



# Board Presentation/Executive Summary

## Texas Municipal Retirement System

Period Ended: June 30, 2017



# Capital Markets Update



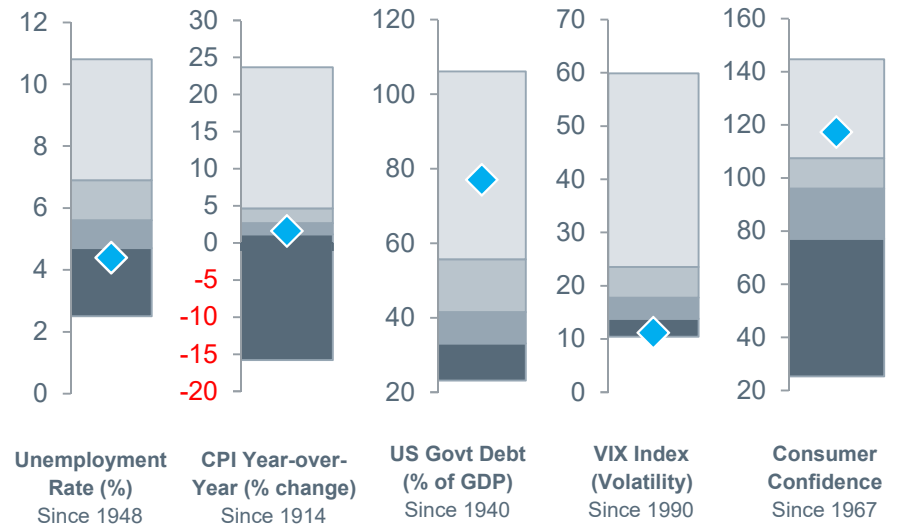
Second Quarter Economic Environment

Key Economic Indicators

Global risk assets continued to perform well during the second quarter of 2017, with gains broadly supported by strengthening economic data related to global inflation, job growth, and corporate fundamentals. In contrast to prior run-ups in risk assets, the past quarter was marked by high levels of sector and market factor dispersion. This created significant opportunities for skilled active managers and generated tailwinds for strategies with heavy growth and cyclical biases. Geographically, emerging markets outperformed developed, while international markets generally outperformed US markets.

Gains across most risk assets occurred despite persistent political divisiveness in the US, heightened geopolitical risks (most notably in North Korea), and a range of other international issues. Although positive economic fundamentals have thus far supported 2017 market gains, it is possible that unanticipated global central bank policy and US political events could have a larger influence on markets through the remainder of the year.

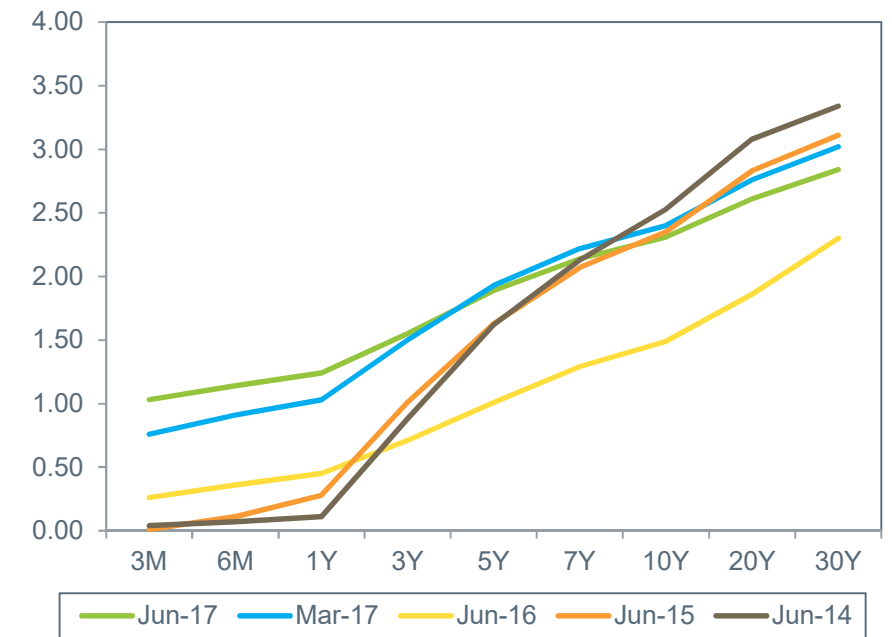
Key Economic Indicators



Economic Indicators

|                               | Jun-17    | Mar-17  | Jun-16  | Jun-14  | 20 Yr |
|-------------------------------|-----------|---------|---------|---------|-------|
| Federal Funds Rate (%)        | 1.06 ▲    | 0.82    | 0.30    | 0.09    | 2.23  |
| Breakeven Infl. - 1 Yr (%)    | 0.72 ▼    | 2.06    | 1.17    | 1.46    | N/A   |
| Breakeven Infl. - 10 Yr (%)   | 1.74 ▼    | 1.98    | 1.44    | 2.24    | N/A   |
| CPI YoY (Headline) (%)        | 1.6 ▼     | 2.4     | 1.0     | 2.1     | 2.1   |
| Unemployment Rate (%)         | 4.4 ▼     | 4.5     | 4.9     | 6.1     | 5.9   |
| Real GDP YoY (%)              | 2.1 ▲     | 2.0     | 1.2     | 2.7     | 2.3   |
| PMI - Manufacturing           | 57.80 ▲   | 57.20   | 52.80   | 55.40   | 52.25 |
| USD Total Wtd Idx             | 90.54 ▼   | 94.01   | 90.65   | 75.72   | 86.89 |
| WTI Crude Oil per Barrel (\$) | 46.0 ▼    | 50.6    | 48.3    | 105.4   | 56.7  |
| Gold Spot per Oz (\$)         | 1,241.6 ▼ | 1,249.4 | 1,322.2 | 1,327.3 | 806.4 |

Treasury Yield Curve (%)



Market Performance (%)

|                        | QTD   | CYTD  | 1 Yr  | 5 Yr  | 10 Yr |
|------------------------|-------|-------|-------|-------|-------|
| S&P 500 (Cap Wtd)      | 3.09  | 9.34  | 17.90 | 14.63 | 7.18  |
| Russell 2000           | 2.46  | 4.99  | 24.60 | 13.70 | 6.92  |
| MSCI EAFE (Net)        | 6.12  | 13.81 | 20.27 | 8.69  | 1.03  |
| MSCI EAFE SC (Net)     | 8.10  | 16.72 | 23.18 | 12.94 | 3.41  |
| MSCI Emg Mkts (Net)    | 6.27  | 18.43 | 23.75 | 3.96  | 1.92  |
| Bloomberg US Agg Bond  | 1.45  | 2.27  | -0.31 | 2.21  | 4.48  |
| BofA ML 3 Mo US T-Bill | 0.20  | 0.30  | 0.49  | 0.17  | 0.58  |
| NCREIF ODCE (Gross)    | 1.70  | 3.50  | 7.87  | 11.79 | 5.25  |
| Wilshire US REIT       | 1.78  | 1.82  | -1.71 | 9.35  | 5.63  |
| HFRI FOF Comp          | 0.70  | 3.10  | 6.37  | 3.85  | 0.86  |
| Bloomberg Cmdty (TR)   | -3.00 | -5.26 | -6.50 | -9.25 | -6.49 |

Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service. Breakeven Inflation does not have 20 years of history; therefore, its 20-year average is shown as N/A.



Annual Asset Class Performance

As of June 30, 2017

|       | 2003                   | 2004                  | 2005                         | 2006                          | 2007                           | 2008                       | 2009                             | 2010                            | 2011                              | 2012                              | 2013                     | 2014                      | 2015                           | 2016                             | YTD   |
|-------|------------------------|-----------------------|------------------------------|-------------------------------|--------------------------------|----------------------------|----------------------------------|---------------------------------|-----------------------------------|-----------------------------------|--------------------------|---------------------------|--------------------------------|----------------------------------|-------|
| Best  | 61.34                  | 33.16                 | 34.00                        | 35.97                         | 39.38                          | 8.44                       | 78.51                            | 28.60                           | 22.49                             | 20.00                             | 38.82                    | 31.78                     | 15.02                          | 21.31                            | 18.43 |
|       | 55.81                  | 31.45                 | 26.19                        | 32.18                         | 16.23                          | 5.24                       | 58.21                            | 26.85                           | 15.99                             | 18.23                             | 32.39                    | 19.31                     | 9.59                           | 17.13                            | 16.72 |
|       | 47.25                  | 25.55                 | 21.39                        | 26.34                         | 15.97                          | 2.06                       | 46.78                            | 22.04                           | 13.56                             | 17.59                             | 29.30                    | 13.69                     | 4.23                           | 11.96                            | 13.81 |
|       | 38.59                  | 20.25                 | 21.36                        | 19.31                         | 11.63                          | -2.35                      | 31.78                            | 18.88                           | 9.24                              | 17.32                             | 22.78                    | 12.50                     | 1.38                           | 11.74                            | 9.34  |
|       | 36.18                  | 18.33                 | 13.82                        | 18.37                         | 11.17                          | -10.01                     | 28.60                            | 16.83                           | 7.84                              | 16.35                             | 13.94                    | 5.97                      | 0.55                           | 11.19                            | 6.03  |
|       | 28.96                  | 13.06                 | 13.54                        | 16.32                         | 10.25                          | -21.37                     | 27.17                            | 16.36                           | 4.98                              | 16.00                             | 8.96                     | 4.89                      | 0.05                           | 8.77                             | 4.99  |
|       | 28.68                  | 11.14                 | 7.49                         | 15.79                         | 6.97                           | -26.16                     | 26.46                            | 15.12                           | 2.11                              | 15.81                             | 7.44                     | 3.64                      | -0.27                          | 7.24                             | 4.93  |
|       | 23.93                  | 10.88                 | 5.34                         | 11.86                         | 6.60                           | -33.79                     | 18.91                            | 15.06                           | 0.10                              | 10.94                             | 1.86                     | 3.37                      | -0.81                          | 6.67                             | 3.50  |
|       | 11.61                  | 9.15                  | 4.91                         | 10.39                         | 5.49                           | -35.65                     | 11.47                            | 10.16                           | -4.18                             | 8.78                              | 0.07                     | 2.45                      | -1.44                          | 4.68                             | 3.10  |
|       | 9.28                   | 8.56                  | 4.55                         | 4.85                          | 5.00                           | -37.00                     | 11.41                            | 7.75                            | -5.72                             | 6.98                              | -2.02                    | 0.04                      | -3.30                          | 2.65                             | 2.27  |
|       | 8.39                   | 8.46                  | 3.07                         | 4.34                          | 1.87                           | -39.20                     | 5.93                             | 6.54                            | -12.14                            | 4.79                              | -2.60                    | -2.19                     | -4.41                          | 2.18                             | 1.82  |
|       | 5.88                   | 6.86                  | 2.84                         | 2.72                          | 1.45                           | -43.38                     | 1.92                             | 6.31                            | -13.32                            | 4.21                              | -8.61                    | -4.90                     | -4.47                          | 1.00                             | 0.85  |
|       | 4.11                   | 4.34                  | 2.74                         | 2.07                          | -1.57                          | -47.01                     | 0.21                             | 5.70                            | -15.94                            | 0.11                              | -8.83                    | -4.95                     | -14.92                         | 0.51                             | 0.30  |
| Worst | 1.15                   | 1.33                  | 2.43                         | 0.49                          | -17.55                         | -53.33                     | -29.76                           | 0.13                            | -18.42                            | -1.06                             | -9.52                    | -17.01                    | -24.66                         | 0.33                             | -5.26 |
|       | S&P 500 - US Large Cap | R 2000 - US Small Cap | MSCI EAFE (Net) - Int'l Dev. | MSCI EAFE SC (Net) - Int'l SC | MSCI EM (Net) - Int'l Emg Mkts | Bloomberg US Agg Bond - FI | Bloomberg US Corp: Hi Yield - FI | Bloomberg US Trsy: US TIPS - FI | Bloomberg US Gov/Credit: Lng - FI | NCREIF ODCE (Gross) - Real Estate | Wilshire US REIT - REITs | HFRI FOF Comp Index - ARS | Bloomberg Cmdty (TR) - Commod. | BofA ML 3 Mo T-Bill - Cash Equiv |       |

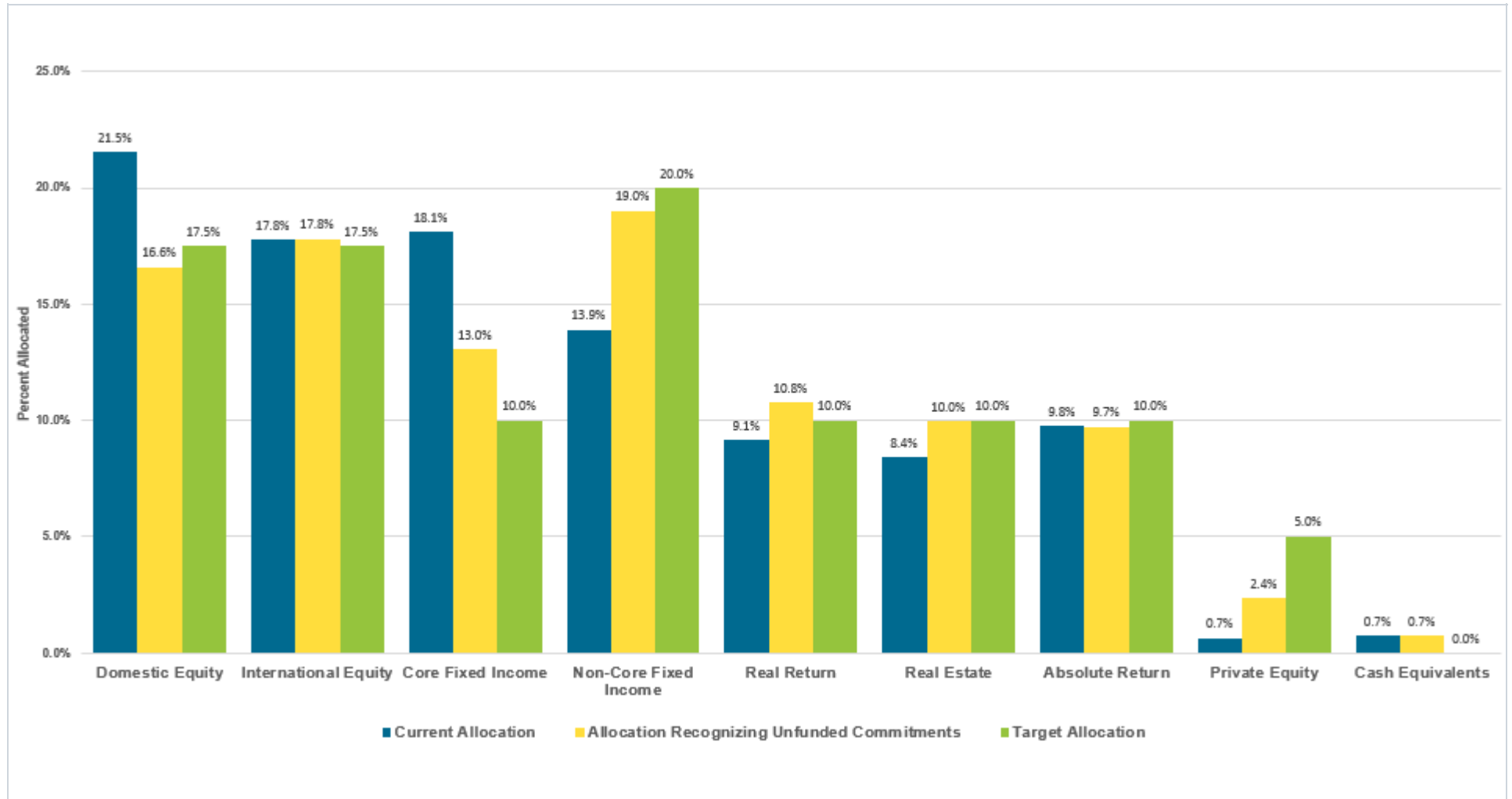
NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.



# TMRS Total Fund



# TMRS Investment Portfolio Asset Allocation and Performance



|                             | Allocation        |        | Performance (%) |      |        |         |         |         |          |          |              |                |
|-----------------------------|-------------------|--------|-----------------|------|--------|---------|---------|---------|----------|----------|--------------|----------------|
|                             | Market Value (\$) | %      | Quarter         | CYTD | 1 Year | 3 Years | 5 Years | 7 Years | 10 Years | 15 Years | Since Incep. | Inception Date |
| <b>Total Fund Composite</b> | 26,750,941,538    | 100.00 | 2.83            | 6.80 | 10.75  | 4.68    | 6.98    | 7.02    | 6.93     | 6.90     | 8.56         | 01/01/1989     |
| Actual Allocation Benchmark |                   |        | 2.62            | 6.57 | 10.10  | 4.48    | 6.77    | 6.82    | 6.53     | 6.54     | 7.99         |                |

Performance shown is net of fees and provided by State Street. Performance is annualized for periods greater than one year.

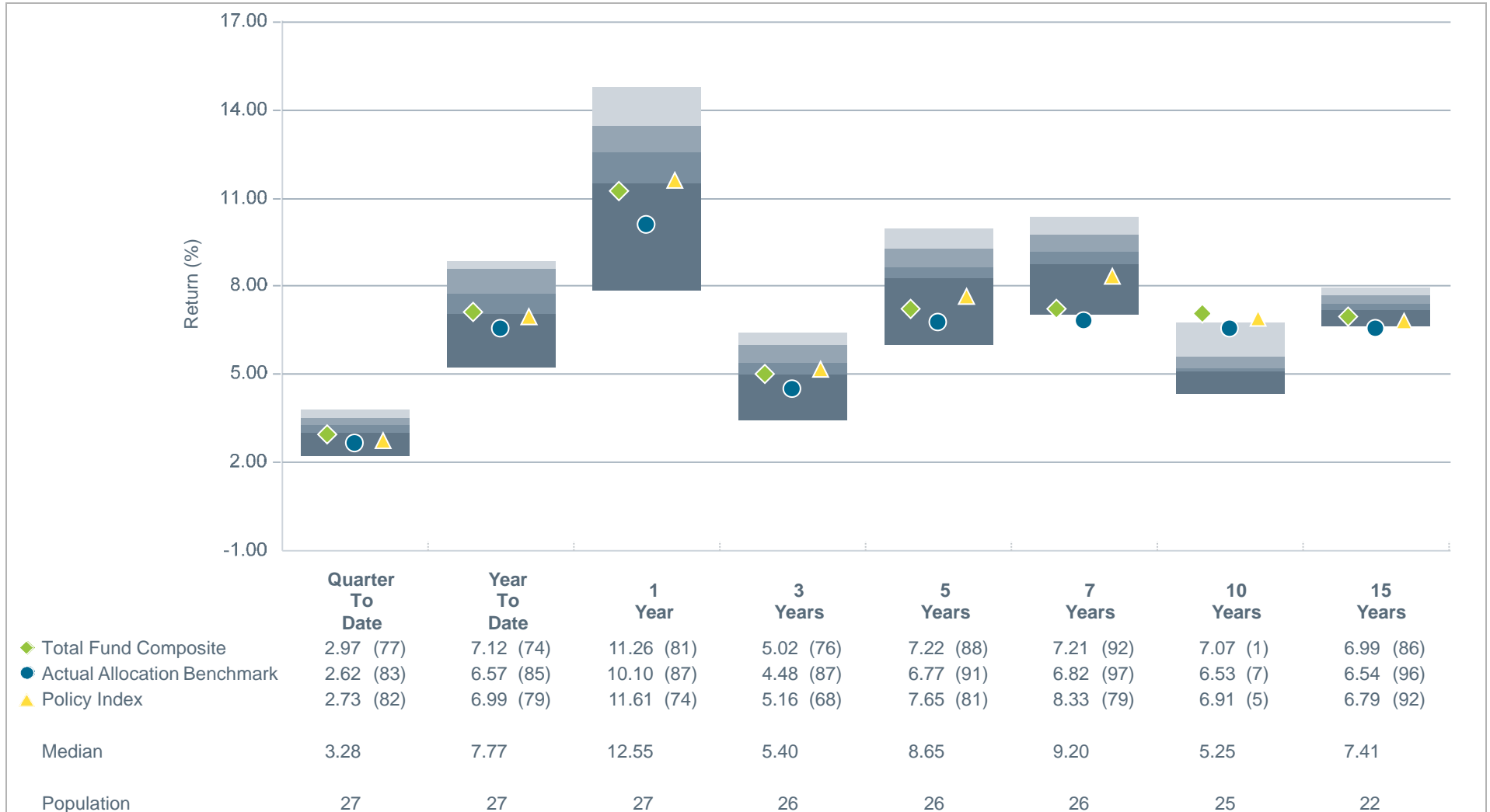
# Asset Class Composite Performance (Net)

|   | Allocation            |               | Performance (%) |              |              |              |              |              |             |             |              |                   |
|---|-----------------------|---------------|-----------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|-------------------|
|   | Market Value (\$)     | %             | Quarter         | CYTD         | 1 Year       | 3 Years      | 5 Years      | 7 Years      | 10 Years    | 15 Years    | Since Incep. | Inception Date    |
| <b>Total Fund Composite</b>                     | <b>26,750,941,538</b> | <b>100.00</b> | <b>2.83</b>     | <b>6.80</b>  | <b>10.75</b> | <b>4.68</b>  | <b>6.98</b>  | <b>7.02</b>  | <b>6.93</b> | <b>6.90</b> | <b>8.56</b>  | <b>01/01/1989</b> |
| Actual Allocation Benchmark                     |                       |               | 2.62            | 6.57         | 10.10        | 4.48         | 6.77         | 6.82         | 6.53        | 6.54        | 7.99         |                   |
| <b>Global Equity Composite</b>                  | <b>10,516,855,639</b> | <b>39.31</b>  | <b>4.22</b>     | <b>11.20</b> | <b>18.70</b> | <b>5.80</b>  | <b>11.60</b> | <b>11.52</b> | <b>N/A</b>  | <b>N/A</b>  | <b>5.37</b>  | <b>02/01/2008</b> |
| Global Equity Benchmark                         |                       |               | 4.25            | 11.13        | 19.46        | 5.76         | 11.55        | 11.47        | N/A         | N/A         | 5.29         |                   |
| <b>Domestic Equity Composite</b>                | <b>5,763,424,794</b>  | <b>21.54</b>  | <b>2.65</b>     | <b>8.41</b>  | <b>18.07</b> | <b>8.71</b>  | <b>14.27</b> | <b>15.10</b> | <b>N/A</b>  | <b>N/A</b>  | <b>8.49</b>  | <b>02/01/2008</b> |
| Russell 3000 Index                              |                       |               | 3.02            | 8.93         | 18.51        | 9.10         | 14.58        | 15.34        | 7.26        | 8.66        | 8.65         |                   |
| <b>International Equity Composite</b>           | <b>4,753,427,888</b>  | <b>17.77</b>  | <b>6.23</b>     | <b>15.17</b> | <b>19.02</b> | <b>1.67</b>  | <b>8.06</b>  | <b>7.32</b>  | <b>N/A</b>  | <b>N/A</b>  | <b>1.75</b>  | <b>02/01/2008</b> |
| International Equity Benchmark                  |                       |               | 5.85            | 14.30        | 20.43        | 1.14         | 7.58         | 6.93         | 0.38        | 5.86        | 1.40         |                   |
| <b>Core Fixed Income Composite</b>              | <b>4,840,960,654</b>  | <b>18.10</b>  | <b>1.51</b>     | <b>2.39</b>  | <b>0.09</b>  | <b>2.56</b>  | <b>2.31</b>  | <b>3.32</b>  | <b>4.72</b> | <b>5.42</b> | <b>7.77</b>  | <b>01/01/1989</b> |
| Fixed Income Benchmark                          |                       |               | 1.45            | 2.27         | -0.31        | 2.48         | 2.21         | 3.19         | 4.38        | 5.10        | 7.22         |                   |
| <b>Non-Core Fixed Income Composite</b>          | <b>3,722,026,511</b>  | <b>13.91</b>  | <b>2.05</b>     | <b>4.43</b>  | <b>10.47</b> | <b>N/A</b>   | <b>N/A</b>   | <b>N/A</b>   | <b>N/A</b>  | <b>N/A</b>  | <b>4.75</b>  | <b>10/01/2014</b> |
| Non-Core Fixed Income Benchmark                 |                       |               | 2.49            | 6.29         | 9.68         | 3.29         | 5.01         | 6.37         | 6.72        | N/A         | 4.51         |                   |
| <b>Real Return Composite</b>                    | <b>2,443,895,377</b>  | <b>9.14</b>   | <b>2.37</b>     | <b>3.03</b>  | <b>2.59</b>  | <b>0.58</b>  | <b>2.17</b>  | <b>N/A</b>   | <b>N/A</b>  | <b>N/A</b>  | <b>3.25</b>  | <b>02/01/2011</b> |
| Bloomberg Wrld Gov't Infl Lnkd Index (Unhedged) |                       |               | 1.89            | 3.28         | 0.81         | 0.04         | 1.13         | 3.61         | 3.81        | 5.59        | 2.79         |                   |
| <b>Real Estate Composite</b>                    | <b>2,249,475,480</b>  | <b>8.41</b>   | <b>2.08</b>     | <b>4.72</b>  | <b>10.33</b> | <b>12.39</b> | <b>12.10</b> | <b>N/A</b>   | <b>N/A</b>  | <b>N/A</b>  | <b>11.54</b> | <b>01/01/2012</b> |
| Real Estate Benchmark                           |                       |               | 1.77            | 3.90         | 8.31         | 11.77        | 11.97        | 13.49        | 5.59        | 8.24        | 11.98        |                   |
| <b>Absolute Return Composite</b>                | <b>2,607,924,179</b>  | <b>9.75</b>   | <b>2.52</b>     | <b>5.48</b>  | <b>10.33</b> | <b>N/A</b>   | <b>N/A</b>   | <b>N/A</b>   | <b>N/A</b>  | <b>N/A</b>  | <b>3.94</b>  | <b>08/01/2014</b> |
| Absolute Return Benchmark                       |                       |               | 0.30            | 2.20         | 5.18         | 1.29         | 3.68         | 2.94         | 0.86        | 3.43        | 1.48         |                   |
| <b>Private Equity Composite</b>                 | <b>173,643,528</b>    | <b>0.65</b>   | <b>2.22</b>     | <b>9.33</b>  | <b>23.79</b> | <b>N/A</b>   | <b>N/A</b>   | <b>N/A</b>   | <b>N/A</b>  | <b>N/A</b>  | <b>7.31</b>  | <b>01/01/2016</b> |
| Russell 3000 Index + 3%                         |                       |               | 3.78            | 10.55        | 22.06        | 12.38        | 18.02        | 18.80        | 10.47       | 11.92       | 18.12        |                   |
| <b>TMRS Unallocated Cash</b>                    | <b>196,160,170</b>    | <b>0.73</b>   | <b>0.13</b>     | <b>0.20</b>  | <b>0.34</b>  | <b>0.60</b>  | <b>0.39</b>  | <b>0.30</b>  | <b>N/A</b>  | <b>N/A</b>  | <b>0.36</b>  | <b>06/01/2008</b> |
| BofA ML 3 Mo US T-Bill Index                    |                       |               | 0.20            | 0.30         | 0.49         | 0.23         | 0.17         | 0.15         | 0.58        | 1.30        | 0.26         |                   |

Performance shown is net of fees and provided by State Street. Performance is annualized for periods greater than one year. Market value for the Global Equity Composite includes assets held in the Transition Account. Real Estate and Private Equity fund returns are calculated by Private Edge. Private Real Estate fund returns are lagged 1 quarter. Inception dates shown for Real Estate and Private Equity composite represent the first full quarter following initial funding. Inception dates for all other composites represents the first full month following initial funding.

# Total Fund Performance vs. Peers

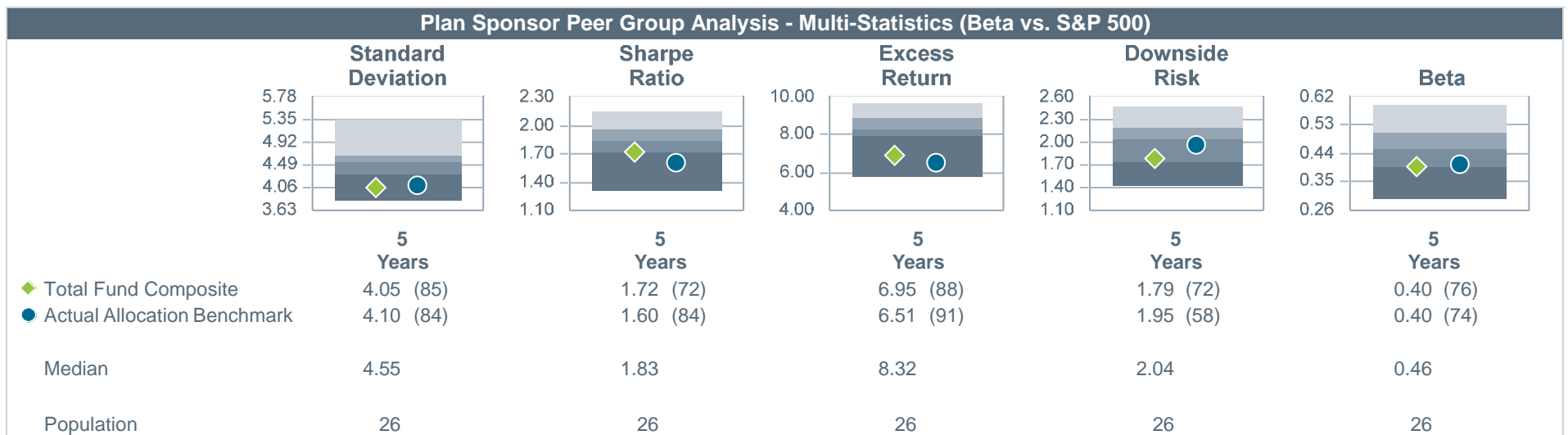
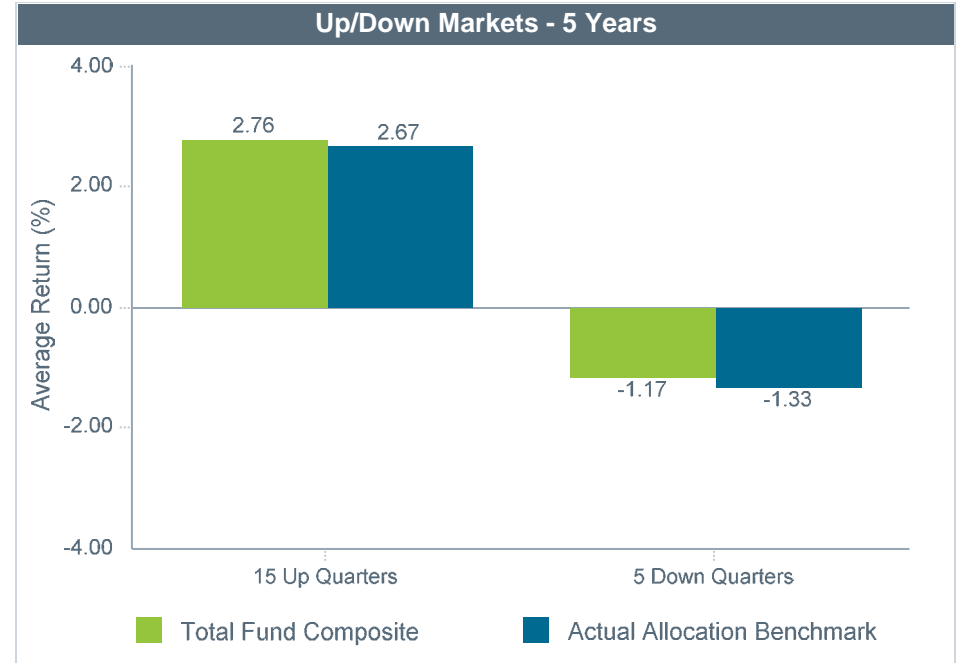
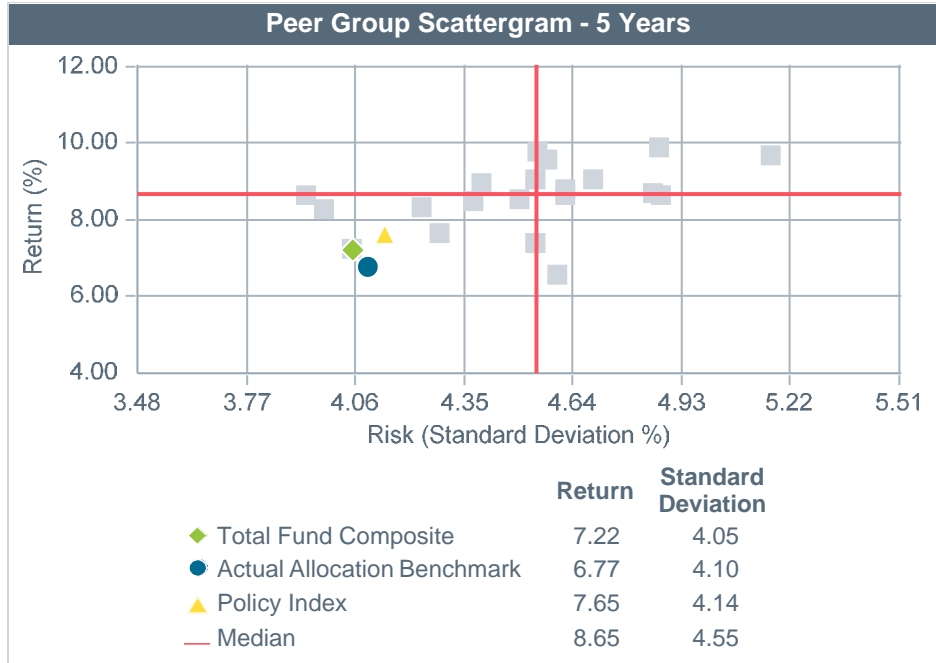
While performance relative to other systems is not an objective of the TMRS fund given the wide range in investment objectives and different benefit plan structures, it is generally of interest to be aware of the performance of other public pension systems.



The Total Fund is ranked against a universe of Public Plans > \$10B.  
Please see Supplemental Information for custom benchmark definitions.  
Performance shown is gross of fees, as of June 30, 2017



# Total Fund Composite vs. All Public Funds > \$10B-Total Fund



Performance shown is gross of fees. Calculations based on quarterly periodicity. Parenthesis contain percentile ranks.

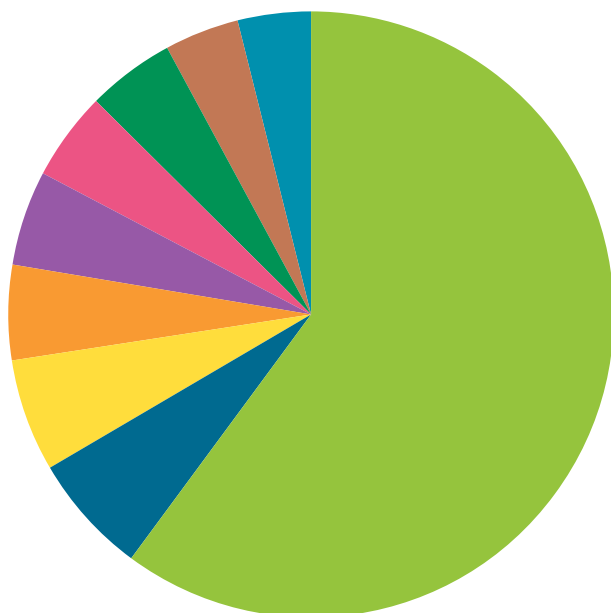
# TMRS Asset Class Composites



# Domestic Equity Composite Performance & Allocation

## Asset Allocation by Manager

\$5,763,415,539



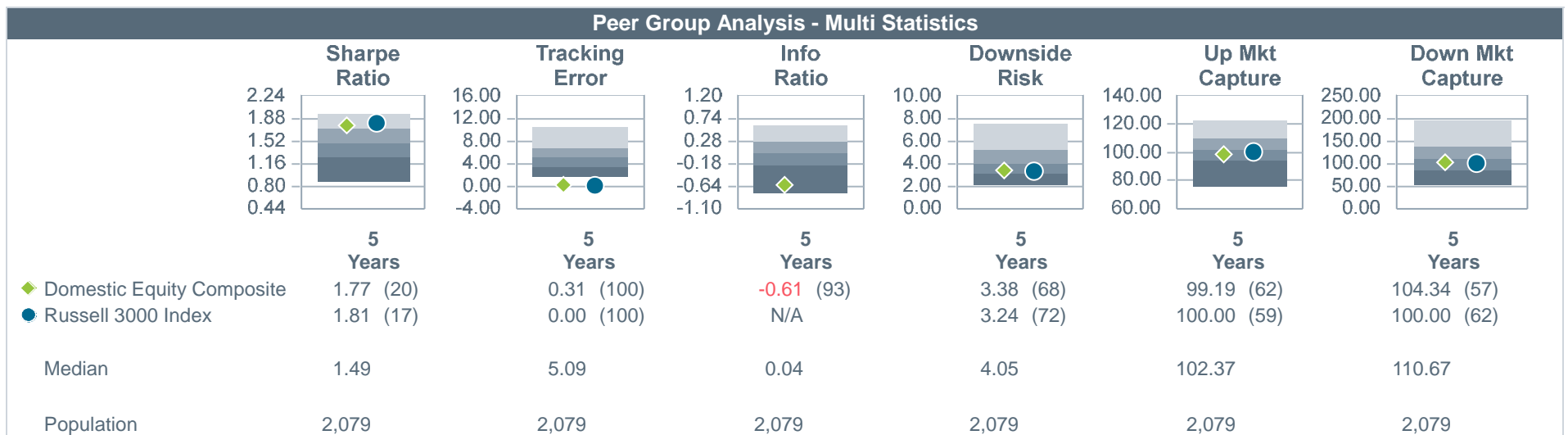
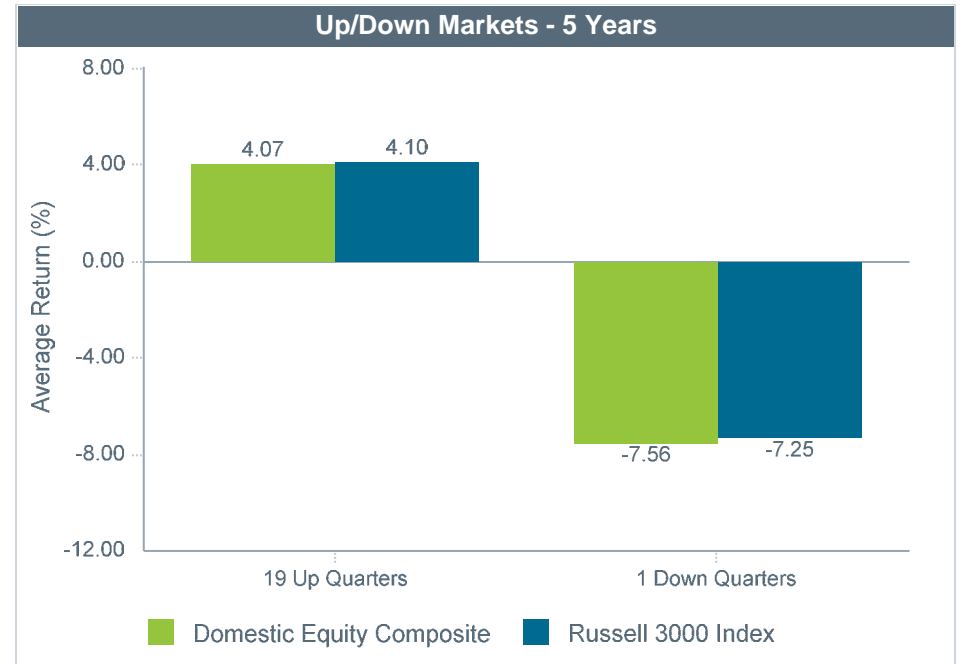
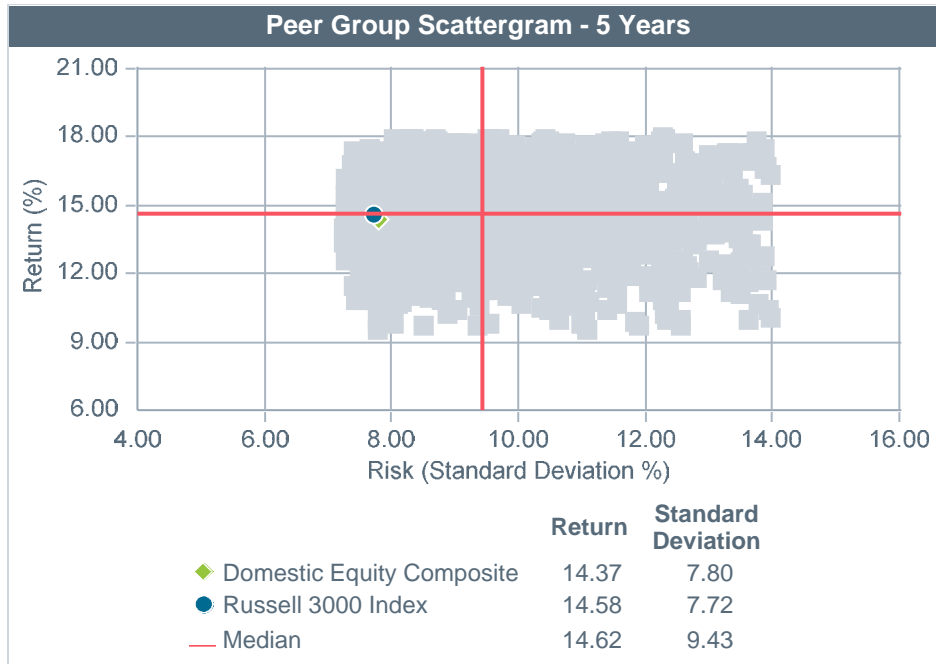
|  | Market Value (\$) | Allocation (%) |
|--|-------------------|----------------|
| NT Collective Russell 3000 Index NL (CF)     | 3,464,792,245     | 60.12          |
| UBS US Equity Min Volatility Index (CF)      | 370,670,749       | 6.43           |
| State Street Russell Fndmtl US Index NL (CF) | 347,323,701       | 6.03           |
| Wellington US Small Cap Opp (SA)             | 291,948,696       | 5.07           |
| The Boston Company Small Cap Opp Value (SA)  | 291,560,520       | 5.06           |
| Epoch U.S. Choice (SA)                       | 273,135,742       | 4.74           |
| Champlain Mid-Cap Core (SA)                  | 269,479,406       | 4.68           |
| Sasco U.S. Contrarian Value (SA)             | 229,103,374       | 3.98           |
| The Boston Company Mid Cap Opp Value (SA)    | 225,401,107       | 3.91           |

## Comparative Performance

|                                  | 1 Quarter   | Year To Date | 1 Year       | 3 Years     | 5 Years      | 10 Years   | 2016         | 2015         | 2014         | 2013         | 2012         | Since Incep. | Inception Date    |
|----------------------------------|-------------|--------------|--------------|-------------|--------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------|
| <b>Domestic Equity Composite</b> | <b>2.70</b> | <b>8.51</b>  | <b>18.26</b> | <b>8.83</b> | <b>14.37</b> | <b>N/A</b> | <b>13.33</b> | <b>-0.32</b> | <b>12.61</b> | <b>33.20</b> | <b>16.33</b> | <b>8.55</b>  | <b>02/01/2008</b> |
| Russell 3000 Index               | 3.02        | 8.93         | 18.51        | 9.10        | 14.58        | 7.26       | 12.74        | 0.48         | 12.56        | 33.55        | 16.42        | 8.65         |                   |
| Difference                       | -0.32       | -0.42        | -0.25        | -0.27       | -0.21        | N/A        | 0.59         | -0.80        | 0.05         | -0.35        | -0.09        | -0.10        |                   |

Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding. Total Domestic Equity market value excludes Citigroup Global Markets, Inc.

# Domestic Equity Composite vs. IM U.S. Equity

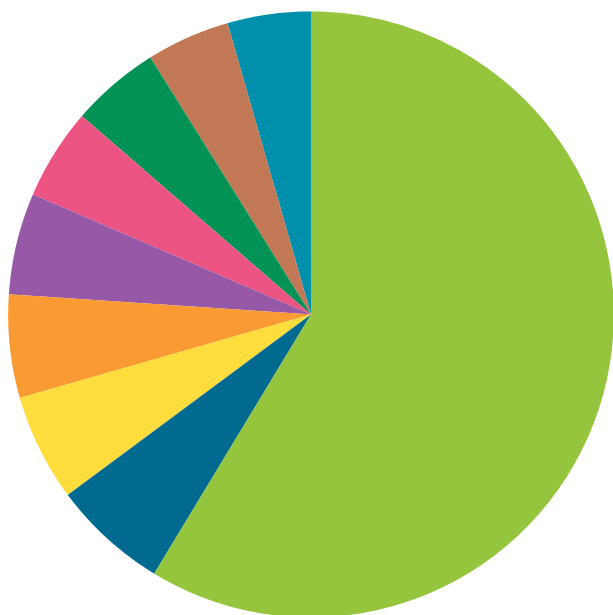


Performance shown is gross of fees. Calculations based on quarterly periodicity. Parenthesis contain percentile ranks.

# International Equity Composite Performance and Allocation

## Asset Allocation by Manager

\$4,753,427,888



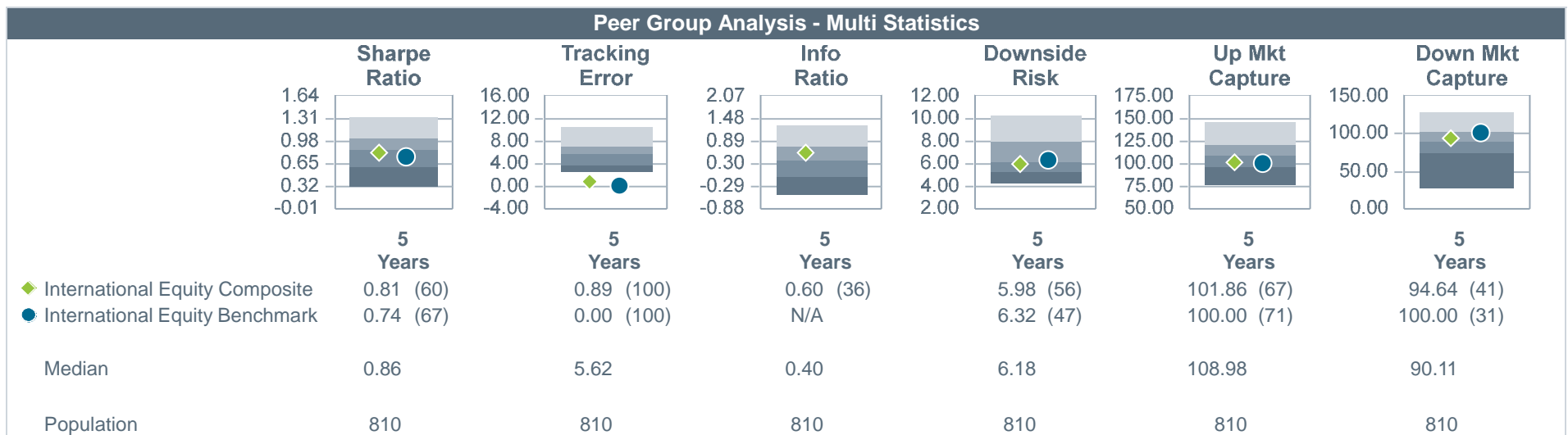
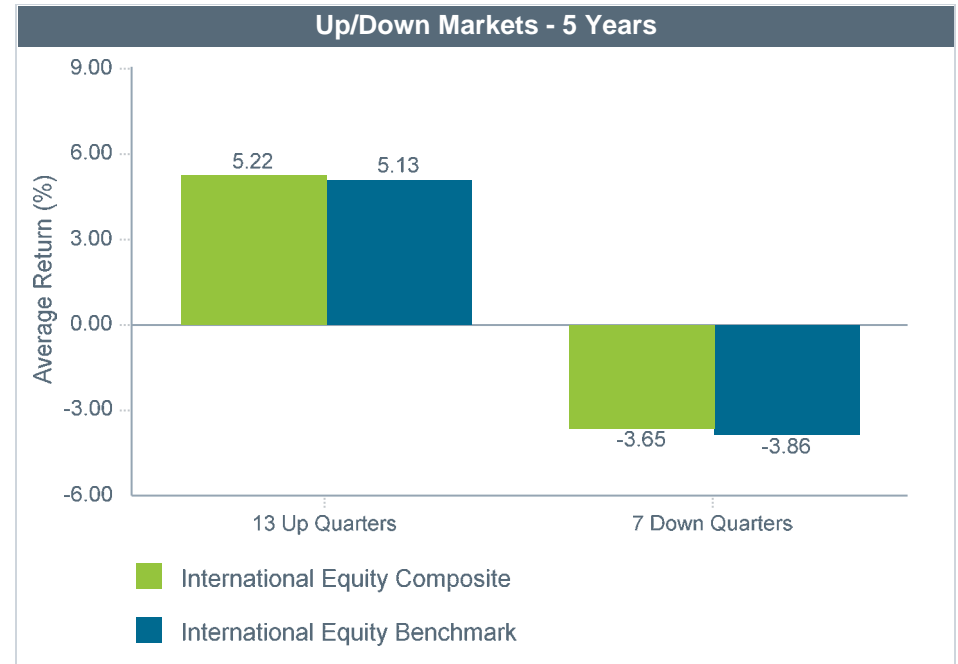
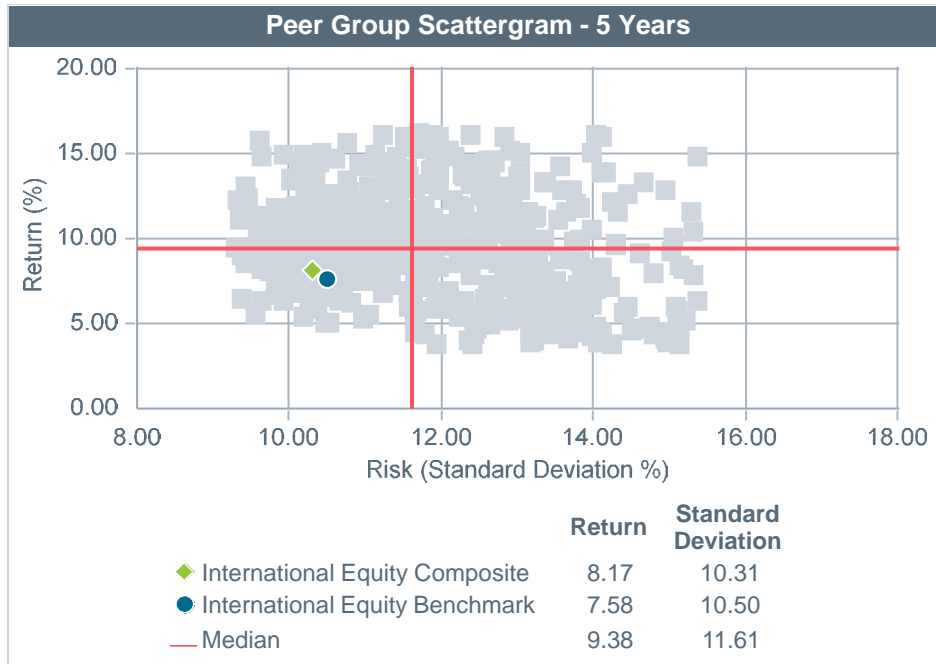
|   | Market Value (\$) | Allocation (%) |
|---|-------------------|----------------|
| NT Daily Collective ACW Ex US IMI Non-Lending (CF)  | 2,788,236,835     | 58.66          |
| UBS World Ex US Min Volatility NL (CF)              | 294,199,847       | 6.19           |
| Wellington International Small Cap Opp (SA)         | 271,120,958       | 5.70           |
| Wasatch International Small Cap Growth (SA)         | 261,944,616       | 5.51           |
| State Street Russell Fndmtl Gbl ex-US Index NL (CF) | 257,443,251       | 5.42           |
| Wellington International Horizons (SA)              | 231,769,288       | 4.88           |
| Acadian Emerging Markets (SA)                       | 225,507,787       | 4.74           |
| Lazard International Equity Plus (SA)               | 212,118,440       | 4.46           |
| William Blair Emerging Markets (SA)                 | 211,086,866       | 4.44           |

## Comparative Performance

|                                | 1 Quarter | Year To Date | 1 Year | 3 Years | 5 Years | 10 Years | 2016  | 2015  | 2014  | 2013  | 2012  | Since Incep. | Inception Date |
|--------------------------------|-----------|--------------|--------|---------|---------|----------|-------|-------|-------|-------|-------|--------------|----------------|
| International Equity Composite | 6.29      | 15.30        | 19.28  | 1.83    | 8.17    | N/A      | 3.72  | -3.32 | -3.11 | 16.31 | 17.23 | 1.83         | 02/01/2008     |
| International Equity Benchmark | 5.85      | 14.30        | 20.43  | 1.14    | 7.58    | 0.38     | 4.41  | -4.60 | -3.89 | 15.82 | 17.04 | 1.40         |                |
| Difference                     | 0.44      | 1.00         | -1.15  | 0.69    | 0.59    | N/A      | -0.69 | 1.28  | 0.78  | 0.49  | 0.19  | 0.43         |                |

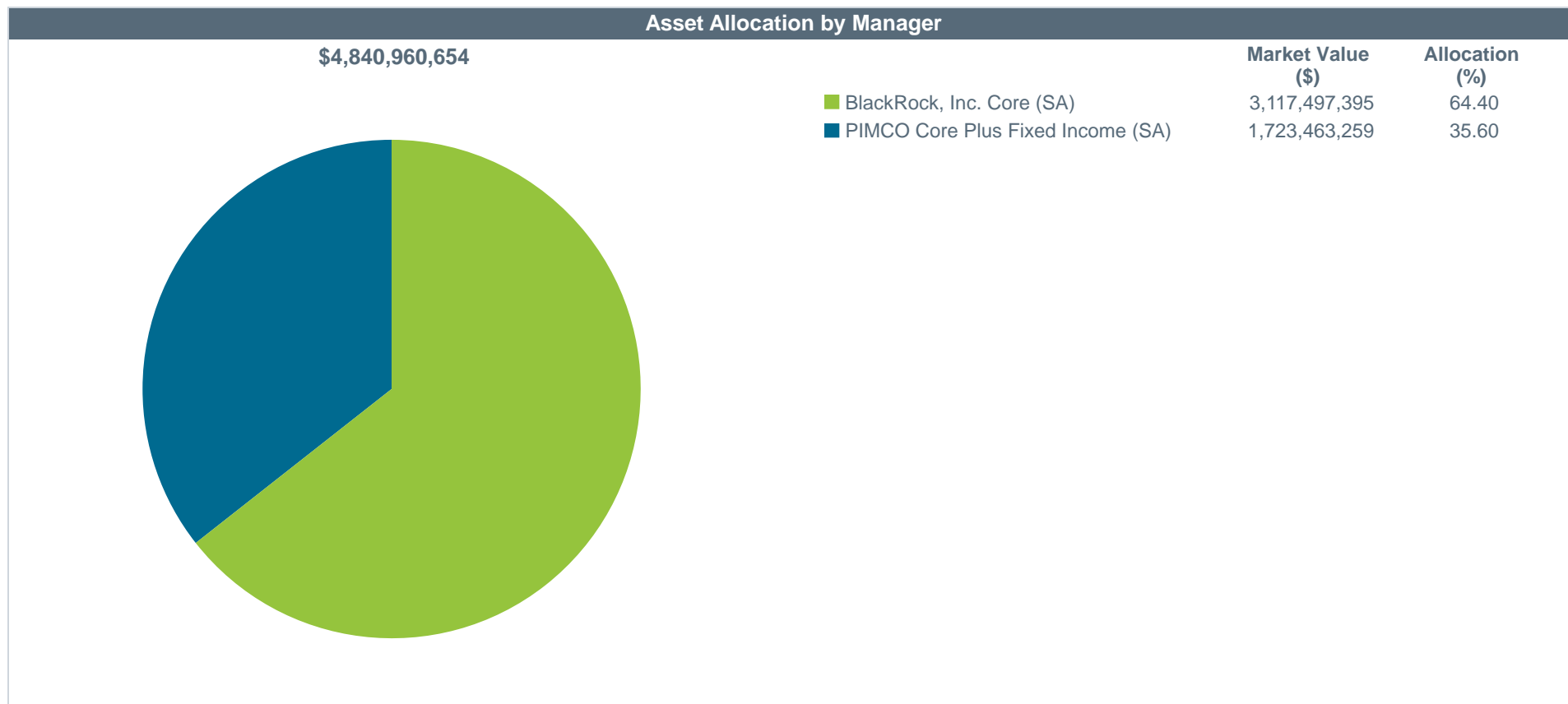
Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding.

# International Equity Composite vs. IM International Equity



Performance shown is gross of fees. Calculations based on quarterly periodicity. Parenthesis contain percentile ranks.

# Core Fixed Income Composite Performance and Allocation

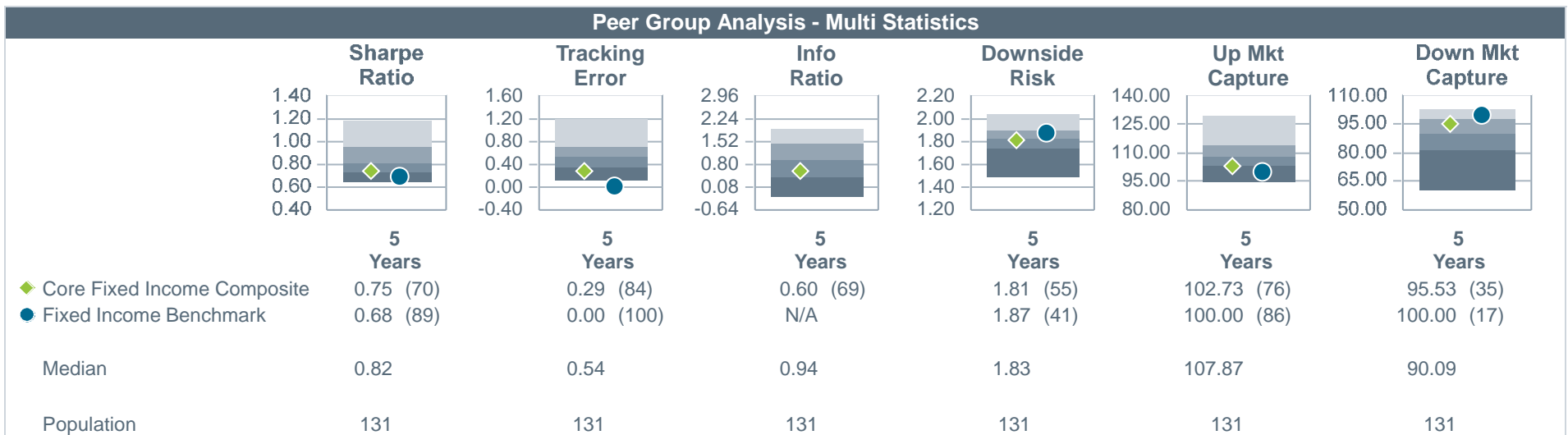
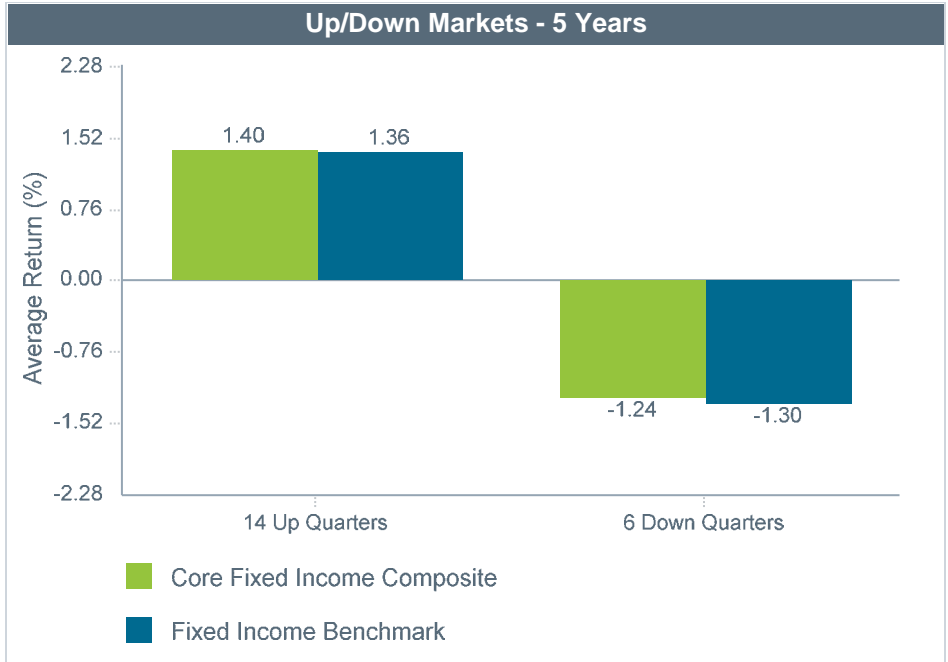
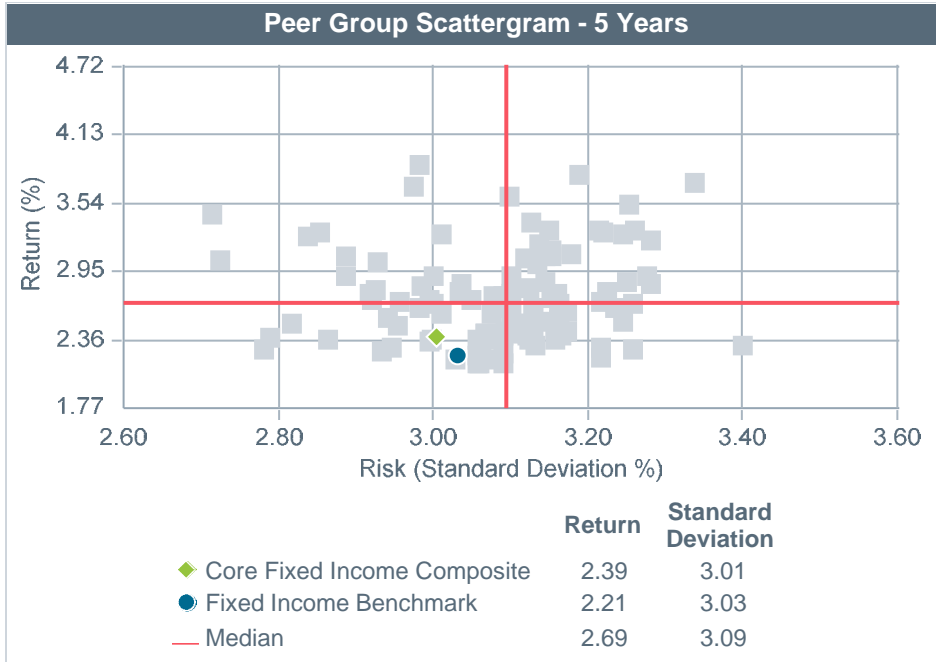


**Comparative Performance**

|                                    | 1 Quarter | Year To Date | 1 Year | 3 Years | 5 Years | 10 Years | 2016 | 2015 | 2014  | 2013  | 2012 | Since Incep. | Inception Date |
|------------------------------------|-----------|--------------|--------|---------|---------|----------|------|------|-------|-------|------|--------------|----------------|
| <b>Core Fixed Income Composite</b> | 1.53      | 2.44         | 0.18   | 2.64    | 2.39    | 4.78     | 2.98 | 0.80 | 5.77  | -1.94 | 4.94 | 7.79         | 01/01/1989     |
| Fixed Income Benchmark             | 1.45      | 2.27         | -0.31  | 2.48    | 2.21    | 4.38     | 2.65 | 0.55 | 5.97  | -2.02 | 4.21 | 7.22         |                |
| Difference                         | 0.08      | 0.17         | 0.49   | 0.16    | 0.18    | 0.40     | 0.33 | 0.25 | -0.20 | 0.08  | 0.73 | 0.57         |                |

Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding.

# Core Fixed Income Composite vs. IM U.S. Broad Market Core Fixed Income



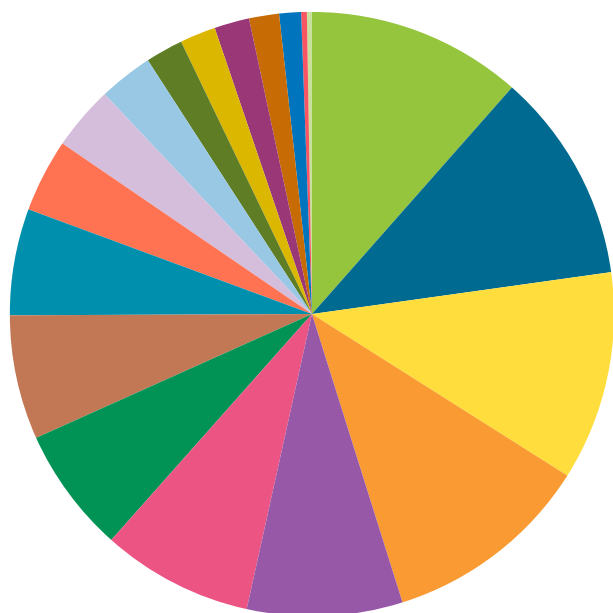
Performance shown is gross of fees. Calculations based on quarterly periodicity. Parenthesis contain percentile ranks.



# Non-Core Fixed Income Composite Performance & Allocation

Asset Allocation by Manager

\$3,722,026,511



|   | Market Value (\$) | Allocation (%) |
|---|-------------------|----------------|
| Highland Bandera Strategic Credit Partners I, LP    | 428,340,749       | 11.51          |
| Voya RMBS/CMBS (SA)                                 | 419,412,803       | 11.27          |
| Guggenheim Bandera Strategic Credit Partners II, LP | 417,042,424       | 11.20          |
| Ellington RMBS/CMBS (SA)                            | 415,643,346       | 11.17          |
| Columbia Management Investment Advisers, LLC        | 309,321,722       | 8.31           |
| Neuberger Berman Investment Advisers, LLC           | 301,500,000       | 8.10           |
| Alliance Bernstein Emerging Mkt Debt (SA)           | 250,550,364       | 6.73           |
| BlueBay Emerging Mkt Debt (SA)                      | 247,416,000       | 6.65           |
| Beach Point Total Ret Fd II, LP                     | 211,824,200       | 5.69           |
| White Oak Summit Fund, LP                           | 145,756,213       | 3.92           |
| Waterfall Eden Fund, LP                             | 127,205,625       | 3.42           |
| TCW Brazos Fund, LLC                                | 107,676,887       | 2.89           |
| GoldenTree Asset Management, LP                     | 75,000,000        | 2.02           |
| Marathon SPS Fund, LP                               | 70,969,470        | 1.91           |
| Golub Capital Pearls DLP, LP                        | 69,790,861        | 1.88           |
| H.I.G. Whitehorse Capital, LLC                      | 59,849,522        | 1.61           |
| PIMCO Corp Op Fd II Onshore, LP                     | 43,209,842        | 1.16           |
| Marathon European Credit Opportunity Fund III, LP   | 11,302,028        | 0.30           |
| Marathon CLO Equity Fund, LP                        | 10,214,456        | 0.27           |
| *Adams Street Private Credit Fund-A LP              | -                 | 0.00           |
| *Bain Capital Credit, LP                            | -                 | 0.00           |

Comparative Performance

|                                 | 1 Quarter | Year To Date | 1 Year | 3 Years | 5 Years | 10 Years | 2016  | 2015  | 2014 | 2013 | 2012  | Since Incep. | Inception Date |
|---------------------------------|-----------|--------------|--------|---------|---------|----------|-------|-------|------|------|-------|--------------|----------------|
| Non-Core Fixed Income Composite | 2.22      | 4.83         | 11.30  | N/A     | N/A     | N/A      | 7.96  | 1.09  | N/A  | N/A  | N/A   | 5.33         | 10/01/2014     |
| Non-Core Fixed Income Benchmark | 2.49      | 6.29         | 9.68   | 3.29    | 5.01    | 6.72     | 13.56 | -6.90 | 3.82 | 1.18 | 15.94 | 4.51         |                |
| Difference                      | -0.27     | -1.46        | 1.62   | N/A     | N/A     | N/A      | -5.60 | 7.99  | N/A  | N/A  | N/A   | 0.82         |                |

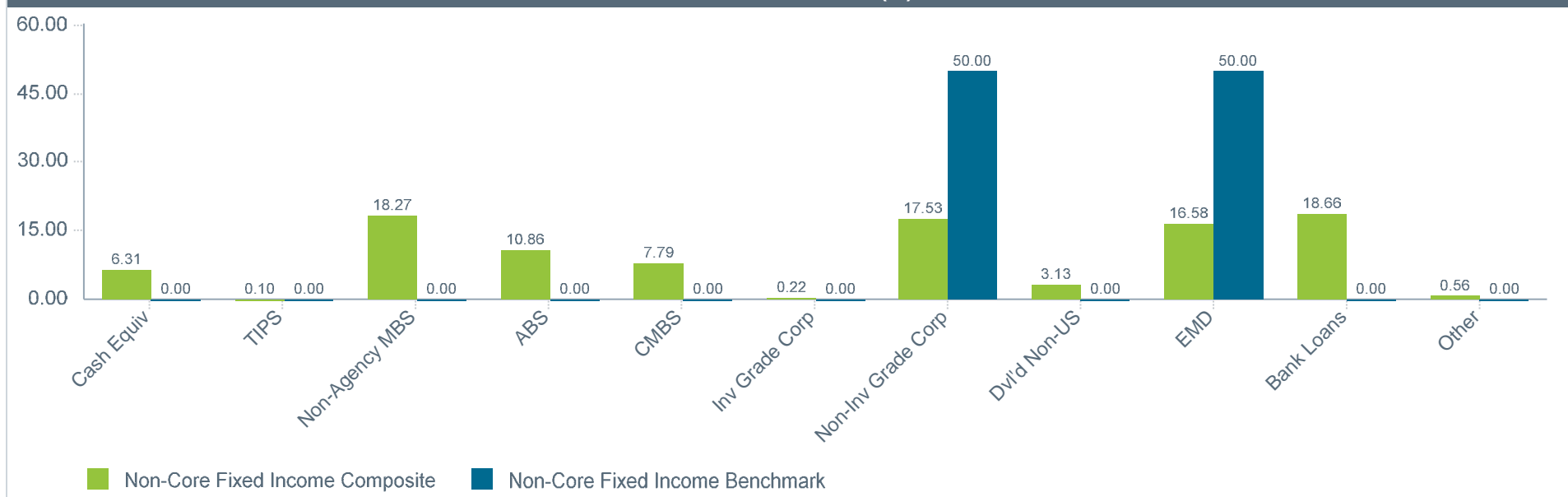
Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding.  
\*Represents approved investments that have not been funded and/or are pending legal documents.

# Non-Core Fixed Income Composite vs. Non-Core Fixed Income Benchmark

## Portfolio Characteristics

|                       | Portfolio | Benchmark |
|-----------------------|-----------|-----------|
| Spread Duration       | 3.11      | N/A       |
| Avg. Maturity         | 9.19      | 7.05      |
| Avg. Quality          | B1        | Ba3       |
| Yield To Maturity (%) | 5.39      | 5.71      |
| Coupon Rate (%)       | 5.11      | 6.22      |

## Sector Distribution (%)

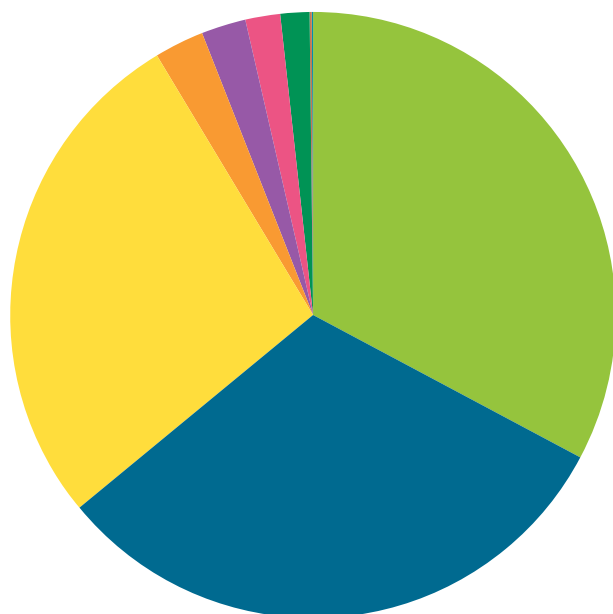


Bond characteristics exclude Private and Opportunistic Credit. Allocation to "Other" consists of derivative offsets and miscellaneous differences between the account's net asset value and its trade date based clean holdings.

# Real Return Composite Performance and Allocation

## Asset Allocation by Manager

\$2,443,895,377



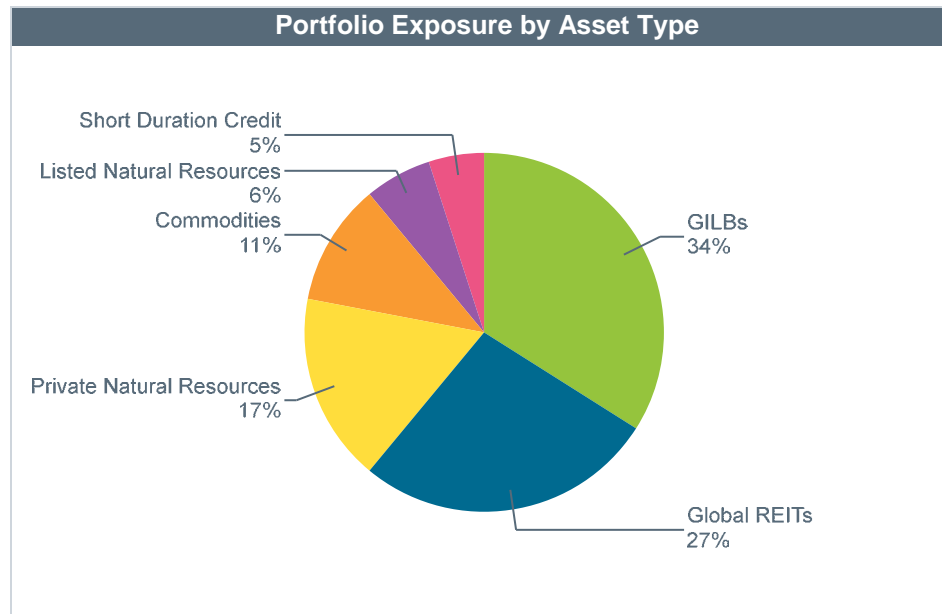
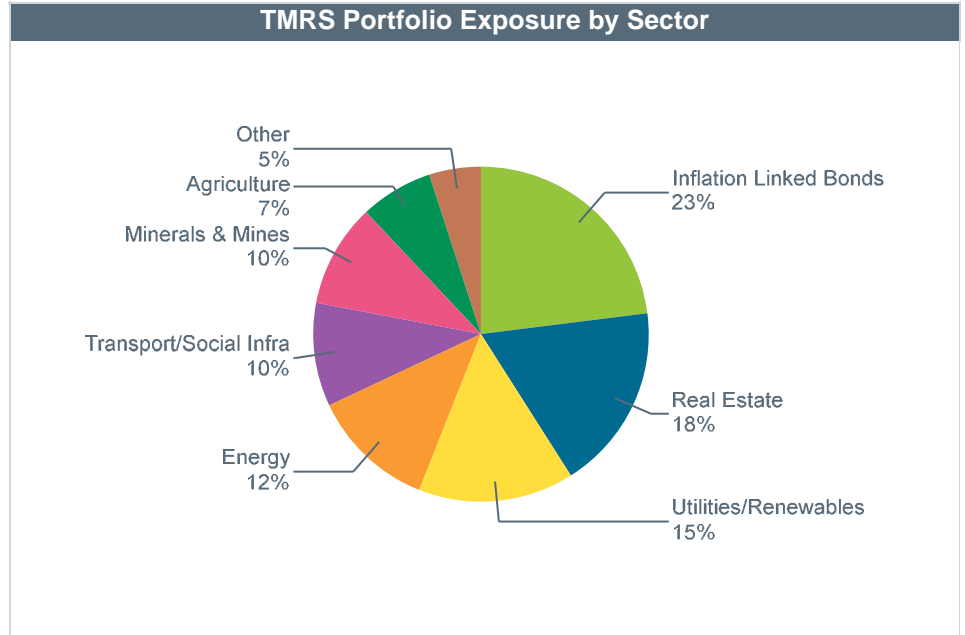
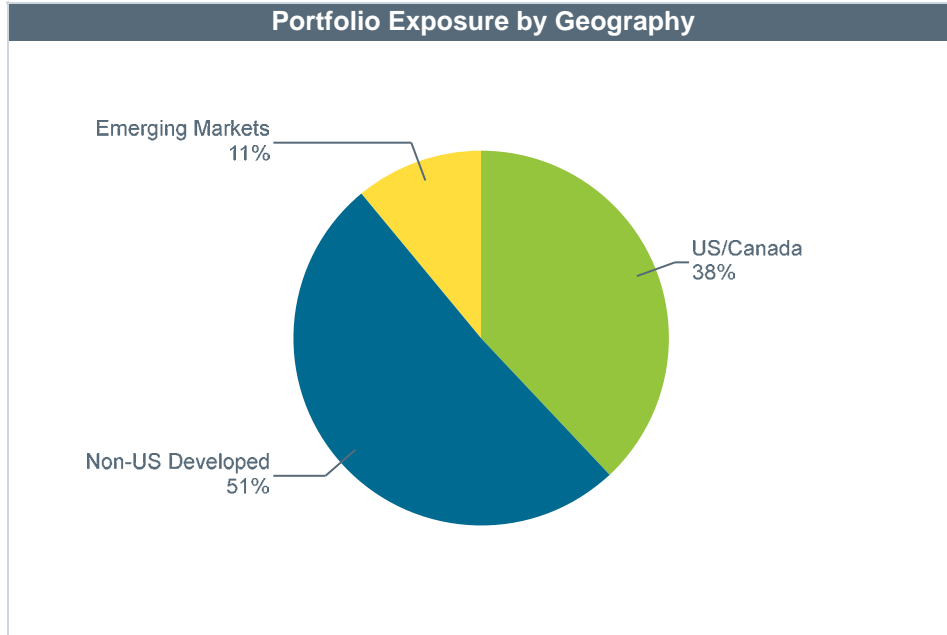
|   | Market Value (\$) | Allocation (%) |
|---|-------------------|----------------|
| Nuveen Real Asset Income                        | 801,291,568       | 32.79          |
| Cohen & Steers Real Asset                       | 763,453,398       | 31.24          |
| Colchester Global Inflation Linked Bond (SA)    | 668,266,943       | 27.34          |
| Amerra Agriculture Fund III                     | 65,101,464        | 2.66           |
| Orion Mine Finance Fund II                      | 57,826,001        | 2.37           |
| MTP Energy Opportunities Fund II                | 45,686,066        | 1.87           |
| Brookfield Infrastructure Partner Fund III      | 37,796,684        | 1.55           |
| Sprott Resource Lending Fund, LP                | 2,935,137         | 0.12           |
| Actis Energy IV, LP                             | 1,538,117         | 0.06           |
| *I Squared Global Infrastructure Fund II        | -                 | 0.00           |
| *Blue Sky Strategic Australian Agriculture Fund | -                 | 0.00           |

## Comparative Performance

|   | 1 Quarter | Year To Date | 1 Year | 3 Years | 5 Years | 10 Years | 2016 | 2015  | 2014 | 2013  | 2012  | Since Incep. | Inception Date |
|---|-----------|--------------|--------|---------|---------|----------|------|-------|------|-------|-------|--------------|----------------|
| <b>Real Return Composite</b>                    | 2.45      | 3.17         | 2.66   | 0.72    | 2.32    | N/A      | 6.99 | -5.55 | 4.44 | -4.06 | 10.83 | 3.41         | 02/01/2011     |
| Bloomberg Wrld Gov't Infl Lnkd Index (Unhedged) | 1.89      | 3.28         | 0.81   | 0.04    | 1.13    | 3.81     | 4.02 | -4.70 | 4.08 | -4.84 | 6.95  | 2.79         |                |
| Difference                                      | 0.56      | -0.11        | 1.85   | 0.68    | 1.19    | N/A      | 2.97 | -0.85 | 0.36 | 0.78  | 3.88  | 0.62         |                |

Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding. Represents approved investments that have not been funded and/or are pending legal documents.

# Real Return Portfolio Diversification

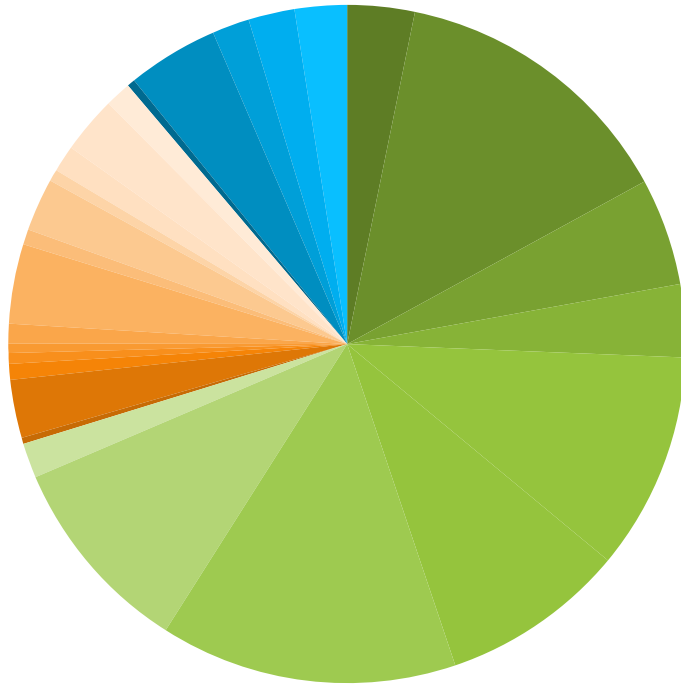


Allocations may not sum up to 100% exactly due to rounding. Allocations are by adjusted commitments. Allocation information is as of June 30, 2017 and provided by TMRS.

# Real Estate Composite Allocation

Asset Allocation by Manager

\$2,249,475,480



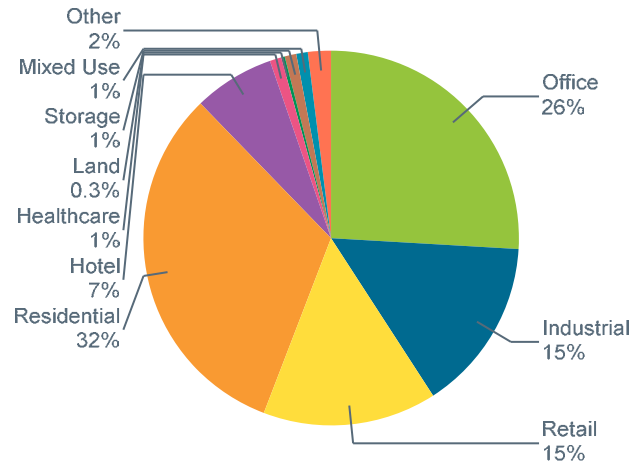
|   | Market Value (\$) | Allocation (%) |
|---|-------------------|----------------|
| Abacus Core Income Fund, LP             | 72,194,271        | 3.21           |
| BlackStone Property Partners            | 311,201,432       | 13.83          |
| H/2 CP, LP                              | 115,356,653       | 5.13           |
| H/2 CP Core RE Debt Fund, LP            | 77,962,575        | 3.47           |
| Harrison St. Real Estate                | 233,377,768       | 10.37          |
| INVESCO Advisers, Inc.                  | 198,342,211       | 8.82           |
| Stockbridge Smart Markets Fund, LP      | 318,646,629       | 14.17          |
| USAA Eagle Real Estate Fund, LP         | 215,377,346       | 9.57           |
| Walton St Real Estate Debt Fund         | 37,616,835        | 1.67           |
| Abacus Multi-Family Partners II, LP     | 6,477,452         | 0.29           |
| Abacus Multi-Family Partners III, LP    | 62,665,973        | 2.79           |
| Alcion RE Part Fund III-B, LP           | 16,878,247        | 0.75           |
| DivcoWest V                             | 11,469,776        | 0.51           |
| IC Berkeley Partners IV, LP             | 9,991,076         | 0.44           |
| Greenfield Acquisition Partners VI, LP  | 21,118,777        | 0.94           |
| Greenfield Acquisition Partners VII, LP | 85,448,808        | 3.80           |
| Miller Global Fund VII                  | 16,128,220        | 0.72           |
| Rubenstein Properties Fund II           | 56,845,512        | 2.53           |
| Rubenstein Properties Fund III          | 12,702,619        | 0.56           |
| Stockbridge Value Fund, LLC             | 28,631,929        | 1.27           |
| Stockbridge Value Fund II, LP           | 61,052,715        | 2.71           |
| *Stockbridge Value Fund III, LP         | -                 | 0.00           |
| Torchlight Debt Opp Fund V, LP          | 28,166,014        | 1.25           |
| European Property Inv Special           | 8,090,558         | 0.36           |
| *Kildare European Partners II           | -                 | 0.00           |
| Lubert-Adler Fund VII                   | 98,013,938        | 4.36           |
| Moorfield Real Estate III               | 40,267,917        | 1.79           |
| TPG Real Estate Part II, LP             | 49,392,364        | 2.20           |
| Walton St Real Estate Fund VII          | 56,057,865        | 2.49           |

|                       | 1 Quarter | Year To Date | 1 Year | 3 Years | 5 Years | 10 Years | 2016  | 2015  | 2014  | 2013  | 2012  | Since Incep. | Inception Date |
|-----------------------|-----------|--------------|--------|---------|---------|----------|-------|-------|-------|-------|-------|--------------|----------------|
| Real Estate Composite | 2.41      | 6.01         | 12.55  | 14.77   | 14.30   | N/A      | 14.76 | 15.25 | 20.35 | 11.69 | 6.79  | 13.56        | 01/01/2012     |
| Real Estate Benchmark | 1.77      | 3.90         | 8.31   | 11.77   | 11.97   | 5.59     | 9.97  | 15.00 | 12.40 | 13.04 | 11.61 | 11.98        |                |
| Difference            | 0.64      | 2.11         | 4.24   | 3.00    | 2.33    | N/A      | 4.79  | 0.25  | 7.95  | -1.35 | -4.82 | 1.58         |                |

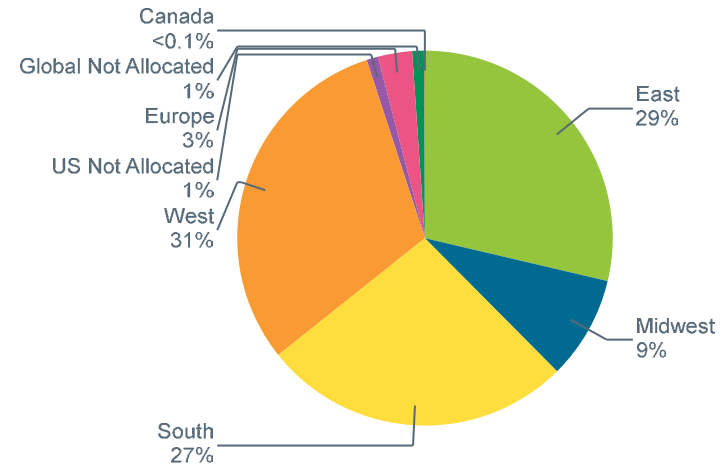
\*Represents approved investments that have not been funded and/or are pending legal documents.  
Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding.

# Real Estate Portfolio Diversification

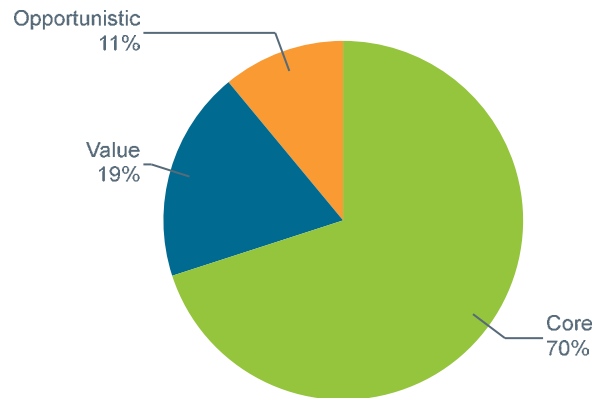
Property Type Diversification Based on Market Value



Geographic Diversification Based on Market Value



Sector Diversification Based on Market Value

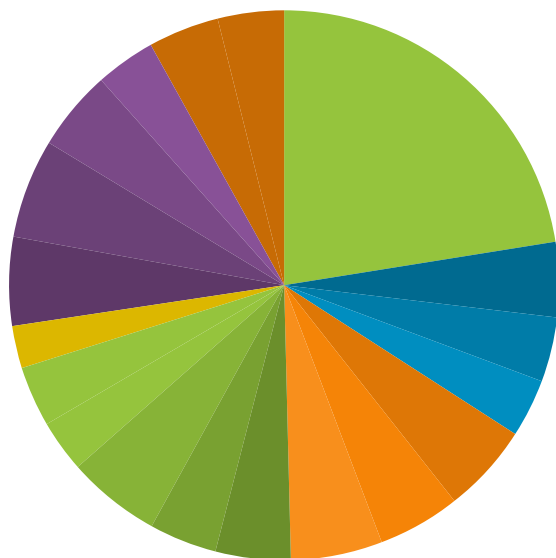


Allocations may not sum up to 100% exactly due to rounding. Allocation information is as of March 31, 2017 and provided by TMRS.

# Absolute Return Performance and Allocation

## Asset Allocation by Manager

June 30, 2017 : \$2,607,924,179



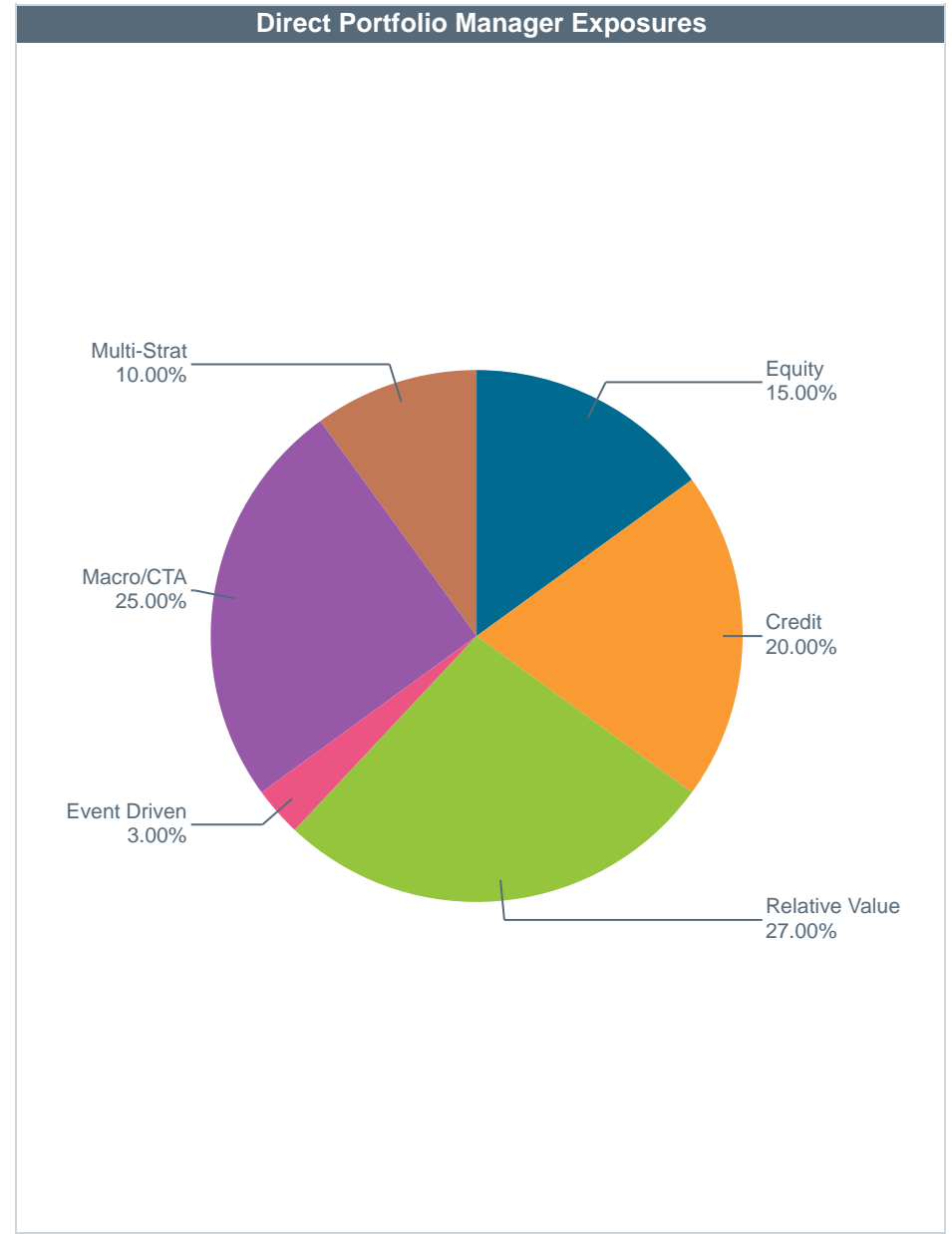
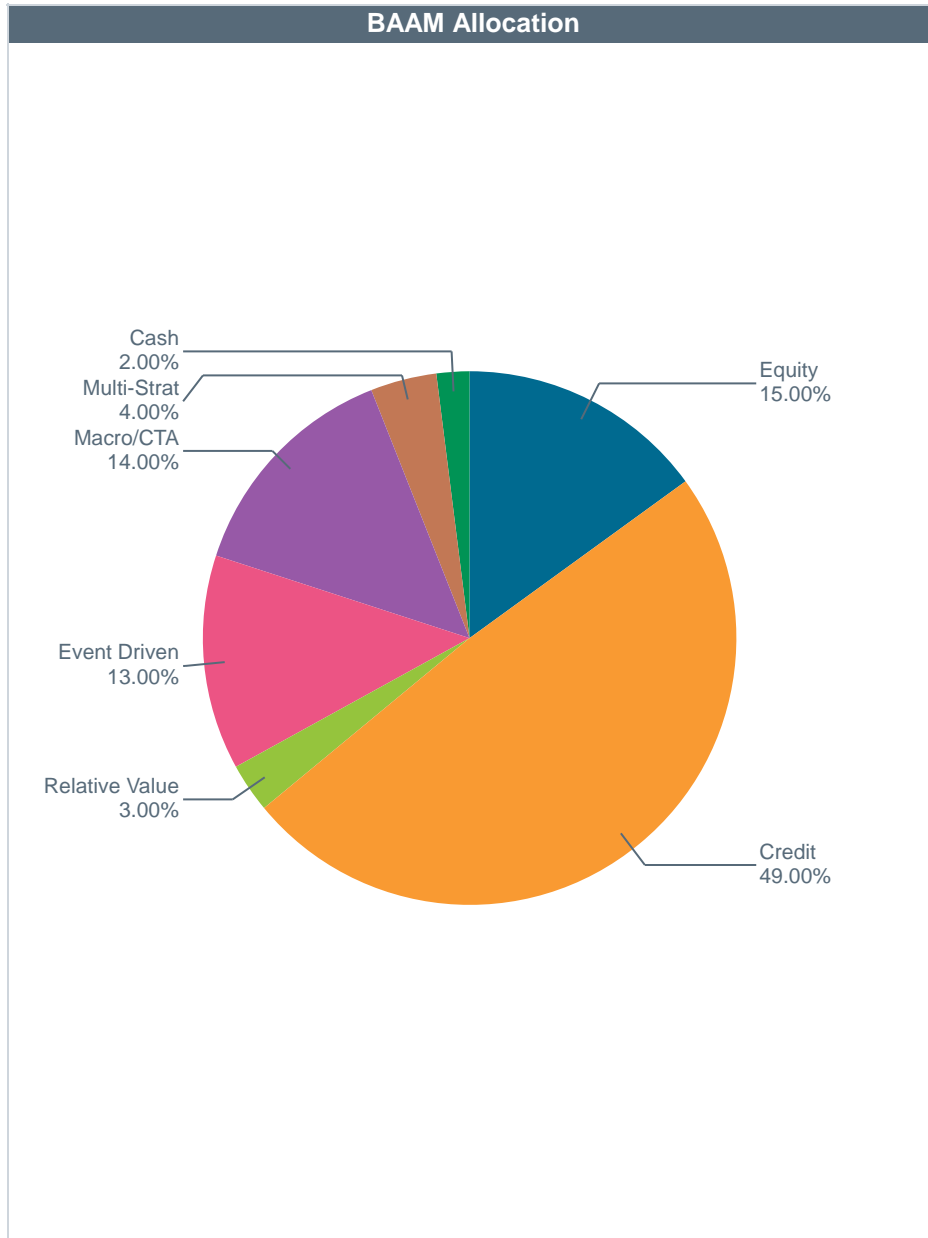
|                                | Market Value (\$) | Allocation (%) |
|--------------------------------|-------------------|----------------|
| Blackstone Treaty Oak Fund, LP | 585,639,912       | 22.46          |
| L/S Equity Manager 1           | 115,078,810       | 4.41           |
| L/S Equity Manager 2           | 99,133,110        | 3.80           |
| L/S Equity Manager 3           | 89,481,200        | 3.43           |
| Credit Manager 1               | 137,196,720       | 5.26           |
| Credit Manager 2               | 126,538,800       | 4.85           |
| Credit Manager 3               | 140,544,720       | 5.39           |
| Relative Value Manager 1       | 115,419,635       | 4.43           |
| Relative Value Manager 2       | 103,503,900       | 3.97           |
| Relative Value Manager 3       | 143,777,400       | 5.51           |
| Relative Value Manager 4       | 80,034,160        | 3.07           |
| Relative Value Manager 5       | 92,665,890        | 3.55           |
| Event Driven Manager 1         | 64,896,840        | 2.49           |
| Global Macro Manager 1         | 136,096,250       | 5.22           |
| Global Macro Manager 2         | 152,281,500       | 5.84           |
| Global Macro Manager 3         | 123,667,600       | 4.74           |
| Global Macro Manager 4         | 91,716,300        | 3.52           |
| Multi Strat Manager 1          | 108,759,900       | 4.17           |
| Multi Strat Manager 2          | 101,491,532       | 3.89           |

## Comparative Performance

|   | 1 Quarter   | Year To Date | 1 Year       | 3 Years    | 5 Years    | 10 Years   | 2016        | 2015        | 2014       | 2013       | 2012       | Since Incep. | Inception Date    |
|---|-------------|--------------|--------------|------------|------------|------------|-------------|-------------|------------|------------|------------|--------------|-------------------|
| <b>Absolute Return Composite</b>        | <b>3.05</b> | <b>6.47</b>  | <b>11.86</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>2.97</b> | <b>3.39</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>4.69</b>  | <b>08/01/2014</b> |
| Absolute Return Benchmark               | 0.30        | 2.20         | 5.18         | 1.29       | 3.68       | 0.86       | 0.45        | 0.11        | 3.15       | 9.04       | 4.81       | 1.48         |                   |
| Difference                              | 2.75        | 4.27         | 6.68         | N/A        | N/A        | N/A        | 2.52        | 3.28        | N/A        | N/A        | N/A        | 3.21         |                   |
| <b>Blackstone Treaty Oak Fund, LP</b>   | <b>0.89</b> | <b>3.44</b>  | <b>9.31</b>  | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>3.04</b> | <b>3.39</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>3.69</b>  | <b>08/01/2014</b> |
| Absolute Return Benchmark               | 0.30        | 2.20         | 5.18         | 1.29       | 3.68       | 0.86       | 0.45        | 0.11        | 3.15       | 9.04       | 4.81       | 1.48         |                   |
| Difference                              | 0.59        | 1.24         | 4.13         | N/A        | N/A        | N/A        | 2.59        | 3.28        | N/A        | N/A        | N/A        | 2.21         |                   |
| <b>Absolute Return Direct Composite</b> | <b>3.71</b> | <b>7.88</b>  | <b>12.35</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>2.65</b> | <b>N/A</b>  | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>7.04</b>  | <b>01/01/2016</b> |
| Absolute Return Benchmark               | 0.30        | 2.20         | 5.18         | 1.29       | 3.68       | 0.86       | 0.45        | 0.11        | 3.15       | 9.04       | 4.81       | 1.76         |                   |
| Difference                              | 3.41        | 5.68         | 7.17         | N/A        | N/A        | N/A        | 2.20        | N/A         | N/A        | N/A        | N/A        | 5.28         |                   |

Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding.

# Absolute Return Strategy Exposures



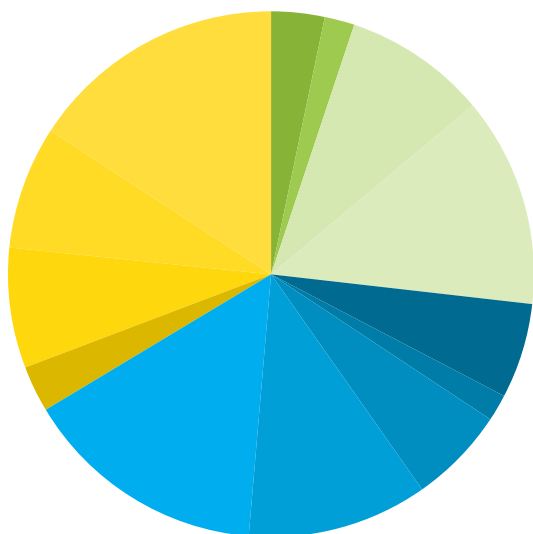
Allocations shown may not sum up to 100% exactly due to rounding. Allocation information is as of June 30, 2017 and provided by TMRS.



# Private Equity Performance and Allocation

## Asset Allocation by Manager

\$173,643,528



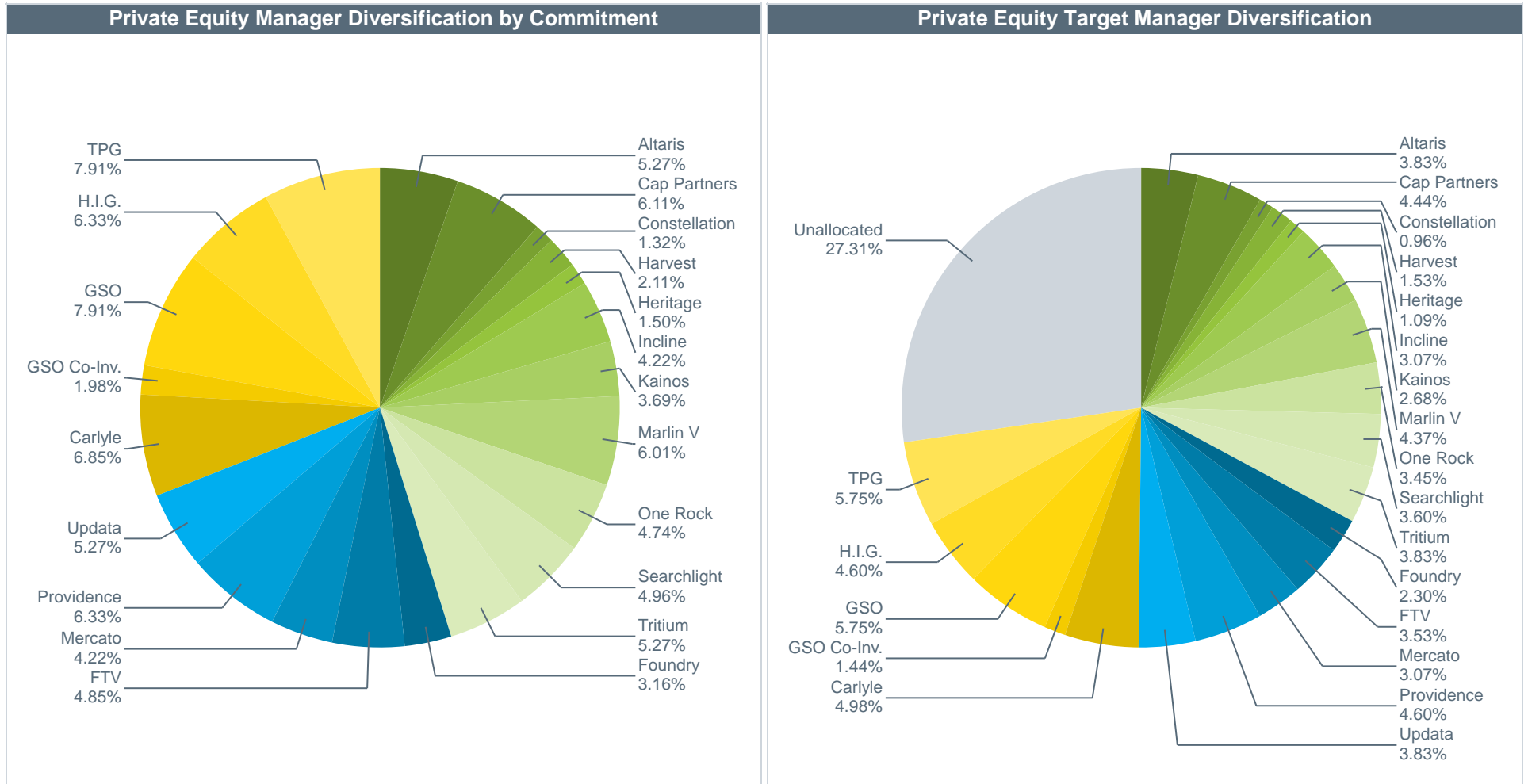
|  | Market Value (\$) | Allocation (%) |
|--|-------------------|----------------|
| *Altaris Constellation Partners IV, L.P.               | -                 | 0.00           |
| *Altaris Health Partners IV, L.P.                      | -                 | 0.00           |
| *Capital Partners Private Equity Income Fund III, L.P. | -                 | 0.00           |
| Harvest Partners VII                                   | 5,709,686         | 3.29           |
| *Incline Equity IV                                     | -                 | 0.00           |
| Kainos Capital Partners II                             | 3,184,549         | 1.83           |
| *Marlin Heritage II, LP                                | -                 | 0.00           |
| *Marlin Equity V, LP                                   | -                 | 0.00           |
| *One Rock Capital Partners II, LP                      | -                 | 0.00           |
| Searchlight Capital II                                 | 15,231,822        | 8.77           |
| Tritium I, LP  | 22,419,670        | 12.91          |
| Foundry Group Next Fund, LP                            | 10,188,123        | 5.87           |
| FTV V  | 2,853,392         | 1.64           |
| Mercato Partners Growth III, LP                        | 10,335,958        | 5.95           |
| Providence Strategic Growth II                         | 19,259,528        | 11.09          |
| Update Partners V, LP                                  | 26,087,063        | 15.02          |
| Carlyle Energy Mezzanine Fund II                       | 4,930,302         | 2.84           |
| *GSO COF III Co-investment Fund, LP                    | -                 | 0.00           |
| GSO Capital Opportunities Fund III, LP                 | 12,840,335        | 7.39           |
| H.I.G. Bayside Fund IV                                 | 13,158,576        | 7.58           |
| TSSP Adjacent Opportunities Fund III                   | 27,444,525        | 15.81          |

## Comparative Performance

|  | 1 Quarter    | Year To Date | 1 Year       | 3 Years    | 5 Years    | 10 Years   | 2016         | 2015       | 2014       | 2013       | 2012       | Since Incep. | Inception Date    |
|--|--------------|--------------|--------------|------------|------------|------------|--------------|------------|------------|------------|------------|--------------|-------------------|
| <b>Private Equity Composite</b>        | <b>2.22</b>  | <b>9.33</b>  | <b>23.79</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>1.68</b>  | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>7.31</b>  | <b>01/01/2016</b> |
| Russell 3000 Index+3%                  | 3.78         | 10.55        | 22.06        | 12.38      | 18.02      | 10.47      | 16.12        | 3.49       | 15.93      | 37.56      | 19.91      | 18.12        |                   |
| Difference                             | -1.56        | -1.22        | 1.73         | N/A        | N/A        | N/A        | -14.44       | N/A        | N/A        | N/A        | N/A        | -10.81       |                   |
| <b>Private Equity - Buy Out</b>        | <b>-6.31</b> | <b>3.60</b>  | <b>24.81</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>23.91</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>18.11</b> | <b>01/01/2016</b> |
| Russell 3000 Index+3%                  | 3.78         | 10.55        | 22.06        | 12.38      | 18.02      | 10.47      | 16.12        | 3.49       | 15.93      | 37.56      | 19.91      | 18.12        |                   |
| Difference                             | -10.09       | -6.95        | 2.75         | N/A        | N/A        | N/A        | 7.79         | N/A        | N/A        | N/A        | N/A        | -0.01        |                   |
| <b>Private Equity - Venture/Growth</b> | <b>8.42</b>  | <b>11.37</b> | <b>-5.08</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b>   | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>N/A</b> | <b>-5.08</b> | <b>07/01/2016</b> |
| Russell 3000 Index+3%                  | 3.78         | 10.55        | 22.06        | 12.38      | 18.02      | 10.47      | 16.12        | 3.49       | 15.93      | 37.56      | 19.91      | 22.06        |                   |
| Difference                             | 4.64         | 0.82         | -27.14       | N/A        | N/A        | N/A        | N/A          | N/A        | N/A        | N/A        | N/A        | -27.14       |                   |

\*Represents approved investments that have not been funded and/or are pending legal documents.  
Performance shown is gross of fees. Allocations shown may not sum up to 100% exactly due to rounding.

# Private Equity Strategic Allocation



**Policy Strategy Ranges**

No more than 35% with any one investment manager  
 No more than 25% in any one investment vehicle

Allocations may not sum up to 100% exactly due to rounding. Allocation information is as of June 30, 2017 and provided by TMRS.

PORTLAND

CHICAGO

NEW YORK

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