

SECOND FISCAL QUARTER 2019 EXECUTIVE SUMMARY

VERMONT TEACHERS RETIREMENT PLAN

February 26, 2018

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

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MARKET ENVIRONMENT

NEPC, LLC

PERFORMANCE OVERVIEW

Q4 Market Summary

| Macro | | | Equity | | | Credit | | | Real Assets | | |
|---|---|---|---|---|--|---|---|---|---|---|---|
| US Dollar | VIX | US 10-Yr | S&P 500 | MSCI EAFE | MSCI EM | US Agg. | High Yield | Dollar EMD | Oil | Gold | REITS |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 1.1% | 13.3 | -38 bps | -13.5% | -12.5% | -7.5% | 1.6% | -4.5% | -1.2% | -38.0% | 7.7% | -6.0% |

- **Global equities sold-off during the quarter due to concerns related to fed funds rate increases , fears of a global slowdown, and trade uncertainties**
- **The sharp decline in crude oil prices weighed on commodities overall and US high-yield bonds, which have meaningful portion to the energy sector**
- **The Federal Reserve hiked rates for the fourth time in 2018 with one to two additional rate increases expected for 2019**

Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM Emerging Market Bond Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index).



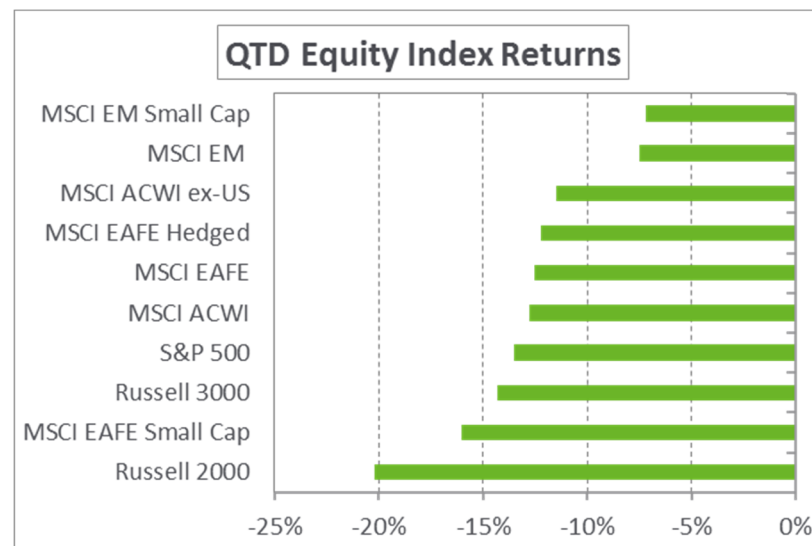
EQUITY PERFORMANCE OVERVIEW

Q4 Equity Market Summary

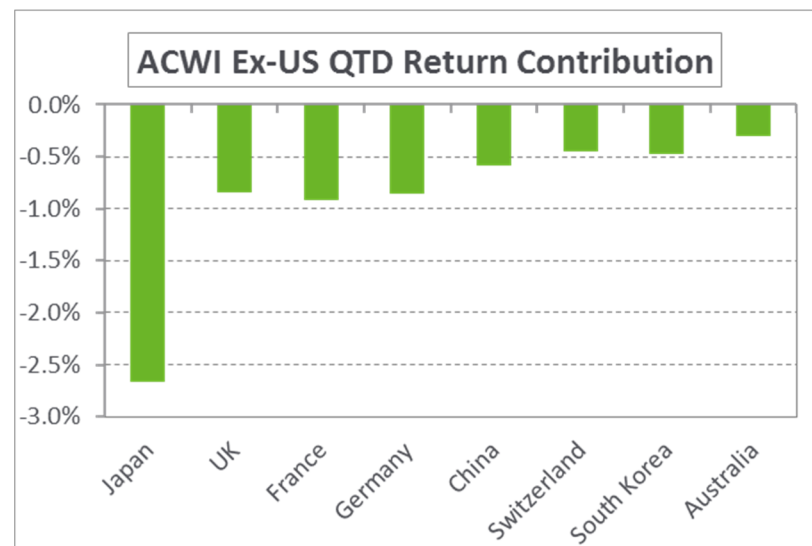
- **US equities led the global equity sell-off and developed market indices moved into a bear market**
- **Equities markets were volatile as ongoing trade concerns and fears of global growth slowdown weighed on investor sentiment**

| Russell 3000 QTD Sector Return Contribution | |
|---|--------|
| Information Technology | -3.35% |
| Consumer Discretionary | -1.80% |
| Financials | -1.80% |
| Industrials | -1.82% |
| Consumer Staples | -0.35% |
| Energy | -1.42% |
| Materials | -0.43% |
| Health Care | -1.52% |
| Real Estate | -0.22% |
| Communication Services | -1.64% |
| Utilities | 0.02% |

Source: Russell, Bloomberg



Source: MSCI, Russell, S&P, Bloomberg



Source: MSCI, Bloomberg. QTD top country contributors to index return



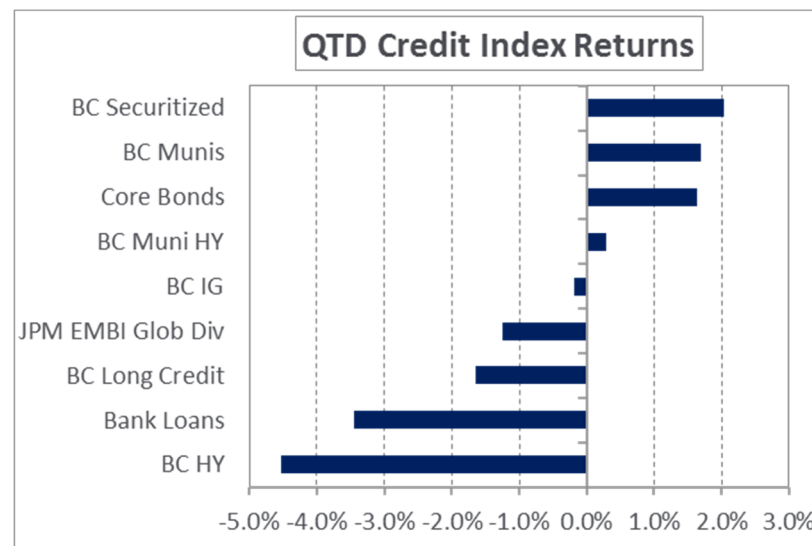
CREDIT PERFORMANCE OVERVIEW

Q4 Credit Market Summary

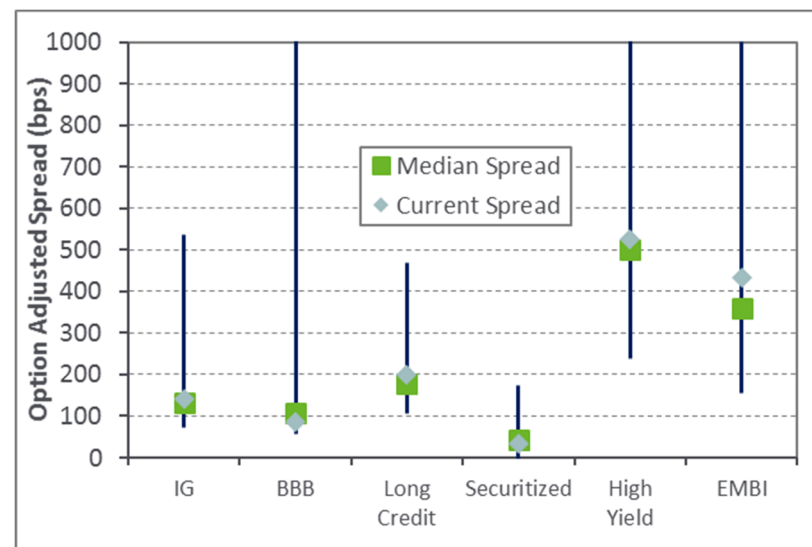
- **Credit spreads broadly increased across most areas of the market**
- **Riskier assets underperformed as demand for high quality and safe-haven assets increased**
- **Bank loans declined by 3.4% as market outflows weighed on asset prices**

| Credit Spread (Basis Points) | 09/30/18 | 12/31/18 | Δ |
|------------------------------|----------|----------|-----|
| BC IG Credit | 100 | 143 | 43 |
| BC Long Credit | 153 | 200 | 47 |
| BC Securitized | 28 | 35 | 7 |
| BC High Yield | 316 | 526 | 210 |
| Muni HY | 184 | 236 | 52 |
| JPM EMBI | 362 | 435 | 73 |
| Bank Loans - Libor | 281 | 414 | 133 |

Source: Barclays, Merrill Lynch, JPM, Bloomberg, NEPC



Source: Barclays, JPM, S&P, Bloomberg



Source: Barclays, JPM, S&P, Bloomberg; as of 01/31/2000



CALENDAR YEAR INDEX PERFORMANCE

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Q1 | Q2 | Q3 | Oct | Nov | Dec | Q4 | YTD |
|-------------------------------|-------|--------|-------|--------|--------|--------|-------|-------|-------|--------|-------|--------|-------|--------|--------|--------|
| US Large Cap | 15.1% | 2.1% | 16.0% | 32.4% | 13.7% | 1.4% | 12.0% | 21.8% | -0.8% | 3.4% | 7.7% | -6.8% | 2.0% | -9.0% | -13.5% | -4.4% |
| US Small/Mid Cap | 26.7% | -2.5% | 17.9% | 36.8% | 7.1% | -2.9% | 17.6% | 16.8% | -0.2% | 5.7% | 4.7% | -10.2% | 1.9% | -11.0% | -18.5% | -10.0% |
| Int'l Developed Equity | 7.8% | -12.1% | 17.3% | 22.8% | -4.9% | -0.8% | 1.0% | 25.0% | -1.5% | -1.2% | 1.4% | -8.0% | -0.1% | -4.9% | -12.5% | -13.8% |
| Emerging Market Equity | 18.9% | -18.4% | 18.2% | -2.6% | -2.2% | -14.9% | 11.2% | 37.3% | 1.4% | -8.0% | -1.1% | -8.7% | 4.1% | -2.7% | -7.5% | -14.6% |
| US Aggregate | 6.5% | 7.8% | 4.2% | -2.0% | 6.0% | 0.5% | 2.6% | 3.5% | -1.5% | -0.2% | 0.0% | -0.8% | 0.6% | 1.8% | 1.6% | 0.0% |
| US High Yield | 15.1% | 5.0% | 15.8% | 7.4% | 2.5% | -4.5% | 17.1% | 7.5% | -0.9% | 1.0% | 2.4% | -1.6% | -0.9% | -2.1% | -4.5% | -2.1% |
| US Long Treasuries | 9.4% | 29.9% | 3.6% | -12.7% | 25.1% | -1.2% | 1.3% | 8.5% | -3.3% | 0.3% | -2.9% | -3.0% | 1.9% | 5.5% | 4.2% | -1.8% |
| EM Local Credit | 15.7% | -1.8% | 16.8% | -9.0% | -5.7% | -14.9% | 9.9% | 15.2% | 4.4% | -10.4% | -1.8% | -2.0% | 2.8% | 1.3% | 2.1% | -6.2% |
| Global Credit | -5.3% | -5.3% | -4.1% | 2.7% | -0.6% | 3.3% | 2.1% | 7.4% | 1.4% | -2.8% | -0.9% | -1.1% | 0.3% | 2.0% | 1.2% | -1.2% |
| Commodities | 16.8% | -13.3% | -1.1% | -9.5% | -17.0% | -24.7% | 11.8% | 1.7% | -0.4% | 0.4% | -2.0% | -2.2% | -0.6% | -6.9% | -9.4% | -11.2% |

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse

S&P 500 = US Large Cap
 Russell 2500 = US Small/Mid Cap
 MSCI EAFE = International Developed Equity
 MSCI EM = Emerging Market Equity
 Bloomberg Barclays Aggregate = US Aggregate
 Bloomberg Barclays High Yield = US HY
 Bloomberg Barclays Long Treasury = US Long Treasuries
 GBI-EM Global Diversified = EM Local Credit
 Barclays Global Aggregate = Global Credit
 Bloomberg Commodity = Commodities



RETURNS FOR KEY INDICES RANKED IN ORDER OF PERFORMANCE

| 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|---------------------------------|
| MSCI EMERGING MARKETS 32.17 | MSCI EMERGING MARKETS 39.39 | BC AGGREGATE 5.24 | MSCI EMERGING MARKETS 78.51 | RUSSELL 2000 GROWTH 29.09 | BC AGGREGATE 7.84 | MSCI EMERGING MARKETS 18.22 | RUSSELL 2000 GROWTH 43.30 | S&P 500 13.69 | RUSSELL 1000 GROWTH 5.67 | RUSSELL 2000 VALUE 31.74 | MSCI EMERGING MARKETS 37.28 | BC AGGREGATE 0.01 |
| MSCI EAFE 26.34 | RUSSELL 1000 GROWTH 11.81 | RUSSELL 2000 VALUE -28.92 | RUSSELL 1000 GROWTH 37.21 | RUSSELL 2000 26.85 | RUSSELL 1000 GROWTH 2.64 | RUSSELL 2000 VALUE 18.05 | RUSSELL 2000 38.82 | RUSSELL 1000 VALUE 13.45 | S&P 500 1.38 | RUSSELL 2000 21.31 | RUSSELL 1000 GROWTH 30.21 | RUSSELL 1000 GROWTH -1.51 |
| RUSSELL 1000 VALUE 22.25 | MSCI EAFE 11.17 | RUSSELL 2000 -33.79 | RUSSELL 2000 GROWTH 34.47 | RUSSELL 2000 VALUE 24.5 | S&P 500 2.11 | RUSSELL 1000 VALUE 17.51 | RUSSELL 2000 VALUE 34.52 | RUSSELL 1000 13.24 | RUSSELL 1000 0.92 | RUSSELL 1000 VALUE 17.34 | MSCI EAFE 25.03 | S&P 500 -4.38 |
| RUSSELL 2000 VALUE 23.48 | RUSSELL 2000 GROWTH 7.06 | RUSSELL 1000 VALUE -36.85 | MSCI EAFE 31.78 | MSCI EMERGING MARKETS 18.88 | RUSSELL 1000 1.50 | MSCI EAFE 17.32 | RUSSELL 1000 GROWTH 33.48 | RUSSELL 1000 GROWTH 13.05 | BC AGGREGATE 0.55 | RUSSELL 1000 12.05 | RUSSELL 2000 GROWTH 22.17 | RUSSELL 1000 -4.78 |
| RUSSELL 2000 18.37 | BC AGGREGATE 6.97 | S&P 500 -37.0 | RUSSELL 1000 28.43 | RUSSELL 1000 GROWTH 16.71 | RUSSELL 1000 VALUE 0.39 | RUSSELL 1000 16.42 | RUSSELL 1000 33.11 | BC AGGREGATE 5.97 | MSCI EAFE -0.81 | S&P 500 11.96 | S&P 500 21.83 | RUSSELL 1000 VALUE -8.27 |
| S&P 500 15.8 | RUSSELL 1000 5.77 | RUSSELL 1000 -37.6 | RUSSELL 2000 27.16 | RUSSELL 1000 16.10 | RUSSELL 2000 GROWTH -2.91 | RUSSELL 2000 16.35 | RUSSELL 1000 VALUE 32.53 | RUSSELL 2000 GROWTH 5.60 | RUSSELL 2000 GROWTH -1.38 | RUSSELL 2000 GROWTH 11.32 | RUSSELL 1000 21.69 | RUSSELL 2000 GROWTH -9.31 |
| RUSSELL 1000 15.46 | S&P 500 5.49 | RUSSELL 1000 GROWTH -38.44 | S&P 500 26.46 | RUSSELL 1000 VALUE 15.51 | RUSSELL 2000 -4.18 | S&P 500 16.00 | S&P 500 32.39 | RUSSELL 2000 4.89 | RUSSELL 1000 VALUE -3.83 | MSCI EMERGING MARKETS 11.19 | RUSSELL 2000 14.65 | RUSSELL 2000 -11.01 |
| RUSSELL 2000 GROWTH 13.35 | RUSSELL 1000 VALUE -0.17 | RUSSELL 2000 GROWTH -38.54 | RUSSELL 2000 VALUE 20.58 | S&P 500 15.06 | RUSSELL 2000 VALUE -5.50 | RUSSELL 1000 GROWTH 15.26 | MSCI EAFE 22.78 | RUSSELL 2000 VALUE 4.22 | RUSSELL 2000 -4.41 | RUSSELL 1000 GROWTH 7.08 | RUSSELL 1000 VALUE 13.66 | RUSSELL 2000 VALUE -12.86 |
| RUSSELL 1000 GROWTH 9.07 | RUSSELL 2000 -1.56 | MSCI EAFE -43.38 | RUSSELL 1000 VALUE 19.69 | MSCI EAFE 7.75 | MSCI EAFE -12.14 | RUSSELL 2000 GROWTH 14.59 | BC AGGREGATE -2.02 | MSCI EMERGING MARKETS -2.19 | RUSSELL 2000 VALUE -7.46 | BC AGGREGATE 2.65 | RUSSELL 2000 VALUE 7.84 | MSCI EAFE -13.79 |
| BC AGGREGATE 4.33 | RUSSELL 2000 VALUE -9.78 | MSCI EMERGING MARKETS -53.33 | BC AGGREGATE 5.93 | BC AGGREGATE 6.54 | MSCI EMERGING MARKETS -18.42 | BC AGGREGATE 4.21 | MSCI EMERGING MARKETS -2.60 | MSCI EAFE -4.90 | MSCI EMERGING MARKETS -14.93 | MSCI EAFE 1.00 | BC AGGREGATE 3.54 | MSCI EMERGING MARKETS -14.58 |

| QTD | 3 year | 5 Year | 10 Year |
|--------------------------------|-------------------------------|-------------------------------|-------------------------------|
| BC AGGREGATE 1.64 | RUSSELL 1000 GROWTH 11.15 | RUSSELL 1000 GROWTH 10.40 | RUSSELL 1000 GROWTH 15.29 |
| MSCI EMERGING MARKETS -7.47 | S&P 500 9.26 | S&P 500 8.49 | RUSSELL 2000 GROWTH 13.52 |
| RUSSELL 1000 VALUE -11.72 | MSCI EMERGING MARKETS 9.25 | RUSSELL 1000 8.21 | RUSSELL 1000 13.28 |
| MSCI EAFE -12.54 | RUSSELL 1000 9.09 | RUSSELL 1000 VALUE 5.95 | S&P 500 13.12 |
| S&P 500 -13.52 | RUSSELL 2000 VALUE 7.37 | RUSSELL 2000 GROWTH 5.13 | RUSSELL 2000 11.97 |
| RUSSELL 1000 -13.82 | RUSSELL 2000 7.36 | RUSSELL 2000 4.41 | RUSSELL 1000 VALUE 11.18 |
| RUSSELL 1000 GROWTH -15.89 | RUSSELL 2000 GROWTH 7.24 | RUSSELL 2000 VALUE 3.61 | RUSSELL 2000 VALUE 10.40 |
| RUSSELL 2000 VALUE -18.67 | RUSSELL 1000 VALUE 6.95 | BC AGGREGATE 2.52 | MSCI EMERGING MARKETS 8.02 |
| RUSSELL 2000 -20.2 | MSCI EAFE 2.87 | MSCI EMERGING MARKETS 1.65 | MSCI EAFE 6.32 |
| RUSSELL 2000 GROWTH -21.65 | BC AGGREGATE 2.06 | MSCI EAFE 0.53 | BC AGGREGATE 3.48 |



TOTAL FUND PERFORMANCE

NEPC, LLC

Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|----------------------|-------------------|--------------|--------------|-----------|----------------------|-----------|-------------|-----------|--------------|-----------|--------------|-----------|---------------|-----------|-------------------|
| Total Teachers Composite | 1,775,402,802 | 100.0 | 100.0 | -6.7 | 16 | -4.3 | 21 | -3.1 | 18 | 6.4 | 15 | 4.2 | 67 | 8.1 | 44 | Mar-92 |
| Allocation Index | | | | -7.0 | 23 | -4.7 | 31 | -4.6 | 57 | 5.6 | 48 | 3.6 | 89 | 7.2 | 84 | Mar-92 |
| Policy Index | | | | -6.2 | 10 | -3.8 | 11 | -3.6 | 28 | 5.8 | 37 | 3.9 | 77 | 7.0 | 89 | Mar-92 |
| InvMetrics Public DB < \$5 Billion Net Median | | | | -8.3 | | -5.3 | | -4.4 | | 5.5 | | 4.5 | | 8.0 | | Mar-92 |
| Total Global Equity | 134,269,590 | 7.6 | 9.0 | -14.9 | 68 | -12.7 | 72 | -- | -- | -- | -- | -- | -- | -- | -- | Feb-18 |
| MSCI ACWI* | | | | -12.8 | 44 | -9.0 | 40 | -9.4 | 50 | -- | -- | -- | -- | -- | -- | Feb-18 |
| eV All Global Equity Net Median | | | | -13.5 | | -10.2 | | -9.4 | | 5.8 | | 4.3 | | 9.7 | | Feb-18 |
| Artisan Global Opportunities | 70,112,322 | 3.9 | 4.5 | -15.4 | 72 | -12.4 | 70 | -- | -- | -- | -- | -- | -- | -- | -- | Jul-18 |
| Hosking Global Equity | 64,157,269 | 3.6 | 4.5 | -14.5 | 62 | -13.0 | 76 | -- | -- | -- | -- | -- | -- | -- | -- | Feb-18 |
| MSCI ACWI | | | | -12.8 | 44 | -9.0 | 40 | -9.4 | 50 | 6.6 | 34 | 4.3 | 52 | 9.5 | 54 | Feb-18 |
| eV All Global Equity Net Median | | | | -13.5 | | -10.2 | | -9.4 | | 5.8 | | 4.3 | | 9.7 | | Feb-18 |
| Total Domestic Equity | 410,334,496 | 23.1 | 18.0 | -14.0 | 29 | -7.7 | 25 | -4.3 | 29 | 9.2 | 25 | 7.8 | 24 | -- | -- | Dec-10 |
| Russell 3000* | | | | -14.3 | 33 | -8.2 | 29 | -5.2 | 36 | 9.0 | 28 | 7.9 | 23 | 13.2 | 40 | Dec-10 |
| eV All US Equity Net Median | | | | -16.1 | | -11.2 | | -7.7 | | 7.3 | | 5.9 | | 12.6 | | Dec-10 |
| Total U.S Large Cap Equities | 343,205,997 | 19.3 | 14.0 | -13.6 | 42 | -7.4 | 40 | -5.0 | 44 | 9.1 | 28 | 8.1 | 31 | 14.4 | 19 | Apr-01 |
| S&P 500* | | | | -13.5 | 41 | -6.9 | 34 | -4.4 | 38 | 9.3 | 26 | 8.5 | 24 | 13.1 | 33 | Apr-01 |
| eV US Large Cap Equity Net Median | | | | -14.1 | | -8.2 | | -5.8 | | 7.8 | | 7.1 | | 12.3 | | Apr-01 |
| SSgA S&P 500 Cap-Wgt Partial Return* | 276,157,354 | 15.6 | 10.0 | -13.5 | 42 | -6.9 | 34 | -4.4 | 38 | 9.3 | 26 | 8.5 | 24 | -- | -- | Sep-10 |
| S&P 500 Partial Return | | | | -13.5 | 41 | -6.9 | 34 | -4.4 | 38 | 9.3 | 26 | 8.5 | 24 | 13.1 | 33 | Sep-10 |
| SSgA S&P 500 Equal-Wgt Partial Return* | 67,047,253 | 3.8 | 4.0 | -14.0 | 49 | -9.3 | 65 | -7.6 | 63 | 8.2 | 43 | 7.1 | 50 | 14.9 | 12 | Dec-05 |
| S&P 500 Equal Weighted Partial Return | | | | -13.9 | 48 | -9.2 | 64 | -7.6 | 63 | 8.0 | 45 | 7.1 | 50 | 15.0 | 11 | Dec-05 |
| Total U.S Small/Mid Cap Equities | 67,128,500 | 3.8 | 4.0 | -15.7 | 17 | -9.6 | 8 | 0.5 | 8 | 9.9 | 18 | 7.5 | 9 | 14.3 | 20 | Apr-01 |
| Russell 2500 | | | | -18.5 | 47 | -14.7 | 52 | -10.0 | 47 | 7.3 | 44 | 5.1 | 37 | 13.2 | 39 | Apr-01 |
| eV US Small-Mid Cap Equity Net Median | | | | -18.6 | | -14.5 | | -10.5 | | 6.6 | | 4.5 | | 12.7 | | Apr-01 |
| Champlain | 67,128,500 | 3.8 | 4.0 | -15.7 | 17 | -9.6 | 8 | 0.5 | 8 | 12.0 | 4 | 9.1 | 2 | -- | -- | Oct-09 |
| Custom SMID Cap Equity Index | | | | -19.3 | 59 | -16.0 | 63 | -10.5 | 50 | 8.0 | 31 | 5.1 | 37 | 13.1 | 39 | Oct-09 |

*Partial performance is calculated from 06/01/2019-06/04/2019

**Partial Performance is calculated from 06/13/2019-06/30/2019

***Composite benchmarks include partial returns for June 2019 and full monthly performance historically

Blackrock MSCI ACWI IMI and Blackrock S&P 500 Equal Weight were funded in June 2019, therefore three month performance is unavailable

Custom SMID Cap Equity Index is 50% Russell 2500 and 50% Russell 2000 starting 10/1/2017, and 100% Russell 2500 prior, corresponding to the change in strategy



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|--------------------|----------------|-------------|--------------|-----------|----------------|-----------|--------------|-----------|------------|-----------|------------|-----------|------------|-----------|----------------|
| Total Non US Equity | 320,504,874 | 18.1 | 16.0 | -10.5 | 10 | -9.8 | 10 | -14.2 | 36 | 6.2 | 17 | 1.9 | 38 | -- | -- | Apr-01 |
| MSCI ACWI ex USA* | | | | -11.5 | 21 | -10.8 | 21 | -14.2 | 36 | 4.5 | 38 | 0.7 | 58 | 6.6 | 70 | Apr-01 |
| eV All ACWI ex-US Equity Net Median | | | | -13.6 | | -13.6 | | -15.7 | | 3.6 | | 1.1 | | 8.0 | | Apr-01 |
| Total International Developed Equities | 223,355,592 | 12.6 | 10.0 | -11.7 | 21 | -10.8 | 23 | -14.0 | 38 | 5.4 | 15 | 2.3 | 26 | 6.8 | 64 | Apr-01 |
| MSCI EAFE* | | | | -12.5 | 26 | -11.4 | 29 | -13.8 | 37 | 2.9 | 50 | 0.5 | 66 | 6.3 | 76 | Apr-01 |
| eV All EAFE Equity Net Median | | | | -14.0 | | -13.5 | | -15.8 | | 2.7 | | 1.1 | | 7.2 | | Apr-01 |
| SSgA ACWI Ex US Partial Return* | 116,976,370 | 6.6 | 3.0 | -11.4 | 18 | -10.8 | 23 | -14.0 | 39 | 4.7 | 40 | 0.9 | 54 | -- | -- | Sep-10 |
| MSCI ACWI ex USA Partial Return | | | | -11.5 | 18 | -10.8 | 23 | -14.2 | 41 | 4.5 | 44 | 0.7 | 56 | 6.6 | 68 | Sep-10 |
| Acadian | 49,056,747 | 2.8 | 3.5 | -14.5 | 57 | -13.6 | 51 | -15.9 | 52 | 7.3 | 3 | 4.2 | 9 | 8.5 | 32 | Nov-05 |
| Mondrian | 57,322,475 | 3.2 | 3.5 | -9.8 | 7 | -8.0 | 7 | -11.7 | 18 | 4.0 | 27 | 1.3 | 45 | 5.9 | 83 | Jan-93 |
| MSCI EAFE | | | | -12.5 | 26 | -11.4 | 29 | -13.8 | 37 | 2.9 | 50 | 0.5 | 66 | 6.3 | 76 | Jan-93 |
| eV All EAFE Equity Net Median | | | | -14.0 | | -13.5 | | -15.8 | | 2.7 | | 1.1 | | 7.2 | | Jan-93 |
| Total International Small Cap Equity | 34,215,175 | 1.9 | 2.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Oct-18 |
| MSCI EAFE Small Cap | | | | -16.0 | 33 | -16.8 | 36 | -17.9 | 28 | 3.7 | 44 | 3.1 | 46 | 10.5 | 66 | Oct-18 |
| eV EAFE Small Cap Equity Net Median | | | | -17.2 | | -18.1 | | -20.2 | | 3.1 | | 2.9 | | 11.5 | | Oct-18 |
| SGA International Small Cap Equity | 34,215,175 | 1.9 | 2.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Nov-18 |
| MSCI EAFE Small Cap | | | | -16.0 | 33 | -16.8 | 36 | -17.9 | 28 | 3.7 | 44 | 3.1 | 46 | 10.5 | 66 | Nov-18 |
| Total Emerging Market Equity | 62,934,107 | 3.5 | 4.0 | -3.4 | 7 | -3.8 | 8 | -14.3 | 28 | 7.9 | 50 | 1.3 | 53 | 9.9 | 24 | Feb-08 |
| MSCI Emerging Markets Partial Return | | | | -7.5 | 47 | -8.5 | 32 | -14.6 | 30 | 9.2 | 26 | 1.6 | 43 | 8.0 | 64 | Feb-08 |
| eV Emg Mkts Equity Net Median | | | | -7.6 | | -10.6 | | -16.2 | | 7.7 | | 1.4 | | 8.9 | | Feb-08 |
| Aberdeen Partial Return | 62,934,107 | 3.5 | 4.0 | -3.4 | 7 | -3.8 | 8 | -14.3 | 28 | 7.9 | 50 | 1.2 | 53 | 9.8 | 24 | Feb-08 |
| MSCI Emerging Markets Partial Return | | | | -7.5 | 47 | -8.5 | 32 | -14.6 | 30 | 9.2 | 26 | 1.6 | 43 | 8.0 | 64 | Feb-08 |

*Partial performance is calculated from 06/01/2019-06/04/2019

***Composite benchmarks include partial returns for June 2019 and full monthly performance historically

****Partial performance is calculated from 06/01/2019-06/18/2019



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|--------------------|----------------|-------------|-------------|-----------|----------------|-----------|-------------|-----------|------------|-----------|------------|-----------|------------|-----------|----------------|
| Total Fixed Income | 565,629,900 | 31.9 | 26.0 | 0.3 | 63 | 0.4 | 68 | -0.9 | 70 | 4.0 | 26 | 3.4 | 25 | -- | -- | Dec-10 |
| BBgBarc US Aggregate TR* | | | | 1.6 | 11 | 1.7 | 14 | 0.0 | 55 | 2.1 | 58 | 2.5 | 51 | -- | -- | Dec-10 |
| eV All US Fixed Inc Net Median | | | | 0.6 | | 1.0 | | 0.3 | | 2.3 | | 2.5 | | 4.2 | | Dec-10 |
| Total Traditional Fixed Income | 359,954,925 | 20.3 | 20.0 | 0.9 | 41 | 0.5 | 67 | 0.1 | 54 | 3.0 | 38 | 3.3 | 28 | 5.5 | 36 | Jul-03 |
| BBgBarc US Aggregate TR* | | | | 1.6 | 11 | 1.7 | 14 | 0.0 | 55 | 2.1 | 58 | 2.5 | 51 | 3.5 | 63 | Jul-03 |
| eV All US Fixed Inc Net Median | | | | 0.6 | | 1.0 | | 0.3 | | 2.3 | | 2.5 | | 4.2 | | Jul-03 |
| SSgA Barclays Aggregate Index Partial Return* | 203,948,308 | 11.5 | 8.0 | 1.7 | 15 | 1.7 | 20 | 0.0 | 40 | 2.0 | 64 | -- | -- | -- | -- | Feb-15 |
| BBgBarc US Aggregate TR Partial Return | | | | 1.6 | 15 | 1.7 | 20 | 0.0 | 37 | 2.1 | 60 | 2.5 | 56 | 3.5 | 80 | Feb-15 |
| BlackRock TIPS | 107,667,250 | 6.1 | 6.0 | -0.5 | 39 | -1.3 | 49 | -1.4 | 44 | 2.1 | 46 | 1.6 | 33 | -- | -- | Dec-09 |
| BBgBarc US TIPS TR | | | | -0.4 | 31 | -1.2 | 34 | -1.3 | 39 | 2.1 | 38 | 1.7 | 28 | 3.6 | 43 | Dec-09 |
| GAM Unconstrained Bond | 12,423,277 | 0.7 | 0.0 | 1.5 | 5 | 0.6 | 25 | 1.2 | 18 | 4.5 | 28 | -- | -- | -- | -- | Jun-15 |
| PIMCO Unconstrained | 35,916,089 | 2.0 | 2.0 | 0.3 | 13 | 1.1 | 8 | 1.8 | 7 | 3.9 | 46 | 2.3 | 56 | -- | -- | Jul-11 |
| PIMCO Unconstrained Custom Index | | | | -0.6 | 30 | 0.5 | 27 | -1.6 | 55 | 4.0 | 41 | -- | -- | -- | -- | Jul-11 |
| 3-Month Libor Total Return USD | | | | 0.7 | 9 | 1.3 | 6 | 2.4 | 3 | 1.5 | 86 | 1.0 | 88 | 0.7 | 99 | Jul-11 |
| eV Global Unconstrained Fixed Inc Net Median | | | | -0.9 | | -0.6 | | -1.0 | | 3.8 | | 2.5 | | 5.8 | | Jul-11 |
| Total Non-Traditional Fixed Income | 179,125,206 | 10.1 | 4.0 | -0.2 | 45 | 0.6 | 31 | -2.1 | 12 | 4.2 | 86 | 3.7 | 33 | -- | -- | Nov-09 |
| BBgBarc US Aggregate TR | | | | 1.6 | 12 | 1.7 | 5 | 0.0 | 2 | 2.1 | 99 | 2.5 | 52 | 3.5 | 84 | Nov-09 |
| eV All Emg Mkts Fixed Inc Net Median | | | | -0.6 | | 0.0 | | -5.9 | | 5.3 | | 2.7 | | 7.6 | | Nov-09 |
| Wellington Opportunistic EMD | 68,040,300 | 3.8 | 4.0 | -2.3 | 92 | -0.5 | 70 | -5.8 | 47 | 5.5 | 42 | 4.3 | 15 | -- | -- | Jan-10 |
| JP Morgan EMBI Global Index | | | | -1.2 | 67 | 0.7 | 30 | -4.6 | 32 | 4.7 | 73 | 4.2 | 17 | 7.8 | 48 | Jan-10 |
| eV All Emg Mkts Fixed Inc Net Median | | | | -0.6 | | 0.0 | | -5.9 | | 5.3 | | 2.7 | | 7.6 | | Jan-10 |
| PIMCO Core Plus | 111,084,906 | 6.3 | 4.0 | 1.2 | 20 | 1.4 | 18 | 0.0 | 21 | 2.4 | 80 | 2.6 | 65 | -- | -- | Nov-09 |
| BBgBarc US Aggregate TR | | | | 1.6 | 9 | 1.7 | 9 | 0.0 | 21 | 2.1 | 87 | 2.5 | 72 | 3.5 | 99 | Nov-09 |
| eV US Core Plus Fixed Inc Net Median | | | | 0.5 | | 0.9 | | -0.6 | | 2.8 | | 2.9 | | 5.4 | | Nov-09 |
| Total High Yield Bonds | 26,549,769 | 1.5 | 2.0 | -4.7 | 62 | -4.2 | 94 | -4.1 | 89 | 5.5 | 61 | 3.1 | 60 | 9.2 | 68 | May-06 |
| BBgBarc US High Yield TR | | | | -4.5 | 60 | -2.2 | 57 | -2.1 | 46 | 7.2 | 13 | 3.8 | 24 | 11.1 | 10 | May-06 |
| eV US High Yield Fixed Inc Net Median | | | | -4.1 | | -2.1 | | -2.3 | | 6.0 | | 3.3 | | 9.6 | | May-06 |

*Partial performance is calculated from 06/01/2019-06/04/2019

**Partial Performance is calculated from 06/13/2019-06/30/2019

***Composite benchmarks include partial returns for June 2019 and full monthly performance historically

PIMCO Unconstrained Custom Index is 25% HY, 25% EMD, 50% BC Agg



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|--------------------|----------------|------------|-------------|-----------|----------------|-----------|-------------|-----------|-------------|-----------|------------|-----------|------------|-----------|----------------|
| PIMCO High Yield | 26,549,769 | 1.5 | 2.0 | -4.7 | 63 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Aug-18 |
| <i>BBgBarc US High Yield TR</i> | | | | -4.5 | 60 | -2.2 | 57 | -2.1 | 46 | 7.2 | 13 | 3.8 | 24 | 11.1 | 10 | Aug-18 |
| Total Private Debt | 30,971,774 | 1.7 | 5.0 | -1.5 | -- | 0.3 | -- | 4.4 | -- | -- | -- | -- | -- | -- | -- | Jan-18 |
| <i>S&P/LSTA Leveraged Loan TR</i> | | | | -3.5 | -- | -1.7 | -- | 0.4 | -- | 4.8 | -- | 3.1 | -- | 8.6 | -- | Jan-18 |
| BlueBay Direct Lending Fund III | 6,248,718 | 0.4 | 2.5 | 2.4 | -- | 3.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | Jun-18 |
| Benefit Street Partners | 24,723,057 | 1.4 | 2.5 | -2.4 | -- | -0.4 | -- | 3.7 | -- | -- | -- | -- | -- | -- | -- | Jan-18 |
| <i>S&P/LSTA Leveraged Loan TR</i> | | | | -3.5 | -- | -1.7 | -- | 0.4 | -- | 4.8 | -- | 3.1 | -- | 8.6 | -- | Jan-18 |
| Total Real Estate | 130,343,155 | 7.3 | 8.0 | 1.8 | -- | 3.3 | -- | 7.3 | -- | 7.5 | -- | 9.9 | -- | -- | -- | Dec-10 |
| <i>NCREIF Property Index</i> | | | | 1.4 | -- | 3.1 | -- | 6.7 | -- | 7.2 | -- | 9.3 | -- | 7.5 | -- | Dec-10 |
| Total Real Estate Core | 110,786,702 | 6.2 | 4.5 | 1.5 | -- | 2.8 | -- | 6.2 | -- | 6.3 | -- | 9.4 | -- | -- | -- | May-12 |
| <i>NCREIF ODCE Net</i> | | | | 1.5 | -- | 3.4 | -- | 7.4 | -- | 7.3 | -- | 9.4 | -- | 6.0 | -- | May-12 |
| UBS Trumbull | 110,658,255 | 6.2 | 4.5 | 1.5 | -- | 2.8 | -- | 6.2 | -- | 5.9 | -- | 8.3 | -- | 6.0 | -- | Oct-96 |
| Total Real Estate Non-Core | 19,556,453 | 1.1 | 3.5 | 3.5 | -- | 5.8 | -- | 12.8 | -- | 14.6 | -- | -- | -- | -- | -- | May-12 |
| <i>NCREIF Property Index</i> | | | | 1.4 | -- | 3.1 | -- | 6.7 | -- | 7.2 | -- | 9.3 | -- | 7.5 | -- | May-12 |
| Siguler Guff DREOF II | 12,709,130 | 0.7 | 1.0 | 0.3 | -- | 2.4 | -- | 11.0 | -- | 14.8 | -- | -- | -- | -- | -- | Jun-14 |
| Siguler Guff DREOF II Co-Investment | 6,847,323 | 0.4 | 0.5 | 10.1 | -- | 12.9 | -- | 15.3 | -- | -- | -- | -- | -- | -- | -- | Nov-16 |
| Brookfield Strategic Real Estate Partners III | 0 | 0.0 | 2.0 | 0.0 | -- | 0.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | Jun-18 |
| <i>NCREIF Property Index</i> | | | | 1.4 | -- | 3.1 | -- | 6.7 | -- | 7.2 | -- | 9.3 | -- | 7.5 | -- | Jun-18 |
| Total Private Infrastructure/Land | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | May-19 |
| Total Absolute Return | 131,989,708 | 7.4 | 8.0 | -4.3 | 48 | -3.1 | 43 | 0.9 | 28 | 2.1 | 55 | 1.7 | 67 | -- | -- | Dec-10 |
| <i>HFRI Fund of Funds Composite Index</i> | | | | -4.9 | 56 | -4.7 | 56 | -4.0 | 65 | 1.3 | 69 | 1.4 | 70 | 3.1 | 87 | Dec-10 |
| <i>eV Alt Fund of Funds - Multi-Strategy Median</i> | | | | -4.4 | | -3.9 | | -2.1 | | 2.3 | | 2.7 | | 5.3 | | Dec-10 |

Market values are final as of Q2 2019 capital statements for Benefit Street Partners, BlueBay Direct Lending Fund III, Brookfield Strategic Real Estate Partners III, Siguler Guff DREOF II, Siguler Guff DREOF II Co-Investment and UBS Trumbull

Transwestern/Aslan III residual market value of \$128,447 is included in the Total Real Estate composite



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|--|-------------------|----------------|-------------|------------|-----------|----------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|------------|-----------|----------------|
| Pinnacle Natural Resources, L.P. | 45,754,949 | 2.6 | 3.0 | -4.0 | 31 | -3.0 | 31 | 4.4 | 16 | -- | -- | -- | -- | -- | -- | Jul-16 |
| <i>Bloomberg Commodity Index</i> | | | | -9.4 | 59 | -11.2 | 62 | -11.2 | 66 | 0.3 | 88 | -8.8 | 71 | -3.8 | 99 | Jul-16 |
| <i>InvMetrics All E&F Real Assets/Commodities Net Median</i> | | | | -8.6 | | -8.8 | | -7.9 | | 3.3 | | -3.5 | | 2.8 | | Jul-16 |
| Grosvenor | 53,662,445 | 3.0 | 3.0 | -4.9 | 56 | -4.3 | 54 | -1.2 | 45 | 2.5 | 49 | 2.2 | 57 | -- | -- | Dec-10 |
| <i>HFRI Fund of Funds Composite Index</i> | | | | -4.9 | 56 | -4.7 | 56 | -4.0 | 65 | 1.3 | 69 | 1.4 | 70 | 3.1 | 87 | Dec-10 |
| <i>eV Alt Fund of Funds - Multi-Strategy Median</i> | | | | -4.4 | | -3.9 | | -2.1 | | 2.3 | | 2.7 | | 5.3 | | Dec-10 |
| Total Private Equity | 50,665,716 | 2.9 | 10.0 | 1.5 | -- | 6.2 | -- | 22.8 | -- | 17.0 | -- | 16.9 | -- | -- | -- | Dec-12 |
| <i>Cambridge Associates US All PE</i> | | | | -1.7 | -- | 2.1 | -- | 10.5 | -- | 13.7 | -- | 11.5 | -- | 13.7 | -- | Dec-12 |
| Total Cash | 693,589 | 0.0 | 0.0 | | | | | | | | | | | | | |
| BlackRock Transition | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | May-19 |
| Eqty Composite | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Jan-90 |
| <i>S&P 500</i> | | | | -13.5 | 26 | -6.9 | 22 | -4.4 | 33 | 9.3 | 32 | 8.5 | 24 | 13.1 | 57 | Jan-90 |
| <i>eV All US Equity Gross Median</i> | | | | -15.8 | | -10.5 | | -6.8 | | 8.1 | | 6.8 | | 13.3 | | Jan-90 |

Market values are final as of Q2 2019 capital statements for Harbourvest Funds

As of 04/01/2016, Absolute Return includes Allianz Structured Alpha and was formerly included in the Diversified Fixed Income composite

Policy Index consists of: 4% S&P 500 / 3% Russell 2500 / 5% MSCI EAFE / 29% MSCI ACWI / 2% MSCI EAFE Small Cap / 20% BBgBarc US Aggregate TR / 3% BBgBarc US TIPS TR / 5% BBgBarc US Treasury 1-3 Yr TR / 4% JP Morgan EMBI Global Index / 5% S&P/LSTA Leveraged Loan TR / 10 % Cambridge Associates US All PE / 10% NCREIF Property Index

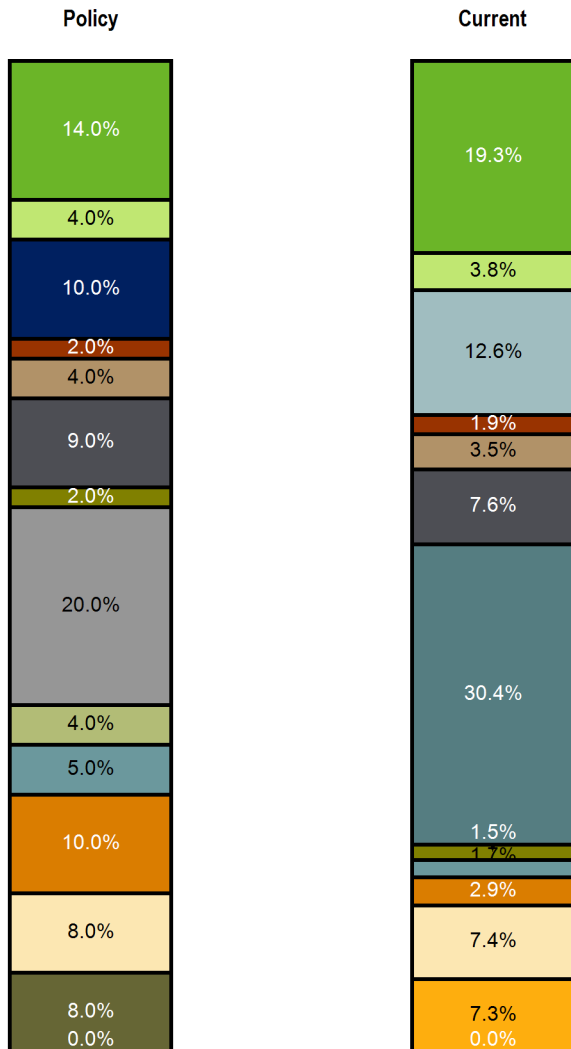
The Total Fund return is based on a Modified Dietz calculation

Fiscal Year End is 6/30



Vermont State Teachers

TOTAL FUND ASSET ALLOCATION VS. POLICY TARGETS



| Asset Allocation vs. Target | | | | |
|--------------------------------|---------------|--------|---------|-------------|
| | Current | Policy | Current | Difference* |
| Large Cap Equity | \$343,205,997 | 14.0% | 19.3% | 5.3% |
| Small/Mid Cap Equity | \$67,128,500 | 4.0% | 3.8% | -0.2% |
| Non-US Equity | -- | 10.0% | -- | -10.0% |
| Developed International Equity | \$223,355,592 | -- | 12.6% | 12.6% |
| International Small Cap | \$34,215,175 | 2.0% | 1.9% | -0.1% |
| Emerging Markets Equity | \$62,934,107 | 4.0% | 3.5% | -0.5% |
| Global Equity | \$134,269,590 | 9.0% | 7.6% | -1.4% |
| Fixed Income | \$539,080,131 | -- | 30.4% | 30.4% |
| High Yield | \$26,549,769 | 2.0% | 1.5% | -0.5% |
| Diversified Fixed Income | -- | 20.0% | -- | -20.0% |
| Emerging Market Debt | -- | 4.0% | -- | -4.0% |
| Private Debt | \$30,971,774 | 5.0% | 1.7% | -3.3% |
| Private Equity | \$50,665,716 | 10.0% | 2.9% | -7.1% |
| Absolute Return | \$131,989,708 | 8.0% | 7.4% | -0.6% |
| Real Estate | -- | 8.0% | -- | -8.0% |
| Real Assets | \$130,343,155 | -- | 7.3% | 7.3% |



ACTIVE MANAGER RELATIVE PERFORMANCE

| | Positive | Negative |
|---------|--|--|
| QUARTER | <p><u>U.S. Equity</u></p> <ul style="list-style-type: none"> Champlain Small/Mid Cap (+360) <p><u>Non U.S. Equity</u></p> <ul style="list-style-type: none"> Mondrian International (+270) Aberdeen Emerging Markets (+410) <p><u>Fixed Income</u></p> <ul style="list-style-type: none"> GAM Unconstrained (+80) <p><u>Absolute Return</u></p> <ul style="list-style-type: none"> Pinnacle Nat'l Resources (+500) Grosvenor Fund of Hedge Funds (+10) | <p><u>Non U.S. Equity</u></p> <ul style="list-style-type: none"> Acadian International (-200) Hosking Global (-170) Artisan Global (-270) <p><u>Fixed Income</u></p> <ul style="list-style-type: none"> PIMCO Core Plus (-40) PIMCO Unconstrained (-90) PIMCO High Yield (-20) Wellington EM Debt (-110) <p><u>Absolute Return</u></p> <ul style="list-style-type: none"> Allianz Structured Alpha (-460) |
| 1 YEAR | <p><u>Domestic Equity</u></p> <ul style="list-style-type: none"> Champlain Small/Mid Cap (+1,100) <p><u>Non U.S. Equity</u></p> <ul style="list-style-type: none"> Mondrian International (+210) Aberdeen Emerging Markets (+30) <p><u>Absolute Return</u></p> <ul style="list-style-type: none"> Pinnacle Nat'l Resources (+1,520) Grosvenor Fund of Hedge Funds (+290) | <p><u>Non U.S. Equity</u></p> <ul style="list-style-type: none"> Acadian International (-210) <p><u>Fixed Income</u></p> <ul style="list-style-type: none"> GAM Unconstrained (-120) PIMCO Unconstrained (-350) Wellington EM Debt (-120) <p><u>Absolute Return</u></p> <ul style="list-style-type: none"> Allianz Structured Alpha (-380) |

Reflects public markets and active management only and net of fees
GREEN indicates the managers had outperformed their respective benchmarks
RED indicates the managers had underperformed their respective benchmarks
(+-) is the over/under performance relative to respective benchmarks in basis points



INVESTMENT MANAGER – Q2 FISCAL 2019 COMMENTARY

POSITIVE CONTRIBUTORS

| | Commentary | Due Diligence Rating |
|---|--|----------------------|
| Champlain <i>Small/Mid Cap Equity</i> | <p>Returned -15.7%, outperforming the custom benchmark, 50% R2000/50% R2500, by 360 bps</p> <p><i>Contributors:</i> For the quarter, the portfolio benefited from strong stock selection and overweight in consumer staples as investors sought out stable and predictable business models amid this quarter’s market volatility. Outperformance also came from their insurance holdings within financials. Technology holdings outperformed with Red Hat as their largest contributor to overall performance after it agreed to be acquired by IBM. Additionally, avoiding cyclical sectors (i.e. energy and utilities) also benefited the portfolio.</p> <p><i>Detractors:</i> Healthcare saw significant declines during the quarter. While the strategy’s overweight position detracted, positive stock selection partially offset the negative contribution. Healthcare company, Intergra Life Sciences, was one of the largest detractors for the portfolio. Stock selection in industrial holdings slightly underperformed the benchmark coming from two food equipment manufacturing companies as both reported weaker than expected results.</p> <p><i>Positioning:</i> Champlain seized upon the widespread selling and attractive discounts to their estimated Fair Values by becoming fully invested in the final weeks of December. If we are headed for a recession, they have an opportunity to shift more capital away from the most economically resilient holdings into their favorite industrial and software holdings that could potentially trade at steeper discounts than today and present greater relative value as compared to the more defensive holdings.</p> | 1 |
| Mondrian <i>International Equity</i> | <p>Returned -9.8%, outperforming the MSCI EAFE by 270 bps</p> <p><i>Contributors:</i> Allocations to both Asia and Europe added to relative returns. In Asia, the portfolio benefited from the overweight positions in Hong Kong and Singapore, which were relatively defensive as expectations for US interest rate increases moderated in response to capital market volatility and signs of weaker economic growth. Strong stock selection in Spain, Italy, and Japan. Enel, the Italian utility, rose strongly after publishing an updated strategic plan to grow their dividends. Sector allocation added to performance by the overweight positions in utilities and communication sectors.</p> <p><i>Detractors:</i> In the context of Brexit-related uncertainty, the portfolio’s positions in domestically-oriented UK stocks detracted. Economically sensitive sectors produced the weakest returns, with the energy sector performing the worst as oil prices fell precipitously.</p> <p><i>Positioning:</i> Increased holdings in selected companies in response to recent share price weakness, including Lloyds Banking Group and SSE in the UK, as well as Takeda, Mitsubishi Electric, WH Group, Evonik and Saint Gobain. To fund these, they have reduced positions in certain stronger performing securities, including Enel, Telefonica, Ahold, Delhaize, and Novartis.</p> | 1 |



Returns presented are net of investment management fees

INVESTMENT MANAGER – Q1 FISCAL 2019 COMMENTARY

POSITIVE CONTRIBUTORS

| | Commentary | NEPC Rating |
|---|---|--|
| Aberdeen Emerging Market Equity | <p>Returned -3.4%, outperforming the MSCI Emerging Markets by 410 bps</p> <p><i>Contributors:</i> In the 2nd half of the year, the strategy benefited from the underweight to China as Chinese equities underperform on continued worries over the U.S./China trade tensions. In a turnaround to the first half of the year, Brazil contributed positively to the relative performance of the fund on the back of the rally in the Brazilian equity market, following the Brazilian Presidential election win by market-friendly right wing candidate Jair Bolsonaro. In addition, strong stock selection came from Indonesia, Taiwan and Mexico. From a sector perspective, stock selection was very strong particularly in consumer discretionary, materials, and real estate.</p> <p><i>Detractors:</i> Detractors in the period included Wuxi Biologics. Its business model appears threatened by trade worries, which could impede the transfer of biological data and knowhow. Similarly, major players in the global tech hardware supply chain, such as Sunny Optical and Samsung Electronics, also suffered. Their outlooks were further clouded by expectations of a slowing equipment-replacement and upgrade cycle. Elsewhere, Cancun airport operator Asur sold off on the cancellation of the new Mexico airport. Overweights in materials and consumer staples were also detractors for the quarter.</p> <p><i>Positioning:</i> They are holding onto their high conviction positions. As a result, they retained their significant exposure to India, Brazil, Indonesia and Mexico. These positions contributed to performance in 2018. They retain a focused, quality portfolio – as risks have risen across equity markets, momentum styles have begun to lag and other styles such as quality have begun to outperform. Their quality strategy, especially from the second half of 2018, has fared better.</p> | <p>2 Rating Changed from "1" to "2" in January 2018</p> |
| Pinnacle Natural Resources (PNR) Absolute Return | <p>Returned -4.4%, outperforming the Bloomberg Commodity Index by 500 bps</p> <p><i>Contributors:</i> PNR's agriculturals within directional trading and relative value trading strategies contributed the most to performance. The combination of gas, power, carbon, coal trading and positioning in both the U.S. and Europe were the drivers of performance for the quarter. Physical strategies in metals and livestock also contributed marginally to gains. For the 2018 calendar year, all sectors, except for FX Rates, contributed to the Fund's performance.</p> <p><i>Detractors:</i> Losses in directional and relative value trading strategies in the energy complex and directional trading strategies in the metals sector detracted from performance. Small losses also came from base metals. Additionally, petroleum strategies detracted marginally from performance.</p> <p><i>Positioning:</i> As of end of the quarter, gross and net exposure were 6.8X and 0.75X, respectively. As of December 31, 2018, PNR had a total of 17 active underlying investments. The strategy held 29% Grains, 23% Natural Gas, 13% Livestock, 8% Crude Oil/products, 8% Precious Metals, 7% Electricity, 7% Base Metals, 4% Softs, 1% FX/Rates/Index.</p> | <p>1</p> |



Returns presented are net of investment management fees

INVESTMENT MANAGER – Q2 FISCAL 2019 COMMENTARY

POSITIVE CONTRIBUTORS

| | Commentary | Due Diligence Rating |
|--|---|----------------------|
| <p>Grosvenor <i>Absolute Return</i></p> | <p>Returned -4.9%, outperforming the HFRI Fund of Funds Composite Index by 10 bps</p> <p><i>Contributors:</i> The Fund’s conservative positioning, specifically its limited directional exposure to broader equity and fixed income markets, was beneficial in mitigating losses amid the market declines during the fourth quarter. Most risk assets declined for the year, and many equity indices incurred peak-to-trough drawdowns in excess of -20%, compared to the Fund’s peak-to-trough of -5.0% in 2018. Within the relative value strategy, the Fund’s dedicated fixed income and currency volatility investments were noteworthy contributors to returns as volatility across asset classes rose sharply during the quarter.</p> <p><i>Detractors:</i> The equity strategy allocation was the portfolio’s largest detractor, with longer-biased investments particularly susceptible to the broader equity market drawdown. Modest losses were also incurred in the multi-strategy, macro, credit, and relative value allocations. The Fund’s quantitative strategy allocation was flat. Underperformance within the multi-strategy allocation was attributable to GCM Grosvenor’s Special Opportunities Fund (which pursues direct trading and co-investment activities) and an energy-focused multi-strategy specialist.</p> <p><i>Positioning:</i> GCM’s view is that in today’s late cycle economic environment, these types of actively managed strategies are particularly important, as they are capable of generating attractive absolute and relative returns in periods during which traditional asset classes may struggle. Many of these strategies generate lesser correlated return streams, which can provide prudent diversification to global investment portfolios. They are currently researching specific areas of dislocation to determine if and where value opportunities exist. Specifically, they are investigating hedged strategies in Emerging Markets and Asia, as well as a number of sector focused strategies which have fallen out of favor and may provide outsized opportunities in the coming year.</p> | <p>1</p> |



Returns presented are net of investment management fees

INVESTMENT MANAGER – Q2 FISCAL 2019 COMMENTARY

DETRACTORS

| | Commentary | Due Diligence Rating |
|--|---|----------------------|
| <p>Acadian International Equity</p> | <p>Returned -14.5%, underperforming the MSCI EAFE by 200bps</p> <p><i><u>Detractors:</u></i> Growth factors such as earnings surprise predictor, which had worked previously, struggled, causing headwinds for momentum stocks. Q4 represented a capitulation in some of the best performing growth stocks that had become expensive. Key sources of negative active return included stock selection in the U.K., France, Australia, and Denmark. From a sector attribution standpoint, portfolio stock selection in healthcare, utilities, materials, and consumer discretionary detracted. Key negative holdings for the quarter were Aristocrat Leisure, an Australian slot machine maker reporting annual profits that trailed estimates; Peugeot, a French automaker that reported a decline in sales; Lundbeck, a Danish drug maker's treatment that failed in late-stage trial, Ubisoft, a French video game developer after it had fallen victim to a series of distributed denial-of-service attacks. Lastly, their small-cap tilt was a headwind to performance as larger companies tended to hold up better in Q4 and 2018 overall.</p> <p><i><u>Contributors:</u></i> More successful investments included stock selection and country positions in Germany, Japan, Brazil, S. Africa, along with stock selection in Switzerland. Key positive holdings for the quarter were Daito Trust Construction, a Japanese property developer; Swiss Life; Lufthansa; and Roche.</p> <p><i><u>Positioning:</u></i> Their top-down views show they have positive forecasts on telecom, banking, utilities, and food staples; negative forecasts on energy, semi-conductor, tech, pharma, and auto. From a country view, Portugal tops their forecasts supported by attractive valuations with an additional boost from quality and improved risk scores. Other top scorers include Israel and Japan. Hong Kong scores have also improved slightly but has a weak macro headwind such as trade competitiveness. Lastly, the US is their second weakest forecast since last quarter due to stretched valuations and increased equity volatility.</p> | <p>1</p> |



Returns presented are net of investment management fees

INVESTMENT MANAGER – Q2 FISCAL 2019 COMMENTARY

DETRACTORS

| | Commentary | Due Diligence Rating |
|--|--|----------------------|
| Hosking <i>Global Equity</i> | <p>Returned -14.5%, underperforming the MSCI ACWI Index by 170 bps.</p> <p><i>Detractors:</i> Stock selection was negative with financials and communications being the largest detractors. The overweight to financials was the largest detractor on an individual sector basis and the portfolio's underweight to defensive areas (utilities, healthcare and staples) acted as a drag. From a country perspective, stock selection in North America detracted the most while Europe, Japan, and Asia Pacific ex. Japan marginally detracted. Top 2 holdings detracting from performance were AIG and Citigroup.</p> <p><i>Contributors:</i> Allocation to emerging markets proved a relative positive, as did the underweight to information technology. At the stock level, the top contribution to relative performance came from not holding Apple, followed by holdings in Belmond Ltd., and Jardine Matheson Holdings.</p> <p><i>Positioning:</i> The portfolio saw historically low turnover, at 8%, with purchases reflecting a continuation towards areas of the market that remain out of favor. The Amazon position continued to be trimmed. The case for financials remain as banks have expanding net interest margins and have been cost cutting, helping book value per share growth exceed the US stock market. With US shares looking relatively expensive, Emerging Markets continues to remain a better place as inflation rates, current account deficits, and debt coverage ratios are well-contained and most currencies are floating.</p> | <p>1</p> |



Returns presented are net of investment management fees

INVESTMENT MANAGER – Q2 FISCAL 2019 COMMENTARY

DETRACTORS

| | Commentary | Due Diligence Rating |
|----------------------------------|---|----------------------|
| Artisan Global Equites | <p>Returned -15.5%, underperforming the MSCI EAFE by 270 bps</p> <p><i>Detractors:</i> Some of their holdings whose fundamentals were among the strongest for the year detracted from performance. The worst performing sectors were those most exposed to the potential fall-out of ongoing global trade tensions, this was particularly true in the industrials and consumer sectors. Communication holdings also detracted. Fevertree, Temenos and Activision Blizzard were among biggest detractors from a holding standpoint.</p> <p><i>Contributors:</i> The portfolio's health care holdings—though negative on an absolute basis—held up better than index peers. HDFC, Cree and Agilent—a new purchase in the quarter were some of the top performing holdings for the quarter. Underweights to materials and financials were also beneficial to the portfolio's performance.</p> <p><i>Positioning:</i> The year's relative volatility allowed them to be more active in the portfolio than in prior years. Their exposure to or exiting of campaigns which have become relatively less attractive, in favor of introducing new or adding to high-quality franchises trading at what they find to be compelling valuations. They remain positive on healthcare, energy, and software, driven by positive momentum; whereas automobiles, real estate, and utilities are viewed negatively. As part of their process, they continue to allocate assets to companies with the ability to compound profits in a reasonably wide range of economic scenarios.</p> | 1 |
| PIMCO Core Plus | <p>Returned 1.2%, trailing the Barclays US Aggregate Index by 40bps</p> <p><i>Detractors:</i> The strategy underperformed its benchmark as deductions from interest rate strategies more than offset contributions from currency and spread sectors. Specific detractors were the Non-U.S. duration strategies, including country selection in the eurozone and short duration exposure in select markets, positions in Agency and non-Agency MBS and Positions in high-yield corporates.</p> <p><i>Contributors:</i> The portfolio benefited from U.S. rate strategies, including duration, curve positioning, and instrument selection, underweight investment-grade corporate credit and tactical positions in select high-carry emerging market currencies.</p> <p><i>Positioning:</i> PIMCO remains tactical with currency positioning, particularly given less conviction in the overall direction of the dollar. They continue to underweight duration overall and maintain a preference for U.S. duration against rate exposure in other developed regions, including the U.K. and Japan. They also prefer intermediate portion of the curve against the long-end. Lastly, they are opportunistic in corporate credit, favoring housing-related credits and financials.</p> | 1 |



Returns presented are net of investment management fees

INVESTMENT MANAGER – Q2 FISCAL 2019 COMMENTARY

DETRACTORS

| | Commentary | Due Diligence Rating |
|--------------------------------------|--|----------------------|
| PIMCO <i>Unconstrained</i> | <p>Returned 0.3%, trailing the Custom Index (25% High Yield/25% EMD/50% Barclays Aggregate) by bps 90 bps</p> <p><i>Detractors:</i> Short exposure to interest rates in select developed market countries, specifically Japan, Italy and the UK, detracted from performance as global yields rallied amid bouts of equity volatility and growth concerns. Exposure to investment grade and high yield corporate credits detracted from performance as both sectors sold off alongside weakness in equity markets. Holdings of Agency and non-Agency mortgage-backed securities also hampered performance as excess supply from the Fed unwind weighed on the sector. Exposure to U.S. TIPS detracted as breakeven inflation rates came under heavy pressure in concert with lower oil prices. Holdings of US dollar-denominated EM debt, specifically sovereigns, weighed on performance as the sector posted negative returns.</p> <p><i>Contributors:</i> Exposure to U.S. interest rates and curve positioning contributed to performance as yields fell across much of the curve in Q4, with the 10-year rate down 38 bps to end the year at 2.68%. Holdings of select high carry emerging market currencies, such as the Argentine peso and Turkish lira, contributed to performance as both currencies rallied, helped in part by favorable policy measures.</p> <p><i>Positioning:</i> Retain a defensive position on duration with a focus on relative value. Looking to selectively invest in corporate credit with a focus on high quality positions. Continue to diversify spread exposures, seeing value in Agency and non-Agency MBS and select relative value positions in EM debt. Favor long positions in higher yield EM currencies, such as the Russian ruble, Argentine peso, and Turkish lira, versus a basket of lower yielding Asian currencies, such as the Taiwanese and Singapore dollars. Favor the US dollar versus developed market currencies as well.</p> | 1 |



Returns presented are net of investment management fees

INVESTMENT MANAGER – Q2 FISCAL 2019 COMMENTARY

DETRACTORS

| | Commentary | Due Diligence Rating |
|---|---|----------------------|
| <p>Wellington Opportunistic Emerging Market Debt</p> | <p>Returned -2.3%, underperforming the JP Morgan EMBI Global Index by 110 bps</p> <p><i>Detractors:</i> An underweight to China detracted from performance. An underweight to Brazil, given concerns about President Bolsonaro’s ability to pass fiscal reforms needed to stabilize debt. Negative security selection, specifically a lack of exposure to external sovereign debt, also detracted. Positioning within external quasi-sovereign debt, in Venezuela, negatively impacted performance. An overweight to the Ivory Coast hurt performance. Negative security selection in Kazakhstan, specifically an allocation to external corporate debt of Nostrum Oil & Gas, detracted from results.</p> <p><i>Contributors:</i> An out-of-index allocation to Qatar and Oman contributed to performance. Positive security selection in Croatia, specifically an allocation to EUR denominated sovereign debt, helped results. An overweight country allocation to Morocco enhanced results. Valuations remain fair to slightly cheap with a positive fundamental trend.</p> <p><i>Positioning:</i> Balancing stable emerging market fundamentals and attractive valuations against risks around US Federal Reserve policies, trade protectionism and China growth. They favor select frontier markets with IMF support and strong reform stories. They favor Gulf Cooperation Council (GCC) countries with reform momentum and attractive valuations relative to credit quality. Favor Central and Eastern European countries with improving fundamentals not recognized by markets. Underweight investment grade countries in Latin America where valuations are not attractive. Underweight much of Asia also due to lack of attractive valuations. Favor issuers in Eastern Europe and the Middle East over Asia and Latin America. Cautious on Mexico given the risks around new President AMLO’s policies.</p> | <p>1</p> |
| <p>Allianz Structured Alpha</p> | <p>Returned -4.1%, underperforming the 91 Day T-Bills by 460 bps</p> <p><i>Detractors:</i> Range-bound positions could not fully withstand the move of the VIX as the path of the S&P 500 in October and December were volatile. They had to restructure the entire book over several days in the second half of the quarter. To keep the cost contained they had to extend duration. Therefore, the range-bound spreads were extended diagonally with expirations into February and March. The cost appears to be manageable, but the tradeoff is that the book is longer-dated.</p> <p><i>Positioning:</i> 2018 was a difficult year for Allianz. They fell short of their alpha targets and delivered negative excess returns for the year. They believe they have kept the strategy in position for a profitable 2019.</p> | <p>1</p> |



NEPC'S DUE DILIGENCE MONITOR

| Investment Options | Manager Changes/ Announcements (Recent Quarter) | NEPC Due Diligence Committee Recommendations |
|--|--|--|
| PIMCO <i>Core Plus Unconstrained High Yield</i> | NEPC's Unfavorable News Committee recommended upgrading PIMCO from Watch to No Action. | No Action |
| Champlain <i>Non-U.S. Small Cap Equity</i> | NEPC Research was notified that health care analyst, Erik Giard-Chase has given his notice. | No Action |
| Strategic Global Advisors <i>International Small Cap</i> | NEPC Research was notified that Brett Gallagher has joined Strategic Global Advisors as President. Founder and CEO, Cynthia Tusan, will assume the role of Chairwoman of the Board of Directors for the firm. Elyse Waldinger also joined the firm as Chief Operating Officer. | No Action |

| NEPC Due Diligence Status Key | |
|-------------------------------|--|
| No Action | Informational items have surfaced; no action is recommended. |
| Watch | Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues. |
| Hold | Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues. |
| Client Review | Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager. |
| Terminate | We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager. |



NEPC'S QUARTERLY DUE DILIGENCE DETAIL

| Manager | Summary | Action |
|---|--|-----------|
| PIMCO <i>High Yield Core Plus Unconstrained</i> | The Unfavorable News Committee recommended upgrading PIMCO from Watch to No Action. The committee agreed. This recommendation was made after Stacy Schaus and PIMCO settled their litigation out of court. As a reminder, Ms. Schaus filed a lawsuit against PIMO in 21018 for age and sex discrimination. | No Action |
| Champlain <i>Non-U.S. Small Cap Equity</i> | NEPC Research was notified that health care analyst, Erik Giard-Chase has given his notice. He wants to go back to school full-time to study in the field of neuroscience and has given the firm a one-year notice, as he won't likely start school until 2020. Mr. Giard-Chase is one of two analysts covering health care. Robert Hallisey is the other health care analyst at the firm. The firm has contacted a recruiter to find a replacement. As a reminder, Scott Brayman leads the small and mid-cap team at the firm. While NEPC does not like seeing team turnover, we feel that there is enough notice for Champlain to find a suitable replacement that there should be no material impact and are recommending No Action. | No Action |
| Strategic Global Advisors <i>International Small Cap</i> | <p>NEPC Research was notified that Brett Gallagher has joined Strategic Global Advisors as President. Founder and CEO, Cynthia Tusan, will assume the role of Chairwoman of the Board of Directors for the firm. Elyse Waldinger also joined the firm as Chief Operating Officer. Brett has more than 35 years of investment industry experience and comes to SGA from Nile Capital. He spent 14 years with Artio Global Investors, including six years as Deputy CIO. Cynthia will remain a Portfolio Manager alongside Chief Investment Officer Gary Baierl, and three other portfolio managers. Cynthia will be running the newly formed SGA Board of Directors in addition to her portfolio management responsibilities. Elyse joins SGA with over 18 years of institutional investment operations experience and is responsible for oversight of the Operations and IT teams. As a reminder Joel Reynolds joined as Chief Compliance Officer in July of 2018. In September of 2018 John Whittaker left the firm. This decision was made by SGA as a strategic initiative to divide up his dual role of CCO/COO at the time which as now been filled by Elyse and Joel.</p> <p>NEPC Research is comfortable with the changes put in place by SGA. The investment team is led by Cynthia Tusan, CEO and Portfolio Manager, as well as Gary Baierl, CIO. They are supported by portfolio managers and research staff. SGA uses a team based approach throughout the investment process where a consensus is reached for all decisions. As a reminder SGA runs a quantitative process with PM override for risk controls. CIO Gary Baierl and the marketing team will report into Brett Gallagher. Nile Capital has served in an advisory role to SGA for marketing, operations and hiring since taking a minority stake in the firm in late 2015. NEPC Research recommends No Action</p> | No Action |



CORRELATION MATRIX

| | VPIC Investment Managers | | | | | | | Indices | | | | | | | | |
|--------------------------|--------------------------|----------|---------|----------|-----------|----------|------------------|------------|-----------------|-----------------|-------------------------|-----------------|---------------|-----------------|----------------|-------------------|
| Manager/ Index | Acadian | Aberdeen | Artisan | Hoskings | Champlain | Mondrian | SGA Int'l SCC | S&P 500 | Russell 3000 | Russell 1000 | 60% S&P500 40% BCAgg | Russell 2000 | LIBOR 3Mos | Russell 2500 | BBAgg Index | GSCI Commodity |
| Acadian | 1.000 | | | | | | | | | | | | | | | |
| Aberdeen | 0.738 | 1.000 | | | | | | | | | | | | | | |
| Artisan | 0.867 | 0.652 | 1.000 | | | | | | | | | | | | | |
| Hoskings | 0.903 | 0.676 | 0.879 | 1.000 | | | | | | | | | | | | |
| Champlain | 0.740 | 0.565 | 0.812 | 0.822 | 1.000 | | | | | | | | | | | |
| Mondrian | 0.887 | 0.736 | 0.761 | 0.835 | 0.647 | 1.000 | | | | | | | | | | |
| SGA Int'l SCC | 0.939 | 0.649 | 0.880 | 0.874 | 0.731 | 0.806 | 1.000 | | | | | | | | | |
| S&P 500 | 0.786 | 0.574 | 0.835 | 0.892 | 0.903 | 0.742 | 0.747 | 1.000 | | | | | | | | |
| Russell 3000 | 0.782 | 0.551 | 0.841 | 0.888 | 0.927 | 0.719 | 0.752 | 0.995 | 1.000 | | | | | | | |
| Russell 1000 | 0.790 | 0.569 | 0.843 | 0.894 | 0.917 | 0.736 | 0.754 | 0.999 | 0.998 | 1.000 | | | | | | |
| 60% S&P 500 40% BCAgg | 0.800 | 0.622 | 0.839 | 0.879 | 0.885 | 0.749 | 0.750 | 0.985 | 0.980 | 0.985 | 1.000 | | | | | |
| Russell 2000 | 0.594 | 0.314 | 0.697 | 0.712 | 0.875 | 0.463 | 0.618 | 0.816 | 0.868 | 0.838 | 0.793 | 1.000 | | | | |
| LIBOR 3Mos | -0.108 | -0.019 | -0.118 | -0.154 | -0.041 | -0.061 | -0.207 | -0.094 | -0.094 | -0.094 | -0.096 | -0.088 | 1.000 | | | |
| Russell 2500 | 0.675 | 0.402 | 0.762 | 0.778 | 0.919 | 0.551 | 0.681 | 0.878 | 0.922 | 0.899 | 0.865 | 0.985 | -0.097 | 1.000 | | |
| BCAgg Index | 0.034 | 0.244 | -0.025 | -0.131 | -0.162 | -0.005 | -0.027 | -0.145 | -0.142 | -0.136 | 0.027 | -0.180 | -0.006 | -0.130 | 1.000 | |
| GSCI Commodity | 0.409 | 0.255 | 0.308 | 0.331 | 0.413 | 0.397 | 0.395 | 0.318 | 0.326 | 0.324 | 0.276 | 0.297 | 0.138 | 0.321 | -0.260 | 1.000 |

Time Period: 5.17 Years (Most Common Period as of 12/31/18)

Notes:

Correlation data provided by eVestment and is not independently verified by NEPC
Correlation data is based on fund composite and not VPIC specific



INDEX CORRELATION MATRIX

One Year Correlation

| Index | Bloomberg Barclays Global Aggregate | Bloomberg Barclays US Aggregate | Bloomberg Barclays US TIPS | Bloomberg Commodity | JPM EMBI Global | MSCI ACWI | MSCI ACWI ex-US | MSCI EAFE EME | MSCI EAFE Small Cap | MSCI Frontier Emerging Markets | Russell 3000 | S&P 500 | S&P/LSTA Leveraged Loan |
|-------------------------------------|-------------------------------------|---------------------------------|----------------------------|---------------------|-----------------|-----------|-----------------|---------------|---------------------|--------------------------------|--------------|---------|-------------------------|
| Bloomberg Barclays Global Aggregate | 1.00 | 0.59 | 0.45 | -0.46 | 0.47 | 0.00 | 0.16 | 0.18 | 0.08 | 0.44 | -0.12 | -0.12 | -0.50 |
| Bloomberg Barclays US Aggregate | 0.59 | 1.00 | 0.79 | -0.57 | 0.31 | -0.27 | -0.24 | -0.24 | -0.25 | -0.20 | -0.23 | -0.26 | -0.72 |
| Bloomberg Barclays US TIPS | 0.45 | 0.79 | 1.00 | -0.24 | 0.06 | 0.05 | 0.02 | 0.02 | 0.13 | -0.12 | 0.13 | 0.07 | -0.37 |
| Bloomberg Commodity | -0.46 | -0.57 | -0.24 | 1.00 | -0.14 | 0.62 | 0.55 | 0.55 | 0.65 | 0.12 | 0.62 | 0.62 | 0.71 |
| JPM EMBI Global | 0.47 | 0.31 | 0.06 | -0.14 | 1.00 | 0.21 | 0.41 | 0.42 | 0.21 | 0.50 | 0.03 | 0.05 | -0.16 |
| MSCI ACWI (Price) | 0.00 | -0.27 | 0.05 | 0.62 | 0.21 | 1.00 | 0.93 | 0.92 | 0.95 | 0.55 | 0.95 | 0.96 | 0.61 |
| MSCI ACWI ex-US (Price) | 0.16 | -0.24 | 0.02 | 0.55 | 0.41 | 0.93 | 1.00 | 1.00 | 0.94 | 0.75 | 0.78 | 0.80 | 0.44 |
| MSCI EAFE + EM-ND | 0.18 | -0.24 | 0.02 | 0.55 | 0.42 | 0.92 | 1.00 | 1.00 | 0.94 | 0.75 | 0.77 | 0.79 | 0.42 |
| MSCI EAFE Small Cap-ND | 0.08 | -0.25 | 0.13 | 0.65 | 0.21 | 0.95 | 0.94 | 0.94 | 1.00 | 0.56 | 0.87 | 0.87 | 0.57 |
| MSCI Frontier Emerging Markets-ND | 0.44 | -0.20 | -0.12 | 0.12 | 0.50 | 0.55 | 0.75 | 0.75 | 0.56 | 1.00 | 0.33 | 0.36 | 0.15 |
| Russell 3000 | -0.12 | -0.23 | 0.13 | 0.62 | 0.03 | 0.95 | 0.78 | 0.77 | 0.87 | 0.33 | 1.00 | 1.00 | 0.66 |
| S&P 500 | -0.12 | -0.26 | 0.07 | 0.62 | 0.05 | 0.96 | 0.80 | 0.79 | 0.87 | 0.36 | 1.00 | 1.00 | 0.67 |
| S&P/LSTA Leveraged Loan | -0.50 | -0.72 | -0.37 | 0.71 | -0.16 | 0.61 | 0.44 | 0.42 | 0.57 | 0.15 | 0.66 | 0.67 | 1.00 |

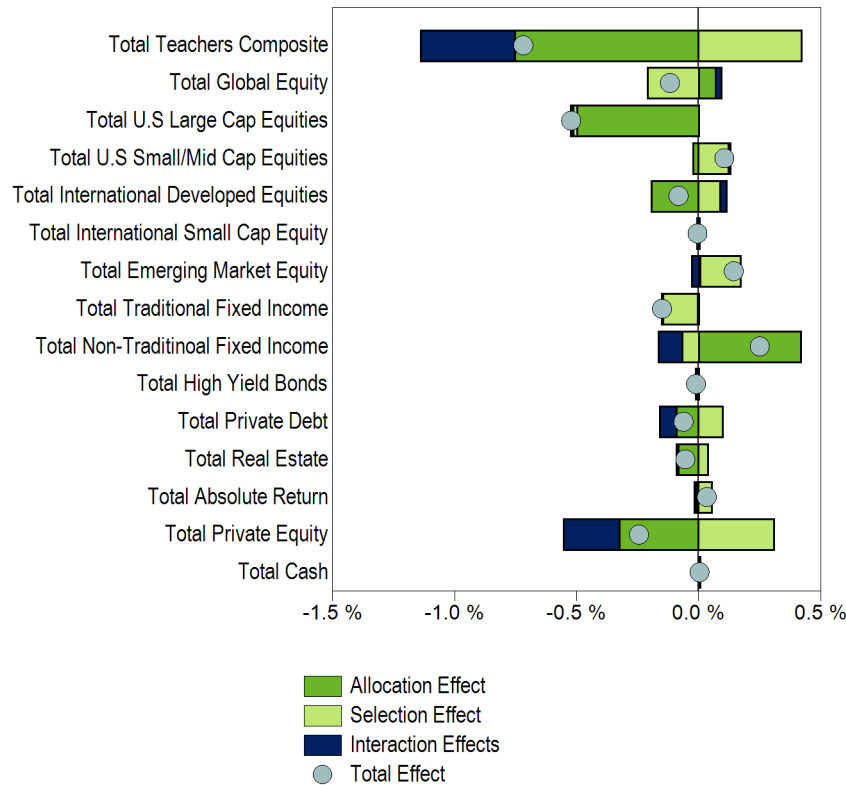
Three Year Correlation

| Index | Bloomberg Barclays Global Aggregate | Bloomberg Barclays US Aggregate | Bloomberg Barclays US TIPS | Bloomberg Commodity | JPM EMBI Global | MSCI ACWI | MSCI ACWI ex-US | MSCI EAFE EME | MSCI EAFE Small Cap | MSCI Frontier Emerging Markets | Russell 3000 | S&P 500 | S&P/LSTA Leveraged Loan |
|-------------------------------------|-------------------------------------|---------------------------------|----------------------------|---------------------|-----------------|-----------|-----------------|---------------|---------------------|--------------------------------|--------------|---------|-------------------------|
| Bloomberg Barclays Global Aggregate | 1.00 | 0.77 | 0.75 | 0.06 | 0.74 | 0.18 | 0.32 | 0.33 | 0.27 | 0.56 | 0.01 | 0.03 | -0.04 |
| Bloomberg Barclays US Aggregate | 0.77 | 1.00 | 0.84 | -0.12 | 0.66 | -0.09 | 0.01 | 0.03 | -0.01 | 0.21 | -0.18 | -0.17 | -0.25 |
| Bloomberg Barclays US TIPS | 0.75 | 0.84 | 1.00 | 0.10 | 0.59 | 0.12 | 0.18 | 0.18 | 0.17 | 0.31 | 0.04 | 0.04 | -0.01 |
| Bloomberg Commodity | 0.06 | -0.12 | 0.10 | 1.00 | 0.17 | 0.40 | 0.36 | 0.34 | 0.31 | 0.25 | 0.39 | 0.39 | 0.57 |
| JPM EMBI Global | 0.74 | 0.66 | 0.59 | 0.17 | 1.00 | 0.34 | 0.49 | 0.50 | 0.38 | 0.65 | 0.14 | 0.16 | 0.21 |
| MSCI ACWI (Price) | 0.18 | -0.09 | 0.12 | 0.40 | 0.34 | 1.00 | 0.94 | 0.93 | 0.91 | 0.66 | 0.93 | 0.94 | 0.68 |
| MSCI ACWI ex-US (Price) | 0.32 | 0.01 | 0.18 | 0.36 | 0.49 | 0.94 | 1.00 | 1.00 | 0.94 | 0.81 | 0.75 | 0.76 | 0.62 |
| MSCI EAFE + EM-ND | 0.33 | 0.03 | 0.18 | 0.34 | 0.50 | 0.93 | 1.00 | 1.00 | 0.94 | 0.81 | 0.74 | 0.75 | 0.62 |
| MSCI EAFE Small Cap-ND | 0.27 | -0.01 | 0.17 | 0.31 | 0.38 | 0.91 | 0.94 | 0.94 | 1.00 | 0.72 | 0.77 | 0.77 | 0.65 |
| MSCI Frontier Emerging Markets-ND | 0.56 | 0.21 | 0.31 | 0.25 | 0.65 | 0.66 | 0.81 | 0.81 | 0.72 | 1.00 | 0.42 | 0.44 | 0.42 |
| Russell 3000 | 0.01 | -0.18 | 0.04 | 0.39 | 0.14 | 0.93 | 0.75 | 0.74 | 0.77 | 0.42 | 1.00 | 1.00 | 0.64 |
| S&P 500 | 0.03 | -0.17 | 0.04 | 0.39 | 0.16 | 0.94 | 0.76 | 0.75 | 0.77 | 0.44 | 1.00 | 1.00 | 0.64 |
| S&P/LSTA Leveraged Loan | -0.04 | -0.25 | -0.01 | 0.57 | 0.21 | 0.68 | 0.62 | 0.62 | 0.65 | 0.42 | 0.64 | 0.64 | 1.00 |



TOTAL FUND ATTRIBUTION ANALYSIS - NET

Attribution Effects Relative to Allocation Index
3 Months Ending December 31, 2018



Absolute Return's Wtd. index Return is calculated using a weighting of the respective benchmarks for each underlying strategy part of the composite

Attribution Summary
3 Months Ending December 31, 2018

| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction Effects | Total Effects |
|--|--------------------|-------------------|---------------|------------------|-------------------|---------------------|---------------|
| Total Global Equity | -14.9% | -12.8% | -2.2% | -0.2% | 0.1% | 0.0% | -0.1% |
| Total U.S Large Cap Equities | -13.6% | -13.5% | -0.1% | 0.0% | -0.5% | 0.0% | -0.5% |
| Total U.S Small/Mid Cap Equities | -15.7% | -18.5% | 2.8% | 0.1% | 0.0% | 0.0% | 0.1% |
| Total International Developed Equities | -11.7% | -12.5% | 0.8% | 0.1% | -0.2% | 0.0% | -0.1% |
| Total International Small Cap Equity | -7.4% | -16.0% | 8.7% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total Emerging Market Equity | -3.4% | -7.5% | 4.1% | 0.2% | 0.0% | 0.0% | 0.1% |
| Total Traditional Fixed Income | 0.9% | 1.6% | -0.8% | -0.1% | 0.0% | 0.0% | -0.2% |
| Total Non-Traditional Fixed Income | -0.2% | 1.6% | -1.8% | -0.1% | 0.4% | -0.1% | 0.2% |
| Total High Yield Bonds | -4.7% | -4.5% | -0.1% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total Private Debt | -1.5% | -3.5% | 2.0% | 0.1% | -0.1% | -0.1% | -0.1% |
| Total Real Estate | 1.8% | 1.4% | 0.5% | 0.0% | -0.1% | 0.0% | -0.1% |
| Total Absolute Return | -4.3% | -4.9% | 0.6% | 0.1% | 0.0% | 0.0% | 0.0% |
| Total Private Equity | 1.5% | -1.7% | 3.2% | 0.3% | -0.3% | -0.2% | -0.2% |
| Total Cash | 0.0% | 0.6% | -0.6% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -6.7% | -6.0% | -0.7% | 0.4% | -0.8% | -0.4% | -0.7% |

Note: Plan attribution calculations are returns based and the results shown reflect the composites shown. As a result, the total returns shown may vary from the calculated returns shown on the performance report

The target return shown for each composite is a custom index, based on aggregated policy indices. This policy index asset weights the underlying policy indices of each option in the plan and the respective benchmark

The allocation, selection, and interaction effects are calculated using the custom index described above alongwith the policy or target weight of each composite

May not add up due to rounding



ANALYTICS DEFINITIONS

Asset Allocation Effect - Measures VPIC's ability to effectively allocate their portfolio's assets to various asset classes. The allocation effect determines whether the overweighting or underweighting of asset classes relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is overweighted in an asset class that outperforms the benchmark. Negative allocation occurs when the portfolio is overweighted in an asset class that underperforms the benchmark and underweighted in an asset class that outperforms the benchmark.

Selection Effect - Measures VPIC's ability to select managers within a given asset class relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by VPIC's allocation to the asset class. The weight of the manager in the portfolio determines the size of the effect -- the larger the manager, the larger the effect is, positive or negative.

Interaction Effect - The interaction effect measures the combined impact of VPIC's manager selection and manager allocation decisions within an asset class. For example, if VPIC had superior manager selection and overweighted that particular asset class, the interaction effect is positive. If VPIC had superior manager selection, but underweighted that asset class, the interaction effect is negative. In this case, VPIC did not take advantage of the superior manager selection by allocating more assets to that asset class.

Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|--|----------------------|----------------|--------------|--------------|-----------|----------------|-----------|-------------|-----------|------------|-----------|------------|-----------|-------------|-----------|----------------|
| Total Teachers Composite | 1,773,000,285 | 100.0 | 100.0 | -6.8 | 21 | -4.4 | 26 | -4.2 | 41 | 6.0 | 25 | 4.0 | 72 | 8.0 | 47 | Mar-92 |
| Allocation Index | | | | -7.0 | 24 | -4.6 | 33 | -4.6 | 53 | 5.6 | 46 | 3.7 | 86 | 7.2 | 80 | Mar-92 |
| Policy Index | | | | -6.0 | 9 | -3.6 | 8 | -3.4 | 22 | 5.9 | 31 | 4.0 | 72 | 7.0 | 83 | Mar-92 |
| InvestorForce Public DB < \$5 Billion Net Median | | | | -8.1 | | -5.2 | | -4.5 | | 5.6 | | 4.4 | | 7.9 | | Mar-92 |
| Total Domestic Equity | 410,334,496 | 23.1 | 18.0 | -14.0 | 29 | -7.7 | 25 | -4.3 | 29 | 9.2 | 26 | 7.8 | 24 | -- | -- | Jul-13 |
| Russell 3000 | | | | -14.3 | 32 | -8.2 | 29 | -5.2 | 36 | 9.0 | 28 | 7.9 | 23 | 13.2 | 40 | Jul-13 |
| eV All US Equity Net Median | | | | -16.2 | | -11.2 | | -7.6 | | 7.3 | | 5.9 | | 12.6 | | Jul-13 |
| Total Large Cap Equities | 343,205,997 | 19.4 | 14.0 | -13.6 | 42 | -7.4 | 40 | -5.0 | 44 | 9.1 | 29 | 8.1 | 31 | 14.4 | 19 | Apr-01 |
| S&P 500 | | | | -13.5 | 41 | -6.9 | 34 | -4.4 | 38 | 9.3 | 26 | 8.5 | 24 | 13.1 | 33 | Apr-01 |
| eV US Large Cap Equity Net Median | | | | -14.2 | | -8.3 | | -5.8 | | 7.8 | | 7.1 | | 12.3 | | Apr-01 |
| SSgA S&P 500 Cap-Wgt | 276,157,354 | 15.6 | 10.0 | -13.6 | 41 | -6.9 | 34 | -4.4 | 38 | 9.3 | 26 | 8.5 | 24 | -- | -- | Sep-10 |
| SSgA S&P 500 Equal-Wgt | 67,047,253 | 3.8 | 4.0 | -14.0 | 48 | -9.3 | 65 | -7.6 | 63 | 8.2 | 43 | 7.1 | 51 | 14.9 | 12 | Dec-05 |
| S&P 500 Equal Weighted | | | | -13.9 | 47 | -9.2 | 64 | -7.6 | 63 | 8.0 | 45 | 7.1 | 50 | 15.0 | 12 | Dec-05 |
| Total Small/Mid Cap Equities | 67,128,500 | 3.8 | 4.0 | -15.7 | 18 | -9.6 | 9 | 0.5 | 8 | 9.9 | 18 | 7.5 | 10 | 14.3 | 21 | Apr-01 |
| Russell 2500 | | | | -18.5 | 47 | -14.7 | 51 | -10.0 | 46 | 7.3 | 42 | 5.1 | 36 | 13.2 | 39 | Apr-01 |
| eV US Small-Mid Cap Equity Net Median | | | | -18.6 | | -14.6 | | -10.6 | | 6.5 | | 4.5 | | 12.7 | | Apr-01 |
| Champlain | 67,128,500 | 3.8 | 4.0 | -15.7 | 18 | -9.6 | 9 | 0.5 | 8 | 12.0 | 4 | 9.1 | 3 | -- | -- | Oct-09 |
| Custom SMID Cap Equity Index | | | | -19.3 | 60 | -16.0 | 63 | -10.5 | 49 | 8.0 | 31 | 5.1 | 36 | 13.1 | 39 | Oct-09 |

Custom SMID Cap Equity Index is 50% Russell 2500 and 50% Russell 2000 starting 10/1/2017, and 100% Russell 2500 prior, corresponding to the change in strategy

Returns are net of manager fees

Management fees for SSgA S&P 500 Cap-Wgt and SSgA S&P 500 Equal-Wgt are preliminary as of 12/31/2018, and subject to change when finalized

Long term policy consists of: 14% S&P 500 / 4% Russell 2500 / 10% MSCI EAFE / 4% MSCI Emerging Markets / 9% MSCI ACWI / 2% BBgBarc US High Yield TR / 2% MSCI EAFE Small Cap / 20% BBgBarc US Aggregate TR / 4% JP Morgan EMBI Global Index / 5% S&P/LSTA Leveraged Loan TR / 10 % Cambridge Associates US All PE / 8% HFRI Fund of Funds Composite Index / 8% NCREIF Property Index

Fiscal Year End is 6/30



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|--------------------|----------------|-------------|--------------|-----------|----------------|-----------|--------------|-----------|------------|-----------|------------|-----------|------------|-----------|----------------|
| Total Non US Equity | 454,774,464 | 25.6 | 25.0 | -11.9 | 24 | -10.7 | 19 | -14.8 | 40 | 5.9 | 19 | 1.7 | 43 | -- | -- | Apr-01 |
| MSCI ACWI ex USA | | | | -11.5 | 19 | -10.8 | 20 | -14.2 | 34 | 4.5 | 37 | 0.7 | 61 | 6.6 | 73 | Apr-01 |
| eV All ACWI ex-US Equity Net Median | | | | -13.8 | | -13.7 | | -15.9 | | 3.6 | | 1.1 | | 8.1 | | Apr-01 |
| Total Core Non US Equity | 223,355,592 | 12.6 | 10.0 | -11.8 | 21 | -10.8 | 23 | -14.0 | 39 | 5.4 | 16 | 2.3 | 27 | 6.8 | 67 | Apr-01 |
| MSCI EAFE | | | | -12.5 | 27 | -11.4 | 30 | -13.8 | 38 | 2.9 | 50 | 0.5 | 68 | 6.3 | 78 | Apr-01 |
| eV All EAFE Equity Net Median | | | | -14.0 | | -13.5 | | -15.7 | | 2.9 | | 1.2 | | 7.2 | | Apr-01 |
| SSgA ACWI Ex US | 116,976,370 | 6.6 | 3.0 | -11.4 | 15 | -10.8 | 20 | -14.0 | 37 | 4.7 | 42 | 0.9 | 62 | -- | -- | Sep-10 |
| MSCI ACWI ex USA | | | | -11.5 | 15 | -10.8 | 20 | -14.2 | 39 | 4.5 | 44 | 0.7 | 64 | 6.6 | 74 | Sep-10 |
| eV ACWI ex-US All Cap Equity Net Median | | | | -14.0 | | -13.4 | | -15.4 | | 3.7 | | 1.7 | | 8.3 | | Sep-10 |
| Acadian | 49,056,747 | 2.8 | 3.5 | -14.5 | 57 | -13.6 | 52 | -15.9 | 52 | 7.3 | 3 | 4.2 | 9 | 8.5 | 34 | Nov-05 |
| Mondrian | 57,322,475 | 3.2 | 3.5 | -9.8 | 7 | -8.0 | 7 | -11.7 | 19 | 4.0 | 27 | 1.3 | 47 | 5.9 | 86 | Jan-93 |
| MSCI EAFE | | | | -12.5 | 27 | -11.4 | 30 | -13.8 | 38 | 2.9 | 50 | 0.5 | 68 | 6.3 | 78 | Jan-93 |
| Total Global Equity | 134,269,590 | 7.6 | 9.0 | -14.9 | 67 | -12.7 | 72 | -- | -- | -- | -- | -- | -- | -- | -- | Feb-18 |
| MSCI ACWI | | | | -12.8 | 44 | -9.0 | 39 | -9.4 | 51 | 6.6 | 33 | 4.3 | 52 | 9.5 | 54 | Feb-18 |
| eV All Global Equity Net Median | | | | -13.5 | | -10.3 | | -9.4 | | 5.8 | | 4.4 | | 9.7 | | Feb-18 |
| Artisan Global Opportunities | 70,112,322 | 4.0 | 4.5 | -15.4 | 72 | -12.4 | 69 | -- | -- | -- | -- | -- | -- | -- | -- | Jul-18 |
| Hosking Global Equity | 64,157,269 | 3.6 | 4.5 | -14.5 | 62 | -13.0 | 75 | -- | -- | -- | -- | -- | -- | -- | -- | Feb-18 |
| MSCI ACWI | | | | -12.8 | 44 | -9.0 | 39 | -9.4 | 51 | 6.6 | 33 | 4.3 | 52 | 9.5 | 54 | Feb-18 |
| Total International Small Cap Equity | 34,215,175 | 1.9 | 2.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Oct-18 |
| MSCI EAFE Small Cap | | | | -16.0 | 32 | -16.8 | 35 | -17.9 | 27 | 3.7 | 44 | 3.1 | 45 | 10.5 | 69 | Oct-18 |
| eV EAFE Small Cap Equity Net Median | | | | -17.2 | | -18.1 | | -20.2 | | 3.1 | | 2.9 | | 11.5 | | Oct-18 |
| SGA International Small Cap Equity | 34,215,175 | 1.9 | 2.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Nov-18 |
| MSCI EAFE Small Cap | | | | -16.0 | 32 | -16.8 | 35 | -17.9 | 27 | 3.7 | 44 | 3.1 | 45 | 10.5 | 69 | Nov-18 |
| Total Emerging Market Equity | 62,934,107 | 3.5 | 4.0 | -3.4 | 7 | -3.8 | 8 | -14.3 | 28 | 7.9 | 49 | 1.3 | 53 | 9.9 | 22 | Feb-08 |
| MSCI Emerging Markets | | | | -7.5 | 46 | -8.5 | 32 | -14.6 | 29 | 9.2 | 25 | 1.6 | 43 | 8.0 | 63 | Feb-08 |
| eV Emg Mkts Equity Net Median | | | | -7.7 | | -10.7 | | -16.2 | | 7.8 | | 1.4 | | 8.8 | | Feb-08 |
| Aberdeen | 62,934,107 | 3.5 | 4.0 | -3.4 | 7 | -3.8 | 8 | -14.3 | 28 | 7.9 | 49 | 1.2 | 54 | 9.8 | 22 | Feb-08 |
| MSCI Emerging Markets | | | | -7.5 | 46 | -8.5 | 32 | -14.6 | 29 | 9.2 | 25 | 1.6 | 43 | 8.0 | 63 | Feb-08 |

SGA International Small Cap Equity was funded on 10/15/2018 therefore 3 month performance is unavailable

Management fees for SSgA ACWI Ex US are preliminary as of 12/31/2018, and subject to change when finalized

Fiscal Year End is 6/30



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|--------------------|----------------|-------------|-------------|-----------|----------------|-----------|-------------|-----------|------------|-----------|------------|-----------|------------|-----------|----------------|
| Total Fixed Income | 565,629,900 | 31.9 | 26.0 | 0.3 | 62 | 0.4 | 68 | -0.9 | 70 | 4.0 | 26 | 3.4 | 26 | -- | -- | Jul-13 |
| <i>BBgBarc US Aggregate TR</i> | | | | 1.6 | 11 | 1.7 | 14 | 0.0 | 55 | 2.1 | 59 | 2.5 | 52 | 3.5 | 64 | Jul-13 |
| <i>eV All US Fixed Inc Net Median</i> | | | | 0.6 | | 1.0 | | 0.3 | | 2.4 | | 2.5 | | 4.2 | | Jul-13 |
| Total Diversified Fixed Income | 471,039,831 | 26.6 | 20.0 | 1.0 | 38 | 0.7 | 61 | 0.0 | 55 | 2.9 | 41 | 3.1 | 33 | 5.5 | 37 | Jul-03 |
| <i>BBgBarc US Aggregate TR</i> | | | | 1.6 | 11 | 1.7 | 14 | 0.0 | 55 | 2.1 | 59 | 2.5 | 52 | 3.5 | 64 | Jul-03 |
| <i>eV All US Fixed Inc Net Median</i> | | | | 0.6 | | 1.0 | | 0.3 | | 2.4 | | 2.5 | | 4.2 | | Jul-03 |
| SSgA Barclays Aggregate Index | 203,948,308 | 11.5 | 8.0 | 1.7 | 15 | 1.7 | 20 | 0.0 | 40 | 2.0 | 65 | -- | -- | -- | -- | Feb-15 |
| PIMCO Core Plus | 111,084,906 | 6.3 | 4.0 | 1.2 | 18 | 1.4 | 17 | 0.0 | 20 | 2.4 | 81 | 2.6 | 67 | -- | -- | Nov-09 |
| <i>BBgBarc US Aggregate TR</i> | | | | 1.6 | 7 | 1.7 | 8 | 0.0 | 21 | 2.1 | 88 | 2.5 | 73 | 3.5 | 99 | Nov-09 |
| <i>eV US Core Plus Fixed Inc Net Median</i> | | | | 0.5 | | 0.9 | | -0.6 | | 2.9 | | 2.9 | | 5.4 | | Nov-09 |
| GAM Unconstrained Bond | 12,423,277 | 0.7 | 0.0 | 1.5 | 5 | 0.6 | 24 | 1.2 | 18 | 4.5 | 29 | -- | -- | -- | -- | Jun-15 |
| PIMCO Unconstrained | 35,916,089 | 2.0 | 2.0 | 0.3 | 11 | 1.1 | 6 | 1.8 | 7 | 3.9 | 47 | 2.3 | 56 | -- | -- | Jul-11 |
| <i>PIMCO Unconstrained Custom Index</i> | | | | -0.6 | 28 | 0.5 | 25 | -1.6 | 54 | 4.0 | 42 | -- | -- | -- | -- | Jul-11 |
| <i>3-Month Libor Total Return USD</i> | | | | 0.7 | 7 | 1.3 | 5 | 2.4 | 3 | 1.5 | 88 | 1.0 | 88 | 0.7 | 99 | Jul-11 |
| <i>eV Global Unconstrained Fixed Inc Net Median</i> | | | | -0.9 | | -0.6 | | -1.1 | | 3.9 | | 2.5 | | 5.8 | | Jul-11 |
| BlackRock TIPS | 107,667,250 | 6.1 | 6.0 | -0.5 | 39 | -1.3 | 49 | -1.4 | 44 | 2.1 | 46 | 1.6 | 33 | -- | -- | Dec-09 |
| <i>BBgBarc US TIPS TR</i> | | | | -0.4 | 31 | -1.2 | 35 | -1.3 | 39 | 2.1 | 38 | 1.7 | 28 | 3.6 | 43 | Dec-09 |
| Total High Yield Bonds | 26,549,769 | 1.5 | 2.0 | -4.7 | 62 | -4.2 | 94 | -4.1 | 90 | 5.5 | 64 | 3.1 | 62 | 9.2 | 69 | May-06 |
| <i>BBgBarc US High Yield TR</i> | | | | -4.5 | 59 | -2.2 | 57 | -2.1 | 47 | 7.2 | 13 | 3.8 | 25 | 11.1 | 11 | May-06 |
| <i>eV US High Yield Fixed Inc Net Median</i> | | | | -4.1 | | -2.1 | | -2.2 | | 6.0 | | 3.3 | | 9.6 | | May-06 |
| PIMCO High Yield | 26,549,769 | 1.5 | 2.0 | -4.7 | 62 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Aug-18 |
| <i>BBgBarc US High Yield TR</i> | | | | -4.5 | 59 | -2.2 | 57 | -2.1 | 47 | 7.2 | 13 | 3.8 | 25 | 11.1 | 11 | Aug-18 |

PIMCO Unconstrained Custom Index is 25% HY, 25% EMD, 50% BC Agg

BlackRock TIPS Universe - eV US TIPS / Inflation Fixed Inc Net

Management fees for Blackrock TIPS and SSgA Barclays Aggregate Index are preliminary as of 12/31/2018, and subject to change when finalized

Fiscal Year End is 6/30



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|--------------------|----------------|------------|-------------|-----------|----------------|-----------|-------------|-----------|-------------|-----------|------------|-----------|------------|-----------|----------------|
| Total Emerging Market Debt | 68,040,300 | 3.8 | 4.0 | -2.3 | 92 | -0.5 | 69 | -5.8 | 48 | 5.5 | 41 | 4.3 | 13 | -- | -- | Nov-09 |
| JP Morgan EMBI Global Index | | | | -1.2 | 68 | 0.7 | 31 | -4.6 | 32 | 4.7 | 72 | 4.2 | 16 | 7.8 | 45 | Nov-09 |
| eV All Emg Mkts Fixed Inc Net Median | | | | -0.5 | | 0.0 | | -5.9 | | 5.2 | | 2.5 | | 7.5 | | Nov-09 |
| Wellington Opportunistic EMD | 68,040,300 | 3.8 | 4.0 | -2.3 | 92 | -0.5 | 69 | -5.8 | 48 | 5.5 | 41 | 4.3 | 13 | -- | -- | Jan-10 |
| JP Morgan EMBI Global Index | | | | -1.2 | 68 | 0.7 | 31 | -4.6 | 32 | 4.7 | 72 | 4.2 | 16 | 7.8 | 45 | Jan-10 |
| Total Private Debt | 31,420,339 | 1.8 | 5.0 | 0.0 | -- | 1.8 | -- | 6.0 | -- | -- | -- | -- | -- | -- | -- | Jan-18 |
| S&P/LSTA Leveraged Loan TR | | | | -3.5 | -- | -1.7 | -- | 0.4 | -- | 4.8 | -- | 3.1 | -- | 8.6 | -- | Jan-18 |
| BlueBay Direct Lending Fund III | 6,103,424 | 0.3 | 2.5 | 0.0 | -- | 0.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | Jul-18 |
| Benefit Street Partners | 25,316,915 | 1.4 | 2.5 | 0.0 | -- | 2.0 | -- | 6.3 | -- | -- | -- | -- | -- | -- | -- | Jan-18 |
| S&P/LSTA Leveraged Loan TR | | | | -3.5 | -- | -1.7 | -- | 0.4 | -- | 4.8 | -- | 3.1 | -- | 8.6 | -- | Jan-18 |
| Total Real Estate | 129,360,969 | 7.3 | 8.0 | 1.3 | -- | 2.7 | -- | 6.7 | -- | 7.3 | -- | 9.8 | -- | -- | -- | May-12 |
| NCREIF Property Index | | | | 1.4 | -- | 3.1 | -- | 6.7 | -- | 7.2 | -- | 9.3 | -- | 7.5 | -- | May-12 |
| Total Real Estate Core | 110,786,702 | 6.2 | 4.5 | 1.5 | -- | 2.8 | -- | 6.2 | -- | 6.3 | -- | 9.4 | -- | -- | -- | May-12 |
| UBS Trumbull | 110,658,255 | 6.2 | 4.5 | 1.5 | -- | 2.8 | -- | 6.2 | -- | 5.9 | -- | 8.3 | -- | 6.0 | -- | Oct-96 |
| Total Real Estate Non-Core | 18,574,267 | 1.0 | 3.5 | 0.0 | -- | 2.2 | -- | 9.0 | -- | 13.3 | -- | -- | -- | -- | -- | May-12 |
| Siguler Guff DREOF II | 12,544,584 | 0.7 | 1.0 | 0.0 | -- | 2.1 | -- | 10.7 | -- | 14.7 | -- | -- | -- | -- | -- | Jun-14 |
| Siguler Guff DREOF II Co-Investment | 6,029,683 | 0.3 | 0.5 | 0.0 | -- | 2.5 | -- | 4.7 | -- | -- | -- | -- | -- | -- | -- | Nov-16 |
| Brookfield Strategic Real Estate Partners III | 0 | 0.0 | 2.0 | 0.0 | -- | 0.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | Jun-18 |
| NCREIF Property Index | | | | 1.4 | -- | 3.1 | -- | 6.7 | -- | 7.2 | -- | 9.3 | -- | 7.5 | -- | Jun-18 |

Market values are final as of Q3 2018 capital statements for Benefit Street Partners, BlueBay Direct Lending Fund III, Siguler Guff DREOF II, and Siguler Guff DREOF II Co-Investment

Market value is final as of Q4 2018 capital statement for UBS Trumbull

Transwestern/Aslan III residual market value of \$128,447 is included in the Total Real Estate composite

Fiscal Year End is 6/30



Vermont State Teachers

TOTAL FUND PERFORMANCE DETAIL - NET

| | Market Value (\$) | % of Portfolio | Policy % | 3 Mo (%) | Rank | Fiscal YTD (%) | Rank | 1 Yr (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank | Inception Date |
|---|----------------------|-------------------|-------------|-------------|-----------|----------------------|-----------|-------------|-----------|--------------|-----------|--------------|-----------|---------------|-----------|-------------------|
| Total Absolute Return | 131,989,708 | 7.4 | 8.0 | -4.4 | 44 | -3.3 | 42 | 0.8 | 25 | 2.1 | 59 | 1.6 | 66 | -- | -- | Dec-10 |
| <i>HFRI Fund of Funds Composite Index</i> | | | | -5.0 | 51 | -4.8 | 52 | -4.1 | 64 | 1.3 | 70 | 1.4 | 71 | 3.1 | 88 | Dec-10 |
| <i>eV Alt Fund of Funds - Multi-Strategy Median</i> | | | | -4.9 | | -4.2 | | -2.3 | | 2.9 | | 2.5 | | 5.6 | | Dec-10 |
| Pinnacle Natural Resources, L.P. | 45,754,949 | 2.6 | 3.0 | -4.4 | 31 | -3.3 | 31 | 4.0 | 17 | -- | -- | -- | -- | -- | -- | Jul-16 |
| <i>Bloomberg Commodity Index</i> | | | | -9.4 | 58 | -11.2 | 60 | -11.2 | 64 | 0.3 | 90 | -8.8 | 70 | -3.8 | 99 | Jul-16 |
| Grosvenor | 53,662,445 | 3.0 | 3.0 | -4.9 | 51 | -4.3 | 51 | -1.2 | 41 | 2.5 | 52 | 2.2 | 56 | -- | -- | Dec-10 |
| Allianz Structured Alpha | 32,572,315 | 1.8 | 2.0 | -3.7 | 35 | -1.4 | 21 | -0.2 | 35 | 4.8 | 19 | 6.9 | 11 | 8.4 | 20 | Apr-08 |
| <i>91 Day T-Bills</i> | | | | 0.5 | 5 | 1.0 | 5 | 1.9 | 13 | 1.0 | 74 | 0.6 | 83 | 0.4 | 99 | Apr-08 |
| <i>eV Alt Fund of Funds - Multi-Strategy Median</i> | | | | -4.9 | | -4.2 | | -2.3 | | 2.9 | | 2.5 | | 5.6 | | Apr-08 |
| Total Private Equity | 48,796,820 | 2.8 | 10.0 | -2.3 | -- | 2.3 | -- | 18.3 | -- | 15.5 | -- | 16.0 | -- | -- | -- | Dec-12 |
| <i>Cambridge Associates US All PE</i> | | | | 0.0 | -- | 4.1 | -- | 13.1 | -- | 14.6 | -- | 12.0 | -- | 14.0 | -- | Dec-12 |
| Total Cash | 693,589 | 0.0 | 0.0 | | | | | | | | | | | | | |
| Vermont Cash | 693,589 | 0.0 | 0.0 | | | | | | | | | | | | | |

Returns for Pinnacle Natural Resources, L.P. are preliminary as of 12/31/2018, and subject to change when finalized

Harbourvest is based on estimated capital account statements for Q4 2018

As of 04/01/2016, Absolute Return includes Allianz Structured Alpha and was formerly included in the Diversified Fixed Income composite

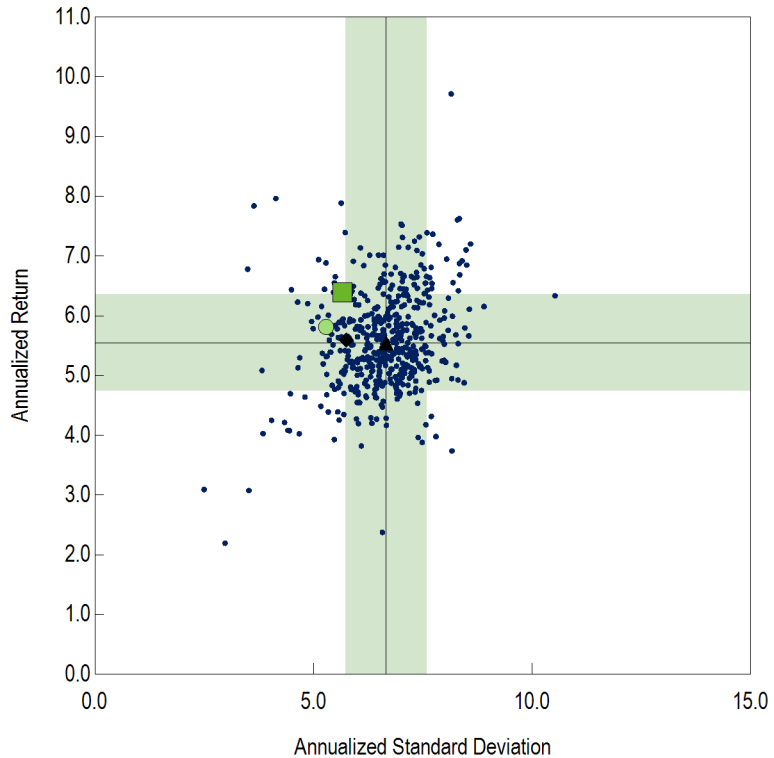
Fiscal Year End is 6/30



Vermont State Teachers

TOTAL FUND RISK/RETURN - NET

3 Years Ending December 31, 2018



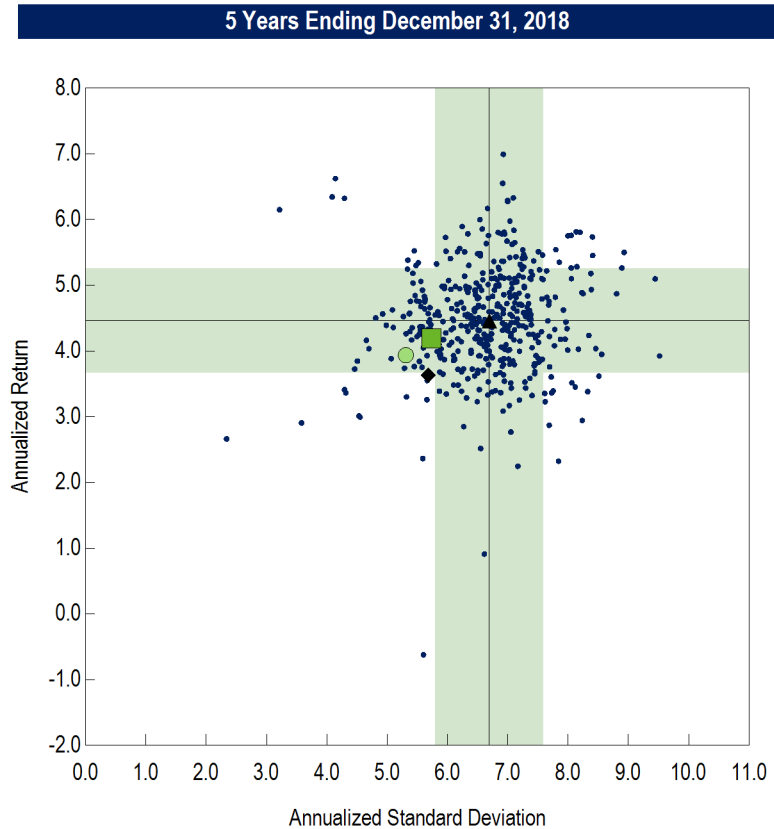
3 Years Ending December 31, 2018

| | Anlzd Return | Anlzd Return Rank | Anlzd Standard Deviation | Anlzd Standard Deviation Rank | Sharpe Ratio | Sharpe Ratio Rank |
|---|--------------|-------------------|--------------------------|-------------------------------|--------------|-------------------|
| Total Teachers Composite | 6.4% | 15 | 5.7% | 13 | 0.9 | 5 |
| Allocation Index | 5.6% | 48 | 5.7% | 16 | 0.8 | 21 |
| S&P 500 | 9.3% | 1 | 11.0% | 99 | 0.7 | 30 |
| FTSE WGBI TR | 2.7% | 99 | 5.9% | 19 | 0.3 | 99 |
| MSCI ACWI | 6.6% | 10 | 10.6% | 99 | 0.5 | 94 |
| MSCI ACWI ex USA | 4.5% | 96 | 11.5% | 99 | 0.3 | 99 |
| InvMetrics Public DB < \$5 Billion Net Median | 5.5% | -- | 6.7% | -- | 0.7 | -- |



Vermont State Teachers

TOTAL FUND RISK/RETURN - NET



5 Years Ending December 31, 2018

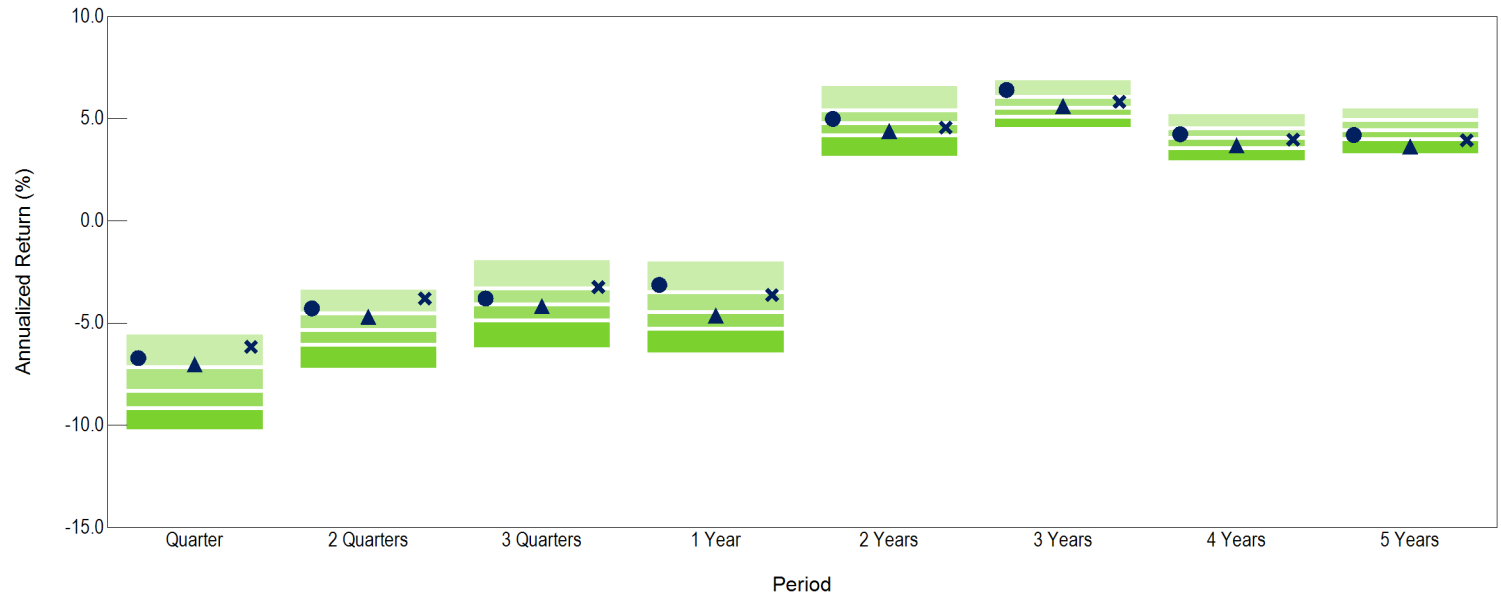
| | Anlzd Return | Anlzd Return Rank | Anlzd Standard Deviation | Anlzd Standard Deviation Rank | Sharpe Ratio | Sharpe Ratio Rank |
|---|--------------|-------------------|--------------------------|-------------------------------|--------------|-------------------|
| Total Teachers Composite | 4.2% | 67 | 5.7% | 16 | 0.6 | 40 |
| Allocation Index | 3.6% | 89 | 5.7% | 15 | 0.5 | 70 |
| S&P 500 | 8.5% | 1 | 10.9% | 99 | 0.7 | 15 |
| FTSE WGBI TR | 0.8% | 99 | 5.3% | 5 | 0.0 | 99 |
| MSCI ACWI | 4.3% | 64 | 10.9% | 99 | 0.3 | 98 |
| MSCI ACWI ex USA | 0.7% | 99 | 11.9% | 99 | 0.0 | 99 |
| InvMetrics Public DB < \$5 Billion Net Median | 4.5% | -- | 6.7% | -- | 0.6 | -- |



Vermont State Teachers

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE - NET

Total Teachers Composite vs. InvMetrics Public DB < \$5 Billion Net



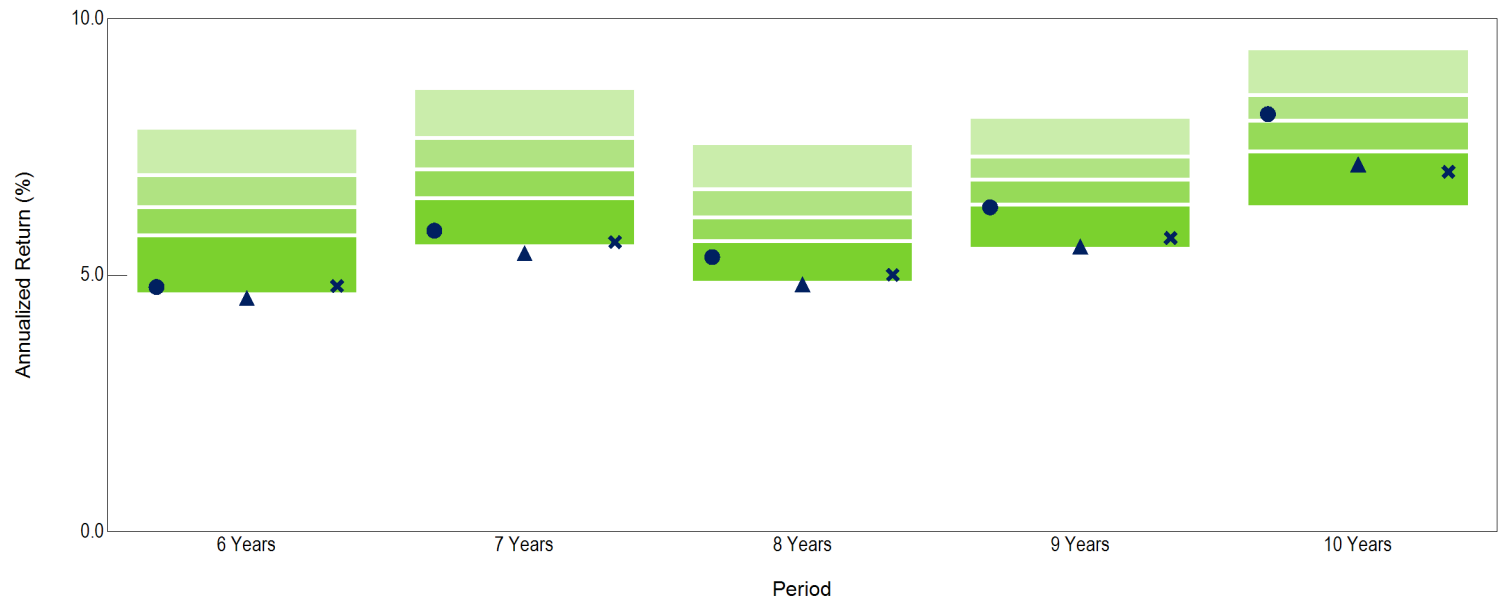
| | Return | | Rank | | Return | | Rank | | Return | | Rank | | | | | |
|----------------------------|--------|------|------|------|--------|------|------|------|--------|------|------|------|-----|------|-----|------|
| 5th Percentile | -5.5 | -3.3 | -1.9 | -1.9 | 6.7 | 7.0 | 5.3 | 5.6 | | | | | | | | |
| 25th Percentile | -7.2 | -4.5 | -3.3 | -3.5 | 5.4 | 6.1 | 4.5 | 4.9 | | | | | | | | |
| Median | -8.3 | -5.3 | -4.1 | -4.4 | 4.8 | 5.5 | 4.1 | 4.5 | | | | | | | | |
| 75th Percentile | -9.1 | -6.1 | -4.9 | -5.3 | 4.2 | 5.1 | 3.6 | 4.0 | | | | | | | | |
| 95th Percentile | -10.3 | -7.3 | -6.3 | -6.5 | 3.1 | 4.5 | 2.9 | 3.2 | | | | | | | | |
| # of Portfolios | 476 | 475 | 474 | 474 | 465 | 459 | 431 | 423 | | | | | | | | |
| ● Total Teachers Composite | -6.7 | (16) | -4.3 | (21) | -3.8 | (42) | -3.1 | (18) | 5.0 | (41) | 6.4 | (15) | 4.2 | (39) | 4.2 | (67) |
| ▲ Allocation Index | -7.0 | (23) | -4.7 | (31) | -4.2 | (53) | -4.6 | (57) | 4.4 | (67) | 5.6 | (48) | 3.7 | (69) | 3.6 | (89) |
| × Policy Index | -6.2 | (10) | -3.8 | (11) | -3.2 | (23) | -3.6 | (28) | 4.6 | (61) | 5.8 | (37) | 4.0 | (56) | 3.9 | (77) |



Vermont State Teachers

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE - NET

Total Teachers Composite vs. InvMetrics Public DB < \$5 Billion Net



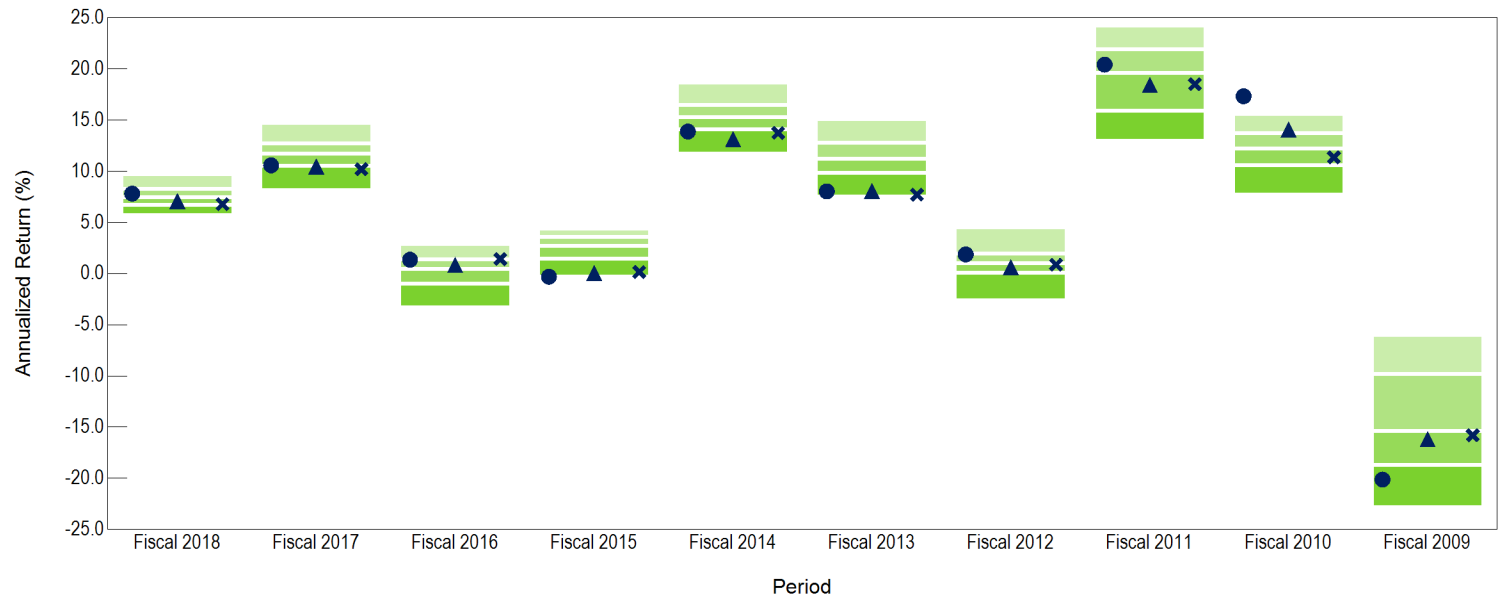
| | Return (Rank) | | | | | | | | | |
|----------------------------|---------------|------|-----|------|-----|------|-----|------|-----|------|
| 5th Percentile | 7.9 | | 8.6 | | 7.6 | | 8.1 | | 9.4 | |
| 25th Percentile | 7.0 | | 7.7 | | 6.7 | | 7.3 | | 8.5 | |
| Median | 6.3 | | 7.1 | | 6.1 | | 6.9 | | 8.0 | |
| 75th Percentile | 5.8 | | 6.5 | | 5.7 | | 6.4 | | 7.4 | |
| 95th Percentile | 4.6 | | 5.6 | | 4.9 | | 5.5 | | 6.3 | |
| # of Portfolios | 410 | | 399 | | 374 | | 360 | | 349 | |
| ● Total Teachers Composite | 4.8 | (95) | 5.9 | (91) | 5.4 | (87) | 6.3 | (78) | 8.1 | (44) |
| ▲ Allocation Index | 4.6 | (97) | 5.4 | (96) | 4.8 | (96) | 5.6 | (95) | 7.2 | (84) |
| × Policy Index | 4.8 | (95) | 5.6 | (95) | 5.0 | (94) | 5.7 | (94) | 7.0 | (89) |



Vermont State Teachers

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE - NET

Total Teachers Composite vs. InvMetrics Public DB < \$5 Billion Net



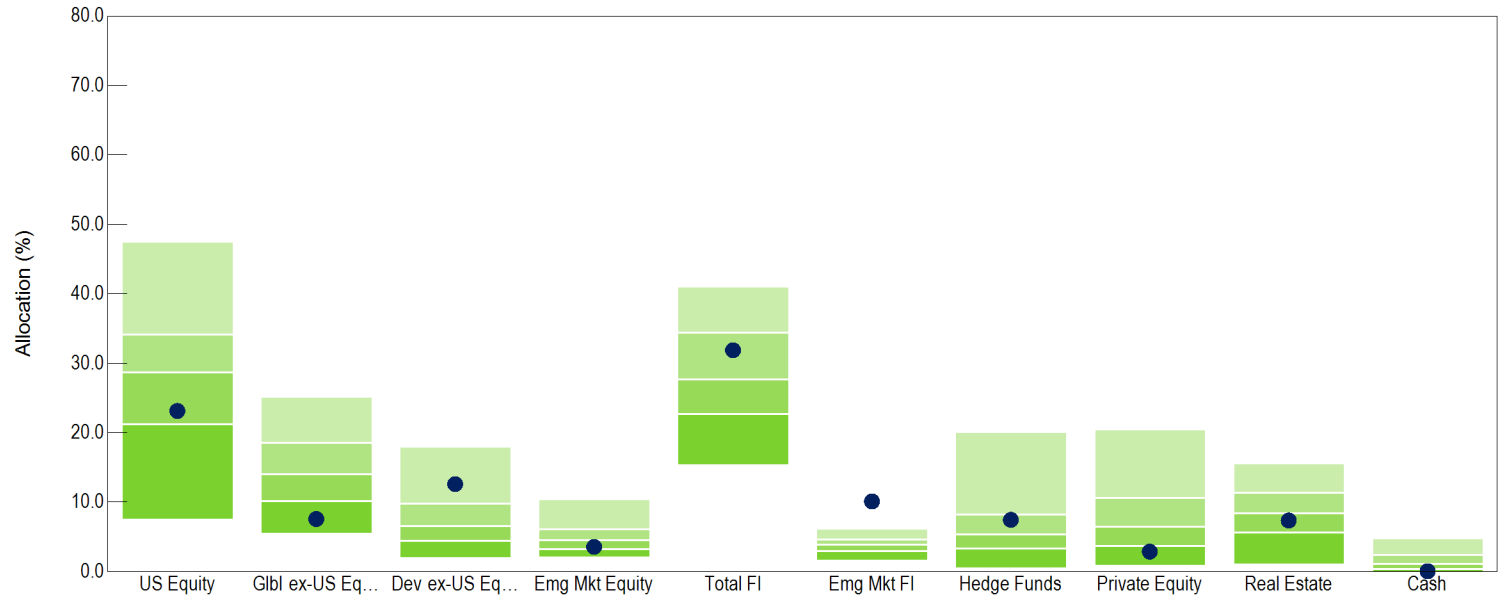
| | Return (Rank) | | | | | | | | | |
|----------------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Fiscal 2018 | Fiscal 2017 | Fiscal 2016 | Fiscal 2015 | Fiscal 2014 | Fiscal 2013 | Fiscal 2012 | Fiscal 2011 | Fiscal 2010 | Fiscal 2009 |
| 5th Percentile | 9.7 | 14.7 | 2.8 | 4.4 | 18.6 | 15.1 | 4.5 | 24.2 | 15.5 | -6.0 |
| 25th Percentile | 8.3 | 12.8 | 1.4 | 3.6 | 16.5 | 12.8 | 2.0 | 21.9 | 13.7 | -9.8 |
| Median | 7.5 | 11.7 | 0.5 | 2.7 | 15.3 | 11.2 | 1.0 | 19.6 | 12.3 | -15.3 |
| 75th Percentile | 6.7 | 10.6 | -0.9 | 1.5 | 14.1 | 9.9 | 0.1 | 15.9 | 10.6 | -18.7 |
| 95th Percentile | 5.7 | 8.2 | -3.3 | -0.2 | 11.7 | 7.5 | -2.6 | 13.0 | 7.7 | -22.8 |
| # of Portfolios | 186 | 259 | 239 | 212 | 156 | 139 | 132 | 124 | 116 | 113 |
| ● Total Teachers Composite | 7.8 (40) | 10.6 (75) | 1.3 (27) | -0.3 (96) | 13.9 (82) | 8.0 (95) | 1.9 (29) | 20.4 (39) | 17.3 (1) | -20.1 (85) |
| ▲ Allocation Index | 7.1 (67) | 10.4 (78) | 0.8 (38) | 0.0 (95) | 13.1 (91) | 8.0 (95) | 0.6 (62) | 18.4 (62) | 14.0 (18) | -16.2 (56) |
| × Policy Index | 6.8 (75) | 10.2 (81) | 1.4 (25) | 0.1 (94) | 13.7 (83) | 7.7 (95) | 0.9 (55) | 18.5 (60) | 11.3 (65) | -15.8 (54) |



Vermont State Teachers

TOTAL FUND ALLOCATION VS. PEER UNIVERSE - NET

Total Teachers Composite vs. InvMetrics Public DB < \$5 Billion Net
As of December 31, 2018



| | Allocation (Rank) | | | | | | | | | | | | | | | | | | | |
|----------------------------|-------------------|------|------|------|------|------|------|------|------|------|------|-----|-----|------|-----|------|-----|------|-----|------|
| 5th Percentile | 47.5 | 25.1 | 17.9 | 10.4 | 41.0 | 6.1 | 20.1 | 20.5 | 15.5 | 4.8 | - | - | - | - | - | - | | | | |
| 25th Percentile | 34.2 | 18.6 | 9.9 | 6.2 | 34.5 | 4.7 | 8.3 | 10.7 | 11.4 | 2.4 | - | - | - | - | - | - | | | | |
| Median | 28.8 | 14.1 | 6.7 | 4.6 | 27.7 | 4.0 | 5.4 | 6.5 | 8.5 | 1.2 | - | - | - | - | - | - | | | | |
| 75th Percentile | 21.3 | 10.2 | 4.5 | 3.3 | 22.7 | 3.0 | 3.4 | 3.8 | 5.8 | 0.4 | - | - | - | - | - | - | | | | |
| 95th Percentile | 7.6 | 5.5 | 2.1 | 2.1 | 15.4 | 1.7 | 0.6 | 0.9 | 1.1 | 0.0 | - | - | - | - | - | - | | | | |
| # of Portfolios | 144 | 183 | 90 | 105 | 218 | 28 | 69 | 104 | 145 | 205 | - | - | - | - | - | - | | | | |
| • Total Teachers Composite | 23.1 | (67) | 7.6 | (90) | 12.6 | (17) | 3.5 | (68) | 31.9 | (37) | 10.1 | (1) | 7.4 | (30) | 2.9 | (80) | 7.3 | (63) | 0.0 | (94) |



REAL ESTATE PERFORMANCE ANALYSIS

AS OF 9/30/2018

| Investment Name | Vintage Year | Commitment Amount | QTD | YTD | 1 Year | 3 Year | 5 Year | Inception |
|--|--------------|--------------------|-------------|-------------|--------------|--------------|--------|--------------|
| Brookfield Strategic Real Estate Partners III, L.P. | 2017 | 100,000,000 | | | | | | |
| Siguler Guff Distressed Real Estate Opportunities II | 2014 | 40,000,000 | 2.08 | 7.84 | 17.57 | 14.13 | | 11.40 |
| Siguler Guff DREOF II Co-Investment | 2016 | 15,000,000 | 2.49 | 3.56 | 15.19 | | | 12.55 |
| Total: State of Vermont | | 155,000,000 | 0.65 | 5.04 | 15.22 | 13.25 | | 11.07 |



REAL ESTATE PERFORMANCE ANALYSIS

IRR

| Investment Name | Fund Type | Vintage Year | Commitment Amount | Paid in Capital | Capital to be Funded | Cumulative Distributions | Valuation | Total Value | Net Benefit | Call Ratio | DPI Ratio | TVPI Ratio | IRR |
|--|------------------|--------------|--------------------|-------------------|----------------------|--------------------------|-------------------|-------------------|-------------------|------------|-------------|-------------|---------------|
| 1 Siguler Guff Distressed Real Estate Opportunities II | RE Opportunistic | 2014 | 40,000,000 | 33,420,000 | 6,580,000 | 12,985,278 | 33,139,144 | 46,124,422 | 12,704,422 | 84% | 0.39 | 1.38 | 11.40% |
| 2 Siguler Guff DREOF II Co-Investment | RE Opportunistic | 2016 | 15,000,000 | 11,910,217 | 3,089,783 | 0 | 14,337,915 | 14,337,915 | 2,427,698 | 79% | 0.00 | 1.20 | 12.55% |
| 3 Brookfield Strategic Real Estate Partners III, L.P. | RE Opportunistic | 2017 | 100,000,000 | 0 | 100,000,000 | 0 | -729,000 | -729,000 | -729,000 | 0% | 0.00 | 0.00 | N/A |
| Total: State of Vermont | | | 155,000,000 | 45,330,217 | 109,669,783 | 12,985,278 | 46,748,059 | 59,733,337 | 14,403,120 | 29% | 0.29 | 1.32 | 11.07% |

INDEX COMPARISON METHOD

ICM

| Investment | Index Set Name | Cumulative Contributions | Cumulative Distributions | Adjusted Valuation | Valuation ICM | Valuation Spread | IRR | IRR ICM | IRR Spread |
|--|----------------|--------------------------|--------------------------|--------------------|-------------------|------------------|--------------|-------------|-------------|
| Brookfield Strategic Real Estate Partners III, L.P. | FTSE NAREIT | | 0 | -729,000 | 729,000 | -1,458,000 | N/A | N/A | N/A |
| Siguler Guff Distressed Real Estate Opportunities II | FTSE NAREIT | 33,420,000 | 12,985,278 | 33,139,144 | 28,210,111 | 4,929,033 | 11.40 | 7.38 | 4.02 |
| Siguler Guff DREOF II Co-Investment | FTSE NAREIT | 11,910,217 | 0 | 14,337,915 | 13,579,693 | 758,222 | 12.55 | 8.75 | 3.80 |
| Total: State of Vermont | | 45,330,217 | 12,985,278 | 46,748,059 | 42,518,804 | 4,229,255 | 11.07 | 8.11 | 2.96 |

As of 9/30/2018



PRIVATE DEBT PERFORMANCE ANALYSIS

AS OF 9/30/2018

| Investment Name | Vintage Year | Commitment Amount | QTD | YTD | 1 Year | 3 Year | 5 Year | Inception |
|---|--------------|--------------------|-------------|-------------|--------|--------|--------|-------------|
| Beneft Street Partners Senior Secured Opportunitites Fund, LP | 2017 | 70,000,000 | 2.02 | 4.87 | | | | 6.54 |
| BlueBay Direct Lending Fund III | 2017 | 70,000,000 | 1.03 | | | | | 0.68 |
| Total: State of Vermont | | 140,000,000 | 1.86 | 4.65 | | | | 6.21 |

- BlueBay Direct Lending Fund III (the "Fund") has completed its Final Close as of 2/8/19 at over €6 billion



PRIVATE DEBT PERFORMANCE ANALYSIS

IRR

| Investment Name | Vintage Year | Commitment Amount | Paid in Capital | Capital to be Funded | Additional Fees | Cumulative Distributions | Valuation | Total Value | Net Benefit | Call Ratio | DPI Ratio | TVPI Ratio | IRR |
|--|--------------|--------------------|-------------------|----------------------|------------------|--------------------------|-------------------|-------------------|------------------|------------|-------------|-------------|--------------|
| 1 Benefit Street Partners Senior Secured Opportunitites Fund, LP | 2017 | 70,000,000 | 54,533,364 | 15,466,636 | 1,333,567 | 3,186,838 | 55,563,538 | 58,750,376 | 2,883,445 | 78% | 0.06 | 1.05 | 6.54% |
| 2 BlueBay Direct Lending Fund III | 2017 | 70,000,000 | 11,878,892 | 58,121,108 | 0 | 196,136 | 11,749,828 | 11,945,964 | 67,072 | 17% | 0.02 | 1.01 | 0.68% |
| Total: State of Vermont | | 140,000,000 | 66,412,256 | 73,587,744 | 1,333,567 | 3,382,974 | 67,313,366 | 70,696,340 | 2,950,517 | 47% | 0.05 | 1.04 | 6.21% |

INDEX COMPARISON METHOD

ICM

| Investment | Index Set Name | Cumulative Contributions | Cumulative Distributions | Adjusted Valuation | Valuation ICM | Valuation Spread | IRR | IRR ICM | IRR Spread |
|--|---------------------------------|--------------------------|--------------------------|--------------------|-------------------|------------------|-------------|--------------|-------------|
| Benefit Street Partners Senior Secured Opportunitites Fund, LP | BC US Agg Total Return Unhedged | 55,866,931 | 3,186,838 | 55,563,538 | 52,443,732 | 3,119,806 | 6.54 | -0.53 | 7.07 |
| BlueBay Direct Lending Fund III | BC US Agg Total Return Unhedged | 11,878,892 | 196,136 | 11,749,828 | 11,707,967 | 41,861 | 0.68 | 0.26 | 0.42 |
| Total: State of Vermont | | 67,745,823 | 3,382,974 | 67,313,366 | 64,151,699 | 3,161,667 | 6.21 | -0.44 | 6.65 |

As of 9/30/2018



PRIVATE EQUITY PERFORMANCE ANALYSIS

AS OF 9/30/2018

| Investment Name | Vintage Year | Commitment Amount | QTD | YTD | 1 Year | 3 Year | 5 Year | Inception |
|--|--------------|--------------------|-------------|--------------|--------------|--------------|--------------|--------------|
| HarbourVest Partners Dover Street VIII | 2012 | 25,000,000 | 3.58 | 13.66 | 18.45 | 13.65 | 18.16 | 21.94 |
| HarbourVest Partners IX-Buyout | 2012 | 24,000,000 | 4.73 | 15.12 | 22.66 | 19.67 | 18.29 | 17.71 |
| HarbourVest Partners IX-Credit Opportunities | 2012 | 4,000,000 | 2.54 | 8.65 | 14.13 | 13.63 | 13.17 | 14.73 |
| HarbourVest Partners IX-Venture | 2012 | 12,000,000 | 6.20 | 18.63 | 25.69 | 13.02 | 17.16 | 16.97 |
| HarbourVest HIPEP VII | 2014 | 15,000,000 | 3.54 | 14.04 | 20.21 | 17.36 | | 16.64 |
| HarbourVest Partners X Buyout Fund | 2015 | 45,500,000 | 4.07 | 16.73 | 22.07 | | | 29.94 |
| HarbourVest Partners X Venture Fund | 2015 | 19,500,000 | 6.77 | 18.38 | 25.36 | | | 27.86 |
| HarbourVest Partners Dover Street IX | 2016 | 40,000,000 | 5.82 | 26.40 | 36.88 | | | 55.29 |
| HarbourVest HIPEP VIII | 2017 | 60,000,000 | 0.96 | | | | | 31.76 |
| HarbourVest Partners Co-Investment Fund V | 2018 | 25,000,000 | | | | | | |
| HarbourVest Partners XI Buyout Fund | 2018 | 75,000,000 | | | | | | |
| HarbourVest Partners XI Micro Buyout | 2018 | 12,500,000 | | | | | | |
| HarbourVest Partners XI Venture Fund | 2018 | 37,500,000 | | | | | | |
| Total: State of Vermont | | 395,000,000 | 4.66 | 18.50 | 25.26 | 19.89 | 20.51 | 21.31 |



PRIVATE EQUITY PERFORMANCE ANALYSIS

IRR

| Investment Name | Vintage Year | Commitment Amount | Paid in Capital | Capital to be Funded | Additional Fees | Cumulative Distributions | Valuation | Total Value | Net Benefit | Call Ratio | DPI Ratio | TVPI Ratio | IRR |
|--|--------------|--------------------|--------------------|----------------------|-----------------|--------------------------|--------------------|--------------------|-------------------|------------|-------------|-------------|---------------|
| 1 HarbourVest Partners Dover Street VIII | 2012 | 25,000,000 | 22,500,000 | 2,500,000 | 0 | 23,839,502 | 11,329,305 | 35,168,807 | 12,668,807 | 90% | 1.06 | 1.56 | 21.94% |
| 2 HarbourVest Partners IX-Buyout | 2012 | 24,000,000 | 18,060,000 | 5,940,000 | 47,188 | 11,103,274 | 17,477,258 | 28,580,532 | 10,473,344 | 75% | 0.61 | 1.58 | 17.71% |
| 3 HarbourVest Partners IX-Credit Opportunities | 2012 | 4,000,000 | 2,700,000 | 1,300,000 | 10,265 | 1,478,215 | 2,470,178 | 3,948,393 | 1,238,128 | 68% | 0.55 | 1.46 | 14.73% |
| 4 HarbourVest Partners IX-Venture | 2012 | 12,000,000 | 11,400,000 | 600,000 | 37,671 | 4,839,817 | 13,955,093 | 18,794,910 | 7,357,239 | 95% | 0.42 | 1.64 | 16.97% |
| 5 HarbourVest HIPEP VII | 2014 | 15,000,000 | 8,587,500 | 6,412,500 | 0 | 1,209,028 | 10,004,298 | 11,213,326 | 2,625,826 | 57% | 0.14 | 1.31 | 16.64% |
| 6 HarbourVest Partners X Buyout Fund | 2015 | 45,500,000 | 10,465,000 | 35,035,000 | 2,787 | 1,459,736 | 13,265,355 | 14,725,091 | 4,257,304 | 23% | 0.14 | 1.41 | 29.94% |
| 7 HarbourVest Partners X Venture Fund | 2015 | 19,500,000 | 8,628,750 | 10,871,250 | 1,672 | 498,967 | 10,819,191 | 11,318,158 | 2,687,736 | 44% | 0.06 | 1.31 | 27.86% |
| 8 HarbourVest Partners Dover Street IX | 2016 | 40,000,000 | 16,800,000 | 23,200,000 | 0 | 4,352,270 | 18,399,751 | 22,752,021 | 5,952,021 | 42% | 0.26 | 1.35 | 55.29% |
| 9 HarbourVest HIPEP VIII | 2017 | 60,000,000 | 5,100,000 | 54,900,000 | 0 | 0 | 6,719,702 | 6,719,702 | 1,619,702 | 9% | 0.00 | 1.32 | 31.76% |
| 10 HarbourVest Partners Co-Investment Fund | 2018 | 25,000,000 | 0 | 25,000,000 | 0 | 0 | 0 | 0 | 0 | 0% | 0.00 | 0.00 | N/A |
| 11 HarbourVest Partners XI Buyout Fund | 2018 | 75,000,000 | 0 | 75,000,000 | 0 | 0 | 0 | 0 | 0 | 0% | 0.00 | 0.00 | N/A |
| 12 HarbourVest Partners XI Micro Buyout | 2018 | 12,500,000 | 0 | 12,500,000 | 0 | 0 | 0 | 0 | 0 | 0% | 0.00 | 0.00 | N/A |
| 13 HarbourVest Partners XI Venture Fund | 2018 | 37,500,000 | 0 | 37,500,000 | 0 | 0 | 0 | 0 | 0 | 0% | 0.00 | 0.00 | N/A |
| Total: State of Vermont | | 395,000,000 | 104,241,250 | 290,758,750 | 99,583 | 48,780,809 | 104,440,131 | 153,220,940 | 48,880,107 | 26% | 0.47 | 1.47 | 21.31% |

As of 9/30/2018



PRIVATE EQUITY PERFORMANCE ANALYSIS

ICM – S&P 500 INDEX

| Investment | Index Set Name | Cumulative Contributions | Cumulative Distributions | Adjusted Valuation | Valuation ICM | Valuation Spread | IRR | IRR ICM | IRR Spread |
|--|----------------------|--------------------------|--------------------------|--------------------|-------------------|-------------------|--------------|--------------|-------------|
| HarbourVest HIPEP VII | S&P 500 Total Return | 8,587,500 | 1,209,028 | 10,004,298 | 9,861,572 | 142,726 | 16.64 | 15.83 | 0.81 |
| HarbourVest HIPEP VIII | S&P 500 Total Return | 5,100,000 | 0 | 6,719,702 | 5,677,128 | 1,042,574 | 31.76 | 11.32 | 20.44 |
| HarbourVest Partners Co-Investment Fund V | S&P 500 Total Return | | 0 | | | | 0.00 | 0.00 | 0.00 |
| HarbourVest Partners Dover Street IX | S&P 500 Total Return | 16,800,000 | 4,352,270 | 18,399,751 | 14,317,318 | 4,082,433 | 55.29 | 18.14 | 37.15 |
| HarbourVest Partners Dover Street VIII | S&P 500 Total Return | 22,500,000 | 23,839,502 | 11,329,305 | 5,366,113 | 5,963,192 | 21.94 | 13.81 | 8.13 |
| HarbourVest Partners IX-Buyout | S&P 500 Total Return | 18,107,188 | 11,103,274 | 17,477,258 | 14,862,412 | 2,614,846 | 17.71 | 14.22 | 3.49 |
| HarbourVest Partners IX-Credit Opportunities | S&P 500 Total Return | 2,710,265 | 1,478,215 | 2,470,178 | 2,428,806 | 41,372 | 14.73 | 14.35 | 0.38 |
| HarbourVest Partners IX-Venture | S&P 500 Total Return | 11,437,671 | 4,839,817 | 13,955,093 | 12,338,228 | 1,616,865 | 16.97 | 14.00 | 2.97 |
| HarbourVest Partners X Buyout Fund | S&P 500 Total Return | 10,467,787 | 1,459,736 | 13,265,355 | 11,477,061 | 1,788,294 | 29.94 | 18.26 | 11.68 |
| HarbourVest Partners X Venture Fund | S&P 500 Total Return | 8,630,422 | 498,967 | 10,819,191 | 9,832,058 | 987,133 | 27.86 | 18.18 | 9.68 |
| HarbourVest Partners XI Buyout Fund | S&P 500 Total Return | | 0 | | | | 0.00 | 0.00 | 0.00 |
| HarbourVest Partners XI Micro Buyout | S&P 500 Total Return | | 0 | | | | 0.00 | 0.00 | 0.00 |
| HarbourVest Partners XI Venture Fund | S&P 500 Total Return | | 0 | | | | 0.00 | 0.00 | 0.00 |
| Total: State of Vermont | | 104,340,833 | 48,780,809 | 104,440,131 | 86,160,695 | 18,279,436 | 21.31 | 14.81 | 6.50 |

As of 9/30/2018



PRIVATE EQUITY PERFORMANCE ANALYSIS

ICM – MSCI ACWI INDEX

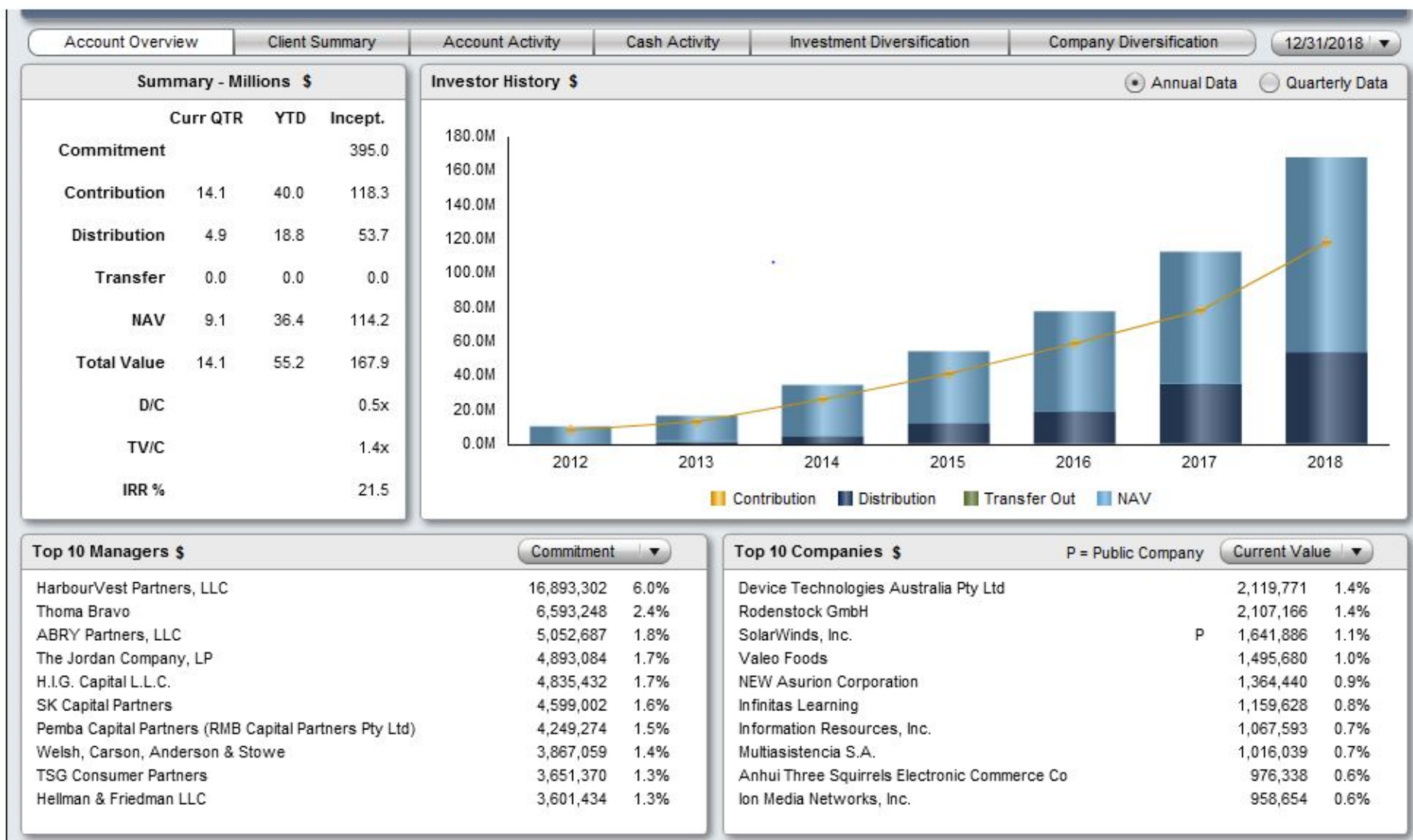
| Investment | Index Set Name | Cumulative Contributions | Cumulative Distributions | Adjusted Valuation | Valuation ICM | Valuation Spread | IRR | IRR ICM | IRR Spread |
|--|----------------|--------------------------|--------------------------|--------------------|-------------------|-------------------|--------------|-------------|--------------|
| HarbourVest HIPEP VII | MSCI ACWI | 8,587,500 | 1,209,028 | 10,004,298 | 8,779,461 | 1,224,837 | 16.64 | 9.38 | 7.26 |
| HarbourVest HIPEP VIII | MSCI ACWI | 5,100,000 | 0 | 6,719,702 | 5,258,171 | 1,461,531 | 31.76 | 3.10 | 28.66 |
| HarbourVest Partners Co-Investment Fund V | MSCI ACWI | | 0 | | | | 0.00 | 0.00 | 0.00 |
| HarbourVest Partners Dover Street IX | MSCI ACWI | 16,800,000 | 4,352,270 | 18,399,751 | 13,453,620 | 4,946,131 | 55.29 | 9.86 | 45.43 |
| HarbourVest Partners Dover Street VIII | MSCI ACWI | 22,500,000 | 23,839,502 | 11,329,305 | 1,697,629 | 9,631,676 | 21.94 | 7.23 | 14.71 |
| HarbourVest Partners IX-Buyout | MSCI ACWI | 18,107,188 | 11,103,274 | 17,477,258 | 10,460,556 | 7,016,702 | 17.71 | 7.17 | 10.54 |
| HarbourVest Partners IX-Credit Opportunities | MSCI ACWI | 2,710,265 | 1,478,215 | 2,470,178 | 1,789,337 | 680,841 | 14.73 | 7.60 | 7.13 |
| HarbourVest Partners IX-Venture | MSCI ACWI | 11,437,671 | 4,839,817 | 13,955,093 | 9,097,056 | 4,858,037 | 16.97 | 6.96 | 10.01 |
| HarbourVest Partners X Buyout Fund | MSCI ACWI | 10,467,787 | 1,459,736 | 13,265,355 | 10,522,922 | 2,742,433 | 29.94 | 11.54 | 18.40 |
| HarbourVest Partners X Venture Fund | MSCI ACWI | 8,630,422 | 498,967 | 10,819,191 | 9,039,096 | 1,780,095 | 27.86 | 9.96 | 17.90 |
| HarbourVest Partners XI Buyout Fund | MSCI ACWI | | 0 | | | | 0.00 | 0.00 | 0.00 |
| HarbourVest Partners XI Micro Buyout | MSCI ACWI | | 0 | | | | 0.00 | 0.00 | 0.00 |
| HarbourVest Partners XI Venture Fund | MSCI ACWI | | 0 | | | | 0.00 | 0.00 | 0.00 |
| Total: State of Vermont | | 104,340,833 | 48,780,809 | 104,440,131 | 70,097,847 | 34,342,284 | 21.31 | 7.86 | 13.45 |

As of 9/30/2018



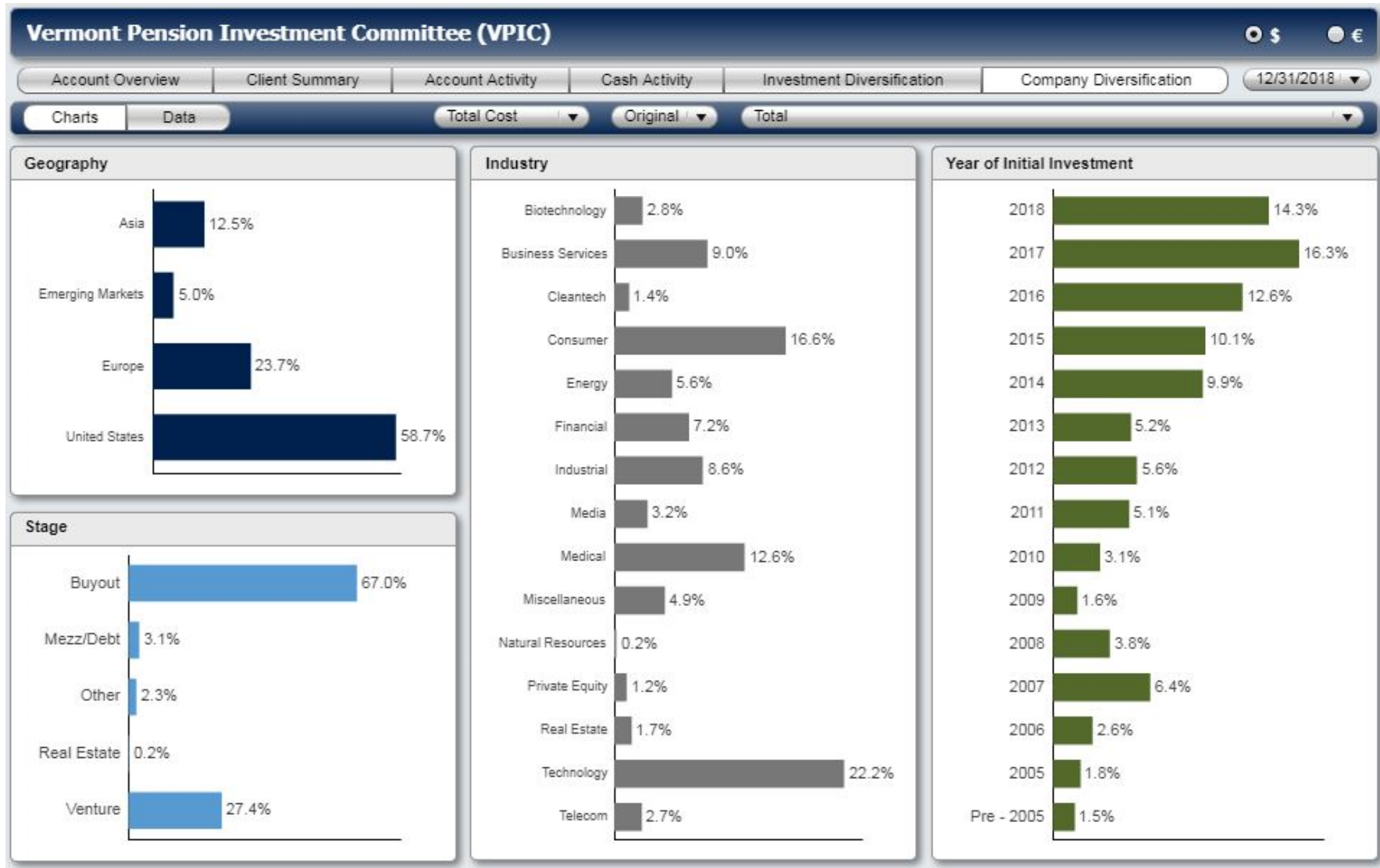
PRIVATE EQUITY INVESTMENT PORTFOLIO SUMMARY

AS OF 12/31/2018



PRIVATE EQUITY INVESTMENT DIVERSIFICATION

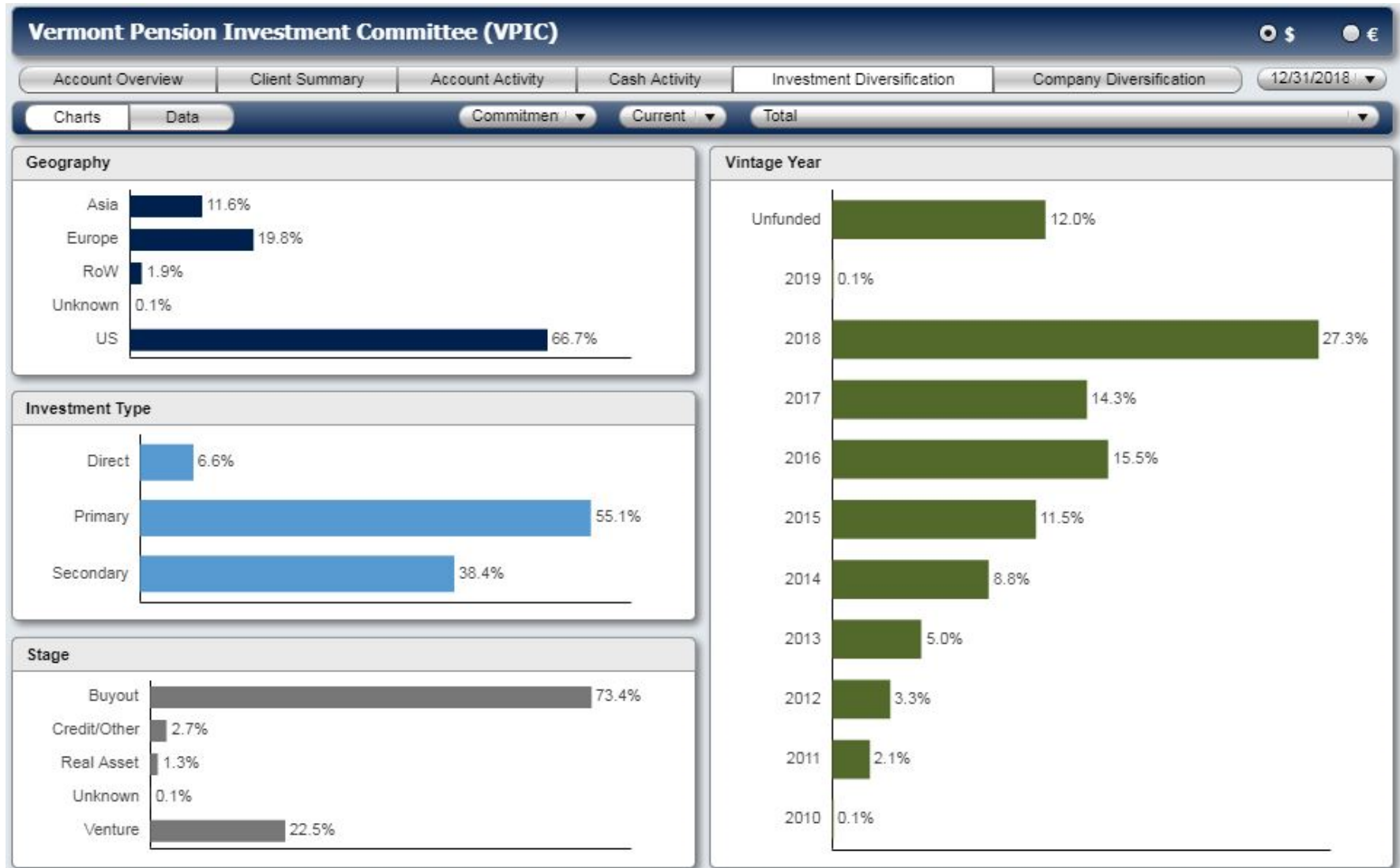
AS OF 12/31/2018



Note:
Data provided by HarbourVest and has not been independently verified by NEPC



PRIVATE EQUITY COMPANY DIVERSIFICATION AS OF 12/31/2018

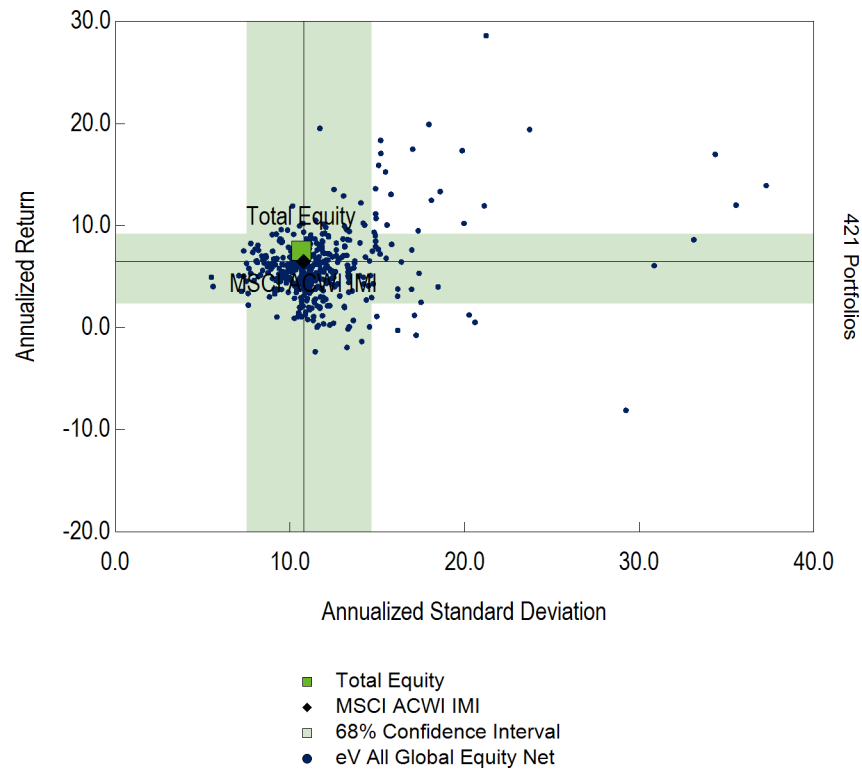


Note:
Data provided by HarbourVest and has not been independently verified by NEPC

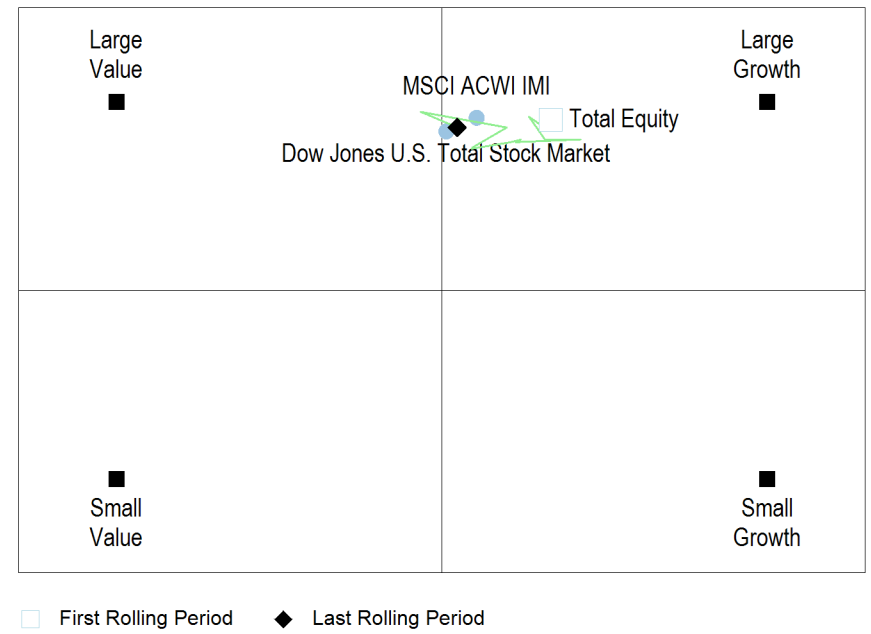


TOTAL EQUITY COMPOSITE

Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2018



U.S. Effective Style Map
3 Years Ending December 31, 2018

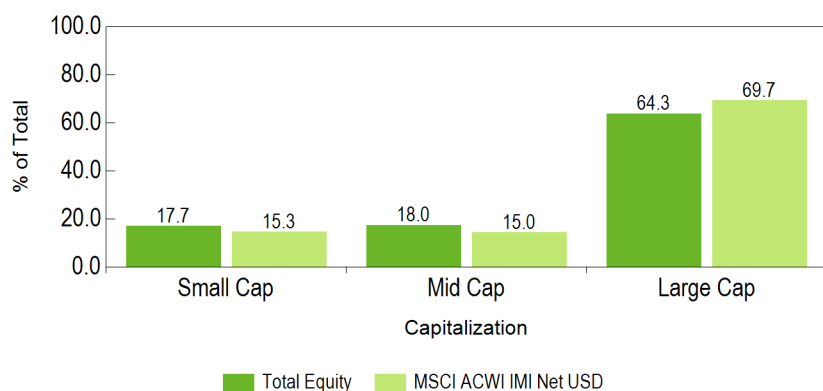


TOTAL EQUITY COMPOSITE

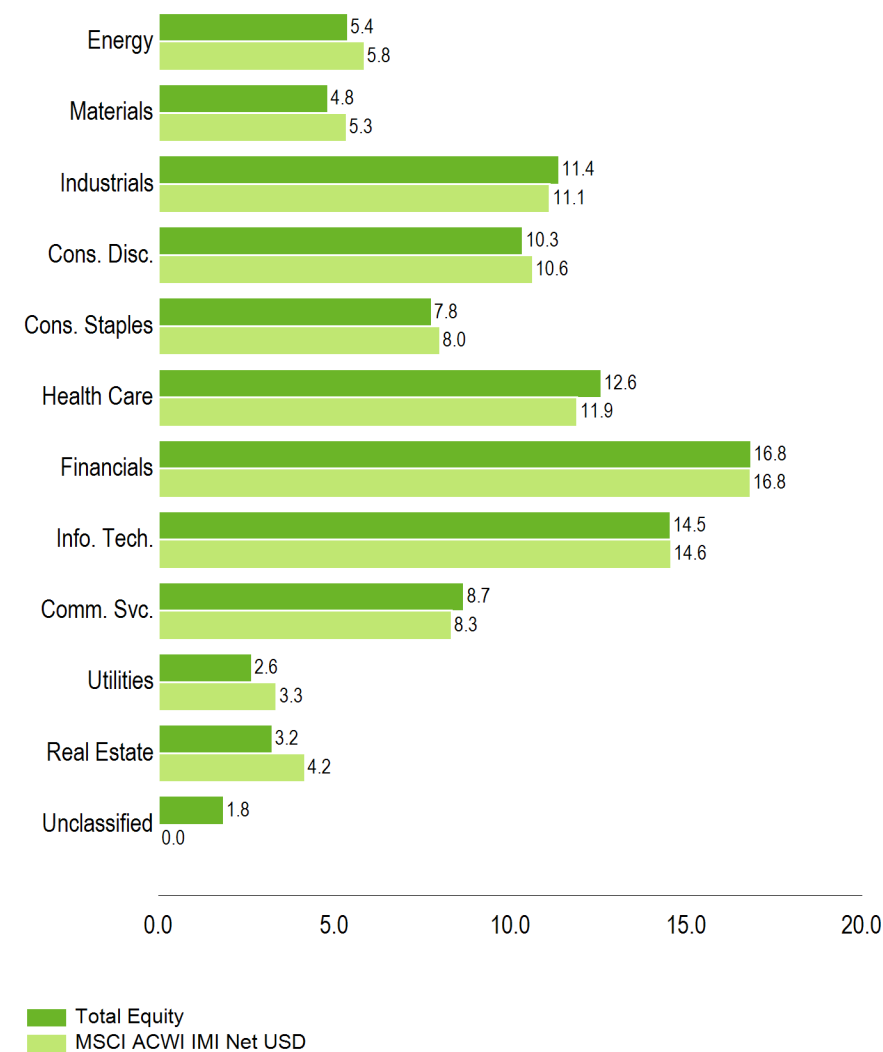
| Characteristics | | |
|---------------------------------|-----------|-----------------------|
| | Portfolio | MSCI ACWI IMI Net USD |
| Number of Holdings | 3,482 | 8,725 |
| Weighted Avg. Market Cap. (\$B) | 92.23 | 105.66 |
| Median Market Cap. (\$B) | 8.32 | 1.58 |
| Price To Earnings | 19.52 | 18.26 |
| Price To Book | 4.39 | 3.11 |
| Price To Sales | 3.69 | 3.22 |
| Return on Equity (%) | 19.90 | 17.92 |
| Yield (%) | 2.53 | 2.70 |

| | Portfolio Q4-18 | Index Q4-18 |
|-------------------------|-----------------|-------------|
| Region Weighting | | |
| North America ex U.S. | 1.91 | 3.04 |
| United States | 56.33 | 53.82 |
| Europe Ex U.K. | 12.59 | 14.32 |
| United Kingdom | 5.27 | 5.14 |
| Pacific Basin Ex Japan | 5.49 | 5.28 |
| Japan | 6.57 | 8.04 |
| Emerging Markets | 11.36 | 9.99 |
| Other | 0.47 | 0.37 |

Market Capitalization As of December 31, 2018



Sector Allocation (%) vs MSCI ACWI IMI Net USD



TOTAL EQUITY COMPOSITE

| Top Ten Holdings | |
|------------------------|------|
| CASH - USD | 1.3% |
| MICROSOFT | 1.2% |
| AMAZON.COM | 1.2% |
| APPLE | 1.1% |
| VISA 'A' | 0.8% |
| BANK OF AMERICA | 0.8% |
| ALPHABET A | 0.7% |
| BERKSHIRE HATHAWAY 'B' | 0.7% |
| TENCENT HOLDINGS | 0.6% |
| IHS MARKIT | 0.6% |

| Top Positive Contributors | | |
|---------------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| APPLE | 0.2% | -29.9% |
| BNC.BRADESCO PF.SPN.ADR 1:1 | 0.1% | 42.7% |
| AMAZON.COM | 0.0% | -25.0% |
| FACEBOOK CLASS A | 0.0% | -20.3% |
| BRITISH AMERICAN TOBACCO | 0.0% | -29.6% |
| SAMSUNG ELECTRONICS | 0.0% | -17.2% |
| MICROSOFT | 0.0% | -10.8% |
| RED HAT | 0.0% | 28.9% |
| EXXON MOBIL | 0.0% | -19.0% |
| ALIBABA GROUP HLDG.SPN. ADR 1:1 | 0.0% | -16.8% |

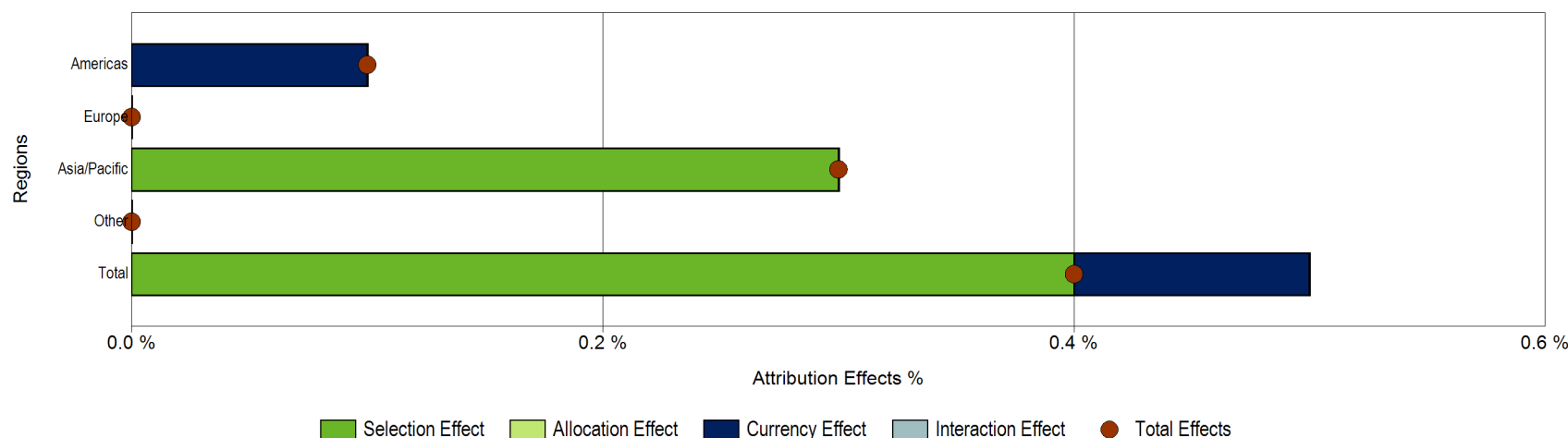
| Top Negative Contributors | | |
|---------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| NOBLE ENERGY | -0.1% | -39.6% |
| INTEGRA LFSC.HDG. | -0.1% | -31.5% |
| FEVERTREE DRINKS | -0.1% | -40.5% |
| SAMSUNG ELTN.PREF. | -0.1% | -16.6% |
| BLACKBAUD | -0.1% | -37.9% |
| IHS MARKIT | -0.1% | -11.1% |
| TEMENOS N | -0.1% | -26.6% |
| PIONEER NTRL.RES. | -0.1% | -24.5% |
| LONZA GROUP | -0.1% | -24.7% |
| PURE STORAGE CL.A | -0.1% | -38.0% |

| Equity Sector Attribution | | | | | | | | | | | |
|---------------------------|---------------|------------------|---------------------|---------------------|-------------|-----------|-------------|---------------|----------------|--------------|---------------|
| | Total Effects | Selection Effect | Attribution Effects | | | | Returns | | Sector Weights | | |
| | | | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.1% | 0.1% | 0.0% | 0.0% | -20.0% | -21.6% | 6.1% | 6.4% | | | |
| Materials | 0.0% | 0.0% | 0.0% | 0.0% | -13.9% | -14.4% | 4.8% | 5.3% | | | |
| Industrials | 0.0% | 0.0% | 0.0% | 0.0% | -15.9% | -16.2% | 11.1% | 11.6% | | | |
| Consumer Discretionary | 0.1% | 0.1% | 0.0% | 0.0% | -14.4% | -15.2% | 11.0% | 10.9% | | | |
| Consumer Staples | 0.0% | -0.1% | 0.0% | 0.0% | -7.4% | -6.7% | 7.7% | 7.4% | | | |
| Health Care | -0.2% | -0.2% | 0.0% | 0.0% | -12.5% | -11.1% | 12.3% | 11.6% | | | |
| Financials | 0.2% | 0.2% | 0.0% | 0.0% | -10.9% | -12.3% | 17.1% | 16.8% | | | |
| Information Technology | 0.1% | 0.1% | 0.0% | 0.0% | -16.7% | -17.2% | 15.5% | 15.3% | | | |
| Communication Services | 0.0% | 0.0% | 0.0% | 0.0% | -11.5% | -11.6% | 8.6% | 8.2% | | | |
| Utilities | 0.0% | 0.0% | -0.1% | 0.0% | 2.0% | 0.6% | 2.5% | 2.8% | | | |
| Real Estate | 0.0% | 0.1% | -0.1% | 0.0% | -2.2% | -5.1% | 2.9% | 3.7% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.3% | 0.0% | | | |
| Portfolio | 0.4% | = | 0.4% | + | 0.0% | + | 0.1% | -12.8% | -13.3% | 99.7% | 100.0% |



TOTAL EQUITY COMPOSITE - \$2,023.7 MILLION

Total Equity Performance Attribution vs. MSCI ACWI IMI Net USD
Quarter Ending December 31, 2018



| | Returns and Weights | | | | Attribution Effects | | | | |
|---------------|---------------------|---------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| Totals | | | | | | | | | |
| Americas | -13.9% | -14.1% | 60.4% | 58.8% | 0.0% | 0.0% | 0.1% | 0.0% | 0.1% |
| Europe | -13.4% | -13.3% | 19.0% | 20.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Asia/Pacific | -9.5% | -11.1% | 19.3% | 19.8% | 0.3% | 0.0% | 0.0% | 0.0% | 0.3% |
| Other | 0.3% | -4.5% | 1.0% | 1.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -12.8% | -13.3% | 100.0% | 100.0% | 0.4% | 0.0% | 0.1% | 0.0% | 0.4% |
| Totals | | | | | | | | | |
| Developed | -13.8% | -14.0% | 88.8% | 89.1% | 0.1% | 0.0% | 0.1% | 0.0% | 0.1% |
| Emerging* | -4.8% | -7.5% | 10.9% | 10.9% | 0.2% | 0.0% | 0.1% | 0.0% | 0.3% |
| Frontier** | -14.9% | -- | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |



TOTAL EQUITY COMPOSITE

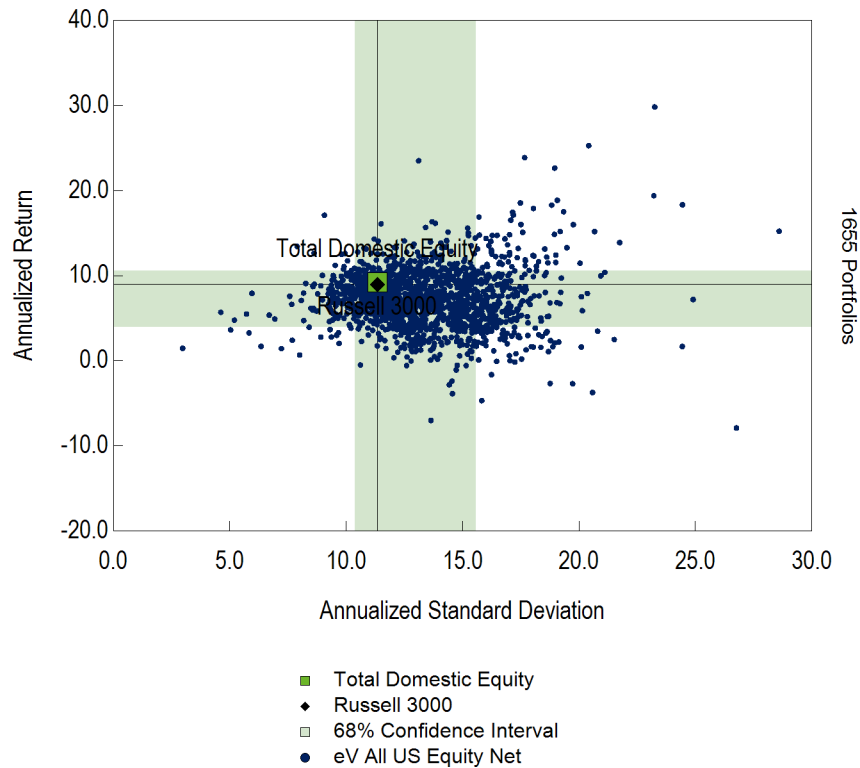
| Country Allocation | | | | |
|-----------------------|------------------|------------------|---------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| Americas | | | | |
| Brazil* | 1.1% | 0.7% | 15.9% | 14.5% |
| Canada | 1.8% | 3.0% | -14.6% | -15.4% |
| Chile* | 0.2% | 0.1% | -8.0% | -8.0% |
| Colombia* | 0.0% | 0.0% | -15.3% | -19.6% |
| Mexico* | 0.6% | 0.3% | -22.0% | -19.0% |
| Peru* | 0.0% | 0.0% | 2.4% | -3.1% |
| United States | 56.7% | 54.6% | -14.4% | -14.4% |
| Total-Americas | 60.4% | 58.8% | -13.9% | -14.1% |
| Europe | | | | |
| Austria | 0.2% | 0.1% | -18.8% | -19.5% |
| Belgium | 0.3% | 0.3% | -20.2% | -16.5% |
| Czech Republic* | 0.0% | 0.0% | -8.6% | -9.0% |
| Denmark | 0.7% | 0.5% | -12.2% | -11.4% |
| Finland | 0.3% | 0.4% | -16.0% | -14.6% |
| France | 2.4% | 3.2% | -15.2% | -15.3% |
| Germany | 2.2% | 2.8% | -14.7% | -16.3% |
| Greece* | 0.1% | 0.0% | -9.5% | -14.1% |
| Hungary* | 0.1% | 0.0% | 5.7% | 5.7% |
| Ireland | 0.2% | 0.2% | -16.8% | -16.3% |
| Italy | 1.0% | 0.8% | -10.3% | -12.8% |
| Luxembourg | 0.1% | 0.0% | -23.9% | -13.3% |
| Netherlands | 1.7% | 1.0% | -11.2% | -11.7% |
| Norway | 0.2% | 0.3% | -18.8% | -20.1% |
| Poland* | 0.1% | 0.1% | -1.0% | -2.8% |
| Portugal | 0.0% | 0.1% | -14.7% | -13.4% |
| Russia* | 0.4% | 0.4% | -9.0% | -9.3% |
| Spain | 1.2% | 0.9% | -8.0% | -9.8% |
| Sweden | 0.7% | 1.0% | -10.0% | -14.1% |
| Switzerland | 2.1% | 2.4% | -12.0% | -10.0% |
| United Kingdom | 5.1% | 5.5% | -15.5% | -12.7% |
| Total-Europe | 19.0% | 20.2% | -13.4% | -13.3% |

| Country Allocation | | | | |
|--------------------------|------------------|------------------|--------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| AsiaPacific | | | | |
| Australia | 1.5% | 2.1% | -9.0% | -10.5% |
| China* | 1.6% | 3.1% | -11.0% | -10.6% |
| Hong Kong | 3.3% | 1.0% | -3.7% | -4.9% |
| India* | 1.5% | 1.0% | 6.7% | 3.3% |
| Indonesia* | 0.4% | 0.2% | 11.9% | 8.3% |
| Japan | 6.2% | 7.9% | -8.9% | -14.3% |
| Korea* | 1.6% | 1.7% | -15.8% | -14.2% |
| Malaysia* | 0.4% | 0.3% | -4.1% | -6.9% |
| New Zealand | 0.0% | 0.1% | -8.9% | -4.1% |
| Pakistan* | 0.0% | 0.0% | -6.9% | -20.9% |
| Philippines* | 0.3% | 0.1% | 8.7% | 5.4% |
| Singapore | 0.8% | 0.4% | -8.3% | -6.2% |
| Sri Lanka** | 0.0% | 0.0% | -4.3% | 5.7% |
| Taiwan* | 1.1% | 1.4% | -15.2% | -12.9% |
| Thailand* | 0.4% | 0.3% | -3.2% | -11.9% |
| Total-AsiaPacific | 19.2% | 19.7% | -3.8% | -11.2% |
| Other | | | | |
| Egypt* | 0.0% | 0.0% | -5.1% | -9.1% |
| Israel | 0.1% | 0.2% | -5.8% | -13.1% |
| Qatar* | 0.0% | 0.1% | 7.4% | 7.4% |
| South Africa* | 0.7% | 0.7% | 1.4% | -3.7% |
| Turkey* | 0.2% | 0.1% | 19.8% | 3.5% |
| United Arab Emirates* | 0.0% | 0.1% | -0.3% | -6.0% |
| Total-Other | 1.0% | 1.2% | 6.1% | -4.3% |
| Totals | | | | |
| Developed | 88.9% | 89.2% | -0.4% | -13.9% |
| Emerging* | 10.9% | 10.8% | -3.1% | -7.5% |
| Frontier** | 0.0% | 0.0% | -4.3% | -- |
| Cash | 0.3% | | 0.2% | |

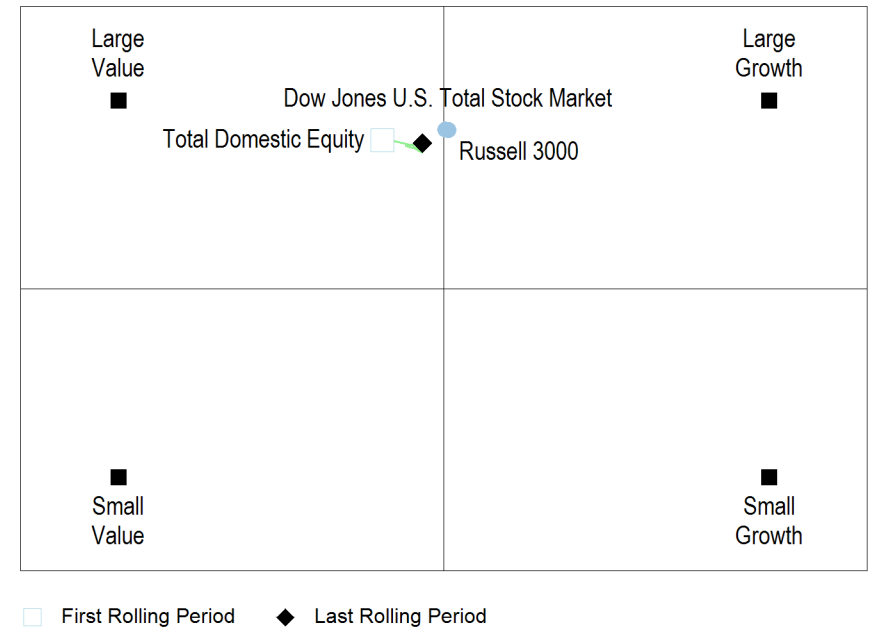


TOTAL DOMESTIC EQUITY

Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2018



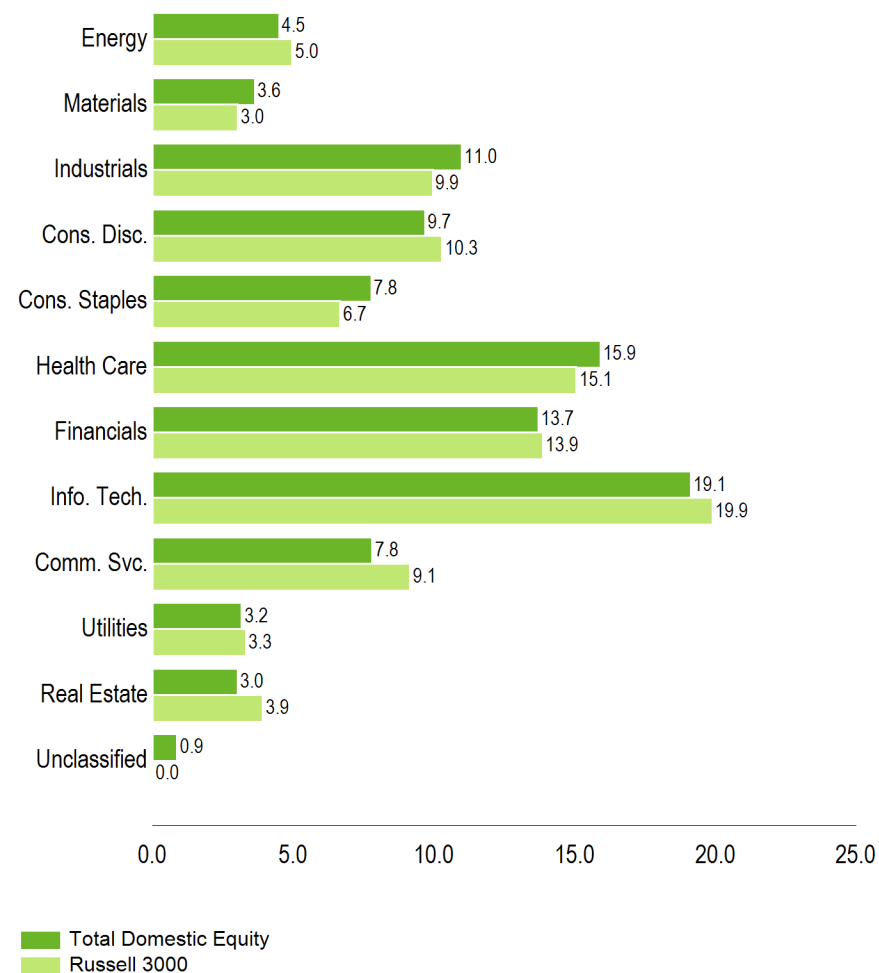
U.S. Effective Style Map
3 Years Ending December 31, 2018



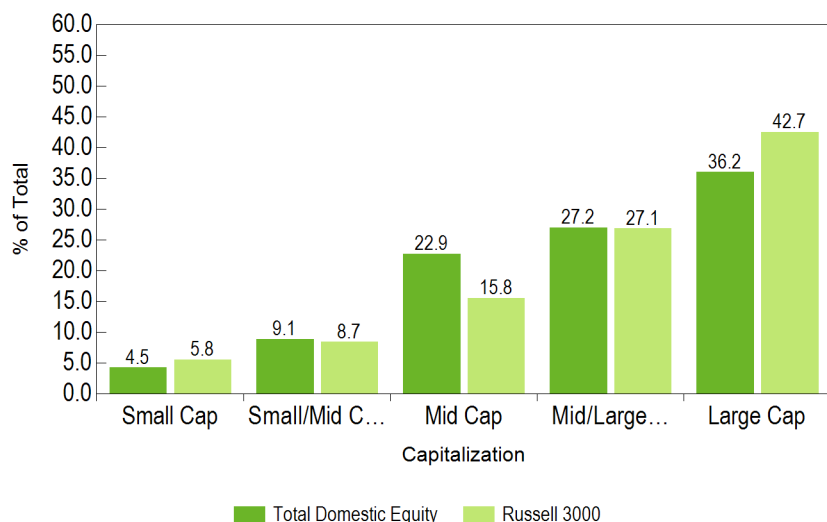
TOTAL DOMESTIC EQUITY

| Characteristics | | |
|---------------------------------|-----------|--------------|
| | Portfolio | Russell 3000 |
| Number of Holdings | 612 | 3,015 |
| Weighted Avg. Market Cap. (\$B) | 131.99 | 154.67 |
| Median Market Cap. (\$B) | 16.19 | 1.38 |
| Price To Earnings | 21.79 | 22.28 |
| Price To Book | 5.63 | 4.21 |
| Price To Sales | 4.20 | 4.07 |
| Return on Equity (%) | 21.83 | 21.02 |
| Yield (%) | 2.03 | 2.09 |
| Beta | 1.00 | 1.00 |
| R-Squared | 0.99 | 1.00 |

Sector Allocation (%) vs Russell 3000



Market Capitalization As of December 31, 2018



TOTAL DOMESTIC EQUITY

| Top Ten Holdings | |
|------------------------|------|
| MICROSOFT | 2.5% |
| APPLE | 2.3% |
| AMAZON.COM | 2.0% |
| BERKSHIRE HATHAWAY 'B' | 1.3% |
| JOHNSON & JOHNSON | 1.1% |
| JP MORGAN CHASE & CO. | 1.1% |
| FACEBOOK CLASS A | 1.0% |
| ALPHABET 'C' | 1.0% |
| ALPHABET A | 1.0% |
| EXXON MOBIL | 0.9% |

| Top Positive Contributors | | |
|---------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| APPLE | 0.2% | -29.9% |
| AMAZON.COM | 0.1% | -25.0% |
| RED HAT | 0.1% | 28.9% |
| MICROSOFT | 0.1% | -10.8% |
| FACEBOOK CLASS A | 0.0% | -20.3% |
| EXXON MOBIL | 0.0% | -19.0% |
| ALPHABET A | 0.0% | -13.4% |
| ALPHABET 'C' | 0.0% | -13.2% |
| NVIDIA | 0.0% | -52.4% |
| JP MORGAN CHASE & CO. | 0.0% | -12.9% |

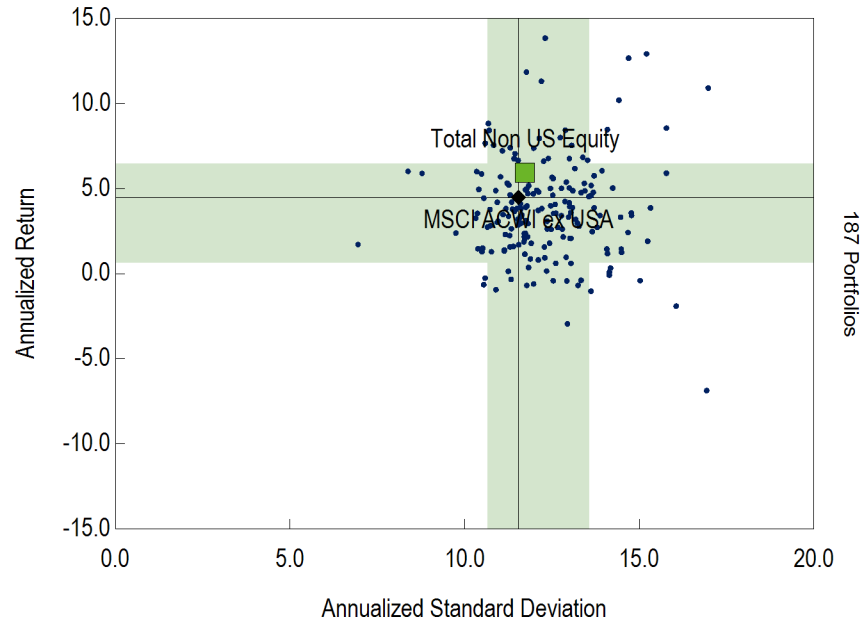
| Top Negative Contributors | | |
|---------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| INTEGRA LFSC.HDG. | -0.2% | -31.5% |
| BLACKBAUD | -0.1% | -37.9% |
| PURE STORAGE CL.A | -0.1% | -38.0% |
| WELBILT | -0.1% | -46.8% |
| NUVASIVE | -0.1% | -30.2% |
| JOHN BEAN TECHNOLOGIES | -0.1% | -39.7% |
| CATALENT | -0.1% | -31.5% |
| WILEY JOHN & SONS 'A' | -0.1% | -21.5% |
| AVANOS MEDICAL | -0.1% | -34.6% |
| SENSIENT TECHS. | -0.1% | -26.6% |

| | Equity Sector Attribution | | | | | | | | | | |
|------------------------|---------------------------|------------------|---------------------|---------------------|-------------|-----------|--------------|----------------|---------------|---------------|---------------|
| | Total Effects | Selection Effect | Attribution Effects | | | Returns | | Sector Weights | | | |
| | | | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.2% | 0.1% | 0.1% | 0.0% | -24.6% | -25.9% | 4.9% | 5.7% | | | |
| Materials | 0.1% | 0.1% | 0.0% | 0.0% | -13.8% | -15.6% | 3.4% | 2.7% | | | |
| Industrials | -0.1% | -0.1% | 0.0% | 0.0% | -18.8% | -18.2% | 11.6% | 10.4% | | | |
| Consumer Discretionary | 0.1% | 0.1% | 0.0% | 0.0% | -15.1% | -16.4% | 10.1% | 10.6% | | | |
| Consumer Staples | 0.2% | 0.1% | 0.1% | 0.0% | -4.7% | -5.5% | 7.2% | 6.1% | | | |
| Health Care | -0.3% | -0.3% | 0.1% | 0.0% | -13.1% | -11.1% | 16.2% | 14.4% | | | |
| Financials | 0.1% | 0.1% | 0.0% | 0.0% | -12.6% | -13.5% | 13.5% | 13.9% | | | |
| Information Technology | 0.2% | 0.1% | 0.0% | 0.0% | -16.8% | -17.4% | 19.6% | 20.9% | | | |
| Communication Services | 0.0% | 0.0% | 0.0% | 0.0% | -13.7% | -13.3% | 7.9% | 9.0% | | | |
| Utilities | 0.0% | 0.0% | 0.0% | 0.0% | 1.5% | 0.8% | 2.8% | 2.8% | | | |
| Real Estate | 0.0% | 0.1% | -0.1% | 0.0% | -4.2% | -6.4% | 2.8% | 3.6% | | | |
| Cash | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | -- | 0.0% | 0.0% | | | |
| Portfolio | 0.4% | = | 0.3% | + | 0.2% | + | -0.1% | -14.0% | -14.4% | 100.0% | 100.0% |

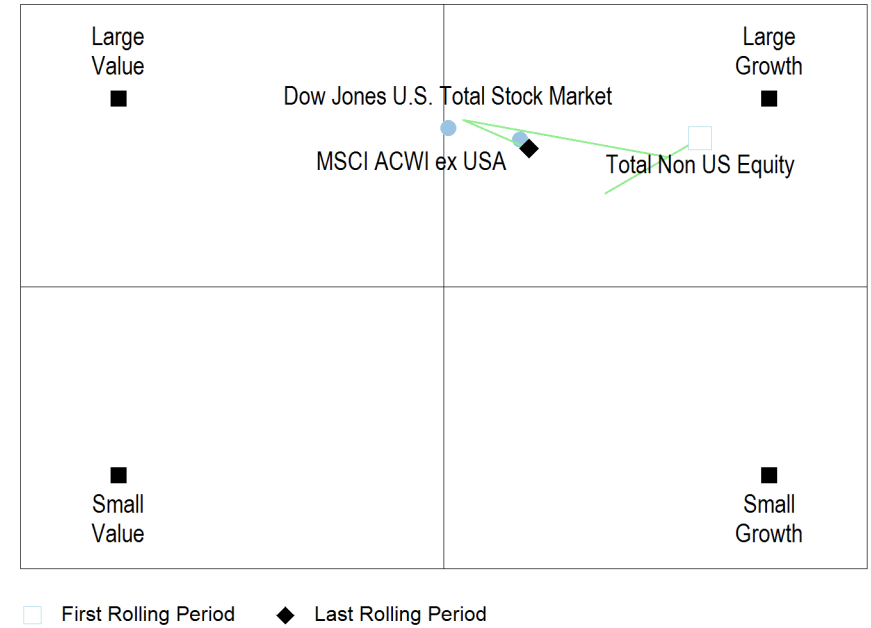


TOTAL NON US EQUITY

Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2018



U.S. Effective Style Map
3 Years Ending December 31, 2018

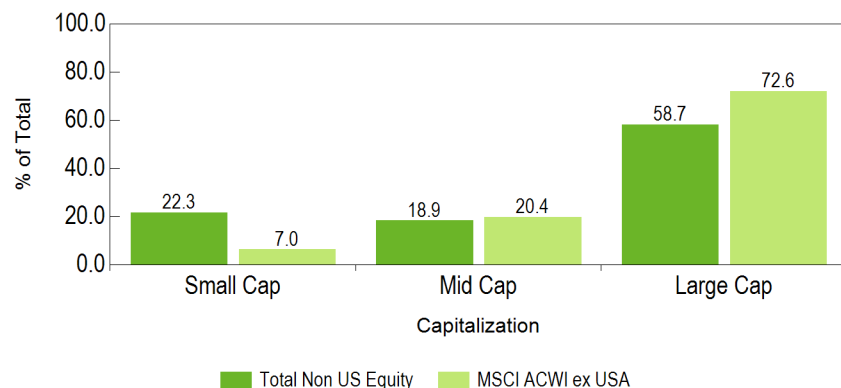


TOTAL NON US EQUITY

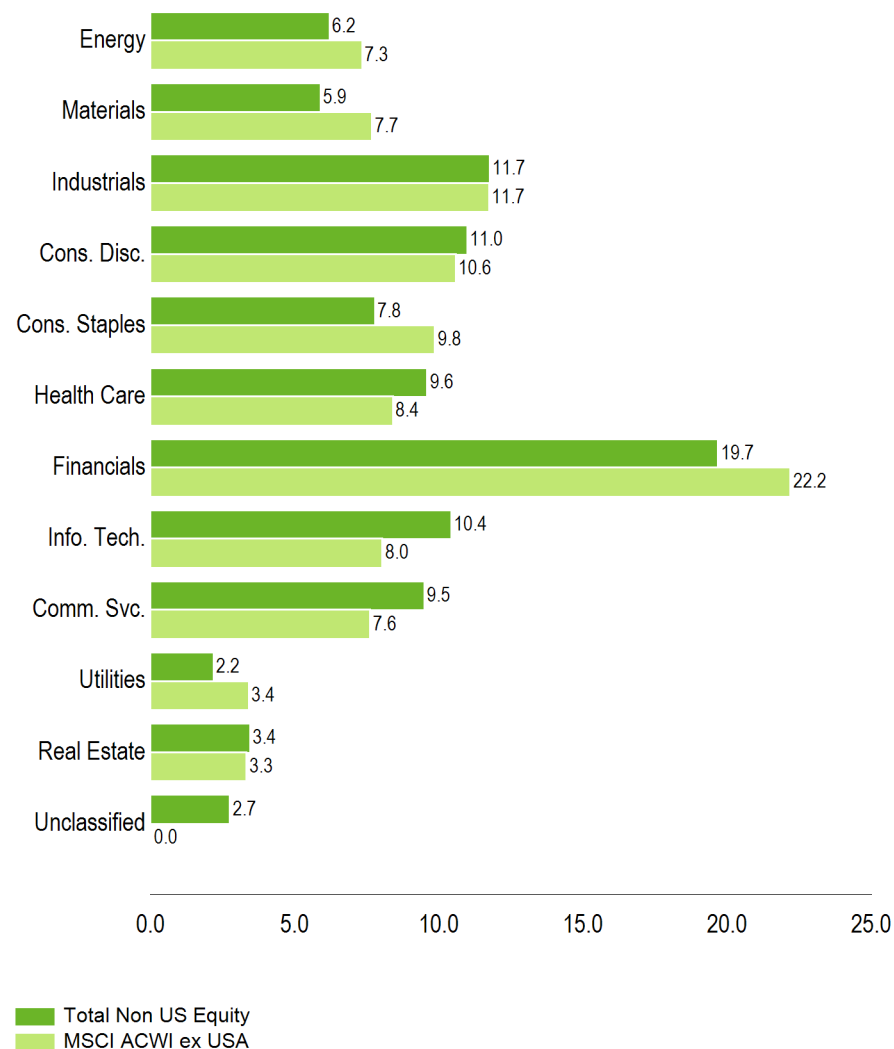
| Characteristics | | |
|---------------------------------|-----------|------------------|
| | Portfolio | MSCI ACWI ex USA |
| Number of Holdings | 2,964 | 2,136 |
| Weighted Avg. Market Cap. (\$B) | 55.05 | 56.13 |
| Median Market Cap. (\$B) | 6.03 | 7.02 |
| Price To Earnings | 17.40 | 16.43 |
| Price To Book | 3.19 | 2.36 |
| Price To Sales | 3.20 | 2.42 |
| Return on Equity (%) | 18.14 | 15.47 |
| Yield (%) | 3.01 | 3.44 |

| | Portfolio Q4-18 | Index Q4-18 |
|-------------------------|--------------------|----------------|
| Region Weighting | | |
| North America ex U.S. | 3.29 | 6.46 |
| United States | 17.55 | 0.45 |
| Europe Ex U.K. | 23.63 | 31.22 |
| United Kingdom | 10.04 | 10.86 |
| Pacific Basin Ex Japan | 10.46 | 11.62 |
| Japan | 12.51 | 16.58 |
| Emerging Markets | 21.62 | 22.18 |
| Other | 0.90 | 0.62 |

Market Capitalization As of December 31, 2018



Sector Allocation (%) vs MSCI ACWI ex USA



TOTAL NON US EQUITY

| Top Ten Holdings | |
|----------------------|------|
| CASH - USD | 1.8% |
| TENCENT HOLDINGS | 1.2% |
| IHS MARKIT | 1.1% |
| SAMSUNG ELTN.PREF. | 1.0% |
| TAIWAN SEMICON.MNFG. | 0.9% |
| VISA 'A' | 0.9% |
| BANK OF AMERICA | 0.8% |
| ROYAL DUTCH SHELL A | 0.6% |
| NOVARTIS 'R' | 0.6% |
| BP | 0.6% |

| Top Positive Contributors | | |
|---------------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| BNC.BRADESCO PF.SPN.ADR 1:1 | 0.1% | 42.7% |
| SAMSUNG ELECTRONICS | 0.1% | -17.2% |
| BRITISH AMERICAN TOBACCO | 0.1% | -29.6% |
| ALIBABA GROUP HLDG.SPN. ADR 1:1 | 0.1% | -16.8% |
| TOTAL | 0.1% | -17.5% |
| SOFTBANK GROUP | 0.1% | -34.1% |
| ROYAL DUTCH SHELL A(LON) | 0.1% | -13.2% |
| BNP PARIBAS | 0.1% | -26.3% |
| AIRBUS | 0.1% | -23.6% |
| LOJAS RENNER ON | 0.1% | 41.2% |

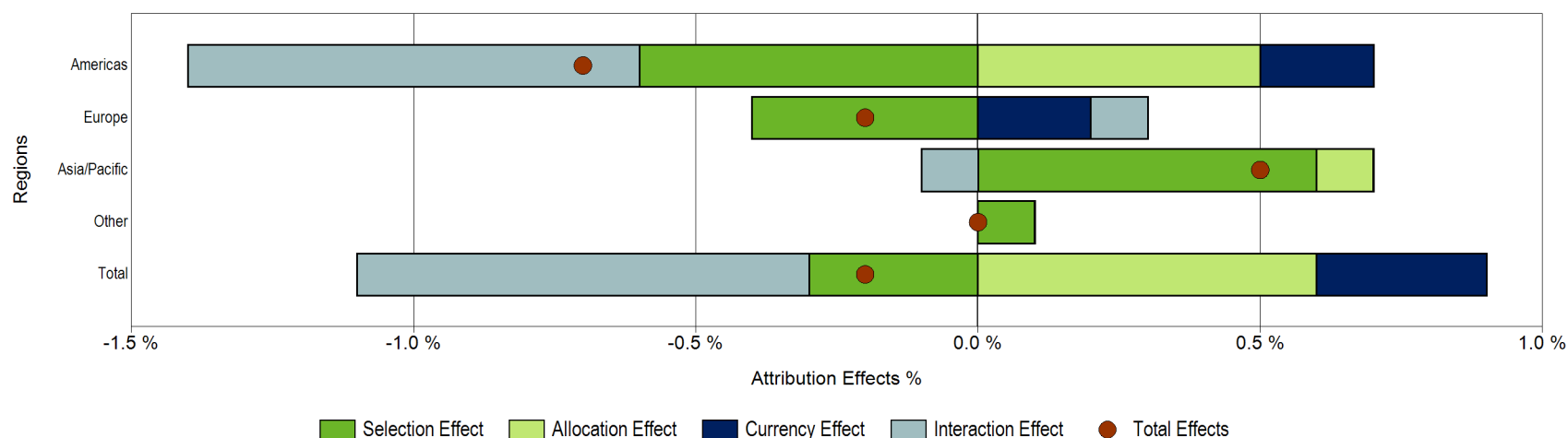
| Top Negative Contributors | | |
|---------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| FEVERTREE DRINKS | -0.2% | -40.5% |
| NOBLE ENERGY | -0.2% | -39.6% |
| SAMSUNG ELTN.PREF. | -0.2% | -16.6% |
| BANK OF AMERICA | -0.1% | -15.9% |
| VISA 'A' | -0.1% | -11.9% |
| IHS MARKIT | -0.1% | -11.1% |
| AMAZON.COM | -0.1% | -25.0% |
| ACTIVISION BLIZZARD | -0.1% | -44.0% |
| TEMENOS N | -0.1% | -26.6% |
| PIONEER NTRL.RES. | -0.1% | -24.5% |

| | Equity Sector Attribution | | | | | | | | Returns | | Sector Weights | |
|------------------------|---------------------------|------------------|---------------------|----------|---------------------|-----------|-------------|---------------|---------------|--------------|----------------|--|
| | Total Effects | Selection Effect | Attribution Effects | | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| | | | Allocation Effect | | | | | | | | | |
| Energy | 0.0% | -0.1% | 0.0% | 0.0% | 0.1% | -17.1% | -16.2% | 7.2% | 7.7% | | | |
| Materials | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | -13.9% | -13.9% | 6.1% | 7.9% | | | |
| Industrials | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | -12.8% | -13.5% | 10.6% | 12.0% | | | |
| Consumer Discretionary | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | -13.8% | -13.8% | 12.0% | 10.6% | | | |
| Consumer Staples | -0.2% | -0.3% | -0.1% | 0.1% | 0.1% | -9.7% | -7.3% | 8.1% | 9.3% | | | |
| Health Care | -0.1% | -0.1% | 0.0% | 0.0% | 0.0% | -11.4% | -10.8% | 8.5% | 8.5% | | | |
| Financials | 0.2% | 0.1% | 0.0% | 0.1% | 0.1% | -9.8% | -10.8% | 20.5% | 22.2% | | | |
| Information Technology | -0.2% | -0.1% | -0.2% | 0.0% | 0.0% | -16.6% | -16.1% | 11.6% | 8.5% | | | |
| Communication Services | -0.1% | -0.1% | 0.1% | 0.0% | 0.0% | -9.7% | -8.3% | 9.3% | 7.4% | | | |
| Utilities | -0.1% | 0.1% | -0.1% | 0.0% | 0.0% | 2.6% | 0.5% | 2.1% | 3.0% | | | |
| Real Estate | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | -0.3% | -2.8% | 2.9% | 2.9% | | | |
| Cash | 0.1% | 0.0% | 0.1% | 0.0% | 0.0% | 0.5% | -- | 0.5% | 0.0% | | | |
| Portfolio | -0.2% | = | -0.3% | + | -0.2% | + | 0.3% | -11.7% | -11.5% | 99.5% | 100.0% | |



TOTAL NON US EQUITY

Total Non US Equity Performance Attribution vs. MSCI ACWI ex USA
Quarter Ending December 31, 2018



| | Returns and Weights | | | | Attribution Effects | | | | |
|---------------|---------------------|---------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| Totals | | | | | | | | | |
| Americas | -13.7% | -10.3% | 22.4% | 9.5% | -0.6% | 0.5% | 0.2% | -0.8% | -0.7% |
| Europe | -13.4% | -12.6% | 37.3% | 44.9% | -0.4% | 0.0% | 0.2% | 0.1% | -0.2% |
| Asia/Pacific | -9.5% | -11.0% | 37.9% | 43.2% | 0.6% | 0.1% | 0.0% | -0.1% | 0.5% |
| Other | 0.3% | -3.8% | 2.0% | 2.5% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 0.5% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| Total | -11.7% | -11.5% | 100.0% | 100.0% | -0.3% | 0.6% | 0.3% | -0.8% | -0.2% |
| Totals | | | | | | | | | |
| Developed | -13.6% | -12.8% | 78.0% | 75.3% | -0.9% | 0.0% | 0.2% | 0.0% | -0.7% |
| Emerging* | -4.8% | -7.5% | 21.5% | 24.7% | 0.5% | -0.1% | 0.1% | -0.1% | 0.5% |
| Frontier** | -14.9% | -- | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 0.5% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |



TOTAL NON US EQUITY

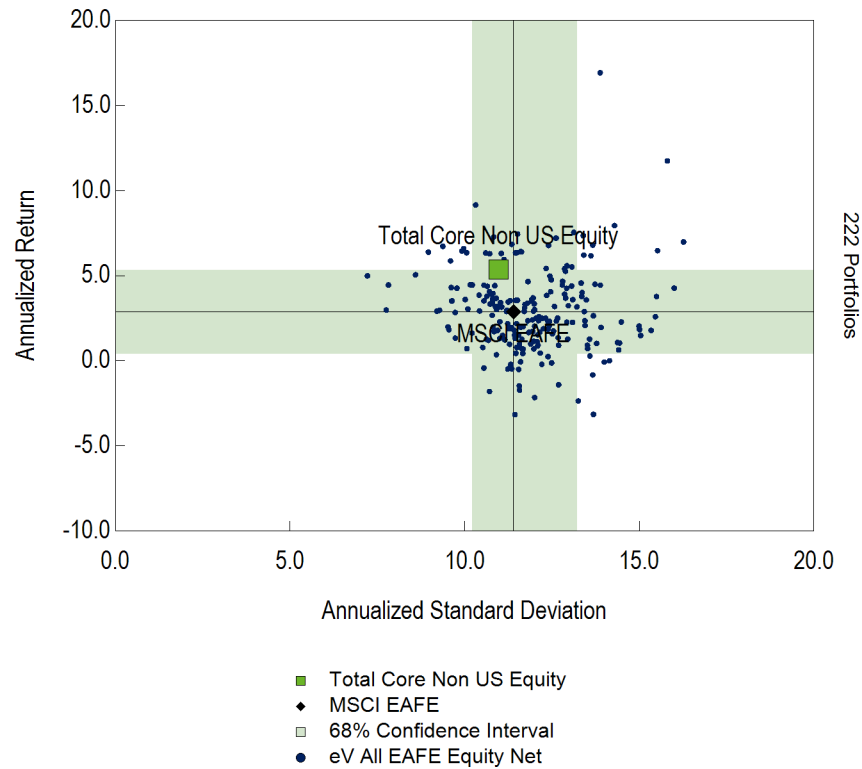
| Country Allocation | | | | |
|-----------------------|------------------|------------------|---------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| Americas | | | | |
| Brazil* | 2.1% | 1.5% | 15.9% | 13.6% |
| Canada | 3.2% | 6.6% | -15.3% | -14.9% |
| Chile* | 0.4% | 0.3% | -8.0% | -8.3% |
| Colombia* | 0.1% | 0.1% | -15.3% | -18.9% |
| Mexico* | 1.2% | 0.8% | -22.0% | -18.7% |
| Peru* | 0.0% | 0.1% | 2.4% | -2.9% |
| United States | 15.4% | 0.0% | -17.0% | -13.8% |
| Total-Americas | 22.4% | 9.5% | -13.7% | -10.3% |
| Europe | | | | |
| Austria | 0.3% | 0.2% | -18.8% | -21.9% |
| Belgium | 0.6% | 0.7% | -20.2% | -18.3% |
| Czech Republic* | 0.0% | 0.0% | -8.6% | -8.6% |
| Denmark | 1.4% | 1.2% | -12.2% | -9.7% |
| Finland | 0.6% | 0.7% | -16.0% | -14.6% |
| France | 4.7% | 7.7% | -15.0% | -14.9% |
| Germany | 4.2% | 6.3% | -14.7% | -16.0% |
| Greece* | 0.2% | 0.1% | -9.5% | -15.2% |
| Hungary* | 0.1% | 0.1% | 5.7% | 5.8% |
| Ireland | 0.4% | 0.4% | -16.8% | -18.1% |
| Italy | 1.9% | 1.6% | -10.3% | -11.6% |
| Luxembourg | 0.1% | 0.0% | -23.9% | -11.5% |
| Netherlands | 3.3% | 2.3% | -11.2% | -11.0% |
| Norway | 0.4% | 0.5% | -18.8% | -17.8% |
| Poland* | 0.2% | 0.3% | -1.0% | -2.7% |
| Portugal | 0.1% | 0.1% | -14.7% | -14.2% |
| Russia* | 0.8% | 0.9% | -9.0% | -9.2% |
| Spain | 2.4% | 2.1% | -8.0% | -8.7% |
| Sweden | 1.3% | 1.9% | -10.0% | -14.1% |
| Switzerland | 4.2% | 5.7% | -12.0% | -9.0% |
| United Kingdom | 10.0% | 12.0% | -15.5% | -11.8% |
| Total-Europe | 37.3% | 44.9% | -13.4% | -12.6% |

| Country Allocation | | | | |
|--------------------------|------------------|------------------|--------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| AsiaPacific | | | | |
| Australia | 3.0% | 4.6% | -9.0% | -9.8% |
| China* | 3.2% | 7.6% | -11.0% | -10.6% |
| Hong Kong | 6.5% | 2.4% | -3.7% | -4.5% |
| India* | 3.0% | 2.1% | 6.7% | 2.6% |
| Indonesia* | 0.8% | 0.5% | 11.9% | 9.8% |
| Japan | 12.2% | 16.7% | -8.9% | -14.2% |
| Korea* | 3.2% | 3.7% | -15.8% | -14.2% |
| Malaysia* | 0.7% | 0.6% | -4.1% | -5.8% |
| New Zealand | 0.1% | 0.1% | -8.9% | -6.4% |
| Pakistan* | 0.0% | 0.0% | -6.9% | -22.9% |
| Philippines* | 0.7% | 0.2% | 8.7% | 5.2% |
| Singapore | 1.5% | 0.9% | -8.3% | -6.7% |
| Sri Lanka** | 0.0% | 0.0% | -4.3% | 5.7% |
| Taiwan* | 2.1% | 3.0% | -15.2% | -13.6% |
| Thailand* | 0.9% | 0.6% | -3.2% | -10.3% |
| Total-AsiaPacific | 37.8% | 43.0% | -3.8% | -11.0% |
| Other | | | | |
| Egypt* | 0.0% | 0.0% | -5.1% | -8.7% |
| Israel | 0.2% | 0.4% | -5.8% | -14.7% |
| Qatar* | 0.1% | 0.2% | 7.4% | 8.5% |
| South Africa* | 1.3% | 1.5% | 1.4% | -3.5% |
| Turkey* | 0.3% | 0.2% | 19.8% | 4.9% |
| United Arab Emirates* | 0.1% | 0.2% | -0.3% | -6.0% |
| Total-Other | 2.0% | 2.5% | 6.1% | -3.7% |
| Totals | | | | |
| Developed | 78.1% | 75.4% | -1.2% | -12.7% |
| Emerging* | 21.4% | 24.6% | -3.1% | -7.5% |
| Frontier** | 0.0% | 0.0% | -4.3% | -- |
| Cash | 0.5% | | 0.2% | |

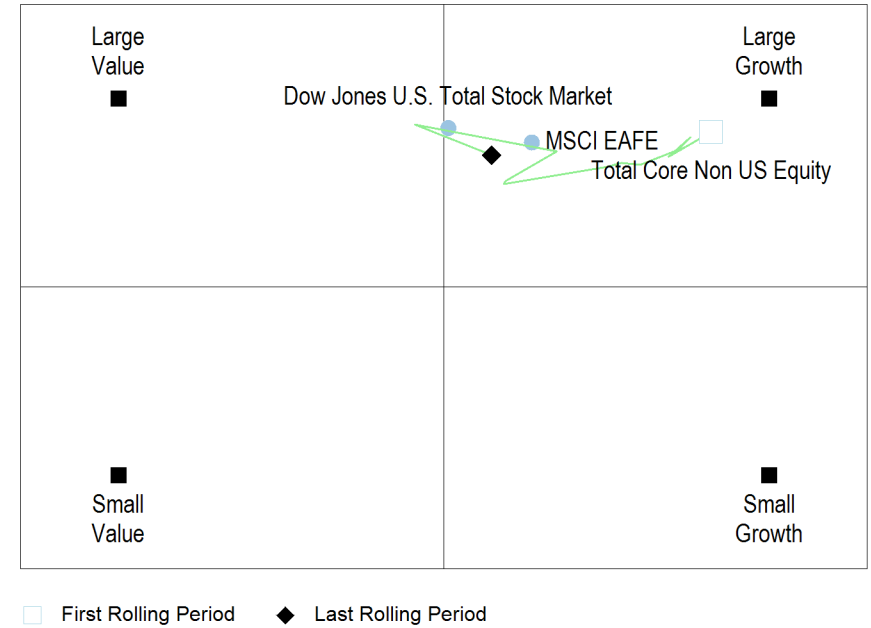


TOTAL CORE NON US EQUITY

Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2018



U.S. Effective Style Map
3 Years Ending December 31, 2018

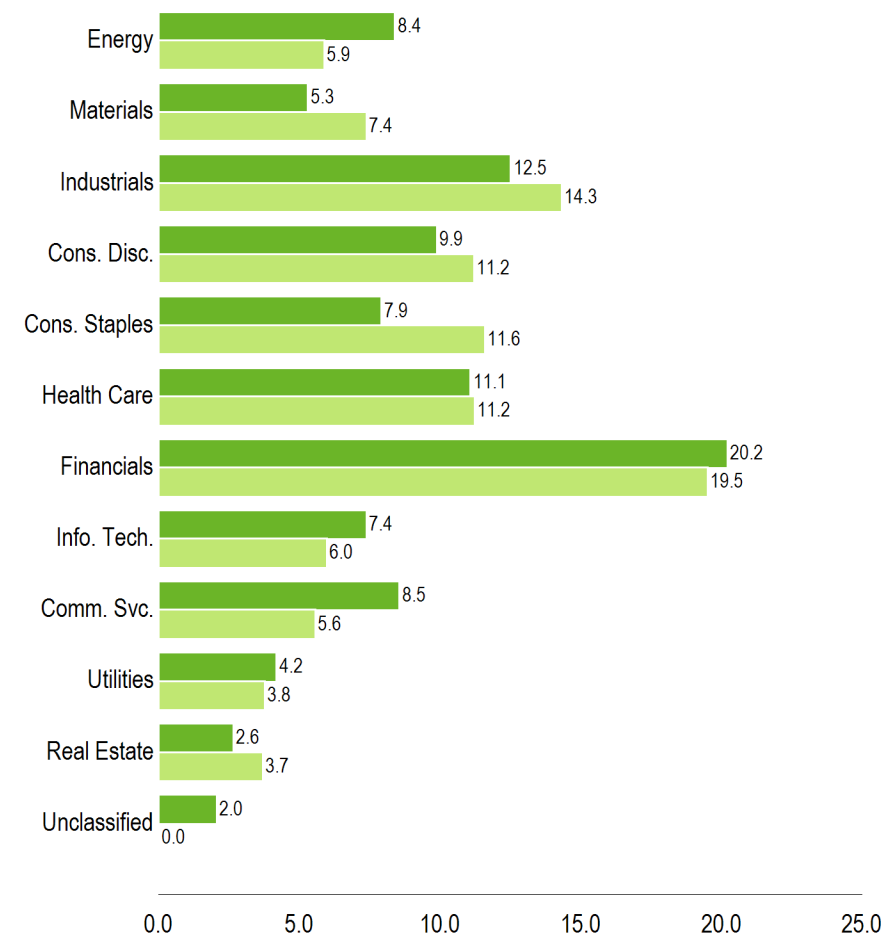


TOTAL CORE NON US EQUITY

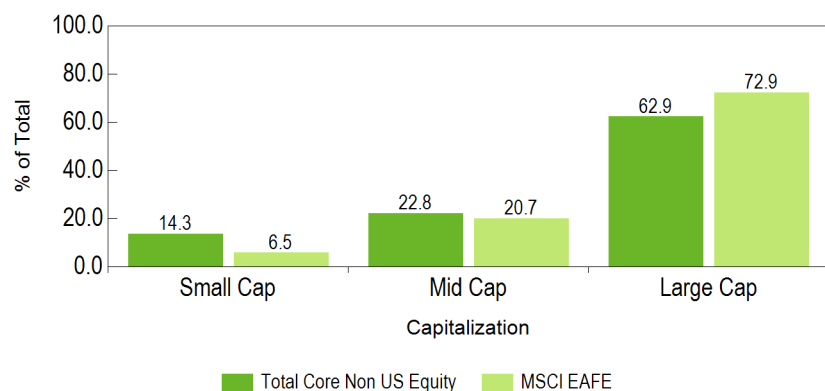
| Characteristics | | |
|---------------------------------|-----------|-----------|
| | Portfolio | MSCI EAFE |
| Number of Holdings | 2,493 | 920 |
| Weighted Avg. Market Cap. (\$B) | 48.61 | 52.55 |
| Median Market Cap. (\$B) | 6.29 | 9.12 |
| Price To Earnings | 14.83 | 16.68 |
| Price To Book | 2.47 | 2.30 |
| Price To Sales | 2.33 | 2.36 |
| Return on Equity (%) | 16.05 | 14.66 |
| Yield (%) | 3.69 | 3.63 |

| | Portfolio Q4-18 | Index Q4-18 |
|------------------------|--------------------|----------------|
| Region Weighting | | |
| North America ex U.S. | 4.42 | -- |
| United States | 1.69 | 0.49 |
| Europe Ex U.K. | 36.82 | 46.14 |
| United Kingdom | 12.73 | 16.01 |
| Pacific Basin Ex Japan | 11.78 | 12.37 |
| Japan | 18.32 | 24.56 |
| Emerging Markets | 13.51 | -- |
| Other | 0.72 | 0.43 |

Sector Allocation (%) vs MSCI EAFE



Market Capitalization As of December 31, 2018



TOTAL CORE NON US EQUITY

| Top Ten Holdings | |
|----------------------------|------|
| ROYAL DUTCH SHELL A | 1.3% |
| BP | 1.1% |
| NOVARTIS 'R' | 1.1% |
| CASH - USD | 1.0% |
| ENEL | 1.0% |
| SANOFI | 1.0% |
| ROCHE HOLDING | 1.0% |
| GLAXOSMITHKLINE | 0.9% |
| IBERDROLA | 0.9% |
| KONINKLIJKE AHOLD DELHAIZE | 0.9% |

| Top Positive Contributors | | |
|---------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| BRITISH AMERICAN TOBACCO | 0.1% | -29.6% |
| TOTAL | 0.1% | -17.5% |
| SOFTBANK GROUP | 0.1% | -34.1% |
| ROYAL DUTCH SHELL A(LON) | 0.1% | -13.2% |
| BNP PARIBAS | 0.1% | -26.3% |
| AIRBUS | 0.1% | -23.6% |
| LVMH | 0.1% | -15.9% |
| ANHEUSER-BUSCH INBEV | 0.1% | -23.9% |
| MITSUBISHI UFJ FINL.GP. | 0.1% | -21.5% |
| SONY | 0.1% | -20.8% |

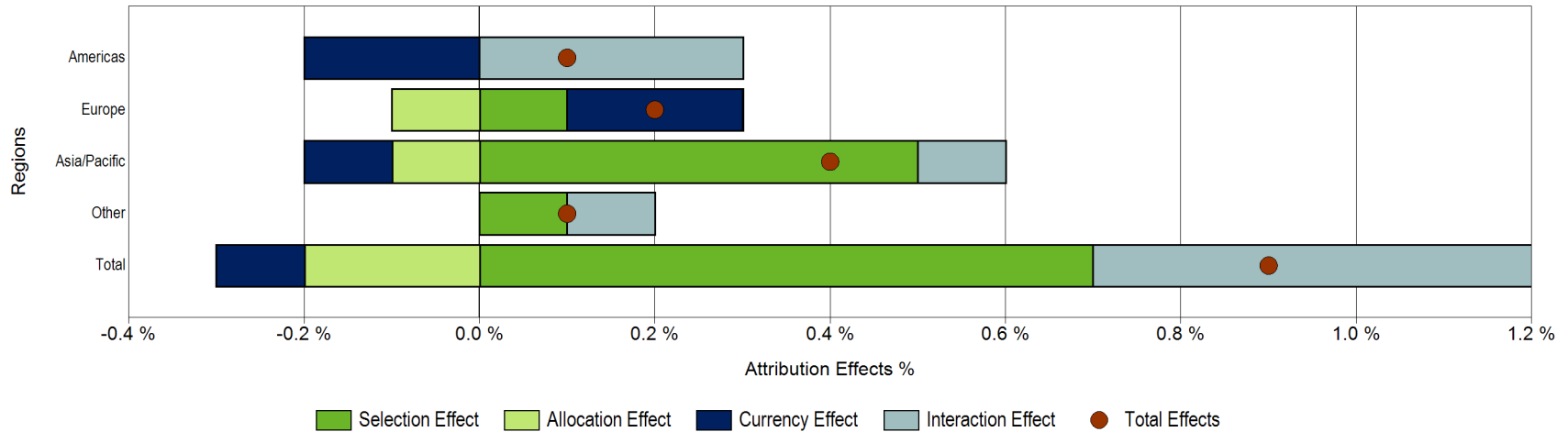
| Top Negative Contributors | | |
|----------------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| ROYAL DUTCH SHELL A | -0.2% | -13.3% |
| WOOD GROUP (JOHN) | -0.2% | -35.9% |
| DAIMLER | -0.1% | -17.2% |
| CK HUTCHISON (HSC) HOLDINGS | -0.1% | -15.9% |
| ROYAL BANK OF CANADA | -0.1% | -13.7% |
| SAMSUNG ELECTRONICS | -0.1% | -17.2% |
| TESCO | -0.1% | -22.0% |
| EVONIK INDUSTRIES | -0.1% | -29.9% |
| ALIBABA GROUP HLDG.SP.N. ADR 1:1 | -0.1% | -16.8% |
| ALLIANZ | -0.1% | -9.9% |

| | Equity Sector Attribution | | | | | | Returns | | Sector Weights | | |
|------------------------|---------------------------|------------------|---------------------|----------|---------------------|-----------|--------------|---------------|----------------|--------------|---------------|
| | Total Effects | Selection Effect | Attribution Effects | | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | |
| | | | Allocation Effect | | | | | | | | |
| Energy | -0.1% | 0.0% | -0.1% | | 0.0% | -16.5% | -17.3% | 9.1% | 6.2% | | |
| Materials | 0.0% | 0.0% | 0.0% | | 0.0% | -16.2% | -16.0% | 6.1% | 7.8% | | |
| Industrials | 0.2% | 0.2% | 0.1% | | -0.1% | -13.4% | -14.6% | 12.0% | 14.6% | | |
| Consumer Discretionary | 0.0% | -0.1% | 0.0% | | 0.0% | -15.2% | -14.6% | 10.7% | 11.3% | | |
| Consumer Staples | 0.0% | 0.2% | -0.2% | | 0.0% | -6.6% | -8.2% | 7.6% | 10.9% | | |
| Health Care | -0.2% | -0.3% | 0.0% | | 0.0% | -12.2% | -10.1% | 10.8% | 11.2% | | |
| Financials | 0.5% | 0.6% | 0.0% | | 0.0% | -11.1% | -13.7% | 20.4% | 20.0% | | |
| Information Technology | -0.1% | 0.0% | -0.1% | | 0.0% | -16.7% | -16.6% | 8.1% | 6.2% | | |
| Communication Services | 0.3% | 0.2% | 0.1% | | 0.1% | -6.3% | -9.7% | 7.9% | 5.4% | | |
| Utilities | 0.1% | 0.1% | 0.0% | | 0.0% | 2.9% | 0.0% | 3.6% | 3.3% | | |
| Real Estate | 0.0% | 0.1% | 0.0% | | 0.0% | -1.4% | -4.2% | 2.7% | 3.2% | | |
| Cash | 0.0% | 0.0% | 0.0% | | 0.0% | 0.5% | -- | 0.1% | 0.0% | | |
| Portfolio | 0.9% | = | 1.1% | + | -0.1% | + | -0.1% | -11.7% | -12.5% | 99.1% | 100.0% |



TOTAL CORE NON US EQUITY

Total Core Non US Equity Performance Attribution vs. MSCI EAFE
Quarter Ending December 31, 2018



| | Returns and Weights | | | | Attribution Effects | | | | |
|---------------|---------------------|---------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| Totals | | | | | | | | | |
| Americas | -11.2% | -- | 7.2% | 0.0% | 0.0% | 0.0% | -0.2% | 0.3% | 0.1% |
| Europe | -12.5% | -12.8% | 50.9% | 63.3% | 0.1% | -0.1% | 0.2% | 0.0% | 0.2% |
| Asia/Pacific | -11.1% | -12.1% | 40.1% | 36.1% | 0.5% | -0.1% | -0.1% | 0.1% | 0.4% |
| Other | -4.0% | -14.8% | 1.7% | 0.5% | 0.1% | 0.0% | 0.0% | 0.1% | 0.1% |
| Cash | 0.5% | -- | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | -11.7% | -12.5% | 100.0% | 100.0% | 0.7% | -0.2% | -0.1% | 0.5% | 0.9% |
| Totals | | | | | | | | | |
| Developed | -12.3% | -12.5% | 85.7% | 100.0% | 0.5% | 0.0% | -0.2% | -0.1% | 0.2% |
| Emerging* | -7.8% | -- | 14.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.6% | 0.6% |
| Cash | 0.5% | -- | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |



TOTAL CORE NON US EQUITY

| Country Allocation | | | | |
|-----------------------|------------------|------------------|---------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| Americas | | | | |
| Brazil* | 1.0% | 0.0% | 13.0% | 13.4% |
| Canada | 5.0% | 0.0% | -15.3% | -15.3% |
| Chile* | 0.2% | 0.0% | -8.3% | -8.7% |
| Colombia* | 0.1% | 0.0% | -18.9% | -19.0% |
| Mexico* | 0.6% | 0.0% | -17.6% | -18.8% |
| Peru* | 0.1% | 0.0% | 2.4% | -2.9% |
| United States | 0.3% | 0.0% | -14.8% | -13.8% |
| Total-Americas | 7.2% | 0.0% | -11.2% | -- |
| Europe | | | | |
| Austria | 0.6% | 0.2% | -18.7% | -21.9% |
| Belgium | 0.7% | 1.0% | -16.4% | -18.3% |
| Czech Republic* | 0.0% | 0.0% | -8.6% | -8.7% |
| Denmark | 1.6% | 1.7% | -17.4% | -9.7% |
| Finland | 1.0% | 1.1% | -15.5% | -14.6% |
| France | 7.2% | 11.2% | -15.8% | -14.9% |
| Germany | 6.5% | 9.2% | -14.5% | -16.0% |
| Greece* | 0.1% | 0.0% | -10.7% | -16.0% |
| Hungary* | 0.0% | 0.0% | 5.9% | 5.9% |
| Ireland | 0.6% | 0.5% | -16.3% | -18.1% |
| Italy | 2.8% | 2.4% | -8.1% | -11.6% |
| Luxembourg | 0.1% | 0.0% | -14.2% | -12.5% |
| Netherlands | 4.7% | 3.4% | -10.0% | -11.0% |
| Norway | 0.5% | 0.8% | -16.8% | -17.8% |
| Poland* | 0.2% | 0.0% | -2.6% | -3.0% |
| Portugal | 0.1% | 0.2% | -14.7% | -14.2% |
| Russia* | 0.1% | 0.0% | -6.7% | -9.0% |
| Spain | 3.2% | 3.0% | -3.4% | -8.7% |
| Sweden | 2.2% | 2.8% | -9.7% | -14.1% |
| Switzerland | 5.7% | 8.3% | -8.6% | -9.0% |
| United Kingdom | 13.2% | 17.5% | -14.5% | -11.8% |
| Total-Europe | 50.9% | 63.3% | -12.5% | -12.8% |

| Country Allocation | | | | |
|--------------------------|------------------|------------------|--------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| AsiaPacific | | | | |
| Australia | 4.6% | 6.7% | -8.0% | -9.8% |
| China* | 2.7% | 0.0% | -9.8% | -11.5% |
| Hong Kong | 4.8% | 3.5% | -11.0% | -4.5% |
| India* | 1.3% | 0.0% | -7.0% | -7.0% |
| Indonesia* | 0.3% | 0.0% | -3.1% | -3.1% |
| Japan | 17.9% | 24.2% | -7.9% | -14.2% |
| Korea* | 2.8% | 0.0% | -13.3% | -14.3% |
| Malaysia* | 0.6% | 0.0% | -5.2% | -6.4% |
| New Zealand | 0.1% | 0.2% | -8.9% | -6.4% |
| Pakistan* | 0.0% | 0.0% | -6.9% | -7.0% |
| Philippines* | 0.1% | 0.0% | -1.0% | -1.0% |
| Singapore | 2.2% | 1.3% | -8.4% | -6.7% |
| Taiwan* | 2.3% | 0.0% | -12.7% | -11.8% |
| Thailand* | 0.4% | 0.0% | -6.3% | -7.3% |
| Total-AsiaPacific | 40.0% | 35.9% | -8.9% | -12.1% |
| Other | | | | |
| Egypt* | 0.0% | 0.0% | -5.1% | -5.9% |
| Israel | 0.3% | 0.5% | -5.8% | -14.7% |
| Qatar* | 0.1% | 0.0% | 7.4% | 7.4% |
| South Africa* | 1.0% | 0.0% | -10.8% | -10.9% |
| Turkey* | 0.1% | 0.0% | -2.5% | -2.3% |
| United Arab Emirates* | 0.1% | 0.0% | -0.3% | -0.4% |
| Total-Other | 1.7% | 0.5% | -7.1% | -14.7% |
| Totals | | | | |
| Developed | 85.8% | 100.0% | -7.8% | -12.5% |
| Emerging* | 14.1% | 0.0% | -8.1% | -- |
| Cash | 0.1% | | 0.2% | |

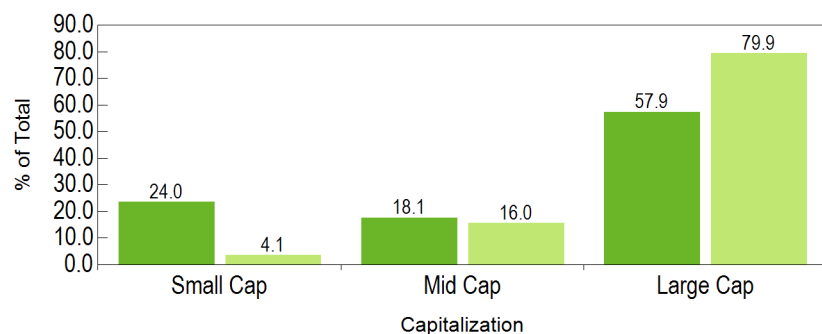


TOTAL GLOBAL EQUITY

| Characteristics | | |
|---------------------------------|-----------|-----------|
| | Portfolio | MSCI ACWI |
| Number of Holdings | 530 | 2,758 |
| Weighted Avg. Market Cap. (\$B) | 74.96 | 120.64 |
| Median Market Cap. (\$B) | 7.51 | 8.52 |
| Price To Earnings | 20.32 | 18.55 |
| Price To Book | 4.17 | 3.40 |
| Price To Sales | 4.05 | 3.22 |
| Return on Equity (%) | 19.00 | 18.75 |
| Yield (%) | 1.93 | 2.76 |

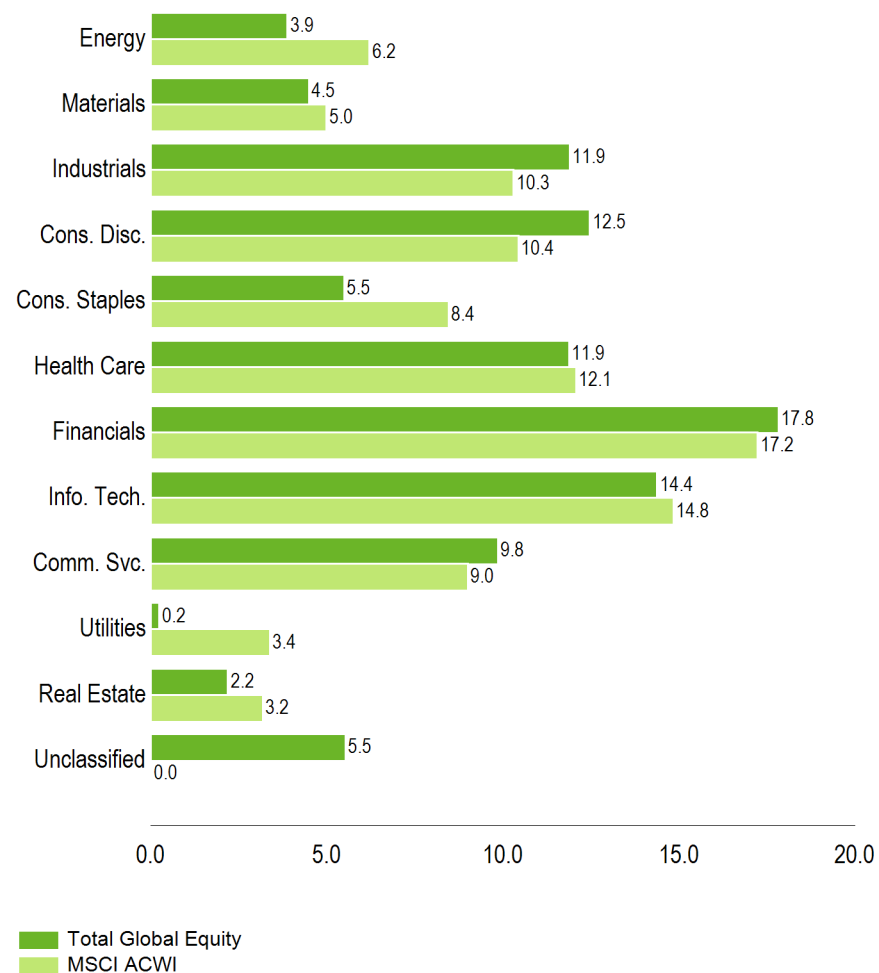
| | Portfolio Q4-18 | Index Q4-18 |
|-------------------------|--------------------|----------------|
| Region Weighting | | |
| North America ex U.S. | 1.11 | 3.00 |
| United States | 55.25 | 54.23 |
| Europe Ex U.K. | 10.24 | 14.50 |
| United Kingdom | 8.71 | 4.96 |
| Pacific Basin Ex Japan | 6.47 | 5.31 |
| Japan | 4.68 | 7.58 |
| Emerging Markets | 12.17 | 10.13 |
| Other | 1.37 | 0.28 |

Market Capitalization As of December 31, 2018



■ Total Global Equity ■ MSCI ACWI

Sector Allocation (%) vs MSCI ACWI



TOTAL GLOBAL EQUITY

| Top Ten Holdings | |
|-------------------------|------|
| CASH - USD | 4.3% |
| IHS MARKIT | 3.6% |
| VISA 'A' | 2.9% |
| BANK OF AMERICA | 2.7% |
| TECHTRONIC INDS. | 1.9% |
| ANTHEM | 1.8% |
| BOSTON SCIENTIFIC | 1.8% |
| AMAZON.COM | 1.8% |
| ASTRAZENECA SPN.ADR.2:1 | 1.7% |
| ALPHABET A | 1.5% |

| Top Positive Contributors | | |
|---------------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| MICROSOFT | 0.1% | -10.8% |
| HDFC BANK ADR 1:3 | 0.1% | 10.1% |
| BELMOND 'A' | 0.1% | 37.2% |
| JP MORGAN CHASE & CO. | 0.1% | -12.9% |
| ALIBABA GROUP HLDG.SPN. ADR 1:1 | 0.1% | -16.8% |
| GENMAB | 0.0% | 4.0% |
| ROYAL DUTCH SHELL A(LON) | 0.0% | -13.2% |
| JARDINE MATHESON HDG. | 0.0% | 10.9% |
| SIBANYE GOLD | 0.0% | 15.0% |
| CREE | 0.0% | 13.0% |

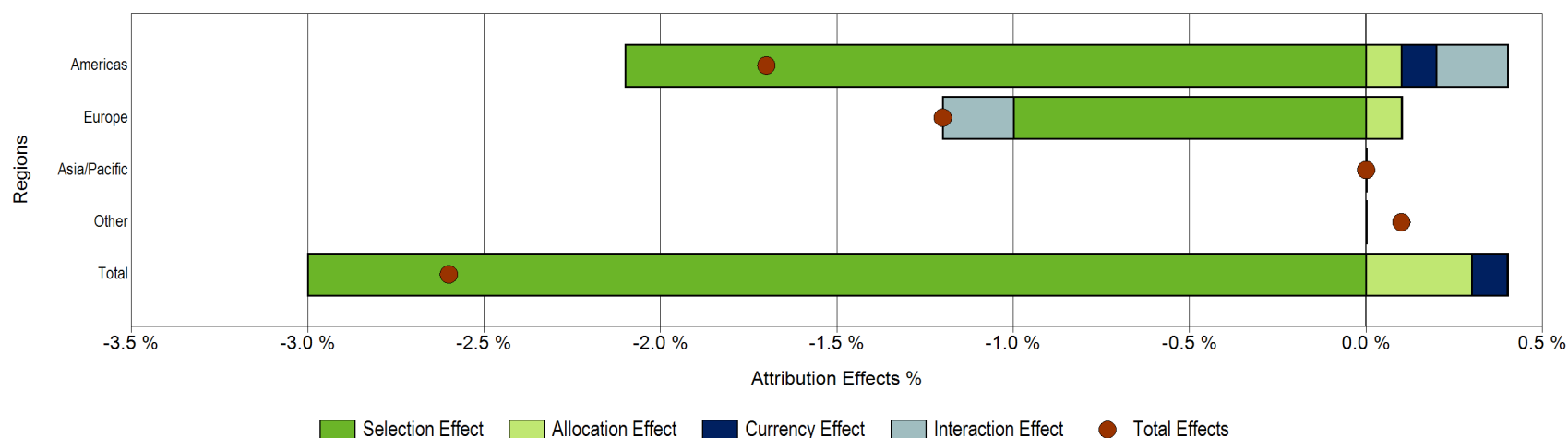
| Top Negative Contributors | | |
|---------------------------|-------------------------|----------|
| | Relative Contribution % | Return % |
| FEVERTREE DRINKS | -0.5% | -40.5% |
| NOBLE ENERGY | -0.5% | -39.6% |
| TEMENOS N | -0.4% | -26.6% |
| IHS MARKIT | -0.4% | -11.1% |
| VISA 'A' | -0.4% | -11.9% |
| BANK OF AMERICA | -0.4% | -15.9% |
| PIONEER NTRL.RES. | -0.4% | -24.5% |
| NINTENDO | -0.4% | -26.9% |
| APTIV | -0.3% | -26.4% |
| AMADEUS IT GROUP | -0.3% | -25.2% |

| Equity Sector Attribution | | | | | | | | | | | |
|---------------------------|---------------------|------------------|-------------------|---------------------|--------------|-----------|----------------|---------------|---------------|---------------|---------------|
| | Attribution Effects | | | | Returns | | Sector Weights | | | | |
| | Total Effects | Selection Effect | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | -0.2% | -0.4% | 0.1% | 0.1% | -25.8% | -19.9% | 5.3% | 6.7% | | | |
| Materials | 0.0% | 0.0% | 0.0% | 0.0% | -14.3% | -13.9% | 4.5% | 4.9% | | | |
| Industrials | 0.5% | 0.5% | 0.0% | 0.0% | -10.8% | -15.5% | 11.0% | 10.7% | | | |
| Consumer Discretionary | -0.5% | -0.2% | -0.1% | -0.1% | -17.3% | -14.9% | 15.4% | 10.6% | | | |
| Consumer Staples | -1.0% | -1.1% | -0.1% | 0.2% | -19.5% | -6.3% | 6.8% | 7.8% | | | |
| Health Care | -0.1% | 0.1% | -0.1% | 0.0% | -9.0% | -9.6% | 7.3% | 11.6% | | | |
| Financials | -0.5% | -0.5% | 0.0% | 0.0% | -14.4% | -11.9% | 18.8% | 17.3% | | | |
| Information Technology | 0.0% | 0.0% | 0.0% | 0.0% | -17.1% | -17.2% | 16.7% | 15.7% | | | |
| Communication Services | -0.6% | -0.5% | 0.0% | -0.1% | -17.1% | -11.5% | 10.2% | 8.9% | | | |
| Utilities | -0.4% | -0.3% | -0.4% | 0.3% | -9.1% | 0.9% | 0.2% | 2.9% | | | |
| Real Estate | -0.1% | -0.1% | 0.0% | 0.0% | -7.7% | -3.5% | 2.3% | 2.8% | | | |
| Cash | 0.2% | 0.0% | 0.2% | 0.0% | 0.5% | -- | 1.4% | 0.0% | | | |
| Portfolio | -2.6% | = | -2.5% | + | -0.5% | + | 0.3% | -15.4% | -12.7% | 100.0% | 100.0% |



TOTAL GLOBAL EQUITY

Total Global Equity Performance Attribution vs. MSCI ACWI
Quarter Ending December 31, 2018



| | Returns and Weights | | | | Attribution Effects | | | | |
|---------------|---------------------|---------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| Totals | | | | | | | | | |
| Americas | -16.9% | -13.5% | 52.0% | 59.2% | -2.1% | 0.1% | 0.1% | 0.2% | -1.7% |
| Europe | -17.5% | -12.6% | 24.8% | 20.2% | -1.0% | 0.1% | 0.0% | -0.2% | -1.2% |
| Asia/Pacific | -11.2% | -11.0% | 20.5% | 19.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | 3.0% | -3.8% | 1.4% | 1.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Cash | 0.5% | -- | 1.4% | 0.0% | 0.0% | 0.2% | 0.0% | 0.0% | 0.2% |
| Total | -15.4% | -12.7% | 100.0% | 100.0% | -3.0% | 0.3% | 0.1% | 0.0% | -2.6% |
| Totals | | | | | | | | | |
| Developed | -16.8% | -13.4% | 88.1% | 88.9% | -3.1% | 0.0% | 0.0% | 0.0% | -3.0% |
| Emerging* | -4.9% | -7.5% | 10.4% | 11.1% | 0.3% | 0.0% | 0.0% | 0.0% | 0.2% |
| Frontier** | -14.9% | -- | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cash | 0.5% | -- | 1.4% | 0.0% | 0.0% | 0.2% | 0.0% | 0.0% | 0.2% |



TOTAL GLOBAL EQUITY

| Country Allocation | | | | |
|-----------------------|------------------|------------------|---------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| Americas | | | | |
| Brazil* | 0.6% | 0.7% | 11.2% | 14.5% |
| Canada | 1.1% | 3.0% | -15.2% | -15.4% |
| Colombia* | 0.1% | 0.0% | -7.5% | -19.6% |
| Mexico* | 0.5% | 0.3% | -22.7% | -19.0% |
| United States | 49.8% | 54.6% | -17.2% | -14.4% |
| Total-Americas | 52.0% | 58.8% | -16.9% | -14.1% |
| Europe | | | | |
| Austria | 0.1% | 0.1% | -20.1% | -19.5% |
| Belgium | 0.7% | 0.3% | -26.6% | -16.5% |
| Denmark | 1.5% | 0.5% | -2.1% | -11.4% |
| Finland | 0.1% | 0.4% | -25.0% | -14.6% |
| France | 1.8% | 3.2% | -9.3% | -15.3% |
| Germany | 1.6% | 2.8% | -16.7% | -16.3% |
| Greece* | 0.4% | 0.0% | -8.9% | -14.1% |
| Hungary* | 0.1% | 0.0% | 8.6% | 5.7% |
| Ireland | 0.3% | 0.2% | -18.4% | -16.3% |
| Italy | 1.2% | 0.8% | -19.9% | -12.8% |
| Luxembourg | 0.2% | 0.0% | -34.5% | -13.3% |
| Netherlands | 2.1% | 1.0% | -16.6% | -11.7% |
| Norway | 0.1% | 0.3% | -33.6% | -20.1% |
| Russia* | 1.2% | 0.4% | -12.0% | -9.3% |
| Spain | 2.0% | 0.9% | -21.6% | -9.8% |
| Sweden | 0.3% | 1.0% | -14.8% | -14.1% |
| Switzerland | 3.2% | 2.4% | -23.2% | -10.0% |
| United Kingdom | 7.9% | 5.5% | -19.0% | -12.7% |
| Total-Europe | 24.8% | 20.2% | -17.5% | -13.3% |

| Country Allocation | | | | |
|--------------------------|------------------|------------------|---------------|---------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| AsiaPacific | | | | |
| Australia | 1.4% | 2.1% | -15.1% | -10.5% |
| China* | 0.9% | 3.1% | -12.5% | -10.6% |
| Hong Kong | 5.6% | 1.0% | -18.1% | -4.9% |
| India* | 1.7% | 1.0% | -1.7% | 3.3% |
| Indonesia* | 0.0% | 0.2% | -22.5% | 8.3% |
| Japan | 6.2% | 7.9% | -14.3% | -14.3% |
| Korea* | 1.2% | 1.7% | -9.0% | -14.2% |
| Malaysia* | 0.7% | 0.3% | -9.9% | -6.9% |
| Philippines* | 0.5% | 0.1% | 2.6% | 5.4% |
| Singapore | 0.8% | 0.4% | -7.8% | -6.2% |
| Sri Lanka** | 0.1% | 0.0% | -4.3% | 5.7% |
| Taiwan* | 0.5% | 1.4% | -14.3% | -12.9% |
| Thailand* | 0.9% | 0.3% | -4.0% | -11.9% |
| Total-AsiaPacific | 20.4% | 19.7% | -12.7% | -11.2% |
| Other | | | | |
| South Africa* | 1.0% | 0.7% | -3.9% | -3.7% |
| Turkey* | 0.4% | 0.1% | 2.9% | 3.5% |
| Total-Other | 1.4% | 1.2% | -1.9% | -4.3% |
| Totals | | | | |
| Developed | 88.1% | 89.2% | -10.4% | -13.9% |
| Emerging* | 10.4% | 10.8% | -5.2% | -7.5% |
| Frontier** | 0.1% | 0.0% | -4.3% | -- |
| Cash | 1.4% | | 0.2% | |

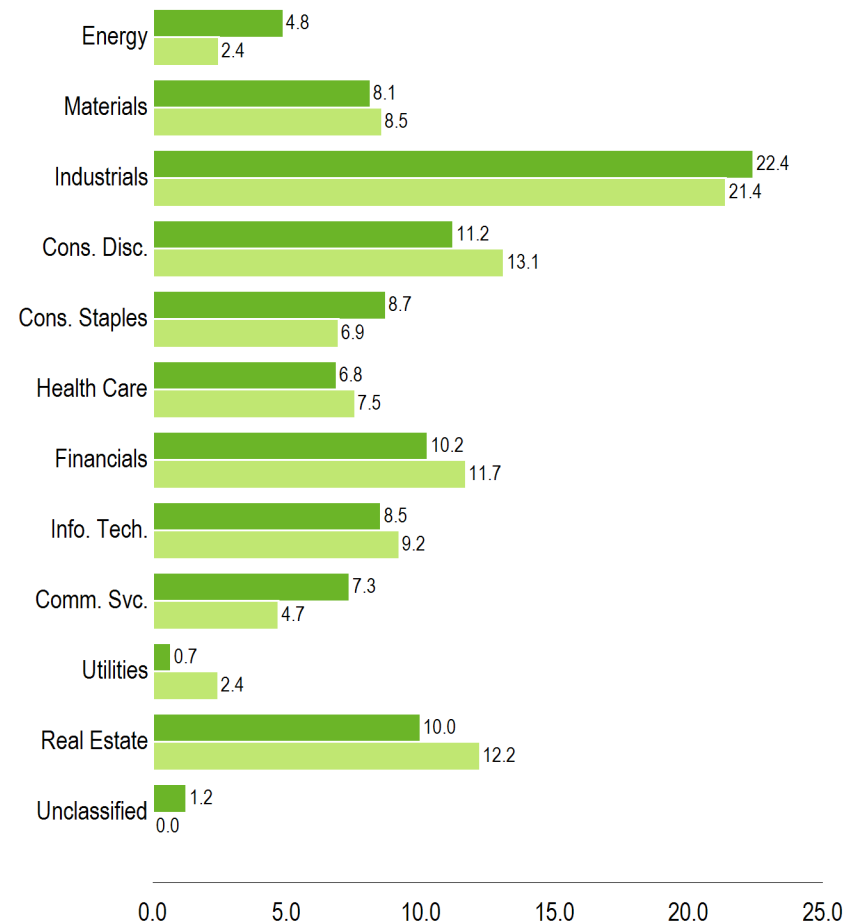


TOTAL INTERNATIONAL SMALL CAP

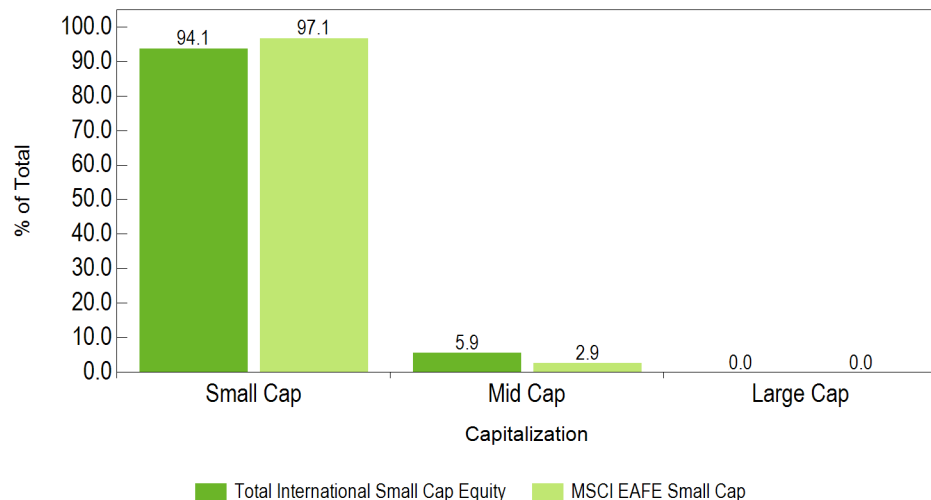
| Characteristics | | |
|---------------------------------|-----------|---------------------|
| | Portfolio | MSCI EAFE Small Cap |
| Number of Holdings | 175 | 2,348 |
| Weighted Avg. Market Cap. (\$B) | 2.71 | 2.28 |
| Median Market Cap. (\$B) | 1.75 | 0.95 |
| Price To Earnings | 13.39 | 16.37 |
| Price To Book | 2.53 | 2.10 |
| Price To Sales | 2.52 | 2.52 |
| Return on Equity (%) | 22.09 | 12.68 |
| Yield (%) | 3.55 | 2.82 |

| | Portfolio Q4-18 | Index Q4-18 |
|------------------------|-----------------|-------------|
| Region Weighting | | |
| North America ex U.S. | 10.45 | 0.08 |
| United States | 2.15 | 0.70 |
| Europe Ex U.K. | 31.60 | 36.48 |
| United Kingdom | 15.83 | 17.65 |
| Pacific Basin Ex Japan | 7.60 | 11.98 |
| Japan | 28.05 | 31.47 |
| Emerging Markets | 2.46 | -- |
| Other | 1.87 | 1.65 |

Sector Allocation (%) vs MSCI EAFE Small Cap

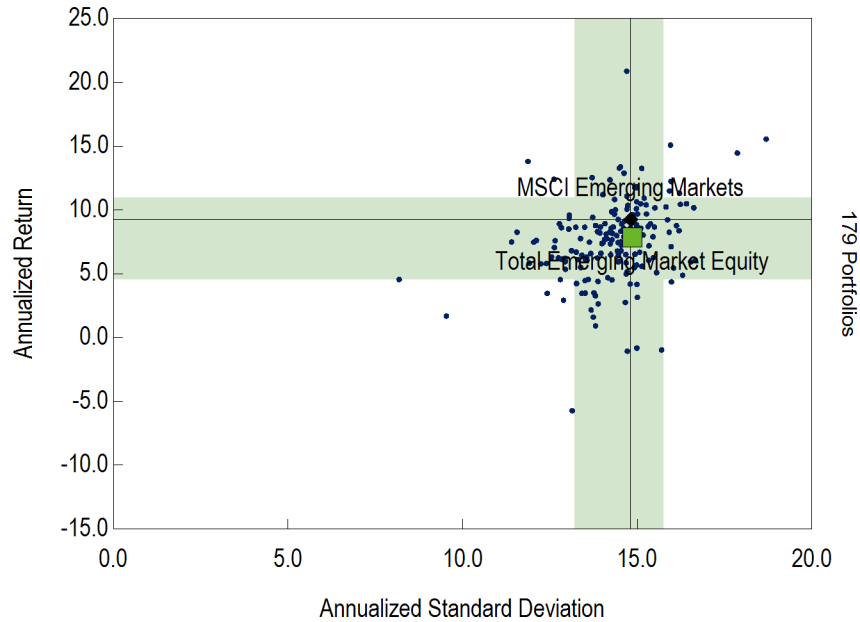


Market Capitalization



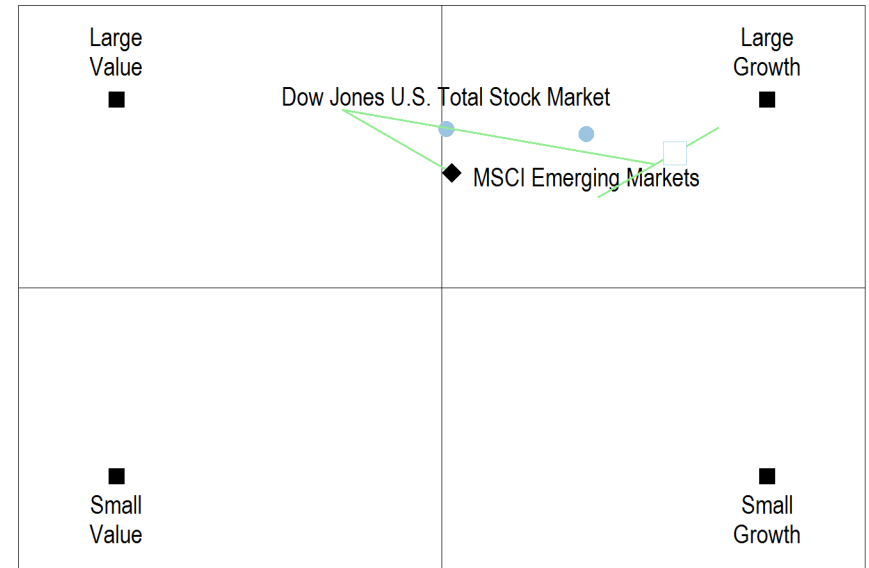
TOTAL EMERGING MARKET EQUITY

Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2018



- Total Emerging Market Equity
- ◆ MSCI Emerging Markets
- 68% Confidence Interval
- eV Emg Mkts Equity Net

U.S. Effective Style Map
3 Years Ending December 31, 2018



- First Rolling Period
- ◆ Last Rolling Period

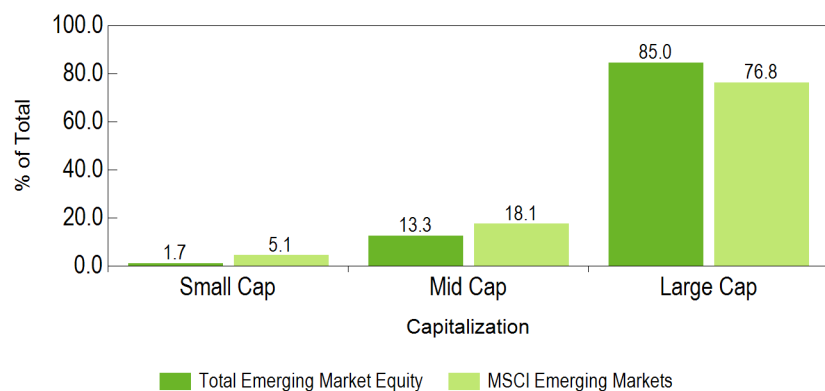


TOTAL EMERGING MARKET EQUITY

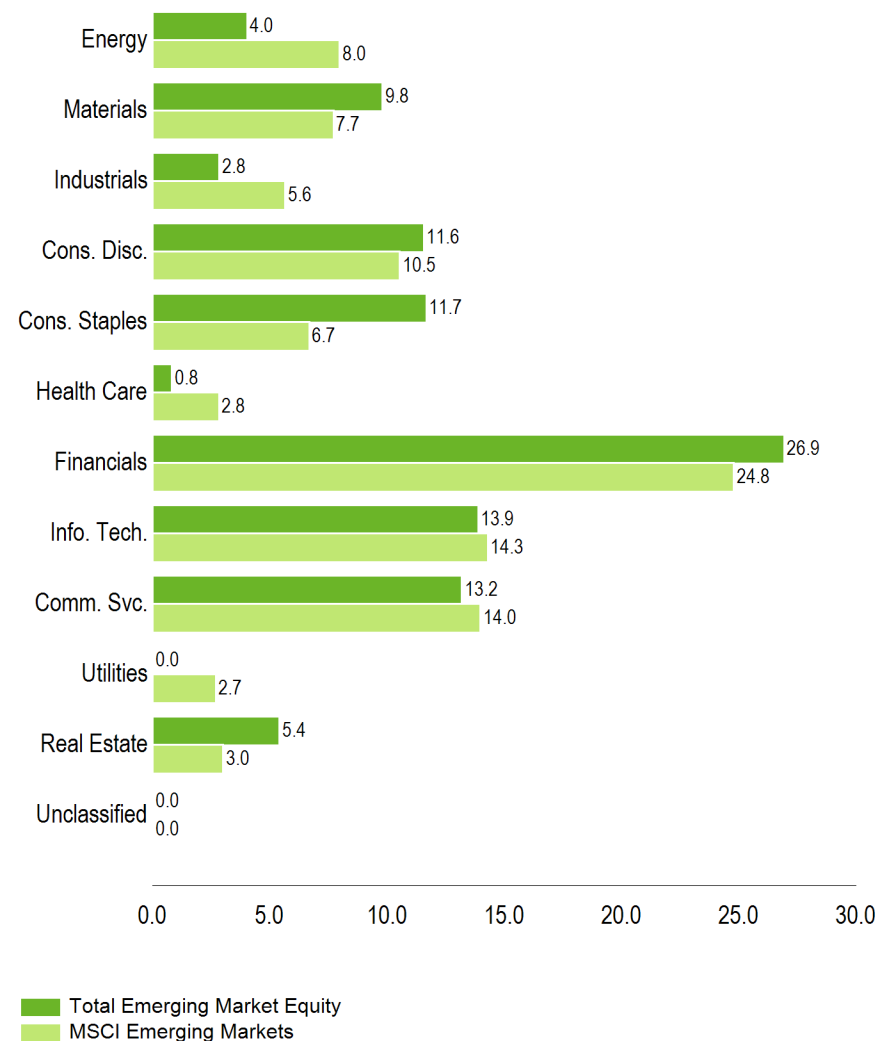
| Characteristics | | |
|---------------------------------|-----------|-----------------------|
| | Portfolio | MSCI Emerging Markets |
| Number of Holdings | 64 | 1,125 |
| Weighted Avg. Market Cap. (\$B) | 66.68 | 69.96 |
| Median Market Cap. (\$B) | 14.09 | 4.95 |
| Price To Earnings | 23.26 | 16.63 |
| Price To Book | 4.27 | 2.89 |
| Price To Sales | 5.14 | 2.58 |
| Return on Equity (%) | 21.92 | 17.46 |
| Yield (%) | 2.44 | 2.94 |

| | Portfolio Q4-18 | Index Q4-18 |
|-------------------------|-----------------|-------------|
| Region Weighting | | |
| North America ex U.S. | -- | -- |
| United States | 1.56 | 0.48 |
| Europe Ex U.K. | 0.73 | 0.26 |
| United Kingdom | -- | 0.20 |
| Pacific Basin Ex Japan | 15.90 | 12.55 |
| Japan | -- | -- |
| Emerging Markets | 81.81 | 85.24 |
| Other | -- | 1.27 |

Market Capitalization As of December 31, 2018



Sector Allocation (%) vs MSCI Emerging Markets



TOTAL EMERGING MARKET EQUITY

| Top Ten Holdings | |
|---|------|
| TENCENT HOLDINGS | 6.6% |
| SAMSUNG ELTN.PREF. | 5.5% |
| TAIWAN SEMICON.MNFG. | 5.1% |
| HOUSING DEVELOPMENT FINANCE CORPORATION | 3.9% |
| BNC.BRADESCO PF.SPN.ADR 1:1 | 3.3% |
| PING AN INSURANCE (GROUP) OF CHINA 'H' | 2.9% |
| VALE ON ADR 1:1 | 2.7% |
| AIA GROUP | 2.6% |
| ASTRA INTERNATIONAL | 2.4% |
| BANK CENTRAL ASIA | 2.3% |

| Top Positive Contributors | | |
|---|-------------------------|----------|
| | Relative Contribution % | Return % |
| BNC.BRADESCO PF.SPN.ADR 1:1 | 1.1% | 42.7% |
| LOJAS RENNER ON | 0.4% | 41.2% |
| HOUSING DEVELOPMENT FINANCE CORPORATION | 0.4% | 16.5% |
| ULTRAPAR PARTICIPOES ON | 0.4% | 46.8% |
| ASTRA INTERNATIONAL | 0.4% | 17.0% |
| MULTIPLAN EMPE. IMOBS.ON | 0.3% | 33.9% |
| BIM BIRLESIK MAGAZALAR | 0.2% | 22.0% |
| BANK OF THE PHILP.ISLE. | 0.2% | 15.9% |
| KOTAK MAHINDRA BANK | 0.2% | 14.3% |
| BANK CENTRAL ASIA | 0.2% | 11.9% |

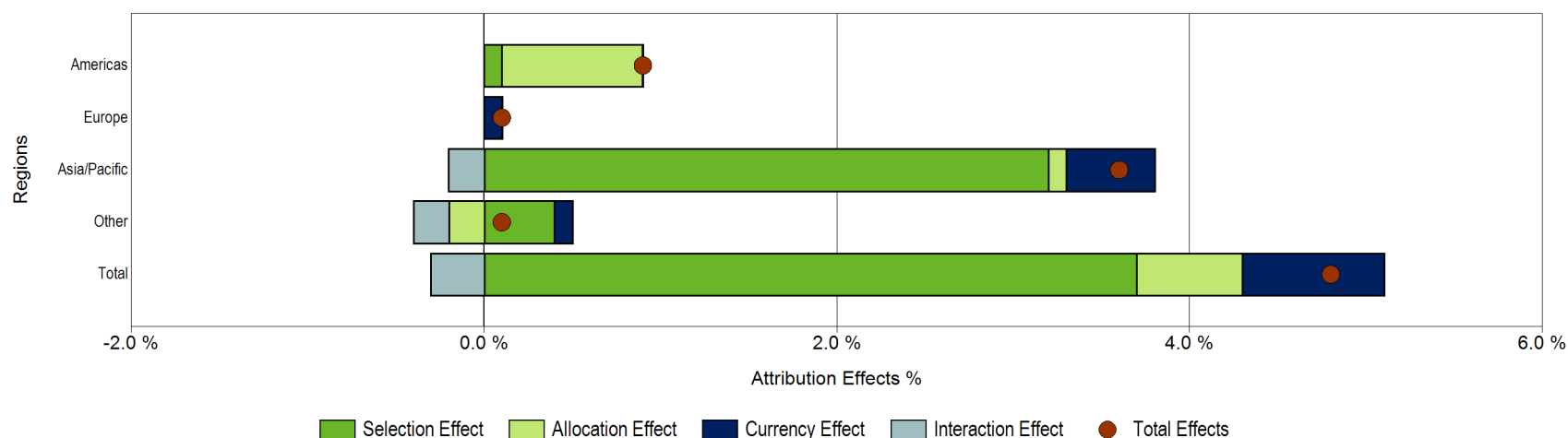
| Top Negative Contributors | | |
|--|-------------------------|----------|
| | Relative Contribution % | Return % |
| SAMSUNG ELTN.PREF. | -1.0% | -16.6% |
| GPO FINANCE BANORTE | -0.6% | -32.8% |
| KWEICHOW MOUTAI 'A' | -0.4% | -19.0% |
| GRUPO AEROPORTUARIO DEL SURESTE 'B' | -0.4% | -26.5% |
| VALE ON ADR 1:1 | -0.3% | -11.1% |
| FOM.ECO.MEXNO.SAB DE CV SPN.ADR 1:10 | -0.3% | -12.4% |
| PING AN INSURANCE (GROUP) OF CHINA 'H' | -0.2% | -13.1% |
| 58 COM CL.A ADR 1:2 | -0.2% | -26.3% |
| SHANGHAI INTL.ARPT.'A' | -0.2% | -13.4% |
| AIA GROUP | -0.2% | -7.1% |

| Equity Sector Attribution | | | | | | | | | | | |
|---------------------------|---------------|------------------|---------------------|---------------------|-------------|-----------|-------------|--------------|----------------|---------------|---------------|
| | Total Effects | Selection Effect | Attribution Effects | | | | Returns | | Sector Weights | | |
| | | | Allocation Effect | Interaction Effects | Portfolio | Benchmark | Portfolio | Benchmark | | | |
| Energy | 0.8% | 1.6% | 0.1% | -0.9% | 10.7% | -10.5% | 3.2% | 8.1% | | | |
| Materials | 0.3% | 0.2% | -0.1% | 0.2% | -7.0% | -10.9% | 9.8% | 7.9% | | | |
| Industrials | -0.7% | -0.8% | -0.1% | 0.2% | -20.3% | -3.1% | 3.3% | 5.5% | | | |
| Consumer Discretionary | 1.9% | 2.0% | 0.1% | -0.1% | 8.0% | -11.6% | 9.4% | 10.5% | | | |
| Consumer Staples | 0.1% | -0.2% | 0.2% | 0.1% | -5.5% | -4.7% | 13.7% | 6.5% | | | |
| Health Care | 0.2% | 0.0% | 0.2% | 0.0% | -16.7% | -16.0% | 1.0% | 3.1% | | | |
| Financials | 1.3% | 0.9% | 0.1% | 0.3% | 3.6% | -1.0% | 25.5% | 23.1% | | | |
| Information Technology | 0.2% | 0.1% | 0.1% | 0.0% | -14.8% | -15.7% | 15.2% | 15.9% | | | |
| Communication Services | 0.2% | 0.2% | 0.0% | 0.0% | -5.4% | -7.2% | 13.3% | 14.0% | | | |
| Utilities | -0.3% | -- | -0.3% | -- | -- | 3.6% | 0.0% | 2.4% | | | |
| Real Estate | 0.7% | 0.2% | 0.2% | 0.3% | 9.9% | 1.5% | 5.4% | 2.9% | | | |
| Cash | 0.0% | -- | -- | -- | -- | -- | 0.0% | 0.0% | | | |
| Portfolio | 4.8% | = | 4.2% | + | 0.5% | + | 0.1% | -2.7% | -7.5% | 100.0% | 100.0% |



TOTAL EMERGING MARKET EQUITY

Total Emerging Market Equity Performance Attribution vs. MSCI Emerging Markets
Quarter Ending December 31, 2018



| | Returns and Weights | | | | Attribution Effects | | | | |
|---------------|---------------------|--------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| Totals | | | | | | | | | |
| Americas | 1.3% | 0.6% | 20.5% | 11.4% | 0.1% | 0.8% | 0.0% | 0.0% | 0.9% |
| Europe | -4.4% | -7.3% | 5.0% | 5.6% | 0.0% | 0.0% | 0.1% | 0.0% | 0.1% |
| Asia/Pacific | -4.3% | -9.4% | 69.6% | 74.5% | 3.2% | 0.1% | 0.5% | -0.2% | 3.6% |
| Other | 5.1% | -1.9% | 4.9% | 8.5% | 0.4% | -0.2% | 0.1% | -0.2% | 0.1% |
| Total | -2.7% | -7.5% | 100.0% | 100.0% | 3.7% | 0.6% | 0.8% | -0.3% | 4.8% |
| Totals | | | | | | | | | |
| Developed | -3.7% | -- | 18.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.7% | 0.7% |
| Emerging* | -2.5% | -7.5% | 81.5% | 100.0% | 4.0% | 0.0% | 0.8% | -0.7% | 4.1% |



TOTAL EMERGING MARKET EQUITY

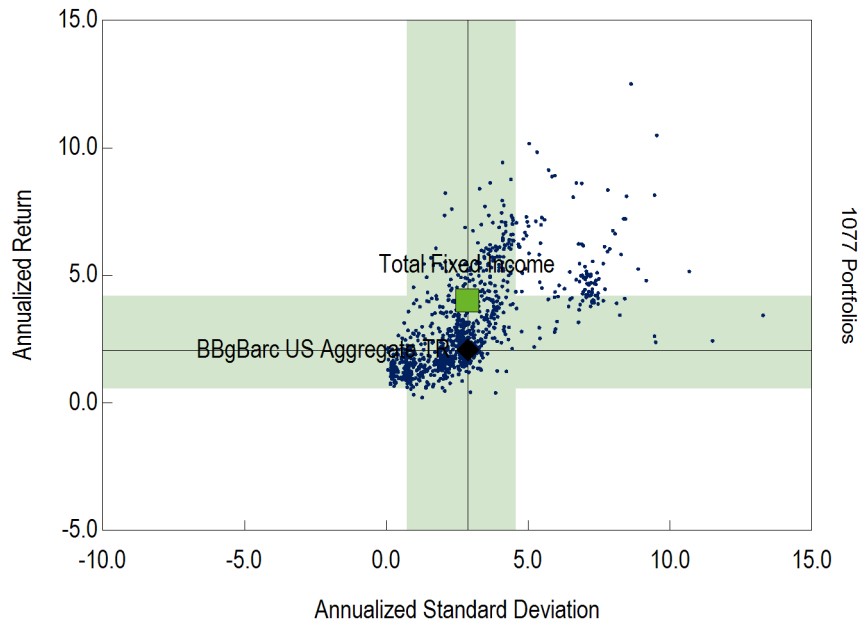
| Country Allocation | | | | |
|-----------------------|------------------|------------------|--------------|--------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| Americas | | | | |
| Brazil* | 10.8% | 6.2% | 17.7% | 13.6% |
| Chile* | 2.1% | 1.1% | -8.0% | -8.3% |
| Mexico* | 5.9% | 3.2% | -23.7% | -18.7% |
| United States | 1.7% | 0.0% | -4.2% | -13.8% |
| Total-Americas | 20.5% | 11.4% | 1.3% | 0.6% |
| Europe | | | | |
| Hungary* | 0.5% | 0.3% | 4.3% | 5.8% |
| Poland* | 0.8% | 1.2% | 0.7% | -2.7% |
| Russia* | 3.2% | 3.6% | -6.8% | -9.2% |
| United Kingdom | 0.5% | 0.0% | -6.5% | -11.8% |
| Total-Europe | 5.0% | 5.6% | -4.4% | -7.3% |

| Country Allocation | | | | |
|--------------------------|------------------|------------------|--------------|--------------|
| | Manager | Index | Manager | Index |
| | Allocation (USD) | Allocation (USD) | Return (USD) | Return (USD) |
| AsiaPacific | | | | |
| China* | 11.1% | 30.9% | -13.8% | -10.6% |
| Hong Kong | 16.3% | 0.0% | -3.5% | -4.5% |
| India* | 13.9% | 8.6% | 5.3% | 2.6% |
| Indonesia* | 5.3% | 1.9% | 12.6% | 9.8% |
| Korea* | 10.0% | 14.9% | -15.7% | -14.2% |
| Malaysia* | 1.5% | 2.4% | -0.8% | -5.8% |
| Philippines* | 3.5% | 1.0% | 8.2% | 5.2% |
| Taiwan* | 5.3% | 12.3% | -14.7% | -13.6% |
| Thailand* | 2.8% | 2.5% | -8.1% | -10.3% |
| Total-AsiaPacific | 69.6% | 74.5% | -4.3% | -9.4% |
| Other | | | | |
| South Africa* | 3.7% | 6.2% | 0.4% | -3.5% |
| Turkey* | 1.1% | 0.6% | 22.0% | 4.9% |
| Total-Other | 4.9% | 8.5% | 5.4% | -1.9% |
| Totals | | | | |
| Developed | 18.5% | 0.0% | -4.6% | -- |
| Emerging* | 81.5% | 100.0% | -2.5% | -7.5% |



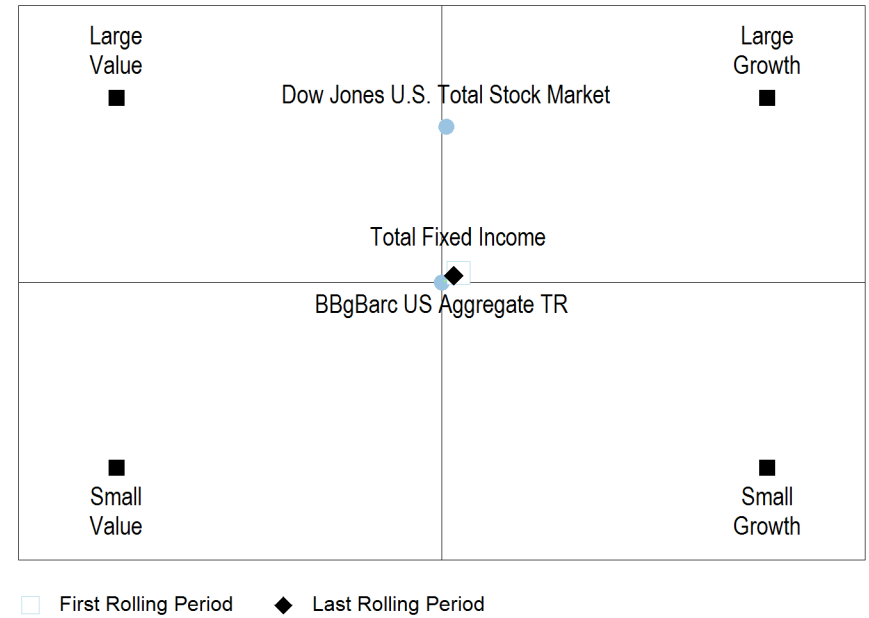
TOTAL FIXED INCOME COMPOSITE

Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2018

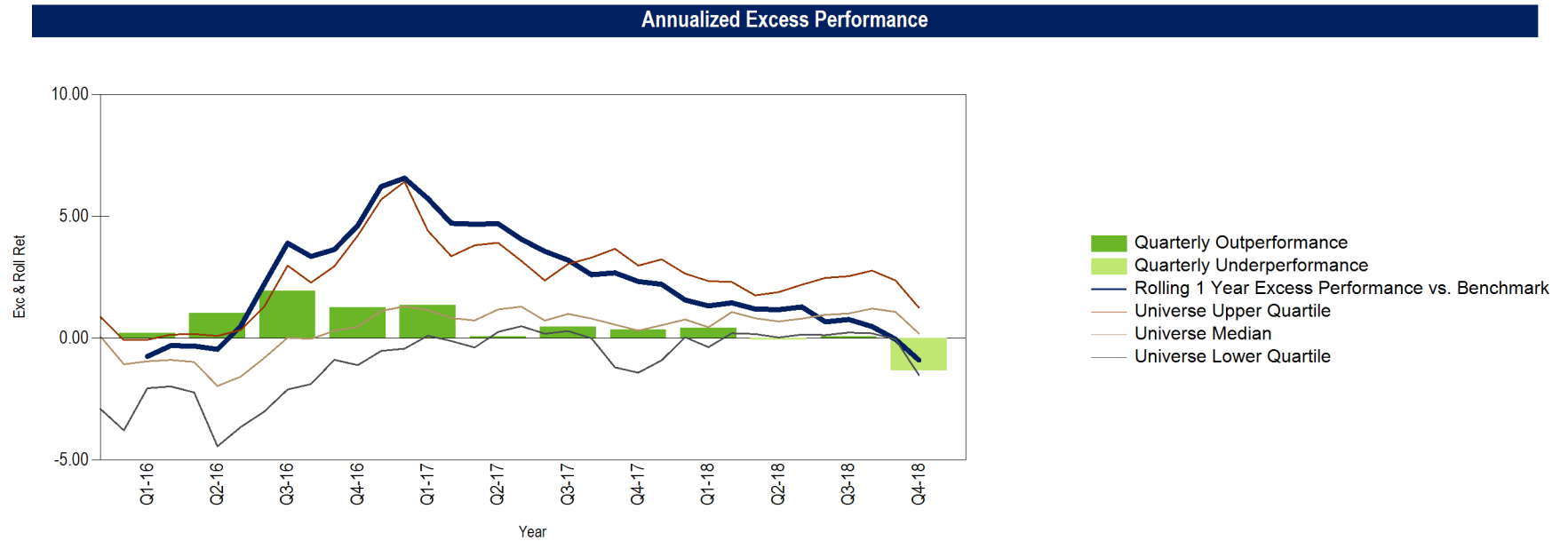


- Total Fixed Income
- ◆ BBgBarc US Aggregate TR
- 68% Confidence Interval
- eV All US Fixed Inc Net

U.S. Effective Style Map
3 Years Ending December 31, 2018

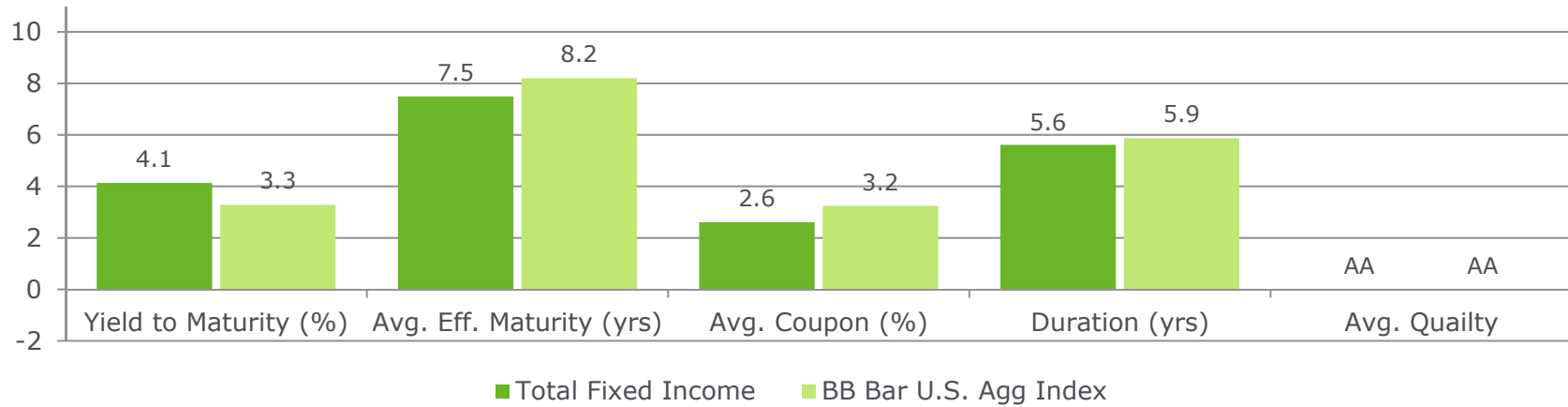


TOTAL FIXED INCOME COMPOSITE

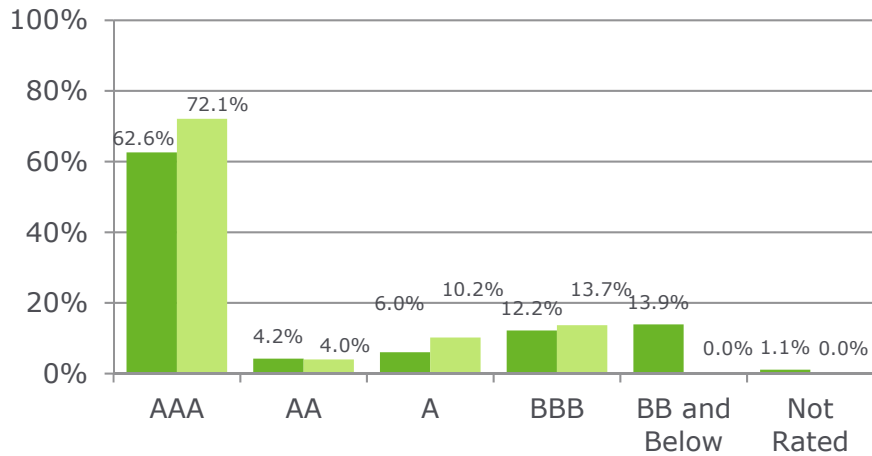


TOTAL FIXED INCOME

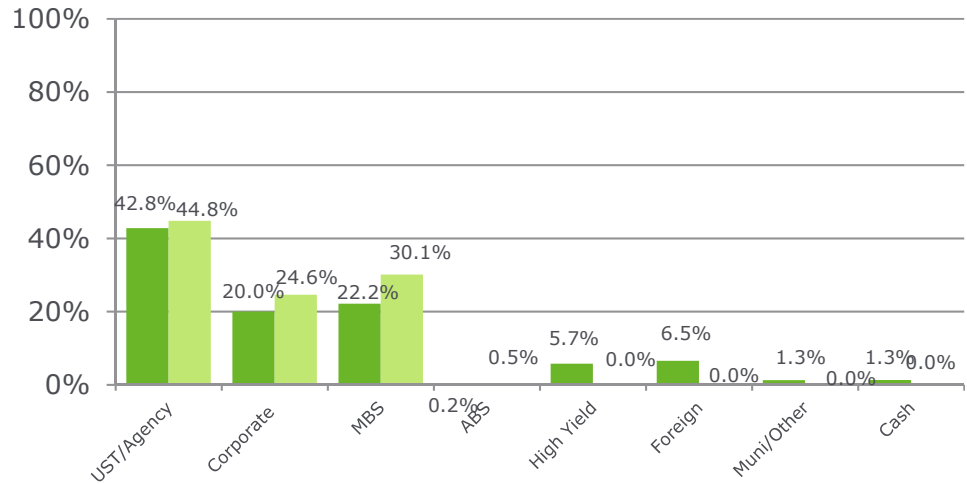
Characteristics



Quality Rating



Sectors



APPENDIX

NEPC, LLC

SAVE THE DATE



MAY 7-8, 2019 | BOSTON PARK PLAZA | #NEPC_CONFERENCE



NEPC's 24th Annual Investment Conference

- Gradual or dramatic, the economic and political worlds around us are going through major transition. Whether it be global resources, climate, political power, technology, demographics or personal habits, adapting and advancing through these shifts has become a regularity. Most importantly, as we transition our daily processes, so do we transition our investment approaches. Please join us for **NEPC's 24th Annual Investment Conference on May 7-8, 2019** at the Boston Park Plaza Hotel, as we address the 'Transitions' we are experiencing and what lies ahead.
- Please reach out to Sarah Winrow at swinrow@nepc.com if you have any questions.



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- **Past performance is no guarantee of future results.**
- **The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
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