Investment Performance Review Period Ending December 31, 2018

# Delray Beach Firefighters' Retirement System



AndCo Consulting | (844) 44-ANDCO | AndCoConsulting.com



As we start 2019, we first want to say "Thank you" for giving AndCo the opportunity to serve you. On behalf of our entire organization, we are extremely grateful for our client partnerships and we will continue working hard to maintain your trust and confidence. Our mission statement reads – "To represent the sole interest of our clients by redefining independence". We're happy to report we remain steadfast in this core belief and continue to build an organization and service model that is singularly focused and independent. This helps ensure all recommendations are truly in the best interest of our valued clients. We believe this approach will drive value for our client partnerships long into the future.

AndCo also remains committed to delivering high quality, customized services. As we start 2019, we are 89 employees strong advising approximately \$90 billion in client assets - both record highs for AndCo. In 2018 we hired 7 new team members including one consultant, two research professionals, one additional compliance officer, one technology administrator and two team members within our client solutions group. All hires were made to better service our clients.

2019 will represent another year of reinvestment in the organization to better serve our clients and make AndCo stronger. For example, we have already hired a new Senior Research Analyst bringing our dedicated research team to 15 professionals. As 2019 progresses, we are targeting additional hires in research, software development, content creation and our client solutions group. We will also be partnering with an external firm this year to conduct an in-depth client assessment to help ensure we are meeting the evolving needs of our clients and exceeding their service expectations. There will be more information regarding this survey from the firm and your consultant over the coming months. Finally, we just completed our annual Firmwide retreat. This retreat was a great opportunity for our firm to spend time together with colleagues and get a clear understanding of where the company is going, and more importantly, why we're headed in that direction. Since the inception of AndCo, the idea has been to make the firm a multigenerational organization owned and managed by its employees. As a result, since 2015, along with the strategic elements of our annual retreat, we also started the process of announcing new partners of the firm to foster this succession plan and today we have 8 partners controlling 100% of the company.

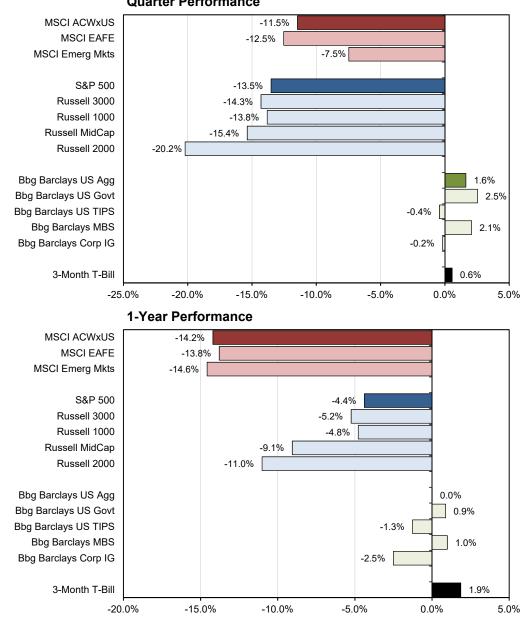
The evolution of our firm would not be possible without great partners like you. Our name reminds us who we work for every day: "Our Client" &Co. You will always be first in our service approach. As we continue to discuss updates with our firm, please know every decision is made by asking "How does this benefit our clients?" If it doesn't benefit you, we don't do it, it's that simple. We know our clients are facing many challenges and we want to be there to help get you through all environments. We are honored and humbled you have chosen AndCo as your partner. We don't take that relationship for granted and will continue to work tirelessly to exceed your expectations.

On behalf of AndCo, thank you for your valued partnership and the opportunity to serve you.

Mike Welker, CFA<sup>®</sup> President/CEO

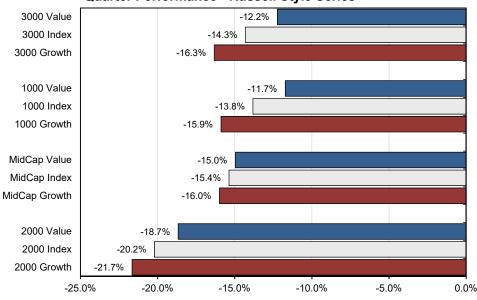


- Markets were volatile to end the 2018 calendar year. Both international and domestic equity markets had considerable losses during the 4<sup>th</sup> quarter while fixed income returns were muted, but outperformed relative to equities. Within equities, domestic stocks trailed international markets, reversing the 2018 trend of US market strength. Trade tensions between the US and China, midterm elections in US Congress, the effects of ongoing monetary policy tightening by the Federal Reserve (Fed), federal debt ceiling negotiations and the subsequent partial government shutdown outweighed generally positive corporate earnings and macroeconomic data reported during the quarter. The large cap S&P 500 Index returned -13.5% during the quarter while the small cap Russell 2000 Index fell by over 20% for the period. The drop in equity prices over the last three months was enough to take the returns for major US equity indices into negative territory for the 2018 calendar year. Returns over the 1-year period were -4.4% and -11.0% for the S&P 500 and Russell 2000 respectively.
- Similar to US equities, international equity index returns finished the quarter in negative territory with the MSCI ACWI ex US Index returning -11.5%. International markets faced headwinds from softening global macroeconomic data, tightening global monetary policy, uncertainty around Brexit negotiations, turmoil surrounding global trade relations, falling commodity prices and continued US Dollar (USD) strength. The developed market MSCI EAFE Index fell -12.5% during the 4<sup>th</sup> quarter, ending the year down -13.8%. Emerging markets performed well by comparison, only losing -7.5% during the quarter. Despite the 4<sup>th</sup> quarter outperformance, returns for emerging market equities trailed developed markets over the 1-year period with the MSCI EAFE Index.
- Fixed income securities outperformed equities through both the 4<sup>th</sup> quarter and calendar year 2018 with the broad market Bloomberg Barclays Aggregate Index returning 1.6% and 0.0% respectively. Interest rates on the US Treasury Yield Curve continued their 2018 flattening trend as short-term rates increased to near-term highs while long- term rates fell during the quarter. Some of the increase in short-term rates can be attributed to the late December Fed interest rate hike. This marked the fourth Fed interest rate increase of 2018. This movement in rates did lead to some short-term rates being higher than those of longer dated maturities. More conservative fixed income sectors such as Treasuries and mortgage backed securities outperformed during the quarter and for the year as investors moved toward the relative safety these securities provide while widening credit spreads acted as a headwind to corporate issues.

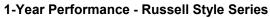


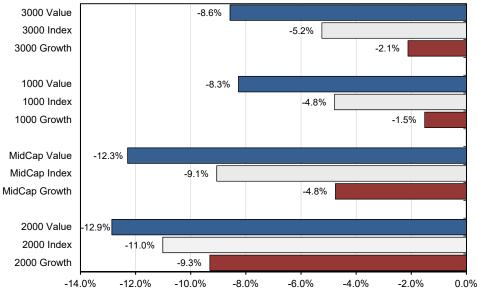
#### Quarter Performance

- US equity index returns were strongly negative across the style and capitalization spectrum during the 4<sup>th</sup> quarter of 2018. Despite these negative results, there was positive data in GDP, unemployment, wage growth, retail sales, and corporate earnings during the period. These positive economic factors were offset by softening data in housing, consumer confidence and manufacturing, tightening monetary policy, negative guidance for future corporate earnings and signs of slowing global growth which all contributed to the heavy selling in equities. Investors also considered the effects of ongoing trade negotiations, especially between the US and China, and the results of the US congressional midterm elections which likely reduced the chances of any major policy changes or new fiscal stimulus measures. The effects of partisan politics was particularly evident at the end of the quarter as budget negotiations between Democrats and Republicans collapsed over disagreement around the inclusion of funds for a border wall with Mexico, leading to a partial government shutdown to end the year.
- During the quarter, large cap stocks outperformed mid and small cap equities across growth, value and core indices. The large cap Russell 1000 Index fell 13.8% during the 4<sup>th</sup> quarter versus a -20.2% drop for the Russell 2000 Index. Part of the reason for weakness in small cap names is the steady increase in interest rates that occurred over 2018 as small cap companies typically maintain a higher percentage of debt than their large cap peers. Small cap names are also typically more volatile than larger companies and they have historically underperformed during market downturns. Similar to the most recent quarter, large cap stocks outperformed relative to small caps through calendar year 2018. The Russell 1000 returned -4.8% for the 1-year periods compared to a -11.0% return for the Russell 2000.
- Value indices outperformed growth indices across the market cap spectrum during the 4<sup>th</sup> quarter, reversing a year-to-date trend of growth stock outperformance. The large cap Russell 1000 Value Index was the best performing style index for the period, returning -11.7% for the quarter, while the Russell 2000 Growth Index was the worst performer, returning -21.7%. Value benchmarks tend to outperform in down markets as they benefit from their relative safety and higher dividend yields. Despite the short-term underperformance, growth benchmarks continue to outperform over the 1-year period, however, many of the sector exposures that drove growth stock outperformance during the first three quarters of the year, such as technology and consumer discretionary, were relative detractors during the 4<sup>th</sup> quarter.



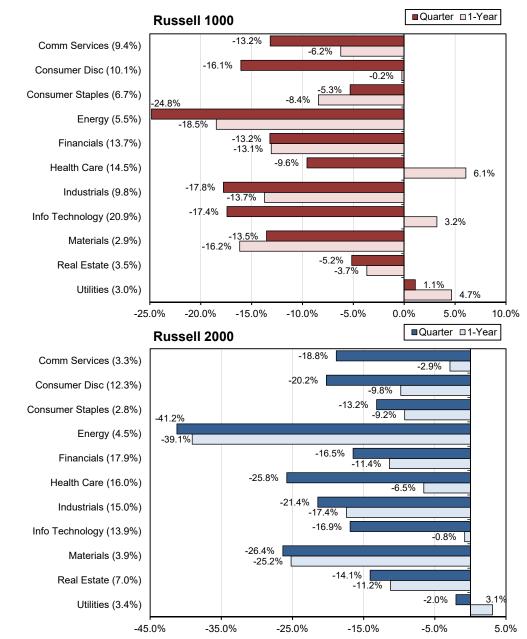
#### **Quarter Performance - Russell Style Series**







- Both S&P Dow Jones Indices and MSCI made changes to the Global Industry Classification Standard (GICS) sector configurations of their indices, creating a new GICS sector classification called Communication Services which replaced the Telecommunications sector on September 28, 2018. The Communication Services sector is comprised of companies in the Telecommunications sector, as well as certain companies formerly classified as Consumer Discretionary and Information Technology. As a result, the sector, went from a weighting of about 2% of the Russell 1000 Index to almost 10% post reclassification. Notable names now classified under Communication Services include Netflix, Alphabet, Facebook and Disney. This is just the second change to the GICS classifications since 1999.
- Sector performance was broadly negative across large cap sectors for the 4<sup>th</sup> quarter. All sectors within the Russell 1000 Index with the exception of the utilities sector posted negative returns for the period with seven sectors outpacing the return on the index. Cyclical sectors such as energy, industrials and technology were the worst performers through the quarter returning -24.8%, -17.8% and -17.4% respectively. Energy companies were hurt by a steep decline in oil prices during the quarter while technology and industrial companies fell on negative guidance for future earnings. More defensive, higher dividend paying sectors such as utilities, REITs and consumer staples were the strongest performing sectors with returns of 1.1%, -5.2% and -5.3% respectively. Only three sectors (health care, utilities, technology) posted positive results over the 1-year period with the remaining sectors losing ground during the calendar year.
- Quarterly results for small cap sectors were generally lower relative to their large capitalization counterparts. All eleven sectors had negative returns during the period with six of eleven economic sectors outpacing the Russell 2000 Index return for the quarter. Energy, materials and healthcare posted the worst returns for the period returning -41.2%, -26.4% and -25.8% respectively. Similar to large caps, defensive sectors performed well with utilities, consumer staples and real estate detracting the least returning -2.0%, -13.2% and -14.1% respectively. Over the trailing 1-year period, only utilities posted a gain returning 3.1%. Energy stocks were the worst performers in 2018, falling a considerable -41.2%.
- Using S&P 500 sector valuations as a proxy for the market, forward P/E ratios for three of the eleven GICS sectors were higher than their long-term averages at quarter-end. Using these historical P/E measures, the utilities, consumer discretionary and real estate sectors appear the most extended. In contrast the financials, technology and energy sectors were trading at a discount to their long-term average P/E ratios.



Source: Morningstar Direct

The Market Environment Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000 As of December 31, 2018

| Top 10 Weighted Stocks                          |       |        |        |                        |  |
|---|-------|--------|--------|------------------------|--|
| Russell 1000 Weight Weight Return Return Return |       |        |        |                        |  |
| Microsoft Corp                                  | 3.27% | -11.2% | 20.3%  | Information Technology |  |
| Apple Inc                                       | 3.24% | -29.9% | -5.4%  | Information Technology |  |
| Amazon.com Inc                                  | 2.59% | -25.0% | 28.4%  | Consumer Discretionary |  |
| Berkshire Hathaway Inc B                        | 1.68% | -4.6%  | 3.0%   | Financials             |  |
| Johnson & Johnson                               | 1.47% | -6.0%  | -5.1%  | Health Care            |  |
| JPMorgan Chase & Co                             | 1.39% | -12.9% | -6.6%  | Financials             |  |
| Alphabet Inc Class C                            | 1.34% | -13.2% | -1.0%  | Communication Services |  |
| Alphabet Inc A                                  | 1.32% | -13.4% | -0.8%  | Communication Services |  |
| Facebook Inc A                                  | 1.32% | -20.3% | -25.7% | Communication Services |  |
| Exxon Mobil Corp                                | 1.23% | -19.0% | -15.1% | Energy                 |  |

| Top 10 Performing Stocks (by Quarter) |   |       |        |                        |  |
|---------------------------------------|---|-------|--------|------------------------|--|
| Russell 1000                          | 1000 Weight Height 1-Qtr 1-Year Return Return Return Return |       | Sector |                        |  |
| Tesaro Inc                            | 0.01%   | 90.3% | -10.4% | Health Care            |  |
| Red Hat Inc                           | 0.13%   | 28.9% | 46.2%  | Information Technology |  |
| Virtu Financial Inc A                 | 0.00%   | 27.1% | 45.9%  | Financials             |  |
| Tesla Inc                             | 0.19%   | 25.7% | 6.9%   | Consumer Discretionary |  |
| SCANA Corp                            | 0.03%   | 23.2% | 23.1%  | Utilities              |  |
| Tribune Media Co A                    | 0.02%   | 18.9% | 9.7%   | Communication Services |  |
| MarketAxess Holdings Inc              | 0.03%   | 18.6% | 5.6%   | Financials             |  |
| ARRIS International PLC               | 0.02%   | 17.6% | 19.0%  | Information Technology |  |
| United States Cellular Corp           | 0.00%   | 16.1% | 38.1%  | Communication Services |  |
| Newmont Mining Corp                   | 0.08%   | 15.2% | -6.2%  | Materials              |  |

| Top 10 Weighted Stocks   |       |        |        |                        |  |
|--|-------|--------|--------|------------------------|--|
| Russell 2000 Weight Heturn Return Return Return Return Return Return |       |        |        |                        |  |
| Integrated Device Technology Inc                                     | 0.35% | 3.0%   | 62.9%  | Information Technology |  |
| Etsy Inc   | 0.32% | -7.4%  | 132.6% | Consumer Discretionary |  |
| Five Below Inc   | 0.31% | -21.3% | 54.3%  | Consumer Discretionary |  |
| Haemonetics Corp   | 0.29% | -12.7% | 72.3%  | Health Care            |  |
| Ciena Corp   | 0.27% | 8.5%   | 62.0%  | Information Technology |  |
| Planet Fitness Inc A   | 0.26% | -0.8%  | 54.8%  | Consumer Discretionary |  |
| Idacorp Inc  | 0.26% | -5.6%  | 4.6%   | Utilities              |  |
| HubSpot Inc  | 0.26% | -16.7% | 42.2%  | Information Technology |  |
| LivaNova PLC   | 0.25% | -26.2% | 14.5%  | Health Care            |  |
| Cree Inc   | 0.24% | 13.0%  | 15.2%  | Information Technology |  |

| Top 10 Performing Stocks (by Quarter) |        |                 |                  |                        |  |
|---------------------------------------|--------|-----------------|------------------|------------------------|--|
| Russell 2000                          | Weight | 1-Qtr<br>Return | 1-Year<br>Return | Sector                 |  |
| Electro Scientific Industries Inc     | 0.05%  | 71.7%           | 39.8%            | Information Technology |  |
| Fluent Inc                            | 0.01%  | 67.4%           | 3.4%             | Communication Services |  |
| Mitek Systems Inc                     | 0.02%  | 53.3%           | 20.8%            | Information Technology |  |
| Arsanis Inc                           | 0.00%  | 43.2%           | -81.8%           | Health Care            |  |
| Inovalon Holdings Inc                 | 0.05%  | 41.1%           | -5.5%            | Health Care            |  |
| K12 Inc                               | 0.05%  | 40.1%           | 55.9%            | Consumer Discretionary |  |
| Investment Technology Group Inc       | 0.05%  | 39.9%           | 59.0%            | Financials             |  |
| Eidos Therapeutics Inc                | 0.01%  | 37.9%           | N/A              | Health Care            |  |
| Belmond Ltd Class A                   | 0.13%  | 37.2%           | 104.3%           | Consumer Discretionary |  |
| Pacific Biosciences of California Inc | 0.06%  | 36.8%           | 180.3%           | Health Care            |  |

Bottom 10 Performing Stocks (by Quarter) 1-Qtr

Return

-93.3%

-88.3%

-84.3%

-84.1%

-82.9%

-82.6%

-81.9%

-81.7%

-80.2%

-80.0%

Weight

0.00%

0.00%

0.00%

0.00%

0.00%

0.00%

0.00%

0.00%

0.00%

0.00%

1-Year

Return

-94.9%

-94.9%

-87.2%

-91.8%

-72.9%

-84.7%

-82.4%

-84.4%

-84.0%

-82.0%

Sector

Energy

Energy

Energy

Energy

Energy

Health Care

Health Care

Health Care

Health Care

Health Care

| Во                            | ttom 10 Perform | ning Stocks     | (by Quarter)     |                        |                              |
|-------------------------------|-----------------|-----------------|------------------|------------------------|------------------------------|
| Russell 1000                  | Weight          | 1-Qtr<br>Return | 1-Year<br>Return | Sector                 | Russell 2000                 |
| Weatherford International PLC | 0.00%           | -79.4%          | -86.6%           | Energy                 | Synergy Pharmaceuticals Inc  |
| Nabors Industries Ltd         | 0.00%           | -66.8%          | -69.3%           | Energy                 | Sanchez Energy Corp          |
| Extraction Oil & Gas Inc      | 0.00%           | -62.0%          | -70.0%           | Energy                 | Sienna Biopharmaceuticals In |
| Adient PLC                    | 0.01%           | -61.4%          | -80.4%           | Consumer Discretionary | Cloud Peak Energy Inc        |
| Whiting Petroleum Corp        | 0.01%           | -57.2%          | -14.3%           | Energy                 | Selecta Biosciences Inc      |
| Kosmos Energy Ltd             | 0.00%           | -56.5%          | -40.6%           | Energy                 | Clearside Biomedical Inc     |
| Chesapeake Energy Corp        | 0.01%           | -53.2%          | -47.0%           | Energy                 | Key Energy Services Inc      |
| Conduent Inc                  | 0.01%           | -52.8%          | -34.2%           | Information Technology | AAC Holdings Inc             |
| NVIDIA Corp                   | 0.33%           | -52.4%          | -30.8%           | Information Technology | PHI Inc Non-Voting Shares    |
| SM Energy Co                  | 0.01%           | -50.8%          | -29.6%           | Energy                 | Bristow Group Inc            |

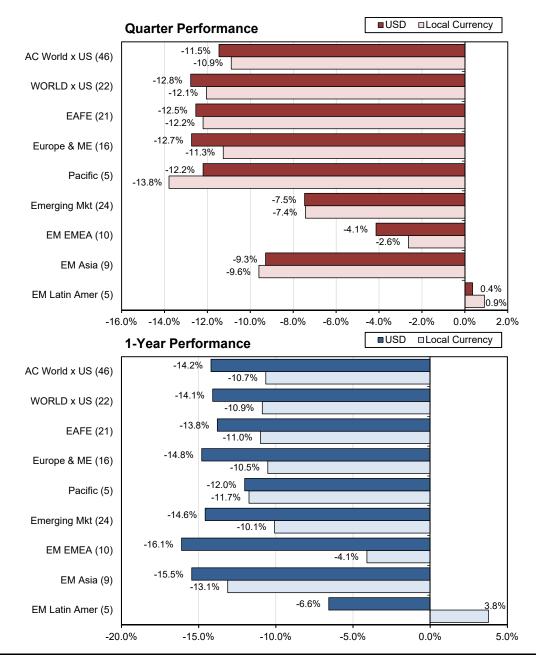
Source: Morningstar Direct



Page 6

- Broad international equity returns were negative for the quarter in both local currency and USD terms. Geopolitical concerns, weakening economic data and the tightening of global monetary policy drove most of the negative performance. The USD also continued to strengthen against most currencies for the period which provided a headwind for USD based investors. The MSCI ACWI ex US Index fell -10.9% in local currency terms and -11.5% in USD terms during the 4<sup>th</sup> quarter. Returns for international indices were also broadly negative over the 1-year period in both local currency and USD terms with the MSCI ACWI ex US returning -10.7% and -14.2% respectively.
- Fourth guarter results for developed market international indices were negative in both local currency and USD terms with the MSCI EAFE Index returning -12.2% and -12.5% respectively. Returns were dampened for US investors as the USD continued to appreciate against most currencies, pushing returns lower. Global economic reporting during the guarter fueled concerns that global growth was beginning to slow. Japanese economic data faced headwinds from several natural disasters and data out of Europe was generally disappointing. Investors also weighed the effects of several significant political events in Europe including riots in France, ongoing budget negotiations between Italy and the EU and uncertainty around Brexit. Concerns over a "no deal" Brexit grew during the guarter as the draft withdrawal agreement presented by UK Prime Minister Theresa May was poorly received leading to a wave of cabinet resignations, a delay in the parliamentary vote and a "no confidence" vote which she ultimately won. The MSCI EAFE Index returned -11.0% and -13.8% for the last twelve months in local currency and USD terms respectively.
- Emerging markets outperformed relative to developed markets for the 4<sup>th</sup> guarter, but still declined in both local currency and USD terms with the MSCI Emerging Markets Index returning -7.4% and -7.5% respectively. Returns in emerging markets were hurt by the continued uncertainty surrounding trade relations between the US and China as both countries agreed to a 90-day hold on any new tariffs to allow for continued negotiations. Chinese economic data also appeared to be slowing during the quarter prompting the announcement of additional monetary and fiscal stimulus. The election of President Andres Manuel Lopez Obrador hurt returns in Mexico as investors feared the potential ramifications of his nationalist campaign promises. In contrast, Brazil was one of the few bright spots during the guarter as market participants looked favorably on the election of President Jair Bolsonaro in anticipation of market friendly economic reforms, including reforms associated with the countries bloated state pension system which has weighed heavily on the country's debt load. One year returns for the MSCI Emerging Market Index were -10.1% in local currency terms and -14.6% in USD terms.

#### The Market Environment International and Regional Market Index Performance (Country Count) As December 31, 2018





|  | The Market Environment      |
|--|-----------------------------|
| <b>US Dollar International Index A</b> | ttribution & Country Detail |
|  | As of December 31, 2018     |

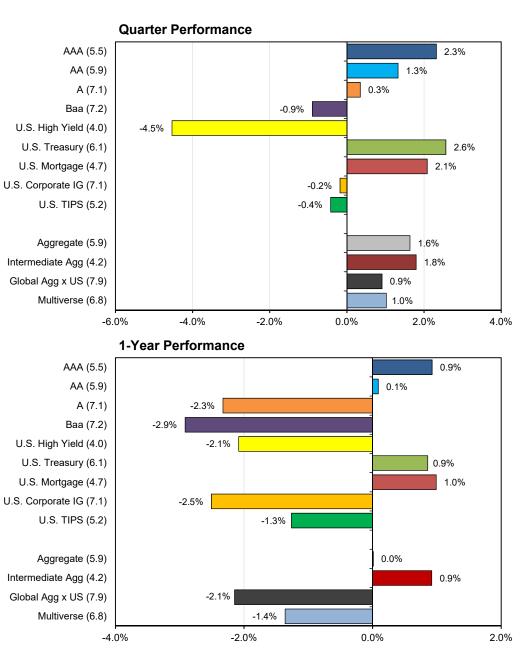
| MSCI - EAFE            | Sector Weight | Quarter Return | 1-Year Return |
|------------------------|---------------|----------------|---------------|
| Communication Services | 5.6%          | -7.7%          | -12.1%        |
| Consumer Discretionary | 11.2%         | -14.2%         | -16.1%        |
| Consumer Staples       | 11.6%         | -8.4%          | -10.8%        |
| Energy                 | 5.9%          | -17.5%         | -7.2%         |
| Financials             | 19.5%         | -13.7%         | -20.1%        |
| Health Care            | 11.2%         | -10.3%         | -4.3%         |
| Industrials            | 14.3%         | -14.6%         | -15.7%        |
| Information Technology | 6.0%          | -16.7%         | -15.6%        |
| Materials              | 7.4%          | -15.2%         | -17.5%        |
| Real Estate            | 3.7%          | -5.4%          | -9.9%         |
| Utilities              | 3.8%          | -0.1%          | 1.1%          |
| Total                  | 100.0%        | -12.5%         | -13.8%        |
| MSCI - ACWIXUS         | Sector Weight | Quarter Return | 1-Year Return |
| Communication Services | 7.6%          | -5.5%          | -11.9%        |
| Consumer Discretionary | 10.6%         | -14.1%         | -20.2%        |
| Consumer Staples       | 9.9%          | -7.4%          | -11.2%        |
| Energy                 | 7.3%          | -16.3%         | -8.1%         |
| Financials             | 22.2%         | -10.7%         | -16.8%        |
| Health Care            | 8.4%          | -11.2%         | -6.2%         |
| Industrials            | 11.7%         | -13.7%         | -15.1%        |
| Information Technology | 8.0%          | -14.6%         | -17.6%        |
| Materials              | 7.7%          | -13.4%         | -15.9%        |
| Real Estate            | 3.4%          | -3.8%          | -11.6%        |
| Utilities              | 3.4%          | 0.5%           | -0.9%         |
| Total                  | 100.0%        | -11.5%         | -14.2%        |
|                        |               |                |               |

| MSCI - Emerging Mkt    | Sector Weight | Quarter Return | 1-Year Return |
|------------------------|---------------|----------------|---------------|
| Communication Services | 14.1%         | -3.7%          | -14.9%        |
| Consumer Discretionary | 10.4%         | -13.5%         | -32.5%        |
| Consumer Staples       | 6.7%          | -4.6%          | -13.7%        |
| Energy                 | 8.0%          | -10.6%         | 4.7%          |
| Financials             | 24.8%         | -0.9%          | -8.7%         |
| Health Care            | 2.8%          | -16.2%         | -20.9%        |
| Industrials            | 5.5%          | -3.8%          | -12.6%        |
| Information Technology | 14.2%         | -12.7%         | -19.3%        |
| Materials              | 7.7%          | -10.8%         | -11.6%        |
| Real Estate            | 3.0%          | 1.4%           | -17.2%        |
| Utilities              | 2.7%          | 3.6%           | -3.8%         |
| Total                  | 100.0%        | -7.5%          | -14.6%        |

|                           | MSCI-EAFE | MSCI-ACWIxUS | Quarter | 1- Year |
|---------------------------|-----------|--------------|---------|---------|
| Country                   | Weight    | Weight       | Return  | Return  |
| Japan                     | 24.6%     | 16.6%        | -14.2%  | -12.9%  |
| United Kingdom            | 16.9%     | 11.4%        | -11.8%  | -14.2%  |
| France                    | 11.1%     | 7.5%         | -15.1%  | -12.8%  |
| Germany                   | 8.8%      | 6.0%         | -15.5%  | -22.2%  |
| Switzerland               | 8.7%      | 5.8%         | -8.9%   | -9.1%   |
| Australia                 | 6.9%      | 4.7%         | -10.0%  | -12.0%  |
| Hong Kong                 | 3.9%      | 2.6%         | -4.5%   | -7.8%   |
| Netherlands               | 3.4%      | 2.3%         | -11.0%  | -13.1%  |
| Spain                     | 3.1%      | 2.1%         | -8.7%   | -16.2%  |
| Sweden                    | 2.7%      | 1.8%         | -14.2%  | -13.7%  |
| Italy                     | 2.3%      | 1.5%         | -11.8%  | -17.8%  |
| Denmark                   | 1.8%      | 1.2%         | -9.8%   | -15.4%  |
| Singapore                 | 1.4%      | 0.9%         | -6.7%   | -9.4%   |
| Finland                   | 1.0%      | 0.7%         | -14.7%  | -3.4%   |
| Belgium                   | 1.0%      | 0.6%         | -18.5%  | -26.9%  |
| Norway                    | 0.7%      | 0.5%         | -18.1%  | -8.6%   |
| Ireland                   | 0.5%      | 0.4%         | -17.7%  | -25.3%  |
| Israel                    | 0.5%      | 0.4%         | -14.4%  | -5.5%   |
| Austria                   | 0.2%      | 0.2%         | -20.7%  | -27.4%  |
| New Zealand               | 0.2%      | 0.2%         | -6.6%   | -27.478 |
| Portugal                  | 0.2%      | 0.1%         | -14.3%  | -4.0 %  |
| Total EAFE Countries      | 100.0%    | 67.5%        | -12.5%  | -13.8%  |
| Canada                    | 100.076   | 6.5%         | -15.3%  | -17.2%  |
| Total Developed Countries |           | 74.0%        | -12.8%  | -17.2%  |
| China                     |           | 7.9%         | -10.7%  | -14.1%  |
| Korea                     |           | 3.6%         | -13.1%  | -10.9%  |
| Taiwan                    |           | 3.0%         | -13.7%  | -20.9%  |
| India                     |           | 2.4%         | 2.5%    | -7.3%   |
|                           |           |              |         |         |
| Brazil                    |           | 2.0%         | 13.4%   | -0.5%   |
| South Africa<br>Russia    |           | 1.6%         | -3.8%   | -24.8%  |
|                           |           | 1.0%         | -9.0%   | -0.7%   |
| Mexico                    |           | 0.7%         | -18.8%  | -15.5%  |
| Malaysia                  | _         | 0.6%         | -5.8%   | -6.0%   |
| Thailand                  |           | 0.6%         | -10.2%  | -5.5%   |
| Indonesia                 |           | 0.6%         | 9.7%    | -9.2%   |
| Poland                    |           | 0.3%         | -3.0%   | -12.9%  |
| Philippines               |           | 0.3%         | 5.3%    | -16.5%  |
| Qatar                     |           | 0.3%         | 8.4%    | 29.8%   |
| Chile                     |           | 0.3%         | -8.7%   | -19.7%  |
| United Arab Emirates      |           | 0.2%         | -5.5%   | -7.7%   |
| Turkey                    |           | 0.2%         | 4.8%    | -41.4%  |
| Colombia                  |           | 0.1%         | -19.0%  | -11.5%  |
| Peru                      |           | 0.1%         | -2.9%   | 1.6%    |
| Hungary                   |           | 0.1%         | 5.9%    | -6.1%   |
| Greece                    |           | 0.1%         | -16.0%  | -36.8%  |
| Czech Republic            |           | 0.0%         | -8.7%   | -4.5%   |
| Egypt                     |           | 0.0%         | -9.4%   | -14.0%  |
| Pakistan                  |           | 0.0%         | -22.4%  | -34.8%  |
| Total Emerging Countries  |           | 26.0%        | -7.5%   | -14.6%  |
| Total ACWIxUS Countries   |           | 100.0%       | -11.5%  | -14.2%  |

Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD) As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Page 7 Services sector.

- Broad fixed income benchmarks had mixed results during the 4<sup>th</sup> guarter. Interest rates rose across short-term maturities, but fell on those on the middle and long end of the US Treasury Yield Curve. The Federal Open Market Committee (FOMC), decided to increase short-term interest rates by 25 basis points at their December meeting citing the strength of the US economy which caused an increase in short-term interest rates, but equity market volatility led market participants toward less volatile assets, pushing rates lower on maturities greater than 1-year. This was the fourth rate hike of 2018. The current Fed Funds Rate target range sits at 2.25%-2.50%. This caused continued flattening in the yield curve with some moderate inversion, which happens when short-term maturities have greater yields than long-term securities, in the middle of curve. The difference in yields between the 2-year and 10-year Treasury now sits at just 0.21%. Historically, an inverted yield curve has signaled a greater probability of a recession. The Fed is also continuing the reduction of the size of its balance sheet by slowing its pace of reinvestment as the securities it holds mature. However, the Fed did lower its guidance for future rate increases in 2019 following a reduction in expectations for GDP and inflation. The Fed is now projecting just two additional interest rate increases in 2019. The Bloomberg Barclays US Aggregate Index was positive during the quarter, posting a 1.6% return, but was flat, returning 0.0% over the 1-year period.
- Within investment grade credit, higher quality issues outperformed lower quality issues as investors preferred more conservative securities. On an absolute basis, without negating the duration differences in the sub-indices, AAA rated credit was the best performing investment grade credit quality segment returning 2.3% for the quarter, while Baa was the worst performing, falling -0.9%. High yield debt trailed investment grade credit as spreads widened the most for these issues, returning -4.5%. Returns are mixed for the investment grade quality segments when viewed over the 1-year period with higher quality issues outperforming lower quality securities. High yield performed well relative to lower quality investment grade debt due to the relatively strong returns experienced during the first three quarters of 2018.
- During the 4<sup>th</sup> quarter, the more defensive Treasury and mortgage backed sectors of the Bloomberg Barclays US Aggregate Index's three broad sectors were the best performers returning 2.6% and 2.1% respectively. Investment grade corporate credit underperformed, returning -0.2%, as credit spreads widened considerably during the period. This trend carried through to the 1-year period as both Treasuries and mortgage backed securities outperformed both investment grade and high yield corporate debt. Calendar year 2018 performance for the Treasury, mortgage backed and investment grade corporate issues was 0.9%, 1.0% and -2.5% respectively. US TIPS returned 0.4% and -1.3% for the 4<sup>th</sup> quarter and 1-year period.

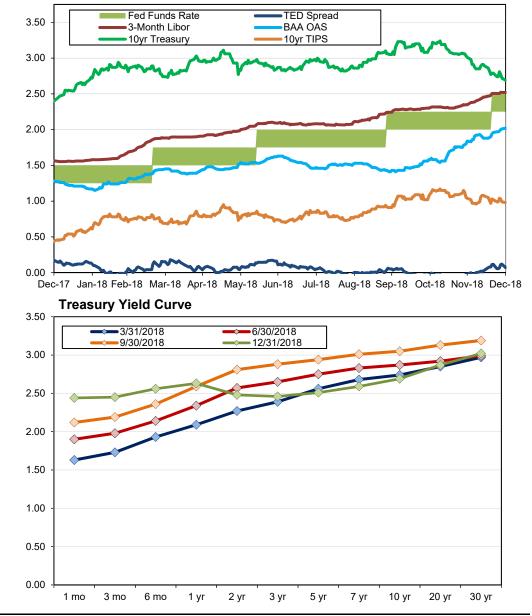


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Source: Bloomberg

- Global fixed income indices continue to struggle relative to their domestic counterparts, underperforming during the 4<sup>th</sup> guarter. These indices have lower vields and the returns of these indices are also significantly influenced by fluctuations in their currency denomination relative to the USD. During the 4<sup>th</sup> quarter the USD strengthened against most other currencies, negatively impacting the returns on global bond indices. The return on global bonds, as represented by the Bloomberg Barclays Global Aggregate ex US Index, was 0.9% and -2.1% for the guarter and 1-year period respectively. As the global economy continues to recover, several international central banks have started to move toward less accommodative postures. Notably, the ECB, began to slow its monthly bond purchase program in September, reducing new purchases to 15 billion euro per month from 30 billion euro per month and ended the program entirely at year end. However, they have indicated a continuation of reinvestment in maturing securities and would likely not raise interest rates from current levels until summer 2019. The Bank of England and the Bank of Japan made no major policy changes during the guarter as they continue to review macroeconomic data within their respective countries.
- Much of the index performance detailed in the bar graphs on the previous page is visible on a time series basis by reviewing the line graphs to the right. The '1-Year Trailing Market Rates' chart illustrates that the 10-year Treasury yield (green line) fell during the 4<sup>th</sup> guarter after rising steadily through most of the year as investors moved to safe haven assets during the period, ending the year at 2.69%. The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-Treasury issues. This line illustrates a relatively tight range in credit spreads throughout most of 2018. but highlights an abrupt increase during the 4<sup>th</sup> guarter as investors moved to higher quality assets. This increase is equivalent to an interest rate increase on corporate bonds, which produces an additional headwind for corporate bond index returns. These credit spreads have widened by about 59 basis points over the last 3-months. The green band across the graph illustrates the gradual increase in the Federal Funds Rate (four increases in the last twelve months) due to the continued tightening of US monetary policy.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four calendar quarters. As mentioned, the yield curve continues to flatten as yields on shorter-term maturities have risen more than interest rates on the long end of the curve. The upward momentum of interest rates as well as a general flattening of the yield curve are clearly visible over the last twelve months with some minor inversion visible in the middle of the yield curve.

#### 1-Year Trailing Market Rates





### **Delray Beach Fire Pension Plan** Compliance Checklist As of December 31, 2018

| AS OF DECEMBER  |     |    |     |
|---|-----|----|-----|
|   |     |    |     |
| Total Fund Compliance:  | Yes | No | N/A |
| 1. The Total Plan return equaled or exceeded the 7.25% actuarial earnings assumption over the trailing three and five year periods. |     | •  |     |
| 2. The Total Plan return equaled or exceeded the total plan benchmark over the trailing three and five year periods.                |     | ٠  |     |
| 3. The Total Plan return ranked within the top 40th percentile of its peer group over the trailing three and five year periods.     |     | •  |     |

\* Based off gross of fees and public plan peer group.

| Total Equity Compliance:   | Yes | No | N/A |
|--|-----|----|-----|
| 1. Total equity returns meet or exceed the benchmark over the trailing three and five year periods.                            |     | •  |     |
| 2. Total equity returns ranked within the top 40th percentile of its peer group over the trailing three and five year periods. |     |    | •   |
| 3. The total equity allocation was less than 70% of the total plan assets at market.   | •   |    |     |
| 4. Total foreign equity was less than 25% of the total plan assets at market.  | •   |    |     |

| Total Fixed Income Compliance:   | Yes | No | N/A |
|--|-----|----|-----|
| 1. Total fixed income returns meet or exceed the benchmark over the trailing three and five year periods.                            |     |    |     |
| 2. Total fixed income returns ranked within the top 40th percentile of its peer group over the trailing three and five year periods. |     |    |     |
| 3. No more than 15% of the fixed income portfolio was rated below BBB/Baa.   | •   |    |     |

|  |     | Boston |     | Rhum | nbline R | 1000G | Р   | olen LCG | i i |
|--|-----|--------|-----|------|----------|-------|-----|----------|-----|
|  | Yes | No     | N/A | Yes  | No       | N/A   | Yes | No       | N/A |
| 1. Manager outperformed the index over the trailing three and five year periods.*            |     |        | •   |      |          | ٠     |     |          | •   |
| 2. Manager ranked within the top 40th percentile over trailing three and five year periods.* |     |        | •   |      |          | •     |     |          | •   |
| 3. Less than four consecutive quarters of under performance relative to the benchmark.       | ٠   |        |     | •    |          |       |     |          | •   |
| 4. Three and five-year down-market capture ratio less than the index.*                       |     |        | •   |      |          | •     |     |          | •   |
| 5. Manager reports compliance with PFIA.   |     |        | •   |      |          | •     |     |          | •   |

|  |     | Lazard |     | V   | G Mid-C | ap  | H.L | . Intl Equ | ity |
|--|-----|--------|-----|-----|---------|-----|-----|------------|-----|
|  | Yes | No     | N/A | Yes | No      | N/A | Yes | No         | N/A |
| 1. Manager outperformed the index over the trailing three and five year periods.*            |     | ٠      |     |     | •       |     |     |            | •   |
| 2. Manager ranked within the top 40th percentile over trailing three and five year periods.* |     | ٠      |     | •   |         |     |     |            | •   |
| 3. Less than four consecutive quarters of under performance relative to the benchmark.       | •   |        |     | •   |         |     | •   |            |     |
| 4. Three and five-year down-market capture ratio less than the index.*                       | •   |        |     |     | •       |     |     |            | •   |
| 5. Manager reports compliance with PFIA.   | •   |        |     |     |         | •   |     |            | •   |



\*3 years used when 5 years unavailable

#### Delray Beach Fire Pension Plan Compliance Checklist

As of December 31, 2018

|  |     | GHA |     | Tem | pleton G | Blobal | Ame | erican Rea | alty |
|--|-----|-----|-----|-----|----------|--------|-----|------------|------|
|  | Yes | No  | N/A | Yes | No       | N/A    | Yes | No         | N/A  |
| 1. Manager outperformed the index over the trailing three and five year periods.*            |     |     | •   | •   |          |        |     | •          |      |
| 2. Manager ranked within the top 40th percentile over trailing three and five year periods.* |     |     | •   | •   |          |        |     | •          |      |
| 3. Less than four consecutive quarters of under performance relative to the benchmark.       | ٠   |     |     | •   |          |        | •   |            |      |
| 4. Three and five-year down-market capture ratio less than the index.*                       |     |     | •   | •   |          |        |     |            | •    |
| 5. Manager reports compliance with PFIA.   | •   |     |     |     |          | ٠      |     |            | •    |

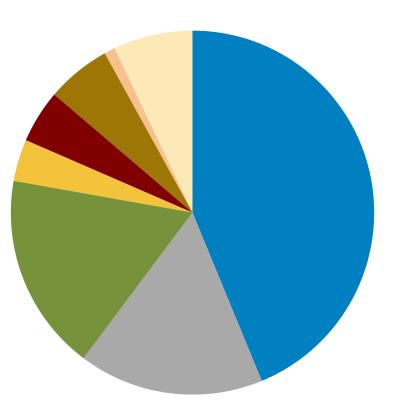
|  | WW In | c. Oppo | rtunity |     |    |     |     |    |     |
|--|-------|---------|---------|-----|----|-----|-----|----|-----|
|  | Yes   | No      | N/A     | Yes | No | N/A | Yes | No | N/A |
| 1. Manager outperformed the index over the trailing three and five year periods.*            |       | •       |         |     |    |     |     |    |     |
| 2. Manager ranked within the top 40th percentile over trailing three and five year periods.* |       | ٠       |         |     |    |     |     |    |     |
| 3. Less than four consecutive quarters of under performance relative to the benchmark.       |       | ٠       |         |     |    |     |     |    |     |
| 4. Three and five-year down-market capture ratio less than the index.*                       |       | ٠       |         |     |    |     |     |    |     |
| 5. Manager reports compliance with PFIA.   |       |         | •       |     |    |     |     |    |     |

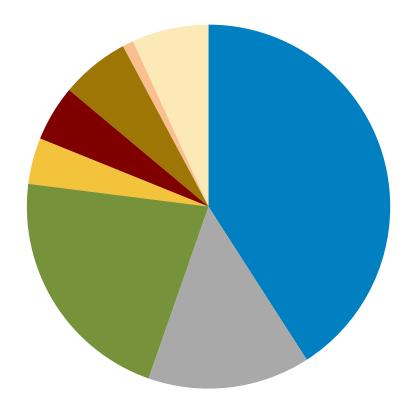
\*3 years used when 5 years unavailable



December 31, 2018 : \$99,876,598

September 30, 2018 : \$103,224,314

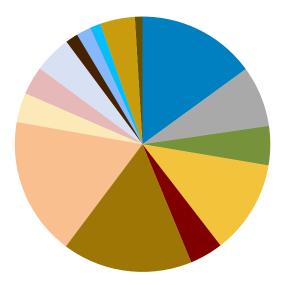




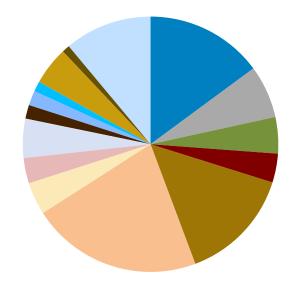
| cation                 |              |            | Allocation             |              |            |
|------------------------|--------------|------------|------------------------|--------------|------------|
|                        | Market Value | Allocation |                        | Market Value | Allocation |
| US Equity              | 45,183,039   | 43.8       | US Equity              | 40,853,789   | 40.9       |
| International Equity   | 16,998,720   | 16.5       | International Equity   | 14,441,308   | 14.5       |
| US Fixed Income        | 18,122,723   | 17.6       | US Fixed Income        | 21,608,083   | 21.6       |
| Global Fixed Income    | 3,840,576    | 3.7        | Global Fixed Income    | 4,107,510    | 4.1        |
| US Private Real Estate | 4,869,744    | 4.7        | US Private Real Estate | 4,950,415    | 5.0        |
| US Real Return         | 5,924,279    | 5.7        | US Real Return         | 6,108,061    | 6.1        |
| Cash                   | 991,673      | 1.0        | Cash                   | 978,923      | 1.0        |
| US Private Equity      | 7,293,561    | 7.1        | US Private Equity      | 6,828,509    | 6.8        |



#### September 30, 2018 : \$103,224,314



#### December 31, 2018 : \$99,876,598



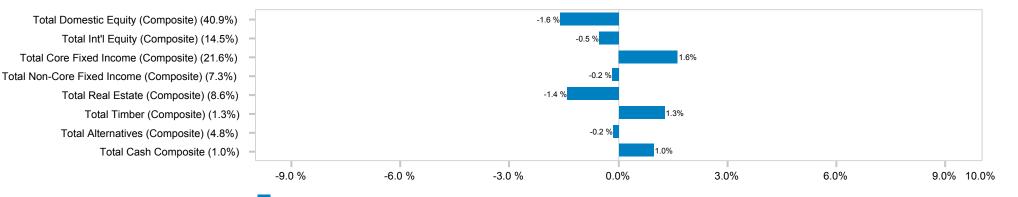
#### Allocation

| Allocation                                    |              |            | Allocation                                    |              |            |
|---|--------------|------------|---|--------------|------------|
|   | Market Value | Allocation |   | Market Value | Allocation |
| Boston LCV                                    | 15,456,030   | 15.0       | Boston LCV                                    | 14,856,634   | 14.9       |
| Lazard SMid Cap Core                          | 7,970,820    | 7.7        | Lazard SMid Cap Core                          | 6,686,454    | 6.7        |
| Vanguard Mid-Cap Index (VIMAX)                | 5,120,018    | 5.0        | Vanguard Mid-Cap Index (VIMAX)                | 4,601,620    | 4.6        |
| Sawgrass Large Cap Growth                     | 12,287,168   | 11.9       | Sawgrass Large Cap Growth                     | 2,039        | 0.0        |
| Rhumbline R1000G                              | 4,349,002    | 4.2        | Rhumbline R1000G                              | 3,658,713    | 3.7        |
| Harding Loevner Intl Equity (HLMIX)           | 16,998,720   | 16.5       | Harding Loevner Intl Equity (HLMIX)           | 14,441,308   | 14.5       |
| Garcia Hamilton Fixed Income                  | 18,122,723   | 17.6       | Garcia Hamilton Fixed Income                  | 21,608,083   | 21.6       |
| Templeton Global Total Return (FTTRX)         | 3,840,576    | 3.7        | Templeton Global Total Return (FTTRX)         | 4,107,510    | 4.1        |
| Crescent Direct Lending Levered Fund          | 3,720,454    | 3.6        | Crescent Direct Lending Levered Fund          | 3,217,091    | 3.2        |
| American Core Realty                          | 4,869,744    | 4.7        | American Core Realty                          | 4,950,415    | 5.0        |
| Angelo Gordon Net Lease Realty Fund III, L.P. | 1,647,718    | 1.6        | Angelo Gordon Net Lease Realty Fund III, L.P. | 1,731,828    | 1.7        |
| Dune Real Estate Fund III                     | 1,925,389    | 1.9        | Dune Real Estate Fund III                     | 1,879,590    | 1.9        |
| Amsouth Timber Fund                           | 57,182       | 0.1        | Amsouth Timber Fund                           | -            | 0.0        |
| Molpus Woodlands Timber                       | 1,311,065    | 1.3        | Molpus Woodlands Timber                       | 1,275,611    | 1.3        |
| Westwood Income Opportunity Fund (WHGIX)      | 4,556,031    | 4.4        | Westwood Income Opportunity Fund (WHGIX)      | 4,832,450    | 4.8        |
| Mutual Fund Cash                              | 3,028        | 0.0        | Mutual Fund Cash                              | 3,097        | 0.0        |
| R&D   | 988,645      | 1.0        | R&D   | 975,826      | 1.0        |
| Polen Capital LCG                             | -            | 0.0        | Polen Capital LCG                             | 11,048,329   | 11.1       |

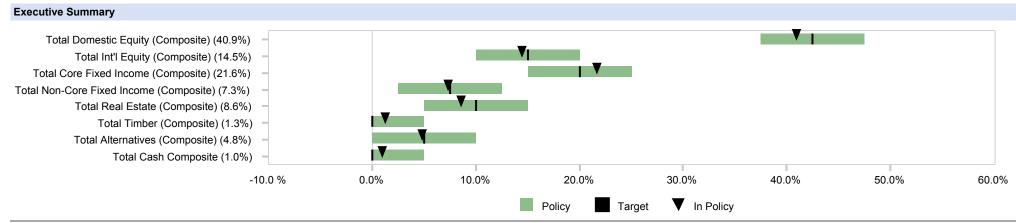


Asset Allocation Compliance Delray Beach Firefighters' Retirement System Total Fund (Composite) As of December 31, 2018

**Asset Allocation Compliance** Asset Current Target Differences Target Rebal. Allocation Allocation (%) Allocation (%) (\$000) (%) \$ Total Fund (Composite) 0.00 99,876,598 100.00 100.00 \_ 40.90 42.50 Total Domestic Equity (Composite) 40,853,789 -1.60 1,593,765 Total Int'l Equity (Composite) 14,441,308 14.46 15.00 -0.54540,181 Total Core Fixed Income (Composite) 21,608,083 21.63 20.00 1.63 -1,632,763 7.33 7.50 Total Non-Core Fixed Income (Composite) 7,324,601 -0.17 166.144 Total Real Estate (Composite) 8,561,833 8.57 10.00 -1.43 1,425,826 0.00 Total Timber (Composite) 1.275.611 1.28 1.28 -1.275.611 Total Alternatives (Composite) 4,832,450 4.84 5.00 -0.16 161,380 **Total Cash Composite** 978.923 0.98 0.00 0.98 -978,923



Allocation Differences





#### **Comparative Performance Total Fund Trailing Returns** As of December 31, 2018

Inception Date

| Comparative Performance                               |        |      |        |      |        |      |        |      |       |      |       |      |       |      |       |       |                   |
|---|--------|------|--------|------|--------|------|--------|------|-------|------|-------|------|-------|------|-------|-------|-------------------|
|   | Q      | TR   | Y      | D    | FY     | TD   | 1 ነ    | (R   | 2 `   | YR   | 3 `   | YR   | 5 `   | YR   | Ince  | ption | Inceptior<br>Date |
| Total Fund (Net)                                      | -8.40  | (64) | -3.89  | (14) | -8.40  | (64) | -3.89  | (14) | 4.41  | (15) | 5.18  | (24) | 4.44  | (18) | 4.61  | (54)  | 10/01/2005        |
| Total Fund Policy                                     | -7.65  | (51) | -3.52  | (10) | -7.65  | (51) | -3.52  | (10) | 5.38  | (6)  | 6.36  | (5)  | 5.55  | (5)  | 5.67  | (13)  |                   |
| Difference  | -0.75  |      | -0.37  |      | -0.75  |      | -0.37  |      | -0.97 |      | -1.18 |      | -1.11 |      | -1.06 |       |                   |
| IM Mixed-Asset Target Alloc Moderate (MF) Median      | -7.59  |      | -5.70  |      | -7.59  |      | -5.70  |      | 3.05  |      | 4.28  |      | 3.13  |      | 4.67  |       |                   |
| Total Fund (Gross)                                    | -8.32  | (52) | -3.56  | (38) | -8.32  | (52) | -3.56  | (38) | 4.78  | (56) | 5.61  | (55) | 4.91  | (42) | 5.07  | (88)  | 10/01/2005        |
| Total Fund Policy                                     | -7.65  | (36) | -3.52  | (37) | -7.65  | (36) | -3.52  | (37) | 5.38  | (35) | 6.36  | (27) | 5.55  | (17) | 5.67  | (64)  |                   |
| Difference  | -0.67  |      | -0.04  |      | -0.67  |      | -0.04  |      | -0.60 |      | -0.75 |      | -0.64 |      | -0.60 |       |                   |
| All Public Plans-Total Fund Median                    | -8.30  |      | -4.24  |      | -8.30  |      | -4.24  |      | 4.90  |      | 5.74  |      | 4.76  |      | 5.93  |       |                   |
| Total Equity  | -14.26 |      | -7.95  |      | -14.26 |      | -7.95  |      | 5.41  |      | 6.40  |      | 5.03  |      | 5.73  |       | 10/01/2005        |
| Total Equity Policy                                   | -13.67 |      | -7.52  |      | -13.67 |      | -7.52  |      | 6.46  |      | 7.92  |      | 5.17  |      | 5.46  |       |                   |
| Difference  | -0.59  |      | -0.43  |      | -0.59  |      | -0.43  |      | -1.05 |      | -1.52 |      | -0.14 |      | 0.27  |       |                   |
| Total Domestic Equity                                 | -13.94 | (35) | -5.51  | (39) | -13.94 | (35) | -5.51  | (39) | 5.28  | (55) | 7.38  | (45) | 6.37  | (44) | 6.65  | (53)  | 10/01/2005        |
| Total Domestic Equity Policy                          | -14.43 | (44) | -5.29  | (37) | -14.43 | (44) | -5.29  | (37) | 7.05  | (41) | 9.01  | (21) | 7.69  | (24) | 7.69  | (33)  |                   |
| Difference  | 0.49   |      | -0.22  |      | 0.49   |      | -0.22  |      | -1.77 |      | -1.63 |      | -1.32 |      | -1.04 |       |                   |
| IM U.S. All Cap Equity (SA+CF+MF) Median              | -14.84 |      | -6.91  |      | -14.84 |      | -6.91  |      | 5.87  |      | 7.06  |      | 5.94  |      | 6.75  |       |                   |
| Total Int'l Equity                                    | -15.04 | (85) | -13.96 | (43) | -15.04 | (85) | -13.96 | (43) | 5.71  | (21) | 3.33  | (46) | 1.25  | (56) | 2.87  | (17)  | 05/01/2007        |
| Total Int'l Policy                                    | -11.46 | (20) | -14.20 | (47) | -11.46 | (20) | -14.20 | (47) | 4.47  | (45) | 4.48  | (24) | 0.68  | (72) | 0.17  | (98)  |                   |
| Difference  | -3.58  |      | 0.24   |      | -3.58  |      | 0.24   |      | 1.24  |      | -1.15 |      | 0.57  |      | 2.70  |       |                   |
| IM International Large Cap Core Equity (SA+CF) Median | -13.19 |      | -14.63 |      | -13.19 |      | -14.63 |      | 4.09  |      | 3.11  |      | 1.32  |      | 1.81  |       |                   |
| Total Fixed Income                                    | 1.28   | (26) | 2.09   | (3)  | 1.28   | (26) | 2.09   | (3)  | 3.03  | (8)  | 3.93  | (15) | 3.79  | (6)  | 5.00  | (14)  | 10/01/2005        |
| Total Fixed Policy                                    | 1.64   | (9)  | 0.01   | (26) | 1.64   | (9)  | 0.01   | (26) | 1.76  | (52) | 2.06  | (70) | 2.52  | (52) | 3.95  | (66)  |                   |
| Difference  | -0.36  |      | 2.08   |      | -0.36  |      | 2.08   |      | 1.27  |      | 1.87  |      | 1.27  |      | 1.05  |       |                   |
| IM U.S. Broad Market Fixed Income (SA+CF+MF) Median   | 0.70   |      | -0.64  |      | 0.70   |      | -0.64  |      | 1.78  |      | 2.48  |      | 2.54  |      | 4.23  |       |                   |
| Total Real Estate                                     | 1.11   | (96) | 8.58   | (57) | 1.11   | (96) | 8.58   | (57) | 9.36  | (30) | 9.13  | (45) | 11.16 | (44) | 4.38  | (100) | 07/01/2007        |
| NCREIF ODCE   | 1.62   | (76) | 8.25   | (66) | 1.62   | (76) | 8.25   | (66) | 8.02  | (57) | 8.44  | (52) | 10.52 | (63) | 5.48  | (71)  |                   |
| Difference  | -0.51  |      | 0.33   |      | -0.51  |      | 0.33   |      | 1.34  |      | 0.69  |      | 0.64  |      | -1.10 |       |                   |
| IM U.S. Open End Private Real Estate (SA+CF) Median   | 1.80   |      | 8.71   |      | 1.80   |      | 8.71   |      | 8.39  |      | 8.66  |      | 10.82 |      | 5.78  |       |                   |
| Total Timber  | -0.21  |      | -0.94  |      | -0.21  |      | -0.94  |      | -4.73 |      | -2.88 |      | 0.94  |      | 2.56  |       | 07/01/2007        |
| NCREIF Timberland Index                               | 0.97   |      | 3.44   |      | 0.97   |      | 3.44   |      | 3.53  |      | 3.22  |      | 4.98  |      | 5.31  |       |                   |
| Difference  | -1.18  |      | -4.38  |      | -1.18  |      | -4.38  |      | -8.26 |      | -6.10 |      | -4.04 |      | -2.75 |       |                   |
| Difference  | -1.10  |      | -4.00  |      | -1.10  |      | -4.00  |      | -0.20 |      | -0.10 |      | -4.04 |      | -2.10 |       |                   |

-6.14

-6.05

-0.09

-4.70

-1.90

-2.80

2.84

5.00

-2.16

4.09

5.78

-1.69

3.70

5.33

-1.63

0.52

3.40

-2.88

-6.14

-6.05

-0.09

-4.70

-1.90

-2.80



08/01/2010

**Total Alternatives** 

Difference

**Alternatives Policy** 

#### Comparative Performance Total Fund Trailing Returns

As of December 31, 2018

|   | Q      |      |        | FY   | TD     | 1 ۱  | (R     | 2    | ŕR    | 3 \  | /R    | 5 ٦  | ′R    | Ince | ption | Inception<br>Date |            |
|---|--------|------|--------|------|--------|------|--------|------|-------|------|-------|------|-------|------|-------|-------------------|------------|
| Total Domestic Equity (Composite)                 | -13.94 |      | -5.51  |      | -13.94 |      | -5.51  |      | 5.28  |      | 7.38  |      | 6.37  |      | 6.65  |                   | 10/01/2005 |
| Boston LCV  | -13.85 | (56) | -8.69  | (54) | -13.85 | (56) | -8.69  | (54) | N/A   |      | N/A   |      | N/A   |      | -8.69 | (54)              | 01/01/2018 |
| Russell 1000 Value Index                          | -11.72 | (29) | -8.27  | (49) | -11.72 | (29) | -8.27  | (49) | 2.11  | (70) | 6.95  | (56) | 5.95  | (61) | -8.27 | (49)              |            |
| Difference  | -2.13  |      | -0.42  |      | -2.13  |      | -0.42  |      | N/A   |      | N/A   |      | N/A   |      | -0.42 |                   |            |
| IM U.S. Large Cap Value Equity (SA+CF) Median     | -13.57 |      | -8.39  |      | -13.57 |      | -8.39  |      | 3.60  |      | 7.27  |      | 6.23  |      | -8.39 |                   |            |
| Total Growth                                      | -11.15 | (4)  | 2.35   | (18) | -11.15 | (4)  | 2.35   | (18) | 11.07 | (74) | 8.98  | (66) | 8.20  | (73) | 5.02  | (98)              | 07/01/2007 |
| Russell 1000 Growth Index                         | -15.89 | (55) | -1.51  | (57) | -15.89 | (55) | -1.51  | (57) | 13.24 | (48) | 11.15 | (21) | 10.40 | (20) | 8.81  | (30)              |            |
| Difference  | 4.74   |      | 3.86   |      | 4.74   |      | 3.86   |      | -2.17 |      | -2.17 |      | -2.20 |      | -3.79 |                   |            |
| IM U.S. Large Cap Growth Equity (SA+CF+MF) Median | -15.67 |      | -0.87  |      | -15.67 |      | -0.87  |      | 13.12 |      | 9.73  |      | 9.23  |      | 8.26  |                   |            |
| Rhumbline R1000G                                  | -15.87 | (61) | -1.51  | (54) | -15.87 | (61) | -1.51  | (54) | N/A   |      | N/A   |      | N/A   |      | -1.51 | (54)              | 01/01/2018 |
| Russell 1000 Growth Index                         | -15.89 | (62) | -1.51  | (54) | -15.89 | (62) | -1.51  | (54) | 13.24 | (41) | 11.15 | (29) | 10.40 | (31) | -1.51 | (54)              |            |
| Difference  | 0.02   |      | 0.00   |      | 0.02   |      | 0.00   |      | N/A   |      | N/A   |      | N/A   |      | 0.00  |                   |            |
| IM U.S. Large Cap Growth Equity (SA+CF) Median    | -15.14 |      | -1.17  |      | -15.14 |      | -1.17  |      | 12.74 |      | 10.19 |      | 9.66  |      | -1.17 |                   |            |
| Polen Capital LCG                                 | N/A    |      | N/A    |      | N/A    |      | N/A    |      | N/A   |      | N/A   |      | N/A   |      | N/A   |                   | 01/01/2019 |
| Russell 1000 Growth Index                         | -15.89 | (62) | -1.51  | (54) | -15.89 | (62) | -1.51  | (54) | 13.24 | (41) | 11.15 | (29) | 10.40 | (31) | N/A   |                   |            |
| Difference  | N/A    |      | N/A    |      | N/A    |      | N/A    |      | N/A   |      | N/A   |      | N/A   |      | N/A   |                   |            |
| IM U.S. Large Cap Growth Equity (SA+CF) Median    | -15.14 |      | -1.17  |      | -15.14 |      | -1.17  |      | 12.74 |      | 10.19 |      | 9.66  |      | N/A   |                   |            |
| Lazard SMid Cap Core                              | -18.89 | (67) | -12.14 | (77) | -18.89 | (67) | -12.14 | (77) | 0.50  | (88) | 5.86  | (81) | 5.64  | (55) | 10.90 | (87)              | 02/01/2010 |
| Russell 2500 Index                                | -18.49 | (62) | -10.00 | (55) | -18.49 | (62) | -10.00 | (55) | 2.53  | (66) | 7.32  | (62) | 5.15  | (86) | 11.54 | (78)              |            |
| Difference  | -0.40  |      | -2.14  |      | -0.40  |      | -2.14  |      | -2.03 |      | -1.46 |      | 0.49  |      | -0.64 |                   |            |
| IM U.S. SMID Cap Core Equity (SA+CF) Median       | -18.23 |      | -9.85  |      | -18.23 |      | -9.85  |      | 3.30  |      | 7.54  |      | 6.14  |      | 12.61 |                   |            |
| Vanguard Mid-Cap Index (VIMAX)                    | -15.46 | (43) | -9.23  | (21) | -15.46 | (43) | -9.23  | (21) | 4.04  | (16) | 6.38  | (32) | N/A   |      | 4.14  | (23)              | 07/01/2015 |
| CRSP U.S. Mid Cap TR Index                        | -15.46 | (43) | -9.22  | (21) | -15.46 | (43) | -9.22  | (21) | 4.06  | (15) | 6.40  | (30) | 6.24  | (11) | 4.17  | (21)              |            |
| Difference  | 0.00   |      | -0.01  |      | 0.00   |      | -0.01  |      | -0.02 |      | -0.02 |      | N/A   |      | -0.03 |                   |            |
| IM U.S. Mid Cap Core Equity (MF) Median           | -16.00 |      | -11.66 |      | -16.00 |      | -11.66 |      | 0.47  |      | 4.77  |      | 3.72  |      | 2.04  |                   |            |
| Total Int'l Equity (Composite)                    | -15.04 |      | -13.96 |      | -15.04 |      | -13.96 |      | 5.71  |      | 3.33  |      | 1.25  |      | 2.87  |                   | 05/01/2007 |
| Harding Loevner Intl Equity (HLMIX)               | -15.04 | (80) | -13.96 | (29) | -15.04 | (80) | -13.96 | (29) | 5.72  | (34) | N/A   |      | N/A   |      | 3.00  | (47)              | 09/01/2016 |
| MSCI AC World ex USA (Net)                        | -11.46 | (44) | -14.20 | (32) | -11.46 | (44) | -14.20 | (32) | 4.47  | (47) | 4.48  | (41) | 0.68  | (47) | 3.80  | (32)              |            |
| Difference  | -3.58  |      | 0.24   |      | -3.58  |      | 0.24   |      | 1.25  |      | N/A   |      | N/A   |      | -0.80 |                   |            |
| IM International Equity (MF) Median               | -12.23 |      | -16.01 |      | -12.23 |      | -16.01 |      | 4.13  |      | 3.52  |      | 0.50  |      | 2.82  |                   |            |



#### Comparative Performance Total Fund Trailing Returns

As of December 31, 2018

|   | QI    | ſR   | YTD   |      | FY    | ſD   | 1 Y   | ′R   | 2 \   | ŕR   | 3 ۱   | (R   | 5 ٦   | ′R   | Ince  | otion | Inception<br>Date |
|---|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------------------|
| Total Core Fixed Income                               | 1.25  |      | 0.98  |      | 1.25  |      | 0.98  |      | 1.89  |      | 2.58  |      | 3.15  |      | 4.03  |       | 10/01/2005        |
| Core Fixed Policy                                     | 1.64  |      | 0.01  |      | 1.64  |      | 0.01  |      | 1.76  |      | 2.06  |      | 2.52  |      | 3.89  |       |                   |
| Difference  | -0.39 |      | 0.97  |      | -0.39 |      | 0.97  |      | 0.13  |      | 0.52  |      | 0.63  |      | 0.14  |       |                   |
| Garcia Hamilton Fixed Income                          | 1.25  | (68) | 0.97  | (9)  | 1.25  | (68) | 0.97  | (9)  | N/A   |      | N/A   |      | N/A   |      | 0.97  | (9)   | 01/01/2018        |
| Blmbg. Barc. U.S. Aggregate Index                     | 1.64  | (24) | 0.01  | (62) | 1.64  | (24) | 0.01  | (62) | 1.76  | (86) | 2.06  | (85) | 2.52  | (84) | 0.01  | (62)  |                   |
| Difference  | -0.39 |      | 0.96  |      | -0.39 |      | 0.96  |      | N/A   |      | N/A   |      | N/A   |      | 0.96  |       |                   |
| IM U.S. Broad Market Core Fixed Income (SA+CF) Median | 1.40  |      | 0.07  |      | 1.40  |      | 0.07  |      | 2.04  |      | 2.48  |      | 2.86  |      | 0.07  |       |                   |
| Total Non-Core Fixed Income                           | 1.16  |      | 4.52  |      | 1.16  |      | 4.52  |      | 5.67  |      | 6.87  |      | 5.13  |      | 8.00  |       | 07/01/2010        |
| Bloomberg Barclays Global Aggregate                   | 1.20  |      | -1.19 |      | 1.20  |      | -1.19 |      | 3.01  |      | 2.70  |      | 1.08  |      | 2.16  |       |                   |
| Difference  | -0.04 |      | 5.71  |      | -0.04 |      | 5.71  |      | 2.66  |      | 4.17  |      | 4.05  |      | 5.84  |       |                   |
| Templeton Global Total Return (FTTRX)                 | 2.26  | (1)  | 2.08  | (5)  | 2.26  | (1)  | 2.08  | (5)  | 2.65  | (38) | 4.65  | (3)  | 1.94  | (31) | 3.33  | (11)  | 07/01/2011        |
| Blmbg. Barc. Global Multiverse                        | 1.02  | (23) | -1.36 | (41) | 1.02  | (23) | -1.36 | (41) | 3.07  | (22) | 2.99  | (37) | 1.20  | (53) | 1.28  | (65)  |                   |
| Difference  | 1.24  |      | 3.44  |      | 1.24  |      | 3.44  |      | -0.42 |      | 1.66  |      | 0.74  |      | 2.05  |       |                   |
| IM Global Fixed Income (MF) Median                    | 0.33  |      | -1.76 |      | 0.33  |      | -1.76 |      | 2.28  |      | 2.68  |      | 1.27  |      | 1.67  |       |                   |
| Total Real Estate (Composite)                         | 1.11  |      | 8.58  |      | 1.11  |      | 8.58  |      | 9.36  |      | 9.13  |      | 11.16 |      | 4.38  |       | 07/01/2007        |
| American Core Realty                                  | 1.94  | (35) | 8.72  | (50) | 1.94  | (35) | 8.72  | (50) | 8.40  | (50) | 7.96  | (74) | 10.14 | (69) | 5.49  | (69)  | 07/01/2007        |
| NCREIF ODCE   | 1.62  | (76) | 8.25  | (66) | 1.62  | (76) | 8.25  | (66) | 8.02  | (57) | 8.44  | (52) | 10.52 | (63) | 5.48  | (71)  |                   |
| Difference  | 0.32  |      | 0.47  |      | 0.32  |      | 0.47  |      | 0.38  |      | -0.48 |      | -0.38 |      | 0.01  |       |                   |
| IM U.S. Open End Private Real Estate (SA+CF) Median   | 1.80  |      | 8.71  |      | 1.80  |      | 8.71  |      | 8.39  |      | 8.66  |      | 10.82 |      | 5.78  |       |                   |
| Total Timber (Composite)                              | -0.21 |      | -0.94 |      | -0.21 |      | -0.94 |      | -4.73 |      | -2.88 |      | 0.94  |      | 2.56  |       | 07/01/2007        |
| Molpus Woodlands Timber                               | 0.00  |      | 0.03  |      | 0.00  |      | 0.03  |      | -1.30 |      | -0.51 |      | 1.38  |      | 2.32  |       | 06/01/2008        |
| NCREIF Timberland Index                               | 0.97  |      | 3.44  |      | 0.97  |      | 3.44  |      | 3.53  |      | 3.22  |      | 4.98  |      | 4.01  |       |                   |
| Difference  | -0.97 |      | -3.41 |      | -0.97 |      | -3.41 |      | -4.83 |      | -3.73 |      | -3.60 |      | -1.69 |       |                   |
| Alternatives  |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |       |                   |
| Westwood Income Opportunity Fund (WHGIX)              | -6.31 | (34) | -4.87 | (26) | -6.31 | (34) | -4.87 | (26) | 2.74  | (37) | 4.02  | (44) | 3.66  | (24) | 3.92  | (24)  | 11/01/2013        |
| Alternatives Policy                                   | -6.05 | (31) | -1.90 | (7)  | -6.05 | (31) | -1.90 | (7)  | 5.00  | (9)  | 5.78  | (12) | 5.33  | (7)  | 5.41  | (7)   |                   |
| Difference  | -0.26 |      | -2.97 |      | -0.26 |      | -2.97 |      | -2.26 |      | -1.76 |      | -1.67 |      | -1.49 |       |                   |
| IM Flexible Portfolio (MF) Median                     | -7.65 |      | -6.95 |      | -7.65 |      | -6.95 |      | 2.17  |      | 3.65  |      | 2.51  |      | 2.79  |       |                   |

^ Some products shown on IRR page.



#### **Comparative Performance - IRR**

#### As of December 31, 2018

| Comparative Performance - IRR                 |      |           |                   |
|---|------|-----------|-------------------|
|   | QTR  | Inception | Inception<br>Date |
| Molpus Woodlands Timber                       | 0.00 | 2.02      | 06/24/2008        |
| Angelo Gordon Net Lease Realty Fund III, L.P. | 0.00 | 6.55      | 03/10/2014        |
| Dune Real Estate Fund III                     | 0.00 | 13.26     | 11/06/2014        |
| Crescent Direct Lending Levered Fund          | 0.00 | 7.54      | 10/09/2014        |



| Comparative Performance                               |        |      |                     |      |                     |      |                    |      |                     |      |                     |      |       |                      |       |                   |                     |      |
|---|--------|------|---------------------|------|---------------------|------|--------------------|------|---------------------|------|---------------------|------|-------|----------------------|-------|-------------------|---------------------|------|
|   | FY     | TD   | Oct-/<br>T<br>Sep-/ | 0    | Oct-/<br>T<br>Sep-/ | 0    | Oct-/<br>T<br>Sep- | 0    | Oct-2<br>T<br>Sep-2 | 0    | Oct-2<br>T<br>Sep-2 | 0    | ٦     | -2012<br>Го<br>-2013 | Т     | 2011<br>o<br>2012 | Oct-2<br>T<br>Sep-2 | 0    |
| Total Fund (Net)                                      | -8.40  | (64) | 8.29                | (11) | 11.09               | (29) | 8.82               | (49) | -1.22               | (27) | 10.01               | (27) | 10.96 | (41)                 | 16.79 | (50)              | 1.26                | (19) |
| Total Fund Policy                                     | -7.65  | (51) | 8.59                | (10) | 11.90               | (17) | 10.34              | (20) | 0.55                | (5)  | 10.23               | (24) | 10.24 | (51)                 | 15.21 | (75)              | 2.15                | (12) |
| Difference  | -0.75  |      | -0.30               |      | -0.81               |      | -1.52              |      | -1.77               |      | -0.22               |      | 0.72  |                      | 1.58  |                   | -0.89               |      |
| IM Mixed-Asset Target Alloc Moderate (MF) Median      | -7.59  |      | 4.97                |      | 9.96                |      | 8.77               |      | -2.40               |      | 8.33                |      | 10.26 |                      | 16.77 |                   | -0.57               |      |
| Total Fund (Gross)                                    | -8.32  | (52) | 8.66                | (41) | 11.49               | (65) | 9.41               | (58) | -0.72               | (55) | 10.58               | (42) | 11.52 | (70)                 | 17.35 | (60)              | 1.61                | (22) |
| Total Fund Policy                                     | -7.65  | (36) | 8.59                | (43) | 11.90               | (56) | 10.34              | (27) | 0.55                | (27) | 10.23               | (51) | 10.24 | (82)                 | 15.21 | (86)              | 2.15                | (15) |
| Difference  | -0.67  |      | 0.07                |      | -0.41               |      | -0.93              |      | -1.27               |      | 0.35                |      | 1.28  |                      | 2.14  |                   | -0.54               |      |
| All Public Plans-Total Fund Median                    | -8.30  |      | 8.14                |      | 12.19               |      | 9.66               |      | -0.45               |      | 10.24               |      | 12.51 |                      | 17.94 |                   | 0.29                |      |
| Total Equity  | -14.26 |      | 13.13               |      | 16.40               |      | 11.59              |      | -3.61               |      | 13.96               |      | 21.06 |                      | 25.94 |                   | -0.85               |      |
| Total Equity Policy                                   | -13.67 |      | 13.60               |      | 18.94               |      | 13.34              |      | -6.20               |      | 11.73               |      | 19.62 |                      | 22.72 |                   | -4.71               |      |
| Difference  | -0.59  |      | -0.47               |      | -2.54               |      | -1.75              |      | 2.59                |      | 2.23                |      | 1.44  |                      | 3.22  |                   | 3.86                |      |
| Total Domestic Equity                                 | -13.94 | (35) | 16.10               | (45) | 14.99               | (78) | 12.80              | (35) | -1.73               | (53) | 17.23               | (34) | 22.56 | (56)                 | 27.44 | (46)              | 3.01                | (16) |
| Total Domestic Equity Policy                          | -14.43 | (44) | 17.73               | (32) | 18.62               | (45) | 14.77              | (18) | -1.18               | (47) | 17.67               | (29) | 22.03 | (60)                 | 29.64 | (25)              | 0.48                | (32) |
| Difference  | 0.49   |      | -1.63               |      | -3.63               |      | -1.97              |      | -0.55               |      | -0.44               |      | 0.53  |                      | -2.20 |                   | 2.53                |      |
| IM U.S. All Cap Equity (SA+CF+MF) Median              | -14.84 |      | 14.98               |      | 18.15               |      | 11.47              |      | -1.47               |      | 15.76               |      | 23.35 |                      | 26.95 |                   | -1.65               |      |
| Total Int'l Equity                                    | -15.04 | (85) | 5.85                | (14) | 18.68               | (69) | 7.98               | (50) | -8.63               | (65) | 6.07                | (51) | 16.67 | (89)                 | 21.58 | (5)               | -10.95              | (70) |
| Total Int'l Policy                                    | -11.46 | (20) | 1.76                | (60) | 19.61               | (59) | 9.26               | (33) | -12.16              | (90) | 4.77                | (64) | 16.48 | (90)                 | 14.49 | (82)              | -10.81              | (69) |
| Difference  | -3.58  |      | 4.09                |      | -0.93               |      | -1.28              |      | 3.53                |      | 1.30                |      | 0.19  |                      | 7.09  |                   | -0.14               |      |
| IM International Large Cap Core Equity (SA+CF) Median | -13.19 |      | 2.52                |      | 20.20               |      | 7.86               |      | -7.08               |      | 6.09                |      | 22.61 |                      | 17.31 |                   | -9.40               |      |
| Total Fixed Income                                    | 1.28   | (26) | 0.99                | (13) | 3.93                | (19) | 5.81               | (48) | 2.09                | (44) | 6.00                | (22) | 2.81  | (8)                  | 11.79 | (14)              | 3.12                | (76) |
| Total Fixed Policy                                    | 1.64   | (9)  | -1.22               | (64) | 0.07                | (84) | 5.19               | (68) | 2.94                | (17) | 3.96                | (74) | -2.35 | (90)                 | 5.75  | (84)              | 5.96                | (9)  |
| Difference  | -0.36  |      | 2.21                |      | 3.86                |      | 0.62               |      | -0.85               |      | 2.04                |      | 5.16  |                      | 6.04  |                   | -2.84               |      |
| IM U.S. Broad Market Fixed Income (SA+CF+MF) Median   | 0.70   |      | -0.91               |      | 1.29                |      | 5.72               |      | 1.82                |      | 4.74                |      | -0.98 |                      | 7.75  |                   | 4.40                |      |
| Total Real Estate                                     | 1.11   | (96) | 10.10               | (27) | 9.82                | (31) | 9.06               | (97) | 14.70               | (62) | 12.33               | (69) | 8.10  | (100)                | 13.00 | (49)              | 14.11               | (90) |
| NCREIF ODCE   | 1.62   | (76) | 8.82                | (59) | 7.81                | (60) | 10.62              | (69) | 14.71               | (62) | 12.39               | (68) | 12.47 | (67)                 | 11.77 | (66)              | 18.03               | (44) |
| Difference  | -0.51  |      | 1.28                |      | 2.01                |      | -1.56              |      | -0.01               |      | -0.06               |      | -4.37 |                      | 1.23  |                   | -3.92               |      |
| IM U.S. Open End Private Real Estate (SA+CF) Median   | 1.80   |      | 9.04                |      | 8.29                |      | 11.32              |      | 15.45               |      | 12.78               |      | 13.18 |                      | 12.90 |                   | 16.96               |      |
| Total Timber  | -0.21  |      | -9.38               |      | 0.28                |      | 6.48               |      | 6.70                |      | 9.49                |      | 4.51  |                      | -5.86 |                   | 3.87                |      |
| NCREIF Timberland Index                               | 0.97   |      | 4.00                |      | 3.28                |      | 3.28               |      | 9.26                |      | 10.38               |      | 9.68  |                      | 2.25  |                   | 0.26                |      |
| Difference  | -1.18  |      | -13.38              |      | -3.00               |      | 3.20               |      | -2.56               |      | -0.89               |      | -5.17 |                      | -8.11 |                   | 3.61                |      |
| Total Alternatives                                    | -6.14  |      | 4.94                |      | 8.16                |      | 9.11               |      | -3.68               |      | 6.84                |      | -9.88 |                      | -8.55 |                   | -0.85               |      |
| Alternatives Policy                                   | -6.05  |      | 8.07                |      | 9.04                |      | 10.41              |      | 1.08                |      | 7.55                |      | -3.91 |                      | -2.59 |                   | 1.58                |      |
| Difference  | -0.09  |      | -3.13               |      | -0.88               |      | -1.30              |      | -4.76               |      | -0.71               |      | -5.97 |                      | -5.96 |                   | -2.43               |      |



Comparative Performance Total Fund Trailing Returns

As of December 31, 2018

|   |        |      |                    |      |       |                   |       |                   |                     |      |                    |      |       |                   | 7.0                 | 0. 200 | ember 3            | ., _• . |
|---|--------|------|--------------------|------|-------|-------------------|-------|-------------------|---------------------|------|--------------------|------|-------|-------------------|---------------------|--------|--------------------|---------|
|   | FY     | TD   | Oct-#<br>T<br>Sep- | 0    |       | 2016<br>o<br>2017 |       | 2015<br>o<br>2016 | Oct-2<br>T<br>Sep-2 | o    | Oct-/<br>T<br>Sep- | o    | Г     | 2012<br>o<br>2013 | Oct-2<br>T<br>Sep-2 | o      | Oct-2<br>T<br>Sep- | 0       |
| Total Domestic Equity (Composite)                 | -13.94 |      | 16.10              |      | 14.99 |                   | 12.80 |                   | -1.73               |      | 17.23              |      | 22.56 |                   | 27.44               |        | 3.01               |         |
| Macquarie (Delaware Value)                        | N/A    |      | N/A                |      | 12.49 | (89)              | 19.29 | (10)              | -3.67               | (57) | 21.59              | (17) | 24.74 | (40)              | 29.80               | (34)   | 6.36               | (7)     |
| Russell 1000 Value Index                          | -11.72 | (29) | 9.45               | (77) | 15.12 | (76)              | 16.19 | (26)              | -4.42               | (65) | 18.89              | (42) | 22.30 | (60)              | 30.92               | (26)   | -1.89              | (62)    |
| Difference  | N/A    |      | N/A                |      | -2.63 |                   | 3.10  |                   | 0.75                |      | 2.70               |      | 2.44  |                   | -1.12               |        | 8.25               |         |
| IM U.S. Large Cap Value Equity (SA+CF) Median     | -13.57 |      | 11.80              |      | 17.91 |                   | 13.17 |                   | -3.28               |      | 18.36              |      | 23.73 |                   | 28.16               |        | -0.97              |         |
| Boston LCV  | -13.85 | (56) | N/A                |      | N/A   |                   | N/A   |                   | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| Russell 1000 Value Index                          | -11.72 | (29) | 9.45               | (77) | 15.12 | (76)              | 16.19 | (26)              | -4.42               | (65) | 18.89              | (42) | 22.30 | (60)              | 30.92               | (26)   | -1.89              | (62)    |
| Difference  | -2.13  |      | N/A                |      | N/A   |                   | N/A   |                   | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| IM U.S. Large Cap Value Equity (SA+CF) Median     | -13.57 |      | 11.80              |      | 17.91 |                   | 13.17 |                   | -3.28               |      | 18.36              |      | 23.73 |                   | 28.16               |        | -0.97              |         |
| Total Growth                                      | -11.15 | (4)  | 22.19              | (74) | 14.70 | (95)              | 7.63  | (88)              | 4.20                | (36) | 18.19              | (40) | 18.74 | (62)              | 29.37               | (34)   | 8.43               | (2)     |
| Russell 1000 Growth Index                         | -15.89 | (55) | 26.30              | (38) | 21.94 | (30)              | 13.76 | (19)              | 3.17                | (49) | 19.15              | (28) | 19.27 | (56)              | 29.19               | (36)   | 3.78               | (22)    |
| Difference  | 4.74   |      | -4.11              |      | -7.24 |                   | -6.13 |                   | 1.03                |      | -0.96              |      | -0.53 |                   | 0.18                |        | 4.65               |         |
| IM U.S. Large Cap Growth Equity (SA+CF+MF) Median | -15.67 |      | 24.92              |      | 20.25 |                   | 11.15 |                   | 3.08                |      | 17.23              |      | 19.75 |                   | 27.43               |        | 0.78               |         |
| Rhumbline R1000G                                  | -15.87 | (61) | N/A                |      | N/A   |                   | N/A   |                   | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| Russell 1000 Growth Index                         | -15.89 | (62) | 26.30              | (37) | 21.94 | (37)              | 13.76 | (23)              | 3.17                | (55) | 19.15              | (40) | 19.27 | (63)              | 29.19               | (39)   | 3.78               | (30)    |
| Difference  | 0.02   |      | N/A                |      | N/A   |                   | N/A   |                   | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| IM U.S. Large Cap Growth Equity (SA+CF) Median    | -15.14 |      | 24.42              |      | 20.81 |                   | 11.64 |                   | 3.60                |      | 18.18              |      | 20.25 |                   | 27.65               |        | 1.38               |         |
| Sawgrass Large Cap Growth                         | 4.72   | (1)  | 21.72              | (66) | 14.70 | (92)              | 7.63  | (87)              | 4.20                | (40) | 18.19              | (50) | 18.74 | (69)              | 29.37               | (38)   | N/A                |         |
| Russell 1000 Growth Index                         | -15.89 | (62) | 26.30              | (37) | 21.94 | (37)              | 13.76 | (23)              | 3.17                | (55) | 19.15              | (40) | 19.27 | (63)              | 29.19               | (39)   | 3.78               | (30)    |
| Difference  | 20.61  |      | -4.58              |      | -7.24 |                   | -6.13 |                   | 1.03                |      | -0.96              |      | -0.53 |                   | 0.18                |        | N/A                |         |
| IM U.S. Large Cap Growth Equity (SA+CF) Median    | -15.14 |      | 24.42              |      | 20.81 |                   | 11.64 |                   | 3.60                |      | 18.18              |      | 20.25 |                   | 27.65               |        | 1.38               |         |
| Polen Capital LCG                                 | N/A    |      | N/A                |      | N/A   |                   | N/A   |                   | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| Russell 1000 Growth Index                         | -15.89 | (62) | 26.30              | (37) | 21.94 | (37)              | 13.76 | (23)              | 3.17                | (55) | 19.15              | (40) | 19.27 | (63)              | 29.19               | (39)   | 3.78               | (30)    |
| Difference  | N/A    |      | N/A                |      | N/A   |                   | N/A   |                   | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| IM U.S. Large Cap Growth Equity (SA+CF) Median    | -15.14 |      | 24.42              |      | 20.81 |                   | 11.64 |                   | 3.60                |      | 18.18              |      | 20.25 |                   | 27.65               |        | 1.38               |         |
| Lazard SMid Cap Core                              | -18.89 | (67) | 13.70              | (69) | 20.53 | (23)              | 10.26 | (88)              | 4.02                | (40) | 11.99              | (36) | 31.12 | (33)              | 30.14               | (51)   | -9.00              | (97)    |
| Russell 2500 Index                                | -18.49 | (62) | 16.19              | (57) | 17.79 | (71)              | 14.44 | (35)              | 0.38                | (74) | 8.97               | (72) | 29.79 | (58)              | 30.93               | (41)   | -2.22              | (71)    |
| Difference  | -0.40  |      | -2.49              |      | 2.74  |                   | -4.18 |                   | 3.64                |      | 3.02               |      | 1.33  |                   | -0.79               |        | -6.78              |         |
| IM U.S. SMID Cap Core Equity (SA+CF) Median       | -18.23 |      | 16.29              |      | 18.86 |                   | 12.61 |                   | 2.28                |      | 11.29              |      | 30.27 |                   | 30.15               |        | -0.86              |         |
| Vanguard Mid-Cap Index (VIMAX)                    | -15.46 | (43) | 13.42              | (27) | 15.30 | (48)              | 12.63 | (41)              | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| CRSP U.S. Mid Cap TR Index                        | -15.46 | (43) | 13.44              | (27) | 15.33 | (47)              | 12.68 | (39)              | 1.76                | (20) | 15.94              | (14) | 28.08 | (39)              | 26.23               | (51)   | -0.18              | (20)    |
| Difference  | 0.00   |      | -0.02              |      | -0.03 |                   | -0.05 |                   | N/A                 |      | N/A                |      | N/A   |                   | N/A                 |        | N/A                |         |
| IM U.S. Mid Cap Core Equity (MF) Median           | -16.00 |      | 10.29              |      | 15.23 |                   | 11.89 |                   | -1.44               |      | 12.51              |      | 27.42 |                   | 26.27               |        | -4.00              |         |
| Total Int'l Equity (Composite)                    | -15.04 |      | 5.85               |      | 18.68 |                   | 7.98  |                   | -8.63               |      | 6.07               |      | 16.67 |                   | 21.58               |        | -10.95             |         |
|   |        |      |                    |      |       |                   |       |                   |                     |      |                    |      |       |                   |                     |        |                    |         |

#### **Comparative Performance Total Fund Trailing Returns** As

| As of I | Decem | ber 31 | , 2018 |
|---------|-------|--------|--------|
|---------|-------|--------|--------|

|                                     | FYTD        | Oct-2017<br>To<br>Sep-2018 | Oct-2016<br>To<br>Sep-2017 | Oct-2015<br>To<br>Sep-2016 | Oct-2014<br>To<br>Sep-2015 | Oct-2013<br>To<br>Sep-2014 | Oct-2012<br>To<br>Sep-2013 | Oct-2011<br>To<br>Sep-2012 | Oct-2010<br>To<br>Sep-2011 |
|-------------------------------------|-------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Harding Loevner Intl Equity (HLMIX) | -15.04 (80) | 5.85 (10)                  | 18.65 (58)                 | N/A                        | N/A                        | N/A                        | N/A                        | N/A                        | N/A                        |
| MSCI AC World ex USA (Net)          | -11.46 (44) | 1.76 (34)                  | 19.61 (48)                 | 9.26 (51)                  | -12.16 (64)                | 4.77 (43)                  | 16.48 (56)                 | 14.49 (65)                 | -10.81 (38)                |
| Difference                          | -3.58       | 4.09                       | -0.96                      | N/A                        | N/A                        | N/A                        | N/A                        | N/A                        | N/A                        |
| IM International Equity (MF) Median | -12.23      | 0.08                       | 19.36                      | 9.34                       | -8.75                      | 4.27                       | 17.81                      | 16.20                      | -12.09                     |

Comparative Performance Total Fund Trailing Returns

As of December 31, 2018

|   | FY            | TD   | Oct-2<br>To<br>Sep-2 | D    | Oct-2<br>To<br>Sep-2 | 5    | Oct-2<br>To<br>Sep-2 | 0    | Oct-2<br>To<br>Sep-2 | 0    | Oct-2<br>T<br>Sep-2 | 0    | Т             | 2012<br>o<br>2013 | Oct-2<br>T<br>Sep-2 | 0     | Oct-2<br>T<br>Sep-2 | 0    |
|---|---------------|------|----------------------|------|----------------------|------|----------------------|------|----------------------|------|---------------------|------|---------------|-------------------|---------------------|-------|---------------------|------|
| Total Core Fixed Income                               | 1.25          |      | -0.67                |      | 0.82                 |      | 5.78                 |      | 3.88                 |      | 4.40                |      | -1.26         |                   | 7.71                |       | 4.42                |      |
| Core Fixed Policy<br>Difference                       | 1.64<br>-0.39 |      | -1.22<br>0.55        |      | 0.07<br>0.75         |      | 5.19<br>0.59         |      | 2.94<br>0.94         |      | 3.96<br>0.44        |      | -1.68<br>0.42 |                   | 5.16<br>2.55        |       | 5.26<br>-0.84       |      |
|   |               |      |                      |      |                      |      |                      |      |                      |      |                     |      |               |                   |                     |       |                     |      |
| Garcia Hamilton Fixed Income                          | 1.25          | (68) | N/A                  |      | N/A                  |      | N/A                  |      | N/A                  |      | N/A                 |      | N/A           |                   | N/A                 |       | N/A                 |      |
| Blmbg. Barc. U.S. Aggregate Index                     | 1.64          | (24) | -1.22                | (89) | 0.07                 | (87) | 5.19                 | (80) | 2.94                 | (60) | 3.96                | (81) | -1.68         | (80)              | 5.16                | (91)  | 5.26                | (49) |
| Difference  | -0.39         |      | N/A                  |      | N/A                  |      | N/A                  |      | N/A                  |      | N/A                 |      | N/A           |                   | N/A                 |       | N/A                 |      |
| IM U.S. Broad Market Core Fixed Income (SA+CF) Median | 1.40          |      | -0.73                |      | 0.62                 |      | 5.67                 |      | 3.02                 |      | 4.52                |      | -1.22         |                   | 6.62                |       | 5.26                |      |
| Mutual of America Core Fixed                          | N/A           |      | N/A                  |      | 0.82                 | (39) | 5.78                 | (44) | 3.88                 | (7)  | 4.43                | (53) | -1.01         | (39)              | 7.24                | (38)  | N/A                 |      |
| Blmbg. Barc. U.S. Aggregate Index                     | 1.64          | (24) | -1.22                | (89) | 0.07                 | (87) | 5.19                 | (80) | 2.94                 | (60) | 3.96                | (81) | -1.68         | (80)              | 5.16                | (91)  | 5.26                | (49) |
| Difference  | N/A           |      | N/A                  |      | 0.75                 |      | 0.59                 |      | 0.94                 |      | 0.47                |      | 0.67          |                   | 2.08                |       | N/A                 |      |
| IM U.S. Broad Market Core Fixed Income (SA+CF) Median | 1.40          |      | -0.73                |      | 0.62                 |      | 5.67                 |      | 3.02                 |      | 4.52                |      | -1.22         |                   | 6.62                |       | 5.26                |      |
| Total Non-Core Fixed Income                           | 1.16          |      | 4.97                 |      | 11.18                |      | 6.07                 |      | -2.56                |      | 9.33                |      | 11.74         |                   | 24.76               |       | -3.22               |      |
| Bloomberg Barclays Global Aggregate                   | 1.20          |      | -1.31                |      | -1.26                |      | 8.83                 |      | -3.26                |      | 1.19                |      | -2.64         |                   | 5.07                |       | 4.00                |      |
| Difference  | -0.04         |      | 6.28                 |      | 12.44                |      | -2.76                |      | 0.70                 |      | 8.14                |      | 14.38         |                   | 19.69               |       | -7.22               |      |
| Templeton Global Total Return (FTTRX)                 | 2.26          | (1)  | -1.90                | (66) | 13.82                | (1)  | 2.64                 | (94) | -8.23                | (95) | 5.71                | (22) | 5.29          | (2)               | 15.90               | (3)   | N/A                 |      |
| Blmbg. Barc. Global Multiverse                        | 1.02          | (23) | -1.32                | (52) | -0.56                | (77) | 9.23                 | (25) | -3.56                | (42) | 1.40                | (79) | -2.22         | (56)              | 5.57                | (81)  | 3.85                | (11) |
| Difference  | 1.24          |      | -0.58                |      | 14.38                |      | -6.59                |      | -4.67                |      | 4.31                |      | 7.51          |                   | 10.33               |       | N/A                 |      |
| IM Global Fixed Income (MF) Median                    | 0.33          |      | -1.24                |      | 1.02                 |      | 7.42                 |      | -3.85                |      | 3.37                |      | -1.81         |                   | 7.17                |       | 1.74                |      |
| Total Real Estate (Composite)                         | 1.11          |      | 10.10                |      | 9.82                 |      | 9.06                 |      | 14.70                |      | 12.33               |      | 8.10          |                   | 13.00               |       | 14.11               |      |
| American Core Realty                                  | 1.94          | (35) | 8.50                 | (66) | 7.52                 | (67) | 9.04                 | (97) | 13.98                | (69) | 12.49               | (64) | 12.27         | (70)              | 11.56               | (68)  | 16.11               | (65) |
| NCREIF ODCE   | 1.62          | (76) | 8.82                 | (59) | 7.81                 | (60) | 10.62                | (69) | 14.71                | (62) | 12.39               | (68) | 12.47         | (67)              | 11.77               | (66)  | 18.03               | (44) |
| Difference  | 0.32          |      | -0.32                |      | -0.29                |      | -1.58                |      | -0.73                |      | 0.10                |      | -0.20         |                   | -0.21               |       | -1.92               |      |
| IM U.S. Open End Private Real Estate (SA+CF) Median   | 1.80          |      | 9.04                 |      | 8.29                 |      | 11.32                |      | 15.45                |      | 12.78               |      | 13.18         |                   | 12.90               |       | 16.96               |      |
| Total Timber (Composite)                              | -0.21         |      | -9.38                |      | 0.28                 |      | 6.48                 |      | 6.70                 |      | 9.49                |      | 4.51          |                   | -5.86               |       | 3.87                |      |
| Amsouth Timber Fund                                   | -8.20         |      | -15.26               |      | -0.52                |      | 6.12                 |      | 11.73                |      | 7.98                |      | 3.85          |                   | -1.33               |       | 2.00                |      |
| NCREIF Timberland Index                               | 0.97          |      | 4.00                 |      | 3.28                 |      | 3.28                 |      | 9.26                 |      | 10.38               |      | 9.68          |                   | 2.25                |       | 0.26                |      |
| Difference  | -9.17         |      | -19.26               |      | -3.80                |      | 2.84                 |      | 2.47                 |      | -2.40               |      | -5.83         |                   | -3.58               |       | 1.74                |      |
| Molpus Woodlands Timber                               | 0.00          |      | -2.66                |      | 1.18                 |      | 6.08                 |      | 1.64                 |      | 10.96               |      | 5.25          |                   | -10.32              |       | 5.68                |      |
| NCREIF Timberland Index                               | 0.97          |      | 4.00                 |      | 3.28                 |      | 3.28                 |      | 9.26                 |      | 10.38               |      | 9.68          |                   | 2.25                |       | 0.26                |      |
| Difference  | -0.97         |      | -6.66                |      | -2.10                |      | 2.80                 |      | -7.62                |      | 0.58                |      | -4.43         |                   | -12.57              |       | 5.42                |      |
| Alternatives  |               |      |                      |      |                      |      |                      |      |                      |      |                     |      |               |                   |                     |       |                     |      |
| Westwood Income Opportunity Fund (WHGIX)              | -6.31         | (34) | 4.94                 | (36) | 8.14                 | (60) | 9.20                 | (40) | -3.83                | (46) | N/A                 |      | N/A           |                   | N/A                 |       | N/A                 |      |
| Alternatives Policy                                   | -6.05         | (31) | 8.07                 | (18) | 9.04                 | (50) | 10.41                | (24) | 1.08                 | (11) | 7.55                | (55) | -3.91         | (95)              | -2.59               | (100) | 1.58                | (24) |
| Difference  | -0.26         |      | -3.13                |      | -0.90                |      | -1.21                |      | -4.91                |      | N/A                 |      | N/A           |                   | N/A                 |       | N/A                 |      |
| IM Flexible Portfolio (MF) Median                     | -7.65         |      | 3.38                 |      | 9.02                 |      | 8.55                 |      | -4.22                |      | 7.99                |      | 8.17          |                   | 15.68               |       | -0.87               |      |



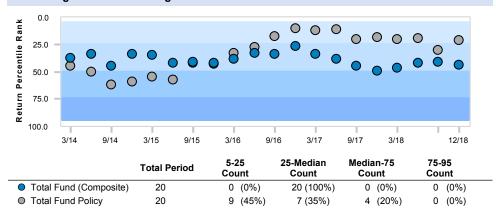






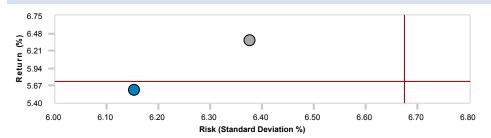
#### **o tal F und (Composite) (%** 12.0 0.0 0.0 0.0 0.0 Over Performance Under Performance 3.0 6.0 9.0 12.0 3.0 15.0 Total Fund Policy (%) $\bigcirc$ Over Performance Under Performance Earliest Date X Latest Date

#### 3 Yr Rolling Percentile Ranking - 5 Years

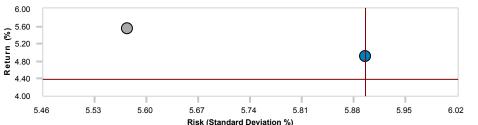


#### Peer Group Scattergram - 3 Years

3 Yr Rolling Under/Over Performance - 5 Years



#### Peer Group Scattergram - 5 Years



|  | Return | Standard<br>Deviation |   |
|--|--------|-----------------------|---|
| <ul> <li>Total Fund (Composite)</li> </ul> | 5.61   | 6.15                  |   |
| Total Fund Policy                          | 6.36   | 6.38                  | 0 |
| Median                                     | 5.74   | 6.67                  |   |

| Return | Standard<br>Deviation         |  |  |  |  |  |  |
|--------|-------------------------------|--|--|--|--|--|--|
| 4.91   | 5.90                          |  |  |  |  |  |  |
| 5.55   | 5.57                          |  |  |  |  |  |  |
| 4.39   | 5.90                          |  |  |  |  |  |  |
|        | <b>Return</b><br>4.91<br>5.55 |  |  |  |  |  |  |

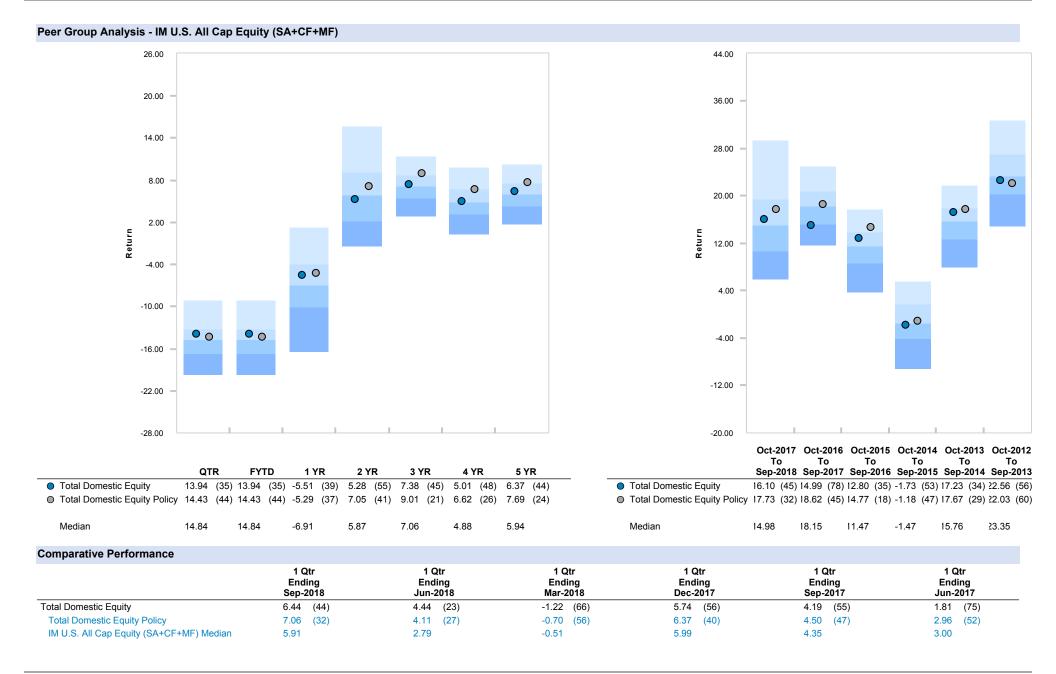
#### **Historical Statistics - 3 Years**

|                           | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|---------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Total Fund (Composite)    | 1.18              | 92.27                   | 96.40                     | -0.40 | -0.62                | 0.75            | 0.95 | 4.52             |
| Total Fund Policy         | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.84            | 1.00 | 4.47             |
| Historical Statistics - 5 | Years             |                         |                           |       |                      |                 |      |                  |

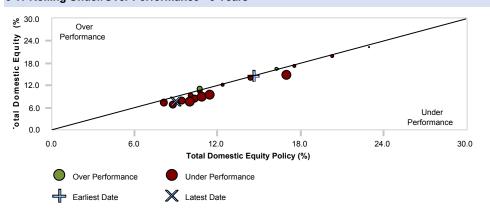
|                        | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Total Fund (Composite) | 0.98              | 96.60                   | 112.90                    | -0.84 | -0.61                | 0.73            | 1.04 | 4.30             |
| Total Fund Policy      | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.88            | 1.00 | 3.85             |



#### Performance Review Total Domestic Equity As of December 31, 2018

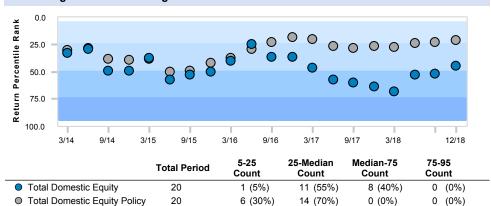




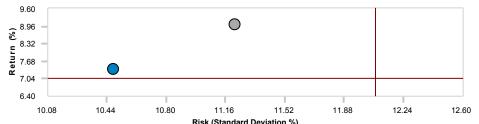


#### 3 Yr Rolling Under/Over Performance - 5 Years

3 Yr Rolling Percentile Ranking - 5 Years



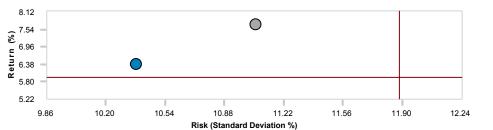
#### Peer Group Scattergram - 3 Years



# Risk (Standard Deviation %) Return Standard Deviation

|                              | Return | Deviation |  |
|------------------------------|--------|-----------|--|
| Total Domestic Equity        | 7.38   | 10.48     |  |
| Total Domestic Equity Policy | 9.01   | 11.22     |  |
| Median                       | 7.06   | 12.07     |  |

#### Peer Group Scattergram - 5 Years



|                              | Return | Standard<br>Deviation |
|------------------------------|--------|-----------------------|
| Total Domestic Equity        | 6.37   | 10.37                 |
| Total Domestic Equity Policy | 7.69   | 11.06                 |
| Median                       | 5.94   | 11.89                 |

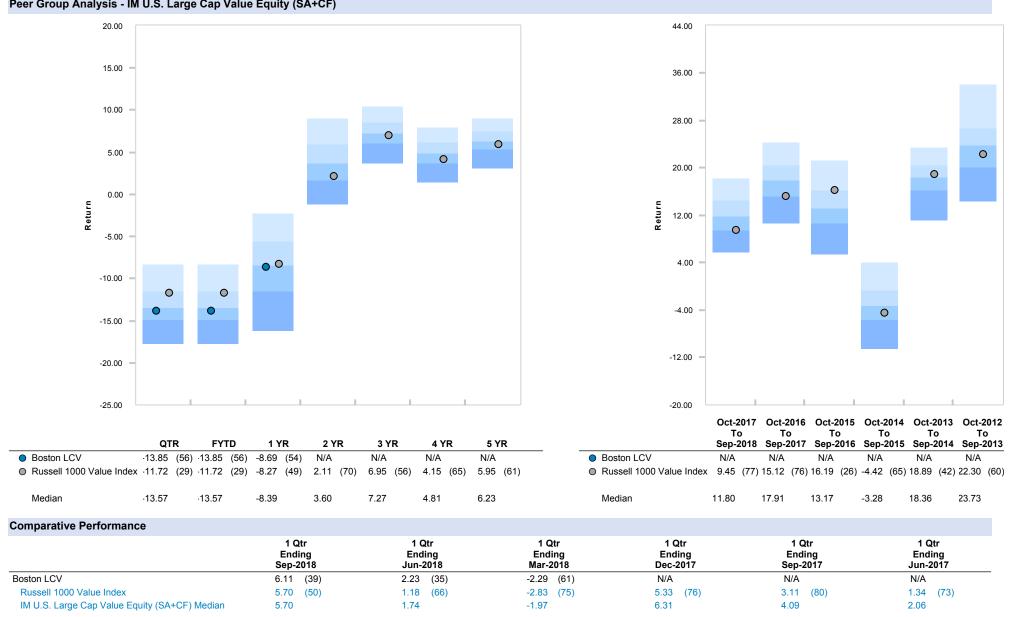
#### **Historical Statistics - 3 Years**

|                              | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Total Domestic Equity        | 2.16              | 87.65                   | 92.02                     | -0.82 | -0.74                | 0.64            | 0.92 | 7.79             |
| Total Domestic Equity Policy | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.74            | 1.00 | 8.12             |

#### **Historical Statistics - 5 Years**

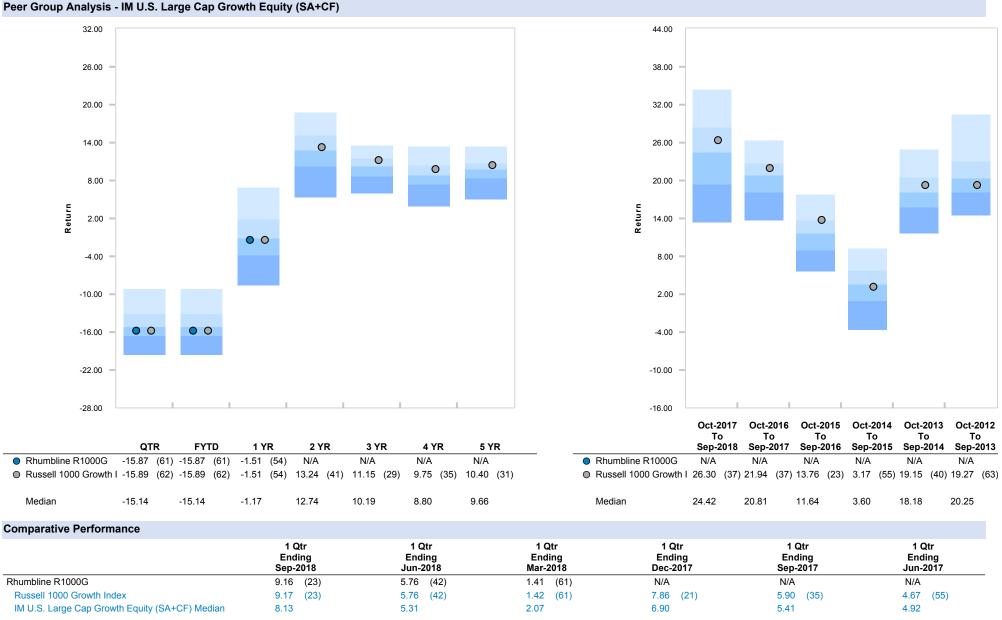
|                              | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Total Domestic Equity        | 2.06              | 89.49                   | 93.80                     | -0.69 | -0.64                | 0.59            | 0.92 | 7.22             |
| Total Domestic Equity Policy | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.67            | 1.00 | 7.43             |





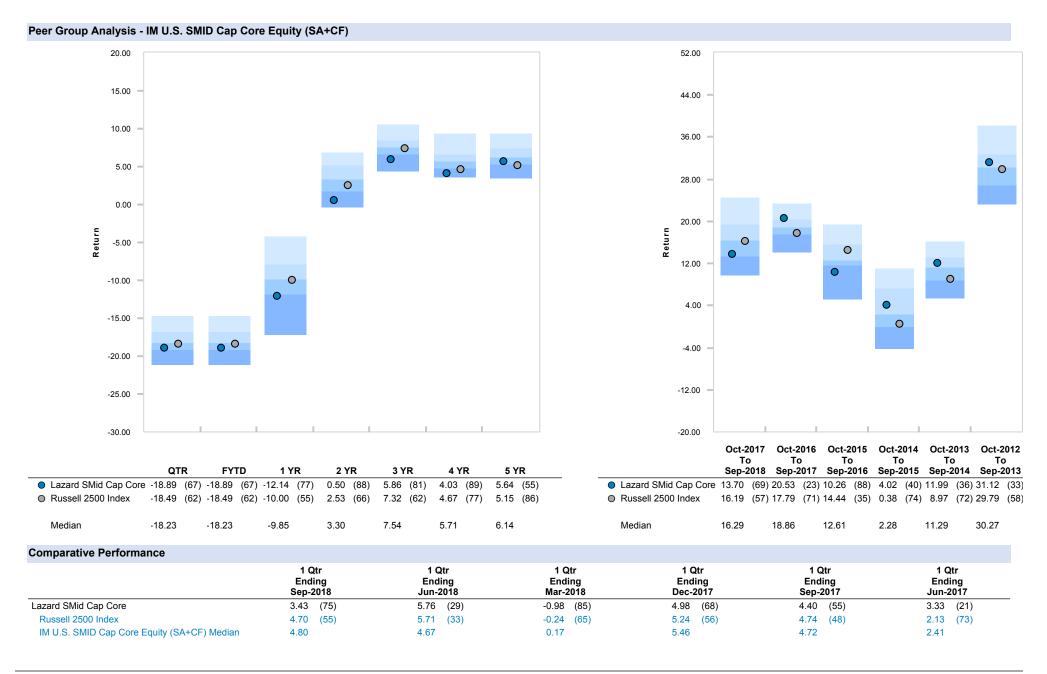




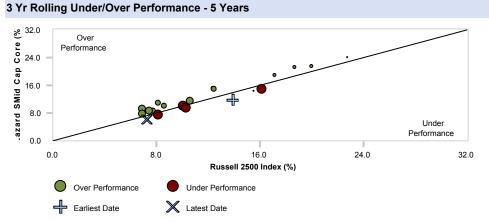




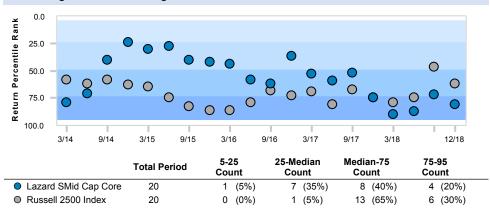








3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



100.03

100.00

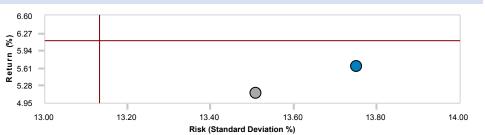
96.64

100.00

#### Peer Group Scattergram - 5 Years

0.16

N/A



0.42

0.40

0.99

1.00

|                      | Return | Standard<br>Deviation |                      | Return | Standard<br>Deviation |
|----------------------|--------|-----------------------|----------------------|--------|-----------------------|
| Lazard SMid Cap Core | 5.86   | 13.92                 | Lazard SMid Cap Core | 5.64   | 13.75                 |
| Russell 2500 Index   | 7.32   | 14.10                 | Russell 2500 Index   | 5.15   | 13.51                 |
| Median               | 7.54   | 13.58                 | Median               | 6.14   | 13.13                 |

#### **Historical Statistics - 3 Years**

Lazard SMid Cap Core

Russell 2500 Index

3.20

0.00

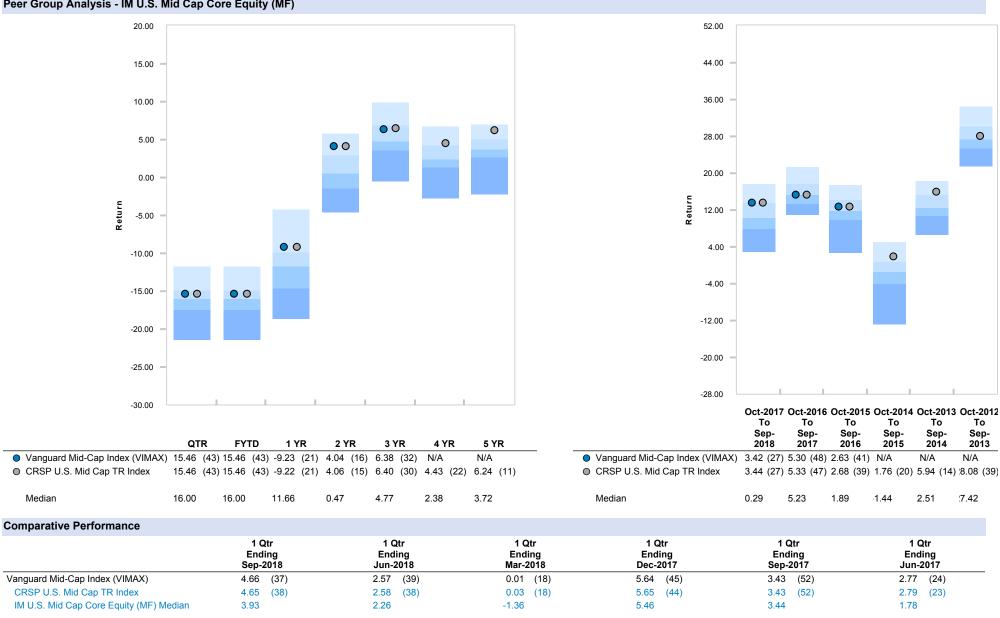
|                         | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|-------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Lazard SMid Cap Core    | 3.43              | 90.59                   | 95.25                     | -1.05 | -0.41                | 0.41            | 0.96 | 10.57            |
| Russell 2500 Index      | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.50            | 1.00 | 10.40            |
| listorical Statistics - | 5 Years           |                         |                           |       |                      |                 |      |                  |
|                         | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |

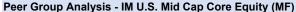
0.57

0.00



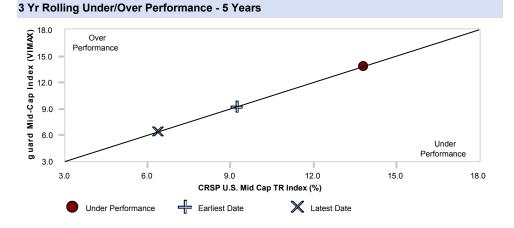
9.74 9.64



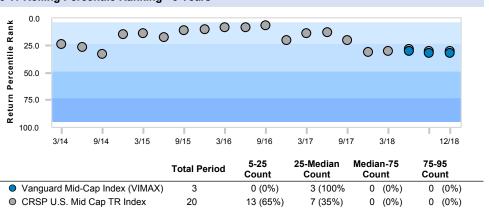




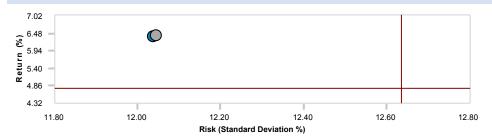
#### Performance Review Vanguard Mid-Cap Index (VIMAX) As of December 31, 2018



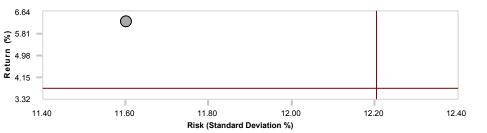
3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years



|                                | Return | Standard<br>Deviation |                                | Return | Standard<br>Deviation |
|--------------------------------|--------|-----------------------|--------------------------------|--------|-----------------------|
| Vanguard Mid-Cap Index (VIMAX) | 6.38   | 12.04                 | Vanguard Mid-Cap Index (VIMAX) | N/A    | N/A                   |
| CRSP U.S. Mid Cap TR Index     | 6.40   | 12.04                 | CRSP U.S. Mid Cap TR Index     | 6.24   | 11.60                 |
| Median                         | 4.77   | 12.64                 | Median                         | 3.72   | 12.21                 |

#### **Historical Statistics - 3 Years**

|                                | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|--------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Vanguard Mid-Cap Index (VIMAX) | 0.03              | 99.86                   | 100.01                    | -0.02 | -1.06                | 0.49            | 1.00 | 9.13             |
| CRSP U.S. Mid Cap TR Index     | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.49            | 1.00 | 9.13             |

#### **Historical Statistics - 5 Years**

|                                | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|--------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Vanguard Mid-Cap Index (VIMAX) | N/A               | N/A                     | N/A                       | N/A   | N/A                  | N/A             | N/A  | N/A              |
| CRSP U.S. Mid Cap TR Index     | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.53            | 1.00 | 8.08             |



#### Fund Information

Fund Name :Vanguard Index Funds: Vanguard Mid-Cap Index Fund; Admiral SharesFund Family :Vanguard Group IncTicker :VIMAXInception Date :11/12/2001Fund Assets :\$38,595 MillionPortfolio Turnover :14%

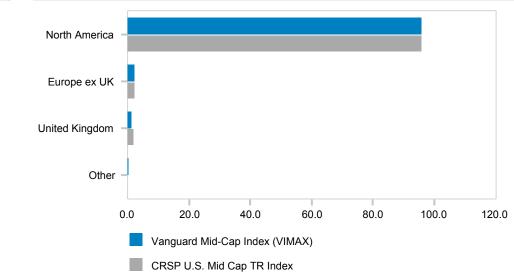
| Assets :  | \$100,479 Million                |
|-----------|----------------------------------|
| Manager : | Butler/Johnson                   |
| re :      | 20012016                         |
| le :      | IM U.S. Mid Cap Core Equity (MF) |
| nchmark : | CRSP U.S. Mid Cap TR Index       |
|           | Manager :<br>re :<br>le :        |

#### Portfolio Characteristics As of 11/30/2018

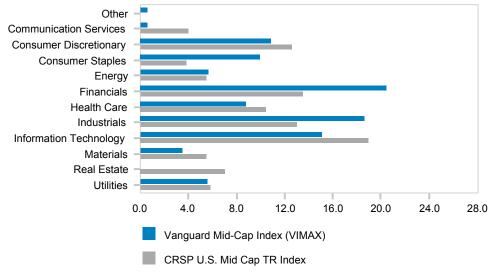
|                         | Portfolio      | Benchmark      |
|-------------------------|----------------|----------------|
| Total Securities        | 367            | 363            |
| Avg. Market Cap (\$)    | 15,563,374,757 | 11,976,887,700 |
| Price/Earnings (P/E)    | 27.53          | 18.43          |
| Price/Book (P/B)        | 5.21           | 2.86           |
| Dividend Yield          | 2.43           | 1.67           |
| Annual EPS              | 26.64          | 3.63           |
| 5 Yr EPS                | 10.18          | 12.71          |
| 3 Yr EPS Growth         | 9.09           | N/A            |
| Beta (3 Years, Monthly) | 1.00           | 1.00           |

| Top Ten Securities As of 11/30/2018 |       |
|-------------------------------------|-------|
| Edwards Lifesciences Corp ORD       | 0.8 % |
| Fiserv Inc ORD                      | 0.8 % |
| Red Hat Inc ORD                     | 0.8 % |
| Autodesk Inc ORD                    | 0.8 % |
| Roper Technologies Inc ORD          | 0.8 % |
| Centene Corp ORD                    | 0.7 % |
| Amphenol Corp ORD                   | 0.7 % |
| Concho Resources Inc ORD            | 0.6 % |
| Moody's Corp ORD                    | 0.6 % |
| Worldpay Inc ORD                    | 0.6 % |
|                                     |       |

#### Region Weights As of 11/30/2018



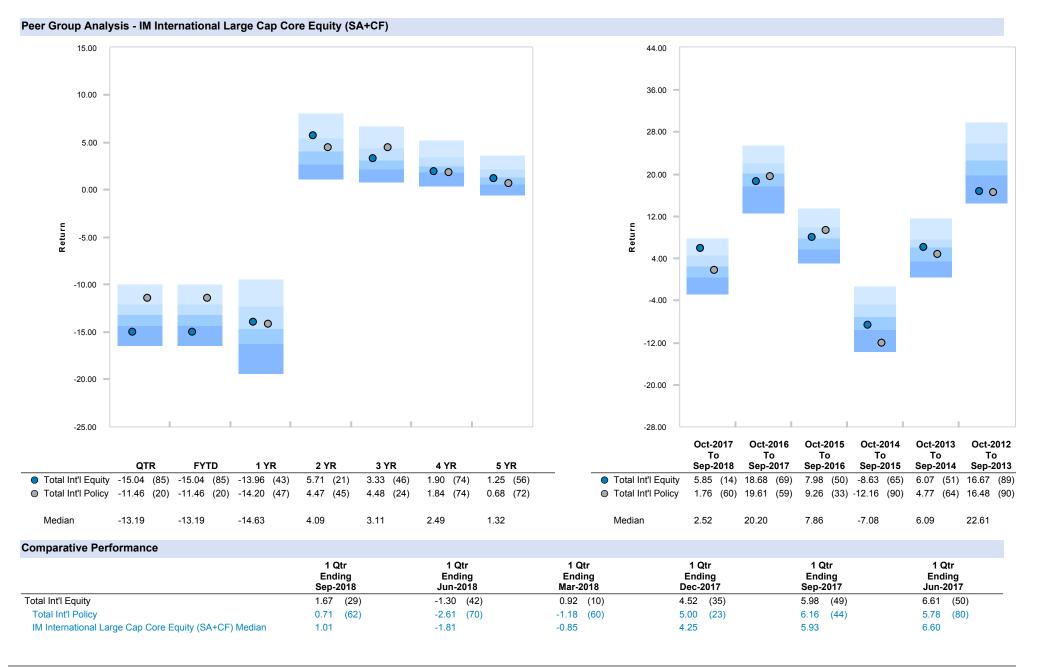
#### Sector Weights As of 11/30/2018



Statistics provided by Lipper. Most recent available data shown.

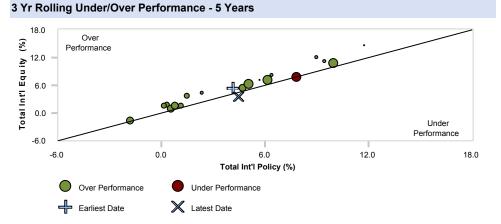
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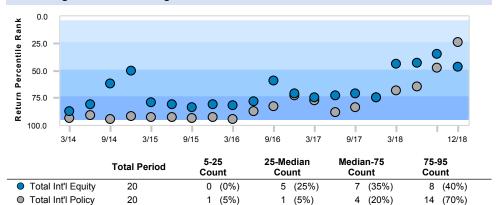




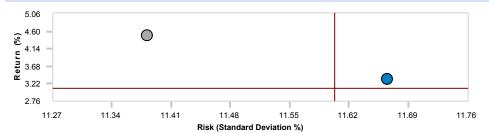
#### Page 35



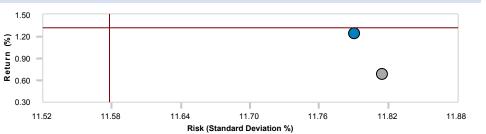
#### 3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years



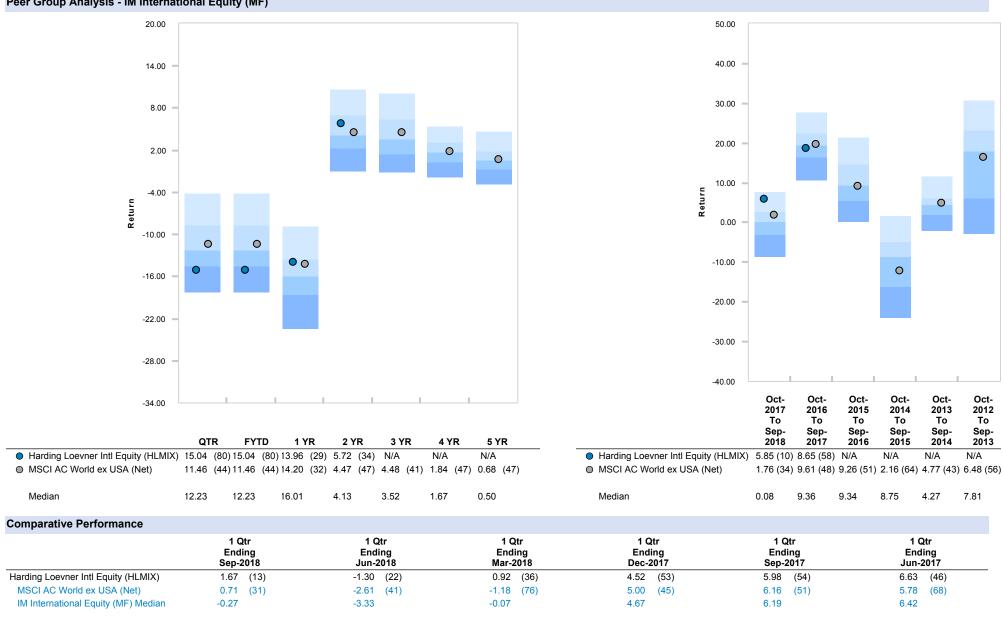
|                    | Return | Standard<br>Deviation |                    | Return | Standard<br>Deviation |
|--------------------|--------|-----------------------|--------------------|--------|-----------------------|
| Total Int'l Equity | 3.33   | 11.67                 | Total Int'l Equity | 1.25   | 11.79                 |
| Total Int'l Policy | 4.48   | 11.38                 | Total Int'l Policy | 0.68   | 11.82                 |
| Median             | 3.11   | 11.60                 | Median             | 1.32   | 11.58                 |

#### **Historical Statistics - 3 Years**

|                      | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|----------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Total Int'l Equity   | 4.27              | 90.98                   | 95.50                     | -0.83 | -0.25                | 0.26            | 0.95 | 8.62             |
| Total Int'l Policy   | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.35            | 1.00 | 7.86             |
| Historical Statistic | s - 5 Years       |                         |                           |       |                      |                 |      |                  |
|                      | Trachina          | Up                      | Down                      |       | Information          | Ohamma          |      | Davinaida        |

|                    | Tracking<br>Error | Market<br>Capture | Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|--------------------|-------------------|-------------------|-------------------|-------|----------------------|-----------------|------|------------------|
| Total Int'l Equity | 3.79              | 94.95             | 90.87             | 0.64  | 0.15                 | 0.11            | 0.95 | 8.49             |
| Total Int'l Policy | 0.00              | 100.00            | 100.00            | 0.00  | N/A                  | 0.06            | 1.00 | 8.31             |

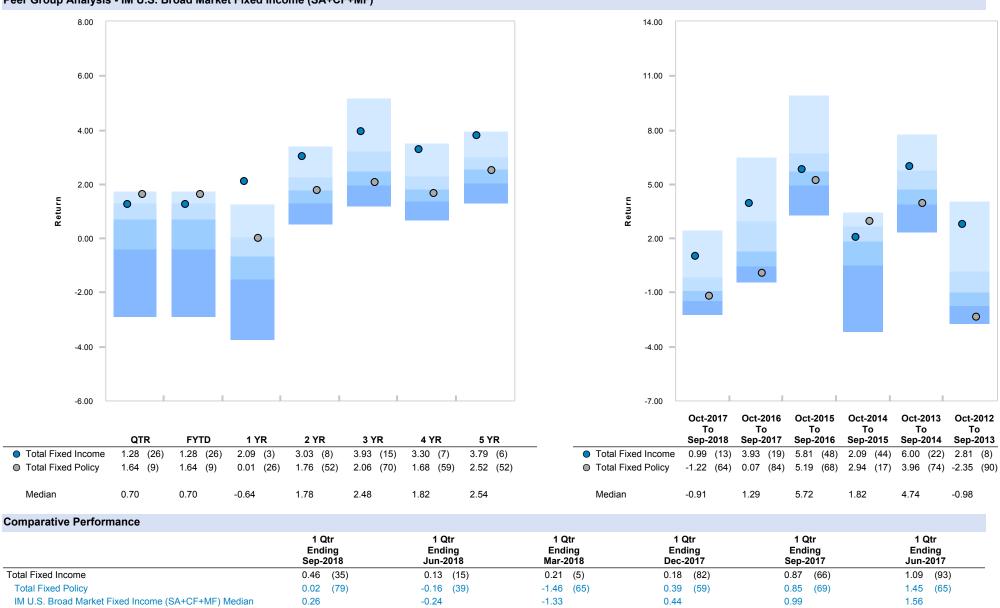






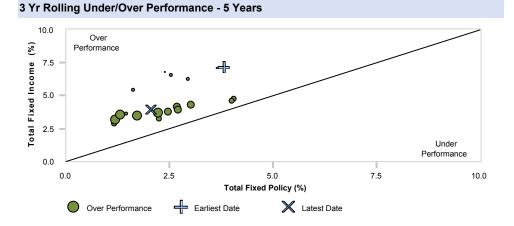




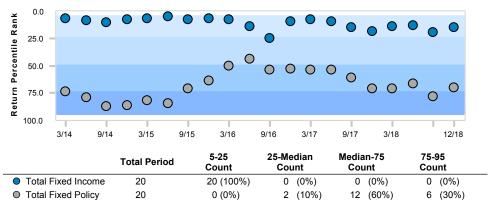


#### Peer Group Analysis - IM U.S. Broad Market Fixed Income (SA+CF+MF)

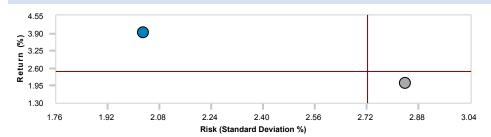




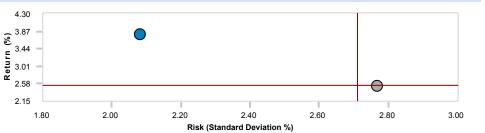
#### 3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years

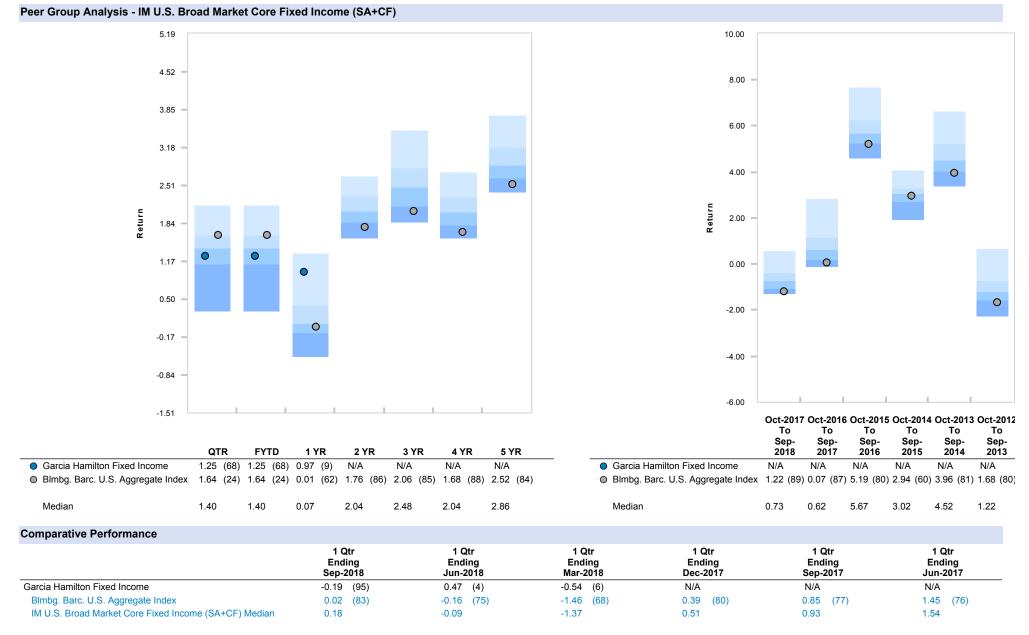


|                    | Return | Standard<br>Deviation |                    | Return | Standard<br>Deviation |
|--------------------|--------|-----------------------|--------------------|--------|-----------------------|
| Total Fixed Income | 3.93   | 2.03                  | Total Fixed Income | 3.79   | 2.08                  |
| Total Fixed Policy | 2.06   | 2.84                  | Total Fixed Policy | 2.52   | 2.77                  |
| Median             | 2.48   | 2.72                  | Median             | 2.54   | 2.71                  |

#### **Historical Statistics - 3 Years**

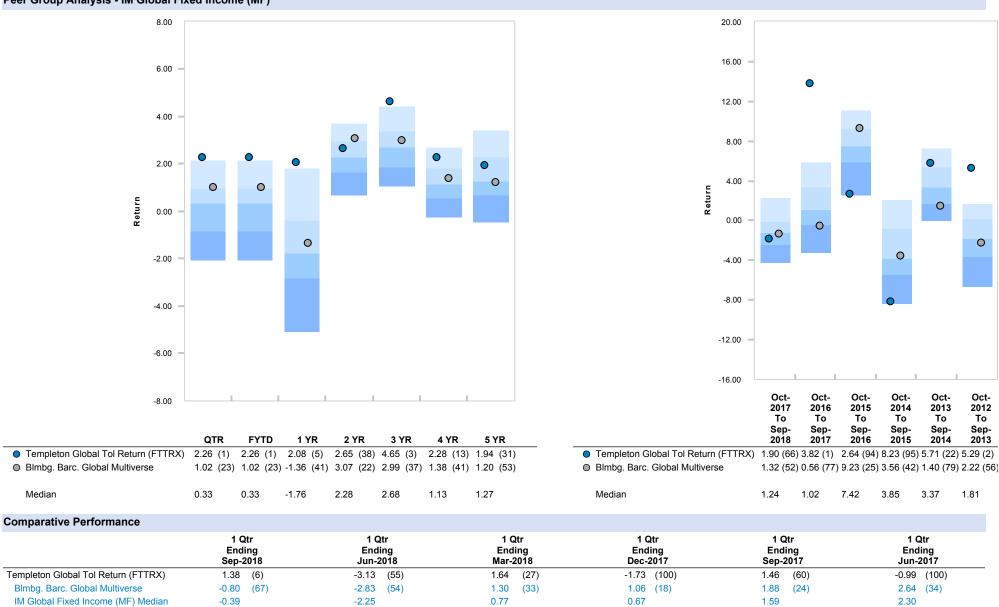
|                       | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|-----------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| Total Fixed Income    | 1.97              | 81.14                   | 3.18                      | 2.85  | 0.92                 | 1.41            | 0.52 | 0.90             |
| Total Fixed Policy    | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.38            | 1.00 | 1.85             |
| Historical Statistics | - 5 Years         |                         |                           |       |                      |                 |      |                  |
|                       | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
| Total Fixed Income    | 1.72              | 83.11                   | 19.42                     | 2.28  | 0.71                 | 1.49            | 0.59 | 0.93             |
| Total Fixed Policy    | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.69            | 1.00 | 1.63             |







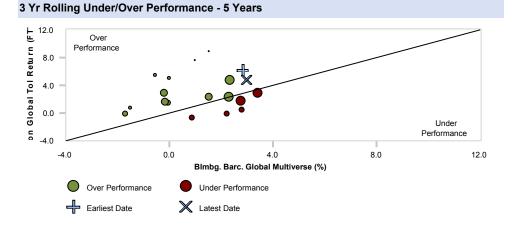




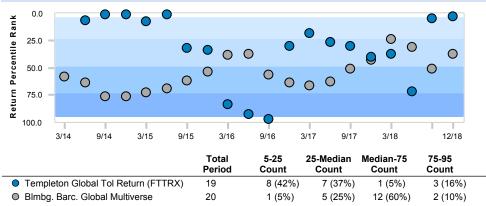
#### Peer Group Analysis - IM Global Fixed Income (MF)



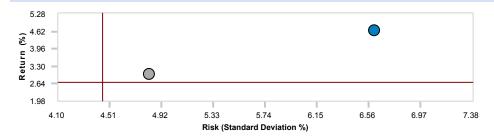
#### Performance Review Templeton Global Tol Return (FTTRX) As of December 31, 2018



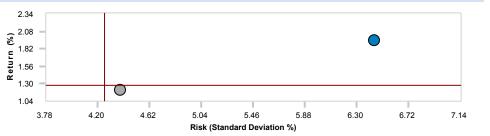
#### 3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years



|                                     | Return | Standard<br>Deviation |                                     | Return | Standard<br>Deviation |
|-------------------------------------|--------|-----------------------|-------------------------------------|--------|-----------------------|
| Templeton Global Tol Return (FTTRX) | 4.65   | 6.61                  | Templeton Global Tol Return (FTTRX) | 1.94   | 6.44                  |
| Blmbg. Barc. Global Multiverse      | 2.99   | 4.82                  | Blmbg. Barc. Global Multiverse      | 1.20   | 4.39                  |
| Median                              | 2.68   | 4.45                  | Median                              | 1.27   | 4.25                  |

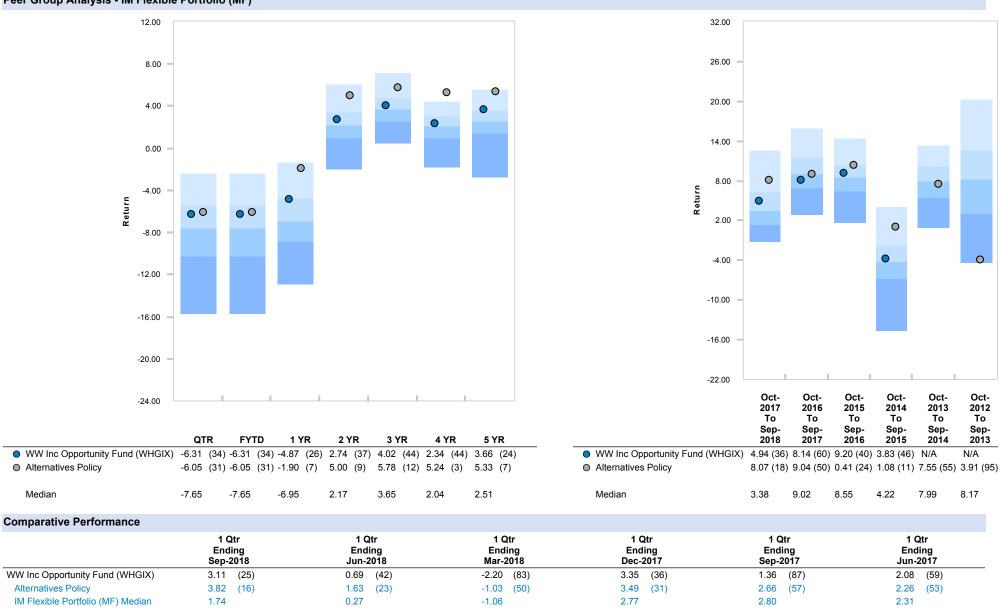
**Historical Statistics - 3 Years** 

|                                     | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta  | Downside<br>Risk |
|-------------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|-------|------------------|
| Templeton Global Tol Return (FTTRX) | 8.65              | 16.59                   | -66.59                    | 5.42  | 0.20                 | 0.57            | -0.17 | 3.76             |
| Blmbg. Barc. Global Multiverse      | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.43            | 1.00  | 3.19             |

#### Historical Statistics - 5 Years

|                                     | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta  | Downside<br>Risk |
|-------------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|-------|------------------|
| Templeton Global Tol Return (FTTRX) | 7.89              | 6.97                    | -32.13                    | 2.20  | 0.11                 | 0.24            | -0.04 | 4.17             |
| Blmbg. Barc. Global Multiverse      | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.16            | 1.00  | 3.09             |

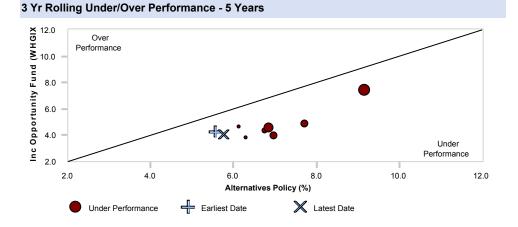




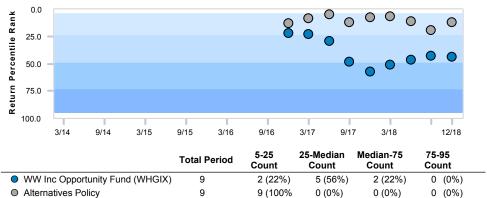




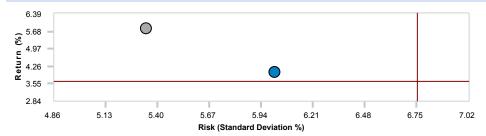
#### Performance Review WW Inc Opportunity Fund (WHGIX) As of December 31, 2018



#### 3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



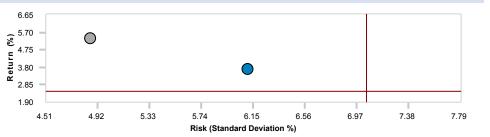
Return

4.02

5.78

3.65

#### Peer Group Scattergram - 5 Years



| Standard<br>Deviation |                                 | Return | Standard<br>Deviation |
|-----------------------|---------------------------------|--------|-----------------------|
| 6.01                  | WW Inc Opportunity Fund (WHGIX) | 3.66   | 6.11                  |
| 5.34                  | Alternatives Policy             | 5.33   | 4.86                  |
| 6.76                  | Median                          | 2.51   | 7.05                  |

#### **Historical Statistics - 3 Years**

Alternatives Policy

\_\_\_ Median

• WW Inc Opportunity Fund (WHGIX)

|                                 | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|---------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| WW Inc Opportunity Fund (WHGIX) | 2.11              | 92.31                   | 118.12                    | -1.95 | -0.78                | 0.52            | 1.06 | 4.25             |
| Alternatives Policy             | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.89            | 1.00 | 3.59             |

#### **Historical Statistics - 5 Years**

|                                 | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|---------------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| WW Inc Opportunity Fund (WHGIX) | 3.16              | 94.75                   | 127.63                    | -1.94 | -0.49                | 0.52            | 1.08 | 4.05             |
| Alternatives Policy             | 0.00              | 100.00                  | 100.00                    | 0.00  | N/A                  | 0.96            | 1.00 | 3.16             |



#### **Fund Information**

Sector Weights As of 09/30/2018

Fund Name :Advisors' Inner Circle Fund: Westwood Income Opportunity Fund; Institutional<br/>SharesFund Family :Westwood Management CorpTicker :WHGIXInception Date :12/19/2005Fund Assets :\$2,038 MillionPortfolio Turnover :42%

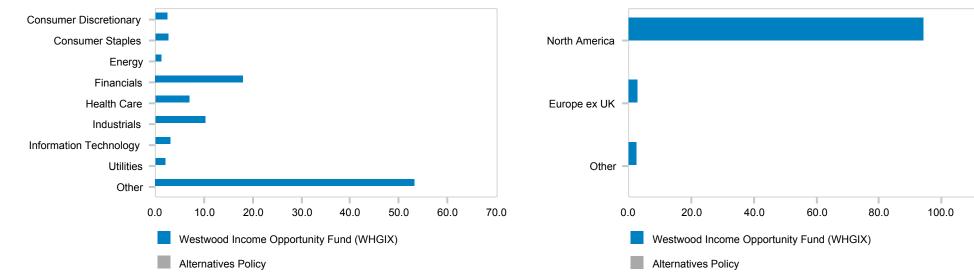
# Portfolio Assets : \$2,108 Million Portfolio Manager : Freeman/Williams/Barnes PM Tenure : 2005--2005--2018 Fund Style : IM Mixed-Asset Target Alloc Consv (MF)

Alternatives Policy

Style Benchmark :

| Portfolio Characteristics As of 09/30/2018 |                 |           |  |  |  |  |  |  |
|--|-----------------|-----------|--|--|--|--|--|--|
|  | Portfolio       | Benchmark |  |  |  |  |  |  |
| Total Securities                           | 69              | N/A       |  |  |  |  |  |  |
| Avg. Market Cap (\$)                       | 151,479,526,002 | -         |  |  |  |  |  |  |
| Price/Earnings (P/E)                       | 27.19           | N/A       |  |  |  |  |  |  |
| Price/Book (P/B)                           | 6.09            | N/A       |  |  |  |  |  |  |
| Dividend Yield                             | 2.79            | N/A       |  |  |  |  |  |  |
| Annual EPS                                 | 14.74           | N/A       |  |  |  |  |  |  |
| 5 Yr EPS                                   | 11.89           | N/A       |  |  |  |  |  |  |
| 3 Yr EPS Growth                            | 9.60            | N/A       |  |  |  |  |  |  |
| Beta (5 Years, Monthly)                    | 1.08            | 1.00      |  |  |  |  |  |  |

| Top Ten Securities As of 09/30/2018 |       |
|-------------------------------------|-------|
| SEI Government Fund;F               | 8.8 % |
| Honeywell International Inc ORD     | 2.7 % |
| Bank of America Corp ORD            | 2.7 % |
| PepsiCo Inc ORD                     | 2.6 % |
| Home Depot Inc ORD                  | 2.5 % |
| FedEx Corp ORD                      | 2.4 % |
| Abbott Laboratories ORD             | 2.3 % |
| Alexandria Real Estate Equities     | 2.3 % |
| Boston Properties Inc ORD           | 2.3 % |
| JPMorgan Chase & Co ORD             | 2.2 % |

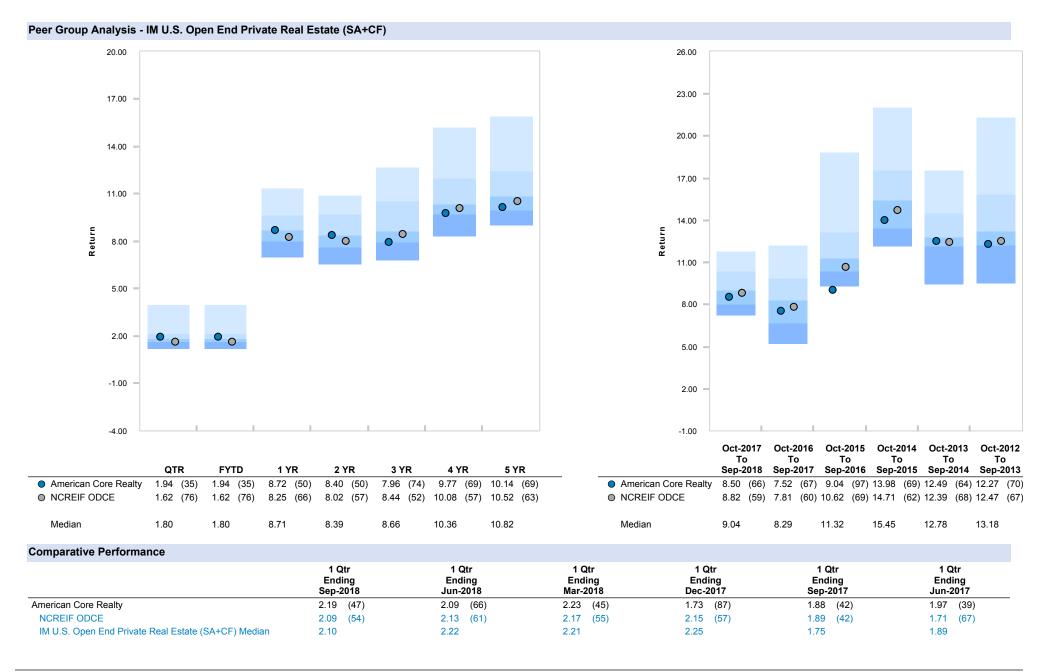


Statistics provided by Lipper. Most recent available data shown.

120.0

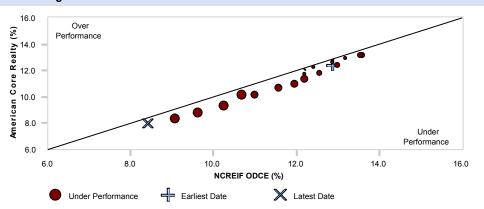
## Region Weights As of 09/30/2018





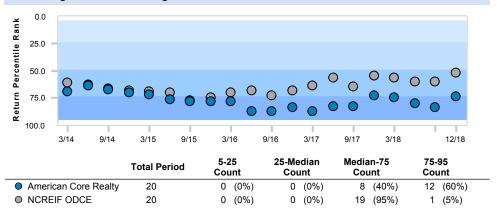


Standard Deviation 1.66 1.36 1.75

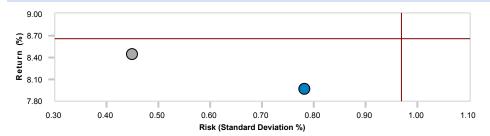


#### 3 Yr Rolling Under/Over Performance - 5 Years

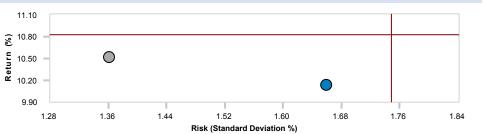
#### 3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years



|                      | Return | Standard<br>Deviation |                      | Return |  |
|----------------------|--------|-----------------------|----------------------|--------|--|
| American Core Realty | 7.96   | 0.78                  | American Core Realty | 10.14  |  |
| NCREIF ODCE          | 8.44   | 0.45                  | NCREIF ODCE          | 10.52  |  |
| Median               | 8.66   | 0.97                  | Median               | 10.82  |  |

#### **Historical Statistics - 3 Years**

|                         | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
|-------------------------|-------------------|-------------------------|---------------------------|-------|----------------------|-----------------|------|------------------|
| American Core Realty    | 0.90              | 94.57                   | N/A                       | 0.13  | -0.49                | 2.09            | 0.93 | 0.00             |
| NCREIF ODCE             | 0.00              | 100.00                  | N/A                       | 0.00  | N/A                  | 2.14            | 1.00 | 0.00             |
| Historical Statistics - | 5 Years           |                         |                           |       |                      |                 |      |                  |
|                         | Tracking<br>Error | Up<br>Market<br>Capture | Down<br>Market<br>Capture | Alpha | Information<br>Ratio | Sharpe<br>Ratio | Beta | Downside<br>Risk |
| American Core Realty    | 1.08              | 96.55                   | N/A                       | 0.03  | -0.32                | 2.12            | 0.96 | 0.00             |
| NCREIF ODCE             | 0.00              | 100.00                  | N/A                       | 0.00  | N/A                  | 2.18            | 1.00 | 0.00             |





|  | Market Value   | Uncalled Capital<br>Commitment | QTD IRR | Inception IRR | Inception Date | Expected Termination |
|--|----------------|--------------------------------|---------|---------------|----------------|----------------------|
| *Angelo Gordon Net Lease Realty Fund III, L.P. | \$1,731,828.00 | \$525,690                      | 0       | 6.55          | 3/10/2014      | 4/1/2027             |
| *Crescent Direct Lending Levered Fund          | \$3,217,091.00 | \$668,697                      | 0       | 7.54          | 10/9/2014      | 12/1/2022            |
| *Dune Real Estate Fund III                     | \$1,879,590.00 | \$262,802                      | 0       | 13.26         | 11/6/2014      | 12/1/2024            |
| *Molpus Woodlands Timber                       | \$1,275,611.00 | \$0                            | 0       | 2.02          | 6/24/2008      | 5/2018-5/2022        |

\* Market Value as of 09-30-2018

Market Value includes contributions & distributions since end of period.



| Allocation Mandate                                       | Weight (%) | Allocation Mandate                                | Weight (%) |
|--|------------|---|------------|
| Jan-1978   |            | Oct-2013  |            |
| S&P 500 Index  | 65.00      | Wilshire 5000 Total Market Index (full-cap) Index | 35.00      |
| Blmbg. Barc. U.S. Gov't/Credit                           | 30.00      | MSCI AC World ex USA (Net)                        | 15.00      |
| FTSE 3 Month T-Bill                                      | 5.00       | Blmbg. Barc. U.S. Aggregate Index                 | 27.50      |
|  |            | NCREIF ODCE                                       | 5.00       |
| Apr-2007   |            | Quadrant Custom Policy                            | 5.00       |
| Blmbg. Barc. U.S. Gov't/Credit                           | 30.00      | NCREIF Timberland Index                           | 5.00       |
| Blmbg. Barc. U.S. TIPS 1-10 Year                         | 5.00       | CPI+5%  | 7.50       |
| S&P 500 Index  | 60.00      |   |            |
| MSCI EAFE (Net) Index                                    | 5.00       | May-2014  |            |
|  |            | Wilshire 5000 Total Market Index (full-cap) Index | 35.00      |
| Oct-2007   | 10.00      | MSCI AC World ex USA (Net)                        | 15.00      |
| MSCI EAFE (Net) Index                                    | 10.00      | Blmbg. Barc. U.S. Aggregate Index                 | 27.50      |
| Bloomberg Barclays Intermed Aggregate Index              | 30.00      | NCREIF ODCE                                       | 10.00      |
| Blmbg. Barc. U.S. TIPS 1-10 Year                         | 5.00       | NCREIF Timberland Index                           | 5.00       |
| Russell 3000 Index                                       | 50.00      | CPI+5%  | 7.50       |
| NCREIF Property Index                                    | 5.00       |   |            |
| Jan-2010   |            | Jul-2015  |            |
| MSCI AC World ex USA (Net)                               | 15.00      | Wilshire 5000 Total Market Index (full-cap) Index | 35.00      |
| Blmbg. Barc. U.S. Aggregate Index                        | 30.00      | MSCI AC World ex USA (Net)                        | 15.00      |
|  | 5.00       | Blmbg. Barc. U.S. Aggregate Index                 | 27.50      |
| Bloomberg Barclays U.S. TIPS Index<br>Russell 3000 Index | 45.00      | NCREIF ODCE                                       | 10.00      |
|  |            | NCREIF Timberland Index                           | 5.00       |
| NCREIF Property Index                                    | 5.00       | Alternatives Policy                               | 7.50       |
| Jul-2010   |            | Nov-2015  |            |
| Wilshire 5000 Total Market Index (full-cap) Index        | 35.00      | Wilshire 5000 Total Market Index (full-cap) Index | 42.50      |
| MSCI AC World ex USA (Net)                               | 15.00      | MSCI AC World ex USA (Net)                        | 15.00      |
| Blmbg. Barc. U.S. Aggregate Index                        | 25.00      | Blmbg. Barc. U.S. Aggregate Index                 | 27.50      |
| Bloomberg Barclays U.S. TIPS Index                       | 5.00       | NCREIF ODCE                                       | 10.00      |
| NCREIF ODCE  | 5.00       | Alternatives Policy                               | 5.00       |
| Barclay BTOP 50  | 5.00       | ······  |            |
| Quadrant Custom Policy                                   | 5.00       |   |            |
| NCREIF Timberland Index                                  | 5.00       |   |            |



| Total Equity Policy                               |            |
|---|------------|
| Allocation Mandate                                | Weight (%) |
| Oct-2005  |            |
| S&P 500 Index                                     | 95.00      |
| FTSE 3 Month T-Bill                               | 5.00       |
| Apr-2007  |            |
| FTSE 3 Month T-Bill                               | 5.00       |
| S&P 500 Index                                     | 85.00      |
| MSCI EAFE (Net) Index                             | 10.00      |
| MOCI LAI L (Net) IIdex                            | 10:00      |
| Oct-2007  |            |
| MSCI EAFE (Net) Index                             | 15.00      |
| Russell 3000 Index                                | 85.00      |
|   |            |
| Jan-2010  | 05.00      |
| MSCI AC World ex USA (Net)                        | 25.00      |
| Russell 3000 Index                                | 75.00      |
| Jul-2010  |            |
| MSCI AC World ex USA (Net)                        | 45.00      |
| Wilshire 5000 Total Market Index (full-cap) Index | 55.00      |
|   |            |
| Nov-2015  |            |
| MSCI AC World ex USA (Net)                        | 25.00      |
| Wilshire 5000 Total Market Index (full-cap) Index | 75.00      |
|   |            |

| Domestic Equity Policy                            |            |
|---|------------|
| Allocation Mandate                                | Weight (%) |
| Oct-2005  |            |
| S&P 500 Index                                     | 100.00     |
| Oct-2007  |            |
| Russell 3000 Index                                | 100.00     |
| Jul-2010  |            |
| Wilshire 5000 Total Market Index (full-cap) Index | 100.00     |

| Total Int'l Policy                                 |                |
|--|----------------|
| Allocation Mandate                                 | Weight (%)     |
| Jan-1970   |                |
| MSCI EAFE (Net) Index                              | 100.00         |
| Jan-2010   |                |
| MSCI AC World ex USA (Net)                         | 100.00         |
| . ,  |                |
| Alternatives Policy                                |                |
| Allocation Mandate                                 | Weight (%)     |
| Aug-2010   |                |
| Barclay BTOP 50                                    | 100.00         |
| Nov-2013   |                |
| CPI+5%   | 100.00         |
|  |                |
| Jul-2015   | 50.00          |
| S&P 500 Index<br>Blmbg. Barc. U.S. Aggregate Index | 50.00<br>50.00 |
| Binby, Barc. 0.3. Aggregate index                  | 30.00          |
| Total Fixed Policy                                 |                |
| Allocation Mandate                                 | Weight (%)     |
| Oct-2005   |                |
| Blmbg. Barc. U.S. Gov't/Credit                     | 95.00          |
| FTSE 3 Month T-Bill                                | 5.00           |
| Jan-2007   |                |
| Blmbg. Barc. U.S. Gov't/Credit                     | 85.00          |
| Blmbg. Barc. U.S. TIPS 1-10 Year                   | 15.00          |
|  |                |
| Oct-2007   |                |
| Blmbg. Barc. U.S. TIPS 1-10 Year                   | 15.00<br>85.00 |
| Bloomberg Barclays Intermed Aggregate Index        | 85.00          |
| Jan-2010   |                |
| Bloomberg Barclays U.S. TIPS Index                 | 15.00          |
| Blmbg. Barc. U.S. Aggregate Index                  | 85.00          |
| Oct-2013   |                |
| Blmbg. Barc. U.S. Aggregate Index                  | 100.00         |
|  |                |



#### Delray Beach Firefighters' Retirement System Fee Analysis As of December 31, 2018

|  | Market Value | Estimated<br>Annual Fee | Estimated<br>Annual Fee | Fee Schedule  |
|--|--------------|-------------------------|-------------------------|---|
|  | (\$)         | (\$)                    | (%)                     |   |
| Boston LCV                               | 14,856,634   | 81,711                  | 0.55                    | 0.55 % of First \$25 M<br>0.45 % of Next \$25 M<br>0.35 % of Next \$50 M<br>0.25 % Thereafter |
| Rhumbline R1000G                         | 3,658,713    | 1,463                   | 0.04                    | 0.04 % of Assets  |
| Polen Capital LCG                        | 11,048,329   | 66,290                  | 0.60                    | 0.60 % of Assets  |
| Lazard SMid Cap Core                     | 6,686,454    | 50,148                  | 0.75                    | 0.75 % of Assets  |
| Vanguard Mid-Cap Index (VIMAX)           | 4,601,620    | 3,681                   | 0.08                    | 0.08 % of Assets  |
| Harding Loevner Intl Equity (HLMIX)      | 14,441,308   | 121,307                 | 0.84                    | 0.84 % of Assets  |
| Garcia Hamilton Fixed Income             | 21,608,083   | 54,020                  | 0.25                    | 0.25 % of Assets  |
| Templeton Global Total Return (FTTRX)    | 4,107,510    | 27,520                  | 0.67                    | 0.67 % of Assets  |
| American Core Realty                     | 4,950,415    | 54,455                  | 1.10                    | 1.10 % of Assets  |
| Westwood Income Opportunity Fund (WHGIX) | 4,832,450    | 43,492                  | 0.90                    | 0.90 % of Assets  |
| Total Fund (Composite)                   | 99,876,598   | 504,099                 | 0.50                    |   |



| Active Return                  | - Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.   |
|--------------------------------|---|
| Alpha                          | - A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.   |
| Beta                           | - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.   |
| Consistency                    | - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.  |
| Distributed to Paid In (DPI)   | - The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against. |
| Down Market Capture            | - The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance   |
| Downside Risk                  | - A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.   |
| Excess Return                  | - Arithmetic difference between the manager's performance and the risk-free return over a specified time period.  |
| Excess Risk                    | - A measure of the standard deviation of a portfolio's performance relative to the risk free return.  |
| Information Ratio              | - This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.   |
| Public Market Equivalent (PME) | - Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.   |
| R-Squared                      | - The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.   |
| Return                         | - Compounded rate of return for the period.   |
| Sharpe Ratio                   | - Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.  |
| Standard Deviation             | - A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.   |
| Total Value to Paid In (TVPI)  | - The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life   |
| Tracking Error                 | - This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.   |
| Treynor Ratio                  | - Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance. |
| Up Market Capture              | - The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.   |



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