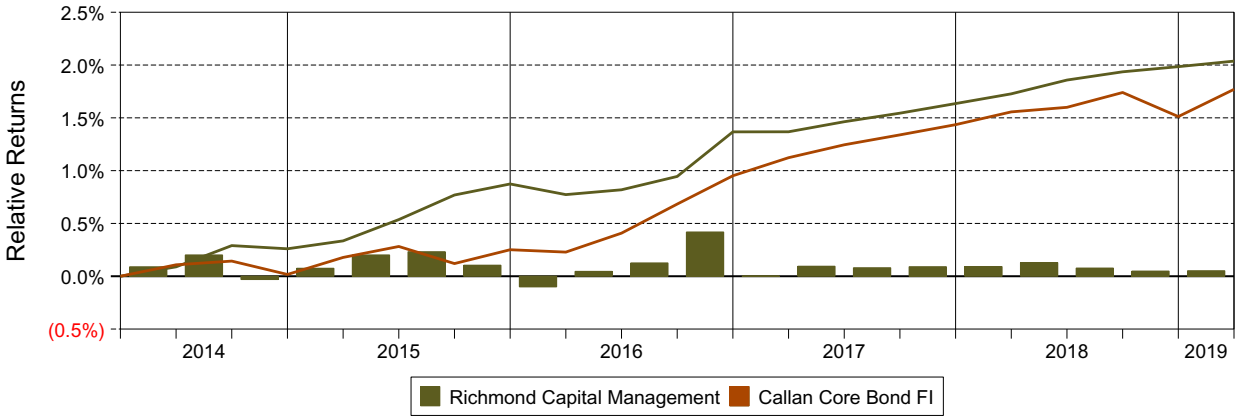
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate 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 Fixed Income (Gross)

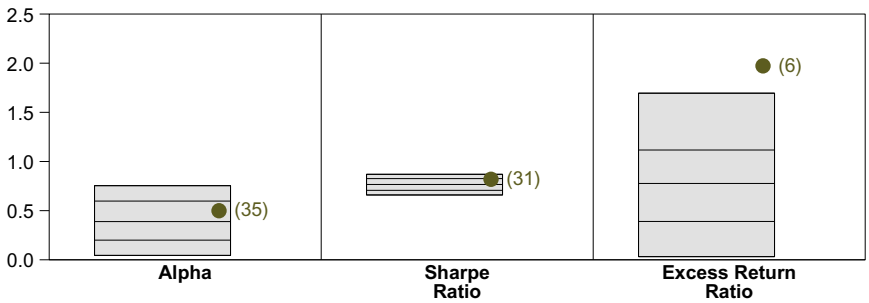



| | 12/18- 3/19 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 3.52 | 0.64 | 4.72 | 4.36 | 1.51 | 7.21 | (0.66) | 8.18 | 8.80 | 8.84 |
| 25th Percentile | 3.35 | 0.35 | 4.32 | 3.78 | 1.13 | 6.61 | (1.08) | 7.28 | 8.18 | 8.33 |
| Median | 3.17 | 0.11 | 3.96 | 3.14 | 0.84 | 6.19 | (1.47) | 6.16 | 7.87 | 7.56 |
| 75th Percentile | 2.99 | (0.14) | 3.68 | 2.83 | 0.50 | 5.90 | (1.81) | 5.45 | 7.21 | 6.89 |
| 90th Percentile | 2.84 | (0.44) | 3.34 | 2.59 | (0.04) | 5.39 | (2.33) | 4.76 | 6.40 | 6.70 |
| **Richmond Capital Management** ● | 3.00 | 0.36 | 3.82 | 3.15 | 1.17 | 6.48 | (1.44) | 5.85 | 9.38 | 8.60 |
| Blended Benchmark ▲ | 2.94 | 0.01 | 3.54 | 2.65 | 0.55 | 5.97 | (2.00) | 4.82 | 8.74 | 6.59 |

## Cumulative and Quarterly Relative Return vs Blended Benchmark




## Risk Adjusted Return Measures vs Blended Benchmark
## Rankings Against Callan Core Bond Fixed Income (Gross)
## Five Years Ended March 31, 2019



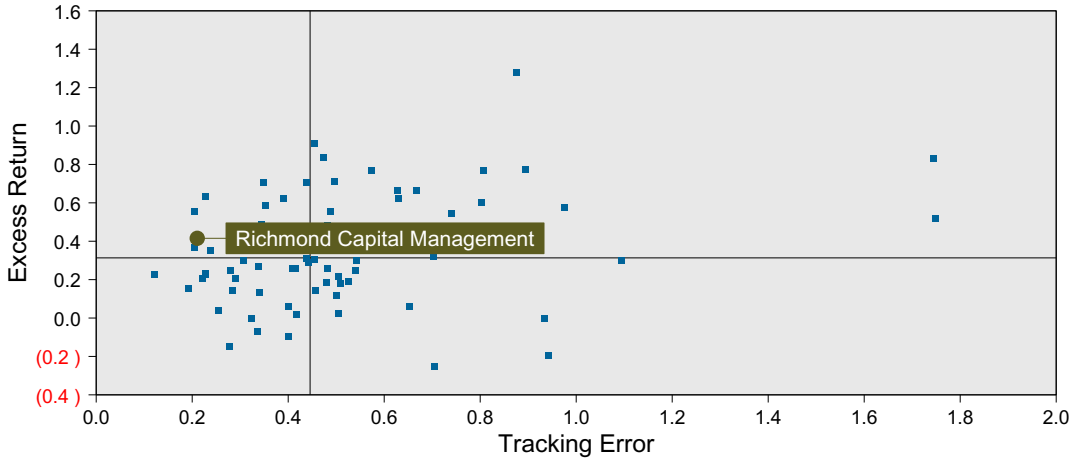

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 0.75 | 0.87 | 1.69 |
| 25th Percentile | 0.60 | 0.83 | 1.12 |
| Median | 0.39 | 0.77 | 0.78 |
| 75th Percentile | 0.20 | 0.71 | 0.39 |
| 90th Percentile | 0.04 | 0.66 | 0.03 |
| **Richmond Capital Management** ● | 0.50 | 0.82 | 1.97 |

# Richmond Capital Management
# Risk Analysis Summary

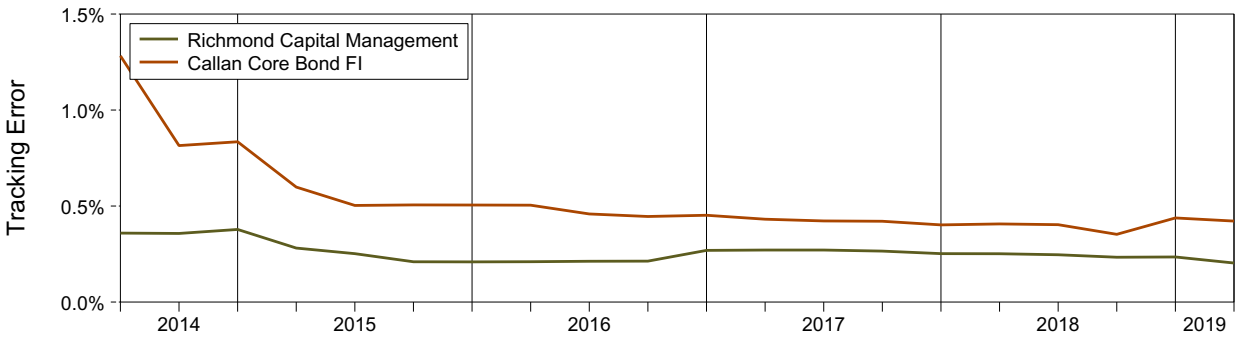
## Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

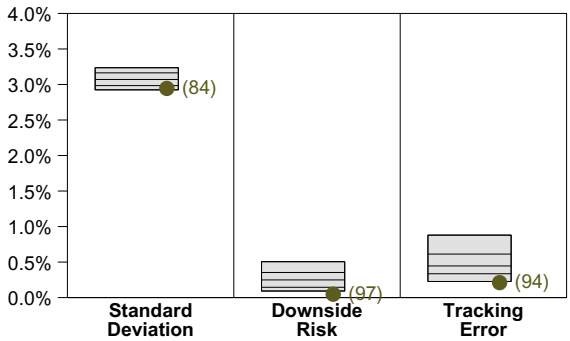
## Risk Analysis vs Callan Core Bond Fixed Income (Gross)
## Five Years Ended March 31, 2019



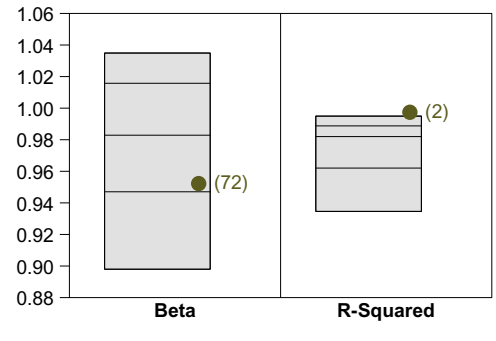

## Rolling 12 Quarter Tracking Error vs Blended Benchmark




## Risk Statistics Rankings vs Blended Benchmark
## Rankings Against Callan Core Bond Fixed Income (Gross)
## Five Years Ended March 31, 2019




| | Standard Deviation | Downside Risk | Tracking Error |
|---|---|---|---|
| 10th Percentile | 3.24 | 0.51 | 0.88 |
| 25th Percentile | 3.16 | 0.35 | 0.61 |
| Median | 3.07 | 0.25 | 0.45 |
| 75th Percentile | 2.98 | 0.15 | 0.34 |
| 90th Percentile | 2.92 | 0.09 | 0.23 |
| **Richmond Capital Management** ● | 2.94 | 0.05 | 0.21 |



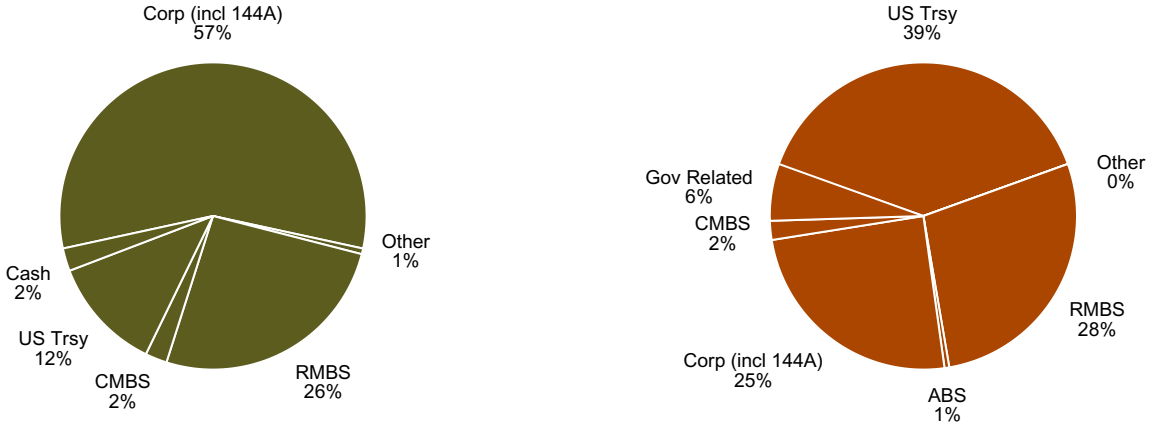

| | Beta | R-Squared |
|---|---|---|
| 10th Percentile | 1.03 | 0.99 |
| 25th Percentile | 1.02 | 0.99 |
| Median | 0.98 | 0.98 |
| 75th Percentile | 0.95 | 0.96 |
| 90th Percentile | 0.90 | 0.93 |
| **Richmond Capital Management** ● | 0.95 | 1.00 |

# Richmond Capital Management
# Portfolio Characteristics Summary
# As of March 31, 2019

## Portfolio Structure Comparison

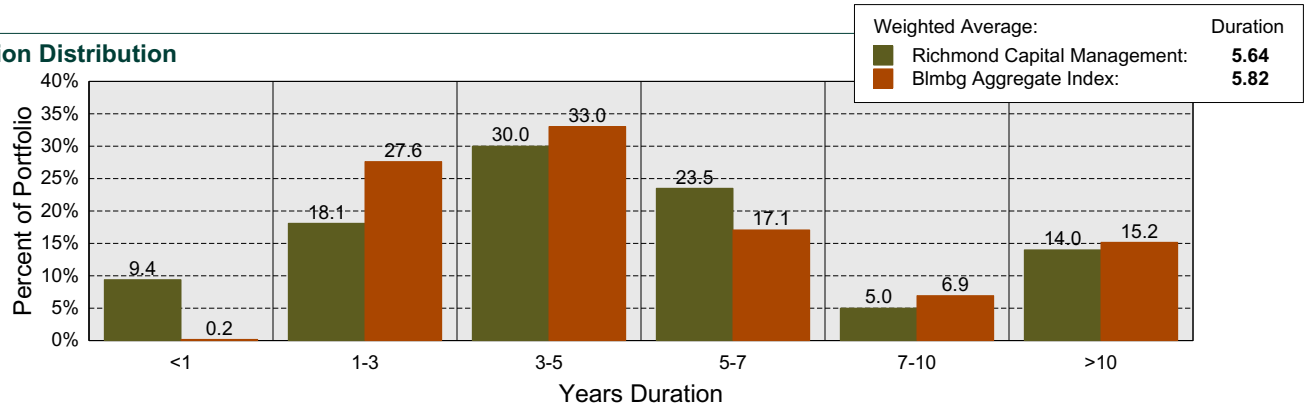
The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

### Sector Allocation

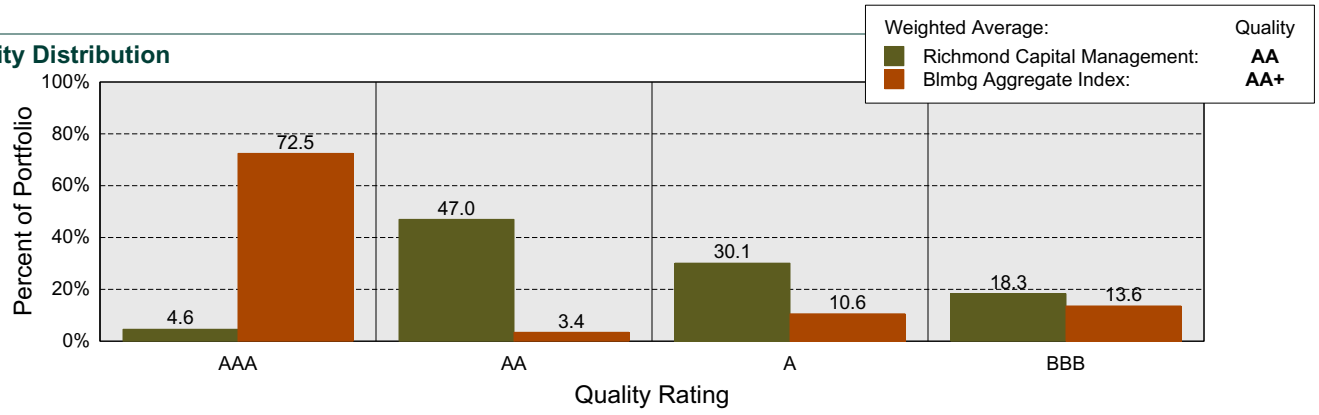



**Richmond Capital Management** | **Blmbg Aggregate Index**

### Duration Distribution




### Quality Distribution

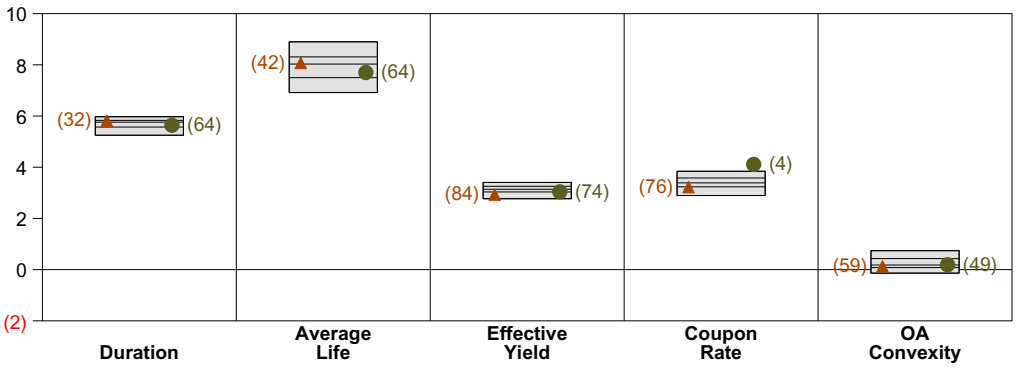


# Richmond Capital Management
# Bond Characteristics Analysis Summary

## Portfolio Characteristics

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

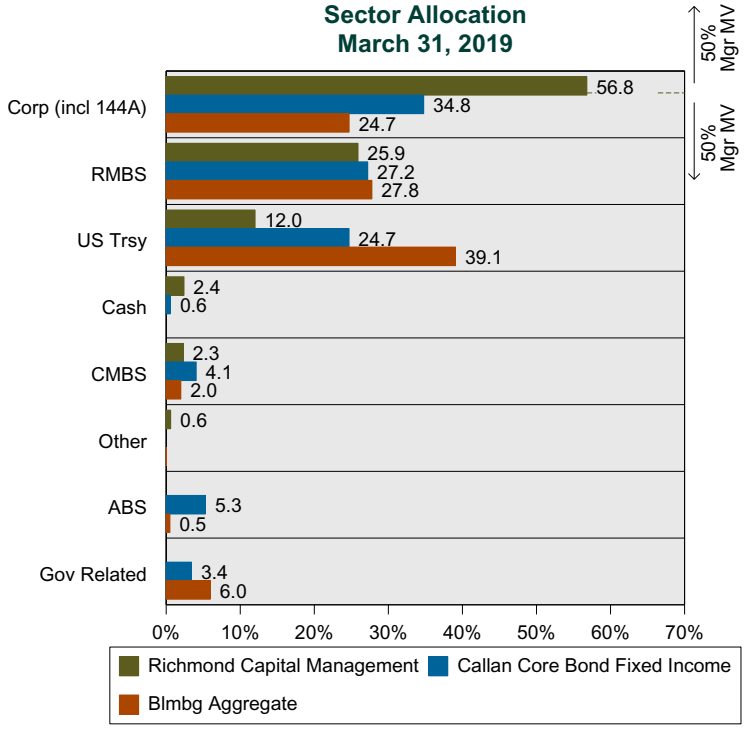
## Fixed Income Portfolio Characteristics
## Rankings Against Callan Core Bond Fixed Income
## as of March 31, 2019

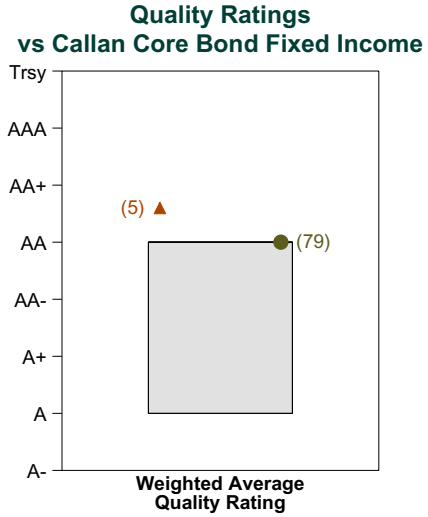



| | Duration | Average Life | Effective Yield | Coupon Rate | OA Convexity |
|---|---|---|---|---|---|
| 10th Percentile | 5.97 | 8.90 | 3.41 | 3.84 | 0.74 |
| 25th Percentile | 5.83 | 8.31 | 3.26 | 3.58 | 0.43 |
| Median | 5.76 | 8.03 | 3.14 | 3.39 | 0.18 |
| 75th Percentile | 5.57 | 7.50 | 3.03 | 3.24 | 0.08 |
| 90th Percentile | 5.25 | 6.92 | 2.77 | 2.89 | (0.14) |
| **Richmond Capital Management** ● | 5.64 | 7.70 | 3.04 | 4.11 | 0.19 |
| Blmbg Aggregate ▲ | 5.82 | 8.07 | 2.93 | 3.23 | 0.13 |

## 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.




| | Weighted Average Quality Rating |
|---|---|
| 10th Percentile | AA |
| 25th Percentile | AA |
| Median | AA |
| 75th Percentile | AA |
| 90th Percentile | A |
| **Richmond Capital Management** ● | AA |
| Blmbg Aggregate ▲ | AA+ |

# Heitman
# Period Ended March 31, 2019

## Investment Philosophy

Heitman America Real Estate Trust, L.P. is a Delaware limited partnership, organized as a perpetual-life, core open-ended commingled fund to invest in real estate assets. The Fund seeks to deliver to its investors a combination of current income return and moderate appreciation. In acquiring individual assets for HART, Heitman adheres to the following principles: Buy in major markets and build a portfolio that is diversified by property type, economic exposure and geography. Buy assets with strong site attributes, such as proximity to amenities, complementary land uses and transportation networks. Buy well-constructed assets with features that will continue to appeal to tenants over long periods of time.

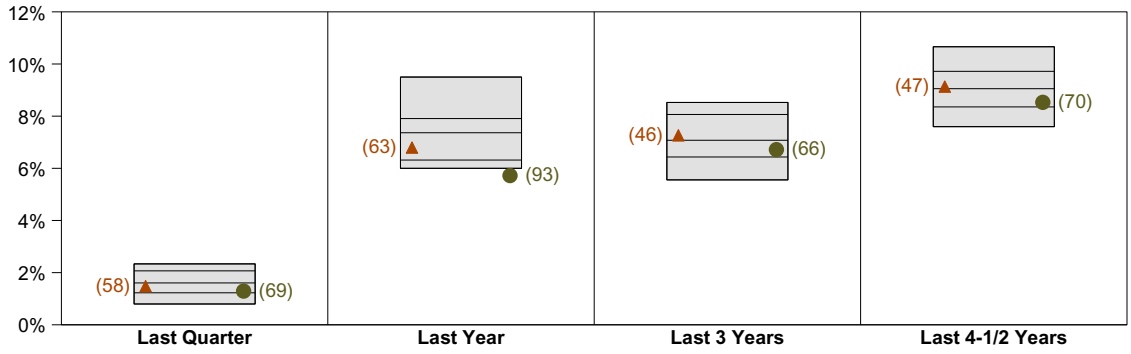
## Quarterly Summary and Highlights

- Heitman's portfolio posted a 1.29% return for the quarter placing it in the 69 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 93 percentile for the last year.
- Heitman's portfolio underperformed the NCREIF NFI-ODCE Eq Wt Net by 0.19% for the quarter and underperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 1.08%.

## Quarterly Asset Growth

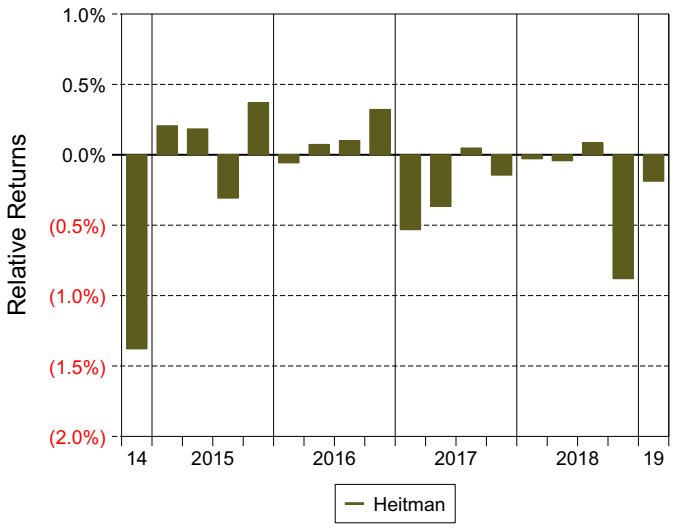
| | |
|---|---|
| Beginning Market Value | $20,395,692 |
| Net New Investment | $0 |
| Investment Gains/(Losses) | $263,646 |
| Ending Market Value | $20,659,338 |

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

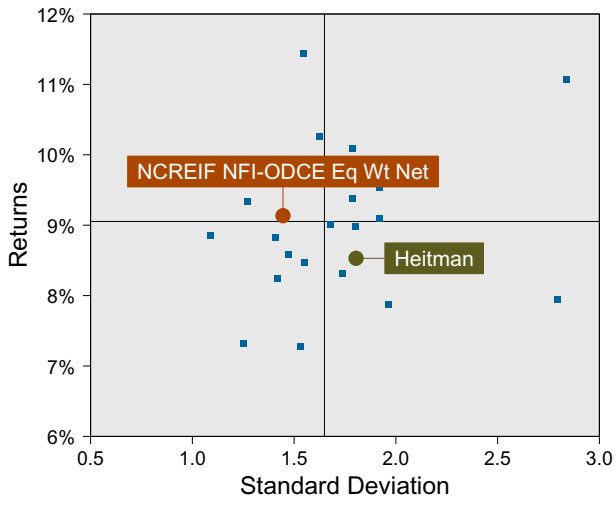



| | Last Quarter | Last Year | Last 3 Years | Last 4-1/2 Years |
|---|---|---|---|---|
| 10th Percentile | 2.34 | 9.50 | 8.53 | 10.66 |
| 25th Percentile | 2.07 | 7.91 | 8.06 | 9.72 |
| Median | 1.61 | 7.36 | 7.08 | 9.05 |
| 75th Percentile | 1.23 | 6.32 | 6.43 | 8.35 |
| 90th Percentile | 0.80 | 6.00 | 5.56 | 7.60 |
| **Heitman** ● | 1.29 | 5.72 | 6.72 | 8.53 |
| NCREIF NFI-ODCE Eq Wt Net ▲ | 1.48 | 6.80 | 7.26 | 9.14 |

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




### Callan Open End Core Cmmingled Real Est (Net) Annualized Four and One-Half Year Risk vs Return

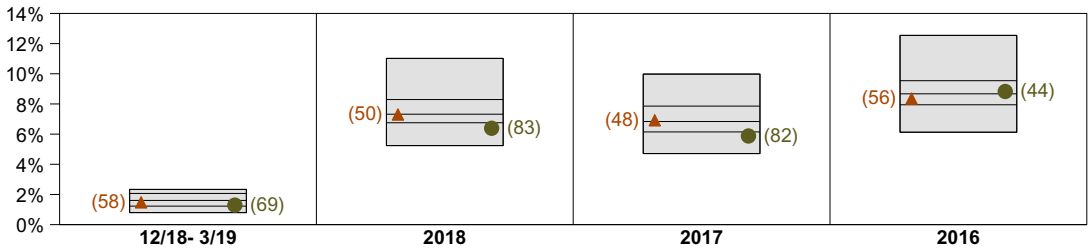


# Heitman
# Return Analysis Summary

## Return Analysis

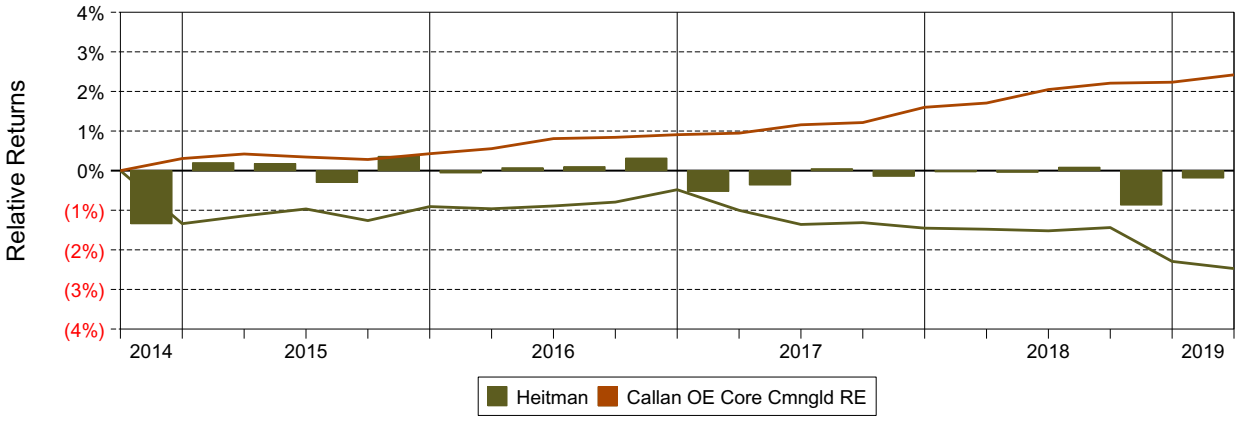
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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

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

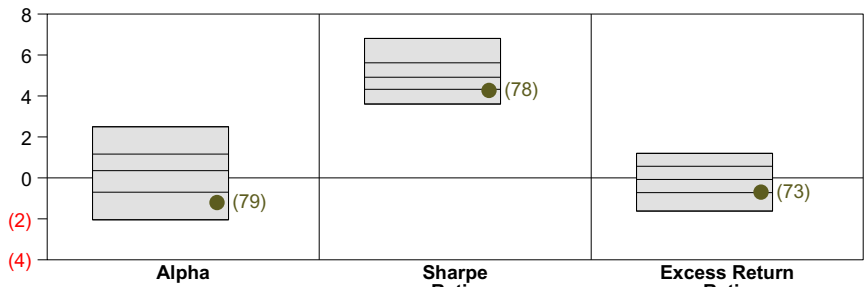



| | 12/18- 3/19 | 2018 | 2017 | 2016 |
|---|---|---|---|---|
| 10th Percentile | 2.34 | 11.02 | 9.98 | 12.55 |
| 25th Percentile | 2.07 | 8.29 | 7.86 | 9.54 |
| Median | 1.61 | 7.32 | 6.84 | 8.67 |
| 75th Percentile | 1.23 | 6.75 | 6.15 | 7.95 |
| 90th Percentile | 0.80 | 5.24 | 4.71 | 6.13 |
| **Heitman** ● | 1.29 | 6.39 | 5.88 | 8.83 |
| NCREIF NFI-ODCE Eq Wt Net ▲ | 1.48 | 7.30 | 6.92 | 8.36 |

## Cumulative and Quarterly Relative Return vs NCREIF NFI-ODCE Eq Wt Net




## Risk Adjusted Return Measures vs NCREIF NFI-ODCE Eq Wt Net
## Rankings Against Callan Open End Core Cmmingled Real Est (Net)
## Four and One-Half Years Ended March 31, 2019



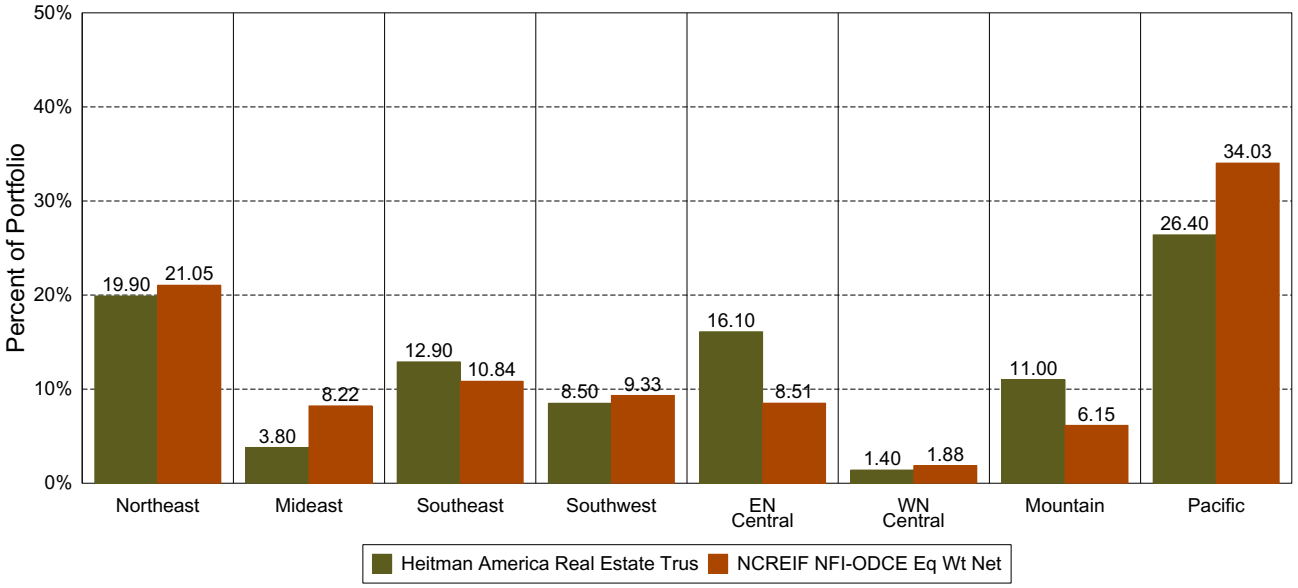

| | Alpha | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 2.50 | 6.81 | 1.20 |
| 25th Percentile | 1.16 | 5.62 | 0.57 |
| Median | 0.35 | 4.91 | (0.08) |
| 75th Percentile | (0.70) | 4.32 | (0.72) |
| 90th Percentile | (2.05) | 3.61 | (1.62) |
| **Heitman** ● | (1.20) | 4.27 | (0.69) |

# Heitman America Real Estate Trust
# Diversification Analysis as of March 31, 2019

## Diversification Analysis

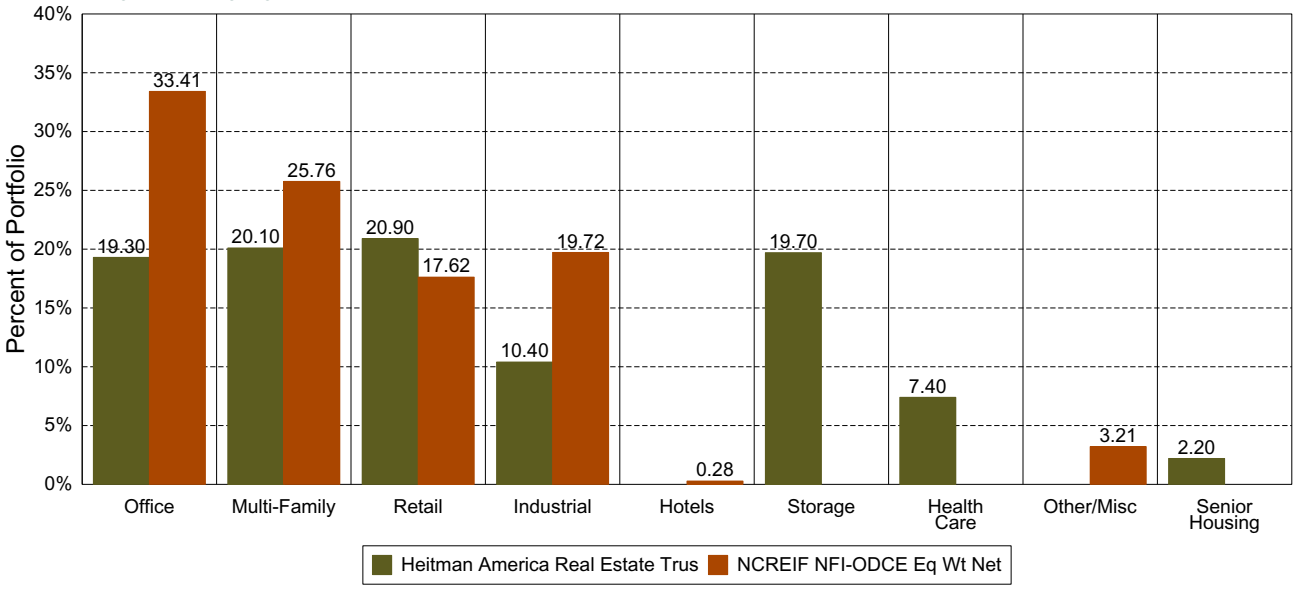
The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Property Type. Similar information is provided on the relevant market index for comparison.

## Diversification by Geographic Region as of March 31, 2019




| | Northeast | Mideast | Southeast | Southwest | EN Central | WN Central | Mountain | Pacific |
|---|---|---|---|---|---|---|---|---|
| **Heitman America Real Estate Trust** | **19.90%** | **3.80%** | **12.90%** | **8.50%** | **16.10%** | **1.40%** | **11.00%** | **26.40%** |
| NCREIF NFI-ODCE Eq Wt Net | 21.05% | 8.22% | 10.84% | 9.33% | 8.51% | 1.88% | 6.15% | 34.03% |

## Diversification by Property Type as of March 31, 2019




| | Office | Multi-Family | Retail | Industrial | Hotels | Storage | Health Care | Other/Misc | Senior Housing |
|---|---|---|---|---|---|---|---|---|---|
| **Heitman America Real Estate Trust** | **19.30%** | **20.10%** | **20.90%** | **10.40%** | **0.00%** | **19.70%** | **7.40%** | **0.00%** | **2.20%** |
| NCREIF NFI-ODCE Eq Wt Net | 33.41% | 25.76% | 17.62% | 19.72% | 0.28% | 0.00% | 0.00% | 3.21% | 0.00% |

Definitions

## Equity Market Indicators

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

**Russell 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 Index** is composed of the 2000 smallest stocks in the Russell 3000 Index, representing approximately 11% of the U.S. equity market capitalization.

**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.

**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.

**Standard & Poor's MidCap Index** is a composite of 400 medium-capitalization, domestic common stocks. Stocks in this index are not included in the Standard & Poor's 500 Index. The index is capitalization-weighted.

## International 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.

**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.

**Morgan Stanley Capital Intl (MSCI) Emerging Markets Free Index** is composed of about 549 equity securities representing the stock exchanges of 13 countries in Central Asia and the Far East, Latin America, Europe, and the Middle East. Only 20% of Korea's market capitalization is included in this index. The index is market capitalization-weighted and is expressed in terms of U.S. dollars.

## Fixed Income 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.

**90-Day U.S. Treasury Bills** provide a measure of riskless return. The rate of return is the average interest rate available on the beginning of each month for a Treasury Bill maturing in ninety days.

**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.

**Bloomberg Barclays Capital Govt/Credit Bond Index** is a composite of all publicly issued, fixed rate, non-convertible, domestic bonds. The issues are rated at least BBB, have a minimum outstanding principal of $100 million for U.S. Government issues or $50 million for other bonds, and have a maturity of at least one year. The index is capitalization-weighted.

## International Fixed Income 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.

**CitiGroup Non-U.S. Dollar World Government Bond Index** is composed of the CitiGroup World Government Bond Index excluding U.S. bonds. The index includes all fixed-rate government bonds in 10 countries having remaining maturities of one year or longer with amounts outstanding of at least the equivalent of US$ 100 million. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

## General Price Level 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.

**Consumer Price Index** is a measure of the average change in prices for a fixed market basket of goods and services. This market basket is based on the spending patterns of urban wage earners and clerical workers, who represent 40 percent of the total civilian population.

## 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 International Equity Style** Managers whose portfolio holdings and characteristics are similar to that of the broader developed market as represented by the MSCI EAFE Index, with the objective of adding value over and above the index, typically from country, sector, or issue selection. The Core portfolio is broadly diversified and exhibits similar risk characteristics to the developed market as measured by low residual risk with Beta and R-Squared values close to 1.00 and combined growth and value z-score values close to 0. Exposure to emerging markets and smaller capitalization stocks is limited.

**Domestic Equity Database** - The Domestic Equity Database is a broad collection of actively managed separate account domestic equity products.

**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.

### Fixed Income Funds

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

**Domestic Fixed-Income Database** - The Domestic Fixed-Income Database is a broad collection of separate account domestic fixed-income products.

**International Non-U.S. Dollar Fixed-Income** - The International Non-U.S. Dollar Fixed-Income Database consists of all separate account international fixed-income funds that do not generally invest in U.S. fixed-income securities.

### Balanced Funds

Balanced funds diversify their investments among common stocks, bonds, preferred stocks and money market securities. The funds included maintain well-diversified equity and fixed income portfolios.

**Domestic Balanced Database** - The Domestic Balanced Database consists of all separate account domestic balanced funds.

## Common Stock Portfolio Characteristics

All Portfolio Characteristics are derived by first calculating the characteristics for each security, and then calculating the weighted average of these values for the portfolio.

**Dividend Yield** - The total amount of dividends paid out for a stock over the preceding twelve months divided by the closing price of a share of the common stock.

**Five Year Beta** - Beta measures the sensitivity of rates of return on a fund to general market movements. As such, the Beta for a portfolio is a reflection of the risk of the securities in the portfolio as compared to the broader market. This value is a composite of the individual Beta values within a portfolio. The Beta computation is based on the weighted average of the five year historical Betas of each security in a portfolio.

**Growth in Dividends** - This value represents a weighted average five year annual growth rate of dividends per common stock share. The rates of growth in dividends for trailing twelve month periods are calculated using the dividend-per-share values for each time period. The five-year growth in dividends figure is calculated for each security in a portfolio. From these individual values, a weighted average value is calculated for the portfolio. The number of shares in each time period is adjusted to reflect any splits, mergers, or other capital changes. In this case, dividends are ex-dividends, meaning that the dividend has been declared and a buyer of the stock after the ex-dividend date does not receive the dividend.

**Growth in Earnings** - This value represents a weighted average five year annual growth rate of earnings per common stock share. The rates of growth in earnings for trailing twelve month periods are calculated using the earnings-per-share values for each time period. The five-year growth in earnings figure is calculated for each security in a portfolio. From these individual values, a weighted average value is calculated for the portfolio. The number of shares in each time period is adjusted to reflect any splits, mergers, or other capital changes. In this case, the earnings per share is fully diluted and excludes extraordinary items and discontinued operations. Fully diluted earnings per share are earnings that are reduced, or diluted, by assuming the conversion of all securities that are convertible into equities.

**Issue Diversification** - A measure of portfolio concentration in individual issues (securities). This number represents how many different securities (names) comprise the most concentrated half of the portfolio assets (half of the assets are in how many names?). This measure is useful in evaluating the concentration/diversification of portfolios made up of many issues but concentrated in a small subset of those issues (e.g. 100 stocks with 50% of assets in 10 stocks, Issue Diversification = 10).

**Number of Securities** - This is a simple portfolio diversification measure representing the number of unique non-cash securities (names) currently held in the portfolio. This measure does not address potential concentration of assets within these securities (see Issue Concentration).

**Price/Book Value** - The Price to Book Value is a measure of value for a company. It is equal to the market value of all the shares of common stock divided by the book value of the company. The book value is the sum of capital surplus, common stock, and retained earnings.

**Price/Earnings Ratio** - The Price to Earnings Ratio (P/E) is a measure of value for a company. It is equal to the price of a share of common stock divided by the earnings per share for a twelve-month period.

**Return on Assets** - Return on Assets is a measure of a company's profitability, specifically relating profits to the total investments required to achieve the profits. It is equal to income divided by total assets. Income is after all expenses, including income taxes and minority interest, but before provision for dividends, extraordinary items, and discontinued operations. Total assets includes the sum of all current, non-current, and intangible assets.

## Common Stock Portfolio Characteristics

**Return on Equity** - Return on Equity is a measure of a company's profitability, specifically relating profits to the equity investment employed to achieve the profits. Return on Equity focuses on the returns accruing to the residual owners of a company, the equityholders. It is equal to income divided by total common equity. Income is after all expenses, including income taxes and minority interest, but before provision for dividends, extraordinary items, and discontinued operations. Common equity includes common stock outstanding, capital surplus, and retained earnings.

**Total Debt/Assets** - The Debt to Assets ratio is a measure of the level of total debt of a company as a portion of the assets of the company. It is equal to short-term and long-term debt divided by total assets. Total assets include the sum of all current, non-current, and intangible assets.

## Fixed Income Portfolio Characteristics

All Portfolio Characteristics are derived by first calculating the characteristics for each security, and then calculating the market value weighted average of these values for the portfolio.

**Allocation by Sector** - Sector allocation is one of the tools which managers often use to add value without impacting the duration of the portfolio. The sector weights exhibit can be used to contrast a portfolio's weights with those of the index to identify any significant sector bets.

**Average Coupon** - The average coupon is the market value weighted average coupon of all securities in the portfolio. The total portfolio coupon payments per year are divided by the total portfolio par value.

**Average Moody's Rating for Total Portfolio** - A measure of the credit quality as determined by the individual security ratings. The ratings for each security, from Moody's Investor Service, are compiled into a composite rating for the whole portfolio. Quality symbols range from Aaa+ (highest investment quality - lowest credit risk) to C (lowest investment quality - highest credit risk).

**Average Option Adjusted (Effective) Convexity** - Convexity is a measure of the portfolio's exposure to interest rate risk. It is a measure of how much the duration of the portfolio will change given a change in interest rates. Generally, securities with negative convexities are considered to be risky in that changes in interest rates will result in disadvantageous changes in duration. When a security's duration changes it indicates that the stream of expected future cash-flows has changed, generally having a significant impact on the value of the security. The option adjusted convexity for each security in the portfolio is calculated using models developed by Lehman Brothers and Salomon Brothers which determine the expected stream of cash-flows for the security based on various interest rate scenarios. Expected cash-flows take into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Option Adjusted (Effective) Duration** - Duration is one measure of the portfolio's exposure to interest rate risk. Generally, the higher a portfolio's duration, the more that its value will change in response to interest rate changes. The option adjusted duration for each security in the portfolio is calculated using models developed by Lehman Brothers and Salomon Brothers which determine the expected stream of cash-flows for the security based on various interest rate scenarios. Expected cash-flows take into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Price** - The average price is equal to the portfolio market value divided by the number of securities in the portfolio. Portfolios with an average price above par will tend to generate more current income than those with an average price below par.

**Average Years to Expected Maturity** - This is a measure of the market-value-weighted average of the years to expected maturity across all of the securities in the portfolio. Expected years to maturity takes into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Years to Stated Maturity** - The average years to stated maturity is the market value weighted average time to stated maturity for all securities in the portfolio. This measure does not take into account imbedded options, sinking fund paydowns, or prepayments.

**Current Yield** - The current yield is the current annual income generated by the total portfolio market value. It is equal to the total portfolio coupon payments per year divided by the current total portfolio market value.

## Fixed Income Portfolio Characteristics

**Duration Dispersion** - Duration dispersion is the market-value weighted standard deviation of the portfolio's individual security durations around the total portfolio duration. The higher the dispersion, the more variable the security durations relative to the total portfolio duration ("barbellness"), and the smaller the dispersion, the more concentrated the holdings' durations around the overall portfolio's ("bulletness"). The purpose of this statistic is to gauge the "bulletness" or "barbellness" of a portfolio relative to its total duration and to that of its benchmark index.

**Effective Yield** - The effective yield is the actual total annualized return that would be realized if all securities in the portfolio were held to their expected maturities. Effective yield is calculated as the internal rate of return, using the current market value and all expected future interest and principal cash flows. This measure incorporates sinking fund paydowns, expected mortgage principal prepayments, and the exercise of any "in-the-money" imbedded put or call options.

**Weighted Average Life** - The weighted average life of a security is the weighted average time to payment of all remaining principal. It is calculated by multiplying each expected future principal payment amount by the time left to the payment. This amount is then divided by the total amount of principal remaining. Weighted average life is commonly used as a measure of the investment life for pass-through security types for comparison to non-pass-through securities.

Callan Institute

# Education

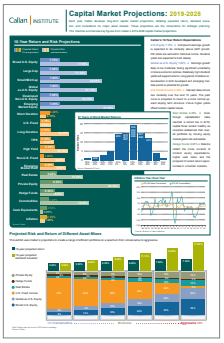
1st Quarter 2019

## 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 Corry Walsh at 312.346.3536 / institute@callan.com.

## New Research from Callan's Experts

**Callan's 2019-2028 Capital Market Projections** | Callan develops long-term capital market projections at the start of each year, detailing our expectations for return, volatility, and correlation for broad asset classes. For 2019-2028, we made gradual, evolutionary changes to our expectations from our projections last year. We increased our fixed income assumptions to reflect higher starting yields compared to one year ago, including a higher return for cash, but we held constant our equity return premium over cash. As a result, we have narrowed the equity risk premium over bonds.




**Two Questions to Help DC Plans Save on Litigation Costs** | Executives can monitor whether in-house fiduciaries for their defined contribution plans are on track or need assistance by asking these questions: 1) Are plan administration costs too high? 2) Are participants getting the best "bang for their buck" from investment fees?

**The Good, the Bad, and the Ugly: Which Will Your DC Plan Be in 2019?** | In this paper, we outline best practices for defined contribution (DC) plan sponsors that aspire to be the Good gunslinger, and flag traps that could ensnare them in Bad or even Ugly territory.

**2019 DC Trends Survey** | Callan's 12th Annual DC Trends Survey highlights plan sponsors' key themes from 2018 and expectations for 2019.

**2019 National Workshop Summary: DC Plans** | This workshop by Callan's Ben Taylor, Jana Steele, and Gordon Weightman, "The New Face of DC Plans," provided what plan sponsors and investment managers need to know to stay current on new developments and how they might benefit plans.

**2019 National Workshop Summary: Private Equity** | In their workshop, "Private Equity: Primary Investment Opportunities and Considerations," Callan's Pete Keliuotis, Jay Nayak, and Weston Lewis demonstrated how a thoughtful approach to program design, strategy allocation, and capital commitment pacing can lead to long-term success in private equity investing.

**2019 National Workshop Summary: Strategic Allocations** | In this workshop, Callan's Ann O'Bradovich, Ho Hwang, and Gary Chang discussed the trend over the past several decades in which U.S. institutional investors have shifted their public equity portfolios to increase allocations to non-U.S. stocks.

**The Callan Periodic Table Collection: Year-End 2018** | The Periodic Table Collection offers versions focused on equity, fixed income, fund sponsors, and alternatives. Other tables compare the performance of key indices to zero and to inflation.

### Quarterly Periodicals

**Private Equity Trends** | A newsletter on private equity activity, covering both the fundraising cycle and performance over time.

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

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

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

## Events

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

Please mark your calendar and look forward to upcoming invitations.

**June Regional Workshops:**
*June 4, 2019 – Atlanta*
*June 5, 2019 – San Francisco*

**October Regional Workshops:**
*October 22, 2019 – Denver*
*October 24, 2019 – Chicago*

Invitations have been sent for June and registration is available on our website at www.callan.com/events-reg-workshop-june/

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

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

## The Center for Investment Training Educational Sessions

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

**Introduction to Investments**
*San Francisco, July 16-17, 2019*
*Chicago, October 22-23, 2019*

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

**"Callan College" on Alternative Investing**
*Chicago, October 2019—Date TBD*

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

### Education: By the Numbers

| | | | |
|---|---|---|---|
| **525** | Attendees (on average) of the Institute's annual National Conference | **50+** | Unique pieces of research the Institute generates each year |
| **3,700** | Total attendees of the "Callan College" since 1994 | **1980** | Year the Callan Institute was founded |

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

Greg Allen, CEO and Chief Research Officer

Disclosures

Callan

Quarterly List as of March 31, 2019

## List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending and educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

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

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

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

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

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