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**OCTOBER 4, 2017**

**AGENDA ITEM 6  
ACTION ITEM**

**SCHOLARSHARE INVESTMENT BOARD**

*Review and Analysis of Investment Performance for the ScholarShare 529 College Savings Plan for Second Quarter 2017 and Resolution to Approve Placement of the TIAA-CREF Social Choice Equity Fund on Watch Status*

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***Recommendation***

ScholarShare Investment Board (SIB or Board) staff recommends the Board adopt Resolution No. 2017-05 approving the placement of the TIAA-CREF Social Choice Equity Fund on “watch” status

***Background***

The Board and its investment consultant, Pension Consulting Alliance, LLC (PCA), monitor all portfolios in the ScholarShare 529 College Savings Plan (Plan) in accordance with the ScholarShare Monitoring Procedures and Criteria adopted by the Board.

In this item, SIB will review and discuss “Investment Performance Report” (Exhibit A) for the Plan for second quarter 2017, provided by TIAA-CREF Tuition Financing, Inc., and PCA’s “Investment Performance Status Report” (Exhibit B) for second quarter 2017. PCA’s report compares each underlying fund allocated to the portfolios used in the Plan, to applicable benchmark criteria and labels the current status of funds as “positive,” “acceptable,” “caution,” or “watch.”

For the second quarter of 2017:

- Seven underlying funds were in the “positive” status, and
- 11 underlying funds were in the “acceptable” status
- One underlying funds were in the “caution” status.

As outlined in its memo (Exhibit C), PCA is recommending that the TIAA-CREF Social Choice Equity Fund be placed on “watch” status.

***Presenters***

Jeremy Thiessen, Senior Director, TIAA-CREF Tuition Financing, Inc.  
Eric White, Managing Director, Pension Consulting Alliance, LLC.

**RESOLUTION NO. 2017-05**

**RESOLUTION OF THE SCHOLARSHARE INVESTMENT BOARD  
APPROVING THE PLACEMENT OF THE  
TIAA-CREF SOCIAL CHOICE EQUITY FUND ON WATCH STATUS**

**WHEREAS**, the ScholarShare Investment Board (the “Board”) was created under the Education Code section 69980 et seq. (the “Golden State ScholarShare Trust Act” or “Act”); and

**WHEREAS**, the Board has a fiduciary responsibility on behalf of the ScholarShare participants and beneficiaries to monitor the investment manager’s mutual funds and investment performance; and

**WHEREAS**, the Board adopted the Golden State ScholarShare College Savings Trust Monitoring Procedures and Criteria (the “Procedures”) to provide guidelines for monitoring the investment manager’s mutual funds and investment performance as part of its fiduciary responsibility on behalf of the ScholarShare participants and beneficiaries; and

**WHEREAS**, the SIB staff and Board’s investment consultant (the “Consultant”) have reviewed and analyzed the investment performance of the portfolios and funds in the ScholarShare College Savings Plan through the end of second quarter 2017; and

**WHEREAS**, the performance of the TIAA-CREF Social Choice Equity Fund (the “Fund”) has not met the investment performance criteria (the “Benchmarks”) outlined in the Procedures; and

**WHEREAS**, per the Procedures, the Board may place underlying funds that do not meet the Benchmarks on watch status.

**NOW, THEREFORE, BE IT RESOLVED**, that the Board approve the placement of the Fund on watch status.

**BE IT FURTHER RESOLVED**, that this Resolution becomes effective upon its adoption by the Board.

Attest:

\_\_\_\_\_  
Chairperson

Date of Adoption:

\_\_\_\_\_

ScholarShare College Savings Plan

Investment Performance Report  
2nd Quarter, 2017



**SCHOLARSHARE**

.....  
CALIFORNIA'S 529 COLLEGE SAVINGS PLAN  
.....



## Key themes

- Overall, the U.S. economy continues to show signs of improvement, with above-consensus job growth and strong home sales.
- Encouragingly, manufacturing activity hit a three-year high in June, and service-sector activity expanded briskly. While year-over-year wage growth was disappointing, the Conference Board's index of leading economic indicators rose in June for the sixth consecutive month.

## Equities

- Global equities continued to trend higher, building on momentum from the first quarter. Returns were particularly strong in international markets. Top performing sectors in the U.S. include Health Care and Industrials, followed by Financials.

## Fixed Income

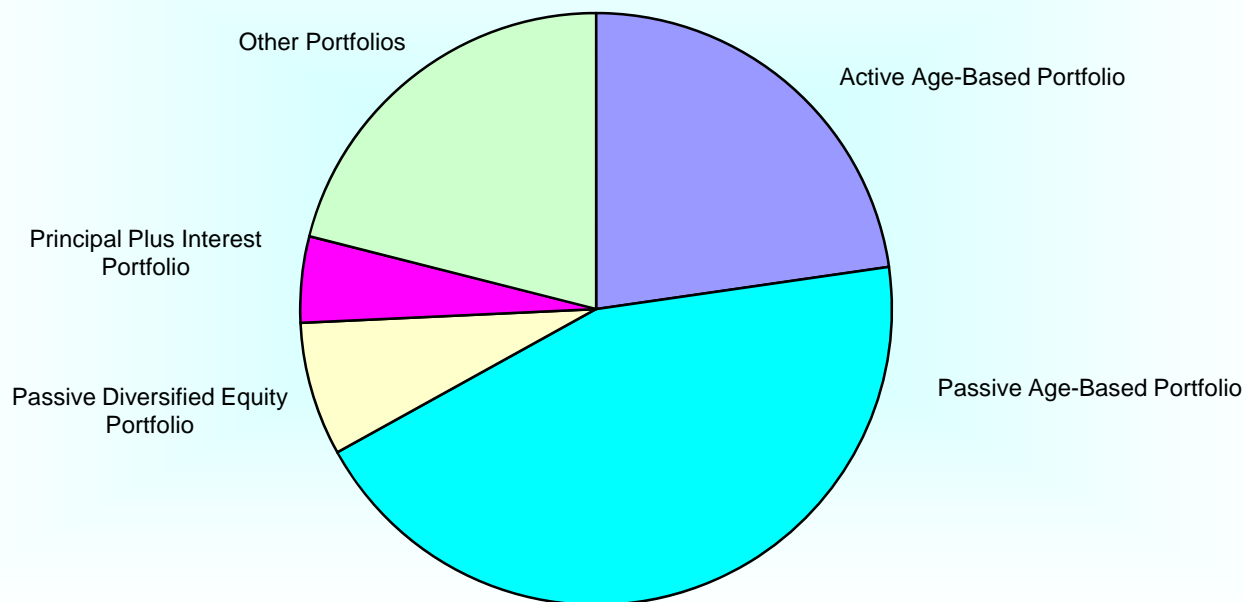
- On June 14, the Federal Reserve raised its target federal funds rate by 25 basis points (0.25%), to a range of 1.00%–1.25%, a widely expected move given the unemployment rate's drop in May to 4.3%, a 16-year low. The effects in the bond market were rather muted and several bond indices registered positive returns.

Past performance is not indicative of future results. You can not invest directly in an index. U.S. Equities – Russell 3000 Index; U.S. Growth Stocks – Russell 1000 Growth Index; U.S. Value Stocks – Russell 1000 Value Index; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small-Cap Stocks – Russell 2000 Index; International Developed Markets – MSCI EAFE Index; Emerging Markets – MSCI Emerging Markets Index; Real Estate Stocks – FTSE NAREIT All Equity REITS Index; U.S. Investment Grade Bonds – Bloomberg Barclays U.S. Aggregate Bond Index; U.S. Treasuries – Bloomberg Barclays U.S. Government/Credit Long Index; Inflation-Linked Bonds – Bloomberg Barclays TIPS 1-10 Years Index; High Yield Bonds – BofA Merrill Lynch BB/B Cash Pay Index; Commodities - Bloomberg Commodity Index; Cash - Bloomberg Barclays U.S. 3 month Treasury Bellweathers Index C34631

| Asset Class   | 3 Month | 1 Year        | 3 Year        | 5 Year        |
|---|---------|---------------|---------------|---------------|
| U.S. Equities   | 3.02    | 18.51         | 9.10          | 14.58         |
| U.S. Growth Stocks  | 4.67    | 20.42         | 11.11         | 15.30         |
| U.S. Value Stocks   | 1.34    | 15.53         | 7.36          | 13.94         |
| U.S. Mid-Cap Stocks   | 2.70    | 16.48         | 7.69          | 14.72         |
| U.S. Small-Cap Stocks   | 2.46    | 24.60         | 7.36          | 13.94         |
| Int'l Developed Markets   | 6.12    | 20.27         | 1.15          | 8.69          |
| Emerging Markets  | 6.27    | 23.75         | 1.07          | 3.96          |
| Real Estate Stocks  | 2.27    | 0.22          | 8.86          | 9.95          |
| U.S. Investment Grade Bonds   | 1.45    | -0.31         | 2.48          | 2.21          |
| U.S. Treasuries   | 4.39    | -1.07         | 5.28          | 4.26          |
| Inflation-Linked Bonds  | -0.40   | -0.26         | 0.35          | 0.28          |
| High Yield Bonds  | 2.21    | 11.15         | 4.56          | 6.66          |
| Commodities   | -3.00   | -6.50         | -14.81        | -9.25         |
| Cash  | 0.21    | 0.50          | 0.25          | 0.19          |
| <b>Annualized Tuition Inflation Ending as of 2016-2017 Academic Year* (%)</b> |         |               |               |               |
| <b>Educational Institution</b>  |         | <b>1 Year</b> | <b>3 Year</b> | <b>5 Year</b> |
| National Average Public 4-Year In-state                                       |         | 2.44          | 2.79          | 3.12          |
| National Average Private Nonprofit 4-Year                                     |         | 3.56          | 3.58          | 3.73          |
| Consumer Price Index, June 2017   |         | 1.61          | 0.86          | 1.30          |

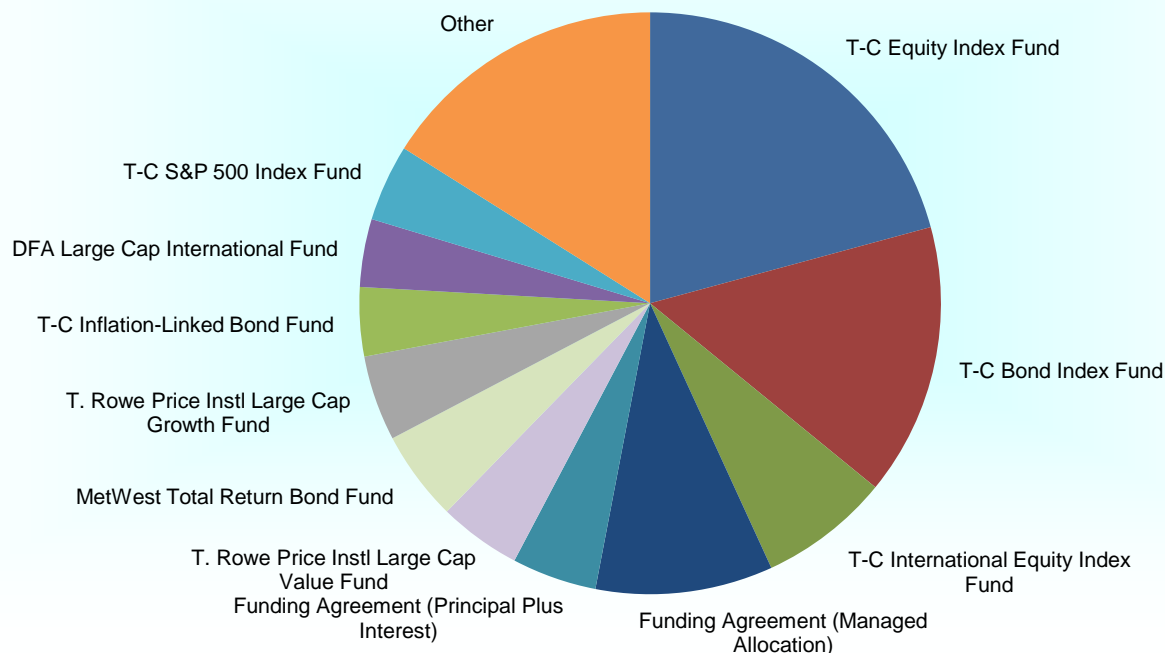
\*Data are for the entire academic year and are average total charges for full-time attendance. Tuition and fees were enrollment weighted. SOURCES: CollegeBoard, Trends in College Pricing 2016 and U.S. Department of Labor: Bureau of Labor Statistics

**ScholarShare Assets by Investment Portfolio  
as of 6/30/17  
Total Assets: \$7.72 Billion**



| Portfolio                             | % of Assets | \$ Millions | Portfolio                                  | % of Assets | \$ Millions |
|---------------------------------------|-------------|-------------|--|-------------|-------------|
| Passive Age-Based Portfolio           | 44.23%      | \$ 3,416    | Principal Plus Interest Portfolio          | 4.71%       | \$ 363      |
| Active Age-Based Portfolio            | 22.72%      | \$ 1,755    | Other Portfolios (see below)               | 21.04%      | \$ 1,625    |
| Passive Diversified Equity Portfolio  | 7.31%       | \$ 565      |  |             |             |
| <b>Other Portfolios</b>               |             |             |  |             |             |
| Index U.S. Large Cap Equity Portfolio | 4.28%       | \$ 330      | Active Moderate Growth Portfolio           | 0.56%       | \$ 43       |
| Index U.S. Equity Portfolio           | 4.19%       | \$ 324      | Passive Moderate Growth Portfolio          | 0.50%       | \$ 39       |
| Active Diversified Equity Portfolio   | 2.72%       | \$ 210      | Passive Conservative Portfolio             | 0.43%       | \$ 33       |
| Social Choice Portfolio               | 1.99%       | \$ 154      | Active Conservative Portfolio              | 0.41%       | \$ 32       |
| Active Growth Portfolio               | 1.75%       | \$ 135      | Active International Equity Portfolio      | 0.30%       | \$ 23       |
| Index International Equity Portfolio  | 1.44%       | \$ 111      | Active Diversified Fixed Income Portfolio  | 0.26%       | \$ 20       |
| Passive Growth Portfolio              | 1.37%       | \$ 106      | Passive Diversified Fixed Income Portfolio | 0.18%       | \$ 14       |
| Index Bond Portfolio                  | 0.66%       | \$ 51       |  |             |             |

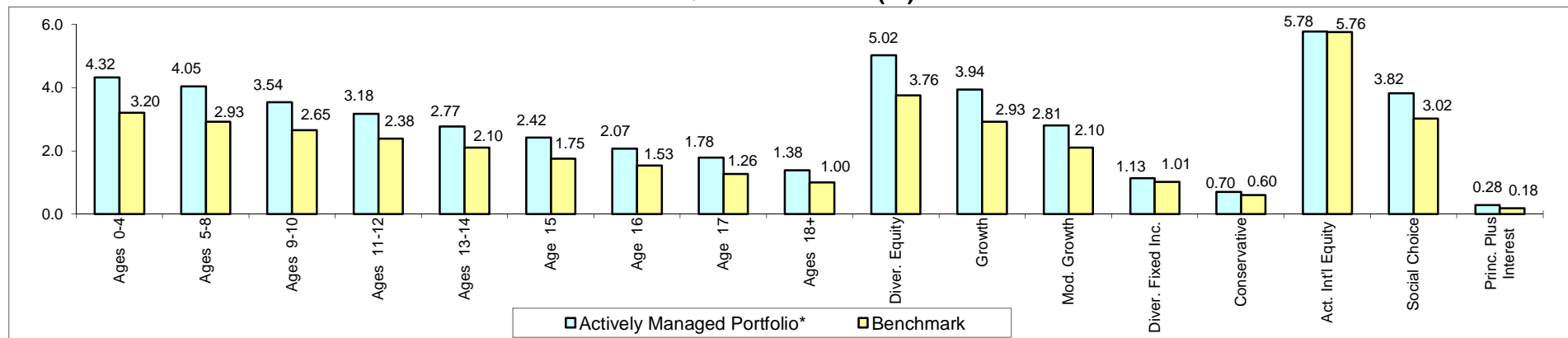
**ScholarShare Assets by Underlying Funds  
as of 6/30/17  
Total Assets: \$7.72 Billion**



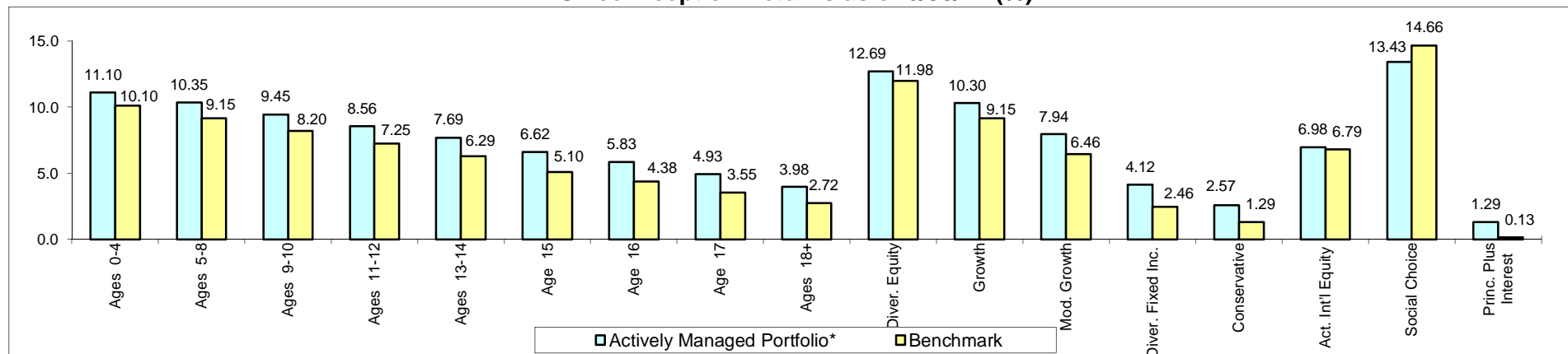
| <b>Fund</b>                               | <b>% of Assets</b> | <b>\$ Millions</b> | <b>Fund</b>                                 | <b>% of Assets</b> | <b>\$ Millions</b> |
|---|--------------------|--------------------|---|--------------------|--------------------|
| T-C Equity Index Fund                     | 20.78%             | \$ 1,605           | Funding Agreement (Principal Plus Interest) | 4.71%              | \$ 363             |
| T-C Bond Index Fund                       | 15.12%             | \$ 1,167           | T. Rowe Price Instl Large Cap Value Fund    | 4.59%              | \$ 354             |
| Funding Agreement (Managed Allocation)    | 9.86%              | \$ 761             | T-C S&P 500 Index Fund                      | 4.28%              | \$ 330             |
| T-C International Equity Index Fund       | 7.26%              | \$ 560             | T-C Inflation-Linked Bond Fund              | 3.84%              | \$ 297             |
| Metropolitan West Total Return Bond Fund  | 5.02%              | \$ 388             | DFA Large Cap International Fund            | 3.77%              | \$ 291             |
| T. Rowe Price Instl Large Cap Growth Fund | 4.73%              | \$ 365             | Other                                       | 16.05%             | \$ 1,239           |
| <b>Other Funds</b>                        |                    |                    |   |                    |                    |
| T-C Real Estate Securities Fund           | 3.10%              | \$ 239             | T-C Emerging Markets Equity Index Fund      | 1.74%              | \$ 134             |
| PIMCO Income Fund                         | 2.19%              | \$ 169             | T-C Small Cap Equity Fund                   | 1.13%              | \$ 87              |
| T-C High Yield Bond Fund                  | 2.17%              | \$ 167             | T. Rowe Price Instl Floating Rate Fund      | 0.96%              | \$ 74              |
| T-C Social Choice Equity Fund             | 1.99%              | \$ 154             | DFA Emerging Markets Core Equity Portfolio  | 0.83%              | \$ 64              |
| PIMCO Real Return Fund                    | 1.94%              | \$ 150             |   |                    |                    |

## Actively Managed Portfolios vs. Composite Benchmarks

### Q2 2017 Returns (%)



### Since Inception Returns as of 6/30/17 (%)



\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

- In June, the U.S. labor market generated an above-consensus 222,000 jobs. This strong performance raised the quarter's monthly average to 194,000 while nudging down both the headline unemployment rate, to 4.4%, and the U-6 "underemployment rate," which includes discouraged workers and part-time employees unable to find full-time jobs, to 8.6%.
- Disappointingly, year-over-year wage growth registered only 2.5% in June, well below the rate expected at this stage of the economy's recovery and a sign that there might be slack left in the labor market.
- All age bands in the Actively Managed Portfolios had positive absolute returns in Q2 and outperformed their blended benchmarks.
- Contributing significantly to absolute and relative returns was the T. Rowe Price Institutional Large Cap Growth Fund, which generated 8.06% in Q2 and beat its benchmark by 339 basis points. Also contributing was the DFA Large Cap International Portfolio, posting returns of 6.08% and beating its benchmark by 45 basis points.
- Other top relative performers include the TIAA-CREF Real Estate Securities Fund, which topped its benchmark by 151 basis points, and the T. Rowe Price Institutional Large Cap Value Fund, which beat its benchmark by 118 basis points. Most underlying funds beat their respective benchmarks in Q2.
- The Principal Plus Interest Portfolio outperformed by 10 basis points in Q2.

**ScholarShare College Savings Plan Performance Summary**  
 Actively Managed Portfolios vs. Composite Benchmarks\*  
 For the Period Ending 6/30/2017

| Investment Portfolios                           | 3 Month | YTD    | Average Annual Total Return |        |        |                 | Inception Date |
|---|---------|--------|-----------------------------|--------|--------|-----------------|----------------|
|   |         |        | 1 Year                      | 3 Year | 5 Year | Since Inception |                |
| <b>Active Age-Based Portfolios**</b>            |         |        |                             |        |        |                 |                |
| Active Age-Based Portfolio 0-4                  | 4.32%   | 10.55% | 17.88%                      | 6.54%  | 11.37% | 11.10%          | 11/04/11       |
| Blended Benchmark Returns                       | 3.20%   | 8.42%  | 14.22%                      | 5.86%  | 10.16% | 10.10%          |                |
| Difference                                      | 1.12%   | 2.13%  | 3.66%                       | 0.68%  | 1.21%  | 1.00%           |                |
| Active Age-Based Portfolio 5-8                  | 4.05%   | 9.75%  | 16.26%                      | 6.22%  | 10.50% | 10.35%          | 11/04/11       |
| Blended Benchmark Returns                       | 2.93%   | 7.60%  | 12.42%                      | 5.44%  | 9.16%  | 9.15%           |                |
| Difference                                      | 1.12%   | 2.15%  | 3.84%                       | 0.78%  | 1.34%  | 1.20%           |                |
| Active Age-Based Portfolio 9-10                 | 3.54%   | 8.68%  | 14.03%                      | 5.64%  | 9.46%  | 9.45%           | 11/04/11       |
| Blended Benchmark Returns                       | 2.65%   | 6.78%  | 10.63%                      | 5.01%  | 8.15%  | 8.20%           |                |
| Difference                                      | 0.89%   | 1.90%  | 3.40%                       | 0.63%  | 1.31%  | 1.25%           |                |
| Active Age-Based Portfolio 11-12                | 3.18%   | 7.65%  | 12.12%                      | 5.09%  | 8.46%  | 8.56%           | 11/04/11       |
| Blended Benchmark Returns                       | 2.38%   | 5.96%  | 8.87%                       | 4.58%  | 7.14%  | 7.25%           |                |
| Difference                                      | 0.80%   | 1.69%  | 3.25%                       | 0.51%  | 1.32%  | 1.31%           |                |
| Active Age-Based Portfolio 13-14                | 2.77%   | 6.59%  | 10.14%                      | 4.58%  | 7.45%  | 7.69%           | 11/04/11       |
| Blended Benchmark Returns                       | 2.10%   | 5.15%  | 7.13%                       | 4.13%  | 6.13%  | 6.29%           |                |
| Difference                                      | 0.67%   | 1.44%  | 3.01%                       | 0.45%  | 1.32%  | 1.40%           |                |
| Active Age-Based Portfolio 15                   | 2.42%   | 5.74%  | 8.70%                       | 4.09%  | 6.36%  | 6.62%           | 11/04/11       |
| Blended Benchmark Returns                       | 1.75%   | 4.18%  | 5.42%                       | 3.47%  | 4.92%  | 5.10%           |                |
| Difference                                      | 0.67%   | 1.56%  | 3.28%                       | 0.62%  | 1.44%  | 1.52%           |                |
| Active Age-Based Portfolio 16                   | 2.07%   | 4.79%  | 7.15%                       | 3.64%  | 5.57%  | 5.83%           | 11/04/11       |
| Blended Benchmark Returns                       | 1.53%   | 3.61%  | 4.58%                       | 3.03%  | 4.22%  | 4.38%           |                |
| Difference                                      | 0.54%   | 1.18%  | 2.57%                       | 0.61%  | 1.35%  | 1.45%           |                |
| Active Age-Based Portfolio 17                   | 1.78%   | 4.29%  | 6.40%                       | 3.22%  | 4.73%  | 4.93%           | 11/04/11       |
| Blended Benchmark Returns                       | 1.26%   | 2.96%  | 3.75%                       | 2.49%  | 3.42%  | 3.55%           |                |
| Difference                                      | 0.52%   | 1.33%  | 2.65%                       | 0.73%  | 1.31%  | 1.38%           |                |
| Active Age-Based Portfolio 18 & Over            | 1.38%   | 3.31%  | 5.05%                       | 2.68%  | 3.82%  | 3.98%           | 11/04/11       |
| Blended Benchmark Returns                       | 1.00%   | 2.31%  | 2.92%                       | 1.94%  | 2.62%  | 2.72%           |                |
| Difference                                      | 0.38%   | 1.00%  | 2.13%                       | 0.74%  | 1.20%  | 1.26%           |                |
| <b>Active Multi-Fund Investment Portfolios</b>  |         |        |                             |        |        |                 |                |
| Active Diversified Equity Portfolio             | 5.02%   | 12.48% | 21.67%                      | 7.43%  | 13.22% | 12.69%          | 11/04/11       |
| Blended Benchmark Returns                       | 3.76%   | 10.09% | 17.91%                      | 6.66%  | 12.17% | 11.98%          |                |
| Difference                                      | 1.26%   | 2.39%  | 3.76%                       | 0.77%  | 1.05%  | 0.71%           |                |
| Active Growth Portfolio                         | 3.94%   | 9.63%  | 15.99%                      | 6.14%  | 10.45% | 10.30%          | 11/04/11       |
| Blended Benchmark Returns                       | 2.93%   | 7.60%  | 12.42%                      | 5.44%  | 9.16%  | 9.15%           |                |
| Difference                                      | 1.01%   | 2.03%  | 3.57%                       | 0.70%  | 1.29%  | 1.15%           |                |
| Active Moderate Growth Portfolio                | 2.81%   | 6.65%  | 10.24%                      | 4.70%  | 7.50%  | 7.94%           | 11/09/11       |
| Blended Benchmark Returns                       | 2.10%   | 5.15%  | 7.13%                       | 4.13%  | 6.13%  | 6.46%           |                |
| Difference                                      | 0.71%   | 1.50%  | 3.11%                       | 0.57%  | 1.37%  | 1.48%           |                |
| Active Conservative Portfolio                   | 0.70%   | 1.58%  | 1.94%                       | 1.83%  | 2.20%  | 2.57%           | 11/04/11       |
| Blended Benchmark Returns                       | 0.60%   | 1.13%  | 0.44%                       | 1.24%  | 1.13%  | 1.29%           |                |
| Difference                                      | 0.10%   | 0.45%  | 1.50%                       | 0.59%  | 1.07%  | 1.28%           |                |
| Active International Equity Portfolio           | 5.78%   | 14.93% | 20.41%                      | 0.95%  | 7.56%  | 6.98%           | 11/10/11       |
| Blended Benchmark Returns                       | 5.76%   | 13.93% | 20.36%                      | 0.84%  | 7.37%  | 6.79%           |                |
| Difference                                      | 0.02%   | 1.00%  | 0.05%                       | 0.11%  | 0.19%  | 0.19%           |                |
| Active Diversified Fixed Income Portfolio       | 1.13%   | 2.61%  | 2.78%                       | 2.60%  | 3.37%  | 4.12%           | 11/08/11       |
| Blended Benchmark Returns                       | 1.01%   | 1.97%  | 0.40%                       | 2.26%  | 2.09%  | 2.46%           |                |
| Difference                                      | 0.12%   | 0.64%  | 2.38%                       | 0.34%  | 1.28%  | 1.66%           |                |
| <b>Active Single Fund Investment Portfolios</b> |         |        |                             |        |        |                 |                |
| Social Choice Portfolio                         | 3.82%   | 9.10%  | 18.75%                      | 7.77%  | 14.04% | 13.43%          | 11/04/11       |
| Benchmark Returns                               | 3.02%   | 8.93%  | 18.51%                      | 9.10%  | 14.58% | 14.66%          |                |
| Difference                                      | 0.80%   | 0.17%  | 0.24%                       | -1.33% | -0.54% | -1.23%          |                |
| Principal Plus Interest Portfolio**             | 0.28%   | 0.66%  | 1.22%                       | 1.14%  | 1.26%  | 1.29%           | 11/04/11       |
| Benchmark Returns                               | 0.18%   | 0.30%  | 0.46%                       | 0.20%  | 0.15%  | 0.06%           |                |
| Difference                                      | 0.10%   | 0.36%  | 0.76%                       | 0.94%  | 1.11%  | 1.23%           |                |

\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

\*\*The crediting rates of 1.20% for the TC Life Funding Agreement in the Active Age-Based Portfolio and 1.30% for the Principal Plus Interest Portfolio are guaranteed through 12/31/17.



**ScholarShare College Savings Plan Performance Summary**  
**Actively Managed Portfolios**  
**Asset Allocation, Fees, and Performance**  
**Q2 2017**

**Investment Portfolios**

| Active Age-Based Portfolio<br>Age of Beneficiary  | Q2<br>Portfolio<br>Return | Q2 Blended<br>Benchmk<br>Return | Annual<br>Asset<br>Based Fees<br>(bp)* | T. Rowe<br>Price Instl<br>Large Cap<br>Growth<br>Fund | T. Rowe<br>Price Instl<br>Large Cap<br>Value Fund | T. Rowe<br>Price Instl<br>Floating<br>Rate Fund | TIAA-CREF<br>Small Cap<br>Equity<br>Fund | TIAA-CREF<br>Real Estate<br>Securities<br>Fund | DFA Large<br>Cap<br>International<br>Portfolio | DFA<br>Emerging<br>Markets<br>Core Equity<br>I Portfolio | MetWest<br>Total<br>Return<br>Bond Fund | PIMCO<br>Real<br>Return<br>Instl Fund | PIMCO<br>Income<br>Instl Fund | T-C Life<br>Funding<br>Agreement |
|---|---------------------------|---------------------------------|--|---|---|---|--|--|--|--|---|---------------------------------------|-------------------------------|----------------------------------|
| <b>Underlying Fund Expenses (bp)</b>              |                           |                                 |  | <b>56</b>   | <b>57</b>   | <b>56</b>                                       | <b>42</b>                                | <b>51</b>                                      | <b>23</b>                                      | <b>53</b>  | <b>44</b>                               | <b>45</b>                             | <b>45</b>                     | <b>-</b>                         |
| <b>0 - 4</b>                                      | 4.32%                     | 3.20%                           | <b>55</b>                              | 22.68%  | 22.68%  | 2.00%   | 5.04%                                    | 5.60%  | 19.20%   | 4.80%  | 10.00%                                  | 4.00%                                 | 4.00%                         | 0.00%                            |
| <b>5 - 8</b>                                      | 4.05%                     | 2.93%                           | <b>55</b>                              | 19.85%  | 19.85%  | 3.00%   | 4.40%                                    | 4.90%  | 16.80%   | 4.20%  | 15.00%                                  | 6.00%                                 | 6.00%                         | 0.00%                            |
| <b>9 - 10</b>                                     | 3.54%                     | 2.65%                           | <b>54</b>                              | 17.01%  | 17.01%  | 4.00%   | 3.78%                                    | 4.20%  | 14.40%   | 3.60%  | 20.00%                                  | 8.00%                                 | 8.00%                         | 0.00%                            |
| <b>11 - 12</b>                                    | 3.18%                     | 2.38%                           | <b>54</b>                              | 14.18%  | 14.18%  | 5.00%   | 3.14%                                    | 3.50%  | 12.00%   | 3.00%  | 25.00%                                  | 10.00%                                | 10.00%                        | 0.00%                            |
| <b>13 - 14</b>                                    | 2.77%                     | 2.10%                           | <b>54</b>                              | 11.34%  | 11.34%  | 6.00%   | 2.52%                                    | 2.80%  | 9.60%  | 2.40%  | 30.00%                                  | 12.00%                                | 12.00%                        | 0.00%                            |
| <b>15</b>   | 2.42%                     | 1.75%                           | <b>49</b>                              | 8.51%   | 8.51%   | 6.00%   | 1.88%                                    | 2.10%  | 7.20%  | 1.80%  | 30.00%                                  | 12.00%                                | 12.00%                        | 10.00%                           |
| <b>16</b>   | 2.07%                     | 1.53%                           | <b>45</b>                              | 7.09%   | 7.09%   | 5.50%   | 1.57%                                    | 1.75%  | 6.00%  | 1.50%  | 27.50%                                  | 11.00%                                | 11.00%                        | 20.00%                           |
| <b>17</b>   | 1.78%                     | 1.26%                           | <b>38</b>                              | 5.67%   | 5.67%   | 4.50%   | 1.26%                                    | 1.40%  | 4.80%  | 1.20%  | 22.50%                                  | 9.00%                                 | 9.00%                         | 35.00%                           |
| <b>18+</b>  | 1.38%                     | 1.00%                           | <b>31</b>                              | 4.25%   | 4.25%   | 3.50%   | 0.95%                                    | 1.05%  | 3.60%  | 0.90%  | 17.50%                                  | 7.00%                                 | 7.00%                         | 50.00%                           |
| <b>Fund's Performance vs Benchmk Q2 2017 (bp)</b> |                           |                                 |  | <b>339</b>  | <b>118</b>  | <b>(3)</b>                                      | <b>(99)</b>                              | <b>151</b>                                     | <b>45</b>                                      | <b>(159)</b>   | <b>(16)</b>                             | <b>11</b>                             | <b>82</b>                     | <b>10</b>                        |

**Active Multi-Fund Investment Portfolios**

|   |       |       |           |            |            |            |             |            |           |              |             |           |           |           |
|---|-------|-------|-----------|------------|------------|------------|-------------|------------|-----------|--------------|-------------|-----------|-----------|-----------|
| <b>Active Diversified Equity Portfolio</b>        | 5.02% | 3.76% | <b>55</b> | 28.35%     | 28.35%     |            | 6.30%       | 7.00%      | 24.00%    | 6.00%        |             |           |           |           |
| <b>Active Growth Portfolio</b>                    | 3.94% | 2.93% | <b>55</b> | 19.85%     | 19.85%     | 3.00%      | 4.40%       | 4.90%      | 16.80%    | 4.20%        | 15.00%      | 6.00%     | 6.00%     |           |
| <b>Active Moderate Growth Portfolio</b>           | 2.81% | 2.10% | <b>54</b> | 11.34%     | 11.34%     | 6.00%      | 2.52%       | 2.80%      | 9.60%     | 2.40%        | 30.00%      | 12.00%    | 12.00%    |           |
| <b>Active Diversified Fixed Income Portfolio</b>  | 1.13% | 1.01% | <b>54</b> |            |            | 10.00%     |             |            |           |              | 50.00%      | 20.00%    | 20.00%    |           |
| <b>Active Conservative Portfolio</b>              | 0.70% | 0.60% | <b>31</b> |            |            | 5.00%      |             |            |           |              | 25.00%      | 10.00%    | 10.00%    | 50.00%    |
| <b>Active International Equity Portfolio</b>      | 5.78% | 5.76% | <b>37</b> |            |            |            |             |            | 80.00%    | 20.00%       |             |           |           |           |
| <b>Fund's Performance vs Benchmk Q2 2017 (bp)</b> |       |       |           | <b>339</b> | <b>118</b> | <b>(3)</b> | <b>(99)</b> | <b>151</b> | <b>45</b> | <b>(159)</b> | <b>(16)</b> | <b>11</b> | <b>82</b> | <b>10</b> |

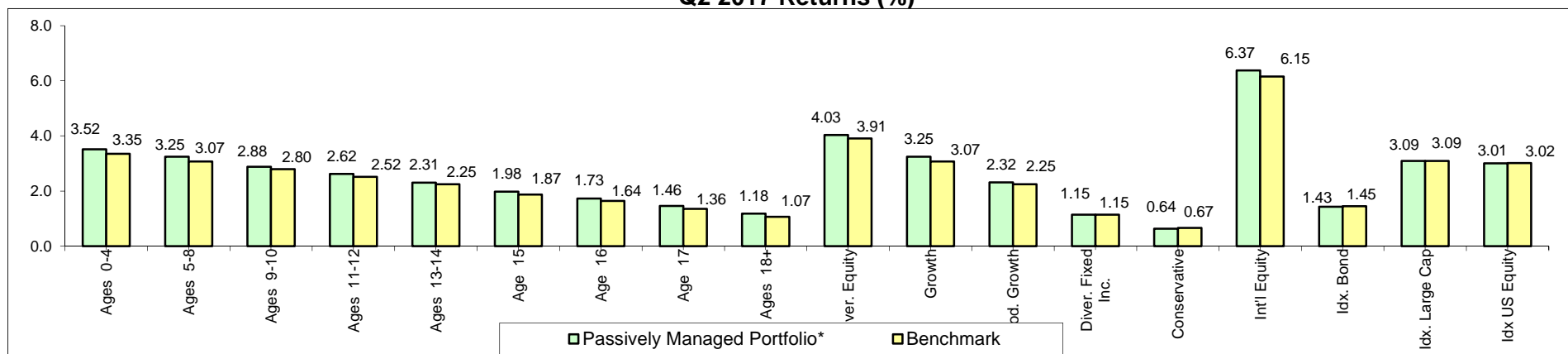
**Active Single Fund Investment Portfolios**

| Investment Portfolios                    | Q2<br>Portfolio<br>Return | Q2 Blended<br>Benchmk<br>Return | Annual<br>Asset<br>Based Fees<br>(bp)* | Percent<br>Allocation | Underlying Mutual Fund               | Fund's<br>Performance<br>vs Benchmk<br>Q2 2017 (bp) |
|--|---------------------------|---------------------------------|--|-----------------------|--------------------------------------|---|
| <b>Social Choice Portfolio</b>           | 3.82%                     | 3.02%                           | <b>26</b>                              | 100.00%               | TIAA-CREF Social Choice Equity Fund  | <b>79</b>   |
| <b>Principal Plus Interest Portfolio</b> | 0.28%                     | 0.18%                           | <b>-</b>                               | 100.00%               | TIAA-CREF Life Co. Funding Agreement | <b>10</b>   |

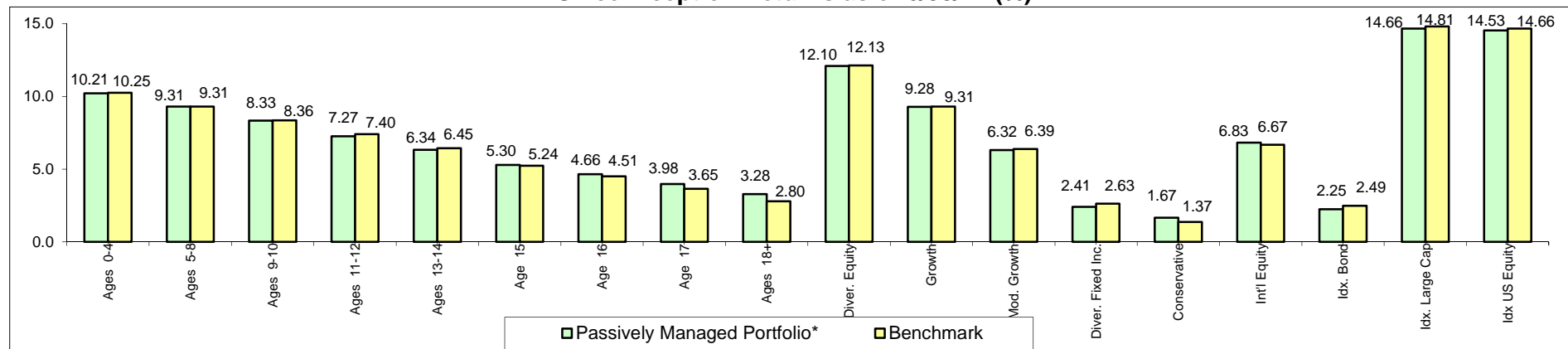
\* Asset Based Fees include most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

## Passively Managed Portfolios vs. Composite Benchmarks

### Q2 2017 Returns (%)



### Since Inception Returns as of 6/30/17 (%)



\* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.

- Buoyed by the effect of a 15% increase in first-quarter corporate profits, the S&P 500® Index rose in all three months of the period, extending its stellar first-quarter gain (+6.07%) with a 3.09% return. Evidenced by market volatility that generally hovered near multi-year lows, investors stayed remarkably calm in the face of valuations that reached their highest level in 15 years.
- Meanwhile, the Bloomberg Barclays U.S. Aggregate Bond Index, a proxy for the broad investment-grade bond market, returned 1.45% for the quarter amid falling long-term interest rates, lifting its year-to-date gain to 2.27%.
- All Passively Managed Portfolios posted positive absolute returns for the quarter and most beat their benchmarks.
- The TIAA-CREF International Equity Index Fund and TIAA-CREF Emerging Markets Equity Index Fund provided a boost to absolute returns for many portfolios as they posted gains of 6.50% and 6.21%, respectively, in Q2.
- The credit sector outperformed other segments of the fixed income space, and the TIAA-CREF High Yield Fund contributed on an absolute basis by posting gains of 1.70% in Q2.
- The Index International Equity Portfolio had the highest absolute returns of all investment portfolios for the second quarter in a row, returning 6.37% and outperforming its blended benchmark.

## ScholarShare College Savings Plan Performance Summary

Passively Managed Portfolios vs. Composite Benchmarks\*

For the Period Ending 6/30/2017

| Investment Portfolios                            | 3 Month | YTD    | Average Annual Total Return |        |        |                 | Inception Date |
|--|---------|--------|-----------------------------|--------|--------|-----------------|----------------|
|  |         |        | 1 Year                      | 3 Year | 5 Year | Since Inception |                |
| <b>Passive Age-Based Portfolio**</b>             |         |        |                             |        |        |                 |                |
| Passive Age-Based Portfolio 0-4                  | 3.52%   | 8.93%  | 14.39%                      | 5.93%  | 10.29% | 10.21%          | 11/04/11       |
| Blended Benchmark Returns                        | 3.35%   | 8.70%  | 14.36%                      | 5.95%  | 10.29% | 10.25%          |                |
| Difference                                       | 0.17%   | 0.23%  | 0.03%                       | -0.02% | 0.00%  | -0.04%          |                |
| Passive Age-Based Portfolio 5-8                  | 3.25%   | 8.25%  | 12.67%                      | 5.54%  | 9.35%  | 9.31%           | 11/04/11       |
| Blended Benchmark Returns                        | 3.07%   | 7.86%  | 12.59%                      | 5.52%  | 9.29%  | 9.31%           |                |
| Difference                                       | 0.18%   | 0.39%  | 0.08%                       | 0.02%  | 0.06%  | 0.00%           |                |
| Passive Age-Based Portfolio 9-10                 | 2.88%   | 7.30%  | 10.86%                      | 5.05%  | 8.32%  | 8.33%           | 11/04/11       |
| Blended Benchmark Returns                        | 2.80%   | 7.03%  | 10.84%                      | 5.08%  | 8.28%  | 8.36%           |                |
| Difference                                       | 0.08%   | 0.27%  | 0.02%                       | -0.03% | 0.04%  | -0.03%          |                |
| Passive Age-Based Portfolio 11-12                | 2.62%   | 6.29%  | 9.02%                       | 4.47%  | 7.21%  | 7.27%           | 11/04/11       |
| Blended Benchmark Returns                        | 2.52%   | 6.21%  | 9.11%                       | 4.64%  | 7.28%  | 7.40%           |                |
| Difference                                       | 0.10%   | 0.08%  | -0.09%                      | -0.17% | -0.07% | -0.13%          |                |
| Passive Age-Based Portfolio 13-14                | 2.31%   | 5.44%  | 7.44%                       | 4.05%  | 6.22%  | 6.34%           | 11/04/11       |
| Blended Benchmark Returns                        | 2.25%   | 5.39%  | 7.41%                       | 4.18%  | 6.27%  | 6.45%           |                |
| Difference                                       | 0.06%   | 0.05%  | 0.03%                       | -0.13% | -0.05% | -0.11%          |                |
| Passive Age-Based Portfolio 15                   | 1.98%   | 4.61%  | 5.93%                       | 3.52%  | 5.18%  | 5.30%           | 11/04/11       |
| Blended Benchmark Returns                        | 1.87%   | 4.39%  | 5.69%                       | 3.51%  | 5.05%  | 5.24%           |                |
| Difference                                       | 0.11%   | 0.22%  | 0.24%                       | 0.01%  | 0.13%  | 0.06%           |                |
| Passive Age-Based Portfolio 16                   | 1.73%   | 4.10%  | 5.29%                       | 3.18%  | 4.55%  | 4.66%           | 11/04/11       |
| Blended Benchmark Returns                        | 1.64%   | 3.80%  | 4.82%                       | 3.07%  | 4.33%  | 4.51%           |                |
| Difference                                       | 0.09%   | 0.30%  | 0.47%                       | 0.11%  | 0.22%  | 0.15%           |                |
| Passive Age-Based Portfolio 17                   | 1.46%   | 3.40%  | 4.44%                       | 2.80%  | 3.90%  | 3.98%           | 11/04/11       |
| Blended Benchmark Returns                        | 1.36%   | 3.11%  | 3.94%                       | 2.52%  | 3.51%  | 3.65%           |                |
| Difference                                       | 0.10%   | 0.29%  | 0.50%                       | 0.28%  | 0.39%  | 0.33%           |                |
| Passive Age-Based Portfolio 18 & Over            | 1.18%   | 2.74%  | 3.72%                       | 2.39%  | 3.22%  | 3.28%           | 11/04/11       |
| Blended Benchmark Returns                        | 1.07%   | 2.43%  | 3.07%                       | 1.97%  | 2.69%  | 2.80%           |                |
| Difference                                       | 0.11%   | 0.31%  | 0.65%                       | 0.42%  | 0.53%  | 0.48%           |                |
| <b>Passive Multi-Fund Investment Portfolios</b>  |         |        |                             |        |        |                 |                |
| Passive Diversified Equity Portfolio             | 4.03%   | 10.61% | 17.85%                      | 6.87%  | 12.26% | 12.10%          | 11/04/11       |
| Blended Benchmark Returns                        | 3.91%   | 10.38% | 17.97%                      | 6.79%  | 12.30% | 12.13%          |                |
| Difference                                       | 0.12%   | 0.23%  | -0.12%                      | 0.08%  | -0.04% | -0.03%          |                |
| Passive Growth Portfolio                         | 3.25%   | 8.12%  | 12.53%                      | 5.55%  | 9.32%  | 9.28%           | 11/04/11       |
| Blended Benchmark Returns                        | 3.07%   | 7.86%  | 12.59%                      | 5.52%  | 9.29%  | 9.31%           |                |
| Difference                                       | 0.18%   | 0.26%  | -0.06%                      | 0.03%  | 0.03%  | -0.03%          |                |
| Passive Moderate Growth Portfolio                | 2.32%   | 5.53%  | 7.53%                       | 4.09%  | 6.24%  | 6.32%           | 11/08/11       |
| Blended Benchmark Returns                        | 2.25%   | 5.39%  | 7.41%                       | 4.18%  | 6.27%  | 6.39%           |                |
| Difference                                       | 0.07%   | 0.14%  | 0.12%                       | -0.09% | -0.03% | -0.07%          |                |
| Passive Conservative Portfolio                   | 0.64%   | 1.29%  | 0.92%                       | 1.57%  | 1.52%  | 1.67%           | 11/04/11       |
| Blended Benchmark Returns                        | 0.67%   | 1.24%  | 0.63%                       | 1.24%  | 1.20%  | 1.37%           |                |
| Difference                                       | -0.03%  | 0.05%  | 0.29%                       | 0.33%  | 0.32%  | 0.30%           |                |
| Index International Equity Portfolio             | 6.37%   | 15.68% | 20.68%                      | 1.44%  | 7.89%  | 6.83%           | 11/04/11       |
| Blended Benchmark Returns                        | 6.15%   | 14.73% | 20.99%                      | 1.22%  | 7.81%  | 6.67%           |                |
| Difference                                       | 0.22%   | 0.95%  | -0.31%                      | 0.22%  | 0.08%  | 0.16%           |                |
| Passive Diversified Fixed Income Portfolio       | 1.15%   | 2.14%  | 0.70%                       | 2.10%  | 2.02%  | 2.41%           | 11/08/11       |
| Blended Benchmark Returns                        | 1.15%   | 2.17%  | 0.80%                       | 2.27%  | 2.24%  | 2.63%           |                |
| Difference                                       | 0.00%   | -0.03% | -0.10%                      | -0.17% | -0.22% | -0.22%          |                |
| <b>Passive Single Fund Investment Portfolios</b> |         |        |                             |        |        |                 |                |
| Index Bond Portfolio                             | 1.43%   | 2.35%  | -0.53%                      | 2.34%  | 2.00%  | 2.25%           | 11/04/11       |
| Benchmark Returns                                | 1.45%   | 2.27%  | -0.31%                      | 2.48%  | 2.21%  | 2.49%           |                |
| Difference                                       | -0.02%  | 0.08%  | -0.22%                      | -0.14% | -0.21% | -0.24%          |                |
| Index U.S. Large Cap Equity Portfolio            | 3.09%   | 9.27%  | 17.76%                      | 9.51%  | 14.47% | 14.66%          | 11/04/11       |
| Benchmark Returns                                | 3.09%   | 9.34%  | 17.90%                      | 9.61%  | 14.63% | 14.81%          |                |
| Difference                                       | 0.00%   | -0.07% | -0.14%                      | -0.10% | -0.16% | -0.15%          |                |
| Index U.S. Equity Portfolio                      | 3.01%   | 8.90%  | 18.42%                      | 9.03%  | 14.49% | 14.53%          | 11/04/11       |
| Benchmark Returns                                | 3.02%   | 8.93%  | 18.51%                      | 9.10%  | 14.58% | 14.66%          |                |
| Difference                                       | -0.01%  | -0.03% | -0.09%                      | -0.07% | -0.09% | -0.13%          |                |

\* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.

\*\*The crediting rate of 1.20% for the TC Life Funding Agreement in the Passive Age-Based Portfolio is guaranteed through 12/31/17.

**ScholarShare College Savings Plan Performance Summary**  
**Passively Managed Portfolios**  
**Asset Allocation, Fees, and Performance**  
**Q2 2017**

**Investment Portfolios**

| Passive Age-Based Portfolio<br>Age of Beneficiary | Q2 Portfolio<br>Return | Q2 Blended<br>Benchmk<br>Return | Annual<br>Asset<br>Based<br>Fees (bp)* | TIAA-CREF<br>Equity Index<br>Fund | TIAA-CREF<br>International<br>Equity Index<br>Fund | TIAA-CREF<br>Emerging<br>Markets<br>Equity Index<br>Fund | TIAA-CREF<br>Real Estate<br>Securities<br>Fund | TIAA-CREF<br>Bond Index<br>Fund | TIAA-CREF<br>Inflation-<br>Linked Bond<br>Fund | TIAA-CREF<br>High Yield<br>Fund | T-C Life<br>Funding<br>Agreement |
|---|------------------------|---------------------------------|--|-----------------------------------|--|--|--|---------------------------------|--|---------------------------------|----------------------------------|
| <b>Underlying Fund Expenses (bp)</b>              |                        |                                 |  | <b>5</b>                          | <b>6</b>   | <b>23</b>  | <b>51</b>                                      | <b>12</b>                       | <b>27</b>                                      | <b>36</b>                       | <b>0</b>                         |
| <b>0 - 4</b>                                      | 3.52%                  | 3.35%                           | <b>14</b>                              | 50.40%                            | 19.20%   | 4.80%  | 5.60%  | 14.00%                          | 4.00%  | 2.00%                           | 0.00%                            |
| <b>5 - 8</b>                                      | 3.25%                  | 3.07%                           | <b>15</b>                              | 44.10%                            | 16.80%   | 4.20%  | 4.90%  | 21.00%                          | 6.00%  | 3.00%                           | 0.00%                            |
| <b>9 - 10</b>                                     | 2.88%                  | 2.80%                           | <b>16</b>                              | 37.80%                            | 14.40%   | 3.60%  | 4.20%  | 28.00%                          | 8.00%  | 4.00%                           | 0.00%                            |
| <b>11 - 12</b>                                    | 2.62%                  | 2.52%                           | <b>16</b>                              | 31.50%                            | 12.00%   | 3.00%  | 3.50%  | 35.00%                          | 10.00%   | 5.00%                           | 0.00%                            |
| <b>13 - 14</b>                                    | 2.31%                  | 2.25%                           | <b>17</b>                              | 25.20%                            | 9.60%  | 2.40%  | 2.80%  | 42.00%                          | 12.00%   | 6.00%                           | 0.00%                            |
| <b>15</b>   | 1.98%                  | 1.87%                           | <b>16</b>                              | 18.90%                            | 7.20%  | 1.80%  | 2.10%  | 42.00%                          | 12.00%   | 6.00%                           | 10.00%                           |
| <b>16</b>   | 1.73%                  | 1.64%                           | <b>15</b>                              | 15.75%                            | 6.00%  | 1.50%  | 1.75%  | 38.50%                          | 11.00%   | 5.50%                           | 20.00%                           |
| <b>17</b>   | 1.46%                  | 1.36%                           | <b>13</b>                              | 12.60%                            | 4.80%  | 1.20%  | 1.40%  | 31.50%                          | 9.00%  | 4.50%                           | 35.00%                           |
| <b>18 +</b>                                       | 1.18%                  | 1.07%                           | <b>11</b>                              | 9.45%                             | 3.60%  | 0.90%  | 1.05%  | 24.50%                          | 7.00%  | 3.50%                           | 50.00%                           |
| <b>Fund's Performance vs Benchmk Q2 2017 (bp)</b> |                        |                                 |  | <b>0</b>                          | <b>38</b>  | <b>(6)</b>   | <b>151</b>                                     | <b>(1)</b>                      | <b>(4)</b>                                     | <b>(51)</b>                     | <b>10</b>                        |

**Passive Multi-Fund Investment Portfolios**

|   |       |       |           |          |           |            |            |            |            |             |           |
|---|-------|-------|-----------|----------|-----------|------------|------------|------------|------------|-------------|-----------|
| <b>Passive Diversified Equity Portfolio</b>       | 4.03% | 3.91% | <b>13</b> | 63.00%   | 24.00%    | 6.00%      | 7.00%      |            |            |             |           |
| <b>Passive Growth Portfolio</b>                   | 3.25% | 3.07% | <b>15</b> | 44.10%   | 16.80%    | 4.20%      | 4.90%      | 21.00%     | 6.00%      | 3.00%       |           |
| <b>Passive Moderate Growth Portfolio</b>          | 2.32% | 2.25% | <b>17</b> | 25.20%   | 9.60%     | 2.40%      | 2.80%      | 42.00%     | 12.00%     | 6.00%       |           |
| <b>Passive Diversified Fixed Income Portfolio</b> | 1.15% | 1.15% | <b>20</b> |          |           |            |            | 70.00%     | 20.00%     | 10.00%      |           |
| <b>Passive Conservative Portfolio</b>             | 0.64% | 0.67% | <b>12</b> |          |           |            |            | 35.00%     | 10.00%     | 5.00%       | 50.00%    |
| <b>Index International Equity Portfolio</b>       | 6.37% | 6.15% | <b>12</b> |          | 80.00%    | 20.00%     |            |            |            |             |           |
| <b>Fund's Performance vs Benchmk Q2 2017 (bp)</b> |       |       |           | <b>0</b> | <b>38</b> | <b>(6)</b> | <b>151</b> | <b>(1)</b> | <b>(4)</b> | <b>(51)</b> | <b>10</b> |

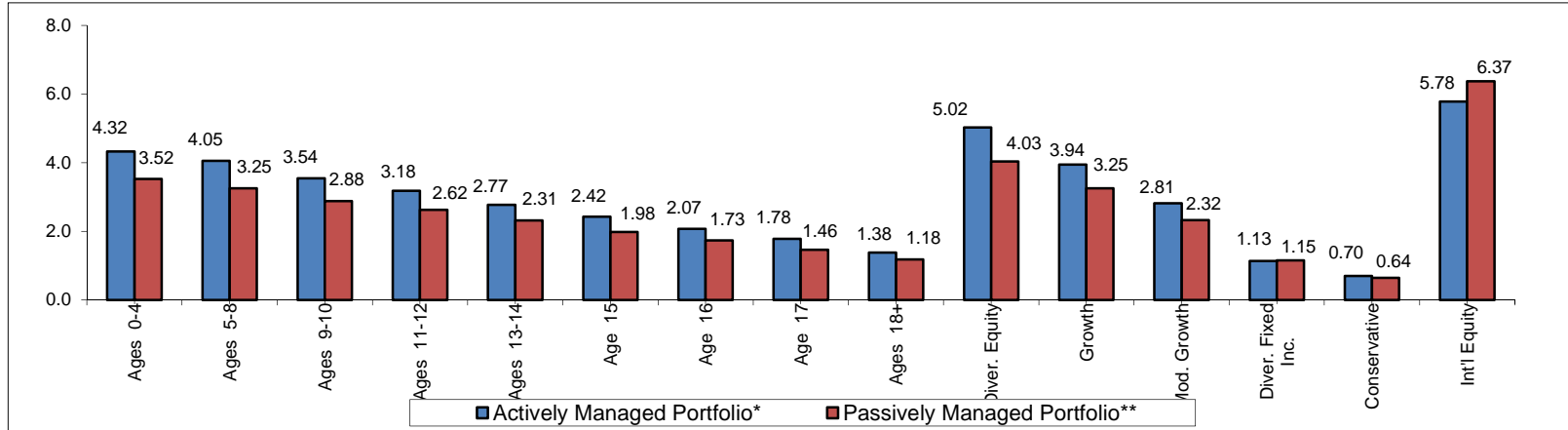
**Passive Single Fund Investment Portfolios**

| Investment Portfolios                        | Q2 Portfolio<br>Return | Q2 Blended<br>Benchmk<br>Return | Annual<br>Asset<br>Based<br>Fees (bp)* | Percent<br>Allocation | Underlying Mutual Fund       | Fund's<br>Performance<br>vs Benchmk<br>Q2 2017 (bp) |
|--|------------------------|---------------------------------|--|-----------------------|------------------------------|---|
| <b>Index Bond Portfolio</b>                  | 1.43%                  | 1.45%                           | <b>15</b>                              | 100.00%               | TIAA-CREF Bond Index Fund    | <b>(1)</b>  |
| <b>Index U.S. Large Cap Equity Portfolio</b> | 3.09%                  | 3.09%                           | <b>8</b>                               | 100.00%               | TIAA-CREF S&P 500 Index Fund | <b>(2)</b>  |
| <b>Index U.S. Equity Portfolio</b>           | 3.01%                  | 3.02%                           | <b>8</b>                               | 100.00%               | TIAA-CREF Equity Index Fund  | <b>0</b>  |

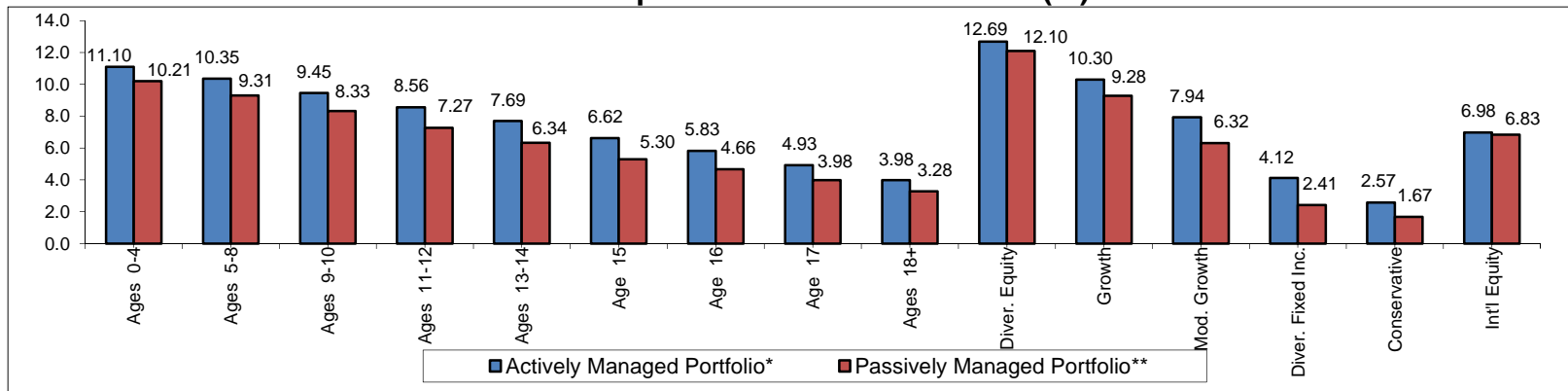
\* Asset Based Fees include most recent weighted average Underlying Fund Fees and Program Management Fees.

# Actively Managed Portfolios vs. Passively Managed Portfolios

## Q2 2017 Returns (%)



## Since Inception Returns as of 6/30/17 (%)



\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps).

\*\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps) before 11/12/13.

- In Q2, nearly all Actively Managed Portfolios outperformed the Passively Managed Portfolios.
- Many underlying funds in the Active Portfolios outperformed their benchmark, which resulted in higher returns for these portfolios compared to their passive counterparts. For example, both equity funds managed by T. Rowe Price and the PIMCO Income Fund all outperformed their respective benchmarks.
- Since Inception returns continue to favor the Actively Managed Portfolios.

## ScholarShare College Savings Plan Performance Summary

Underlying Funds vs. Benchmarks

For the Period Ending 6/30/2017

|  | Average Annual Total Return |               |               |               |               |               | Fund Incept. Date |
|--|-----------------------------|---------------|---------------|---------------|---------------|---------------|-------------------|
|  | 3 Month                     | YTD           | 1 Year        | 3 Year        | 5 Year        | Life          |                   |
| <b>TIAA-CREF FUNDS</b>                       |                             |               |               |               |               |               |                   |
| T-C Bond Index Fund                          | 1.44%                       | 2.33%         | -0.52%        | 2.39%         | 2.06%         | 3.46%         | 09/14/2009        |
| Bloomberg Barclays U.S. Aggregate Bond Index | 1.45%                       | 2.27%         | -0.31%        | 2.48%         | 2.21%         | 3.66%         |                   |
| Difference                                   | <b>-0.01%</b>               | <b>0.06%</b>  | <b>-0.21%</b> | <b>-0.09%</b> | <b>-0.15%</b> | <b>-0.20%</b> |                   |
| T-C Emerging Markets Equity Index Fund*      | 6.21%                       | 19.08%        | 23.20%        | 1.16%         | 3.66%         | 2.67%         | 08/31/2010        |
| MSCI Emerging Markets® Index                 | 6.27%                       | 18.43%        | 23.75%        | 1.07%         | 3.96%         | 3.05%         |                   |
| Difference                                   | <b>-0.06%</b>               | <b>0.65%</b>  | <b>-0.55%</b> | <b>0.09%</b>  | <b>-0.30%</b> | <b>-0.38%</b> |                   |
| T-C Equity Index Fund                        | 3.02%                       | 8.92%         | 18.49%        | 9.09%         | 14.56%        | 5.60%         | 07/01/1999        |
| Russell 3000 Index                           | 3.02%                       | 8.93%         | 18.51%        | 9.10%         | 14.59%        | 5.67%         |                   |
| Difference                                   | <b>0.00%</b>                | <b>-0.01%</b> | <b>-0.02%</b> | <b>-0.01%</b> | <b>-0.03%</b> | <b>-0.07%</b> |                   |
| T-C High Yield Bond Fund                     | 1.70%                       | 3.41%         | 11.82%        | 4.09%         | 6.24%         | 7.29%         | 03/31/2006        |
| Merrill Lynch BB/B Cash Pay Index            | 2.21%                       | 4.54%         | 11.15%        | 4.56%         | 6.66%         | 7.21%         |                   |
| Difference                                   | <b>-0.51%</b>               | <b>-1.13%</b> | <b>0.67%</b>  | <b>-0.47%</b> | <b>-0.42%</b> | <b>0.08%</b>  |                   |
| T-C Inflation-Linked Bond Fund               | -0.44%                      | 0.53%         | -0.62%        | 0.11%         | -0.13%        | 4.10%         | 10/01/2002        |
| Bloomberg Barclays 1-10 Year U.S. TIPS Index | -0.40%                      | 0.65%         | -0.26%        | 0.35%         | 0.28%         | 3.84%         |                   |
| Difference                                   | <b>-0.04%</b>               | <b>-0.12%</b> | <b>-0.36%</b> | <b>-0.24%</b> | <b>-0.41%</b> | <b>0.26%</b>  |                   |
| T-C International Equity Index Fund*         | 6.50%                       | 14.80%        | 20.06%        | 1.39%         | 8.83%         | 8.07%         | 10/01/2002        |
| MSCI EAFE Index                              | 6.12%                       | 13.81%        | 20.27%        | 1.15%         | 8.69%         | 8.01%         |                   |
| Difference                                   | <b>0.38%</b>                | <b>0.99%</b>  | <b>-0.21%</b> | <b>0.24%</b>  | <b>0.14%</b>  | <b>0.06%</b>  |                   |
| T-C Real Estate Securities Fund              | 3.78%                       | 6.63%         | 2.21%         | 8.96%         | 9.36%         | 10.72%        | 10/01/2002        |
| FTSE NAREIT Equity Index                     | 2.27%                       | 4.88%         | 0.22%         | 8.86%         | 9.95%         | 11.11%        |                   |
| Difference                                   | <b>1.51%</b>                | <b>1.75%</b>  | <b>1.99%</b>  | <b>0.10%</b>  | <b>-0.59%</b> | <b>-0.39%</b> |                   |
| T-C S&P 500 Index Fund                       | 3.07%                       | 9.30%         | 17.81%        | 9.54%         | 14.55%        | 9.52%         | 10/01/2002        |
| S&P 500 Index                                | 3.09%                       | 9.34%         | 17.90%        | 9.61%         | 14.63%        | 9.61%         |                   |
| Difference                                   | <b>-0.02%</b>               | <b>-0.04%</b> | <b>-0.09%</b> | <b>-0.07%</b> | <b>-0.08%</b> | <b>-0.09%</b> |                   |
| T-C Small Cap Equity Fund                    | 1.47%                       | 4.55%         | 26.94%        | 8.83%         | 14.87%        | 11.21%        | 10/01/2002        |
| Russell 2000 Index                           | 2.46%                       | 4.99%         | 24.60%        | 7.36%         | 13.70%        | 11.04%        |                   |
| Difference                                   | <b>-0.99%</b>               | <b>-0.44%</b> | <b>2.34%</b>  | <b>1.47%</b>  | <b>1.17%</b>  | <b>0.17%</b>  |                   |
| T-C Social Choice Equity Fund                | 3.81%                       | 9.09%         | 18.85%        | 7.85%         | 14.14%        | 5.41%         | 07/01/1999        |
| Russell 3000 Index                           | 3.02%                       | 8.93%         | 18.51%        | 9.10%         | 14.59%        | 5.67%         |                   |
| Difference                                   | <b>0.79%</b>                | <b>0.16%</b>  | <b>0.34%</b>  | <b>-1.25%</b> | <b>-0.45%</b> | <b>-0.26%</b> |                   |
| <b>DFA FUNDS</b>                             |                             |               |               |               |               |               |                   |
| DFA Emerging Markets Core Equity Portfolio*  | 4.68%                       | 19.00%        | 21.94%        | 1.65%         | 4.69%         | 8.13%         | 04/05/2005        |
| MSCI Emerging Markets® Index                 | 6.27%                       | 18.43%        | 23.75%        | 1.07%         | 3.96%         | 7.63%         |                   |
| Difference                                   | <b>-1.59%</b>               | <b>0.57%</b>  | <b>-1.81%</b> | <b>0.58%</b>  | <b>0.73%</b>  | <b>0.50%</b>  |                   |
| DFA Large Cap International Portfolio*       | 6.08%                       | 13.98%        | 20.06%        | 0.89%         | 8.31%         | 5.73%         | 07/17/1991        |
| MSCI World Ex US Index                       | 5.63%                       | 12.82%        | 19.49%        | 0.67%         | 8.15%         | 5.79%         |                   |
| Difference                                   | <b>0.45%</b>                | <b>1.16%</b>  | <b>0.57%</b>  | <b>0.22%</b>  | <b>0.16%</b>  | <b>-0.06%</b> |                   |
| <b>METWEST FUNDS</b>                         |                             |               |               |               |               |               |                   |
| MetWest Total Return Bond Fund               | 1.29%                       | 2.21%         | 0.25%         | 2.28%         | 3.49%         | 6.21%         | 07/01/1999        |
| Bloomberg Barclays U.S. Aggregate Bond Index | 1.45%                       | 2.27%         | -0.31%        | 2.48%         | 2.21%         | 5.14%         |                   |
| Difference                                   | <b>-0.16%</b>               | <b>-0.06%</b> | <b>0.56%</b>  | <b>-0.20%</b> | <b>1.28%</b>  | <b>1.07%</b>  |                   |
| <b>PIMCO FUNDS</b>                           |                             |               |               |               |               |               |                   |
| PIMCO Income Fund                            | 2.27%                       | 5.22%         | 9.71%         | 5.73%         | 8.20%         | 9.12%         | 03/30/2007        |
| Barclays Capital U.S. Aggregate Bond Index   | 1.45%                       | 2.27%         | -0.31%        | 2.48%         | 2.21%         | 4.31%         |                   |
| Difference                                   | <b>0.82%</b>                | <b>2.95%</b>  | <b>10.02%</b> | <b>3.25%</b>  | <b>5.99%</b>  | <b>4.81%</b>  |                   |
| PIMCO Real Return Fund                       | -0.29%                      | 1.58%         | 0.58%         | 0.25%         | 0.22%         | 5.94%         | 01/29/1997        |
| Bloomberg Barclays U.S. TIPS Index           | -0.40%                      | 0.85%         | -0.63%        | 0.63%         | 0.27%         | -             |                   |
| Difference                                   | <b>0.11%</b>                | <b>0.73%</b>  | <b>1.21%</b>  | <b>-0.38%</b> | <b>-0.05%</b> | <b>-</b>      |                   |
| <b>T. ROWE PRICE FUNDS</b>                   |                             |               |               |               |               |               |                   |
| T. Rowe Price Instl Floating Rate Fund       | 0.77%                       | 1.67%         | 5.95%         | 3.55%         | 4.43%         | 5.33%         | 01/31/2008        |
| S&P/LSTA Performing Loan Index               | 0.80%                       | 2.03%         | 7.68%         | 3.87%         | 4.87%         | 5.52%         |                   |
| Difference                                   | <b>-0.03%</b>               | <b>-0.36%</b> | <b>-1.73%</b> | <b>-0.32%</b> | <b>-0.44%</b> | <b>-0.19%</b> |                   |
| T. Rowe Price Instl Large Cap Growth Fund    | 8.06%                       | 19.63%        | 31.51%        | 12.53%        | 17.54%        | 9.70%         | 10/31/2001        |
| Russell 1000 Growth Index                    | 4.67%                       | 13.99%        | 20.42%        | 11.10%        | 15.30%        | 7.65%         |                   |
| Difference                                   | <b>3.39%</b>                | <b>5.64%</b>  | <b>11.09%</b> | <b>1.43%</b>  | <b>2.24%</b>  | <b>2.05%</b>  |                   |
| T. Rowe Price Instl Large Cap Value Fund     | 2.52%                       | 6.87%         | 17.67%        | 7.89%         | 15.01%        | 8.25%         | 3/31/2000         |
| Russell 1000 Value Index                     | 1.34%                       | 4.66%         | 15.53%        | 7.36%         | 13.94%        | 6.73%         |                   |
| Difference                                   | <b>1.18%</b>                | <b>2.21%</b>  | <b>2.14%</b>  | <b>0.53%</b>  | <b>1.07%</b>  | <b>1.52%</b>  |                   |

\* For funds holding securities traded on foreign exchange that close before the U.S. market, fair value pricing creates tracking error relative to a benchmark index that uses foreign closing prices.



2Q

2017

SCHOLARSHARE COLLEGE SAVINGS PLAN  
INVESTMENT PERFORMANCE STATUS REPORT



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# AGENDA

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| <u>Section</u>                    | <u>Page</u> |
|-----------------------------------|-------------|
| 1. Economic Overview              | 4           |
| 2. Investment Market Risk Metrics | 9           |
| 3. Review of ScholarShare Policy  | 27          |
| 4. Sensitivity Analyses           | 36          |
| 5. Summary Points                 | 112         |
| 6. Age-Based Fund Analysis        | 114         |
| Appendix                          |             |



## TAKEAWAYS

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- All actively-managed and passively-managed age-based portfolios posted positive absolute and benchmark-relative returns over the recent quarter.
- US Equity extended its rally over the recent quarter. During the quarter, growth stocks dominated value stocks across the market spectrum, while large cap stocks outperformed small cap stocks. All of the Program's domestic equity funds produced positive absolute returns over the quarter, with the T.Rowe Instl Large Cap Growth fund posting the strongest benchmark-relative results for the period.
- International Equities performed well over the quarter as each region posted positive returns. Gains for the quarter led to strong double-digit 1-year international equity results. Europe was the best performer for the quarter and Emerging Markets led all other regions over the latest year. All of the Program's international equity funds posted positive absolute results during the quarter, with the DFA Large Cap International Portfolio outperforming its benchmark by the largest margin.
- Early age-bands with larger allocations to equities continued to benefit from solid equity results.
- US Fixed Income provided moderate returns over the quarter, with the Credit sector producing the strongest results. The PIMCO Income fund was the best performer on an absolute and relative return basis, while inflation-linked funds (TIAA-CREF Inflation-Linked Bond fund and PIMCO Real Return fund) struggled.

## SECTION 1

## ECONOMIC OVERVIEW

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**Overview:** US GDP growth increased by 2.6% in the second quarter of 2017. GDP growth during the quarter was driven mostly by increases across consumer spending, business investment, exports, and federal government spending. The unemployment rate decreased to 4.4% in the second quarter. The seasonally adjusted Consumer Price Index for All Urban Consumers increased by 0.1% on an annualized basis during the quarter. Commodities continued to decrease during the quarter and are negative over the trailing 1-year period at (14.8%). Global equity returns were positive for the quarter at 4.5% (MSCI ACWI). The US dollar depreciated against the Euro and the Pound but appreciated against the Yen. Bond markets produced positive returns over the quarter as the BC Universal increased by 1.5%.

**Economic Growth**

- Real GDP increased at an annualized rate of 2.6 percent in the second quarter of 2017.
- Real GDP growth was driven by increases in consumer spending, business investment, exports, and federal government spending.
- GDP growth gains were partially offset during the quarter by declines in housing investment, inventory investment, and state and local government spending.

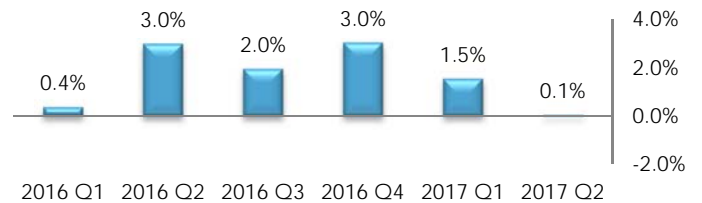
**Annualized Quarterly GDP Growth**



**Inflation**

- The Consumer Price Index for All Urban Consumers (CPI-U) increased 0.1 percent in the quarter on an annualized basis after seasonal adjustment.
- Quarterly percentage changes may be adjusted between data publications due to periodic updates in seasonal factors.
- Core CPI-U increased by 1.0 percent for the quarter on an annualized basis after seasonal adjustment.
- Over the last 12 months, core CPI-U increased 1.7 percent after seasonal adjustment.

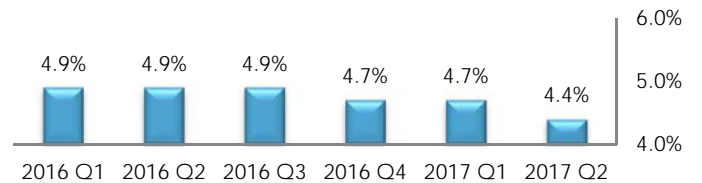
**CPI-U After Seasonal Adjustment**



**Unemployment**

- The US economy gained approximately 581,000 jobs in the quarter.
- The unemployment rate decreased to 4.4% at quarter end.
- The majority of jobs gained occurred in private service providing, professional and business services, and health care and social assistance. The primary contributors to jobs lost were in information, nondurable goods, and motor and vehicles parts.

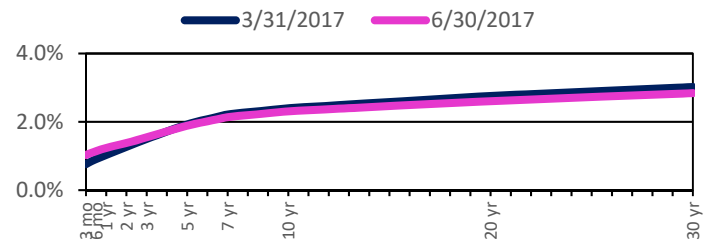
**Unemployment Rate**



Interest Rates & US Dollar

- The yield curve flattened over the quarter, with long-term rates generally falling and short-term rates generally rising.
- The Federal Reserve federal funds rate rose to between 1.00 percent and 1.25 percent.
- The markets appear to remain susceptible to central banks' policy shifts as evidenced by their reaction to the ECB's tapering comments during the last week of the quarter.
- The US dollar depreciated against the Euro and the Pound by 7.3% and 3.8%, respectively, while appreciating against the Yen by 0.9%.

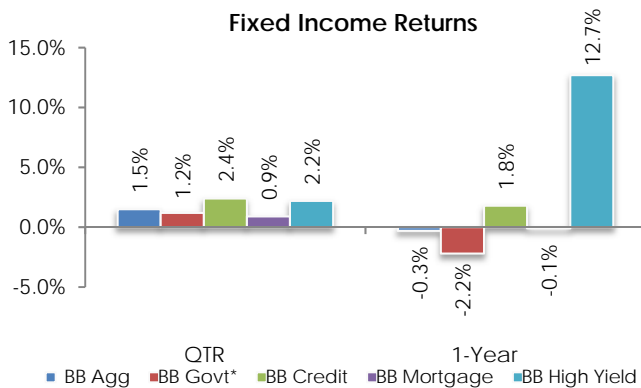
Treasury Yield Curve Changes



Source: US Treasury Department

Fixed Income

- US bonds provided moderate returns over the quarter with Credit producing the strongest return at 2.4%.
- Over the trailing 1-year period, High Yield materially outperformed all other sectors, producing a 12.7% return. Government trailed all other bond sectors with a return of minus (2.2%) over the period.



\*US Treasuries and Agencies

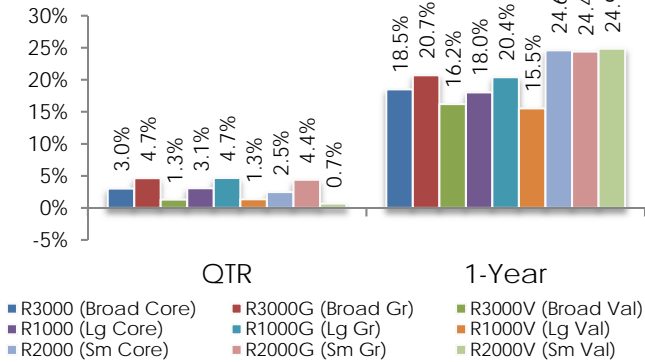
| US Fixed Income Sector Performance (BB Aggregate Index) |        |      |        |
|---|--------|------|--------|
| Sector  | Weight | QTR  | 1 Year |
| Governments*  | 40.7%  | 1.2% | -1.9%  |
| Agencies  | 3.5 %  | 0.9% | 0.2%   |
| Inv. Grade Credit                                       | 25.3%  | 2.5% | 2.3%   |
| MBS   | 28.1%  | 0.6% | 0.5%   |
| ABS   | 0.6%   | 0.6% | 0.6%   |
| CMBS  | 1.8%   | 1.3% | -0.3%  |

\*US Treasuries and Government Related

**US Equities**

- During the quarter, growth stocks dominated value stocks across the market cap spectrum. In terms of market capitalization, large cap stocks outperformed small cap stocks. Large cap and broad growth stocks returned this quarter's strongest return with 4.7% each, and small cap value provided the weakest result with 0.7%.
- During the trailing 1-year period, US equities provided positive double-digit returns, with the top performer, small cap value, returning 24.9%. Conversely, large cap value trailed all other market caps and styles with a return of 15.5%.

**U.S. Equity Returns**

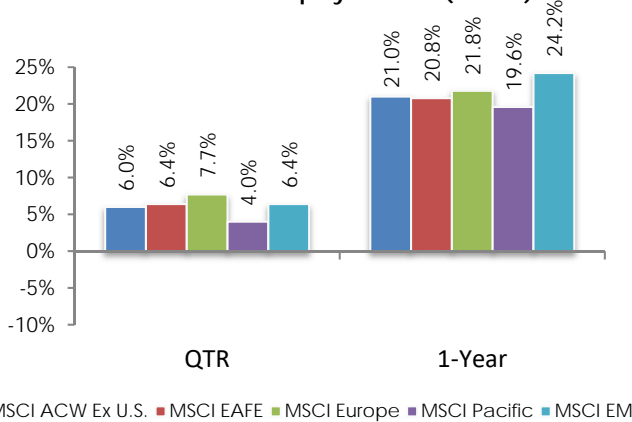


| US Equity Sector Performance (Russell 3000 Index) |        |       |        |
|---|--------|-------|--------|
| Sector  | Weight | QTR   | 1 Year |
| Financial Services                                | 21.2%  | 3.9%  | 27.6%  |
| Technology  | 18.2%  | 3.7%  | 34.8%  |
| Consumer Disc.                                    | 13.8%  | 3.0%  | 17.3%  |
| Health Care                                       | 13.9%  | 7.3%  | 14.6%  |
| Producer Durables                                 | 10.9%  | 4.5%  | 23.2%  |
| Consumer Staples                                  | 7.2%   | 1.0%  | 23.1%  |
| Energy  | 5.6%   | -7.4% | -4.7%  |
| Utilities   | 5.3%   | 1.3%  | -2.0%  |
| Materials & Proc.                                 | 3.9%   | 2.5%  | 20.8%  |

**International Equities**

- International equities performed well over the quarter as each region provided positive returns. The best performer was Europe with a return of 7.7%. The Pacific trailed all other regions with a return of 4.0%.
- Over the trailing 1-year period, international equities provided double digit returns across the board. Emerging Markets led all other regions with a return of 24.2%, while the Pacific underperformed all other regions with a return of 19.6%.

**International Equity Returns (in USD)**



| International Equity Region Performance (in USD) (MSCI ACW Index ex US) |        |      |        |
|---|--------|------|--------|
| Sector  | Weight | QTR  | 1 Year |
| Europe Ex. UK   | 32.2%  | 8.9% | 25.3%  |
| Emerging Markets  | 23.9%  | 6.4% | 24.2%  |
| Japan   | 16.4%  | 5.2% | 19.6%  |
| United Kingdom  | 12.4%  | 4.7% | 13.4%  |
| Pacific Ex. Japan   | 8.5%   | 1.6% | 19.6%  |
| Canada  | 6.7%   | 0.8% | 12.5%  |

Market Summary – Long-term Performance\*

| Indexes                         | Month | Quarter | 1 Year | 3 Years | 5 Years | 10 Years | 20 Years |
|---------------------------------|-------|---------|--------|---------|---------|----------|----------|
| <b>Global Equity</b>            |       |         |        |         |         |          |          |
| MSCI AC World Index             | 0.5%  | 4.5%    | 19.4%  | 5.4%    | 11.1%   | 4.3%     | 5.9%     |
| <b>Domestic Equity</b>          |       |         |        |         |         |          |          |
| S&P 500                         | 0.6%  | 3.1%    | 17.9%  | 9.6%    | 14.6%   | 7.2%     | 7.2%     |
| Russell 3000                    | 0.9%  | 3.0%    | 18.5%  | 9.1%    | 14.6%   | 7.3%     | 7.4%     |
| Russell 3000 Growth             | 0.0%  | 4.7%    | 20.7%  | 10.8%   | 15.2%   | 8.8%     | 6.6%     |
| Russell 3000 Value              | 1.8%  | 1.3%    | 16.2%  | 7.3%    | 13.9%   | 5.6%     | 7.8%     |
| Russell 1000                    | 0.7%  | 3.1%    | 18.0%  | 9.3%    | 14.7%   | 7.3%     | 7.4%     |
| Russell 1000 Growth             | -0.3% | 4.7%    | 20.4%  | 11.1%   | 15.3%   | 8.9%     | 6.6%     |
| Russell 1000 Value              | 1.6%  | 1.3%    | 15.5%  | 7.4%    | 13.9%   | 5.6%     | 7.7%     |
| Russell 2000                    | 3.5%  | 2.5%    | 24.6%  | 7.4%    | 13.7%   | 6.9%     | 8.0%     |
| Russell 2000 Growth             | 3.4%  | 4.4%    | 24.4%  | 7.6%    | 14.0%   | 7.8%     | 6.5%     |
| Russell 2000 Value              | 3.5%  | 0.7%    | 24.9%  | 7.0%    | 13.4%   | 5.9%     | 9.0%     |
| Russell Microcap                | 5.2%  | 3.8%    | 27.6%  | 6.7%    | 13.7%   | 5.5%     | ---      |
| CBOE BXM Index                  | 0.4%  | 3.1%    | 12.1%  | 6.5%    | 7.7%    | 4.6%     | 6.7%     |
| <b>International Equity</b>     |       |         |        |         |         |          |          |
| MSCI AC World Index ex USA      | 0.4%  | 6.0%    | 21.0%  | 1.3%    | 7.7%    | 1.6%     | 5.0%     |
| MSCI EAFE                       | -0.1% | 6.4%    | 20.8%  | 1.6%    | 9.2%    | 1.5%     | 4.7%     |
| MSCI Pacific                    | -1.1% | 7.7%    | 21.8%  | 0.3%    | 9.4%    | 1.2%     | 5.9%     |
| MSCI Europe                     | 1.4%  | 4.0%    | 19.6%  | 4.3%    | 8.8%    | 2.2%     | 2.8%     |
| MSCI EM (Emerging Markets)      | 1.1%  | 6.4%    | 24.2%  | 1.4%    | 4.3%    | 2.2%     | 5.8%     |
| <b>Fixed Income</b>             |       |         |        |         |         |          |          |
| BB Universal                    | -0.1% | 1.5%    | 0.9%   | 2.8%    | 2.7%    | 4.7%     | 5.4%     |
| Global Agg. - Hedged            | -0.3% | 1.0%    | -0.4%  | 3.3%    | 3.3%    | 4.5%     | 5.2%     |
| BB Aggregate Bond               | -0.1% | 1.4%    | -0.3%  | 2.5%    | 2.2%    | 4.5%     | 5.2%     |
| BB Government                   | -0.2% | 1.2%    | -2.2%  | 2.0%    | 1.3%    | 3.9%     | 4.9%     |
| BB Credit Bond                  | 0.3%  | 2.4%    | 1.8%   | 3.4%    | 3.7%    | 5.6%     | 6.0%     |
| BB Mortgage Backed Securities   | -0.4% | 0.9%    | -0.1%  | 2.2%    | 2.0%    | 4.3%     | 5.1%     |
| BB High Yield                   | 0.1%  | 2.2%    | 12.7%  | 4.5%    | 6.9%    | 7.7%     | 7.0%     |
| BB WGIL All Maturities - Hedged | -1.4% | -0.4%   | 1.9%   | 4.2%    | 3.0%    | 5.1%     | ---      |
| Emerging Markets Debt           | -0.2% | 1.8%    | 5.6%   | 4.5%    | 5.3%    | 7.1%     | 8.5%     |
| <b>Real Estate</b>              |       |         |        |         |         |          |          |
| NCREIF*                         | 0.6%  | 1.7%    | 7.9%   | 11.3%   | 11.8%   | 5.3%     | 9.2%     |
| FTSE NAREIT All Equity Index    | 2.0%  | 2.4%    | 1.4%   | 8.9%    | 10.0%   | 6.0%     | 9.1%     |
| <b>Commodity Index</b>          |       |         |        |         |         |          |          |
| Bloomberg Commodity Index       | -0.2% | -3.0%   | -6.5%  | -14.8%  | -9.3%   | -6.5%    | 0.2%     |

\* Performance is annualized for periods greater than one year.

## SECTION 2

## INVESTMENT MARKET RISK METRICS

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# Takeaways

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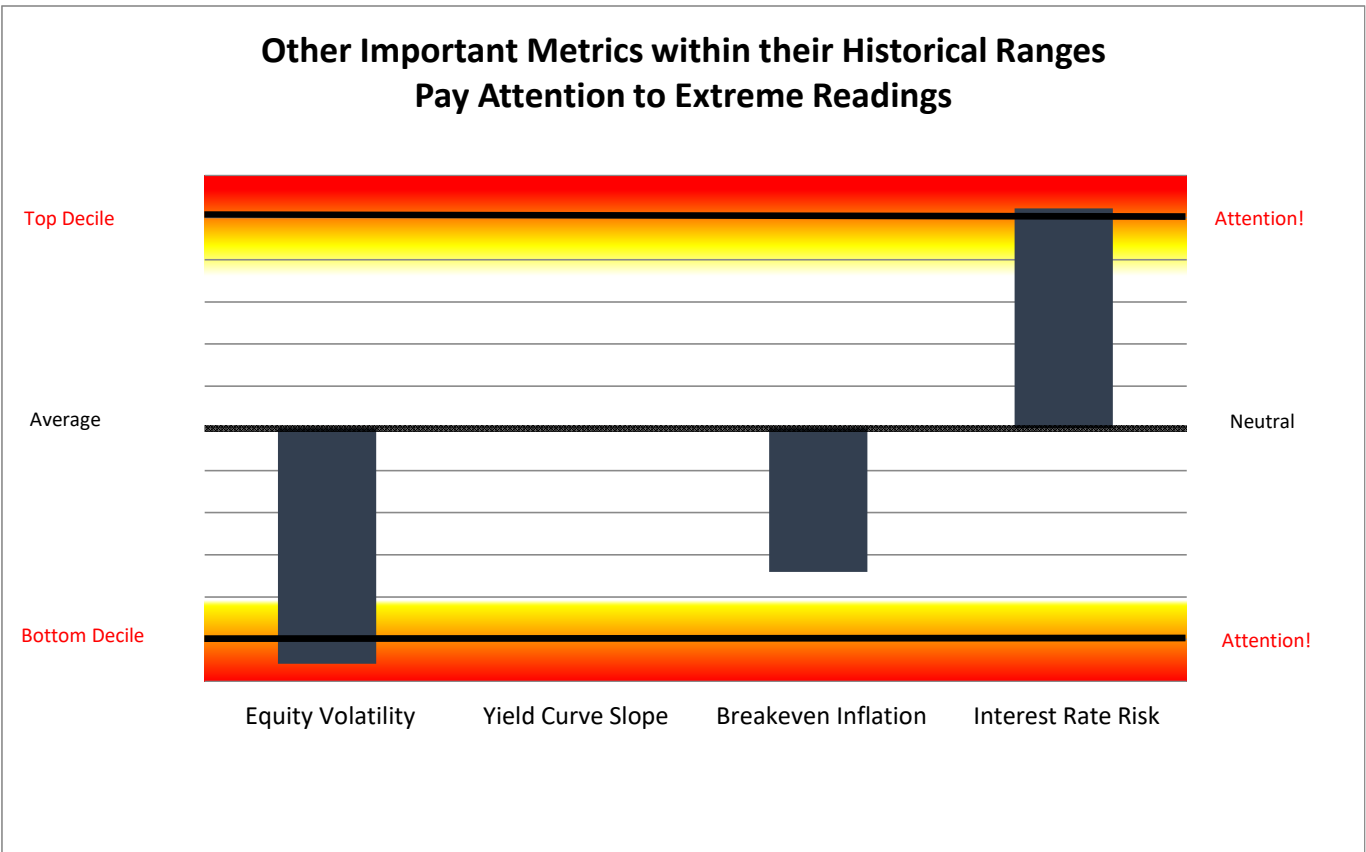
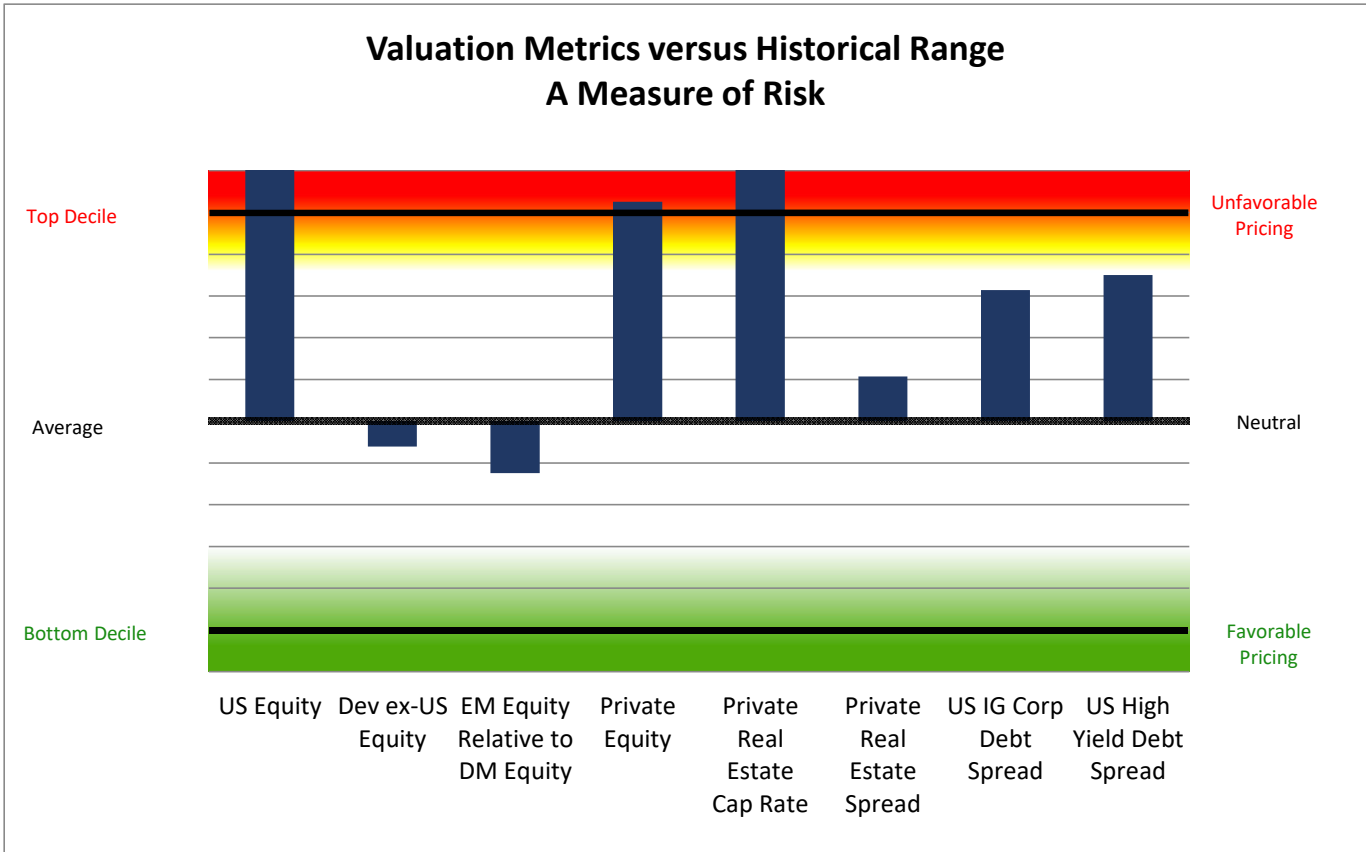
- The majority of global assets produced flat-to-positive returns during June, and both economic and financial market volatility remained subdued. As a result, valuations and other market metrics were relatively unchanged from the end of May.
- U.S. public equity valuations (based on normalized price/earnings ratios) remain at levels only surpassed in the late 1990's tech bubble.
- Non-U.S. developed and emerging market equity valuations remain modestly cheap relative to their own histories and relative to U.S. levels.
- Credit spreads remain tight (risk seeking) in both U.S. investment grade and high yield markets.
- The yield curve flattened (short-term rates increased and long-term rates fell) in anticipation of further rate increases by the Federal Reserve.
- Inflation indicators remain well behaved; commodity prices are near decade lows and breakeven inflation levels remain stable.
- Equity volatility levels remain near bottom decile levels.
- PCA's sentiment indicator remains positive. The sentiment indicator remains solidly **green**.

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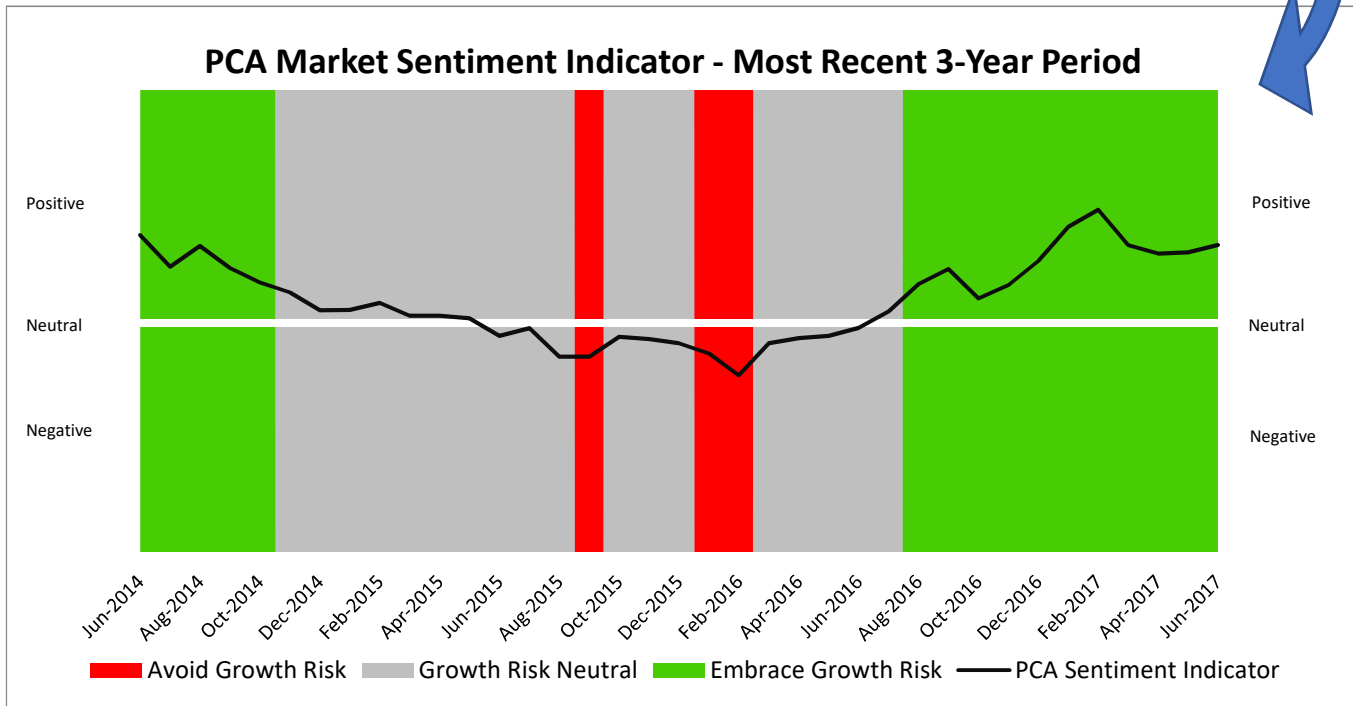
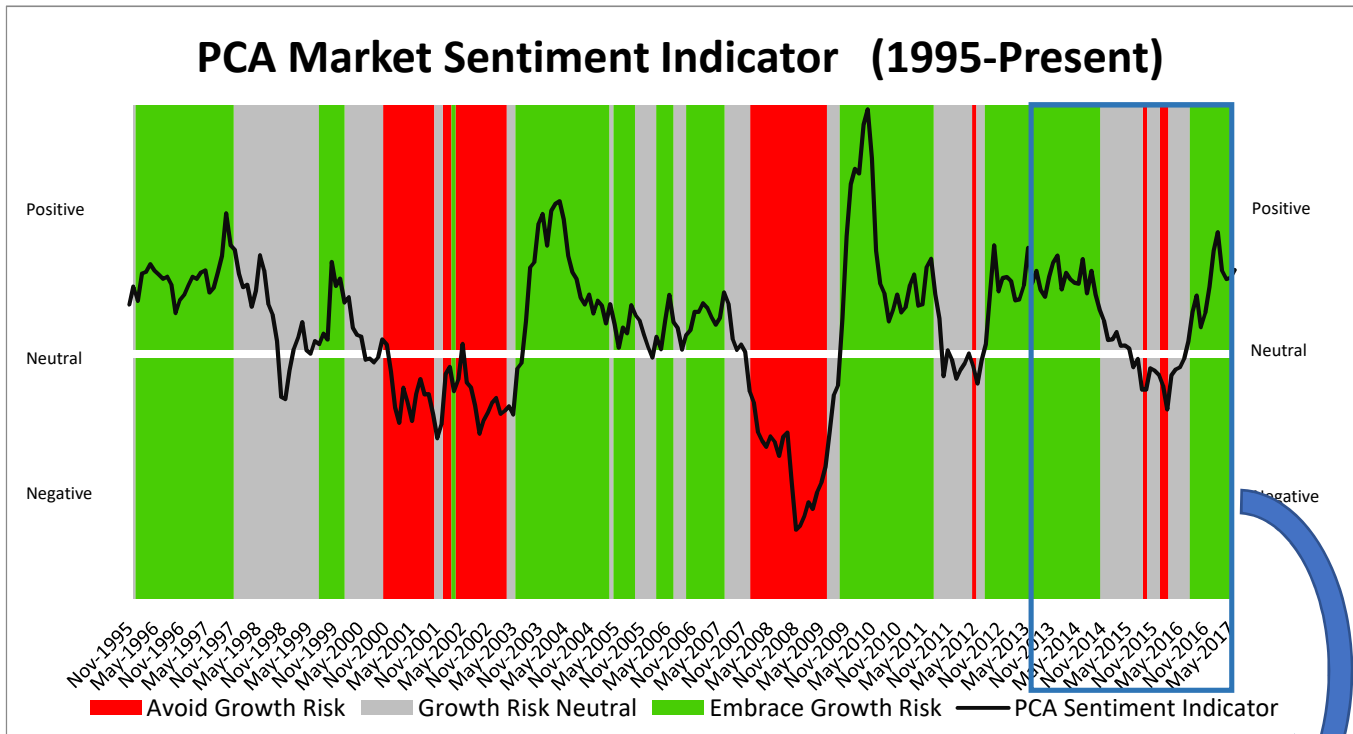
<sup>1</sup>See Appendix for the rationale for selection and calculation methodology used for the risk metrics.



**Risk Overview**



**Market Sentiment**



**Information Behind Current Sentiment Reading**

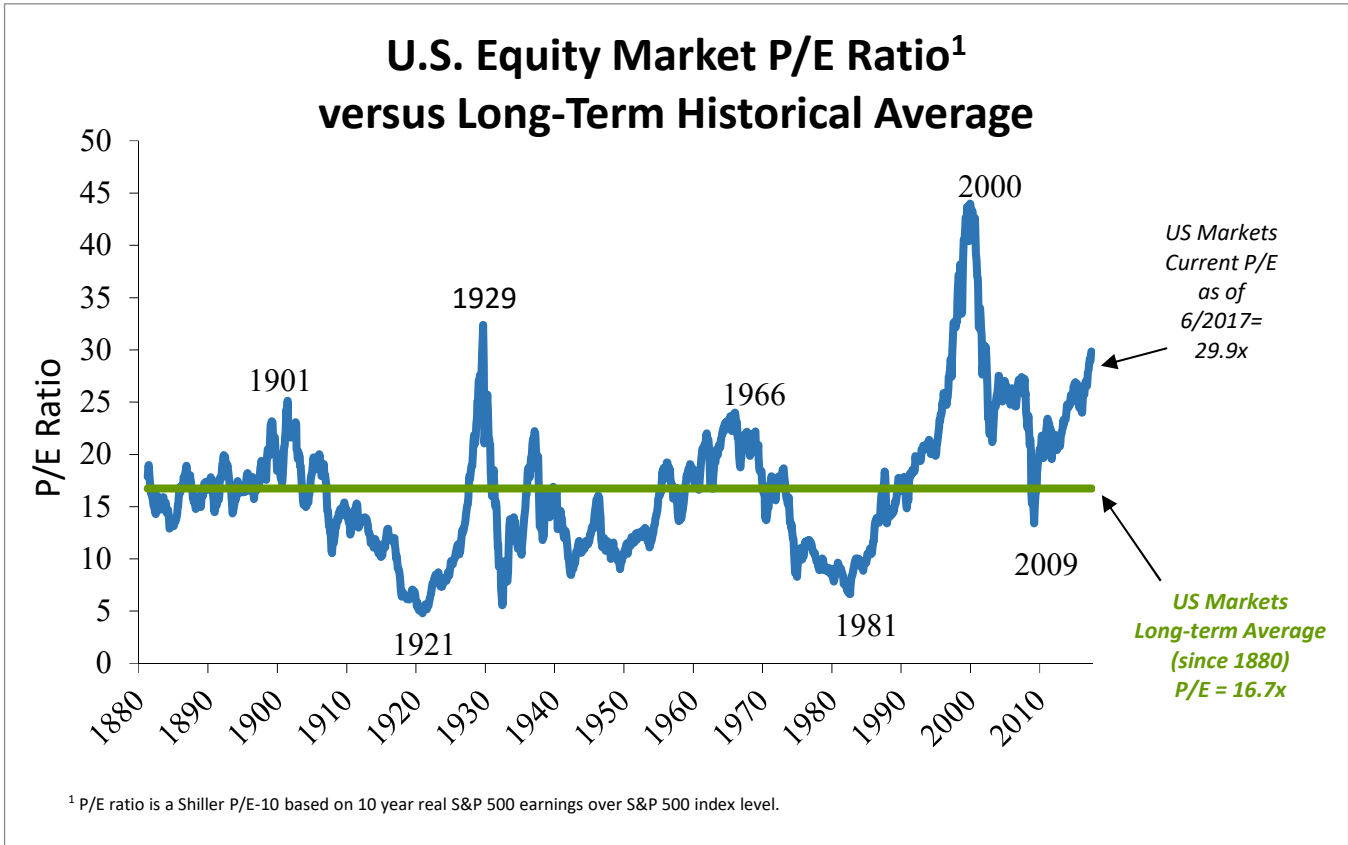
Bond Spread Momentum Trailing-Twelve Months  
 Equity Return Momentum Trailing-Twelve Months  
 Agreement Between Bond Spread and Equity Spread Momentum Measures?

|          |  |
|----------|--|
| Positive |  |
| Positive |  |
| Agree    |  |

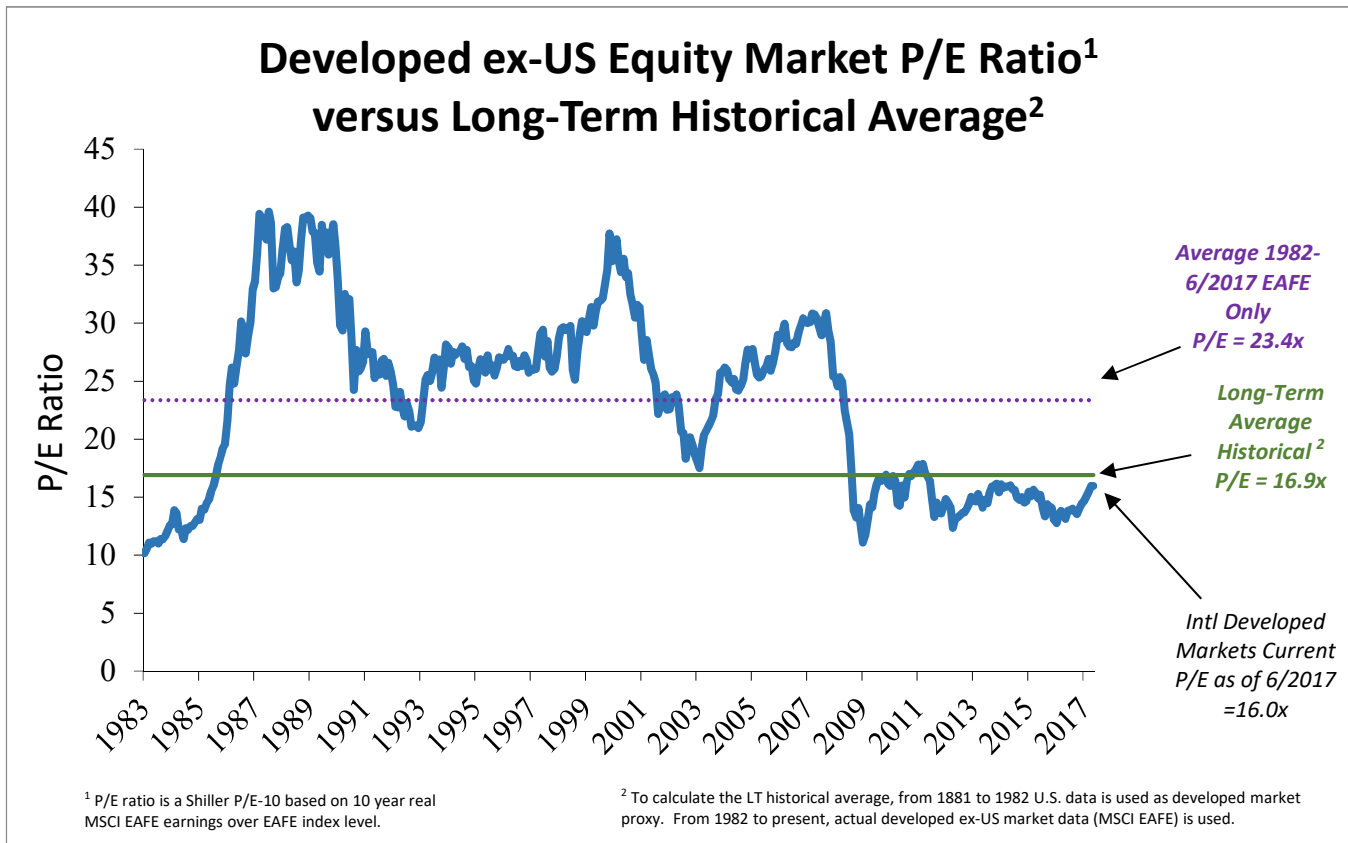
**Growth Risk Visibility (Current Overall Sentiment)**

|          |  |
|----------|--|
| Positive |  |
|----------|--|

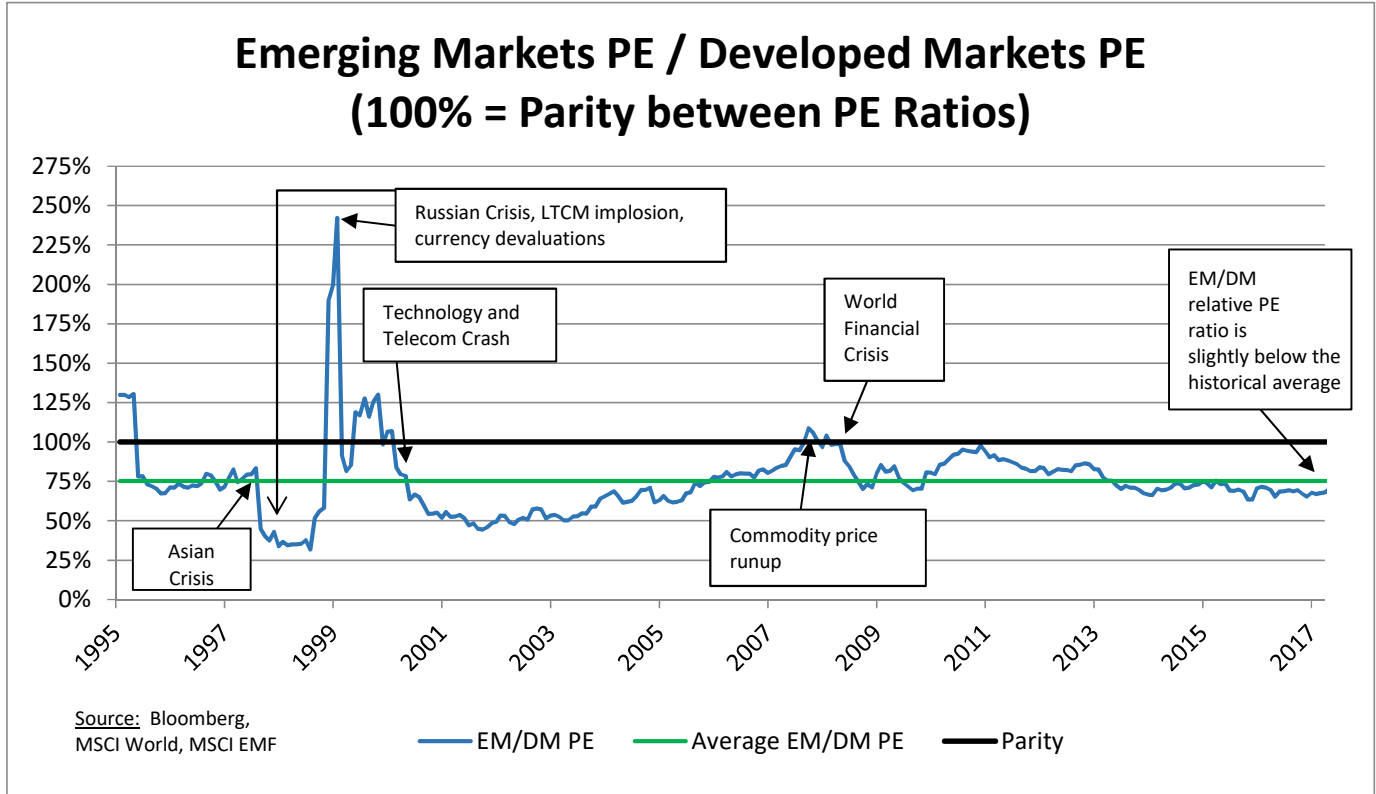
**Developed Public Equity Markets**



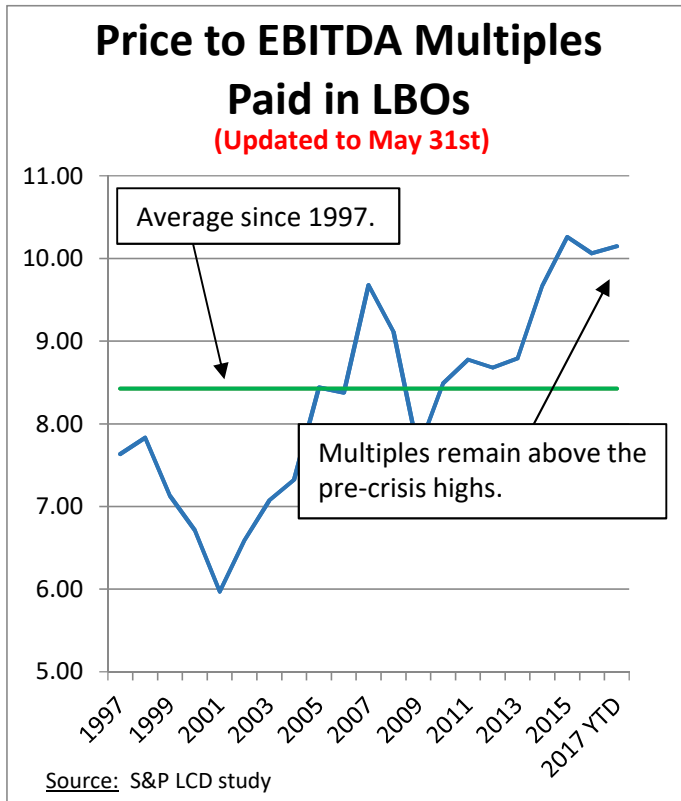
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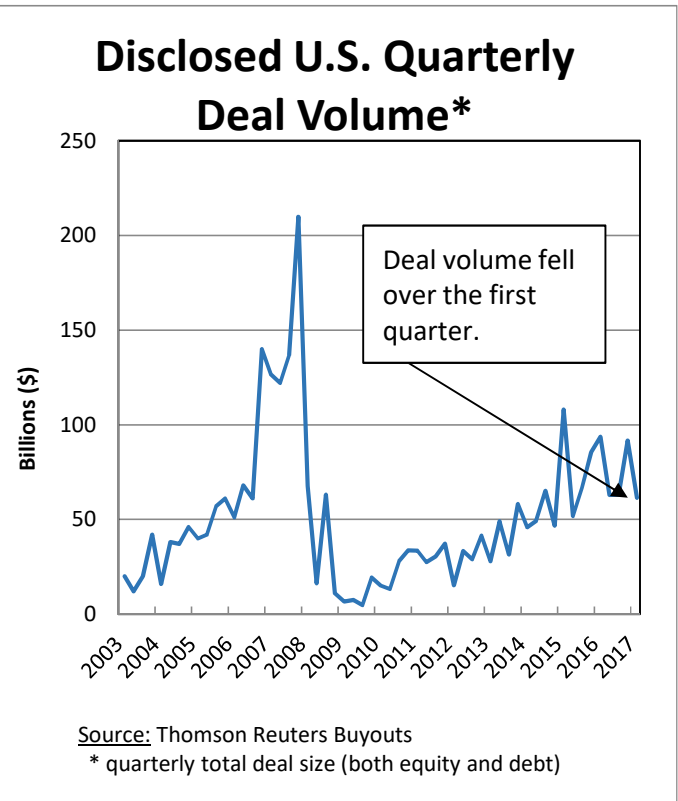
**Emerging Market Public Equity Markets**



**US Private Equity**

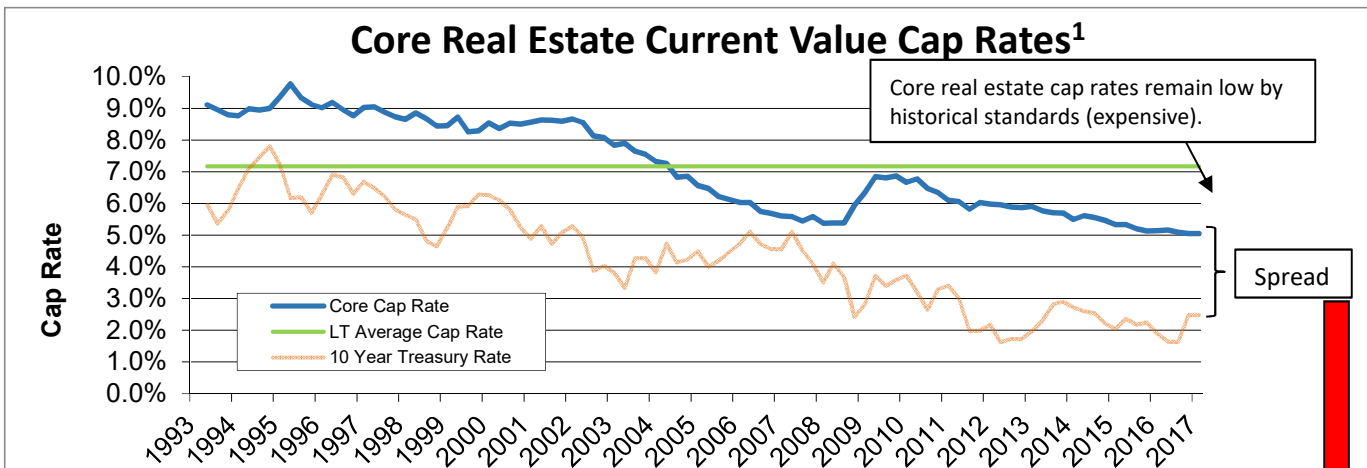


**Quarterly Data, Updated to Mar. 31st.**

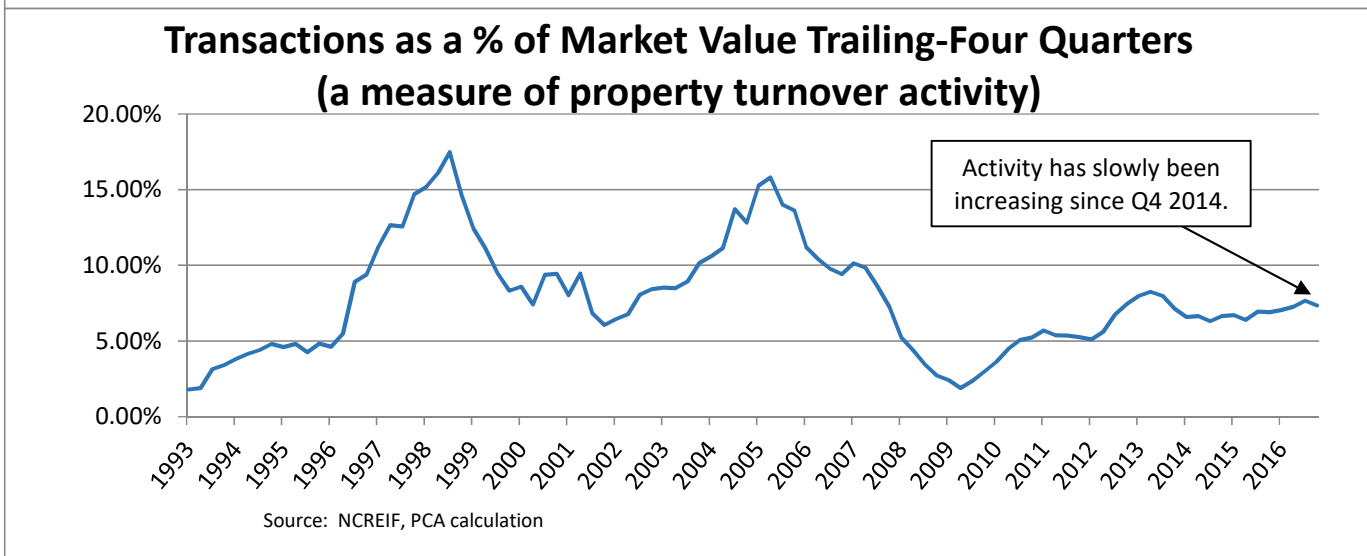
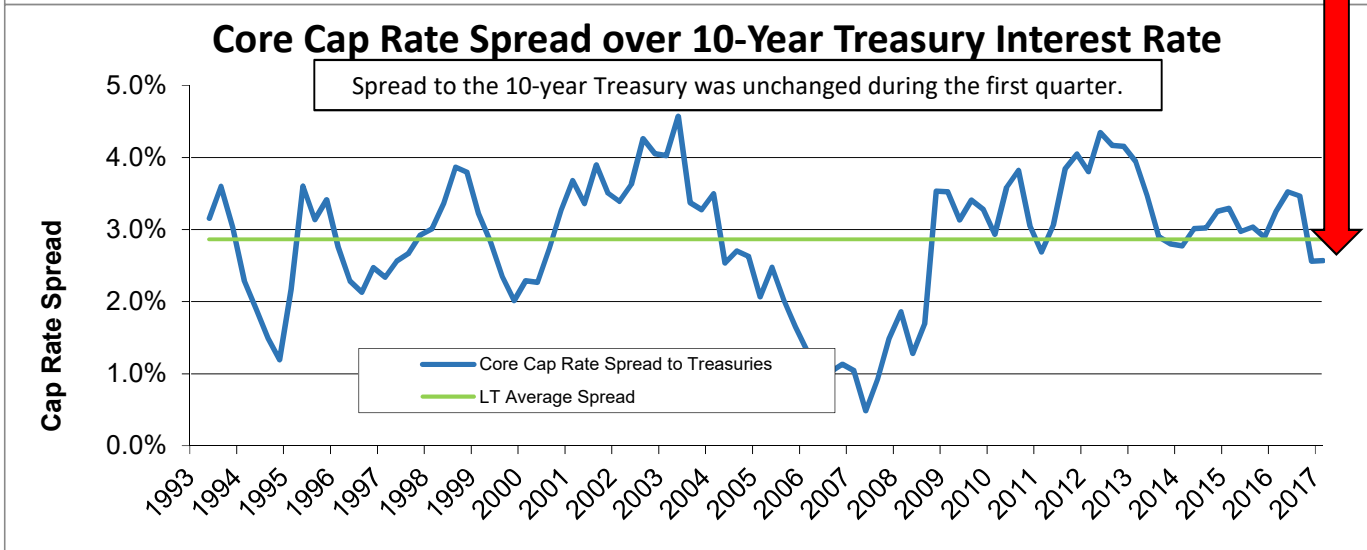


Private Real Estate

Quarterly Data, Updated to Mar. 31st.

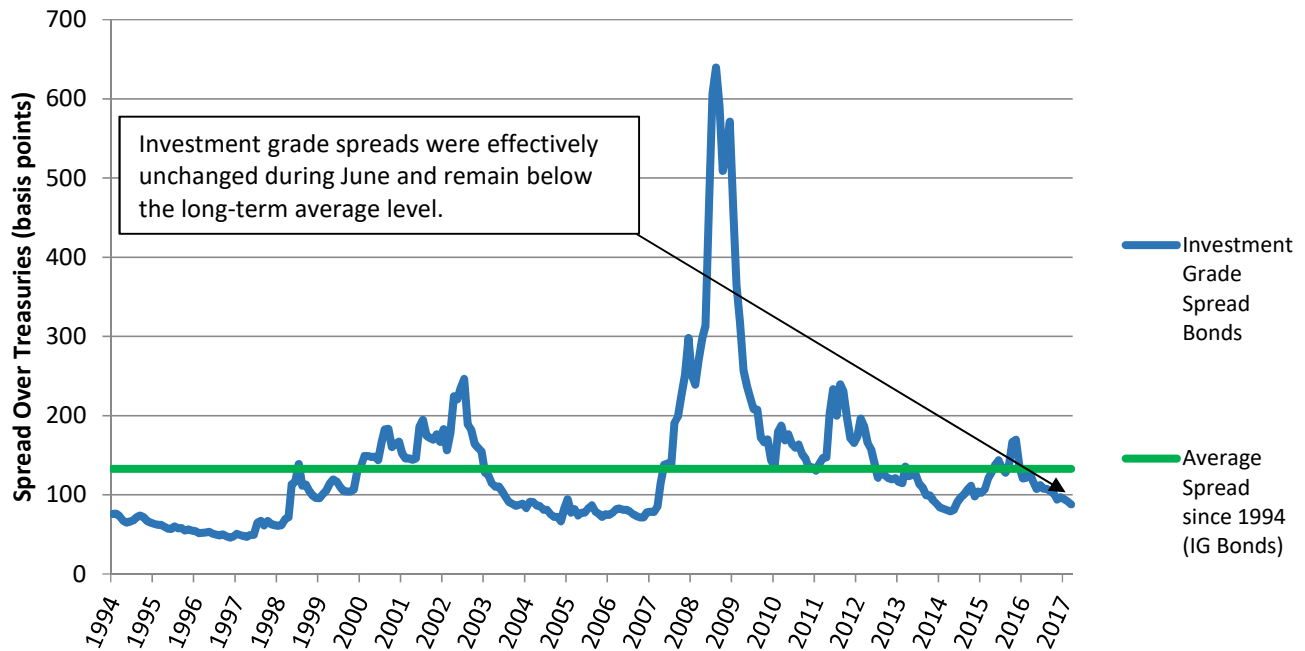


Sources: NCREIF, www.ustreas.gov <sup>1</sup>A cap rate is the current annual income of the property divided by an estimate of the current value of the property. It is the current yield of the property. Low cap rates indicate high valuations.



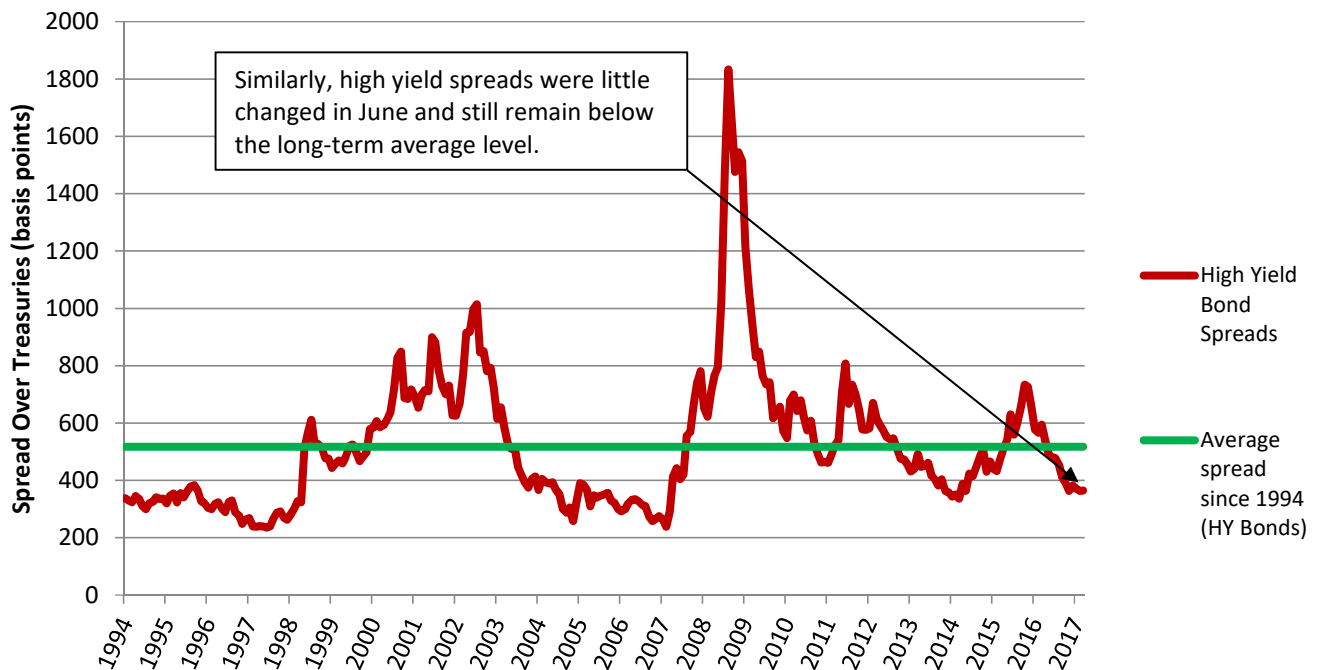
**Credit Market US Fixed Income**

**Investment Grade Corporate Bond Spreads**



Source: LehmanLive: Barclays Capital US Corporate Investment Grade Index Intermediate Component.

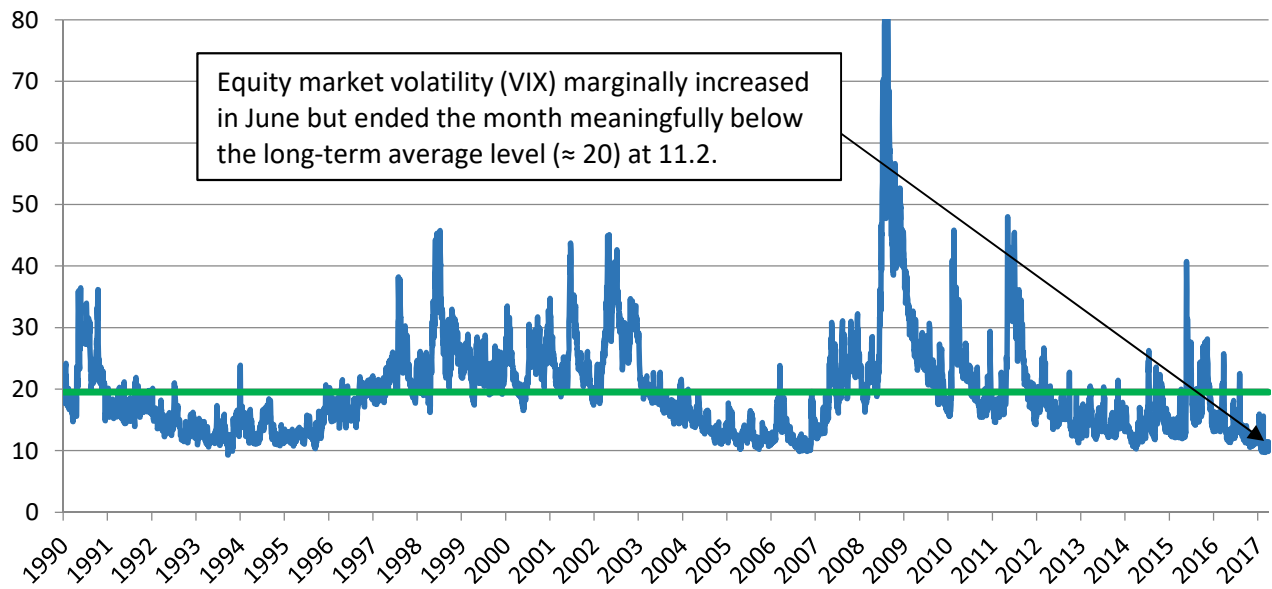
**High Yield Corporate Bond Spreads**



Source: LehmanLive: Barclays Capital U.S. Corporate High Yield Index.

**Other Market Metrics**

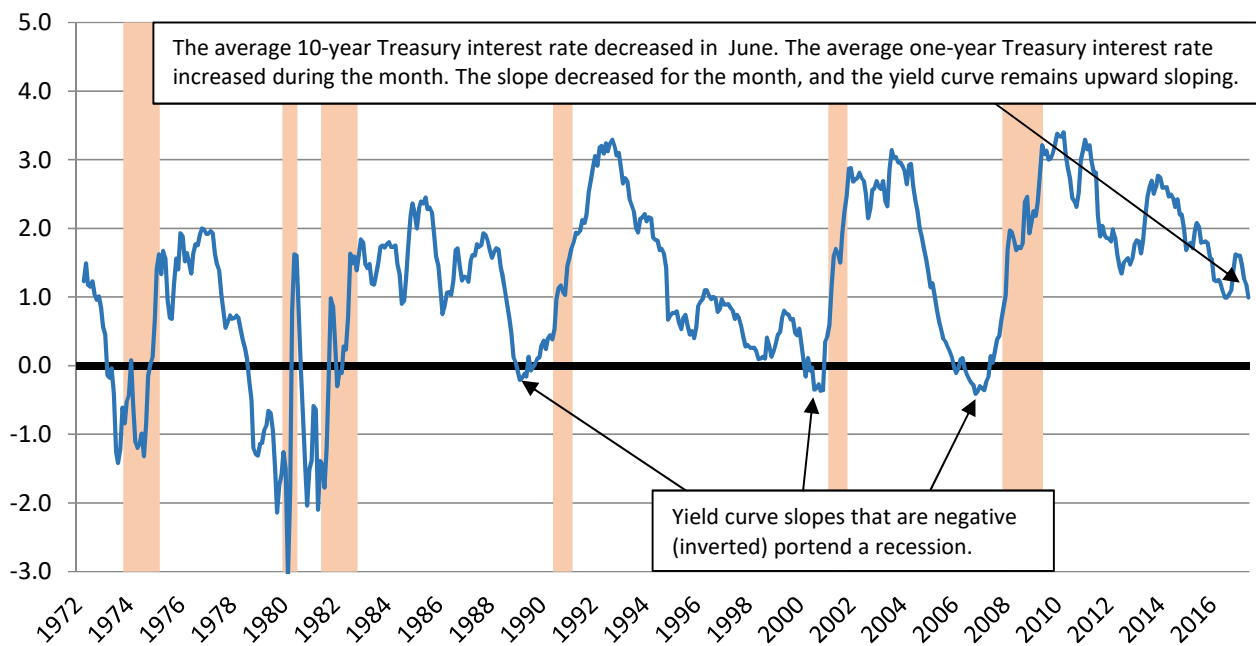
**VIX - a measure of equity market fear / uncertainty**



Source: <http://www.cboe.com/micro/vix/historical.aspx>

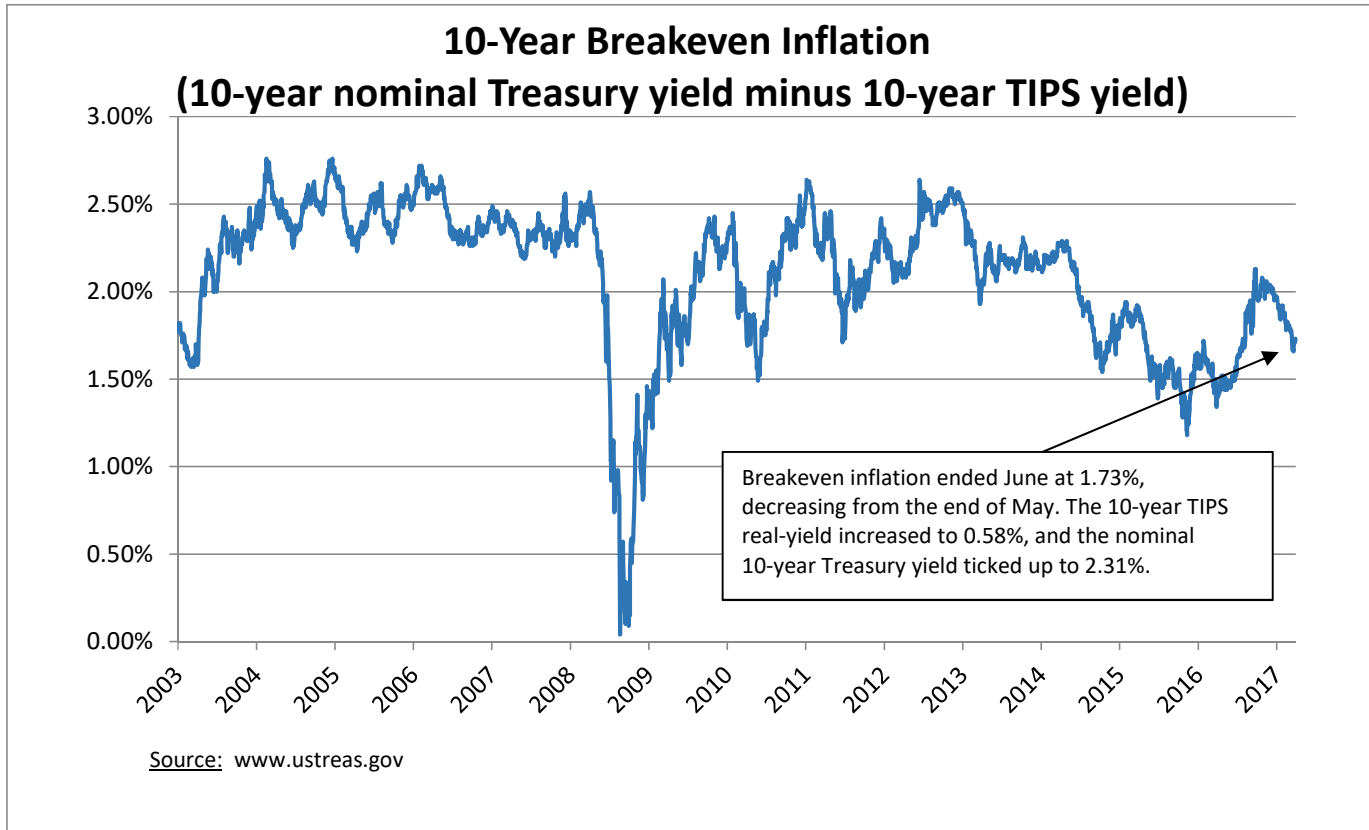
(Please note the difference in time scales)

**Yield Curve Slope**

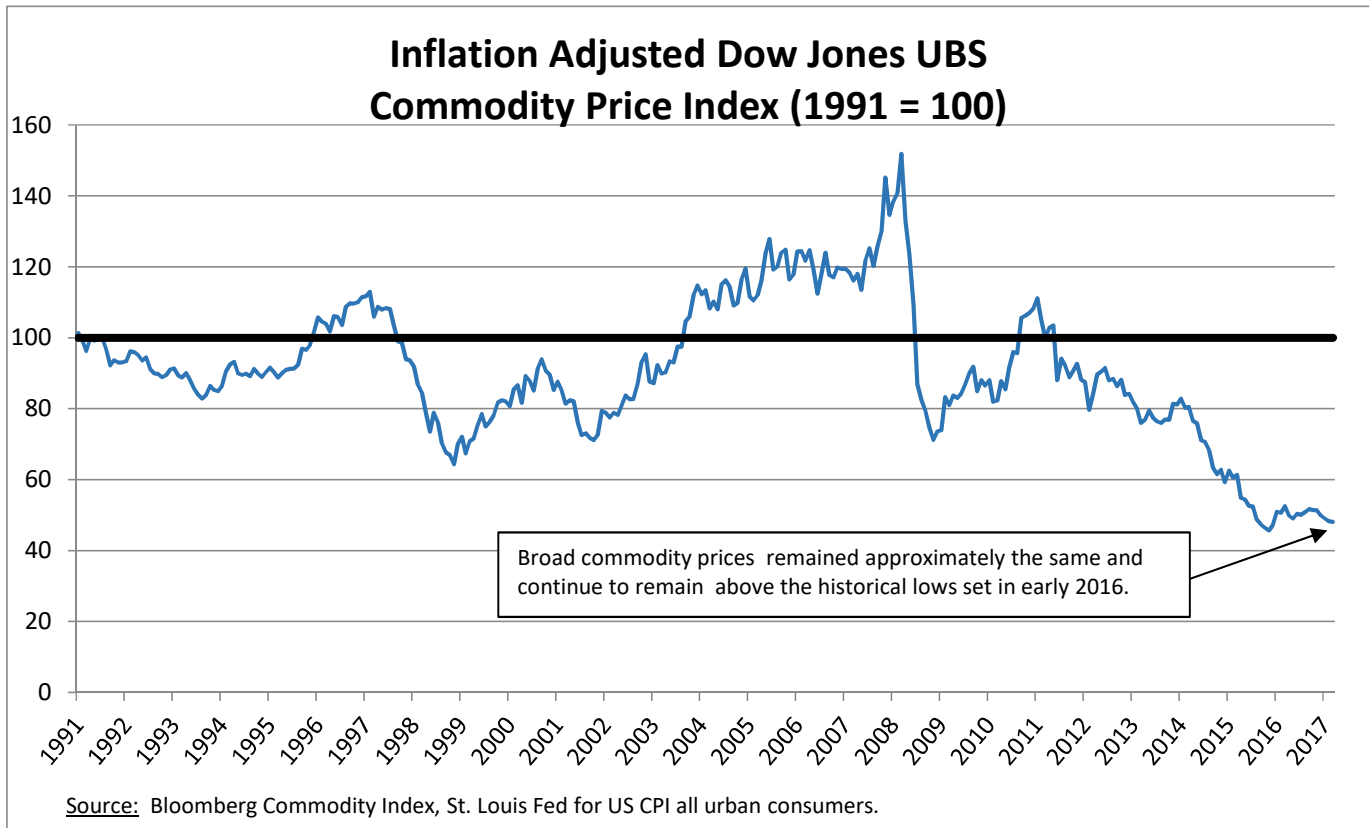


Source: [www.ustreas.gov](http://www.ustreas.gov) (10 yr treasury yield minus 1 year treasury yield)

**Measures of Inflation Expectations**

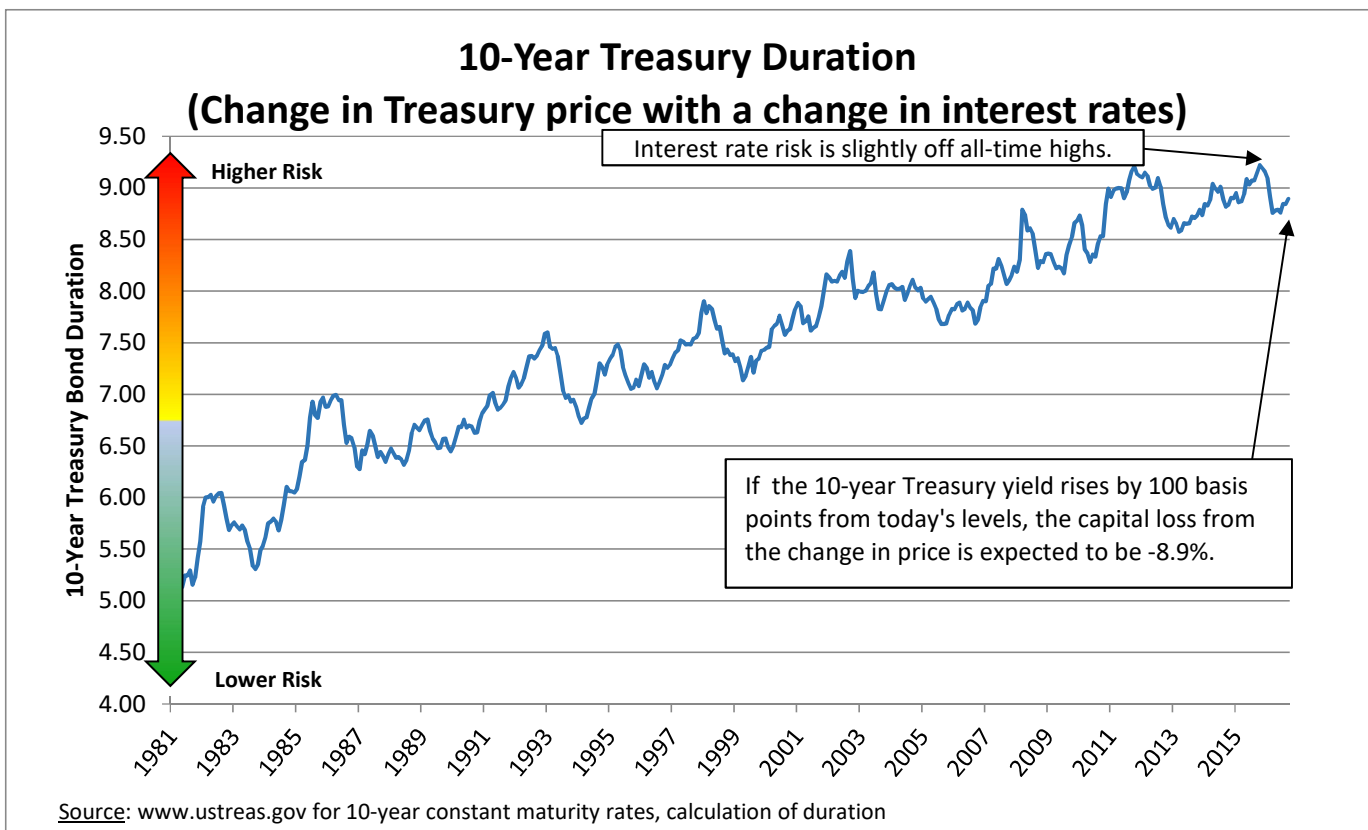
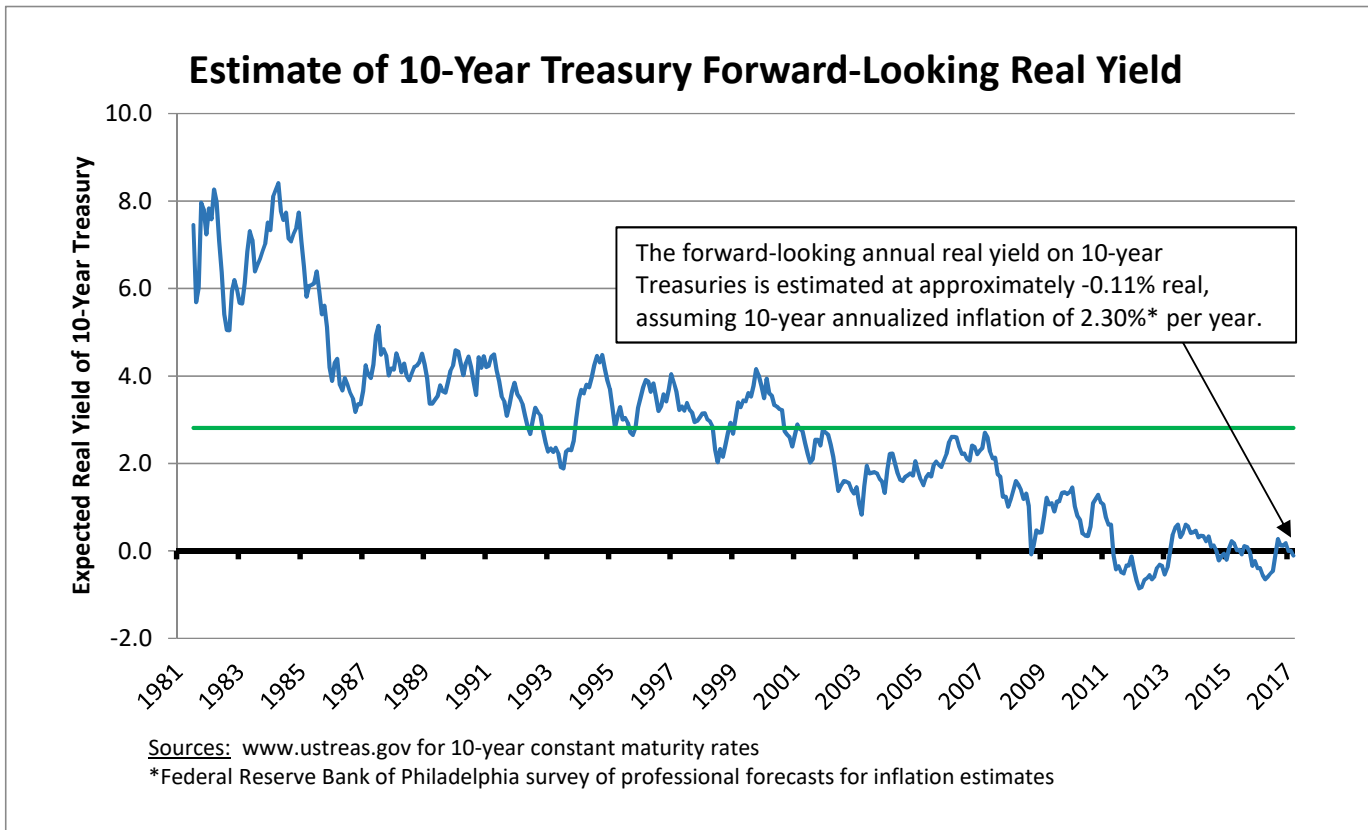


(Please note the difference in time scales)





**Measures of U.S. Treasury Interest Rate Risk**



# Appendix

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# Appendix

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## METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

### **US Equity Markets:**

Metric: P/E ratio = Price / "Normalized" earnings for the S&P 500 Index

To represent the price of US equity markets, we have chosen the S&P 500 index. This index has the longest published history of price, is well known, and also has reliable, long-term, published quarterly earnings. The price= $P$  of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the S&P 500 index). Equity markets are very volatile. Prices fluctuate significantly during normal times and extremely during periods of market stress or euphoria. Therefore, developing a measure of earnings power ( $E$ ) which is stable is vitally important, if the measure is to provide insight. While equity prices can and do double, or get cut in half, real earnings power does not change nearly as much. Therefore, we have selected a well known measure of real, stable earnings power developed by Yale Professor Robert Shiller known as the Shiller E-10. The calculation of E-10 is simply the average real annual earnings over the past 10 years. Over 10 years, the earnings shenanigans and boom and bust levels of earnings tend to even out (and often times get restated). Therefore, this earnings statistic gives a reasonably stable, slow-to-change estimate of average real earnings power for the index. Professor Shiller's data and calculation of the E-10 are available on his website at <http://www.econ.yale.edu/~shiller/data.htm>. We have used his data as the base for our calculations. Details of the theoretical justification behind the measure can be found in his book *Irrational Exuberance* [Princeton University Press 2000, Broadway Books 2001, 2nd ed., 2005].

### **Developed Equity Markets Excluding the US:**

Metric: P/E ratio = Price / "Normalized" earnings for the MSCI EAFE Index

To represent the price of non-US developed equity markets, we have chosen the MSCI EAFE index. This index has the longest published history of price for non-US developed equities. The price= $P$  of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the MSCI EAFE index). The price level of this index is available starting in December 1969. Again, for the reasons described above, we elected to use the Shiller E-10 as our measure of earnings ( $E$ ). Since 12/1972, a monthly price earnings ratio is available from MSCI. Using this quoted ratio, we have backed out the implied trailing-twelve month earnings of the EAFE index for each month from 12/1972 to the present. These annualized earnings are then inflation adjusted using CPI-U to represent real earnings in US dollar terms for each time period. The Shiller E-10 for the EAFE index (10 year average real earnings) is calculated in the same manner as detailed above.

However, we do not believe that the pricing and earnings history of the EAFE markets are long enough to be a reliable representation of pricing history for developed market equities outside of the US. Therefore, in constructing the Long-Term Average Historical P/E for developed ex-US equities for comparison purposes, we have elected to use the US equity market as a developed market proxy, from 1881 to 1982. This lowers the Long-Term Average Historical P/E considerably. We believe this methodology provides a more realistic historical comparison for a market with a relatively short history.

# Appendix

## METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

### **Emerging Market Equity Markets:**

Metric: Ratio of Emerging Market P/E Ratio to Developed Market P/E Ratio

To represent the Emerging Markets P/E Ratio, we have chosen the MSCI Emerging Market Free Index, which has P/E data back to January 1995 on Bloomberg. To represent the Developed Markets PE Ratio, we have chosen the MSCI World Index, which also has data back to January 1995 on Bloomberg. Although there are issues with published, single time period P/E ratios, in which the denominator effect can cause large movements, we feel that the information contained in such movements will alert investors to market activity that they will want to interpret.

### **US Private Equity Markets:**

Metrics: S&P LCD Average EBITDA Multiples Paid in LBOs and US Quarterly Deal Volume

The Average Purchase Price to EBITDA multiples paid in LBOs is published quarterly by S&P in their LCD study. This is the total price paid (both equity and debt) over the trailing-twelve month EBITDA (earnings before interest, taxes, depreciation and amortization) as calculated by S&P LCD. This is the relevant, high-level pricing metric that private equity managers use in assessing deals. Data is published monthly.

US quarterly deal volume for private equity is the total deal volume in \$ billions (both equity and debt) reported in the quarter by Thomson Reuters Buyouts. This metric gives a measure of the level of activity in the market. Data is published quarterly.

### **U.S Private Real Estate Markets:**

Metrics: US Cap Rates, Cap Rate Spreads, and Transactions as a % of Market Value

Real estate cap rates are a measure of the price paid in the market to acquire properties versus their annualized income generation before financing costs (NOI=net operating income). The data, published by NCREIF, describes completed and leased properties (core) on an unleveraged basis. We chose to use current value cap rates. These are capitalization rates from properties that were revalued during the quarter. This data relies on estimates of value and therefore tends to be lagging (estimated prices are slower to rise and slower to fall than transaction prices). The data is published quarterly.

Spreads between the cap rate (described above) and the 10-year nominal Treasury yield, indicate a measure of the cost of properties versus a current measure of the cost of financing.

Transactions as a % of Market Value Trailing-Four Quarters is a measure of property turnover activity in the NCREIF Universe. This quarterly metric is a measure of activity in the market.

### **Credit Markets US Fixed Income:**

Metric: Spreads

The absolute level of spreads over treasuries and spread trends (widening / narrowing) are good indicators of credit risk in the fixed income markets. Spreads incorporate estimates of future default, but can also be driven by technical dislocations in the fixed income markets. Abnormally narrow spreads (relative to historical levels) indicate higher levels of valuation risk, wide spreads indicate lower levels of valuation risk and / or elevated default fears. Investment grade bond spreads are represented by the Barclays Capital US Corporate Investment Grade Index Intermediate Component. The high yield corporate bond spreads are represented by the Barclays Capital US Corporate High Yield Index.

# Appendix

## METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

### **Measure of Equity Market Fear / Uncertainty**

Metric: VIX – Measure of implied option volatility for U.S. equity markets

The VIX is a key measure of near-term volatility conveyed by implied volatility of S&P 500 index option prices. VIX increases with uncertainty and fear. Stocks and the VIX are negatively correlated. Volatility tends to spike when equity markets fall.

### **Measure of Monetary Policy**

Metric: Yield Curve Slope

We calculate the yield curve slope as the 10 year treasury yield minus the 1 year treasury yield. When the yield curve slope is zero or negative, this is a signal to pay attention. A negative yield curve slope signals lower rates in the future, caused by a contraction in economic activity. Recessions are typically preceded by an inverted (negatively sloped) yield curve. A very steep yield curve (2 or greater) indicates a large difference between shorter-term interest rates (the 1 year rate) and longer-term rates (the 10 year rate). This can signal expansion in economic activity in the future, or merely higher future interest rates.

### **Measures of US Inflation Expectations**

Metrics: Breakeven Inflation and Inflation Adjusted Commodity Prices

Inflation is a very important indicator impacting all assets and financial instruments. Breakeven inflation is calculated as the 10 year nominal treasury yield minus the 10 year real yield on US TIPS (treasury inflation protected securities). Abnormally low long-term inflation expectations are indicative of deflationary fears. A rapid rise in breakeven inflation indicates an acceleration in inflationary expectations as market participants sell nominal treasuries and buy TIPS. If breakeven inflation continues to rise quarter over quarter, this is a signal of inflationary worries rising, which may cause Fed action and / or dollar decline.

Commodity price movement (above the rate of inflation) is an indication of anticipated inflation caused by real global economic activity putting pressure on resource prices. We calculate this metric by adjusted in the Dow Jones UBS Commodity Index (formerly Dow Jones AIG Commodity Index) by US CPI-U. While rising commodity prices will not necessarily translate to higher US inflation, higher US inflation will likely show up in higher commodity prices, particularly if world economic activity is robust.

These two measures of anticipated inflation can, and often are, conflicting.

### **Measures of US Treasury Bond Interest Rate Risk**

Metrics: 10-Year Treasury Forward-Looking Real Yield and 10-Year Treasury Duration

The expected annualized real yield of the 10 year U.S. Treasury Bond is a measure of valuation risk for U.S. Treasuries. A low real yield means investors will accept a low rate of expected return for the certainty of receiving their nominal cash flows. PCA estimates the expected annualized real yield by subtracting an estimate of expected 10 year inflation (produced by the Survey of Professional Forecasters as collected by the Federal Reserve Bank of Philadelphia), from the 10 year Treasury constant maturity interest rate.

Duration for the 10-Year Treasury Bond is calculated based on the current yield and a price of 100. This is a measure of expected percentage movements in the price of the bond based on small movements in percentage yield. We make no attempt to account for convexity.

### **Definition of “extreme” metric readings**

A metric reading is defined as “extreme” if the metric reading is in the top or bottom decile of its historical readings. These “extreme” reading should cause the reader to pay attention. These metrics have reverted toward their mean values in the past.

# PCA Market Sentiment Indicator

*Explanation, Construction and Q&A*

**By:**

**Pension Consulting Alliance, LLC.**

***John Linder, CFA, CPA***

***Neil Rue, CFA***

PCA has created the PCA Market Sentiment Indicator (PMSI) to complement our valuation-focused PCA Investment Market Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long-lived market trends of economic growth risk, either towards a risk-seeking trend or a risk-aversion trend.

This paper explores:

- What is the PCA Market Sentiment Indicator (PMSI)?
- How do I read the indicator graph?
- How is the PCA Market Sentiment Indicator (PMSI) constructed?
- What do changes in the indicator mean?



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# PCA Market Sentiment Indicator

PCA has created a market sentiment indicator for monthly publication (the PMSI – see below) to complement PCA's Investment Market Risk Metrics.

PCA's Investment Market Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market corrections take place. The PMSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation based concerns. Once the PMSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, PCA believes the Risk Metrics and PMSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the PCA PMSI:

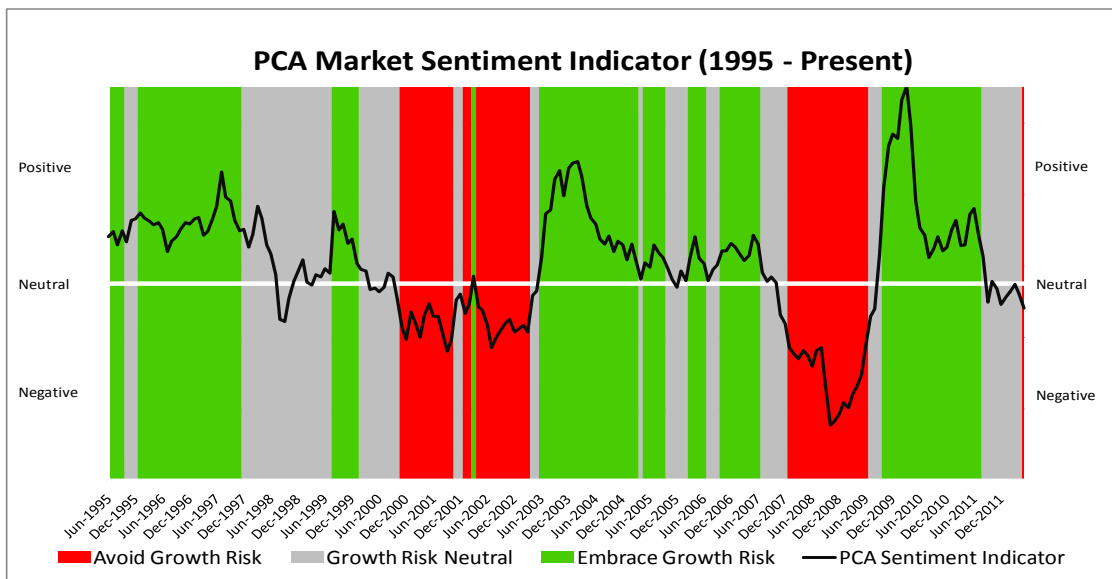
## What is the PCA Market Sentiment Indicator (PMSI)?

The PMSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The PMSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

## How do I read the PCA Market Sentiment Indicator (PMSI) graph?

Simply put, the PMSI is a color coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the PMSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the PMSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.

Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.





# PCA Market Sentiment Indicator

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## How is the PCA Market Sentiment Indicator (PMSI) Constructed?

The PMSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

1. Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
2. Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration U.S. Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight). The scale of this measure is adjusted to match that of the stock return momentum measure.

The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure. The color reading on the graph is determined as follows:

1. If both stock return momentum and bond spread momentum are positive = GREEN (positive)
2. If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive)
3. If both stock return momentum and bond spread momentum are negative = RED (negative)

## What does the PCA Market Sentiment Indicator (PMSI) mean? Why might it be useful?

There is strong evidence that time series momentum is significant and persistent. In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12 month period. The PMSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

<sup>i</sup> Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.

<sup>ii</sup> "Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010  
<http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>



## SECTION 3

## REVIEW OF SCHOLARSHARE POLICY

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# REVIEW OF SCHOLARSHARE POLICY

## Active Funds

| <u>Fund</u>                               | <u>Asset Class</u>   | <u>Benchmark</u>                    |
|---|----------------------|-------------------------------------|
| T. Rowe Price Instl Large Cap Growth      | Domestic Equity      | Russell 1000 Growth TR USD          |
| T. Rowe Price Instl Large Cap Value       | Domestic Equity      | Russell 1000 Value TR USD           |
| TIAA-CREF Small Cap Equity                | Domestic Equity      | Russell 2000 TR USD                 |
| TIAA-CREF Social Choice Equity            | Domestic Equity      | Russell 3000 TR USD                 |
| TIAA-CREF Real Estate Securities          | Domestic Equity      | FTSE NAREIT All Equity REITs TR     |
| DFA Large Cap International               | International Equity | MSCI World ex US NR USD             |
| DFA Emerging Markets Core Equity          | International Equity | MSCI EM NR USD                      |
| Metropolitan West Total Return Bond       | Fixed Income         | BBg BarCap US Agg Bond TR USD       |
| PIMCO Real Return                         | Fixed Income         | BBg BarCap US Trsy US TIPS TR USD   |
| PIMCO Income                              | Fixed Income         | BBg BarCap US Agg Bond TR USD       |
| TIAA-CREF Inflation-Linked Bond           | Fixed Income         | BBg BarCap US TIPS 1-10 year TR USD |
| T. Rowe Price Institutional Floating Rate | High Yield           | S&P/LSTA Performing Loan TR         |
| TIAA-CREF High Yield Bond                 | High Yield           | BofA ML US HY C Pay BB-B Constd TR  |

## Passive Funds

| <u>Fund</u>                             | <u>Asset Class</u>   | <u>Benchmark</u>              |
|---|----------------------|-------------------------------|
| TIAA-CREF Equity Index                  | Domestic Equity      | Russell 3000 TR USD           |
| TIAA-CREF S&P 500 Index                 | Domestic Equity      | S&P 500 TR                    |
| TIAA-CREF International Equity Index    | International Equity | MSCI EAFE NR USD              |
| TIAA-CREF Emerging Markets Equity Index | International Equity | MSCI EM NR USD                |
| TIAA-CREF Bond Index                    | Fixed Income         | BBg BarCap US Agg Bond TR USD |

## T-C Life Funding Agreements

|                              |     |     |
|------------------------------|-----|-----|
| T-C Life Funding Agreements* | --- | --- |
|------------------------------|-----|-----|

\*Investment through a funding agreement with TIAA-CREF Life Insurance Company. Not benchmarked to an index, rather, portfolio performance is monitored using a set of qualitative guidelines.

# REVIEW OF SCHOLARSHARE POLICY

## Performance Criteria for Placing a Fund on Watch

### Actively Managed Funds

| Asset Class          | Short-Term<br>(rolling 12-month<br>periods)                     | Medium-term<br>(rolling 36-month<br>periods)                     | Long-term<br>(> 60 months)            |
|----------------------|---|--|---------------------------------------|
| Domestic Equity      | Fund return < bench<br>return -3.5% for 6<br>consecutive months | Fund return < bench<br>return -1.75% for 6<br>consecutive months | VRR< 0.97 for 6<br>consecutive months |
| International Equity | Fund return < bench<br>return -4.5% for 6<br>consecutive months | Fund return < bench<br>return -2.0% for 6<br>consecutive months  | VRR< 0.97 for 6<br>consecutive months |
| Fixed Income         | Fund return < bench<br>return -1.0% for 6<br>consecutive months | Fund return < bench<br>return -0.5% for 6<br>consecutive months  | VRR< 0.98 for 6<br>consecutive months |
| High Yield           | Fund return < bench<br>return -6.5% for 6<br>consecutive months | Fund return < bench<br>return -3.25% for 6<br>consecutive months | VRR< 0.96 for 6<br>consecutive months |

### Passively Managed Funds

| Asset Class          | Short-Term<br>(rolling 12-month<br>periods)        | Medium-term<br>(rolling 36-month<br>periods)      | Long-term<br>(rolling 60-month<br>periods)                                   |
|----------------------|--|---|--|
| Domestic Equity      | Tracking Error > 0.30%<br>for 6 consecutive months | Tracking Error> 0.25%<br>for 6 consecutive months | Fd annlzd return < bench<br>annlzd return -0.30% for<br>6 consecutive months |
| International Equity | Tracking Error > 0.75%<br>for 6 consecutive months | Tracking Error> 0.70%<br>for 6 consecutive months | Fd annlzd return < bench<br>annlzd return -0.30% for<br>6 consecutive months |
| Fixed Income         | Tracking Error > 0.40%<br>for 6 consecutive months | Tracking Error> 0.55%<br>for 6 consecutive months | Fd annlzd return < bench<br>annlzd return -0.35% for<br>6 consecutive months |

- [1] Return discounts from a benchmark return based on 2/3rds of the typical tracking error estimates of the specified type of fund manager.
- [2] Annualized return is the average annual return of either the manager or its benchmark.
- [3] VRR – Value Relative Ratio – is calculated as: Manager Cumulative Return / Benchmark Cumulative Return.
- [4] Tracking error is a measure of the volatility of the average annual difference between the manager's return and the benchmark's return.

# REVIEW OF SCHOLARSHARE POLICY

## Performance Criteria for Placing a Fund on Watch (Continued)

### T-C Life Funding Agreements (based on non-investment performance criteria)

| Fund Name                   | Financial Strength  | Mortgage Portfolio    | Bond Portfolio                | Account Diversification                                 |
|-----------------------------|---|-----------------------|-------------------------------|---|
| T-C Life Funding Agreements | Moody's = Aaa<br>Standard & Poor's = AAA<br>A.M. Best = A+++<br>Fitch = AAA | 100% in Good Standing | At least 90% Investment Grade | Portfolio is diversified across asset classes and types |

The T-C Life Funding Agreements are measured against a set of non-investment performance criteria (see above) in a published TIAA-CREF report every quarter.

# REVIEW OF SCHOLARSHARE POLICY

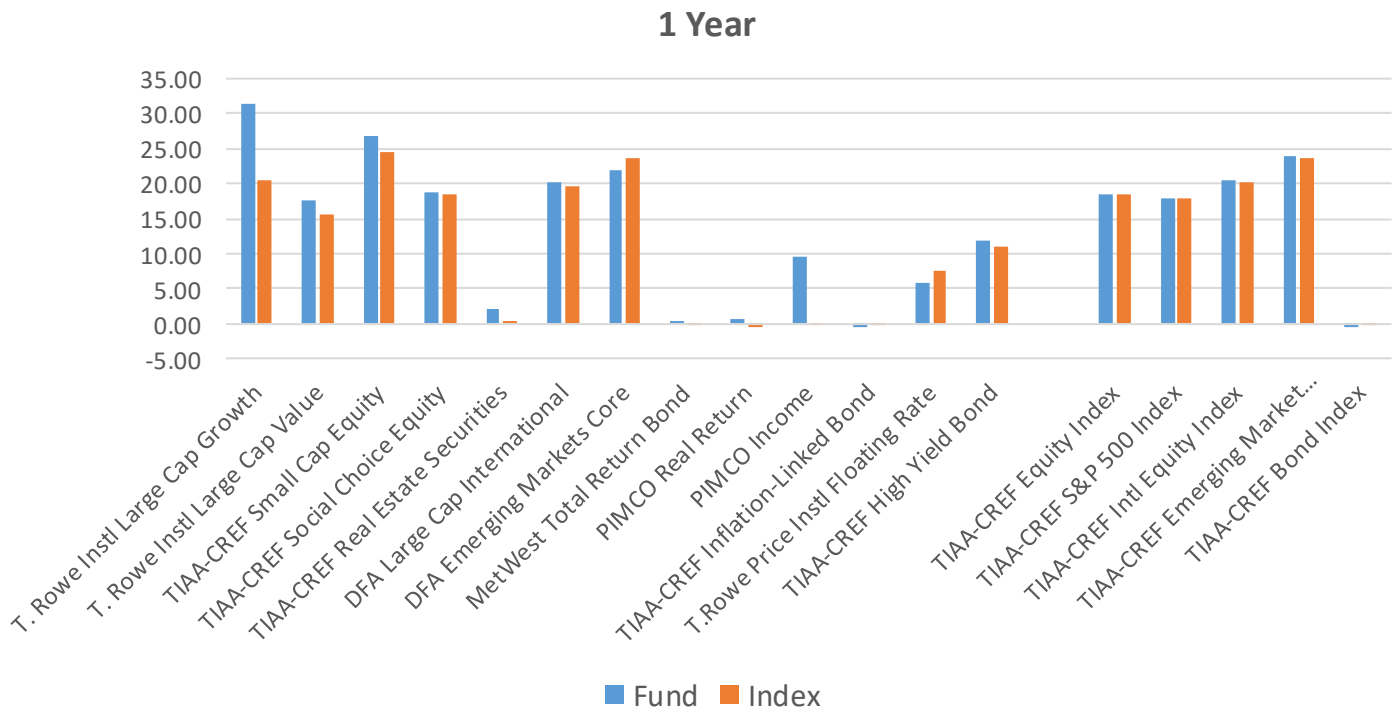
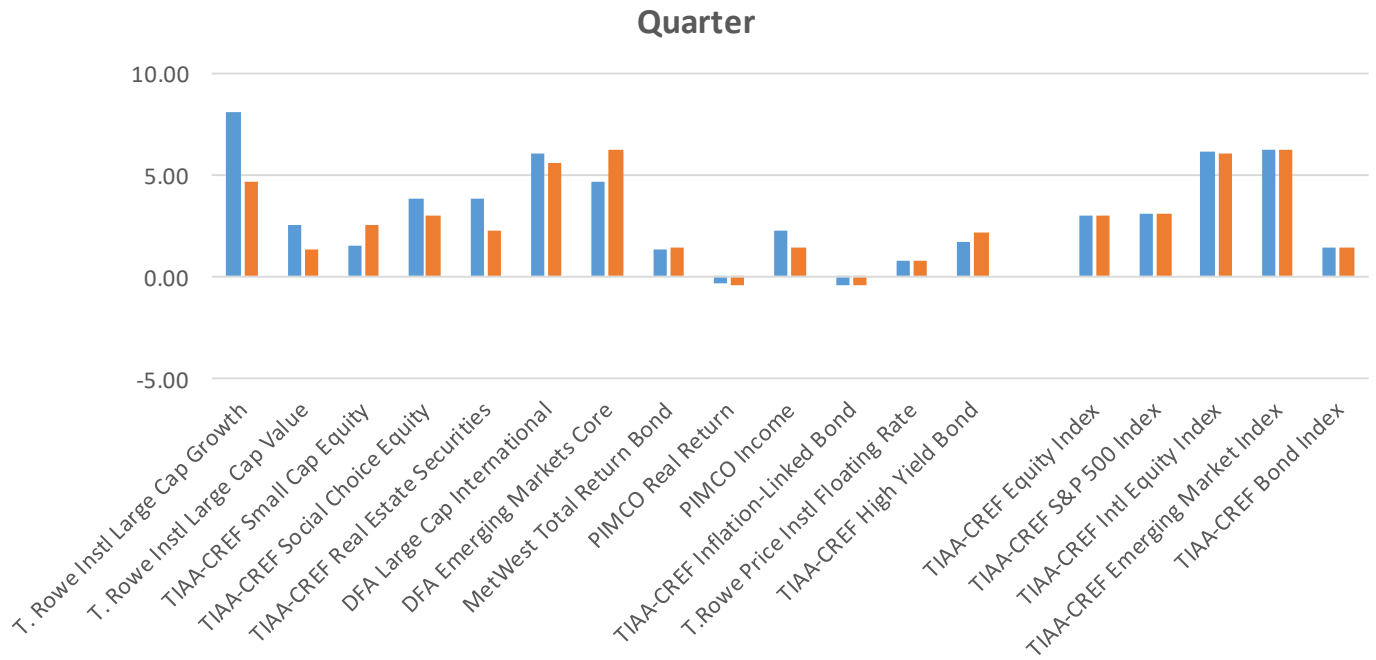
## Investment Status Schedule

| Performance Category | Actively Managed Portfolios   | Passively Managed Portfolios   |
|----------------------|---|--|
| Positive             | <ul style="list-style-type: none"> <li>Performance exceeds the benchmark.</li> </ul>  | <ul style="list-style-type: none"> <li>Performance exceeds the benchmark (first 1-12 month period), or</li> <li>Tracking error is within the allowable range<sup>1</sup> (short, medium, and long time periods).</li> </ul>  |
| Acceptable           | <ul style="list-style-type: none"> <li>Performance meets or is under the benchmark and is within the allowable range.</li> </ul>  | <ul style="list-style-type: none"> <li>Performance does not exceed the benchmark but is within the allowable range (first 1-12 month period only).</li> </ul>  |
| Caution              | <ul style="list-style-type: none"> <li>Performance is below allowable range but either:                             <ul style="list-style-type: none"> <li>i) for less than six consecutive months, or</li> <li>ii) the Board has not taken (or decided not to take) a formal action to place the asset class or individual fund portfolio on Watch even though performance has been below allowable range for six months or longer.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Tracking error falls outside of the allowable range but either                             <ul style="list-style-type: none"> <li>i) for less than six consecutive months, or</li> <li>ii) the Board has not voted to place the asset class or stand alone fund on Watch</li> </ul> </li> </ul> |
| Watch <sup>2</sup>   | <ul style="list-style-type: none"> <li>Performance is below allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund on Watch.</li> </ul>  | <ul style="list-style-type: none"> <li>Tracking error falls outside of the allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund portfolio on Watch.</li> </ul>  |

<sup>1</sup> Ranges are shown in the Investment Performance Criteria Schedules.

<sup>2</sup> The amount of time generally required before an investment is put on watch.

# SUMMARY OF FUND PERFORMANCE 6/30/17



# SUMMARY OF FUND PERFORMANCE STATUS

| Program                | Total Funds | Positive   | Acceptable | Caution   | Watch <sup>^</sup> |
|------------------------|-------------|------------|------------|-----------|--------------------|
| <b>Number of Funds</b> | <b>19</b>   | <b>7</b>   | <b>11</b>  | <b>1</b>  | --                 |
| <b>Percentage</b>      | <b>100%</b> | <b>37%</b> | <b>58%</b> | <b>5%</b> | --                 |
| Fund Status ↑          | 2           | 1          | 1          | --        | --                 |
| Fund Status ↓          | 0           | --         | --         | --        | --                 |
| Domestic Equity Funds  | 7           | 3          | 3          | 1         | 1                  |
| Intl Equity Funds      | 4           | 2          | 2          | --        | --                 |
| Fixed Income Funds     | 5           | 1          | 4          | --        | --                 |
| High Yield Funds       | 2           | --         | 2          | --        | --                 |
| Funding Agreement      | 1           | 1          | --         | --        | --                 |

<sup>^</sup>Includes funds on Watch and new funds qualifying for Watch status. Number has not been adjusted to remove funds no longer qualifying for Watch.

- Ninety-five percent of the Program's funds have either a Positive or Acceptable performance status
- Fund status changes:
  - The status of 2 funds improved over the quarter (T.Rowe Instl Large Cap Growth and TIAA-CREF Real Estate Securities)
  - No funds' status declined
- One new fund qualifies for Watch status (TIAA-CREF Social Choice Equity)

# SUMMARY OF FUND PERFORMANCE STATUS

| Funds                                | Prior Quarter |          | Current Quarter |          |
|--------------------------------------|---------------|----------|-----------------|----------|
|                                      | Status        | On Watch | Status          | On Watch |
| <b>Active Funds</b>                  |               |          |                 |          |
| T. Rowe Price Instl Large Cap Growth | Acceptable    |          | Positive        |          |
| T. Rowe Price Instl Large Cap Value  | Positive      |          | Positive        |          |
| TIAA-CREF Small Cap Equity           | Positive      |          | Positive        |          |
| TIAA-CREF Social Choice Equity       | Caution       |          | Caution         | Pending  |
| TIAA-CREF Real Estate Securities     | Caution       |          | Acceptable      |          |
| DFA Large Cap International          | Acceptable    |          | Acceptable      |          |
| DFA Emerging Markets Core Equity     | Positive      |          | Positive        |          |
| Metropolitan West Total Return Bond  | Acceptable    |          | Acceptable      |          |
| PIMCO Real Return                    | Acceptable    |          | Acceptable      |          |
| PIMCO Income                         | Positive      |          | Positive        |          |
| TIAA-CREF Inflation-Linked Bond      | Acceptable    |          | Acceptable      |          |
| T. Rowe Price Instl Floating Rate    | Acceptable    |          | Acceptable      |          |
| TIAA-CREF High-Yield Bond            | Acceptable    |          | Acceptable      |          |
| <b>Passive Funds</b>                 |               |          |                 |          |
| TIAA-CREF Equity Index               | Acceptable    |          | Acceptable      |          |
| TIAA-CREF S&P 500 Index              | Acceptable    |          | Acceptable      |          |
| TIAA-CREF International Equity Index | Positive      |          | Positive        |          |
| TIAA-CREF Emerging Markets Index     | Acceptable    |          | Acceptable      |          |
| TIAA-CREF Bond Index                 | Acceptable    |          | Acceptable      |          |
| <b>T-C Life Funding Agreements</b>   |               |          |                 |          |
| T-C Life Funding Agreements          | Positive      |          | Positive        |          |

- Current status is based on Short-Term (rolling 12-month) and Medium-Term (rolling 36-month) evaluation results.
- According to the Investment Status Schedule on the previous page, the portfolio's overall "Current Status" equals the lowest status as achieved by one or more of the criteria during the quarter.



# SUMMARY OF FUND ASSETS

## Assets as of 6/30/2017

| Funds                                | Assets (\$)            | % of Total    |
|--------------------------------------|------------------------|---------------|
| <b>Active Funds</b>                  |                        |               |
| T. Rowe Price Instl Large Cap Growth | 365,003,368            | 4.73%         |
| T. Rowe Price Instl Large Cap Value  | 354,216,858            | 4.59%         |
| TIAA-CREF Small Cap Equity           | 87,425,636             | 1.13%         |
| TIAA-CREF Social Choice Equity       | 153,594,666            | 1.99%         |
| TIAA-CREF Real Estate Securities     | 239,298,933            | 3.10%         |
| DFA Large Cap International          | 291,013,592            | 3.77%         |
| DFA Emerging Markets Core Equity     | 64,101,741             | 0.83%         |
| Metropolitan West Total Return Bond  | 387,569,797            | 5.02%         |
| PIMCO Real Return                    | 150,060,896            | 1.94%         |
| PIMCO Income                         | 169,400,550            | 2.19%         |
| TIAA-CREF Inflation-Linked Bond      | 296,867,616            | 3.84%         |
| T. Rowe Price Instl Floating Rate    | 74,026,554             | 0.96%         |
| TIAA-CREF High-Yield Bond            | 167,317,086            | 2.17%         |
| <b>Active Funds Total</b>            | <b>2,799,897,293</b>   | <b>36.26%</b> |
| <b>Passive Funds</b>                 |                        |               |
| TIAA-CREF Equity Index               | 1,606,134,023          | 20.80%        |
| TIAA-CREF S&P 500 Index              | 330,338,649            | 4.28%         |
| TIAA-CREF International Equity Index | 560,474,392            | 7.26%         |
| TIAA-CREF Emerging Markets Index     | 134,226,036            | 1.74%         |
| TIAA-CREF Bond Index                 | 1,167,354,518          | 15.11%        |
| <b>Passive Funds Total</b>           | <b>3,798,527,618</b>   | <b>49.19%</b> |
| <b>T-C Life Funding Agreements</b>   |                        |               |
| T-C Life Funding Agreements          | 1,124,793,054          | 14.56%        |
| <b>TOTAL</b>                         | <b>\$7,723,217,965</b> | <b>100%</b>   |

SECTION 4

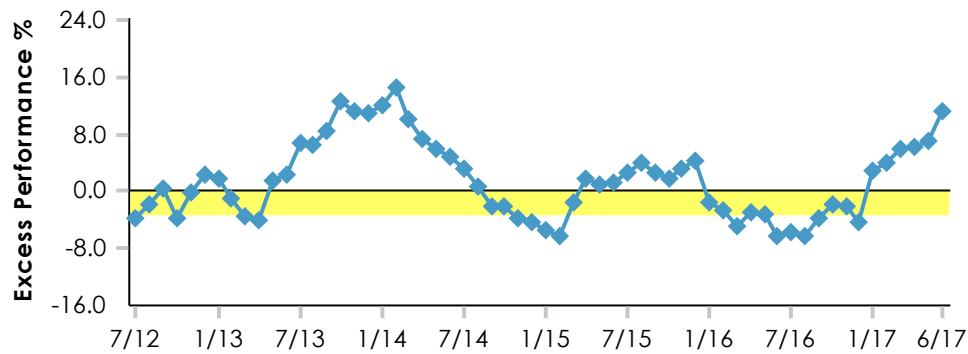
SENSITIVITY ANALYSES

ACTIVE FUNDS

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# TRowe Price Large Cap Growth I vs. Russell 1000 Growth Index

## Short-term (Rolling 12 Months Excess Performance)

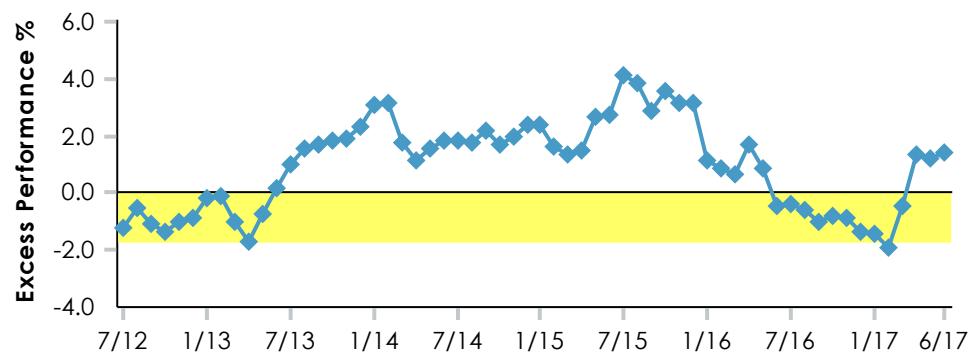


### Short-Term Performance

Positive

Probationary Performance -3.50%

## Medium-term (Rolling 36 Months Excess Performance)

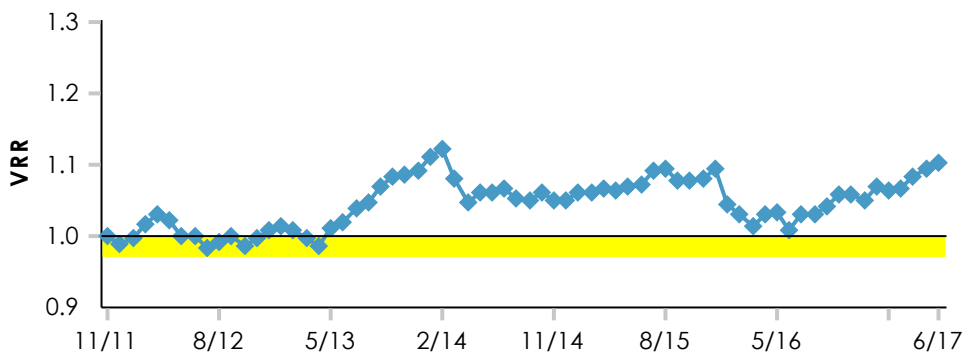


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Positive

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

|   | Qtr      | 1 Year    | 3 Years   | 5 Years   | Inception (12/2011) |
|---|----------|-----------|-----------|-----------|---------------------|
| TRowe Price Large Cap Growth I              | 8.1 (9)  | 31.5 (1)  | 12.5 (7)  | 17.5 (3)  | 17.5 (2)            |
| Russell 1000 Growth Index                   | 4.7 (69) | 20.4 (50) | 11.1 (20) | 15.3 (23) | 15.5 (23)           |
| IM U.S. Large Cap Growth Equity (MF) Median | 5.3      | 20.4      | 9.7       | 14.2      | 14.2                |

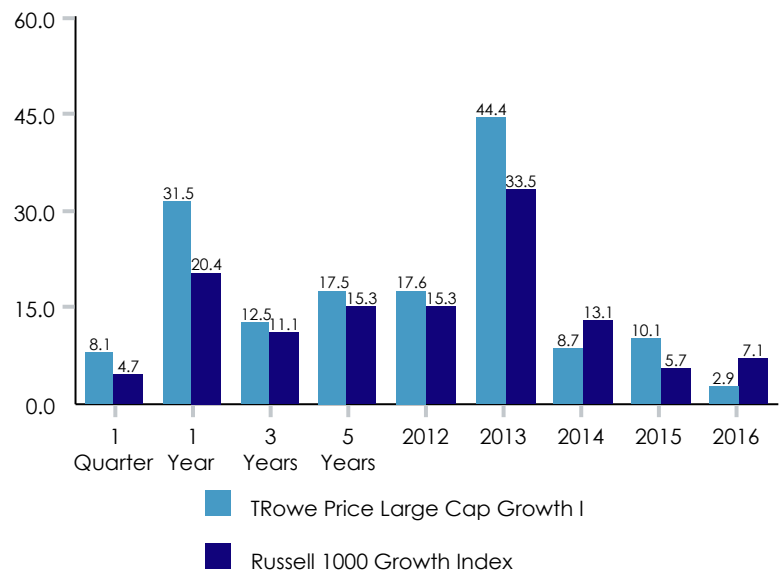
Monitoring Status

Positive

## Mutual Fund Info

Product Name : T Rowe Price I LgCp Gro (TRLGX)  
 Fund Family : T. Rowe Price Associates Inc  
 Ticker : TRLGX  
 Peer Group : IM U.S. Large Cap Growth Equity (MF)  
 Benchmark : Russell 1000 Growth Index  
 Fund Inception : 10/31/2001  
 Portfolio Manager : Taymour R. Tamaddon  
 Total Assets : \$14,033 Million  
 Total Assets Date : 05/31/2017  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 37%

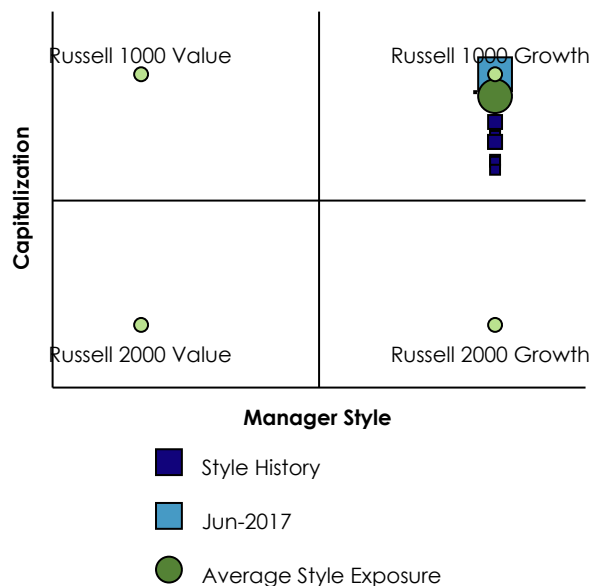
## Comparative Performance



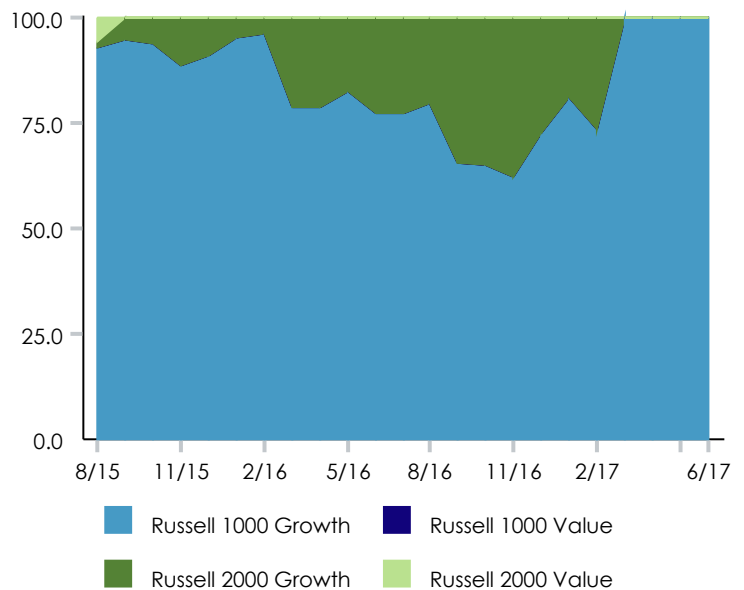
## Fund Investment Policy

The Fund seeks long-term capital appreciation through investments in the common stocks of large-capitalization growth companies.

## Style Map (3 Years)



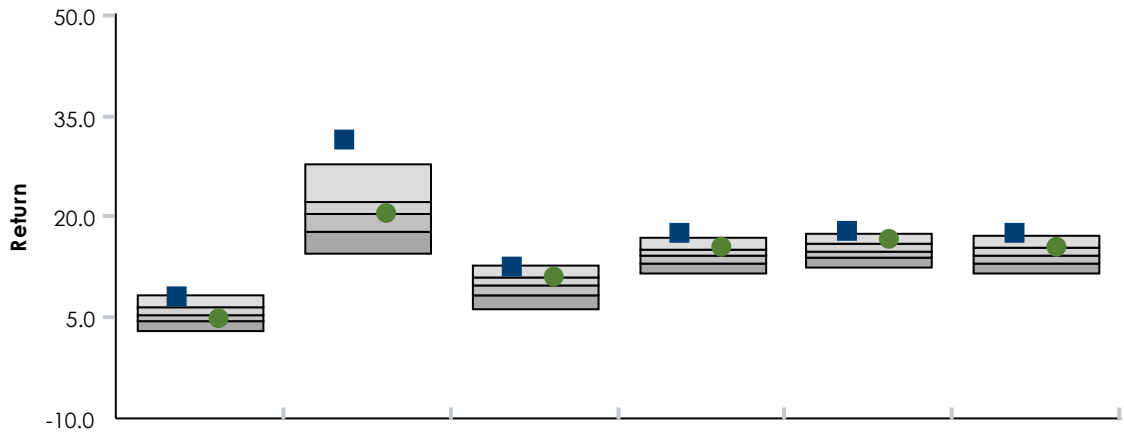
## Style History (3 Years)



## Historical Statistics (3 Years)

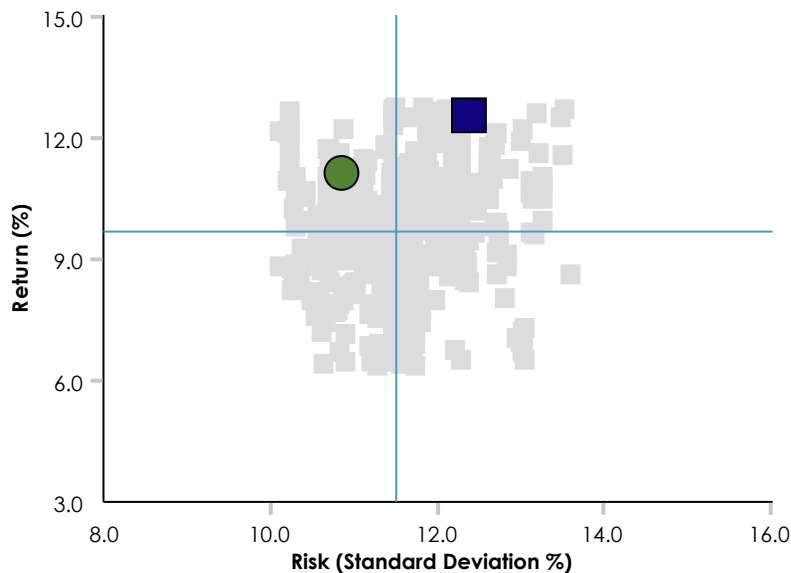
|   | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|---|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TRowe Price Large Cap Growth I              | 12.5   | 12.4               | 1.0          | 0.8   | 1.1  | 0.9       | 4.5            | 0.3               | 110.0             | 106.3               |
| Russell 1000 Growth Index                   | 11.1   | 10.9               | 1.0          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. Large Cap Growth Equity (MF) Median | 9.7    | 11.5               | 0.8          | -1.4  | 1.0  | 0.9       | 3.3            | -0.4              | 98.4              | 110.5               |

## Peer Group Analysis



|                                  | 1 Quarter | 1 Year    | 3 Years   | 5 Years   | 7 Years   | Since Inception Dec-2011 |
|----------------------------------|-----------|-----------|-----------|-----------|-----------|--------------------------|
| ■ TRowe Price Large Cap Growth I | 8.1 (9)   | 31.5 (1)  | 12.5 (7)  | 17.5 (3)  | 17.8 (4)  | 17.5 (2)                 |
| ● Russell 1000 Growth Index      | 4.7 (69)  | 20.4 (50) | 11.1 (20) | 15.3 (23) | 16.5 (13) | 15.5 (23)                |
| Median                           | 5.3       | 20.4      | 9.7       | 14.2      | 14.9      | 14.2                     |

## Peer Group Scattergram (3 Years)



|                                  | Return | Standard Deviation |
|----------------------------------|--------|--------------------|
| ■ TRowe Price Large Cap Growth I | 12.5   | 12.4               |
| ● Russell 1000 Growth Index      | 11.1   | 10.9               |
| — Median                         | 9.7    | 11.5               |

## Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 20     | 110.0 |
| Down Markets           | 16     | 106.3 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 20     | 70.0  |
| Down Markets           | 16     | 62.5  |
| Overall                | 36     | 66.7  |

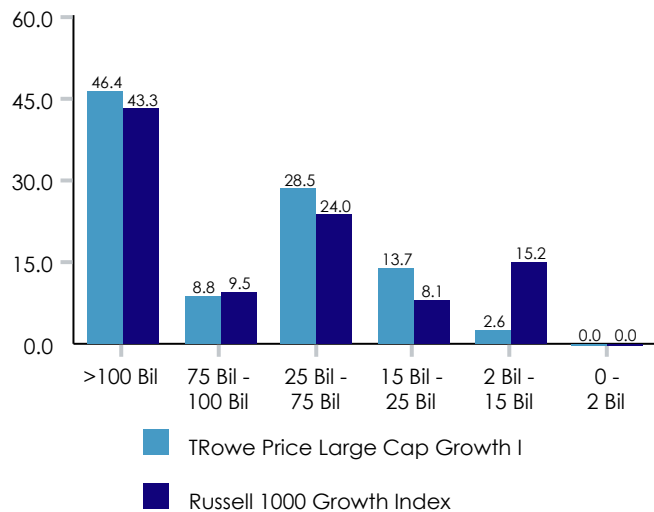
## Portfolio Characteristics (As of 6/30/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 209,231   | 185,470   |
| Median Mkt. Cap (\$M)     | 42,854    | 10,037    |
| Price/Earnings ratio      | 31.0      | 25.7      |
| Price/Book ratio          | 5.5       | 6.3       |
| 5 Yr. EPS Growth Rate (%) | 15.9      | 13.3      |
| Current Yield (%)         | 0.8       | 1.4       |
| Beta (5 Years, Monthly)   | 1.1       | 1.0       |
| Number of Stocks          | 65        | 557       |

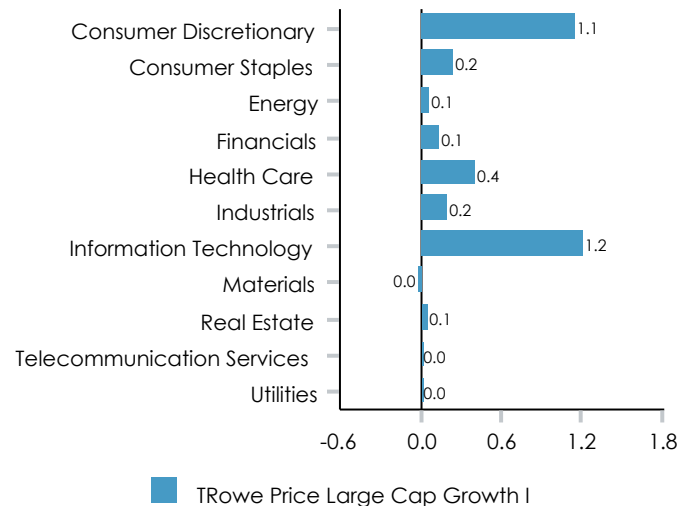
## Top 10 Holdings (As of 6/30/2017)

|                           | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|---------------------------|----------------------|----------------------|----------------------|
| Amazon.com Inc            | 7.6                  | 3.4                  | 9.2                  |
| Priceline Group Inc (The) | 5.5                  | 0.8                  | 5.1                  |
| Facebook Inc              | 4.7                  | 3.1                  | 6.3                  |
| Alphabet Inc              | 4.6                  | 2.4                  | 9.7                  |
| Visa Inc                  | 4.3                  | 1.5                  | 5.7                  |
| Microsoft Corp            | 4.1                  | 4.6                  | 5.2                  |
| Apple Inc                 | 4.1                  | 6.6                  | 0.7                  |
| Boeing Co                 | 3.4                  | 1.0                  | 12.7                 |
| Unitedhealth Group Inc    | 2.9                  | 1.6                  | 13.5                 |
| Intuitive Surgical Inc    | 2.6                  | 0.3                  | 22.0                 |
| <b>% of Portfolio</b>     | <b>43.8</b>          | <b>25.3</b>          |                      |

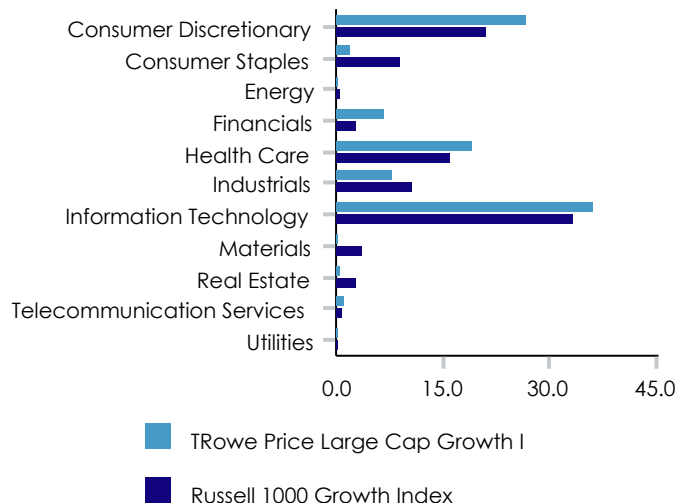
## Market Cap Distribution (As of 6/30/2017)



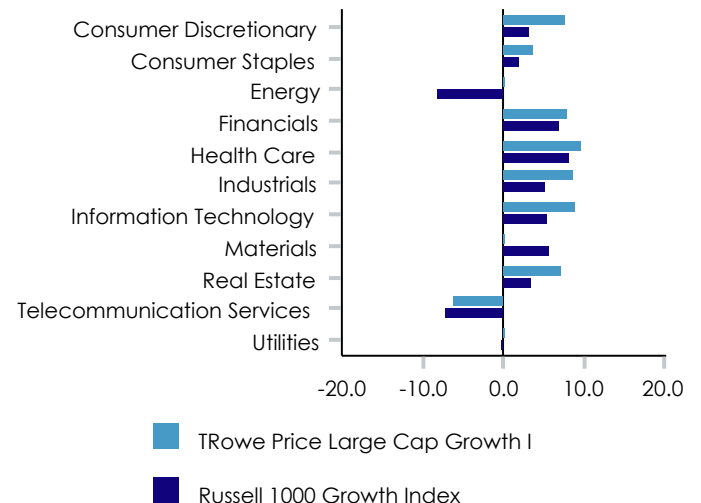
## Sector Attribution (1 Quarter as of 6/30/2017)



## Sector Allocation (1 Quarter as of 6/30/2017)

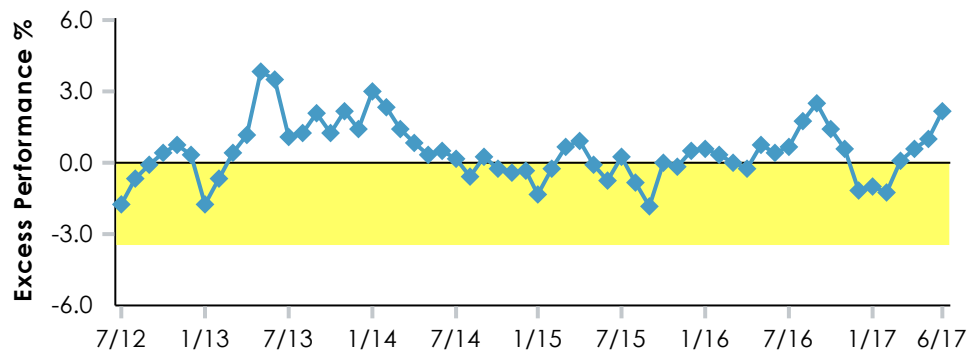


## Sector Performance (1 Quarter as of 6/30/2017)



# TRowe Price Large Cap Value I vs. Russell 1000 Value Index

## Short-term (Rolling 12 Months Excess Performance)

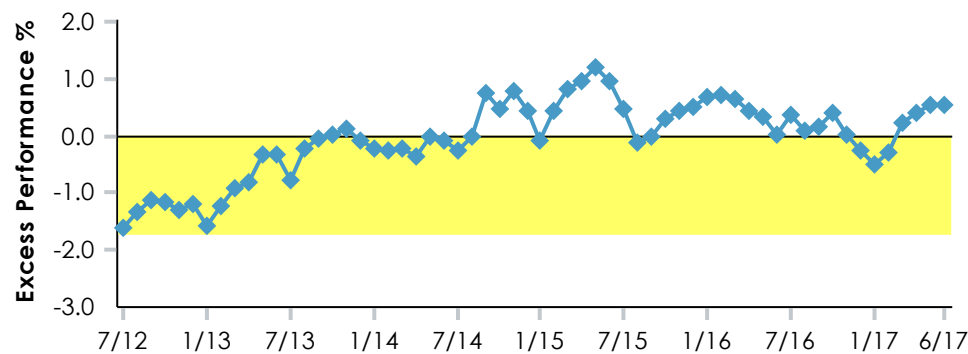


### Short-Term Performance

Positive

Probationary Performance -3.50%

## Medium-term (Rolling 36 Months Excess Performance)

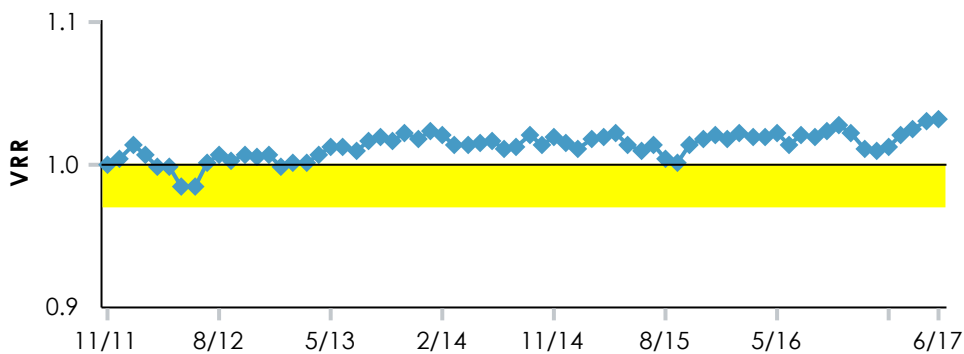


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Positive

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years   | Inception (12/2011) |
|--|----------|-----------|----------|-----------|---------------------|
| TRowe Price Large Cap Value I              | 2.5 (25) | 17.7 (47) | 7.9 (8)  | 15.0 (9)  | 15.1 (7)            |
| Russell 1000 Value Index                   | 1.3 (73) | 15.5 (74) | 7.4 (22) | 13.9 (19) | 14.5 (15)           |
| IM U.S. Large Cap Value Equity (MF) Median | 2.0      | 17.3      | 6.6      | 13.0      | 13.4                |

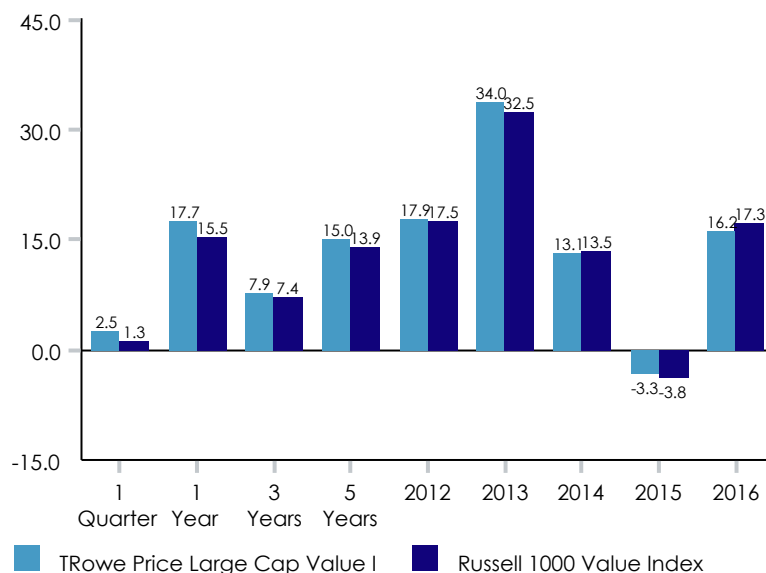
Monitoring Status

Positive

## Mutual Fund Info

Product Name : T Rowe Price I LgCp Val (TILCX)  
 Fund Family : T. Rowe Price Associates Inc  
 Ticker : TILCX  
 Peer Group : IM U.S. Large Cap Value Equity (MF)  
 Benchmark : Russell 1000 Value Index  
 Fund Inception : 03/31/2000  
 Portfolio Manager : Team Managed  
 Total Assets : \$3,414 Million  
 Total Assets Date : 05/31/2017  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 26%

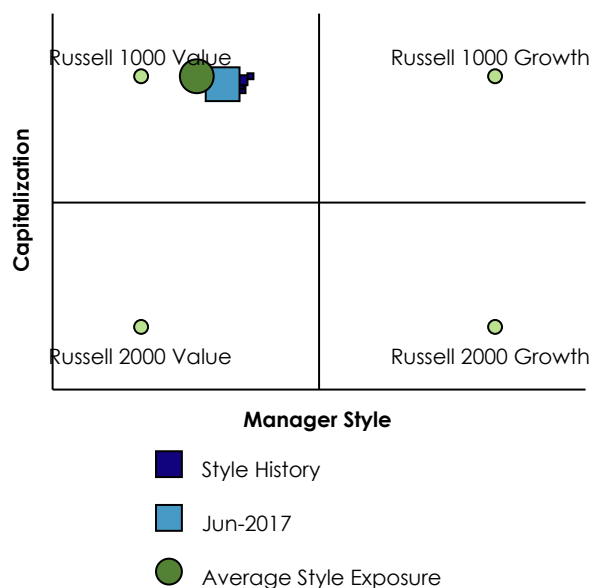
## Comparative Performance



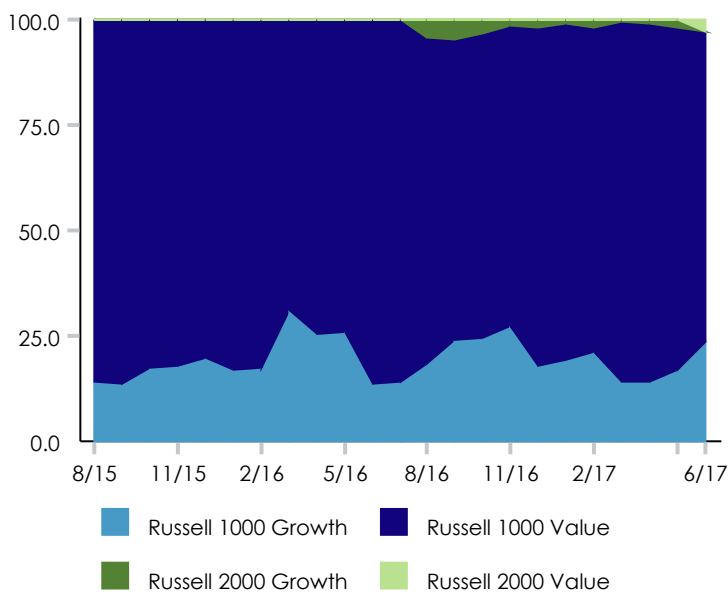
## Fund Investment Policy

The Fund seeks to provide long-term capital appreciation and secondarily income. The Fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in securities of large-cap companies that the portfolio manager regards as undervalued.

## Style Map (3 Years)



## Style History (3 Years)

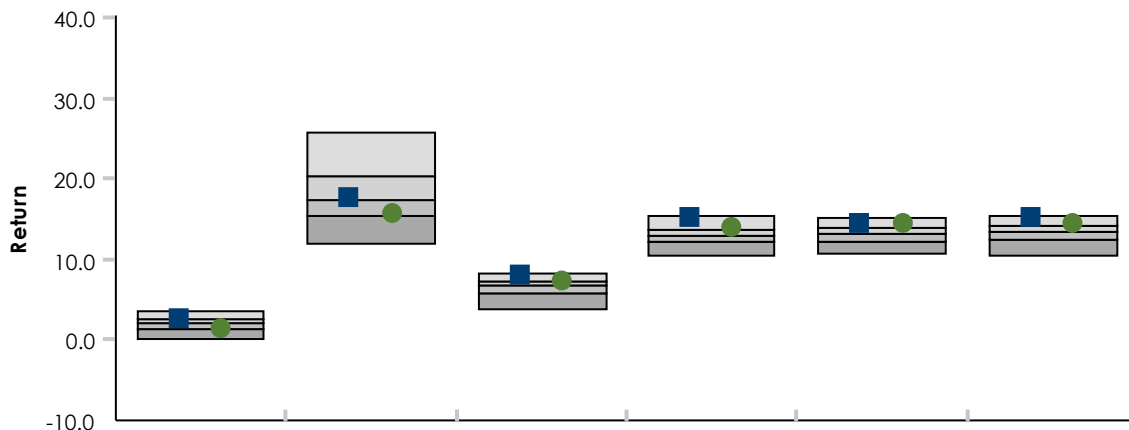




## Historical Statistics (3 Years)

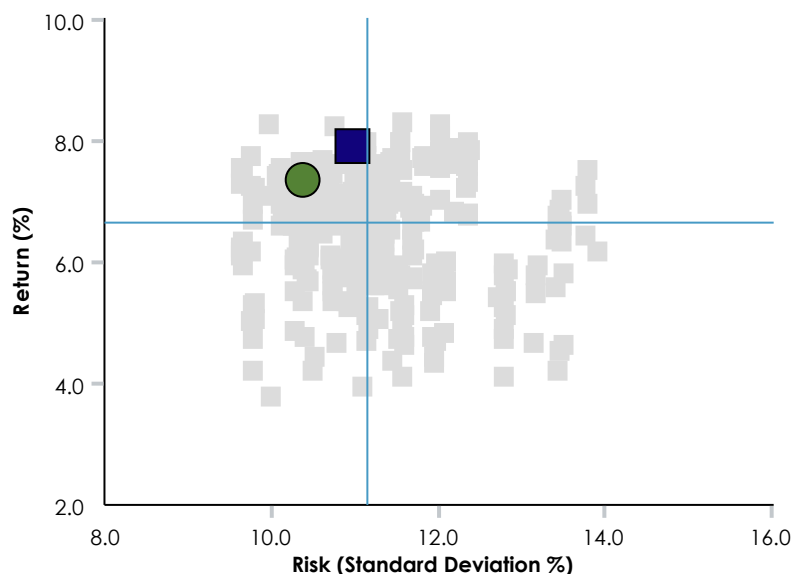
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TRowe Price Large Cap Value I              | 7.9    | 11.0               | 0.7          | 0.2   | 1.0  | 1.0       | 2.0            | 0.3               | 100.1             | 94.6                |
| Russell 1000 Value Index                   | 7.4    | 10.4               | 0.7          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. Large Cap Value Equity (MF) Median | 6.6    | 11.2               | 0.6          | -1.0  | 1.0  | 0.9       | 2.8            | -0.2              | 99.7              | 105.9               |

## Peer Group Analysis



|                                 | 1 Quarter | 1 Year    | 3 Years  | 5 Years   | 7 Years   | Since Inception Dec-2011 |
|---------------------------------|-----------|-----------|----------|-----------|-----------|--------------------------|
| ■ TRowe Price Large Cap Value I | 2.5 (25)  | 17.7 (47) | 7.9 (8)  | 15.0 (9)  | 14.5 (11) | 15.1 (7)                 |
| ● Russell 1000 Value Index      | 1.3 (73)  | 15.5 (74) | 7.4 (22) | 13.9 (19) | 14.3 (14) | 14.5 (15)                |
| Median                          | 2.0       | 17.3      | 6.6      | 13.0      | 13.0      | 13.4                     |

## Peer Group Scattergram (3 Years)



|                                 | Return | Standard Deviation |
|---------------------------------|--------|--------------------|
| ■ TRowe Price Large Cap Value I | 7.9    | 11.0               |
| ● Russell 1000 Value Index      | 7.4    | 10.4               |
| — Median                        | 6.6    | 11.2               |

## Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 21     | 100.1 |
| Down Markets           | 15     | 94.6  |
| <b>Batting Average</b> |        |       |
| Up Markets             | 21     | 52.4  |
| Down Markets           | 15     | 60.0  |
| Overall                | 36     | 55.6  |

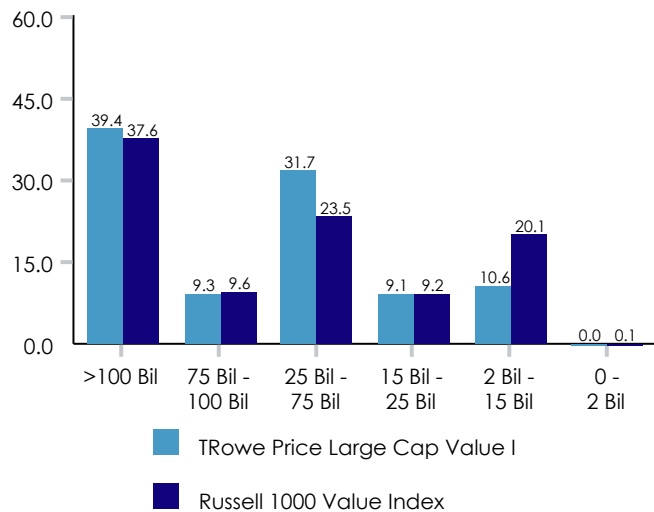
## Portfolio Characteristics (As of 6/30/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 127,719   | 115,487   |
| Median Mkt. Cap (\$M)     | 49,924    | 8,708     |
| Price/Earnings ratio      | 18.9      | 18.6      |
| Price/Book ratio          | 2.4       | 2.2       |
| 5 Yr. EPS Growth Rate (%) | 5.8       | 9.6       |
| Current Yield (%)         | 2.6       | 2.5       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 80        | 719       |

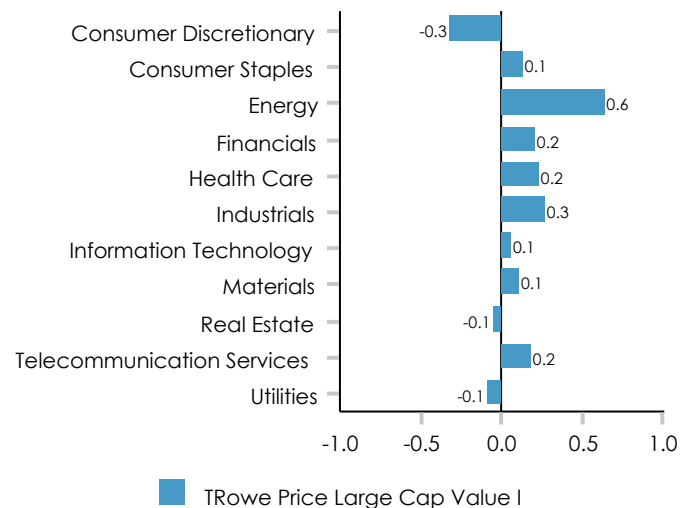
## Top 10 Holdings (As of 6/30/2017)

|                                 | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|---------------------------------|----------------------|----------------------|----------------------|
| JPMorgan Chase & Co             | 4.3                  | 2.7                  | 4.6                  |
| PG&E Corp                       | 2.9                  | 0.3                  | 0.8                  |
| Wells Fargo & Co                | 2.8                  | 2.1                  | 0.2                  |
| Microsoft Corp                  | 2.8                  | 0.0                  | 5.2                  |
| Morgan Stanley                  | 2.5                  | 0.5                  | 4.5                  |
| Philip Morris International Inc | 2.4                  | 1.4                  | 4.9                  |
| Johnson & Johnson               | 2.2                  | 2.5                  | 6.9                  |
| Citigroup Inc                   | 2.1                  | 1.6                  | 12.1                 |
| TOTAL SA                        | 2.1                  | 0.0                  | -0.4                 |
| Pfizer Inc                      | 2.0                  | 1.7                  | -0.9                 |
| <b>% of Portfolio</b>           | <b>26.1</b>          | <b>12.8</b>          |                      |

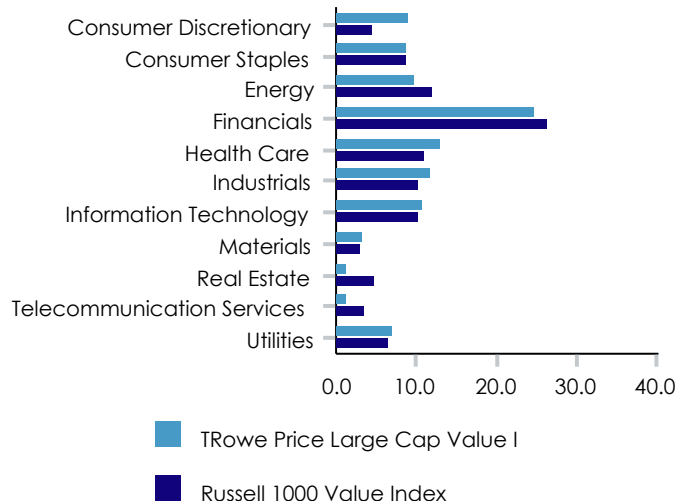
## Market Cap Distribution (As of 6/30/2017)



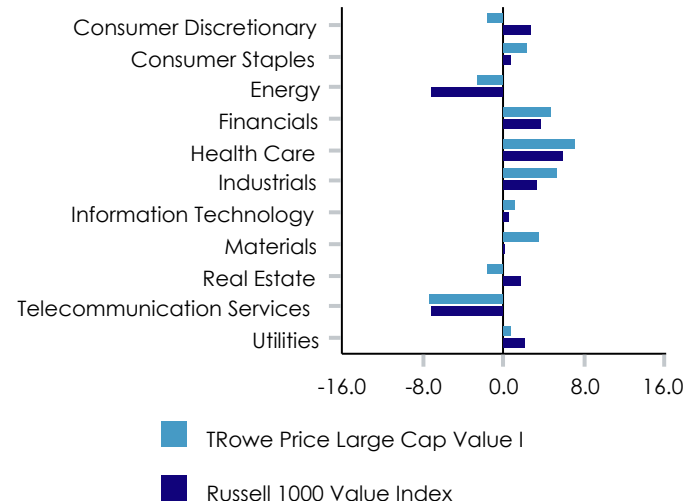
## Sector Attribution (1 Quarter as of 6/30/2017)



## Sector Allocation (1 Quarter as of 6/30/2017)

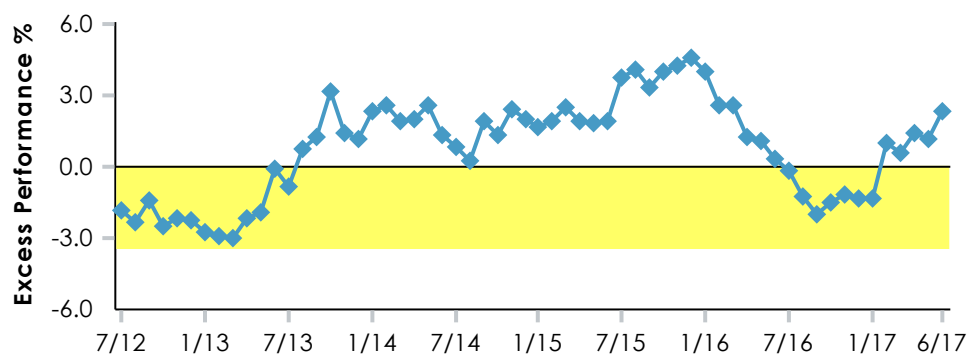


## Sector Performance (1 Quarter as of 6/30/2017)



# TIAA-CREF Small Cap Equity I vs. Russell 2000 Index

## Short-term (Rolling 12 Months Excess Performance)

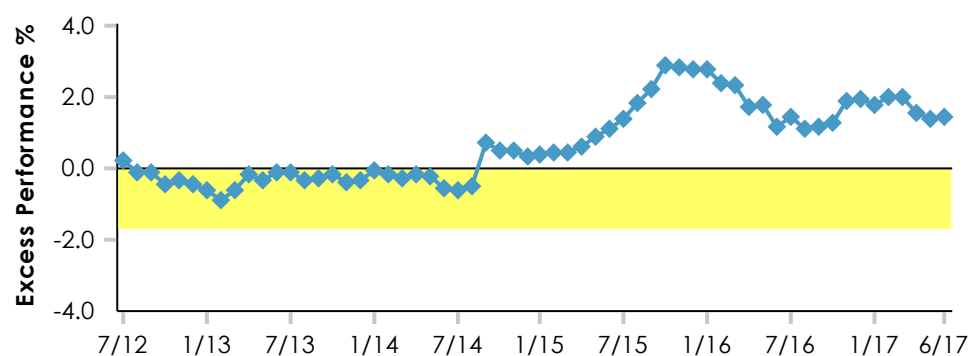


### Short-Term Performance

Positive

Probationary Performance -3.50%

## Medium-term (Rolling 36 Months Excess Performance)

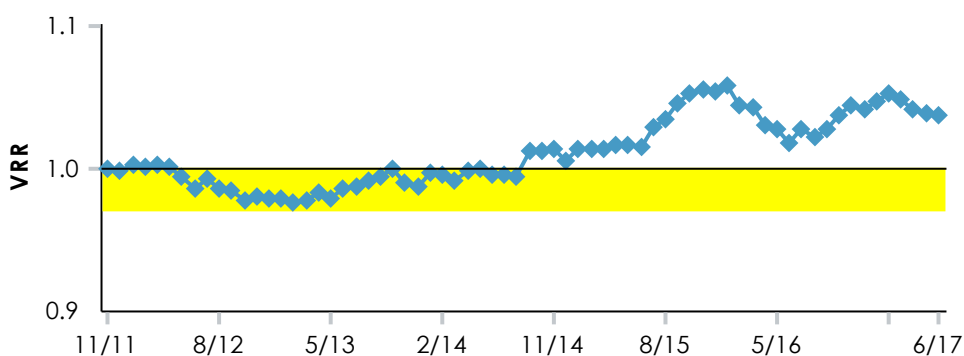


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Positive

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years   | Inception (12/2011) |
|--|----------|-----------|----------|-----------|---------------------|
| TIAA-CREF Small Cap Equity I             | 1.5 (54) | 26.9 (4)  | 8.8 (9)  | 14.9 (10) | 14.7 (11)           |
| Russell 2000 Index                       | 2.5 (25) | 24.6 (10) | 7.4 (28) | 13.7 (38) | 14.0 (31)           |
| IM U.S. SMID Cap Core Equity (MF) Median | 1.6      | 20.2      | 6.3      | 13.1      | 13.1                |

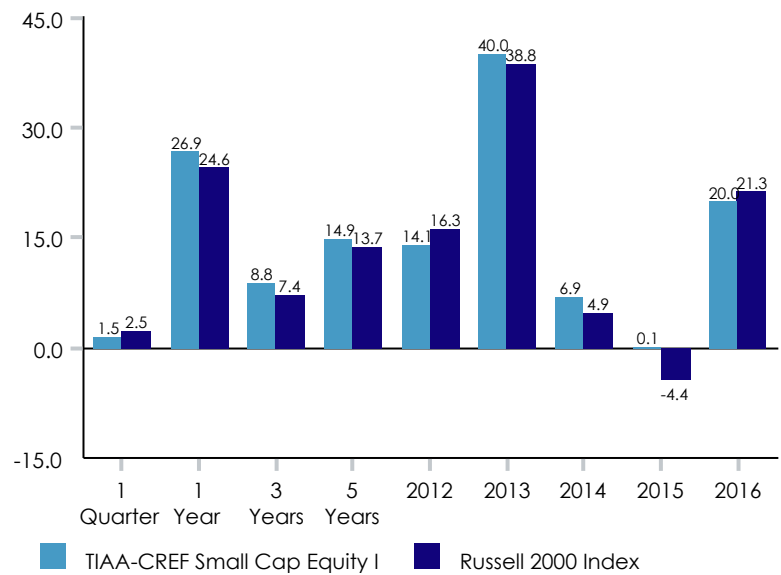
Monitoring Status

Positive

## Mutual Fund Info

Product Name : TIAA-CREF:SCE;Inst (TISEX)  
 Fund Family : TIAA-CREF  
 Ticker : TISEX  
 Peer Group : IM U.S. SMID Cap Core Equity (MF)  
 Benchmark : Russell 2500 Index  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Cao/Chen  
 Total Assets : \$2,488 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.4%  
 Net Expense : 0.4%  
 Turnover : 86%

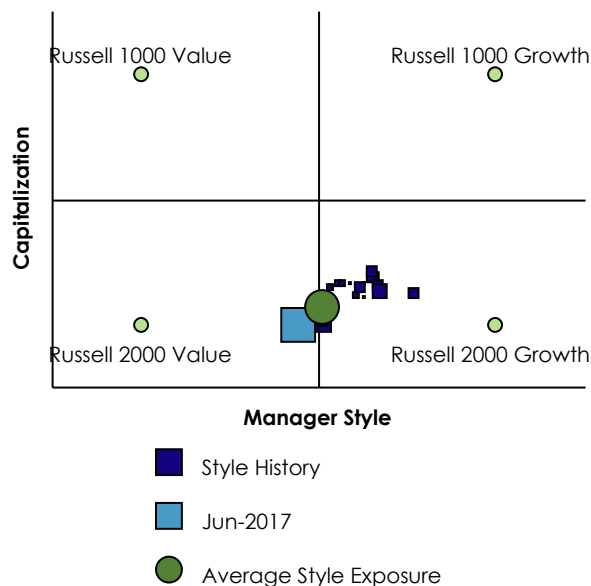
## Comparative Performance



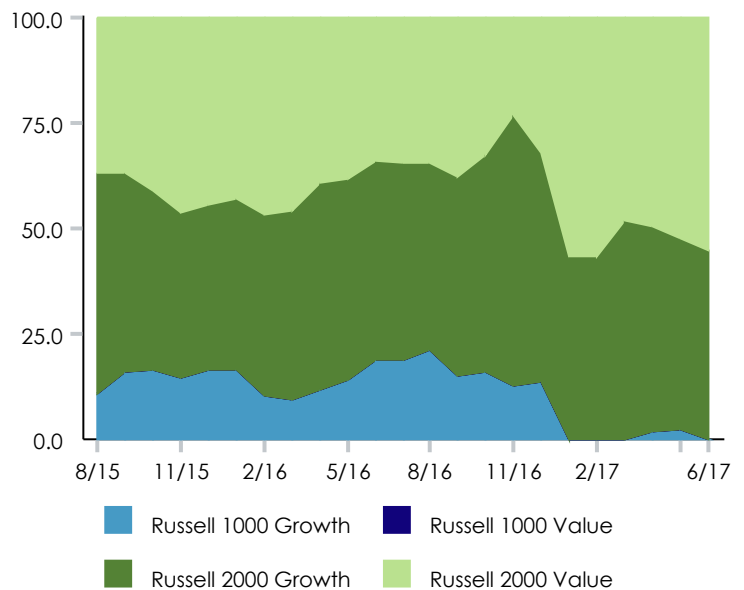
## Fund Investment Policy

The Fund seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of smaller domestic companies. The Fund invests at least 80% in equity securities of smaller domestic companies, across a wide range of sectors, growth rates and valuations.

## Style Map (3 Years)



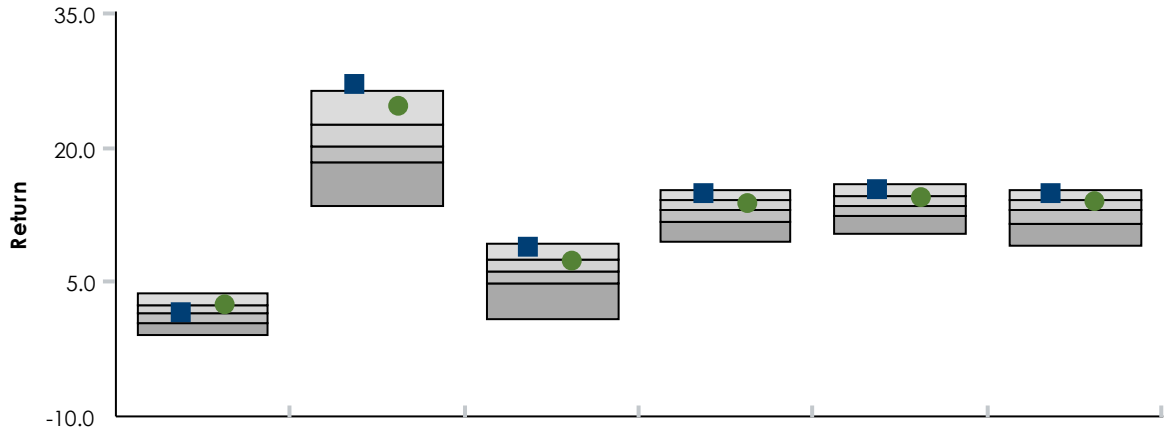
## Style History (3 Years)



## Historical Statistics (3 Years)

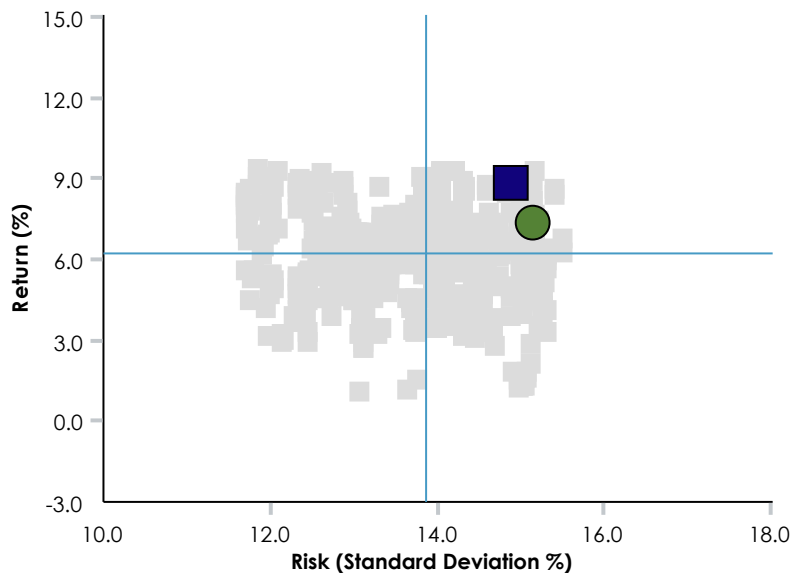
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF Small Cap Equity I             | 8.8    | 14.9               | 0.6          | 1.6   | 1.0  | 1.0       | 2.3            | 0.6               | 99.8              | 92.0                |
| Russell 2000 Index                       | 7.4    | 15.2               | 0.5          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. SMID Cap Core Equity (MF) Median | 6.3    | 13.9               | 0.5          | -0.3  | 0.9  | 0.9       | 4.1            | -0.3              | 83.2              | 85.6                |

## Peer Group Analysis



|                                | 1 Quarter | 1 Year    | 3 Years  | 5 Years   | 7 Years   | Since Inception Dec-2011 |
|--------------------------------|-----------|-----------|----------|-----------|-----------|--------------------------|
| ■ TIAA-CREF Small Cap Equity I | 1.5 (54)  | 26.9 (4)  | 8.8 (9)  | 14.9 (10) | 15.2 (13) | 14.7 (11)                |
| ● Russell 2000 Index           | 2.5 (25)  | 24.6 (10) | 7.4 (28) | 13.7 (38) | 14.4 (29) | 14.0 (31)                |
| Median                         | 1.6       | 20.2      | 6.3      | 13.1      | 13.5      | 13.1                     |

## Peer Group Scattergram (3 Years)



|                                | Return | Standard Deviation |
|--------------------------------|--------|--------------------|
| ■ TIAA-CREF Small Cap Equity I | 8.8    | 14.9               |
| ● Russell 2000 Index           | 7.4    | 15.2               |
| — Median                       | 6.3    | 13.9               |

## Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 23     | 99.8 |
| Down Markets           | 13     | 92.0 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 23     | 52.2 |
| Down Markets           | 13     | 61.5 |
| Overall                | 36     | 55.6 |

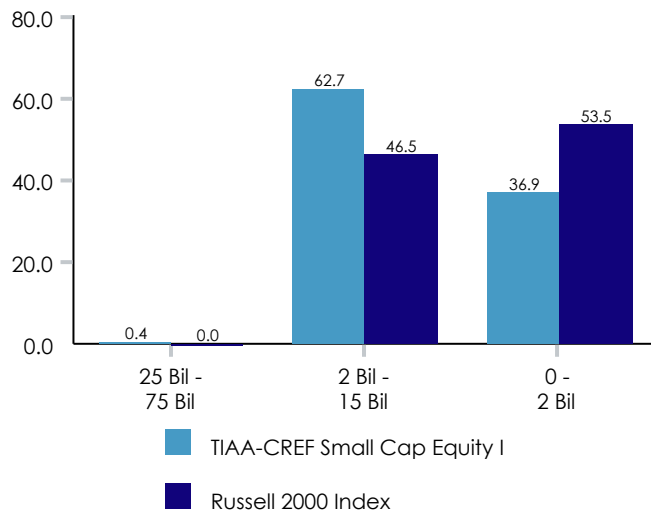
## Portfolio Characteristics (As of 4/30/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 2,974     | 2,036     |
| Median Mkt. Cap (\$M)     | 2,165     | 777       |
| Price/Earnings ratio      | 21.2      | 21.3      |
| Price/Book ratio          | 2.5       | 2.4       |
| 5 Yr. EPS Growth Rate (%) | 15.6      | 11.3      |
| Current Yield (%)         | 1.2       | 1.3       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 290       | 2,010     |

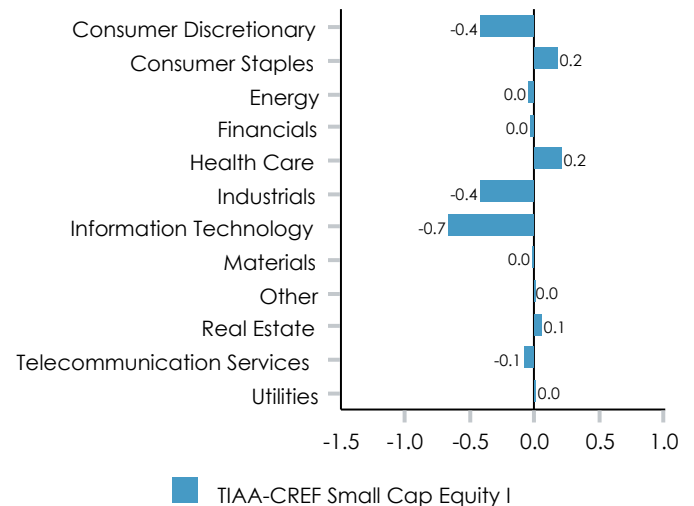
## Top 10 Holdings (As of 4/30/2017)

|                            | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|----------------------------|----------------------|----------------------|----------------------|
| EMCOR Group Inc.           | 0.8                  | 0.2                  | 4.0                  |
| Grand Canyon Education Inc | 0.8                  | 0.2                  | 9.5                  |
| CoreSite Realty Corp       | 0.8                  | 0.0                  | 15.9                 |
| Fulton Financial Corp      | 0.7                  | 0.2                  | 7.1                  |
| Essent Group Ltd           | 0.7                  | 0.1                  | 2.7                  |
| Hancock Holding Co         | 0.7                  | 0.2                  | 8.1                  |
| Radian Group Inc.          | 0.7                  | 0.2                  | -8.9                 |
| American Equity Life       | 0.7                  | 0.1                  | 11.2                 |
| MGIC Investment Corp       | 0.6                  | 0.2                  | 10.6                 |
| Cathay General Bancorp     | 0.6                  | 0.1                  | 1.3                  |
| % of Portfolio             | 7.1                  | 1.5                  |                      |

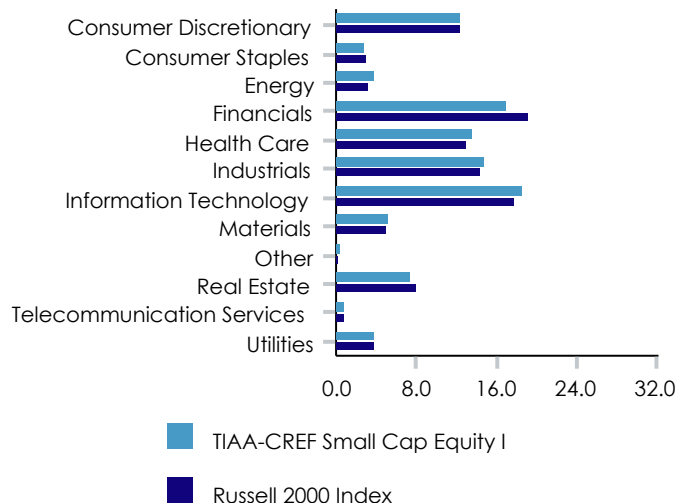
## Market Cap Distribution (As of 4/30/2017)



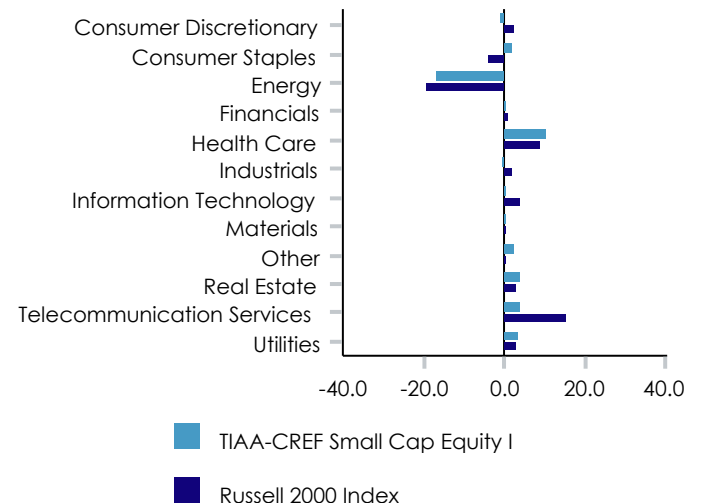
## Sector Attribution (1 Quarter as of 4/30/2017)



## Sector Allocation (1 Quarter as of 4/30/2017)

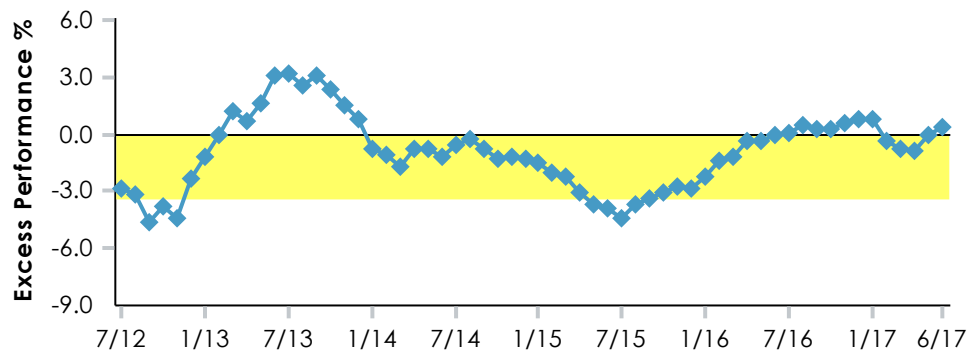


## Sector Performance (1 Quarter as of 4/30/2017)



# TIAA-CREF Social Choice Equity I vs. Russell 3000 Index

## Short-term (Rolling 12 Months Excess Performance)

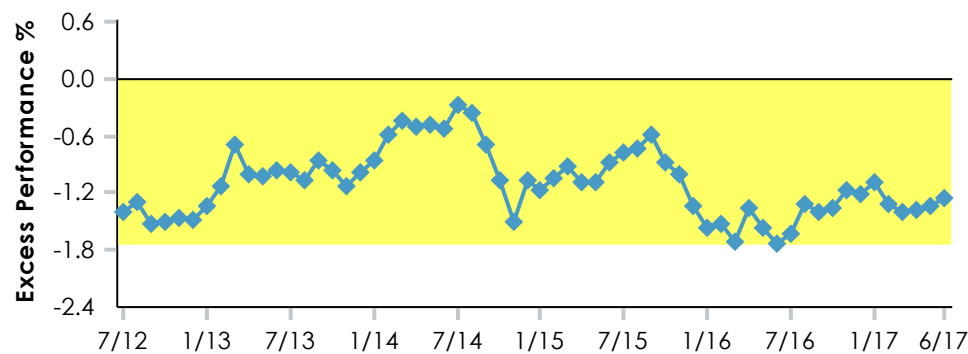


### Short-Term Performance

Positive

Probationary Performance -3.50%

## Medium-term (Rolling 36 Months Excess Performance)

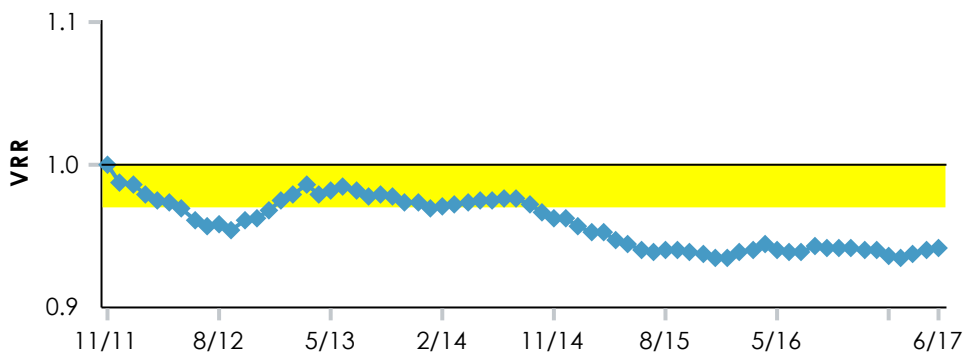


### Medium-Term Performance

Acceptable

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Caution - Long-term Criteria for placing Fund on Watch took effect as of 2Q 2017

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

|   | Qtr      | 1 Year    | 3 Years  | 5 Years   | Inception (12/2011) |
|---|----------|-----------|----------|-----------|---------------------|
| TIAA-CREF Social Choice Equity I          | 3.8 (20) | 18.8 (32) | 7.9 (57) | 14.1 (34) | 13.7 (54)           |
| Russell 3000 Index                        | 3.0 (51) | 18.5 (36) | 9.1 (25) | 14.6 (20) | 15.0 (18)           |
| IM U.S. Large Cap Core Equity (MF) Median | 3.0      | 17.2      | 8.1      | 13.6      | 13.9                |

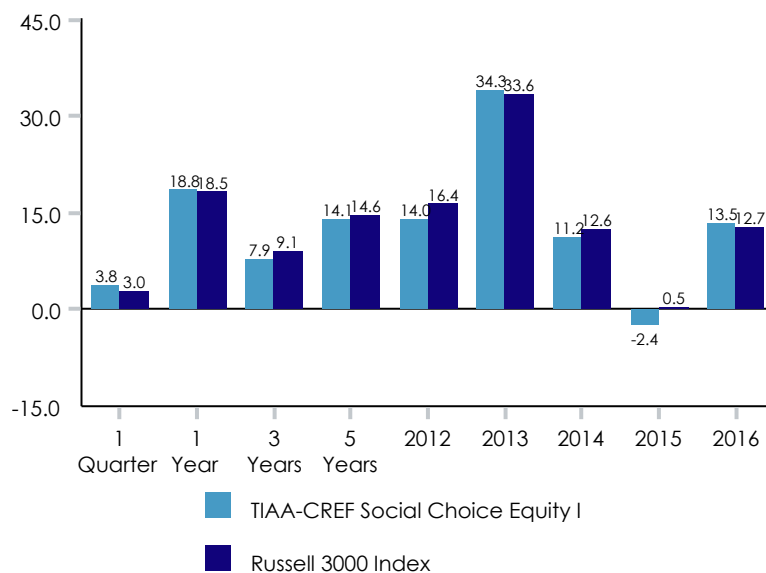
Monitoring Status

Caution

## Mutual Fund Info

Product Name : TIAA-CREF:Soc Ch Eq;Inst (TISCX)  
 Fund Family : TIAA-CREF  
 Ticker : TISCX  
 Peer Group : IM U.S. Multi-Cap Core Equity (MF)  
 Benchmark : Russell 3000 Index  
 Fund Inception : 07/01/1999  
 Portfolio Manager : Campagna/Liao  
 Total Assets : \$1,704 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 16%

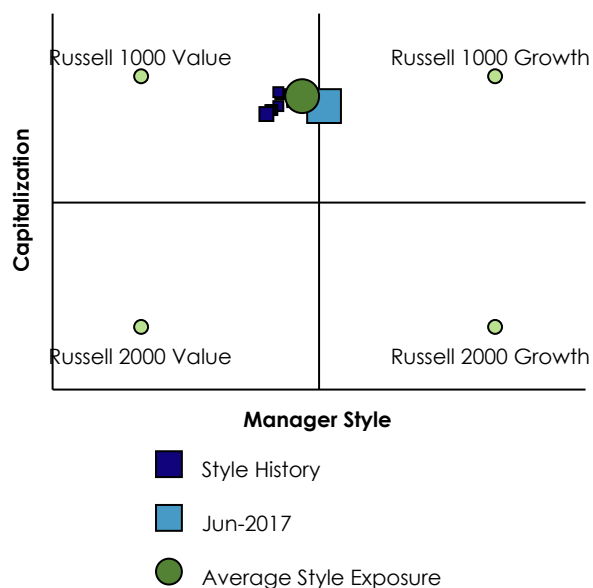
## Comparative Performance



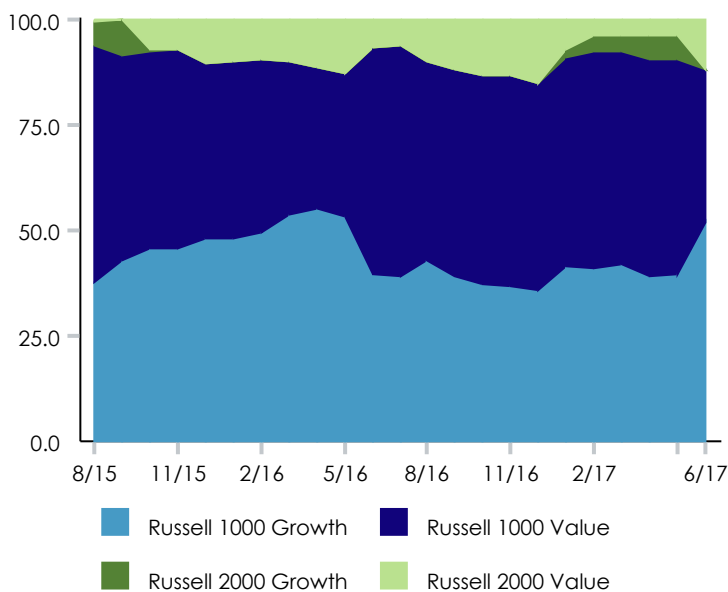
## Fund Investment Policy

The Fund seeks a favorable long-term rate of return. The Fund attempts to track the return of the U.S. stock market as represented by its benchmark, the Russell 3000 Index, while investing only in companies whose activities are consistent with the Funds social criteria.

## Style Map (3 Years)



## Style History (3 Years)

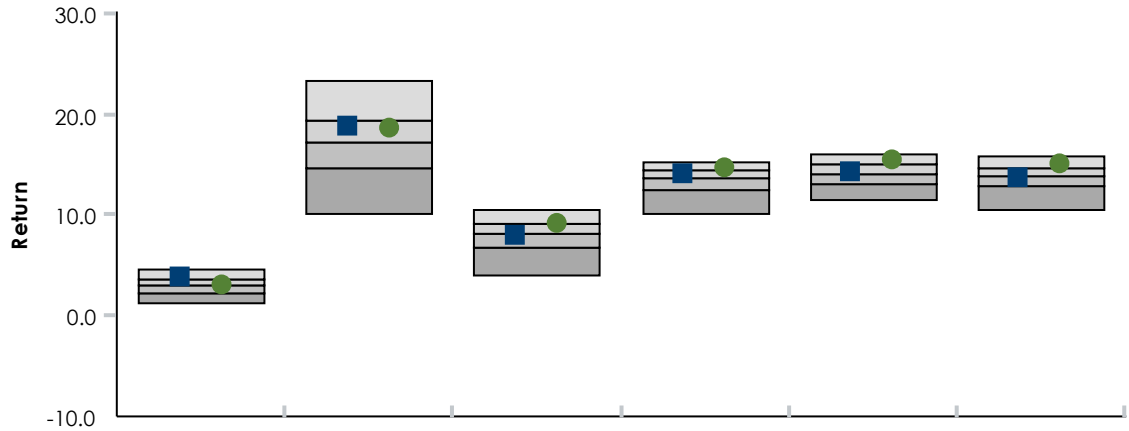




## Historical Statistics (3 Years)

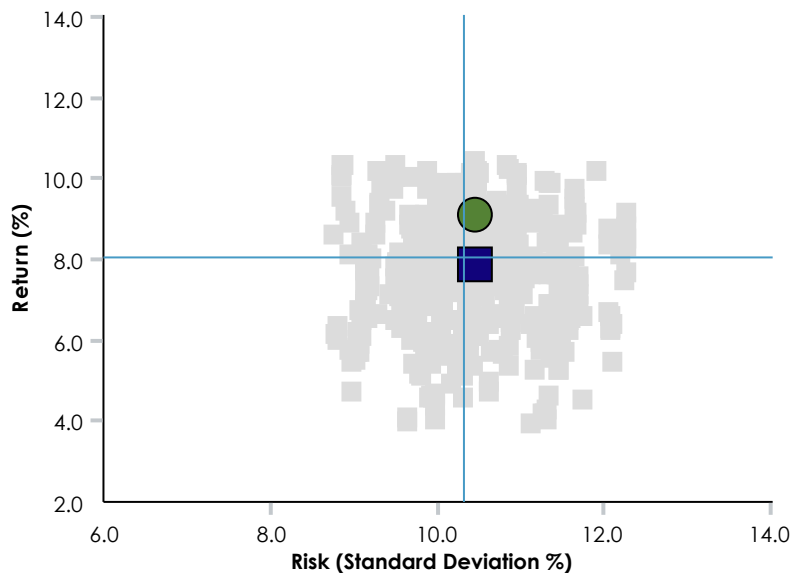
|   | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|---|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF Social Choice Equity I          | 7.9    | 10.5               | 0.8          | -1.1  | 1.0  | 1.0       | 1.0            | -1.2              | 95.8              | 104.0               |
| Russell 3000 Index                        | 9.1    | 10.5               | 0.9          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. Large Cap Core Equity (MF) Median | 8.1    | 10.3               | 0.8          | -0.5  | 1.0  | 0.9       | 2.6            | -0.4              | 94.2              | 98.1                |

## Peer Group Analysis



|                                    | 1 Quarter | 1 Year    | 3 Years  | 5 Years   | 7 Years   | Since Inception Dec-2011 |
|------------------------------------|-----------|-----------|----------|-----------|-----------|--------------------------|
| ■ TIAA-CREF Social Choice Equity I | 3.8 (20)  | 18.8 (32) | 7.9 (57) | 14.1 (34) | 14.2 (46) | 13.7 (54)                |
| ● Russell 3000 Index               | 3.0 (51)  | 18.5 (36) | 9.1 (25) | 14.6 (20) | 15.3 (15) | 15.0 (18)                |
| Median                             | 3.0       | 17.2      | 8.1      | 13.6      | 14.1      | 13.9                     |

## Peer Group Scattergram (3 Years)



|                                    | Return | Standard Deviation |
|------------------------------------|--------|--------------------|
| ■ TIAA-CREF Social Choice Equity I | 7.9    | 10.5               |
| ● Russell 3000 Index               | 9.1    | 10.5               |
| — Median                           | 8.1    | 10.3               |

## Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 24     | 95.8  |
| Down Markets           | 12     | 104.0 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 24     | 29.2  |
| Down Markets           | 12     | 33.3  |
| Overall                | 36     | 30.6  |

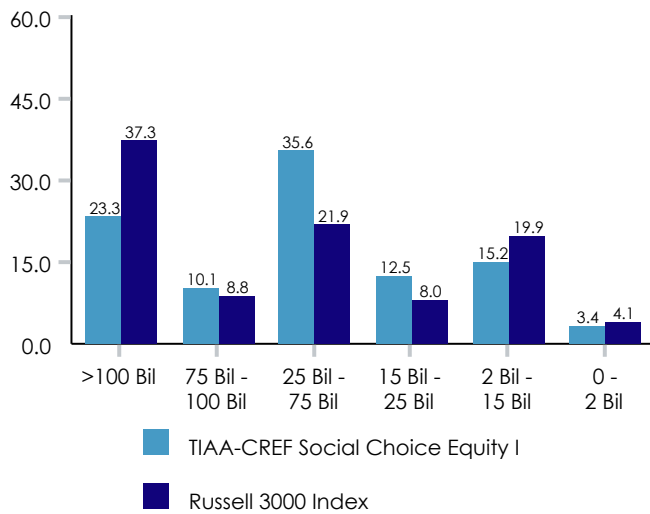
## Portfolio Characteristics (As of 3/31/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 89,938    | 138,438   |
| Median Mkt. Cap (\$M)     | 3,858     | 1,592     |
| Price/Earnings ratio      | 21.5      | 21.6      |
| Price/Book ratio          | 3.3       | 3.2       |
| 5 Yr. EPS Growth Rate (%) | 9.0       | 11.4      |
| Current Yield (%)         | 2.0       | 1.9       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 796       | 3,000     |

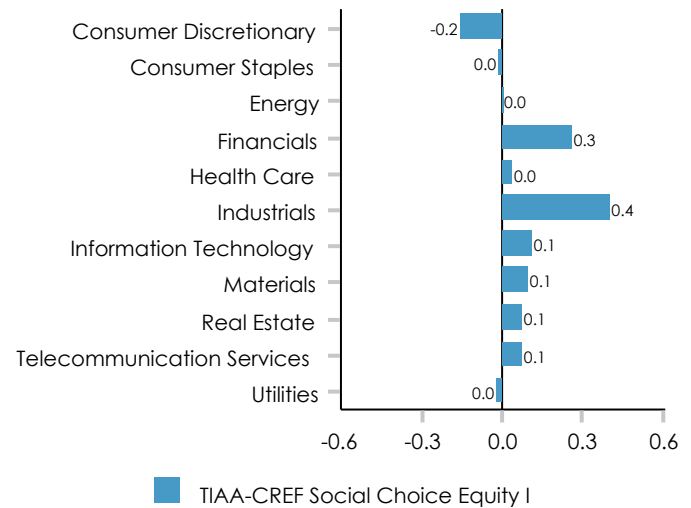
## Top 10 Holdings (As of 3/31/2017)

|                            | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|----------------------------|----------------------|----------------------|----------------------|
| Microsoft Corp             | 2.3                  | 2.1                  | 5.2                  |
| Johnson & Johnson          | 1.9                  | 1.4                  | 6.9                  |
| Alphabet Inc               | 1.3                  | 1.1                  | 9.7                  |
| Alphabet Inc               | 1.3                  | 1.1                  | 9.5                  |
| Procter & Gamble Co (The)  | 1.3                  | 0.9                  | -2.3                 |
| Merck & Co Inc.            | 1.2                  | 0.7                  | 1.6                  |
| Coca-Cola Co (The)         | 1.2                  | 0.7                  | 6.5                  |
| Walt Disney Co (The)       | 1.1                  | 0.7                  | -6.3                 |
| PepsiCo Inc                | 1.1                  | 0.7                  | 3.9                  |
| Verizon Communications Inc | 1.1                  | 0.7                  | -7.3                 |
| <b>% of Portfolio</b>      | <b>13.8</b>          | <b>10.1</b>          |                      |

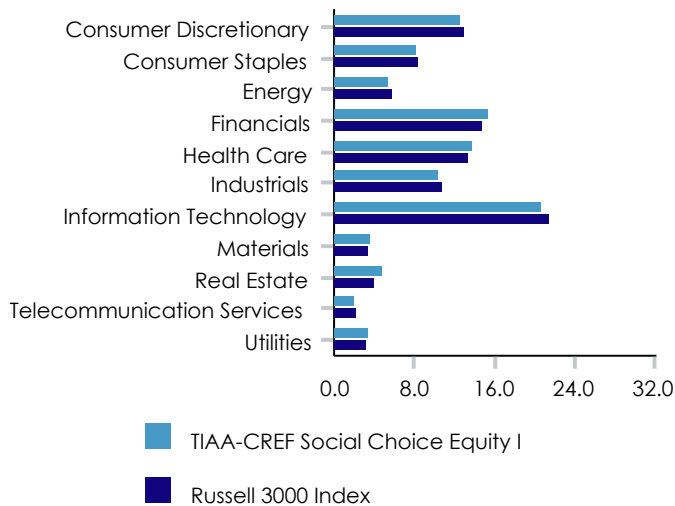
## Market Cap Distribution (As of 3/31/2017)



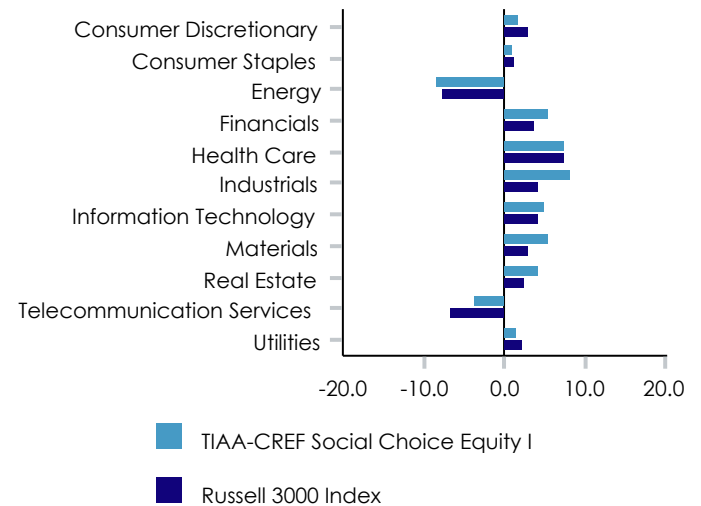
## Sector Attribution (1 Quarter as of 3/31/2017)



## Sector Allocation (1 Quarter as of 3/31/2017)

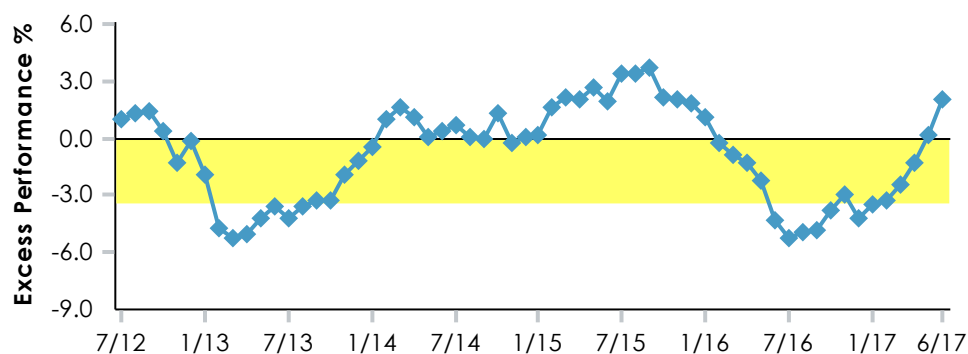


## Sector Performance (1 Quarter as of 3/31/2017)



# TIAA-CREF Real Estate Securities I vs. FTSE NAREIT All Equity REITs

## Short-term (Rolling 12 Months Excess Performance)

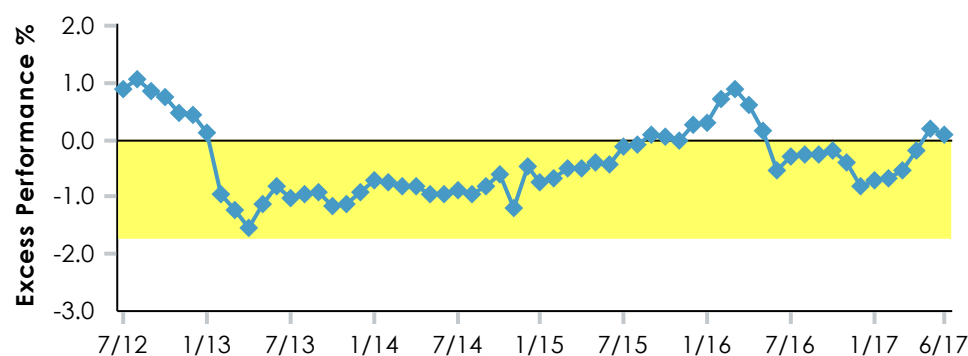


### Short-Term Performance

Positive

Probationary Performance -3.50%

## Medium-term (Rolling 36 Months Excess Performance)

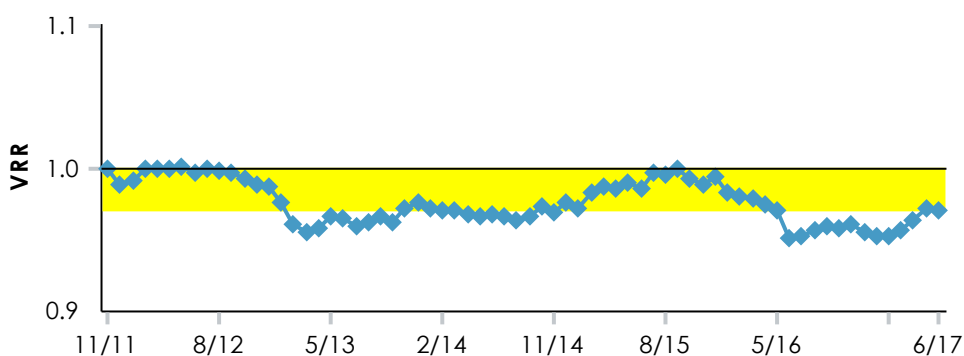


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Acceptable - Long-term Criteria for placing Fund on Watch took effect as of 2Q 2017

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

|                                    | Qtr      | 1 Year   | 3 Years | 5 Years  | Inception (12/2011) |
|------------------------------------|----------|----------|---------|----------|---------------------|
| TIAA-CREF Real Estate Securities I | 3.8 (5)  | 2.2 (16) | 9.0 (7) | 9.4 (13) | 12.0 (13)           |
| FTSE NAREIT All Equity REITs       | 2.3 (33) | 0.2 (30) | 8.9 (8) | 10.0 (7) | 12.6 (6)            |
| IM Real Estate Sector (MF) Median  | 1.8      | -2.0     | 7.3     | 8.4      | 10.9                |

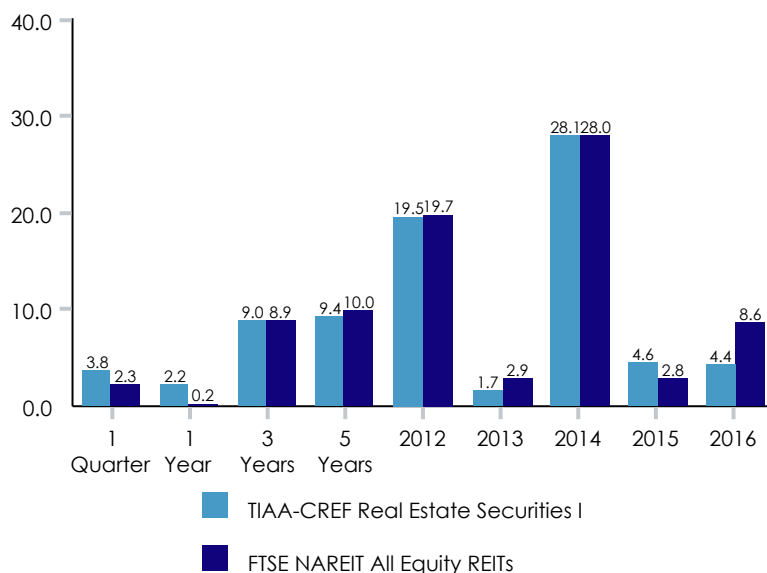
Monitoring Status

Acceptable

Mutual Fund Info

Product Name : TIAA-CREF:Real Est;Inst (TIREX)  
 Fund Family : TIAA-CREF  
 Ticker : TIREX  
 Peer Group : IM Real Estate Sector (MF)  
 Benchmark : Wilshire US REIT Index  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Copp/Lee  
 Total Assets : \$1,443 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.5%  
 Net Expense : 0.5%  
 Turnover : 52%

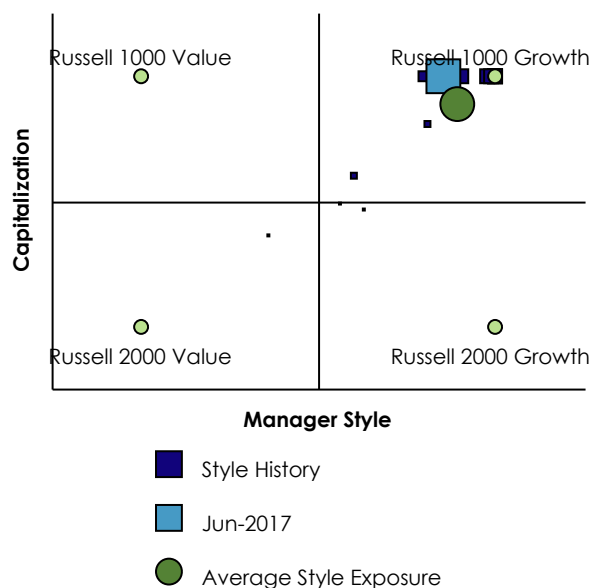
Comparative Performance



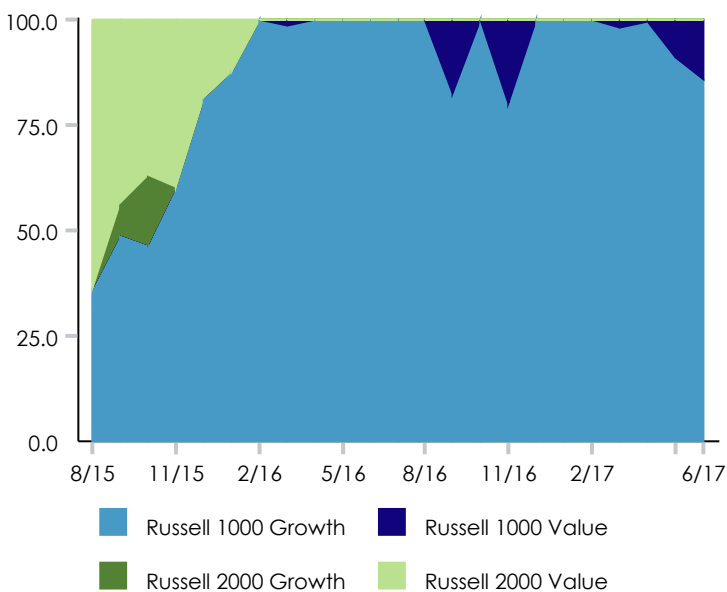
Fund Investment Policy

The Fund seeks to obtain a favorable long-term total return through both capital appreciation and current income, by investing primarily in equity and fixed-income securities of companies principally engaged in or related to the real estate industry.

Style Map (3 Years)



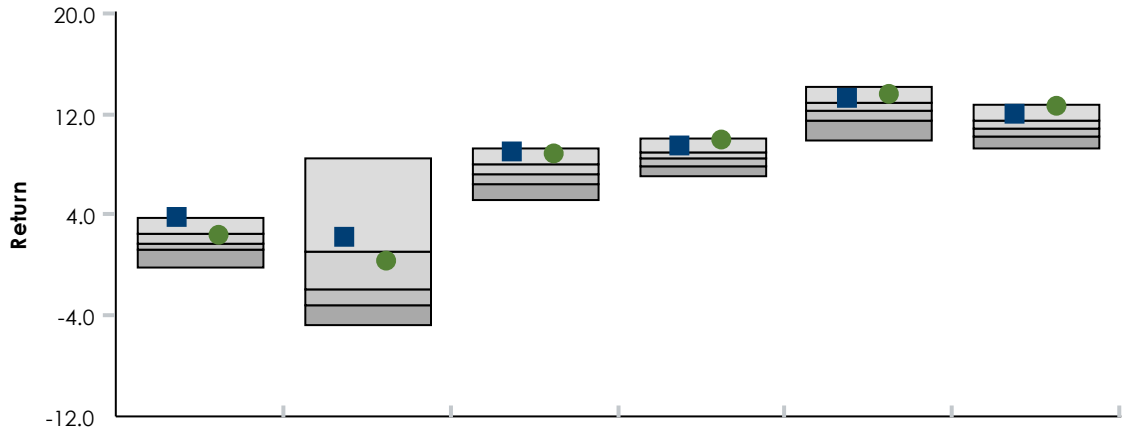
Style History (3 Years)



## Historical Statistics (3 Years)

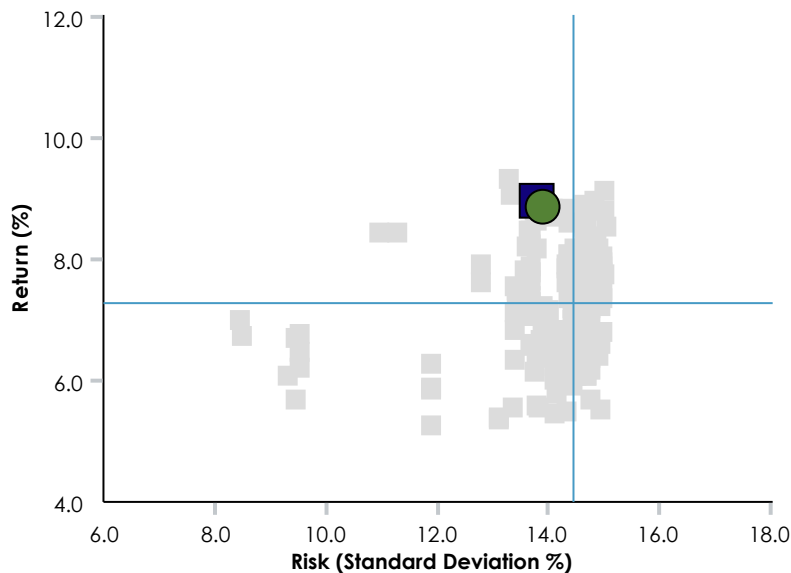
|                                    | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|------------------------------------|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF Real Estate Securities I | 9.0    | 13.8               | 0.7          | 0.3   | 1.0  | 1.0       | 2.2            | 0.0               | 98.9              | 97.6                |
| FTSE NAREIT All Equity REITs       | 8.9    | 13.9               | 0.7          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM Real Estate Sector (MF) Median  | 7.3    | 14.5               | 0.6          | -1.4  | 1.0  | 1.0       | 2.3            | -0.5              | 99.0              | 108.2               |

## Peer Group Analysis



|                                      | 1 Quarter | 1 Year   | 3 Years | 5 Years  | 7 Years   | Since Inception Dec-2011 |
|--------------------------------------|-----------|----------|---------|----------|-----------|--------------------------|
| ■ TIAA-CREF Real Estate Securities I | 3.8 (5)   | 2.2 (16) | 9.0 (7) | 9.4 (13) | 13.2 (11) | 12.0 (13)                |
| ● FTSE NAREIT All Equity REITs       | 2.3 (33)  | 0.2 (30) | 8.9 (8) | 10.0 (7) | 13.5 (9)  | 12.6 (6)                 |
| Median                               | 1.8       | -2.0     | 7.3     | 8.4      | 12.2      | 10.9                     |

## Peer Group Scattergram (3 Years)



|                                      | Return | Standard Deviation |
|--------------------------------------|--------|--------------------|
| ■ TIAA-CREF Real Estate Securities I | 9.0    | 13.8               |
| ● FTSE NAREIT All Equity REITs       | 8.9    | 13.9               |
| — Median                             | 7.3    | 14.5               |

## Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 20     | 98.9 |
| Down Markets           | 16     | 97.6 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 20     | 40.0 |
| Down Markets           | 16     | 50.0 |
| Overall                | 36     | 44.4 |

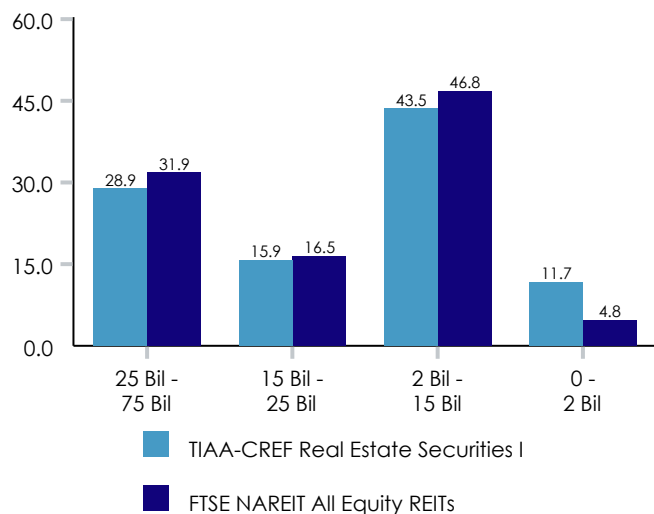
## Portfolio Characteristics (As of 5/31/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 18,175    | 19,152    |
| Median Mkt. Cap (\$M)     | 7,740     | 3,259     |
| Price/Earnings ratio      | 34.0      | 31.5      |
| Price/Book ratio          | 2.7       | 2.6       |
| 5 Yr. EPS Growth Rate (%) | 22.1      | 19.4      |
| Current Yield (%)         | 3.2       | 3.9       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 54        | 171       |

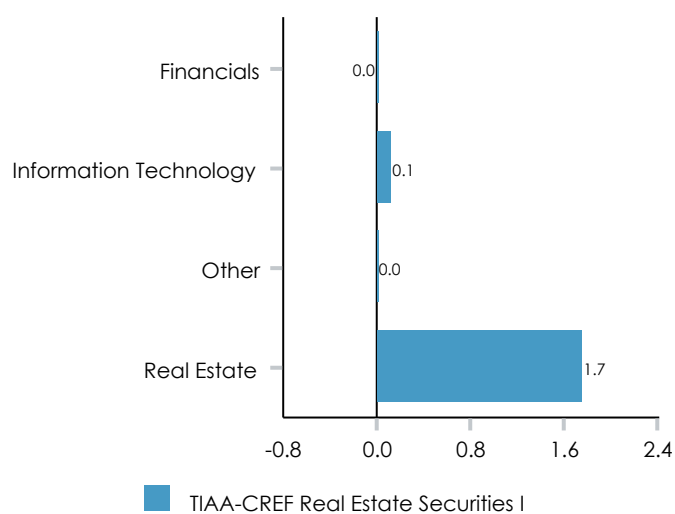
## Top 10 Holdings (As of 5/31/2017)

|                                 | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|---------------------------------|----------------------|----------------------|----------------------|
| Rexford Industrial Realty Inc   | 5.3                  | 0.2                  | 22.5                 |
| American Tower Corp             | 5.0                  | 5.6                  | 10.0                 |
| Crown Castle International Corp | 4.6                  | 3.7                  | 7.1                  |
| Equinix Inc                     | 4.6                  | 3.4                  | 7.7                  |
| Simon Property Group Inc.       | 4.3                  | 5.1                  | -4.9                 |
| Boston Properties Inc           | 4.0                  | 1.9                  | -6.5                 |
| ProLogis Inc                    | 3.8                  | 3.1                  | 13.9                 |
| Equity Residential              | 3.5                  | 2.4                  | 6.6                  |
| SL Green Realty Corp.           | 3.2                  | 1.1                  | 0.0                  |
| CyrusOne Inc                    | 2.6                  | 0.5                  | 9.1                  |
| <b>% of Portfolio</b>           | <b>40.9</b>          | <b>27.0</b>          |                      |

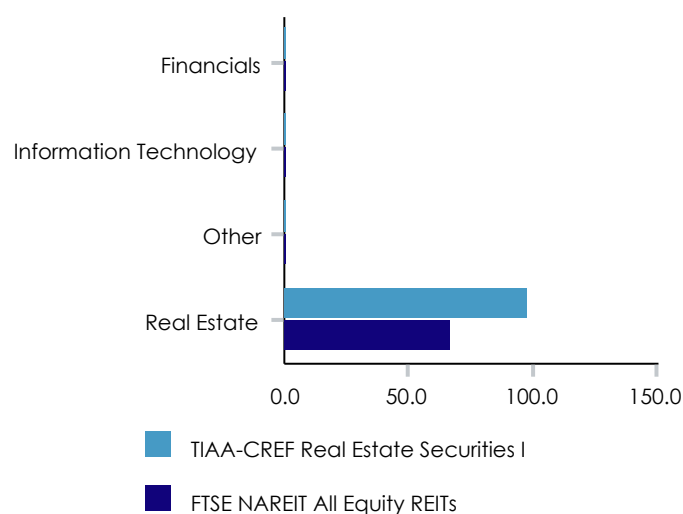
## Market Cap Distribution (As of 5/31/2017)



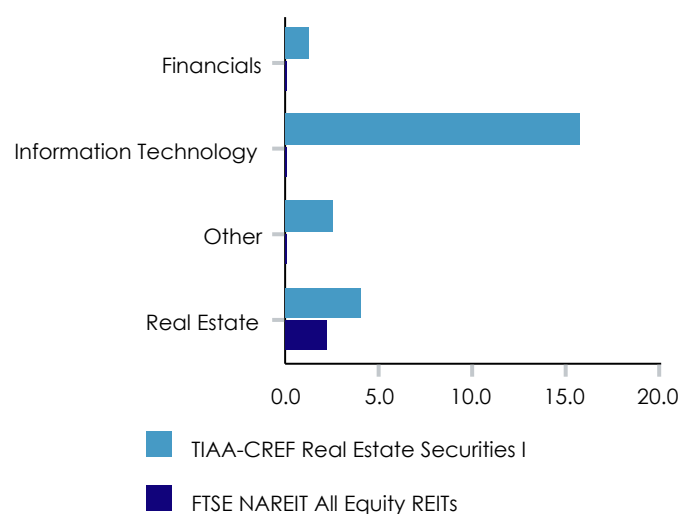
## Sector Attribution (1 Quarter as of 5/31/2017)



## Sector Allocation (1 Quarter as of 5/31/2017)

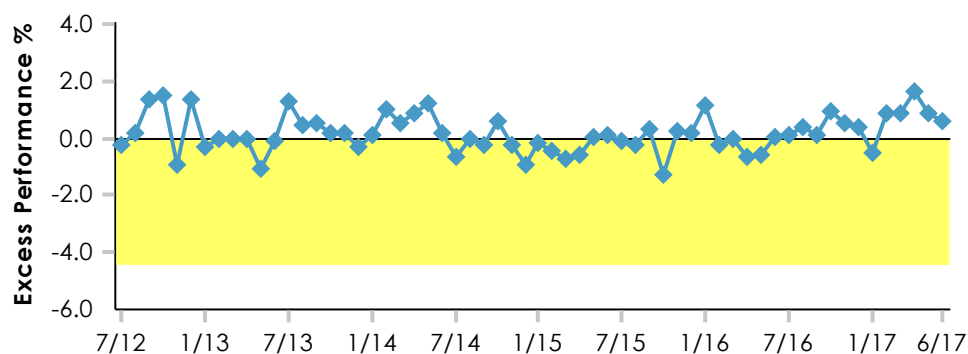


## Sector Performance (1 Quarter as of 5/31/2017)



# DFA Large Cap International I vs. MSCI World ex-U.S. (net)

## Short-term (Rolling 12 Months Excess Performance)

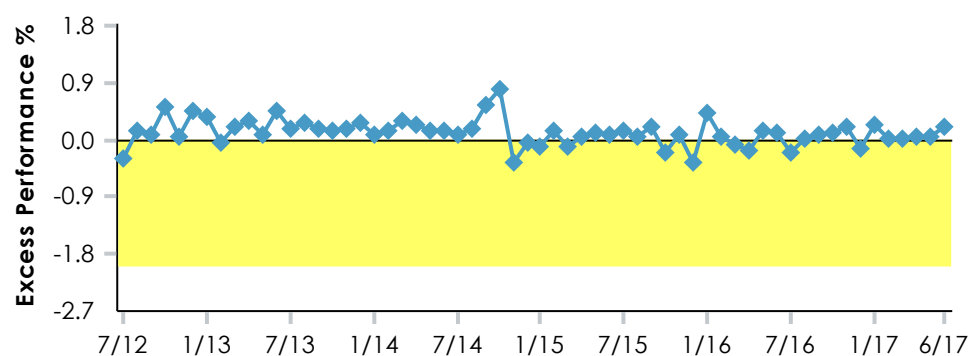


### Short-Term Performance

Positive

Probationary Performance -4.50%

## Medium-term (Rolling 36 Months Excess Performance)

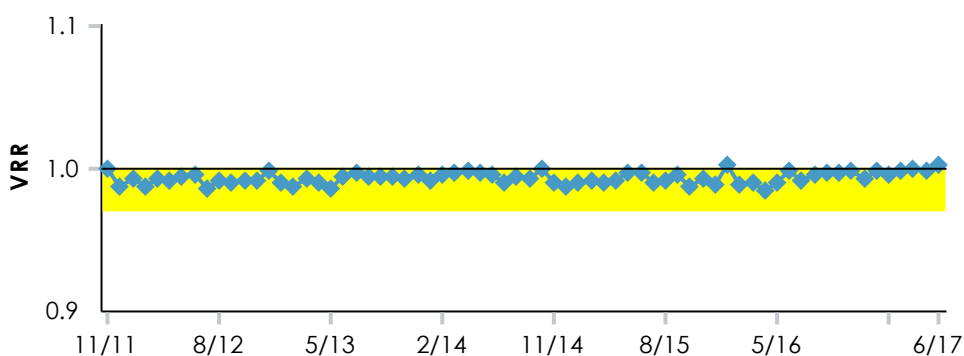


### Medium-Term Performance

Positive

Probationary Performance -2.00%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Acceptable

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|--|----------|-----------|----------|----------|---------------------|
| DFA Large Cap International I                      | 6.1 (57) | 20.1 (43) | 0.9 (59) | 8.3 (50) | 7.6 (55)            |
| MSCI World ex-U.S. (net)                           | 5.6 (74) | 19.5 (57) | 0.7 (69) | 8.1 (53) | 7.5 (56)            |
| IM International Multi-Cap Core Equity (MF) Median | 6.2      | 19.8      | 1.2      | 8.3      | 7.7                 |

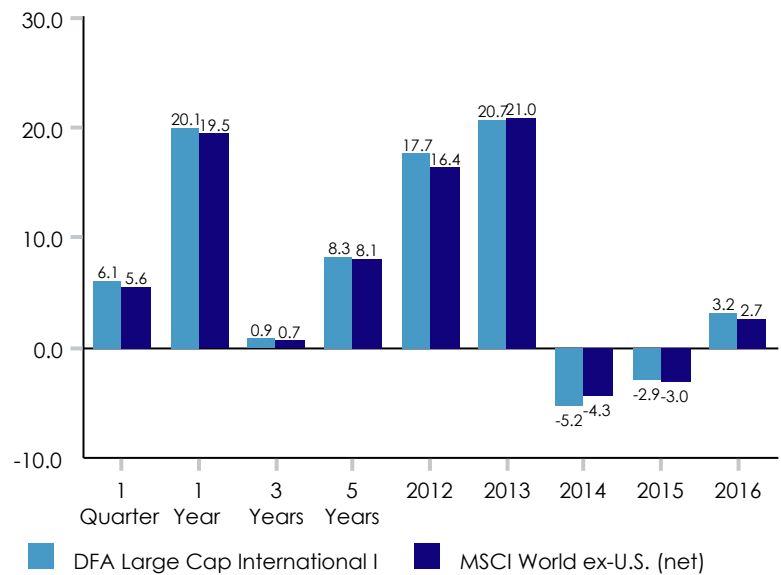
Monitoring Status

Acceptable

## Mutual Fund Info

Product Name : DFA Large Cap Intl;I (DFALX)  
 Fund Family : Dimensional Fund Advisors LP  
 Ticker : DFALX  
 Peer Group : IM International Multi-Cap Core Equity (MF)  
 Benchmark : MSCI EAFE IMI  
 Fund Inception : 07/15/1991  
 Portfolio Manager : Team Managed  
 Total Assets : \$4,300 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 10%

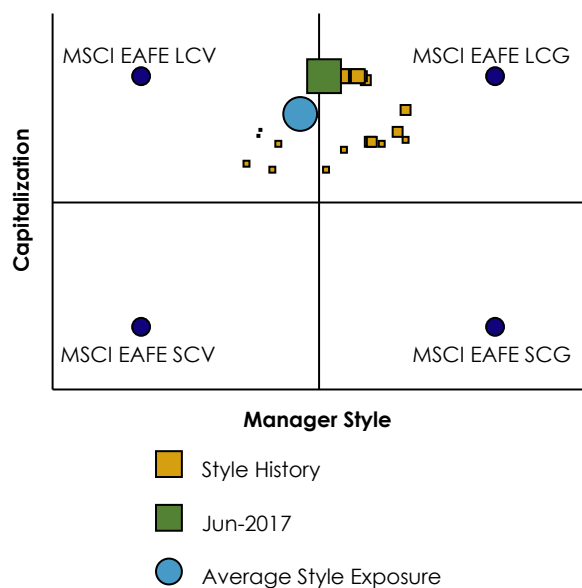
## Comparative Performance



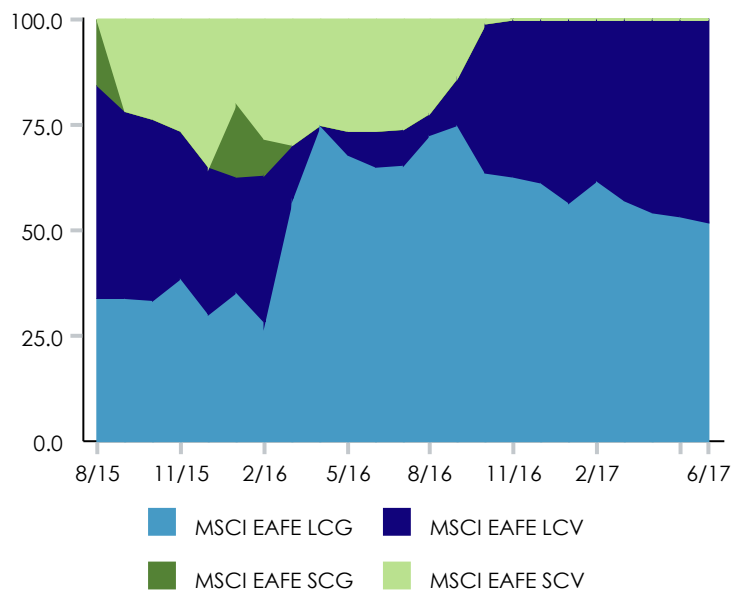
## Fund Investment Policy

The Fund seeks to achieve long-term capital appreciation by investing in the stocks of large companies in Europe, Australia, and the Far East.

## Style Map (3 Years)



## Style History (3 Years)

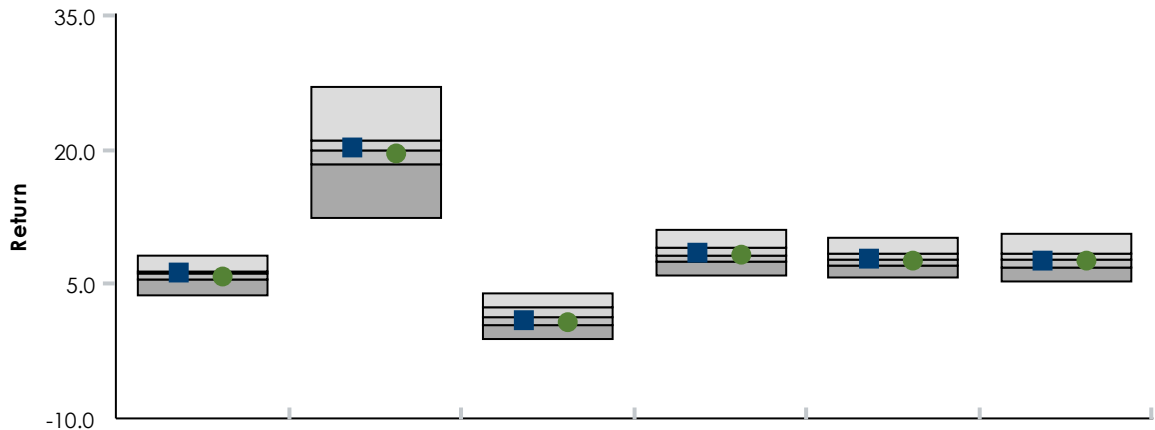




## Historical Statistics (3 Years)

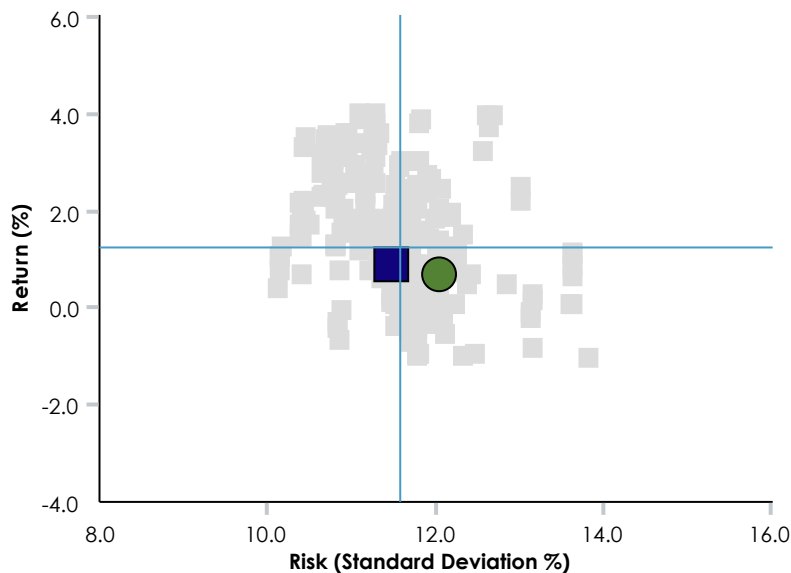
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| DFA Large Cap International I                      | 0.9    | 11.5               | 0.1          | 0.2   | 0.9  | 1.0       | 2.0            | 0.1               | 95.8              | 94.5                |
| MSCI World ex-U.S. (net)                           | 0.7    | 12.0               | 0.1          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM International Multi-Cap Core Equity (MF) Median | 1.2    | 11.6               | 0.1          | 0.6   | 0.9  | 0.9       | 3.5            | 0.2               | 95.0              | 91.2                |

## Peer Group Analysis



|                                 | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|---------------------------------|-----------|-----------|----------|----------|----------|--------------------------|
| ■ DFA Large Cap International I | 6.1 (57)  | 20.1 (43) | 0.9 (59) | 8.3 (50) | 7.8 (49) | 7.6 (55)                 |
| ● MSCI World ex-U.S. (net)      | 5.6 (74)  | 19.5 (57) | 0.7 (69) | 8.1 (53) | 7.5 (61) | 7.5 (56)                 |
| Median                          | 6.2       | 19.8      | 1.2      | 8.3      | 7.7      | 7.7                      |

## Peer Group Scattergram (3 Years)



|                                 | Return | Standard Deviation |
|---------------------------------|--------|--------------------|
| ■ DFA Large Cap International I | 0.9    | 11.5               |
| ● MSCI World ex-U.S. (net)      | 0.7    | 12.0               |
| — Median                        | 1.2    | 11.6               |

## Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 18     | 95.8 |
| Down Markets           | 18     | 94.5 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 18     | 55.6 |
| Down Markets           | 18     | 61.1 |
| Overall                | 36     | 58.3 |

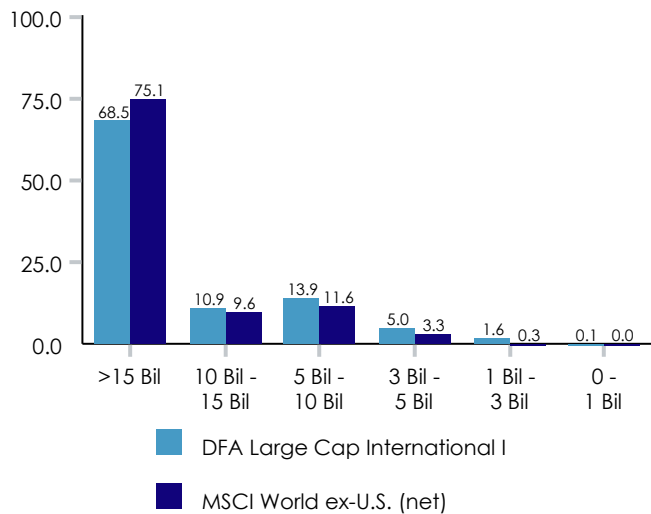
## Portfolio Characteristics (As of 1/31/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 54,159    | 57,109    |
| Median Mkt. Cap (\$M)     | 8,921     | 10,356    |
| Price/Earnings ratio      | 17.0      | 17.4      |
| Price/Book ratio          | 2.1       | 2.2       |
| 5 Yr. EPS Growth Rate (%) | 5.6       | 5.1       |
| Current Yield (%)         | 2.8       | 3.1       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 1,295     | 1,021     |

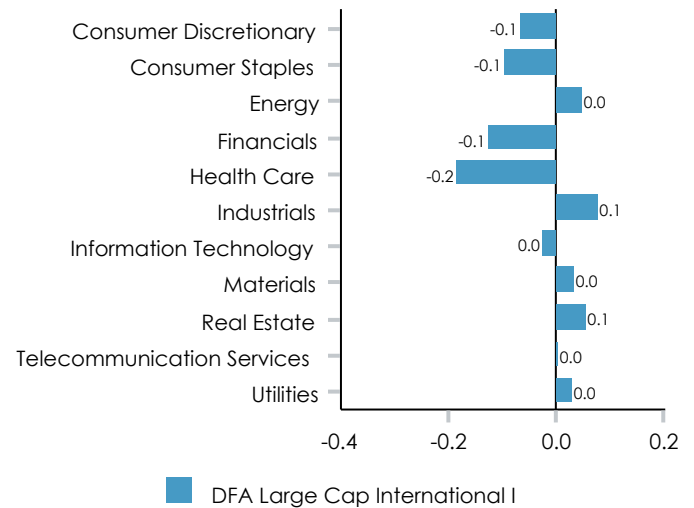
## Top 10 Holdings (As of 1/31/2017)

|                                | Portfolio Weight (%) | Benchmark Weight (%) | Quarter Return (%) |
|--------------------------------|----------------------|----------------------|--------------------|
| Nestle SA                      | 1.7                  | 1.8                  | 16.9               |
| Roche Holding AG               | 1.2                  | 1.2                  | -0.2               |
| NOVARTIS AG                    | 0.9                  | 0.0                  | N/A                |
| Toyota Motor Corp              | 0.7                  | 0.9                  | -3.2               |
| Commonwealth Bank of Australia | 0.7                  | 0.7                  | -3.0               |
| Royal Bank of Canada           | 0.7                  | 0.7                  | 0.7                |
| BP PLC                         | 0.7                  | 0.8                  | 2.1                |
| Sanofi                         | 0.6                  | 0.7                  | 9.0                |
| HSBC Holdings PLC              | 0.6                  | 1.2                  | 15.0               |
| BAYER AG                       | 0.6                  | 0.0                  | N/A                |
| <b>% of Portfolio</b>          | <b>8.4</b>           | <b>8.0</b>           |                    |

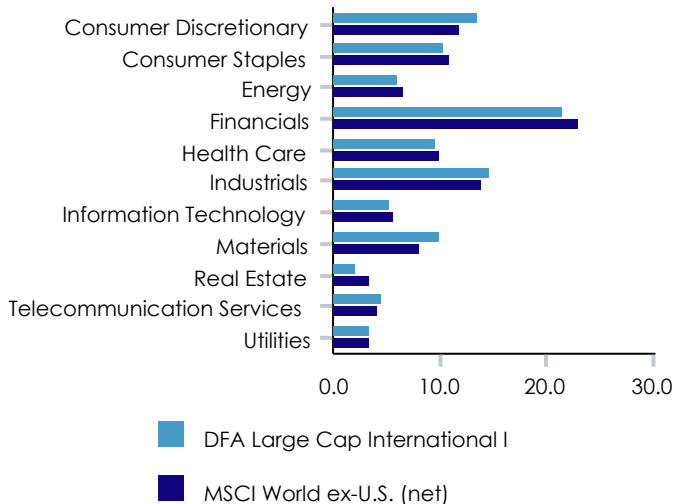
## Market Cap Distribution (As of 1/31/2017)



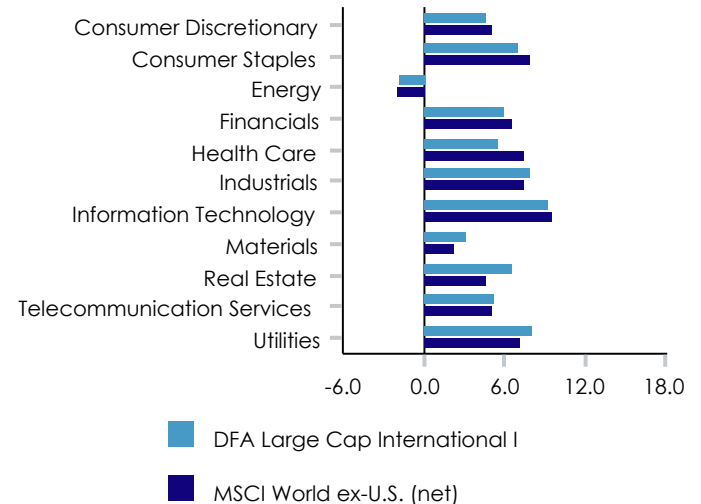
## Sector Attribution (1 Quarter as of 1/31/2017)



## Sector Allocation (1 Quarter as of 1/31/2017)

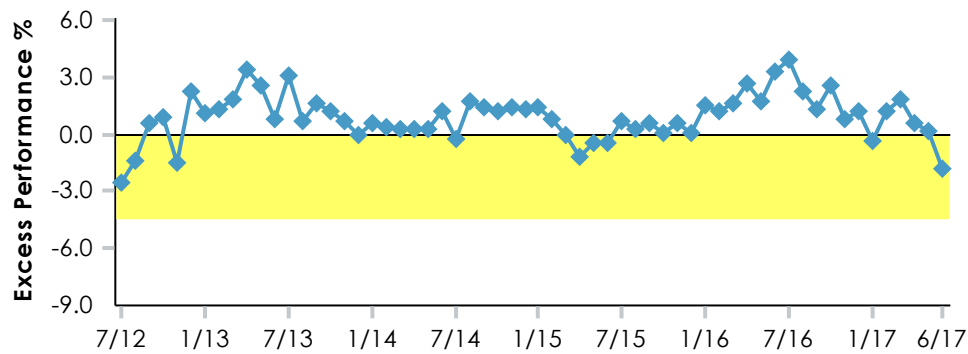


## Sector Performance (1 Quarter as of 1/31/2017)



# DFA Emerging Markets Core Equity I vs. MSCI Emerging Markets (Net) Index

## Short-term (Rolling 12 Months Excess Performance)

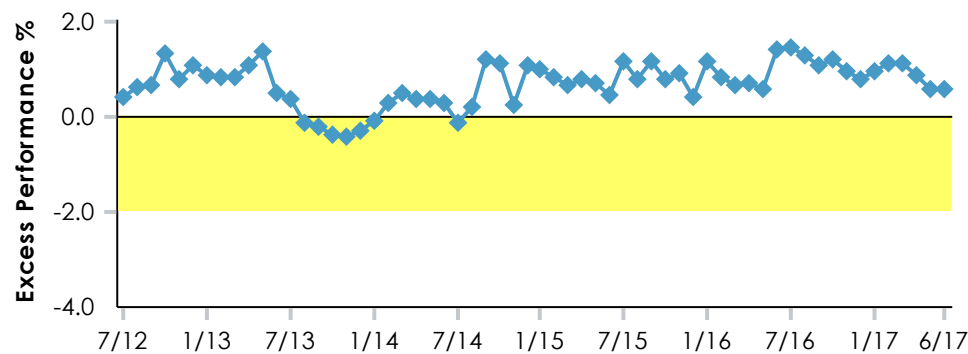


### Short-Term Performance

Positive

Probationary Performance -4.50%

## Medium-term (Rolling 36 Months Excess Performance)

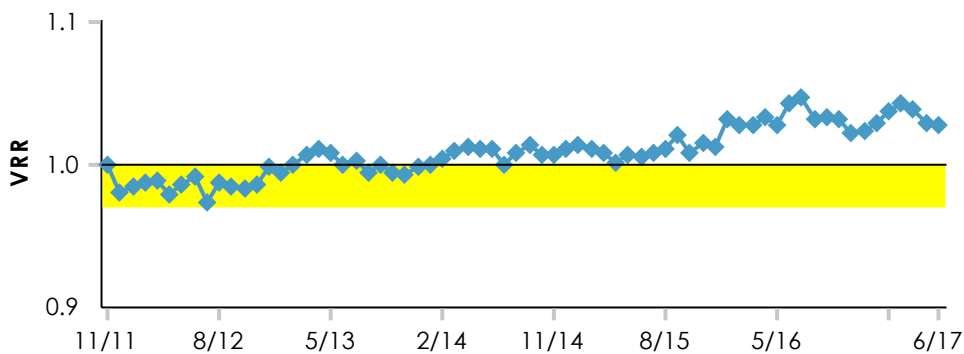


### Medium-Term Performance

Positive

Probationary Performance -2.00%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Positive

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|--|----------|-----------|----------|----------|---------------------|
| DFA Emerging Markets Core Equity I     | 4.7 (74) | 21.9 (46) | 1.6 (31) | 4.7 (35) | 4.5 (34)            |
| MSCI Emerging Markets (Net) Index      | 6.3 (40) | 23.7 (29) | 1.1 (43) | 4.0 (48) | 4.0 (46)            |
| IM Emerging Markets Equity (MF) Median | 6.0      | 21.1      | 0.7      | 3.8      | 3.7                 |

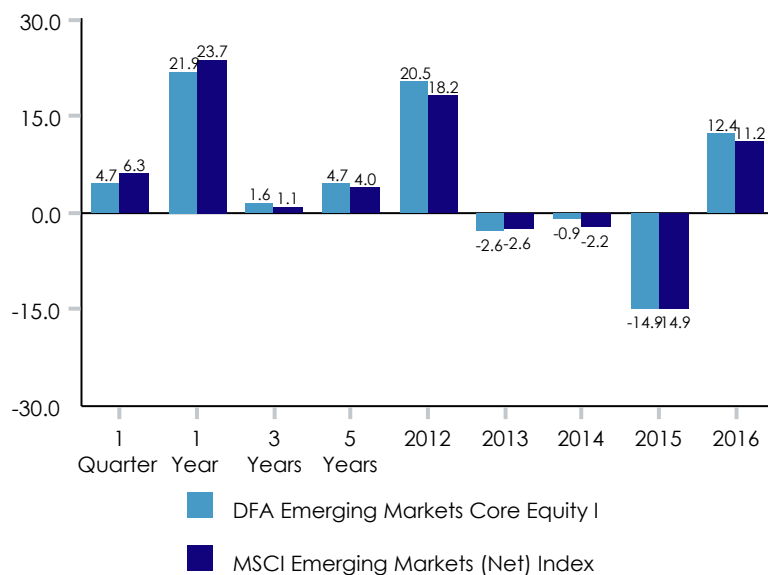
Monitoring Status

Positive

## Mutual Fund Info

Product Name : DFA Emg Mkts Core Eq;l (DFCEX)  
 Fund Family : Dimensional Fund Advisors LP  
 Ticker : DFCEX  
 Peer Group : IM Emerging Markets Equity (MF)  
 Benchmark : MSCI Emerging Markets Index  
 Fund Inception : 04/05/2005  
 Portfolio Manager : Team Managed  
 Total Assets : \$23,746 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.5%  
 Net Expense : 0.5%  
 Turnover : 3%

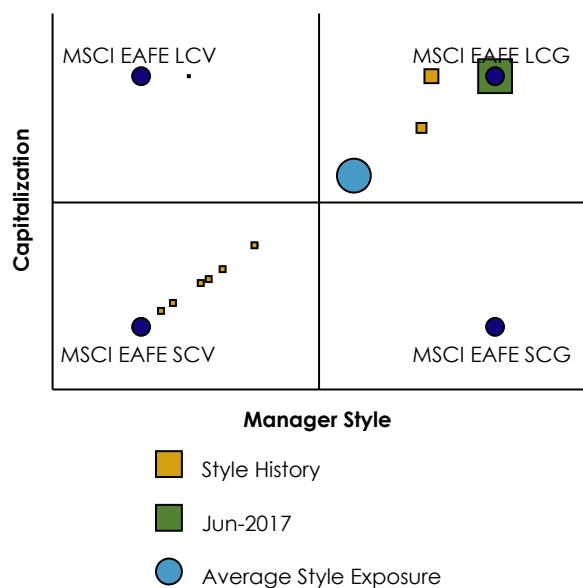
## Comparative Performance



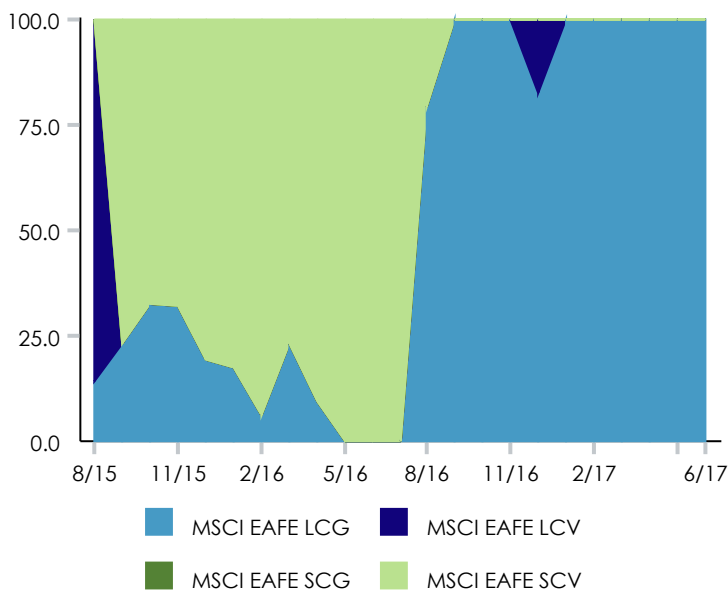
## Fund Investment Policy

The Fund seeks long-term capital appreciation. The Fund invests in a broad and diverse group of securities associated with emerging markets, including frontier markets, with an increased exposure to securities of small cap issuers and securities that it considers to be value securities.

## Style Map (3 Years)



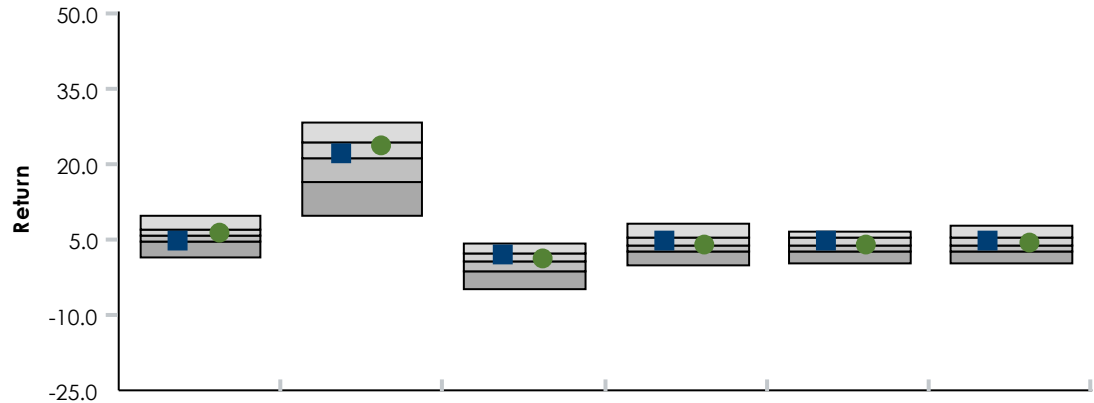
## Style History (3 Years)



## Historical Statistics (3 Years)

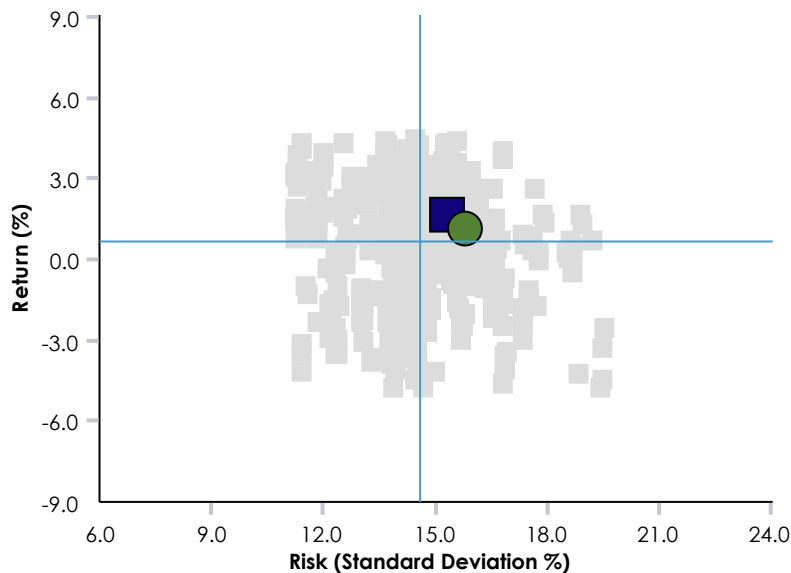
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| DFA Emerging Markets Core Equity I     | 1.6    | 15.4               | 0.2          | 0.6   | 1.0  | 1.0       | 2.5            | 0.2               | 97.8              | 95.2                |
| MSCI Emerging Markets (Net) Index      | 1.1    | 15.8               | 0.1          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM Emerging Markets Equity (MF) Median | 0.7    | 14.6               | 0.1          | -0.3  | 0.9  | 0.9       | 5.2            | -0.1              | 88.2              | 91.3                |

## Peer Group Analysis



|                                      | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|--------------------------------------|-----------|-----------|----------|----------|----------|--------------------------|
| ■ DFA Emerging Markets Core Equity I | 4.7 (74)  | 21.9 (46) | 1.6 (31) | 4.7 (35) | 4.5 (38) | 4.5 (34)                 |
| ● MSCI Emerging Markets (Net) Index  | 6.3 (40)  | 23.7 (29) | 1.1 (43) | 4.0 (48) | 3.9 (49) | 4.0 (46)                 |
| Median                               | 6.0       | 21.1      | 0.7      | 3.8      | 3.8      | 3.7                      |

## Peer Group Scattergram (3 Years)



|                                      | Return | Standard Deviation |
|--------------------------------------|--------|--------------------|
| ■ DFA Emerging Markets Core Equity I | 1.6    | 15.4               |
| ● MSCI Emerging Markets (Net) Index  | 1.1    | 15.8               |
| — Median                             | 0.7    | 14.6               |

## Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 21     | 97.8 |
| Down Markets           | 15     | 95.2 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 21     | 47.6 |
| Down Markets           | 15     | 60.0 |
| Overall                | 36     | 52.8 |

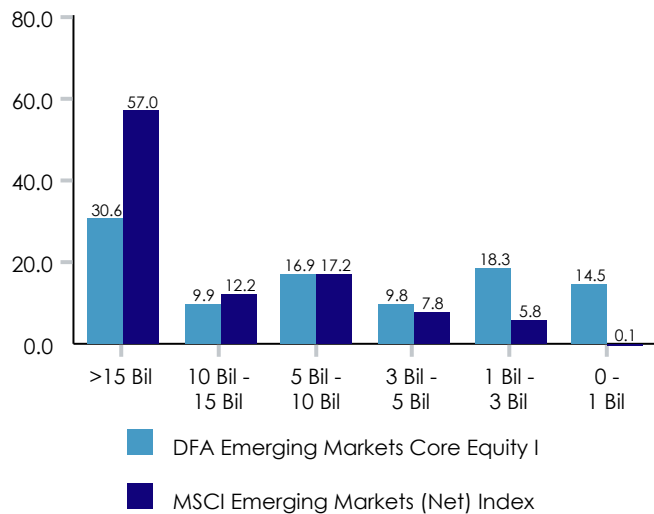
## Portfolio Characteristics (As of 10/31/2016)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 27,513    | 68,310    |
| Median Mkt. Cap (\$M)     | 473       | 5,575     |
| Price/Earnings ratio      | 14.1      | 14.1      |
| Price/Book ratio          | 2.2       | 2.4       |
| 5 Yr. EPS Growth Rate (%) | 7.7       | 10.6      |
| Current Yield (%)         | 2.4       | 2.3       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 4,380     | 845       |

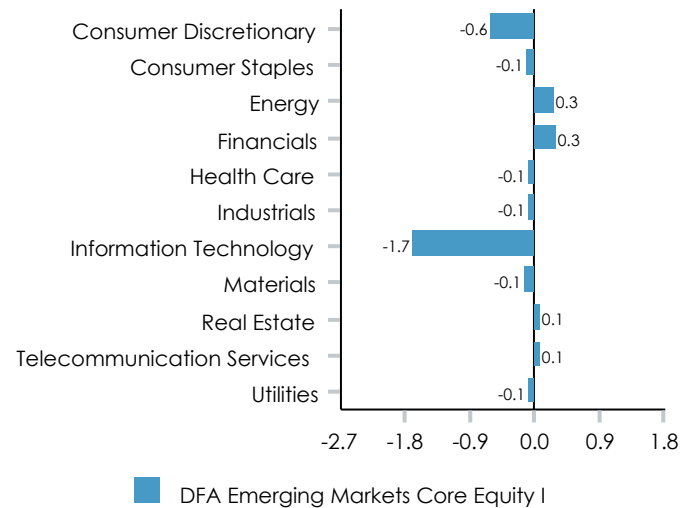
## Top 10 Holdings (As of 10/31/2016)

|                              | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|------------------------------|----------------------|----------------------|----------------------|
| Tencent Holdings LTD         | 1.9                  | 4.4                  | 25.0                 |
| Taiwan Semiconductor         | 1.4                  | 3.6                  | 13.9                 |
| Hon Hai Precision Industry   | 1.1                  | 1.3                  | 28.6                 |
| Taiwan Semiconductor         | 1.0                  | 3.6                  | 9.9                  |
| China Construction Bank Corp | 0.9                  | 1.4                  | 1.4                  |
| SK Hynix Inc                 | 0.7                  | 0.7                  | 30.4                 |
| Naspers Ltd                  | 0.6                  | 1.8                  | 12.6                 |
| Ind & Comm Bank of China     | 0.6                  | 1.1                  | 3.3                  |
| Itau Unibanco Holding SA     | 0.6                  | 0.8                  | -6.9                 |
| Semiconductor Manufacturing  | 0.6                  | 0.1                  | -6.3                 |
| <b>% of Portfolio</b>        | <b>9.4</b>           | <b>18.8</b>          |                      |

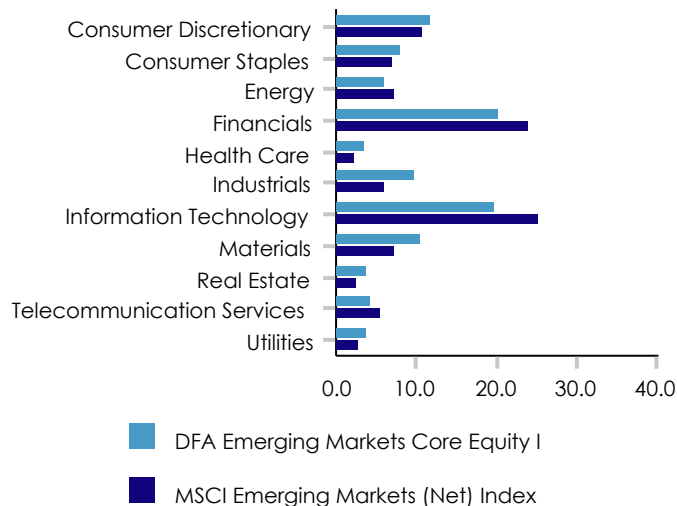
## Market Cap Distribution (As of 10/31/2016)



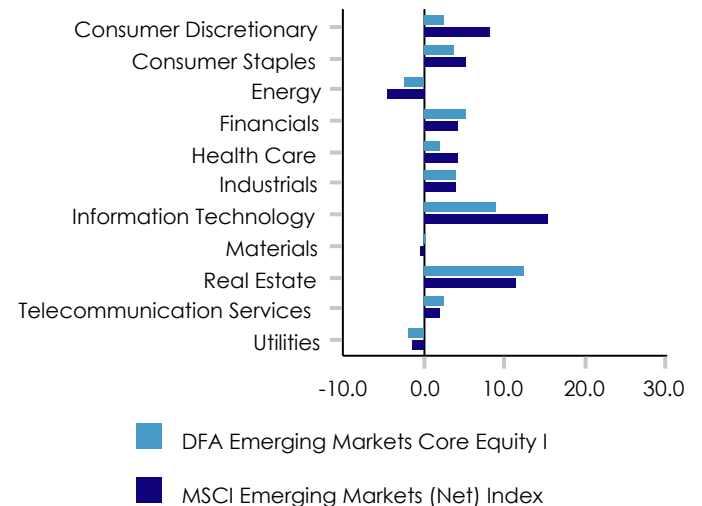
## Sector Attribution (1 Quarter as of 10/31/2016)



## Sector Allocation (1 Quarter as of 10/31/2016)

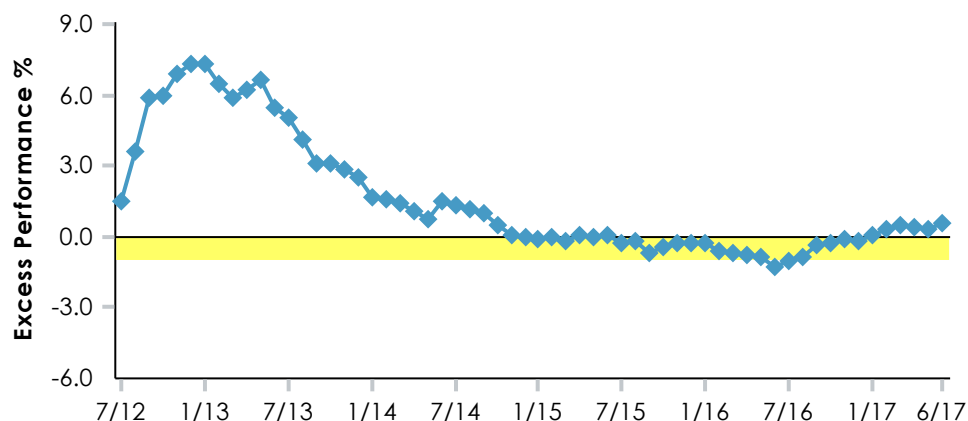


## Sector Performance (1 Quarter as of 10/31/2016)



# Metropolitan West Total Return Bond I vs. BBg BC U.S. Aggregate Index

## Short-term (Rolling 12 Months Excess Performance)

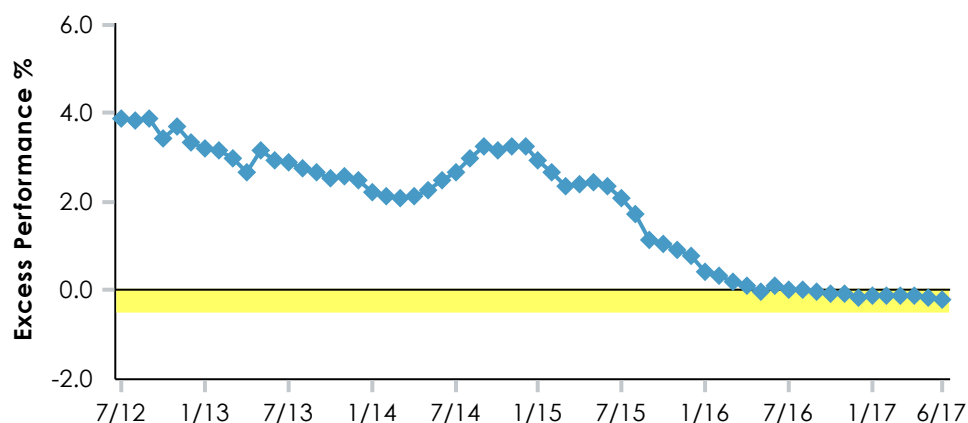


### Short-Term Performance

Positive

Probationary Performance -1.00%

## Medium-term (Rolling 36 Months Excess Performance)



### Medium-Term Performance

Acceptable

Probationary Performance -0.50%

## Annualized Performance Results (Net of management fees)

|   | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (10/2015) |
|---|----------|-----------|----------|----------|---------------------|
| Metropolitan West Total Return Bond I               | 1.3 (81) | 0.2 (90)  | 2.3 (61) | 3.5 (23) | 2.4 (86)            |
| BBg BC U.S. Aggregate Index                         | 1.4 (67) | -0.3 (96) | 2.5 (49) | 2.2 (83) | 2.5 (84)            |
| IM U.S. Broad Market Core+ Fixed Income (MF) Median | 1.6      | 1.9       | 2.4      | 2.9      | 3.6                 |

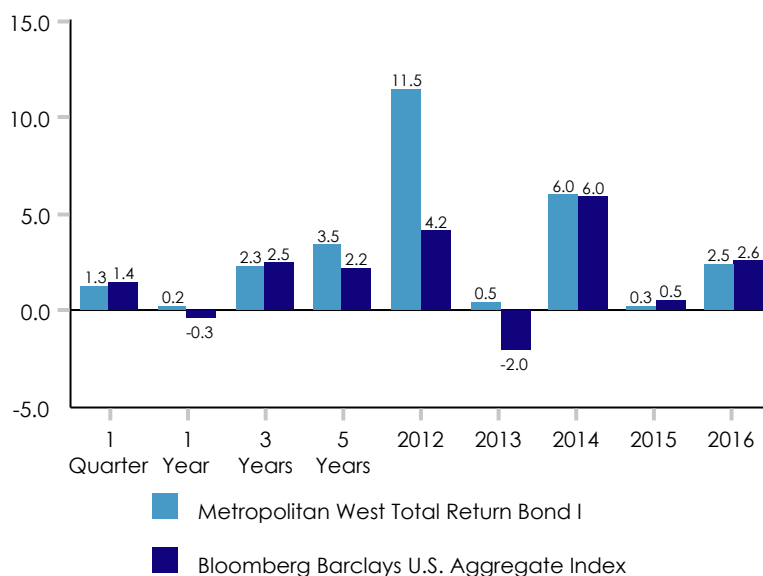
### Monitoring Status

Acceptable

## Mutual Fund Info

Product Name : Met West:Total Return:I (MWTIX)  
 Fund Family : Metropolitan West Asset Management LLC  
 Ticker : MWTIX  
 Peer Group : IM U.S. Broad Market Core+ Fixed Income (MF)  
 Benchmark : Bloomberg Barclays U.S. Aggregate  
 Fund Inception : 03/31/2000  
 Portfolio Manager : Team Managed  
 Total Assets : \$47,960 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.4%  
 Net Expense : 0.4%  
 Turnover : 313%

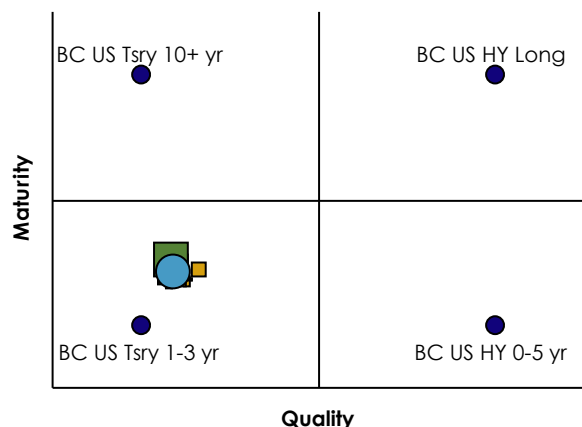
## Comparative Performance



## Fund Investment Policy

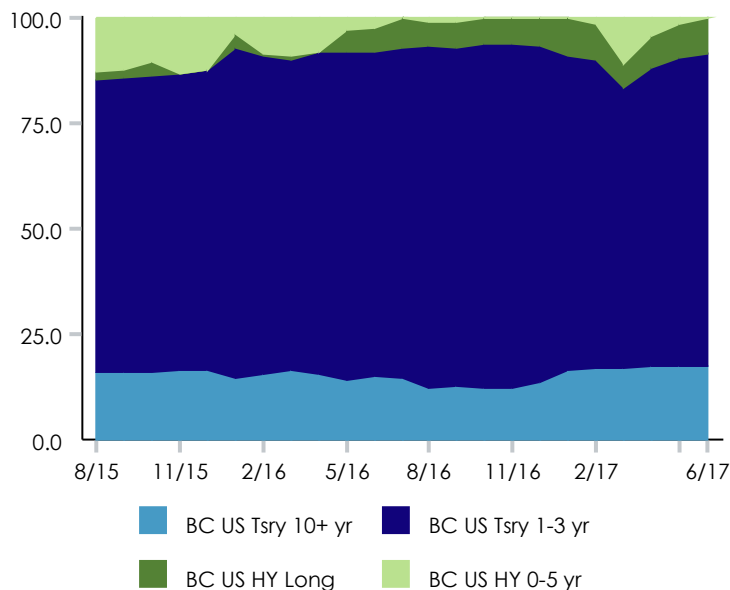
The Fund seeks to maximize long-term total return by investing at least 80% of its assets in a diversified portfolio of fixed-income securities of varying maturities, issued by domestic and foreign corporations and governments with portfolio duration of two to eight years.

## Style Map (3 Years)



- Style History
- Jun-2017
- Average Style Exposure

## Style History (3 Years)





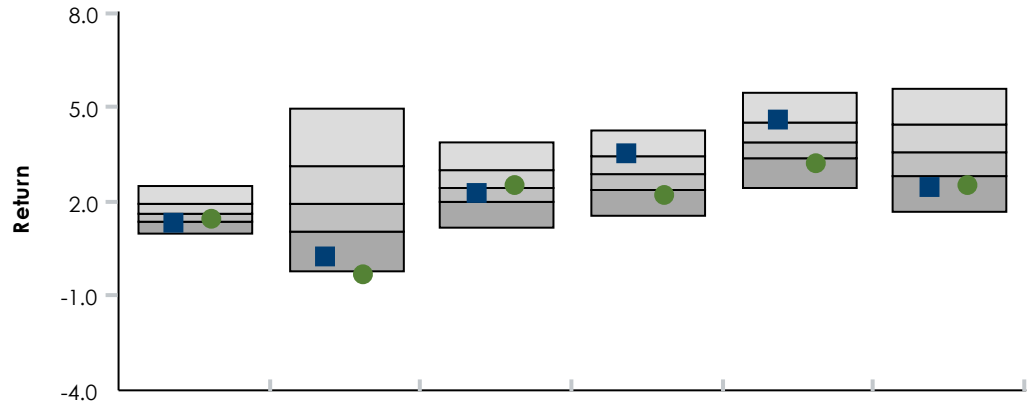
# Metropolitan West Total Return Bond I

June 30, 2017

## Historical Statistics (3 Years)

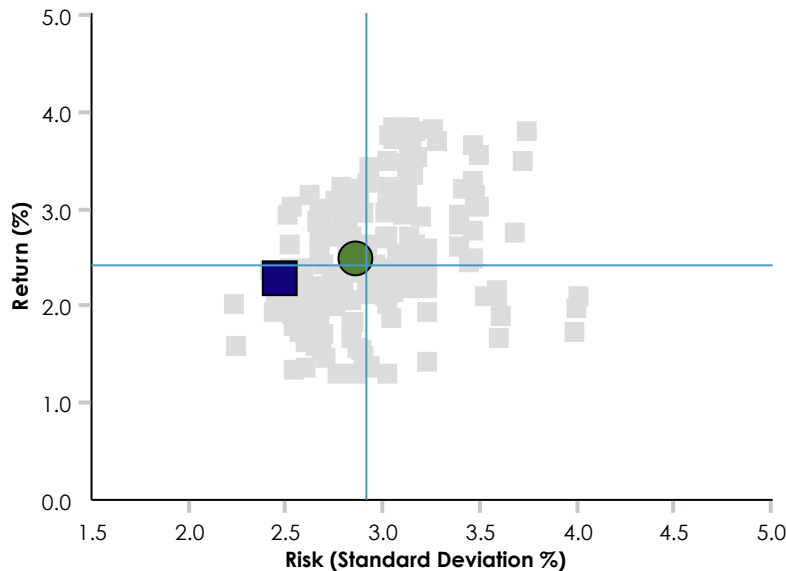
|   | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|---|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| Metropolitan West Total Return Bond I               | 2.3    | 2.5                | 0.8          | 0.1   | 0.9  | 1.0       | 0.5            | -0.4              | 86.5              | 81.3                |
| Bloomberg Barclays U.S. Aggregate Index             | 2.5    | 2.9                | 0.8          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. Broad Market Core+ Fixed Income (MF) Median | 2.4    | 2.9                | 0.8          | 0.3   | 0.9  | 0.8       | 1.3            | 0.0               | 98.0              | 93.7                |

## Peer Group Analysis



|   | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Oct-2015 |
|---|-----------|-----------|----------|----------|----------|--------------------------|
| ■ Metropolitan West Total Return Bond I   | 1.3 (81)  | 0.2 (90)  | 2.3 (61) | 3.5 (23) | 4.6 (22) | 2.4 (86)                 |
| ● Bloomberg Barclays U.S. Aggregate Index | 1.4 (67)  | -0.3 (96) | 2.5 (49) | 2.2 (83) | 3.2 (84) | 2.5 (84)                 |
| Median                                    | 1.6       | 1.9       | 2.4      | 2.9      | 3.9      | 3.6                      |

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 21     | 86.5 |
| Down Markets           | 15     | 81.3 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 21     | 23.8 |
| Down Markets           | 15     | 86.7 |
| Overall                | 36     | 50.0 |

|   | Return | Standard Deviation |
|---|--------|--------------------|
| ■ Metropolitan West Total Return Bond I   | 2.3    | 2.5                |
| ● Bloomberg Barclays U.S. Aggregate Index | 2.5    | 2.9                |
| — Median                                  | 2.4    | 2.9                |

# Metropolitan West Total Return Bond I

June 30, 2017

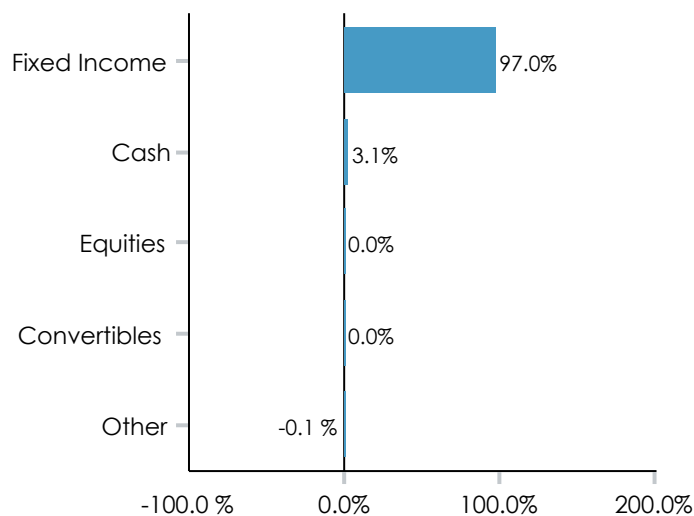
## Portfolio Characteristics (As of 3/31/2017)

|                     |            |
|---------------------|------------|
| Avg. Coupon         | 3.09 %     |
| Nominal Maturity    | 7.24 Years |
| Effective Maturity  | N/A        |
| Duration            | 5.61 Years |
| SEC 30 Day Yield    | 3.9        |
| Avg. Credit Quality | AA         |

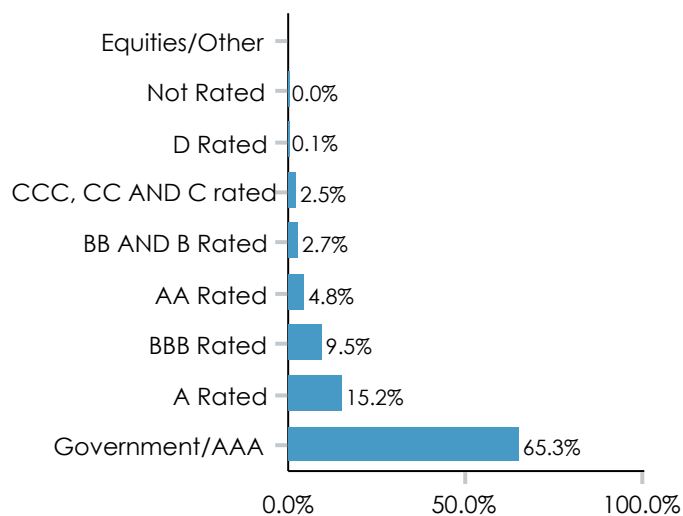
## Top 10 Holdings (As of 3/31/2017)

|                              |        |
|------------------------------|--------|
| GNMA and Other Mtg Backed    | 34.4 % |
| Corporate Notes/Bonds        | 30.4 % |
| Government Agency Securities | 25.6 % |
| Asset Backed Securities      | 6.5 %  |

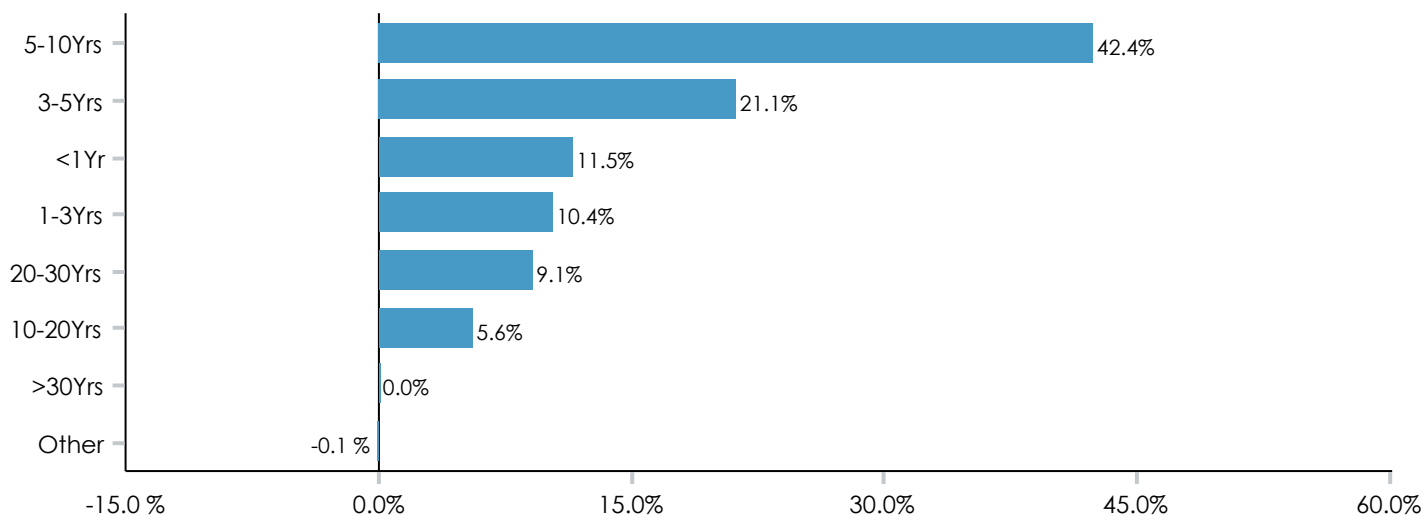
## Asset Allocation (As of 3/31/2017)



## Quality Allocation (As of 3/31/2017)

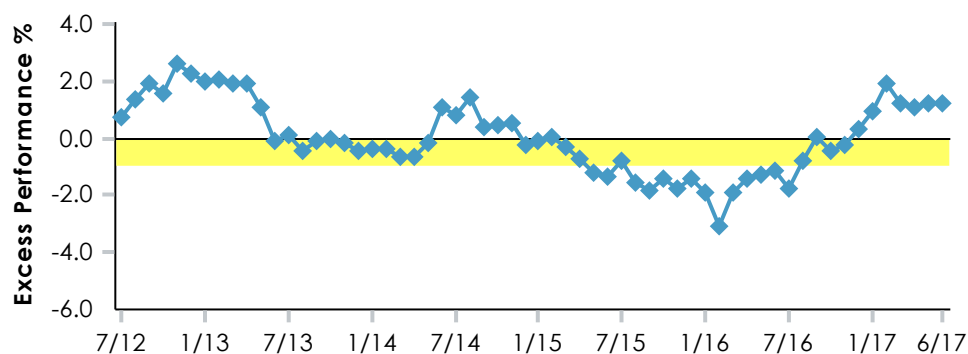


## Maturity Distribution (As of 3/31/2017)



# PIMCO Real Return vs. Bloomberg Barclays U.S. TIPS Index

## Short-term (Rolling 12 Months Excess Performance)

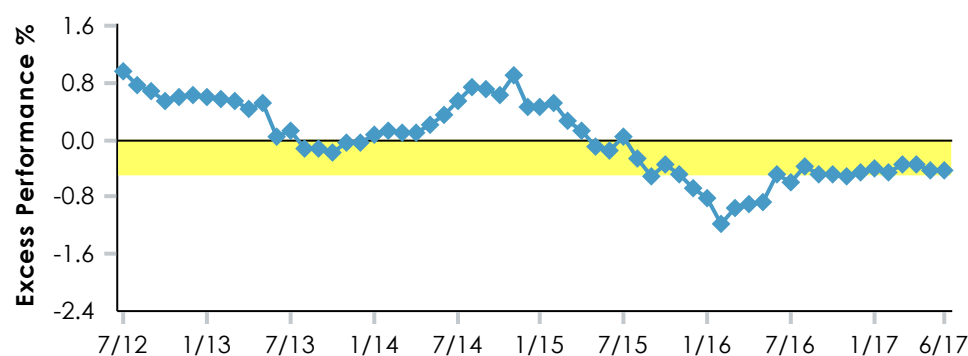


### Short-Term Performance

Positive

Probationary Performance -1.00%

## Medium-term (Rolling 36 Months Excess Performance)

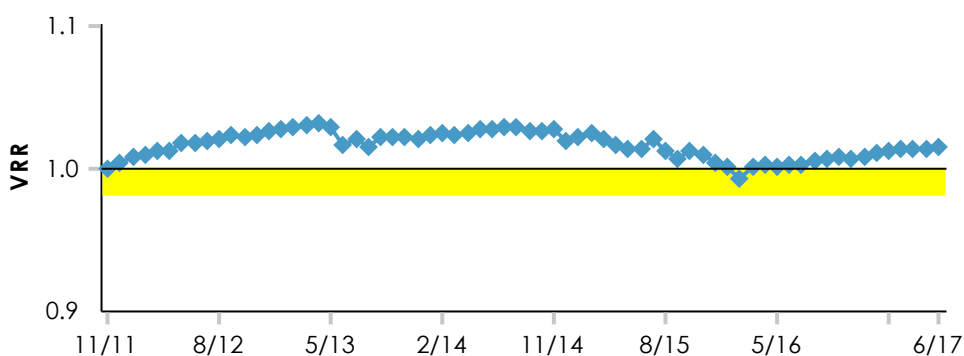


### Medium-Term Performance

Acceptable

Probationary Performance -0.50%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Positive

Probationary Performance < 0.98

## Annualized Performance Results (Net of management fees)

|                                    | Qtr       | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|------------------------------------|-----------|-----------|----------|----------|---------------------|
| PIMCO Real Return                  | -0.3 (17) | 0.6 (30)  | 0.2 (37) | 0.2 (27) | 1.2 (12)            |
| Bloomberg Barclays U.S. TIPS Index | -0.4 (29) | -0.6 (63) | 0.6 (17) | 0.3 (19) | 1.0 (21)            |
| IM U.S. TIPS (MF) Median           | -0.5      | -0.2      | 0.0      | -0.1     | 0.5                 |

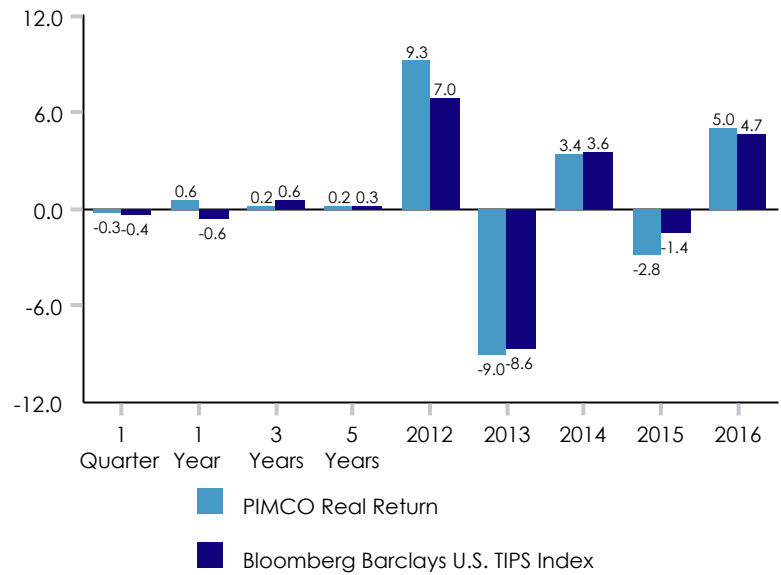
Monitoring Status

Acceptable

Mutual Fund Info

Product Name : PIMCO:Real Return;Inst (PRRIX)  
 Fund Family : PIMCO  
 Ticker : PRRIX  
 Peer Group : IM U.S. TIPS (MF)  
 Benchmark : Bloomberg Barclays U.S. TIPS  
 Fund Inception : 01/29/1997  
 Portfolio Manager : Worah/Banet  
 Total Assets : \$6,371 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 168%

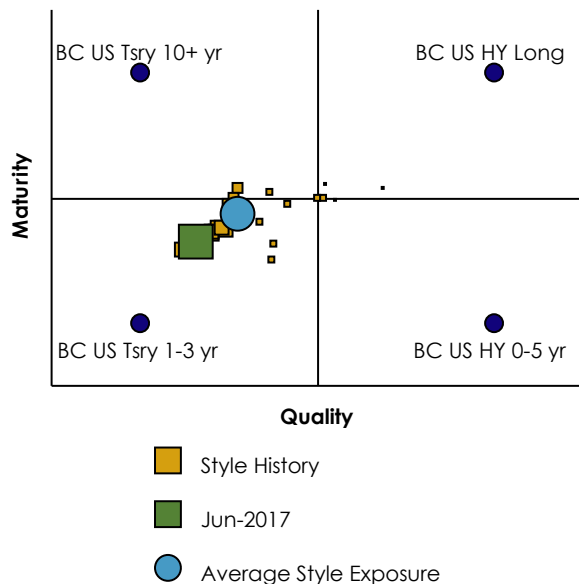
Comparative Performance



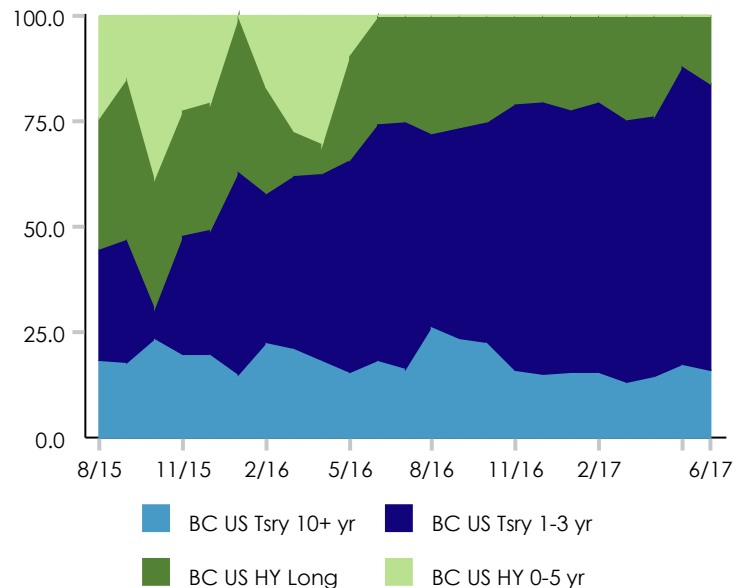
Fund Investment Policy

The Fund seeks to maximize real return consistent with preservation of real capital and prudent investment management. The Fund is an actively managed bond portfolio that invests primarily in inflation indexed securities.

Style Map (3 Years)



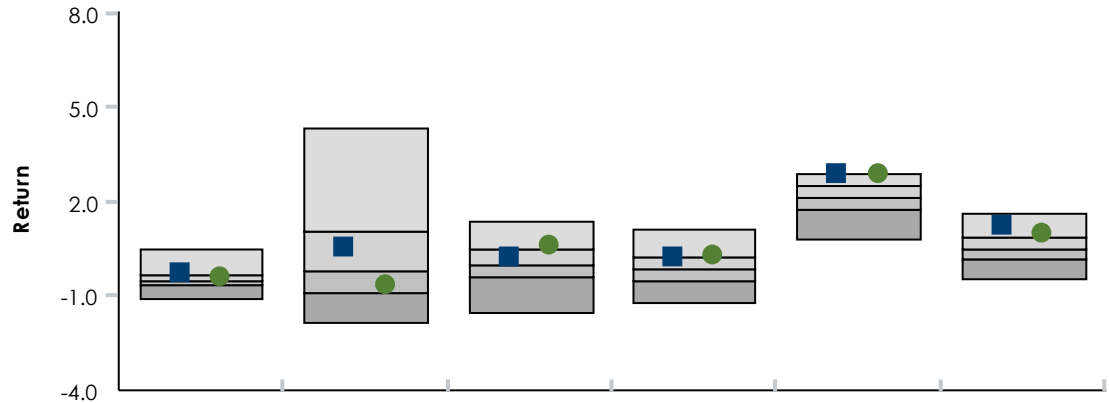
Style History (3 Years)



Historical Statistics (3 Years)

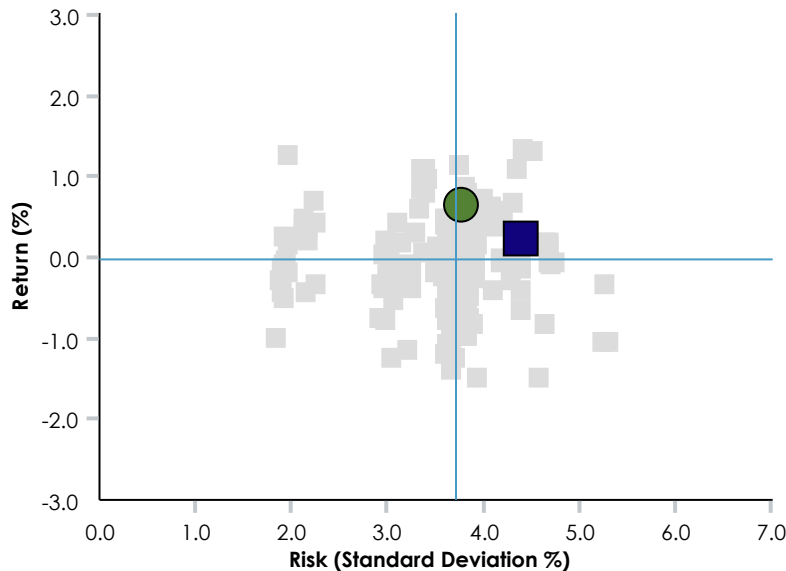
|                                    | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|------------------------------------|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| PIMCO Real Return                  | 0.2    | 4.4                | 0.0          | -0.5  | 1.1  | 0.9       | 1.3            | -0.3              | 113.2             | 123.5               |
| Bloomberg Barclays U.S. TIPS Index | 0.6    | 3.8                | 0.1          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. TIPS (MF) Median           | 0.0    | 3.7                | 0.0          | -0.5  | 1.0  | 0.9       | 1.2            | -0.5              | 86.1              | 100.8               |

Peer Group Analysis



|                                      | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years | Since Inception Dec-2011 |
|--------------------------------------|-----------|-----------|----------|----------|---------|--------------------------|
| ■ PIMCO Real Return                  | -0.3 (17) | 0.6 (30)  | 0.2 (37) | 0.2 (27) | 2.9 (5) | 1.2 (12)                 |
| ● Bloomberg Barclays U.S. TIPS Index | -0.4 (29) | -0.6 (63) | 0.6 (17) | 0.3 (19) | 2.9 (5) | 1.0 (21)                 |
| Median                               | -0.5      | -0.2      | 0.0      | -0.1     | 2.1     | 0.5                      |

Peer Group Scattergram (3 Years)



|                                      | Return | Standard Deviation |
|--------------------------------------|--------|--------------------|
| ■ PIMCO Real Return                  | 0.2    | 4.4                |
| ● Bloomberg Barclays U.S. TIPS Index | 0.6    | 3.8                |
| — Median                             | 0.0    | 3.7                |

Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 18     | 113.2 |
| Down Markets           | 18     | 123.5 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 18     | 83.3  |
| Down Markets           | 18     | 38.9  |
| Overall                | 36     | 61.1  |

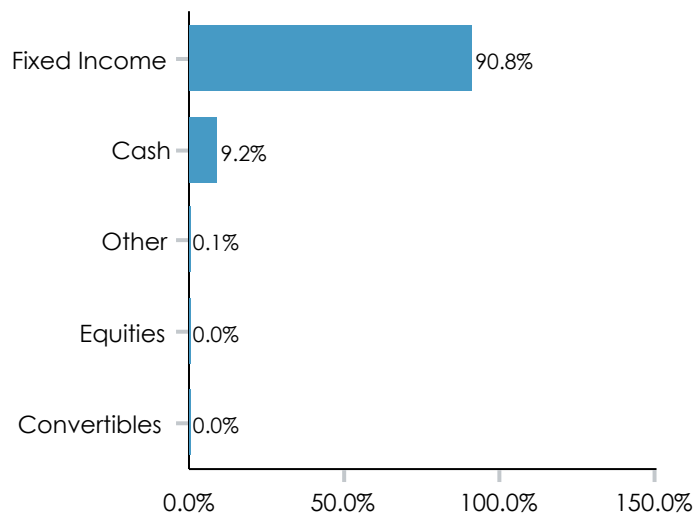
Portfolio Characteristics (As of 3/31/2017)

|                     |            |
|---------------------|------------|
| Avg. Coupon         | 1.50 %     |
| Nominal Maturity    | 7.83 Years |
| Effective Maturity  | N/A        |
| Duration            | 7.26 Years |
| SEC 30 Day Yield    | 2.2        |
| Avg. Credit Quality | AAA        |

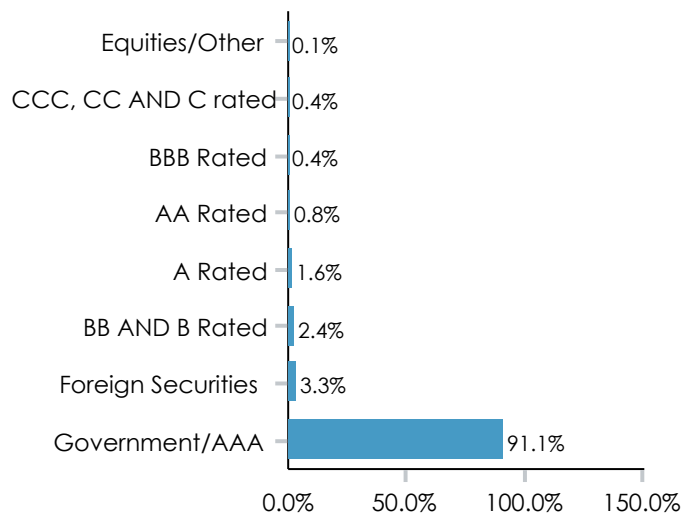
Top 10 Holdings (As of 3/31/2017)

|                                 |        |
|---------------------------------|--------|
| Government Agency Securities    | 87.3 % |
| GNMA and Other Mtg Backed       | 5.3 %  |
| Fgn. Currency Denominated Bonds | 3.3 %  |
| Corporate Notes/Bonds           | 3.0 %  |

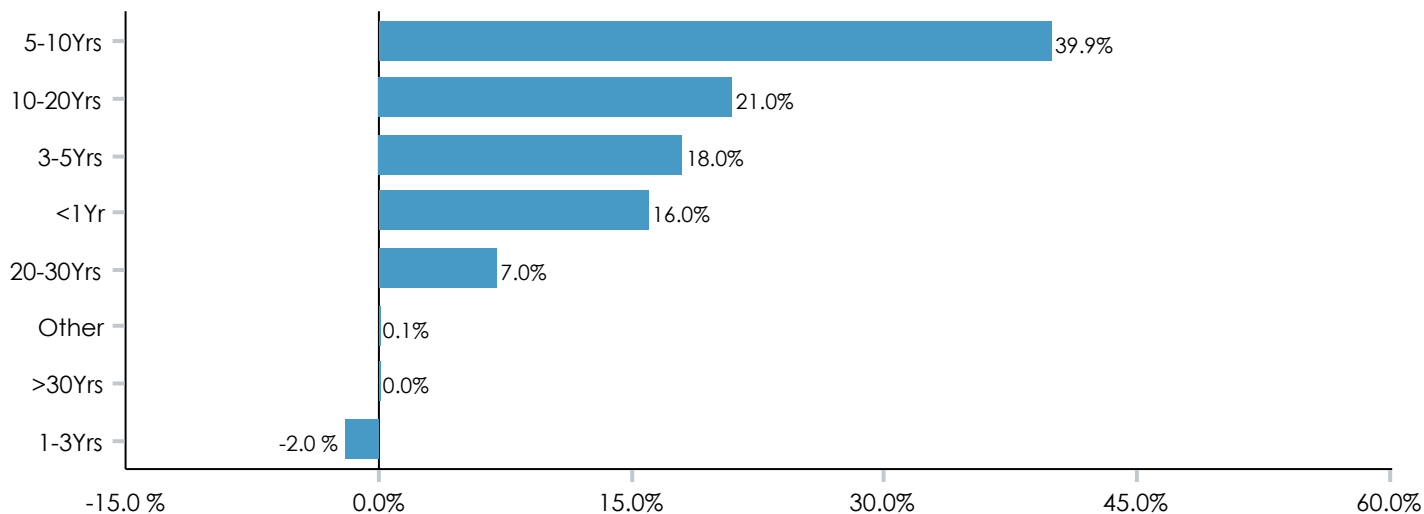
Asset Allocation (As of 3/31/2017)



Quality Allocation (As of 3/31/2017)

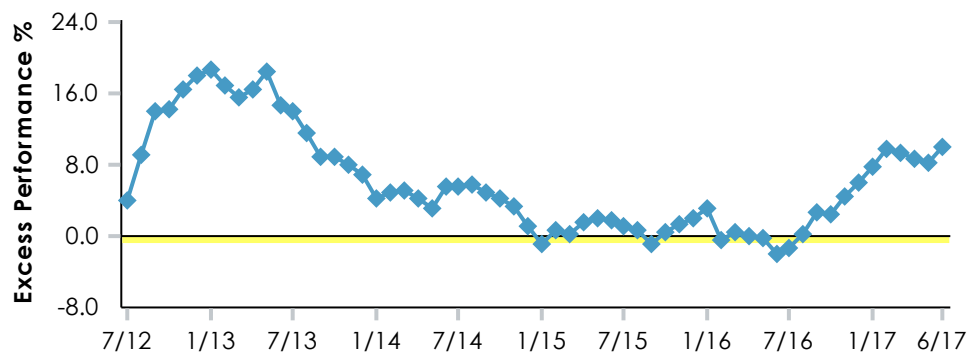


Maturity Distribution (As of 3/31/2017)



# PIMCO Income I vs. Bloomberg Barclays U.S. Aggregate Index

## Short-term (Rolling 12 Months Excess Performance)

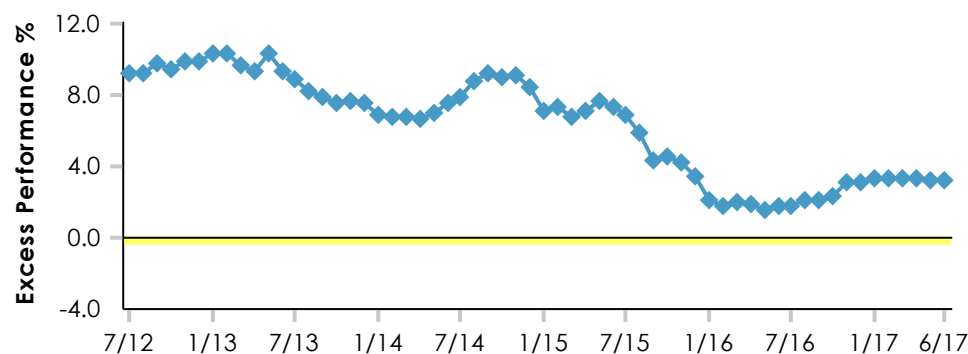


### Short-Term Performance

Positive

Probationary Performance -1.00%

## Medium-term (Rolling 36 Months Excess Performance)

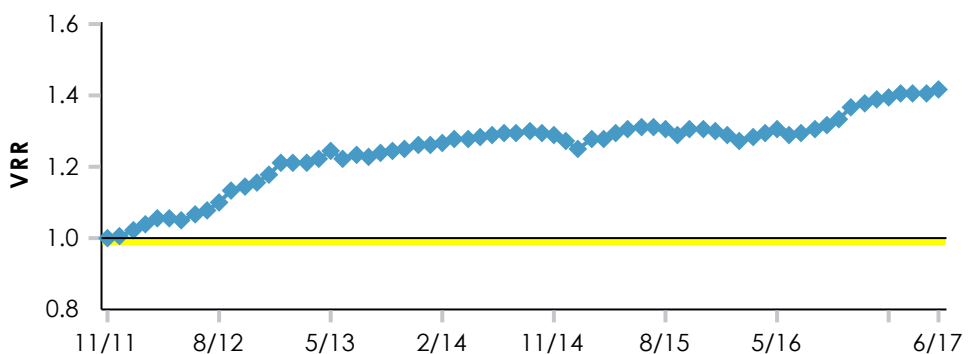


### Medium-Term Performance

Positive

Probationary Performance -0.50%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Positive

Probationary Performance < 0.98

## Annualized Performance Results (Net of management fees)

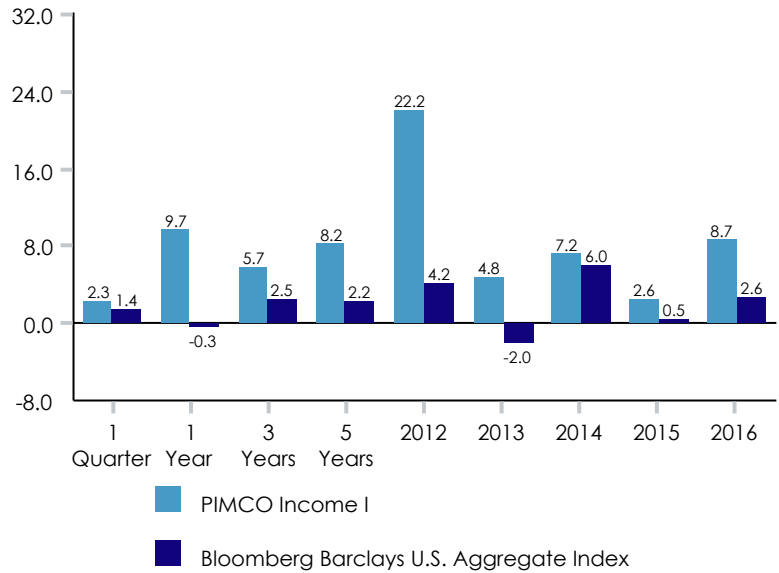
|  | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|--|----------|-----------|----------|----------|---------------------|
| PIMCO Income I                           | 2.3 (13) | 9.7 (10)  | 5.7 (2)  | 8.2 (1)  | 9.2 (1)             |
| Bloomberg Barclays U.S. Aggregate Index  | 1.4 (63) | -0.3 (99) | 2.5 (54) | 2.2 (91) | 2.6 (91)            |
| IM Multi-Sector General Bond (MF) Median | 1.6      | 5.4       | 2.6      | 4.0      | 4.7                 |

**Monitoring Status**  
**Positive**

Mutual Fund Info

Product Name : PIMCO:Income;Inst (PIMIX)  
 Fund Family : PIMCO  
 Ticker : PIMIX  
 Peer Group : IM Multi-Sector General Bond (MF)  
 Benchmark : Bloomberg Barclays U.S. Aggregate  
 Fund Inception : 03/30/2007  
 Portfolio Manager : Ivascyn/Murata  
 Total Assets : \$38,361 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.5%  
 Net Expense : 0.5%  
 Turnover : 190%

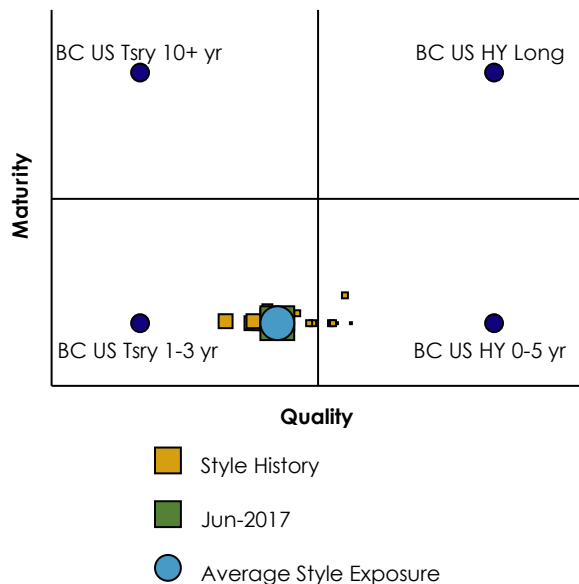
Comparative Performance



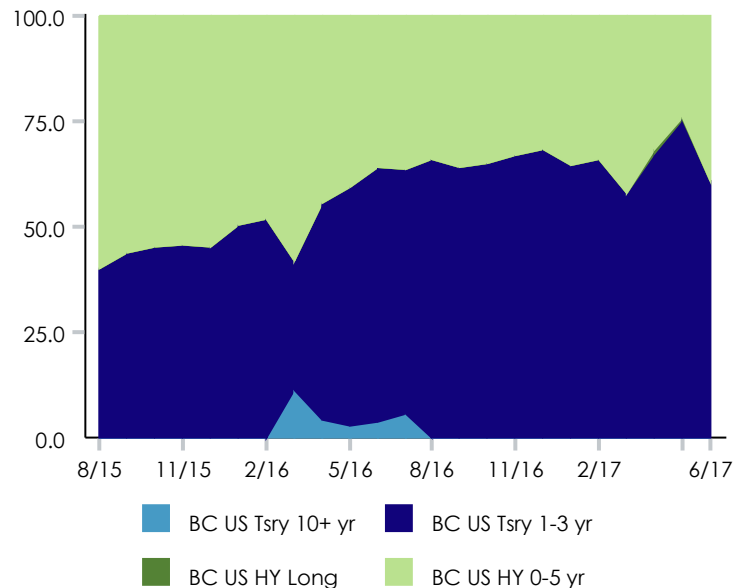
Fund Investment Policy

The Fund seeks to maximize current income. The Fund typically invests at least 65% of its total assets in a multi-sector portfolio of fixed income instruments of varying maturities. The Fund will generally allocate its assets among several investment sectors.

Style Map (3 Years)



Style History (3 Years)

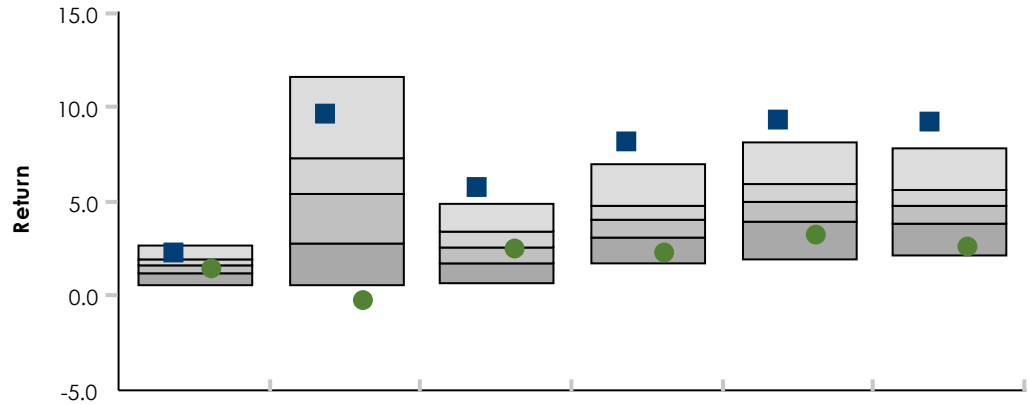




Historical Statistics (3 Years)

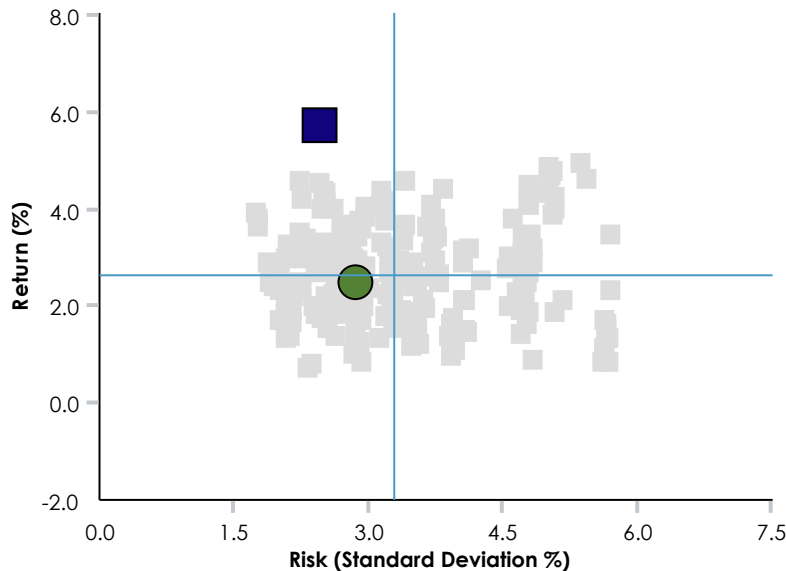
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| PIMCO Income I                           | 5.7    | 2.5                | 2.2          | 5.2   | 0.2  | 0.1       | 3.3            | 0.9               | 86.9              | -46.2               |
| Bloomberg Barclays U.S. Aggregate Index  | 2.5    | 2.9                | 0.8          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM Multi-Sector General Bond (MF) Median | 2.6    | 3.3                | 0.7          | 1.3   | 0.5  | 0.2       | 3.3            | 0.0               | 82.2              | 62.2                |

Peer Group Analysis



|   | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|---|-----------|-----------|----------|----------|----------|--------------------------|
| ■ PIMCO Income I                          | 2.3 (13)  | 9.7 (10)  | 5.7 (2)  | 8.2 (1)  | 9.4 (1)  | 9.2 (1)                  |
| ● Bloomberg Barclays U.S. Aggregate Index | 1.4 (63)  | -0.3 (99) | 2.5 (54) | 2.2 (91) | 3.2 (88) | 2.6 (91)                 |
| Median                                    | 1.6       | 5.4       | 2.6      | 4.0      | 5.0      | 4.7                      |

Peer Group Scattergram (3 Years)



Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 21     | 86.9  |
| Down Markets           | 15     | -46.2 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 21     | 47.6  |
| Down Markets           | 15     | 86.7  |
| Overall                | 36     | 63.9  |

|   | Return | Standard Deviation |
|---|--------|--------------------|
| ■ PIMCO Income I                          | 5.7    | 2.5                |
| ● Bloomberg Barclays U.S. Aggregate Index | 2.5    | 2.9                |
| — Median                                  | 2.6    | 3.3                |

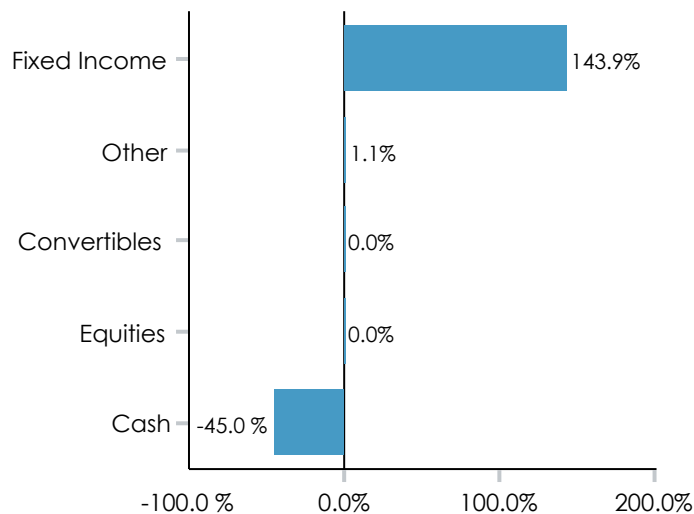
**Portfolio Characteristics (As of 3/31/2017)**

|                     |            |
|---------------------|------------|
| Avg. Coupon         | 2.78 %     |
| Nominal Maturity    | 6.38 Years |
| Effective Maturity  | N/A        |
| Duration            | 2.84 Years |
| SEC 30 Day Yield    | 6.7        |
| Avg. Credit Quality | BB         |

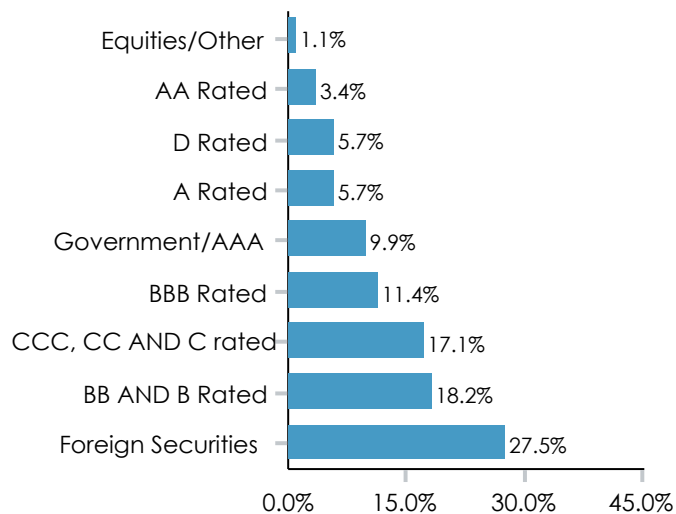
**Top 10 Holdings (As of 3/31/2017)**

|                                 |        |
|---------------------------------|--------|
| GNMA and Other Mtg Backed       | 50.2 % |
| Treasury Notes/Bonds            | 28.8 % |
| Fgn. Currency Denominated Bonds | 27.5 % |
| Government Agency Securities    | 19.4 % |
| Corporate Notes/Bonds           | 18.1 % |
| Convertible Securities          | 0.0    |

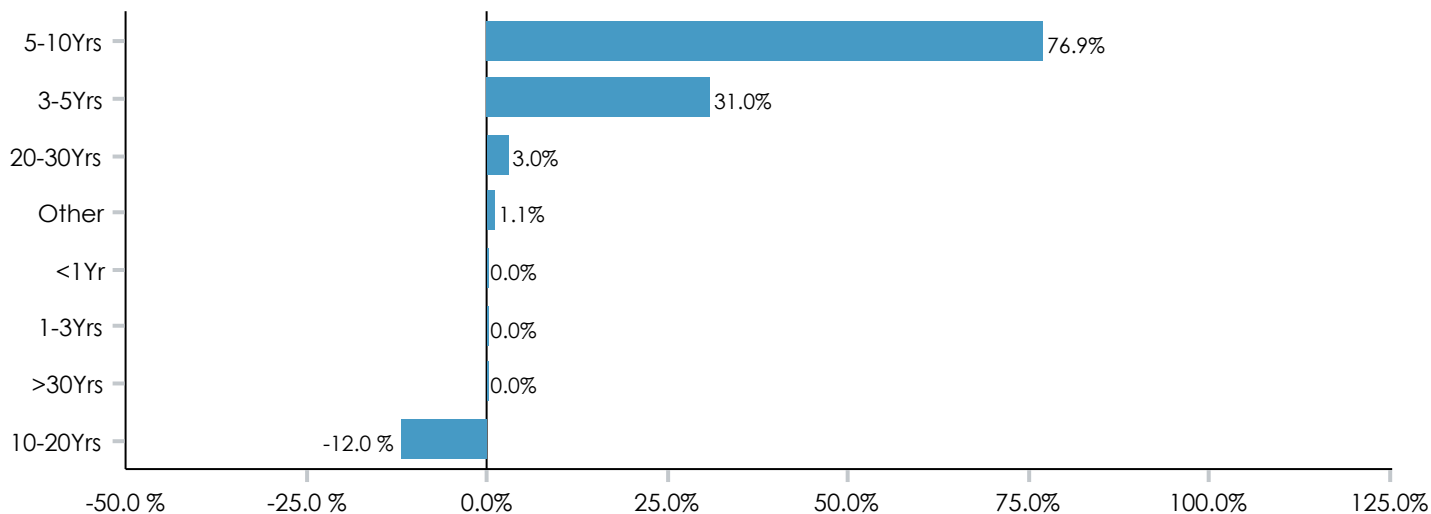
**Asset Allocation (As of 3/31/2017)**



**Quality Allocation (As of 3/31/2017)**

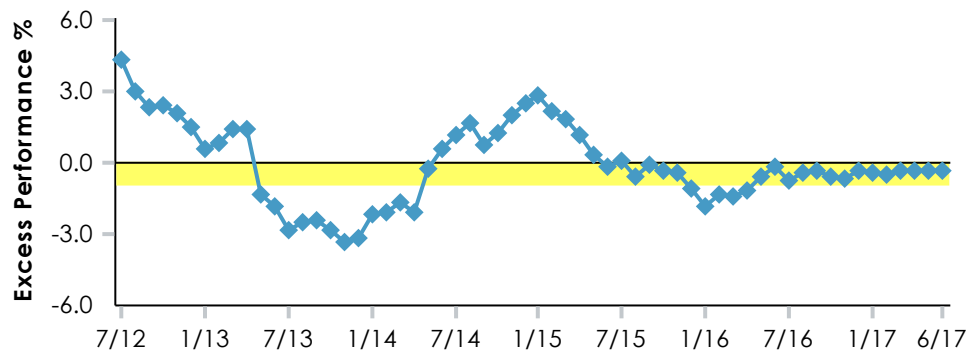


**Maturity Distribution (As of 3/31/2017)**



# TIAA-CREF Inflation Link Bond I vs. Blmbg. Barc. U.S. TIPS 1-10 Year

## Short-term (Rolling 12 Months Excess Performance)

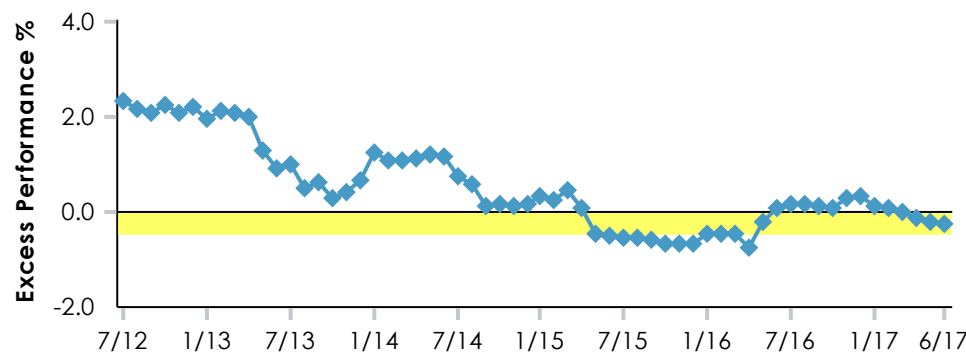


### Short-Term Performance

Acceptable

Probationary Performance -1.00%

## Medium-term (Rolling 36 Months Excess Performance)

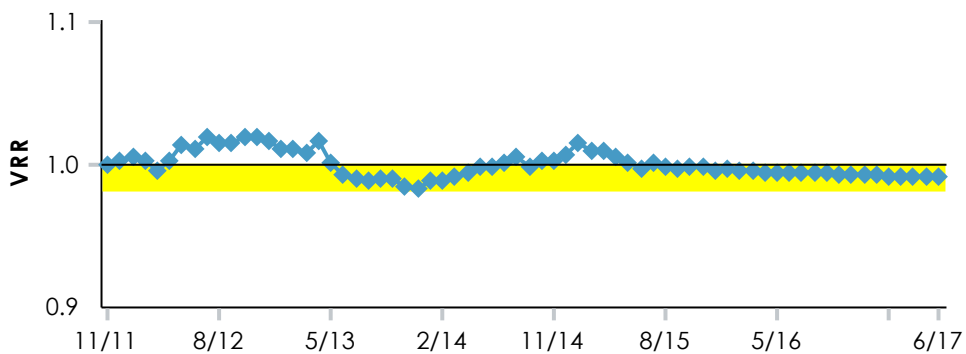


### Medium-Term Performance

Acceptable

Probationary Performance -0.50%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Acceptable

Probationary Performance < 0.98

## Annualized Performance Results (Net of management fees)

|                                  | Qtr       | 1 Year    | 3 Years  | 5 Years   | Inception (12/2011) |
|----------------------------------|-----------|-----------|----------|-----------|---------------------|
| TIAA-CREF Inflation Link Bond I  | -0.4 (37) | -0.6 (62) | 0.1 (43) | -0.1 (51) | 0.6 (46)            |
| Blmbg. Barc. U.S. TIPS 1-10 Year | -0.4 (29) | -0.3 (51) | 0.3 (32) | 0.3 (19)  | 0.7 (36)            |
| IM U.S. TIPS (MF) Median         | -0.5      | -0.2      | 0.0      | -0.1      | 0.5                 |

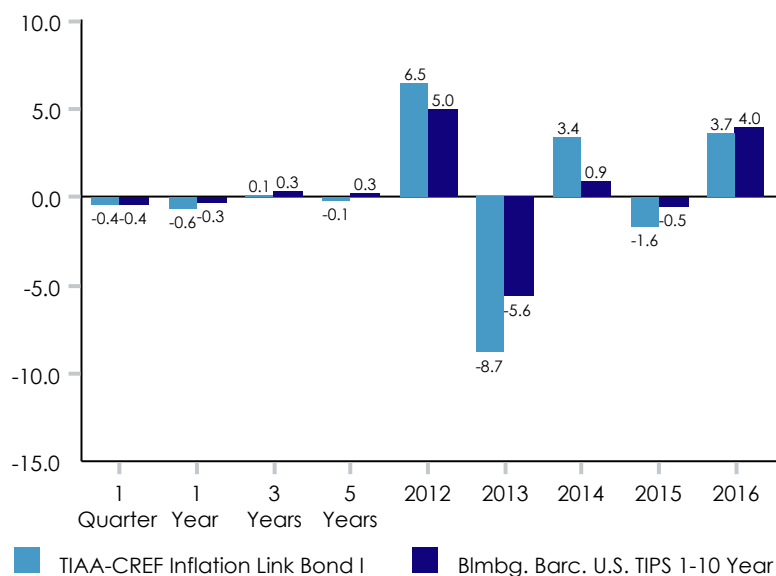
Monitoring Status

Acceptable

Mutual Fund Info

Product Name : TIAA-CREF:Infl Bond;Inst (TIILX)  
 Fund Family : TIAA-CREF  
 Ticker : TIILX  
 Peer Group : IM U.S. TIPS (MF)  
 Benchmark : Bloomberg Barclays U.S. TIPS  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Cerra/Travaglino  
 Total Assets : \$2,206 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.3%  
 Net Expense : 0.3%  
 Turnover : 28%

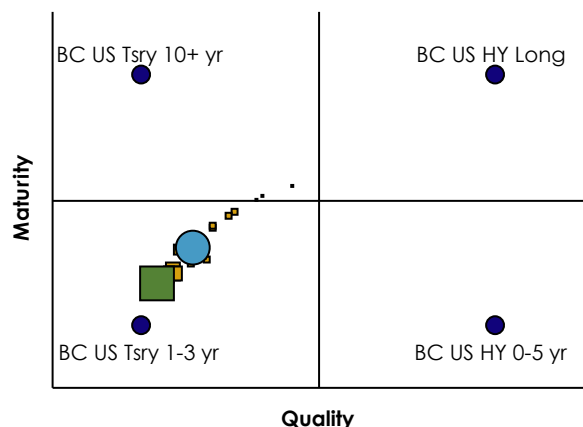
Comparative Performance



Fund Investment Policy

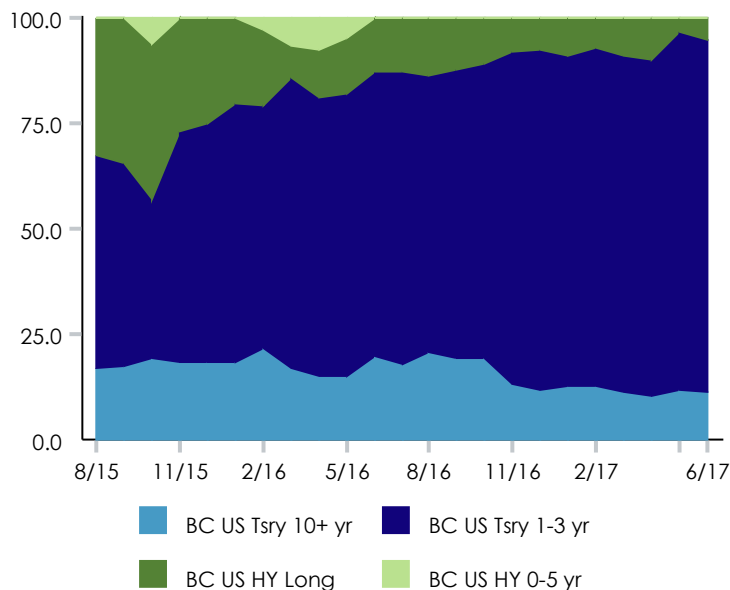
The Fund seeks a long-term rate of return that outpaces inflation primarily through investment in inflation-indexed bonds. The Fund invests primarily in U.S. Treasury Inflation-Indexed Securities ("TIIS"). The Fund can also invest in other inflation-indexed bonds issued or guaranteed by the U.S. Government.

Style Map (3 Years)



- Style History
- Jun-2017
- Average Style Exposure

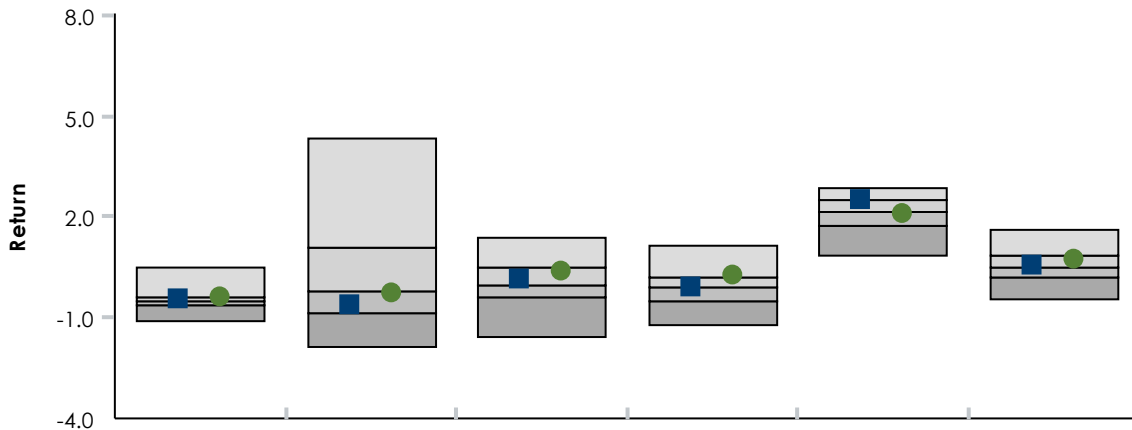
Style History (3 Years)



Historical Statistics (3 Years)

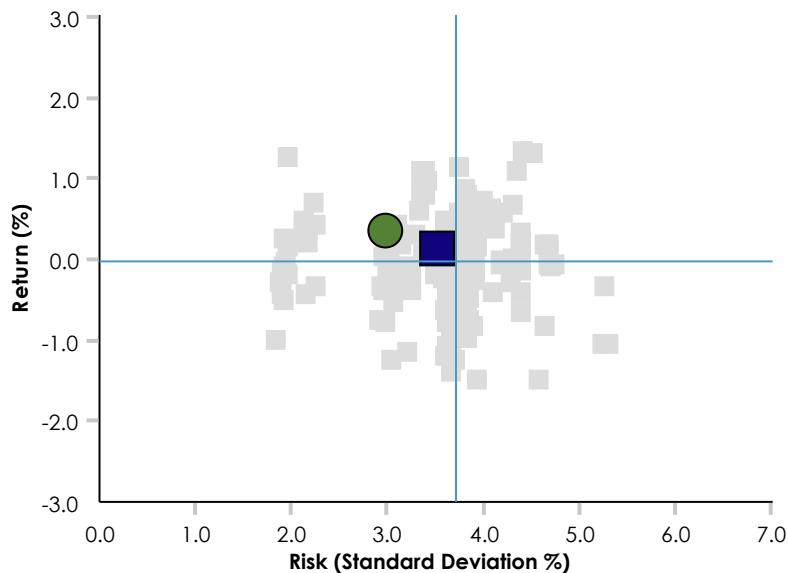
|                                  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|----------------------------------|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF Inflation Link Bond I  | 0.1    | 3.5                | 0.0          | -0.3  | 1.1  | 0.9       | 1.0            | -0.2              | 109.8             | 116.9               |
| Blmbg. Barc. U.S. TIPS 1-10 Year | 0.3    | 3.0                | 0.1          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. TIPS (MF) Median         | 0.0    | 3.7                | 0.0          | -0.4  | 1.2  | 0.9       | 1.3            | -0.2              | 116.6             | 127.5               |

Peer Group Analysis



|                                    | 1 Quarter | 1 Year    | 3 Years  | 5 Years   | 7 Years  | Since Inception Dec-2011 |
|------------------------------------|-----------|-----------|----------|-----------|----------|--------------------------|
| ■ TIAA-CREF Inflation Link Bond I  | -0.4 (37) | -0.6 (62) | 0.1 (43) | -0.1 (51) | 2.5 (27) | 0.6 (46)                 |
| ● Blmbg. Barc. U.S. TIPS 1-10 Year | -0.4 (29) | -0.3 (51) | 0.3 (32) | 0.3 (19)  | 2.1 (53) | 0.7 (36)                 |
| Median                             | -0.5      | -0.2      | 0.0      | -0.1      | 2.1      | 0.5                      |

Peer Group Scattergram (3 Years)



|                                    | Return | Standard Deviation |
|------------------------------------|--------|--------------------|
| ■ TIAA-CREF Inflation Link Bond I  | 0.1    | 3.5                |
| ● Blmbg. Barc. U.S. TIPS 1-10 Year | 0.3    | 3.0                |
| — Median                           | 0.0    | 3.7                |

Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 18     | 109.8 |
| Down Markets           | 18     | 116.9 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 18     | 55.6  |
| Down Markets           | 18     | 33.3  |
| Overall                | 36     | 44.4  |

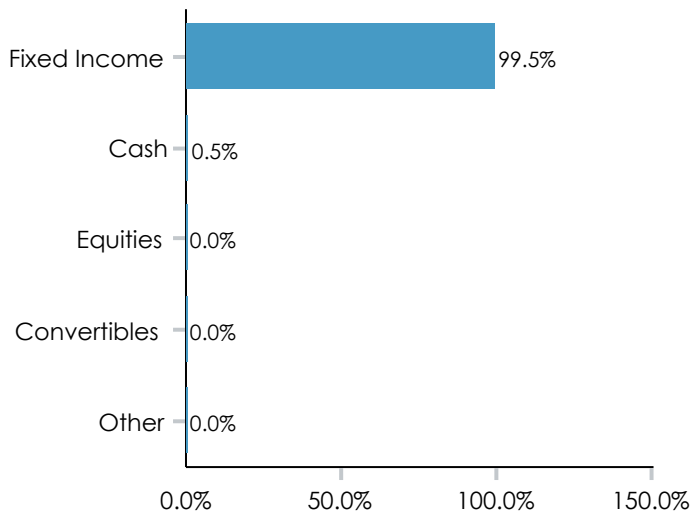
### Portfolio Characteristics (As of 3/31/2017)

|                     |            |
|---------------------|------------|
| Avg. Coupon         | 0.79 %     |
| Nominal Maturity    | 5.45 Years |
| Effective Maturity  | N/A        |
| Duration            | 5.22 Years |
| SEC 30 Day Yield    | 0.6        |
| Avg. Credit Quality | AAA        |

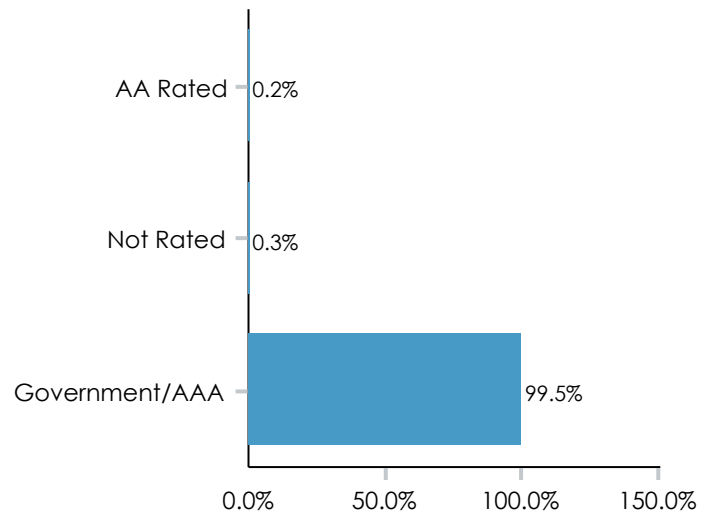
### Top 10 Holdings (As of 3/31/2017)

|                              |        |
|------------------------------|--------|
| Treasury Notes/Bonds         | 97.4 % |
| Government Agency Securities | 1.6 %  |
| GNMA and Other Mtg Backed    | 0.3 %  |
| US\$ Denominated Fgn. Gvt.   | 0.2 %  |

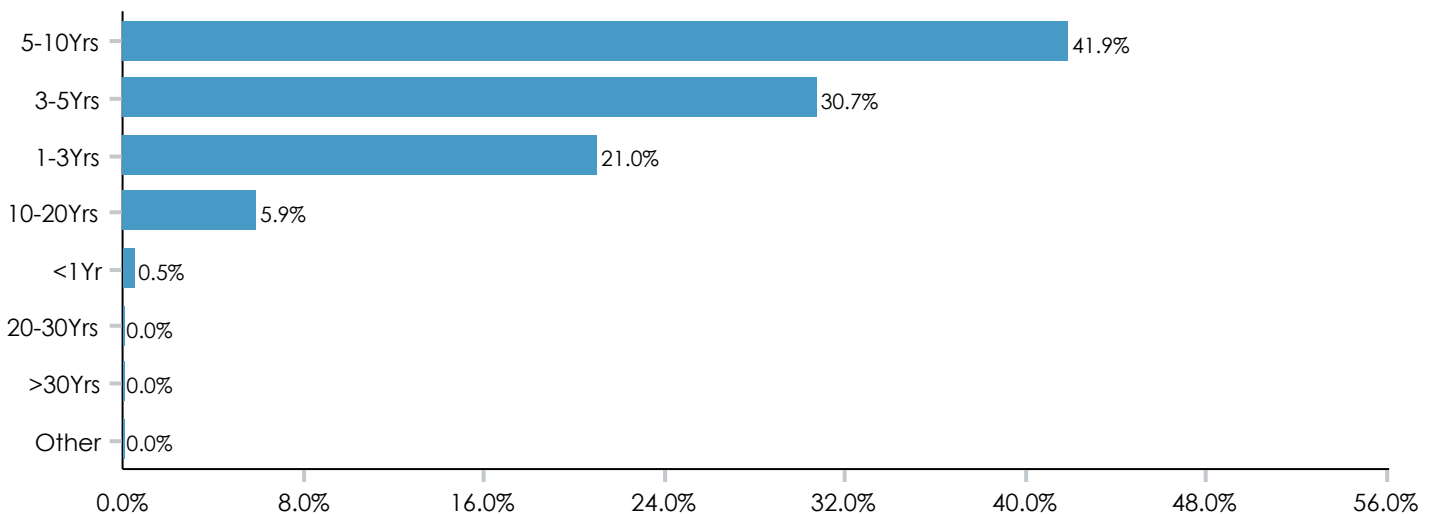
### Asset Allocation (As of 3/31/2017)



### Quality Allocation (As of 3/31/2017)

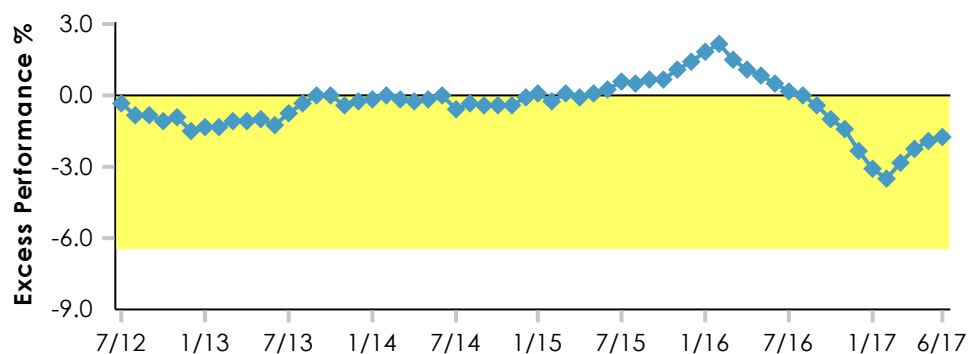


### Maturity Distribution (As of 3/31/2017)



# T. Rowe Price Floating Rate I vs. S&P/LSTA Performing Loans Index

## Short-term (Rolling 12 Months Excess Performance)

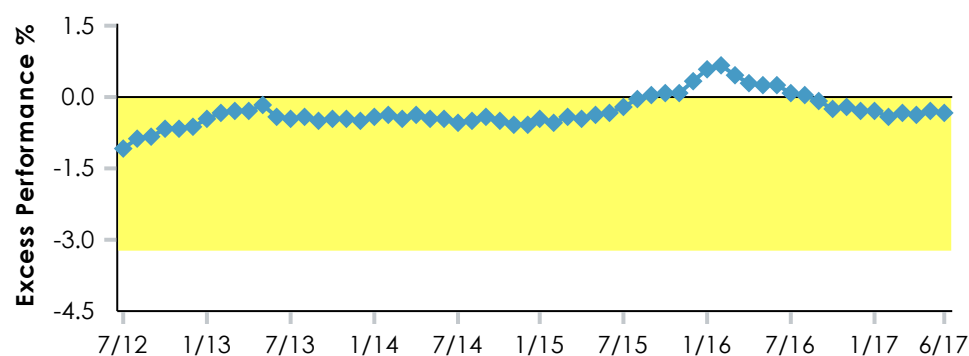


### Short-Term Performance

Acceptable

Probationary Performance -6.50%

## Medium-term (Rolling 36 Months Excess Performance)

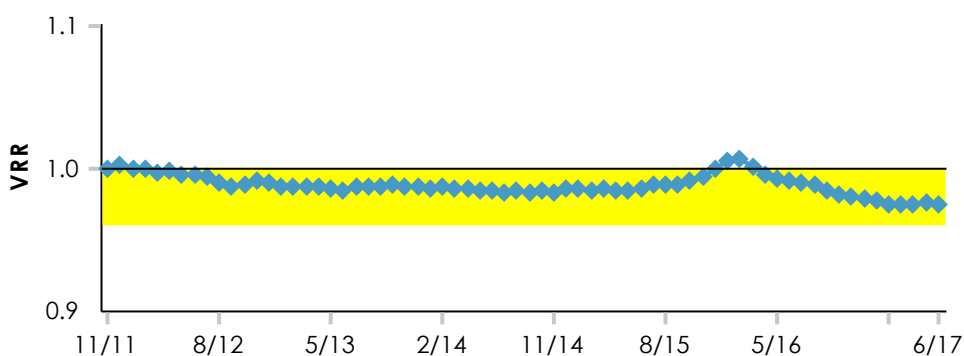


### Medium-Term Performance

Acceptable

Probationary Performance -3.25%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Acceptable

Probationary Performance < 0.96

## Annualized Performance Results (Net of management fees)

|                                 | Qtr      | 1 Year   | 3 Years  | 5 Years  | Inception (12/2011) |
|---------------------------------|----------|----------|----------|----------|---------------------|
| T. Rowe Price Floating Rate I   | 0.8 (27) | 5.9 (60) | 3.5 (10) | 4.4 (23) | 4.8 (30)            |
| S&P/LSTA Performing Loans Index | 0.8 (23) | 7.7 (27) | 3.9 (3)  | 4.9 (8)  | 5.3 (11)            |
| IM U.S. Bank Loans (MF) Median  | 0.6      | 6.4      | 2.7      | 3.9      | 4.3                 |

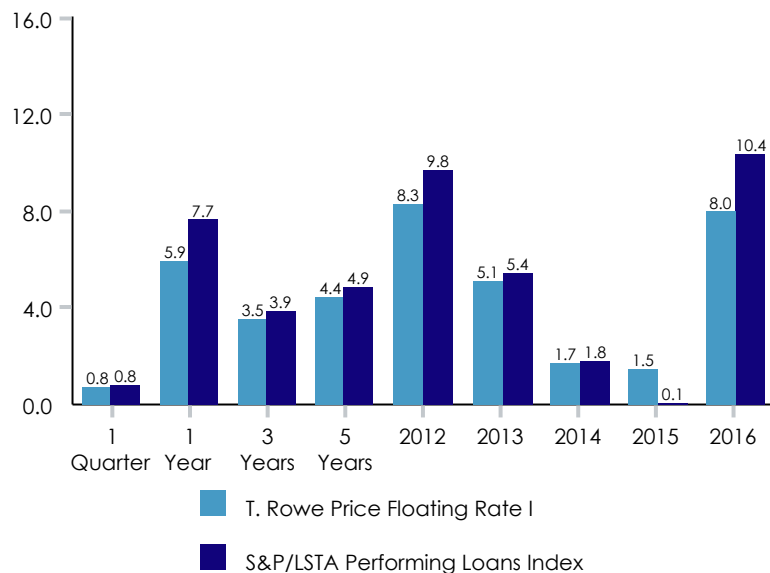
Monitoring Status

Acceptable

## Mutual Fund Info

Product Name : T Rowe Price Inst:FR (RPIFX)  
 Fund Family : T. Rowe Price Associates Inc  
 Ticker : RPIFX  
 Peer Group : IM U.S. Bank Loans (MF)  
 Benchmark : S&P/LSTA Leveraged Loan Index  
 Fund Inception : 01/31/2008  
 Portfolio Manager : Paul M. Massaro  
 Total Assets : \$4,378 Million  
 Total Assets Date : 05/31/2017  
 Gross Expense : 0.7%  
 Net Expense : 0.7%  
 Turnover : 50%

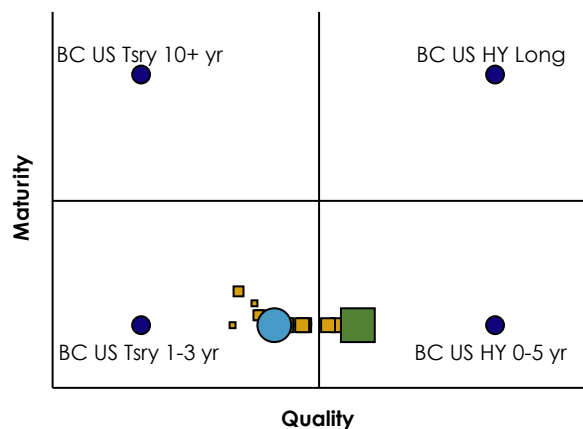
## Comparative Performance



## Fund Investment Policy

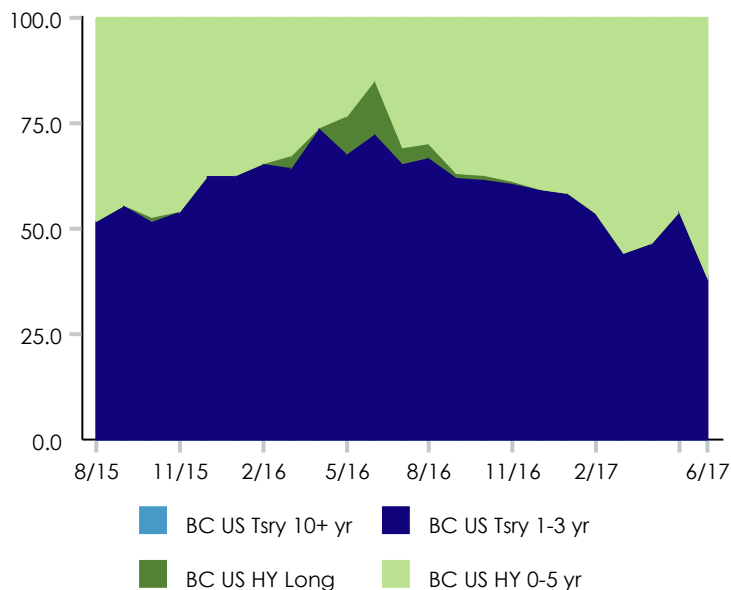
The Fund seeks high current income and, secondarily, capital appreciation. The Fund seeks to normally invest at least 80% of net assets in floating rate loans and debt securities.

## Style Map (3 Years)



- Style History
- Jun-2017
- Average Style Exposure

## Style History (3 Years)

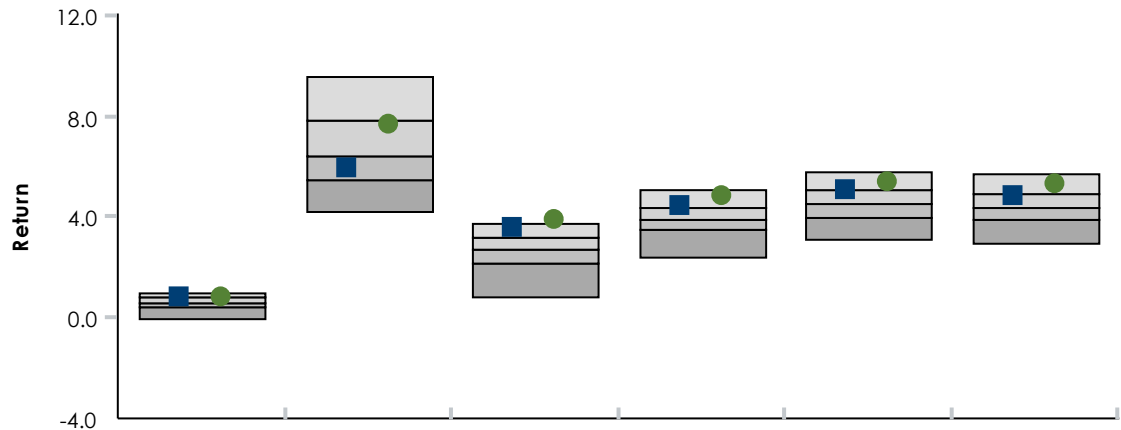




## Historical Statistics (3 Years)

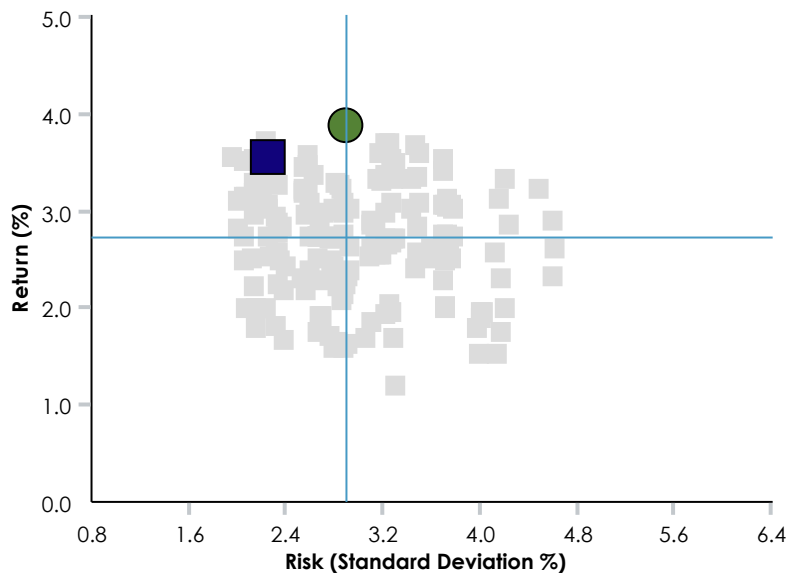
|                                 | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|---------------------------------|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| T. Rowe Price Floating Rate I   | 3.5    | 2.3                | 1.5          | 0.6   | 0.8  | 1.0       | 0.9            | -0.4              | 83.2              | 68.6                |
| S&P/LSTA Performing Loans Index | 3.9    | 2.9                | 1.3          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. Bank Loans (MF) Median  | 2.7    | 2.9                | 0.8          | -1.0  | 1.0  | 0.9       | 0.9            | -1.2              | 84.5              | 114.9               |

## Peer Group Analysis



|                                   | 1 Quarter | 1 Year   | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|-----------------------------------|-----------|----------|----------|----------|----------|--------------------------|
| ■ T. Rowe Price Floating Rate I   | 0.8 (27)  | 5.9 (60) | 3.5 (10) | 4.4 (23) | 5.0 (25) | 4.8 (30)                 |
| ● S&P/LSTA Performing Loans Index | 0.8 (23)  | 7.7 (27) | 3.9 (3)  | 4.9 (8)  | 5.4 (10) | 5.3 (11)                 |
| Median                            | 0.6       | 6.4      | 2.7      | 3.9      | 4.5      | 4.3                      |

## Peer Group Scattergram (3 Years)



|                                   | Return | Standard Deviation |
|-----------------------------------|--------|--------------------|
| ■ T. Rowe Price Floating Rate I   | 3.5    | 2.3                |
| ● S&P/LSTA Performing Loans Index | 3.9    | 2.9                |
| — Median                          | 2.7    | 2.9                |

## Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 24     | 83.2 |
| Down Markets           | 12     | 68.6 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 24     | 25.0 |
| Down Markets           | 12     | 75.0 |
| Overall                | 36     | 41.7 |

# T. Rowe Price Floating Rate I

June 30, 2017

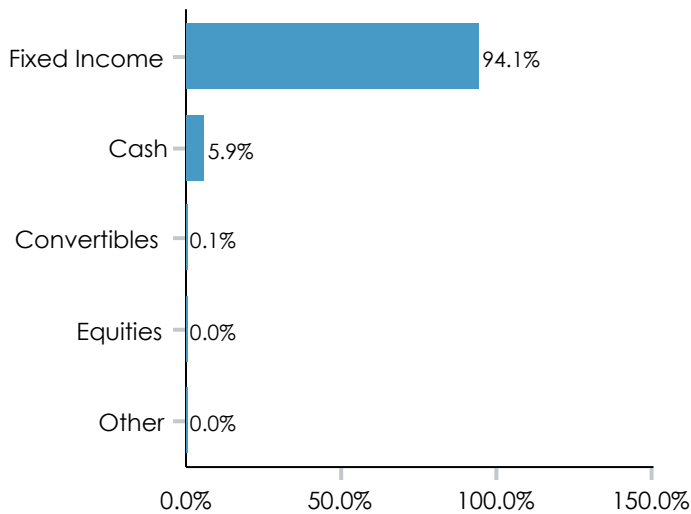
## Portfolio Characteristics (As of 3/31/2017)

|                     |            |
|---------------------|------------|
| Avg. Coupon         | 5.19 %     |
| Nominal Maturity    | N/A        |
| Effective Maturity  | 5.42 Years |
| Duration            | 0.40 Years |
| SEC 30 Day Yield    | 5.5        |
| Avg. Credit Quality | BB         |

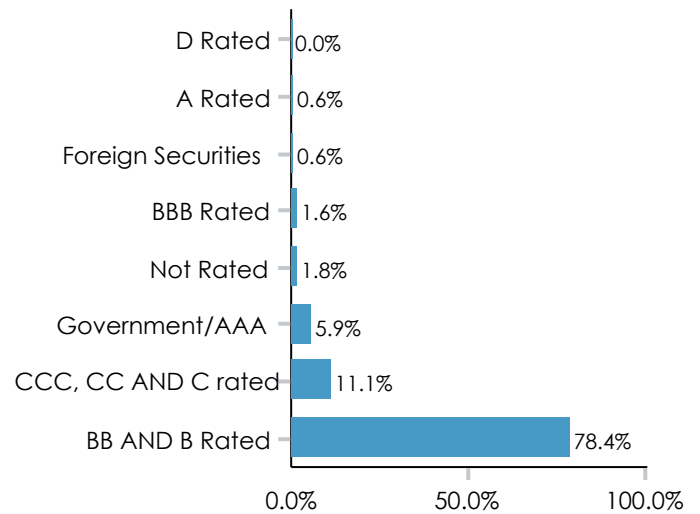
## Top 10 Holdings (As of 3/31/2017)

|                                 |        |
|---------------------------------|--------|
| Corporate Notes/Bonds           | 84.4 % |
| US\$ Denominated Fgn. Gvt.      | 9.0 %  |
| Fgn. Currency Denominated Bonds | 0.6 %  |
| Convertible Securities          | 0.1 %  |
| Treasury Notes/Bonds            | 0.0    |

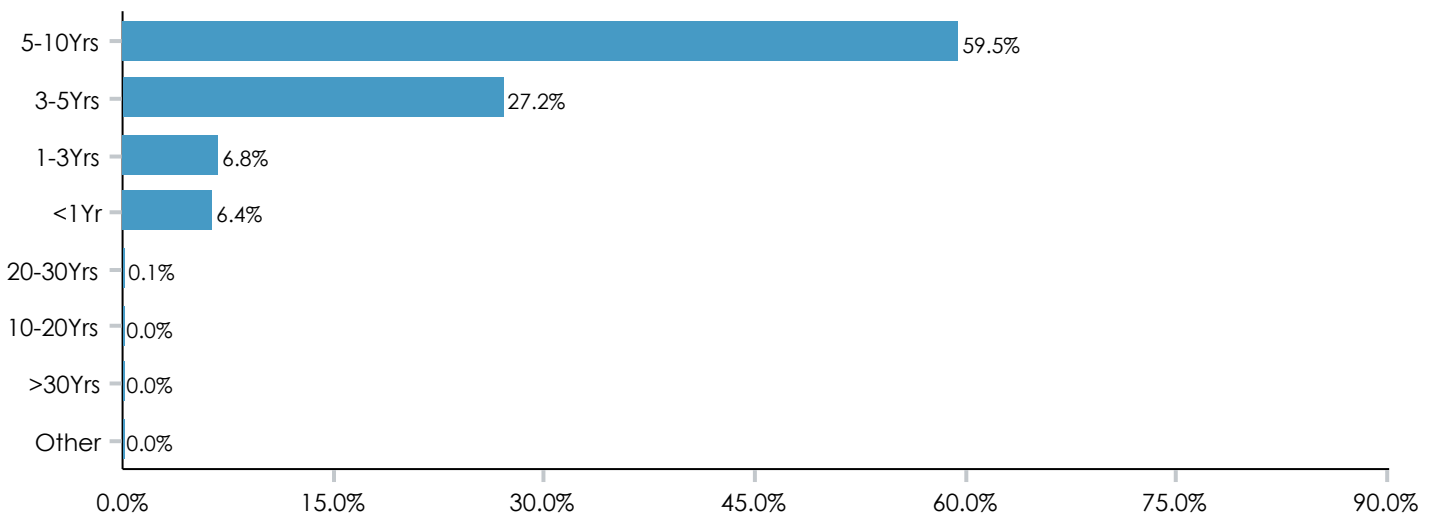
## Asset Allocation (As of 3/31/2017)



## Quality Allocation (As of 3/31/2017)

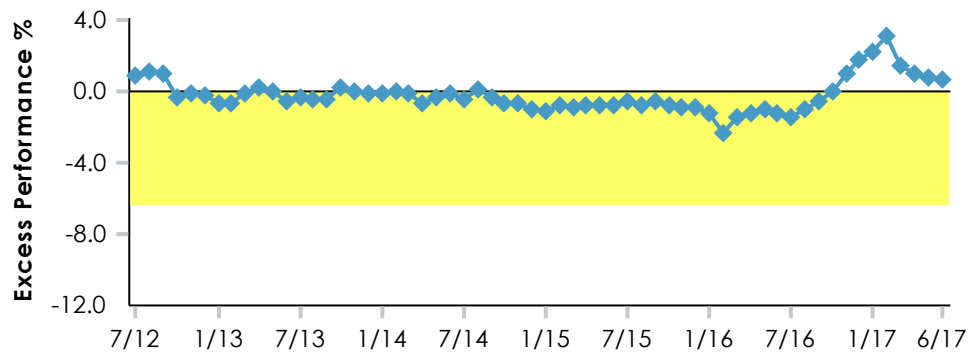


## Maturity Distribution (As of 3/31/2017)



# TIAA-CREF High-Yield I vs. BofAML High Yield BB-B Constrained Index

## Short-term (Rolling 12 Months Excess Performance)

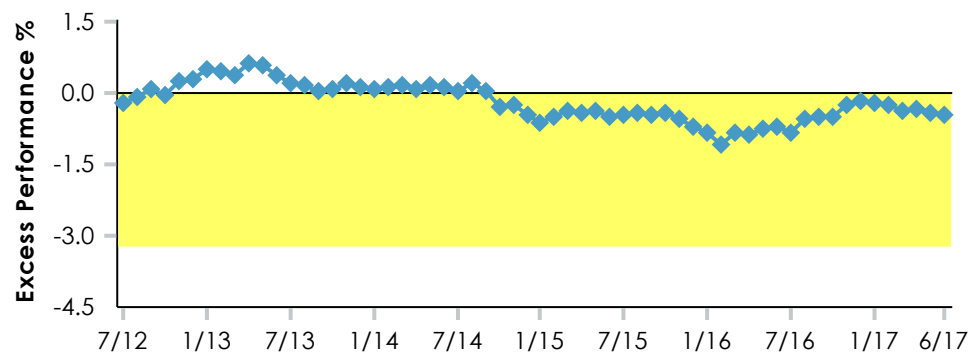


### Short-Term Performance

Positive

Probationary Performance -6.50%

## Medium-term (Rolling 36 Months Excess Performance)

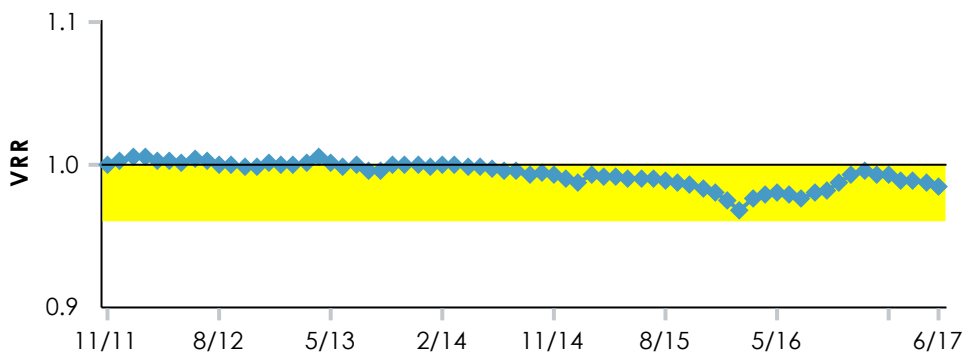


### Medium-Term Performance

Acceptable

Probationary Performance -3.25%

## Long-term (December 1, 2011 To June 30, 2017 VRR)



### Long-Term Performance

Acceptable

Probationary Performance < 0.96

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|--|----------|-----------|----------|----------|---------------------|
| TIAA-CREF High-Yield I                   | 1.7 (59) | 11.8 (32) | 4.1 (19) | 6.2 (28) | 7.3 (29)            |
| BofAML High Yield BB-B Constrained Index | 2.2 (18) | 11.1 (45) | 4.6 (9)  | 6.7 (16) | 7.6 (21)            |
| IM U.S. High Yield Bonds (MF) Median     | 1.8      | 10.9      | 3.1      | 5.8      | 6.8                 |

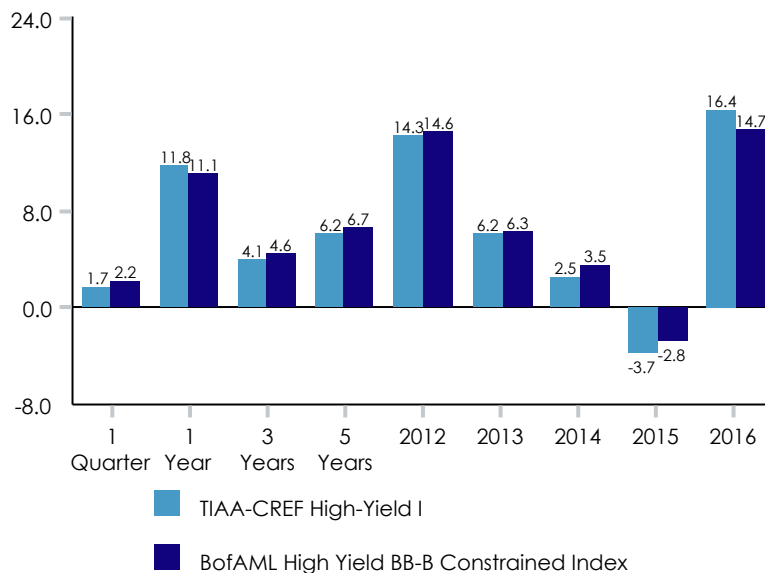
Monitoring Status

Acceptable

Mutual Fund Info

Product Name : TIAA-CREF:Hi-Yld;Inst (TIHYX)  
 Fund Family : TIAA-CREF  
 Ticker : TIHYX  
 Peer Group : IM U.S. High Yield Bonds (MF)  
 Benchmark : Citigroup High Yield Market Index  
 Fund Inception : 03/31/2006  
 Portfolio Manager : Lorenz/Lin  
 Total Assets : \$2,520 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.4%  
 Net Expense : 0.4%  
 Turnover : 52%

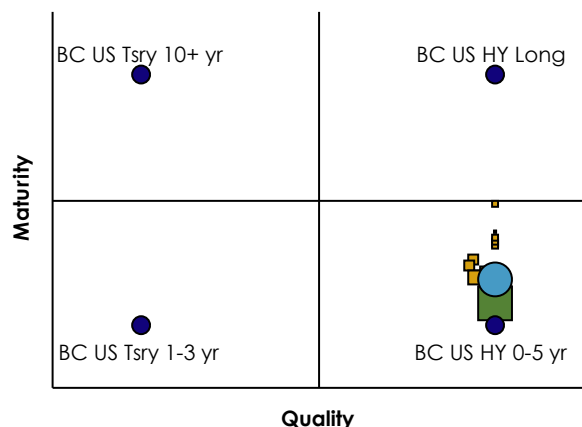
Comparative Performance



Fund Investment Policy

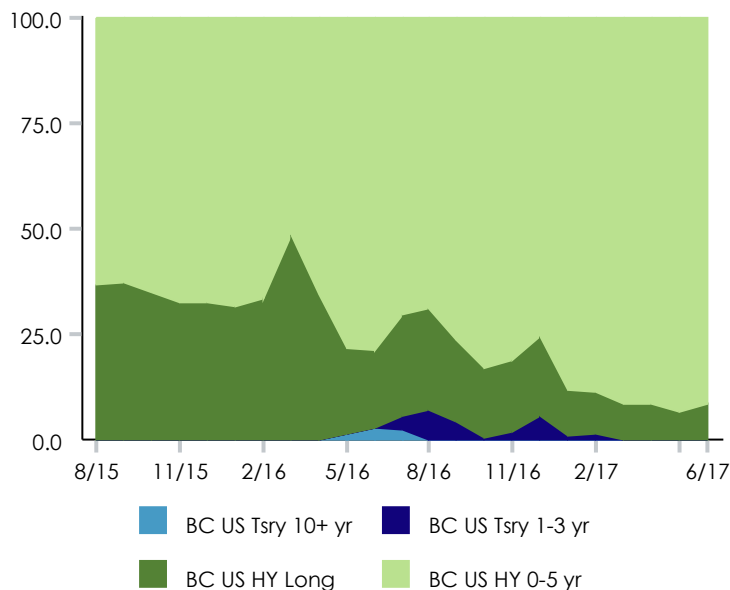
The Fund seeks high current income and, when consistent with its primary objective, capital appreciation. The Fund achieves this objective by investing at least 80% of its assets in debt and other fixed-income securities rated lower than investment grade or other high-yielding debt securities.

Style Map (3 Years)



- Style History
- Jun-2017
- Average Style Exposure

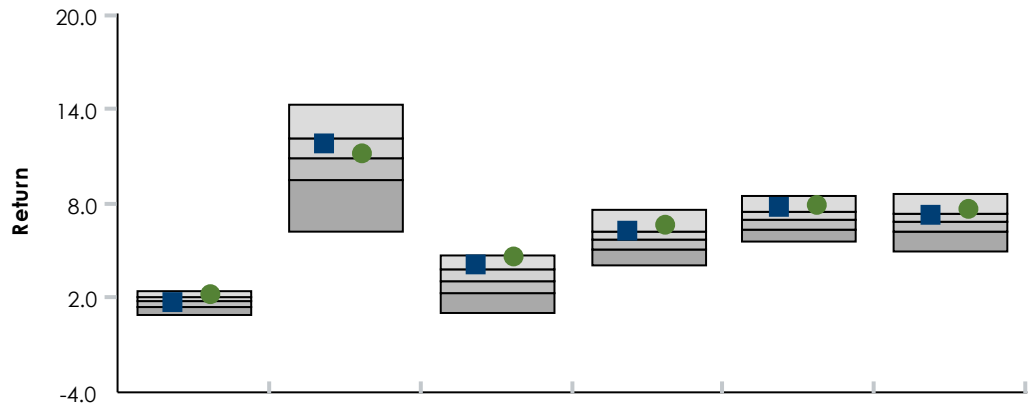
Style History (3 Years)



## Historical Statistics (3 Years)

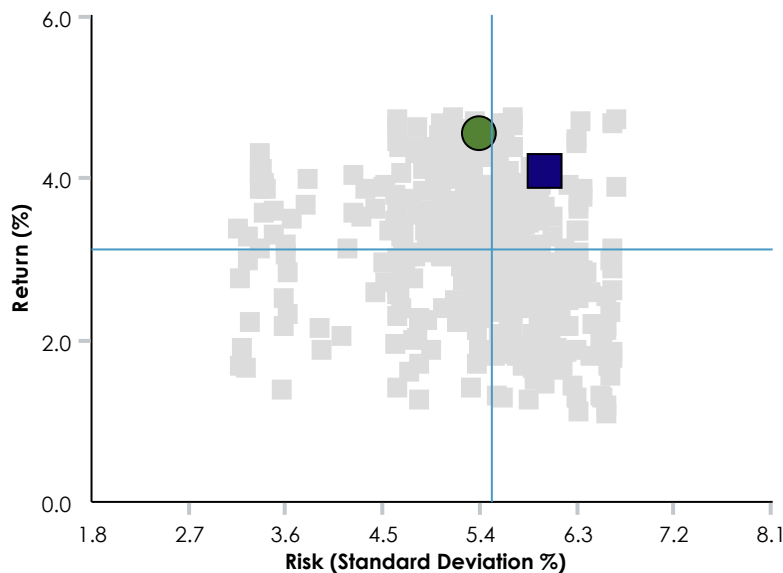
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF High-Yield I                   | 4.1    | 6.0                | 0.7          | -0.9  | 1.1  | 1.0       | 1.1            | -0.4              | 102.7             | 112.2               |
| BofAML High Yield BB-B Constrained Index | 4.6    | 5.4                | 0.8          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. High Yield Bonds (MF) Median     | 3.1    | 5.5                | 0.6          | -1.1  | 1.0  | 0.9       | 1.5            | -0.9              | 91.3              | 106.8               |

## Peer Group Analysis



|  | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|--|-----------|-----------|----------|----------|----------|--------------------------|
| ■ TIAA-CREF High-Yield I                   | 1.7 (59)  | 11.8 (32) | 4.1 (19) | 6.2 (28) | 7.7 (18) | 7.3 (29)                 |
| ● BofAML High Yield BB-B Constrained Index | 2.2 (18)  | 11.1 (45) | 4.6 (9)  | 6.7 (16) | 7.8 (16) | 7.6 (21)                 |
| Median                                     | 1.8       | 10.9      | 3.1      | 5.8      | 7.0      | 6.8                      |

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 22     | 102.7 |
| Down Markets           | 14     | 112.2 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 22     | 45.5  |
| Down Markets           | 14     | 7.1   |
| Overall                | 36     | 30.6  |

|  | Return | Standard Deviation |
|--|--------|--------------------|
| ■ TIAA-CREF High-Yield I                   | 4.1    | 6.0                |
| ● BofAML High Yield BB-B Constrained Index | 4.6    | 5.4                |
| — Median                                   | 3.1    | 5.5                |

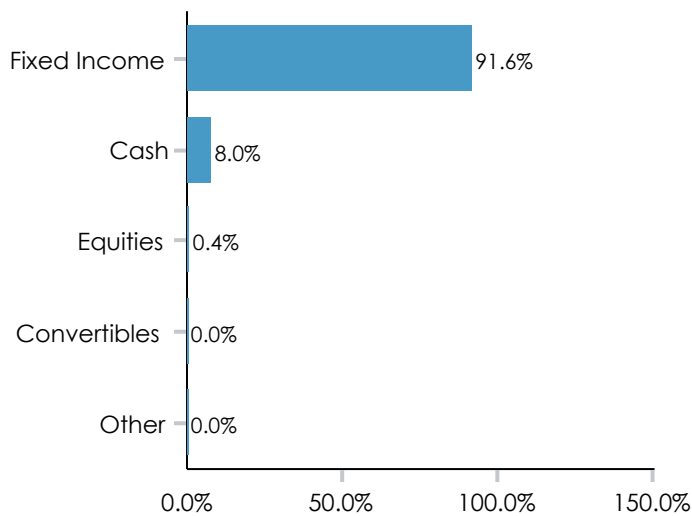
## Portfolio Characteristics (As of 3/31/2017)

|                     |            |
|---------------------|------------|
| Avg. Coupon         | 6.42 %     |
| Nominal Maturity    | 7.21 Years |
| Effective Maturity  | N/A        |
| Duration            | 3.94 Years |
| SEC 30 Day Yield    | 6.4        |
| Avg. Credit Quality | A          |

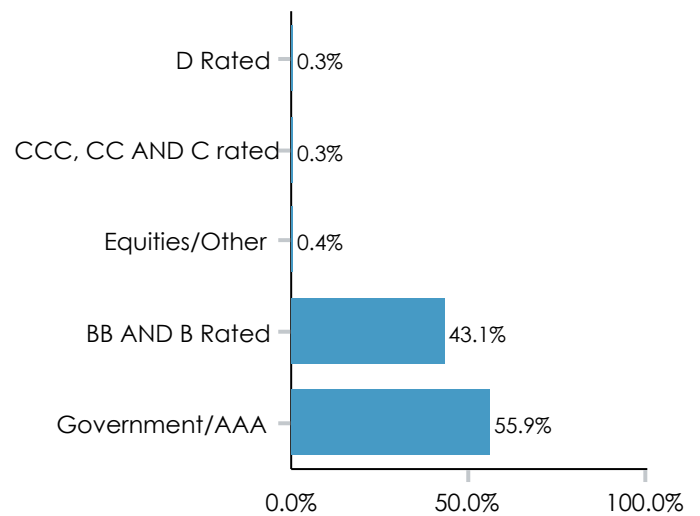
## Top 10 Holdings (As of 3/31/2017)

|                            |        |
|----------------------------|--------|
| Corporate Notes/Bonds      | 80.6 % |
| US\$ Denominated Fgn. Gvt. | 11.0 % |
| Common Stock               | 0.4 %  |

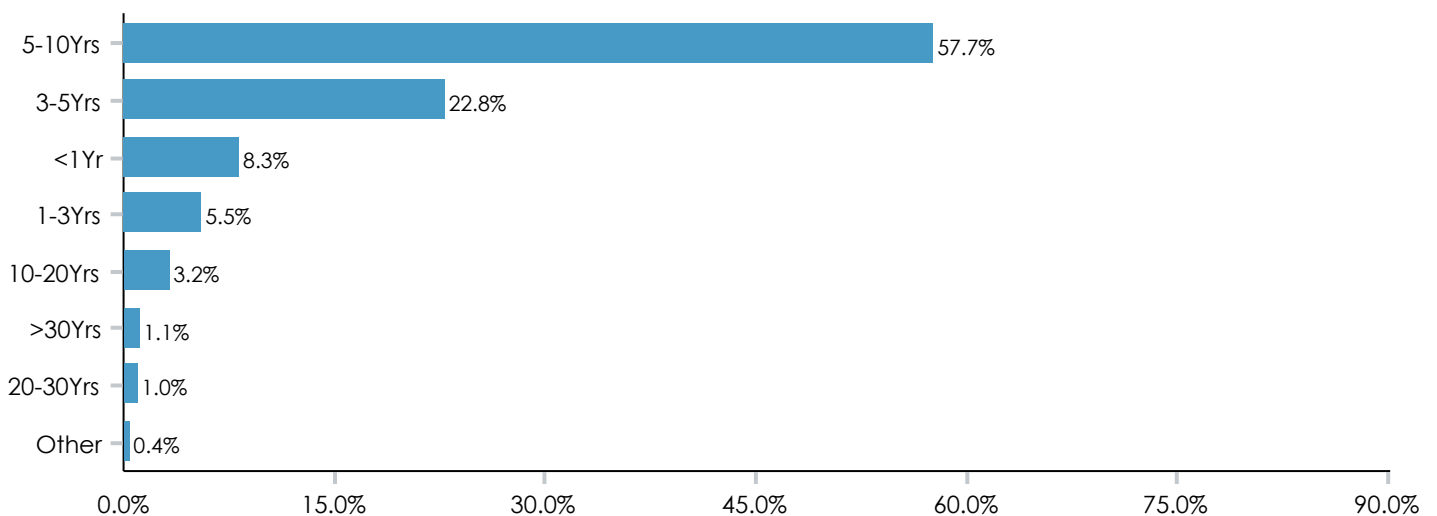
## Asset Allocation (As of 3/31/2017)



## Quality Allocation (As of 3/31/2017)



## Maturity Distribution (As of 3/31/2017)

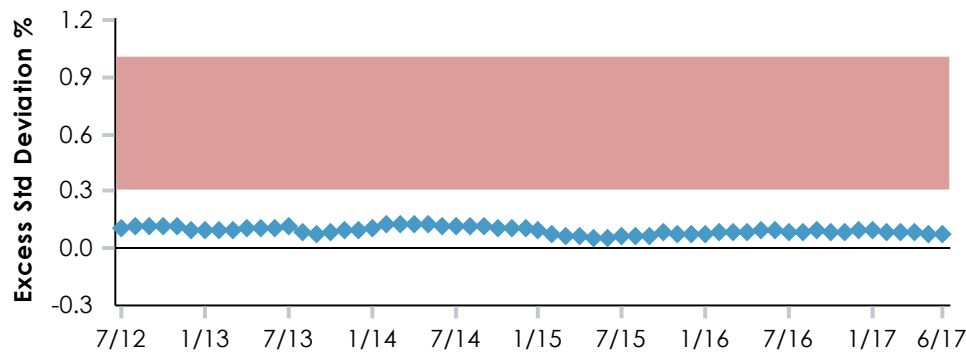


## PASSIVE FUNDS

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# TIAA-CREF Equity Index I vs. Russell 3000 Index

## Short-term (Rolling 12 Months Tracking Error)

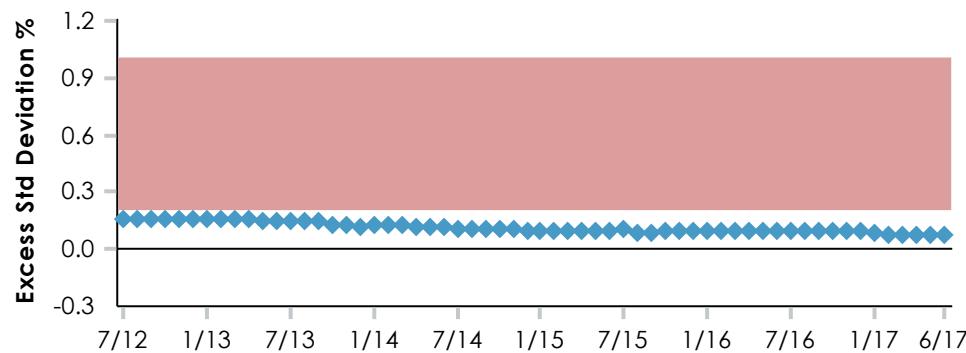


### Short-Term Performance

Positive

Probationary Performance 0.30%

## Medium-term (Rolling 36 Months Tracking Error)

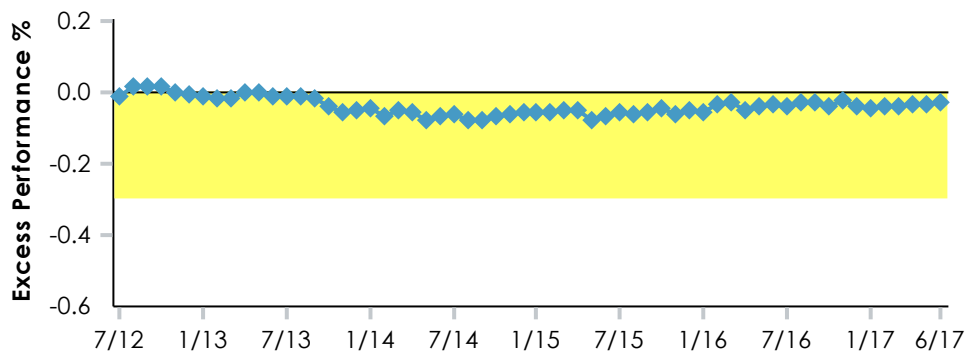


### Medium-Term Performance

Positive

Probationary Performance 0.25%

## Long-term (Rolling 60 Months Excess Performance)



### Long-Term Performance

Acceptable

Probationary Performance -0.30%

## Annualized Performance Results (Net of management fees)

|   | Qtr      | 1 Year    | 3 Years  | 5 Years   | Inception (12/2011) |
|---|----------|-----------|----------|-----------|---------------------|
| TIAA-CREF Equity Index I                  | 3.0 (39) | 18.5 (43) | 9.1 (12) | 14.6 (23) | 14.9 (13)           |
| Russell 3000 Index                        | 3.0 (39) | 18.5 (42) | 9.1 (12) | 14.6 (22) | 15.0 (12)           |
| IM U.S. Multi-Cap Core Equity (MF) Median | 2.8      | 17.9      | 7.0      | 13.5      | 13.5                |

**Monitoring Status**

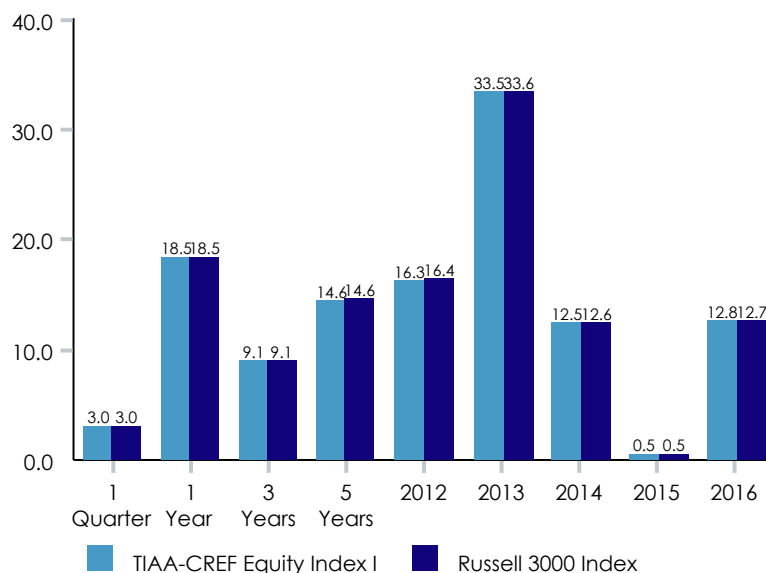
**Acceptable**



## Mutual Fund Info

Product Name : TIAA-CREF:Eq Idx;Inst (TIEIX)  
 Fund Family : TIAA-CREF  
 Ticker : TIEIX  
 Peer Group : IM U.S. Multi-Cap Core Equity (MF)  
 Benchmark : Russell 3000 Index  
 Fund Inception : 07/01/1999  
 Portfolio Manager : Campana/Liao  
 Total Assets : \$12,728 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 9%

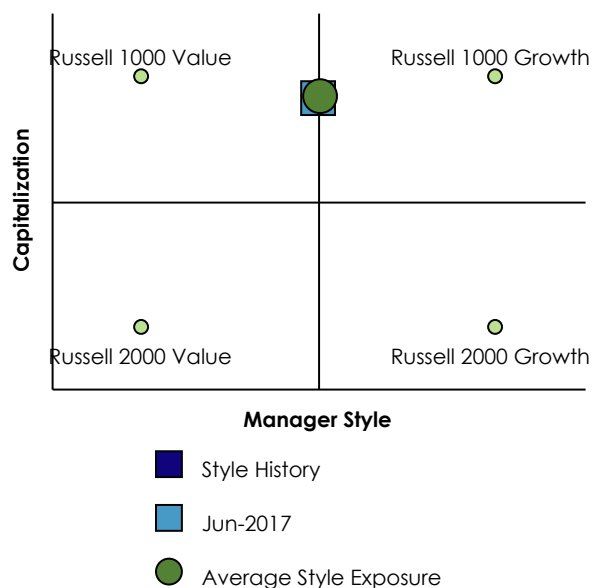
## Comparative Performance



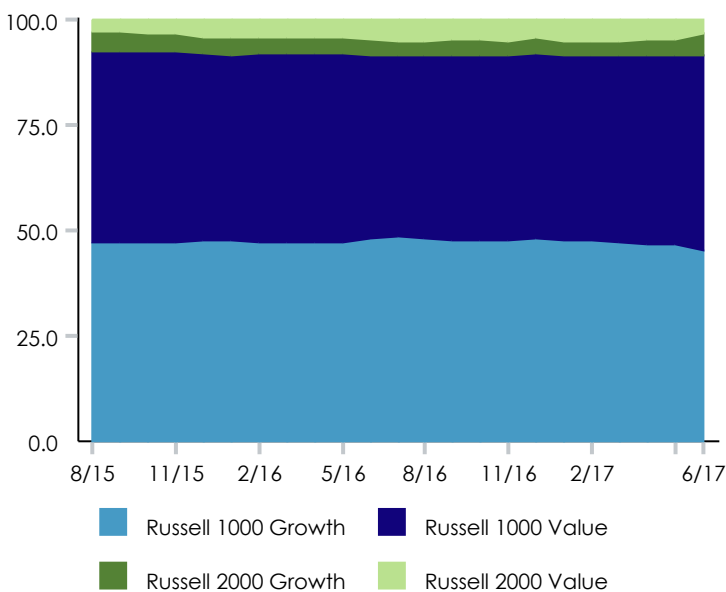
## Fund Investment Policy

The Fund seeks a favorable long-term total return. Under normal circumstances, the Fund invests at least 80% of its assets (net assets, plus the amount of any borrowings for investment purposes) in securities of its benchmark index (the Russell 3000 Index) and in equity securities.

## Style Map (3 Years)



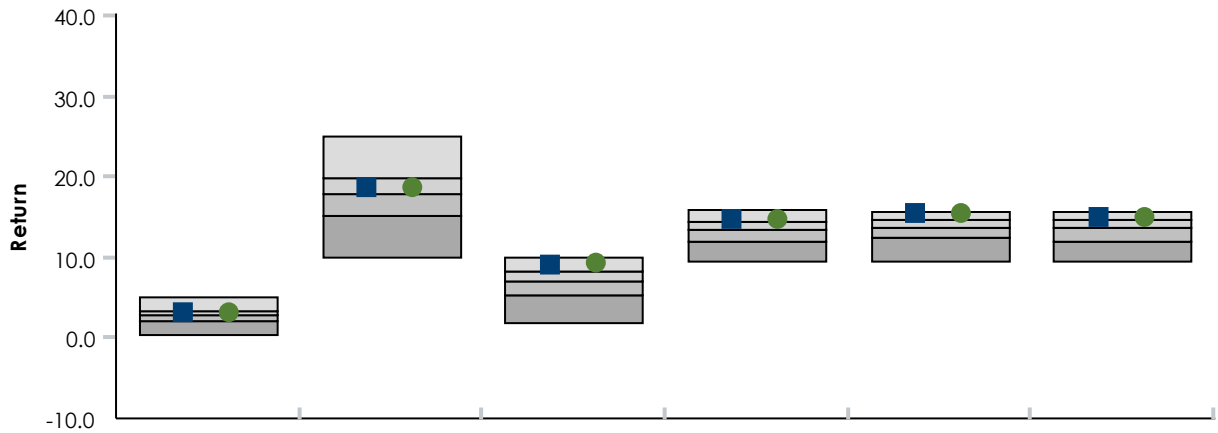
## Style History (3 Years)



## Historical Statistics (3 Years)

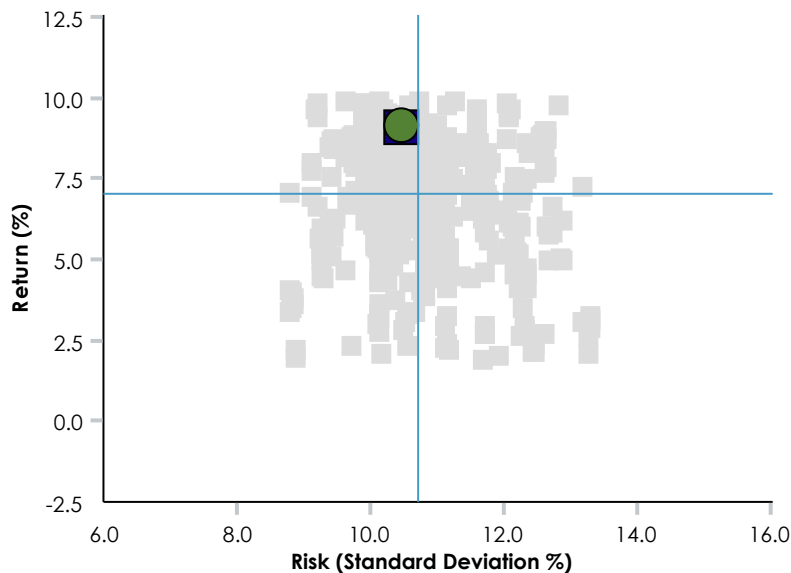
|   | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|---|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF Equity Index I                  | 9.1    | 10.5               | 0.9          | 0.0   | 1.0  | 1.0       | 0.1            | -0.2              | 99.9              | 100.1               |
| Russell 3000 Index                        | 9.1    | 10.5               | 0.9          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. Multi-Cap Core Equity (MF) Median | 7.0    | 10.7               | 0.7          | -1.8  | 1.0  | 0.9       | 3.4            | -0.7              | 91.0              | 104.0               |

## Peer Group Analysis



|                            | 1 Quarter | 1 Year    | 3 Years  | 5 Years   | 7 Years   | Since Inception Dec-2011 |
|----------------------------|-----------|-----------|----------|-----------|-----------|--------------------------|
| ■ TIAA-CREF Equity Index I | 3.0 (39)  | 18.5 (43) | 9.1 (12) | 14.6 (23) | 15.3 (11) | 14.9 (13)                |
| ● Russell 3000 Index       | 3.0 (39)  | 18.5 (42) | 9.1 (12) | 14.6 (22) | 15.3 (9)  | 15.0 (12)                |
| Median                     | 2.8       | 17.9      | 7.0      | 13.5      | 13.7      | 13.5                     |

## Peer Group Scattergram (3 Years)



|                            | Return | Standard Deviation |
|----------------------------|--------|--------------------|
| ■ TIAA-CREF Equity Index I | 9.1    | 10.5               |
| ● Russell 3000 Index       | 9.1    | 10.5               |
| — Median                   | 7.0    | 10.7               |

## Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 24     | 99.9  |
| Down Markets           | 12     | 100.1 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 24     | 41.7  |
| Down Markets           | 12     | 58.3  |
| Overall                | 36     | 47.2  |

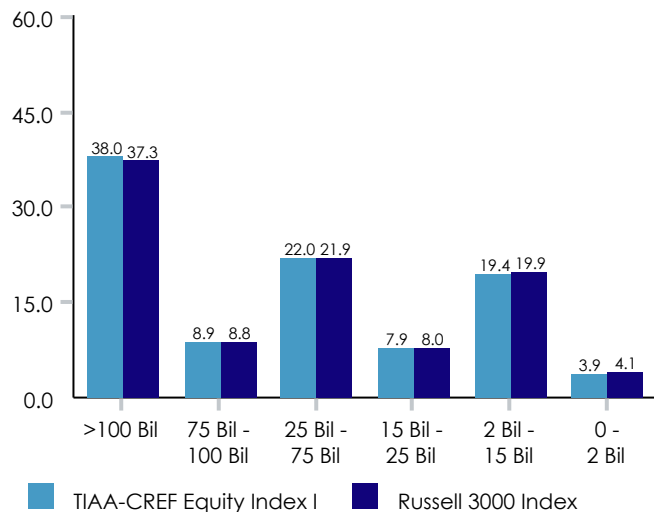
## Portfolio Characteristics (As of 4/30/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 140,699   | 138,438   |
| Median Mkt. Cap (\$M)     | 1,750     | 1,592     |
| Price/Earnings ratio      | 21.5      | 21.6      |
| Price/Book ratio          | 3.2       | 3.2       |
| 5 Yr. EPS Growth Rate (%) | 11.4      | 11.4      |
| Current Yield (%)         | 1.9       | 1.9       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 2,874     | 3,000     |

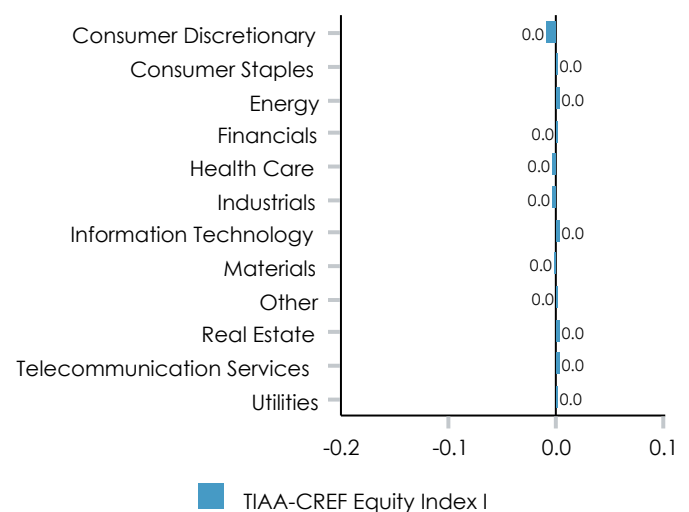
## Top 10 Holdings (As of 4/30/2017)

|                        | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|------------------------|----------------------|----------------------|----------------------|
| Apple Inc              | 3.1                  | 3.0                  | 0.7                  |
| Microsoft Corp         | 2.1                  | 2.1                  | 5.2                  |
| Amazon.com Inc         | 1.5                  | 1.5                  | 9.2                  |
| Johnson & Johnson      | 1.4                  | 1.4                  | 6.9                  |
| Facebook Inc           | 1.3                  | 1.4                  | 6.3                  |
| Berkshire Hathaway Inc | 1.3                  | 1.3                  | 1.6                  |
| JPMorgan Chase & Co    | 1.3                  | 1.3                  | 4.6                  |
| Exxon Mobil Corp       | 1.3                  | 1.4                  | -0.6                 |
| Alphabet Inc           | 1.1                  | 1.1                  | 9.7                  |
| Alphabet Inc           | 1.1                  | 1.1                  | 9.5                  |
| % of Portfolio         | 15.5                 | 15.6                 |                      |

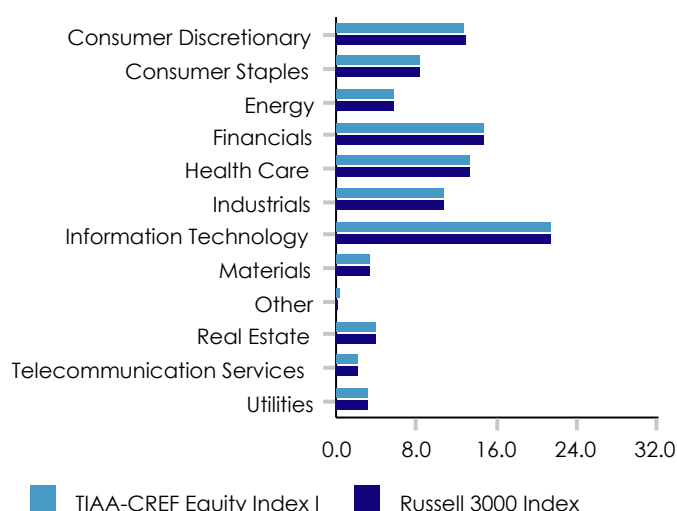
## Market Cap Distribution (As of 4/30/2017)



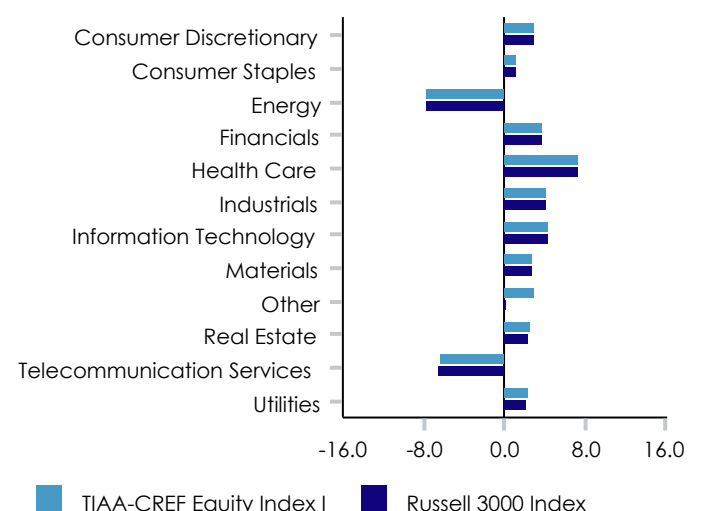
## Sector Attribution (1 Quarter as of 4/30/2017)



## Sector Allocation (1 Quarter as of 4/30/2017)

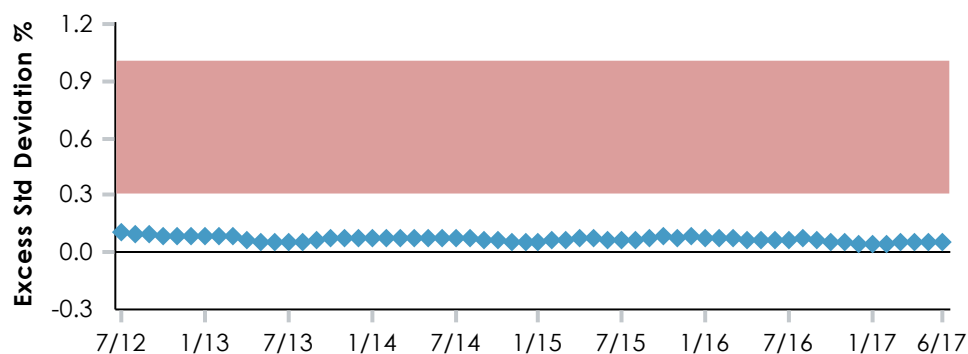


## Sector Performance (1 Quarter as of 4/30/2017)



# TIAA-CREF S&P 500 Index I vs. S&P 500 Index

## Short-term (Rolling 12 Months Tracking Error)

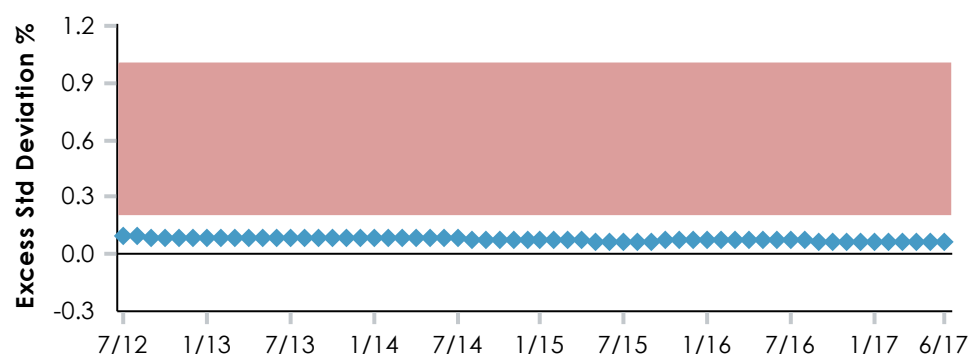


### Short-Term Performance

Positive

Probationary Performance 0.30%

## Medium-term (Rolling 36 Months Tracking Error)

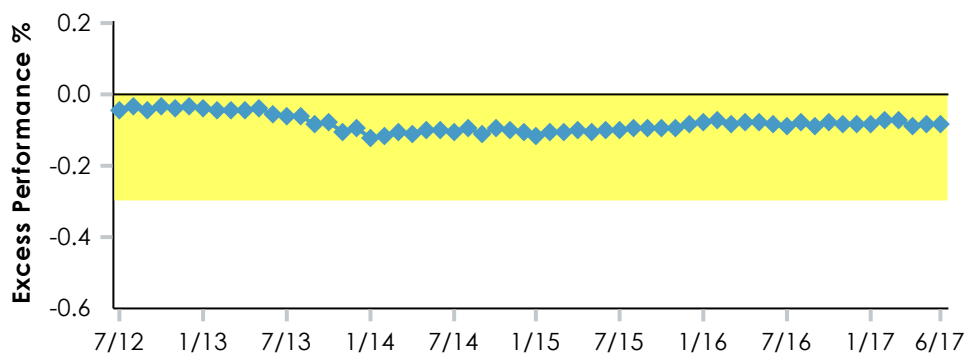


### Medium-Term Performance

Positive

Probationary Performance 0.25%

## Long-term (Rolling 60 Months Excess Performance)



### Long-Term Performance

Acceptable

Probationary Performance -0.30%

## Annualized Performance Results (Net of management fees)

|                              | Qtr      | 1 Year    | 3 Years  | 5 Years   | Inception (12/2011) |
|------------------------------|----------|-----------|----------|-----------|---------------------|
| TIAA-CREF S&P 500 Index I    | 3.1 (10) | 17.8 (14) | 9.5 (10) | 14.5 (10) | 15.0 (9)            |
| S&P 500 Index                | 3.1 (4)  | 17.9 (2)  | 9.6 (1)  | 14.6 (1)  | 15.1 (1)            |
| IM S&P 500 Index (MF) Median | 3.0      | 17.5      | 9.2      | 14.1      | 14.5                |

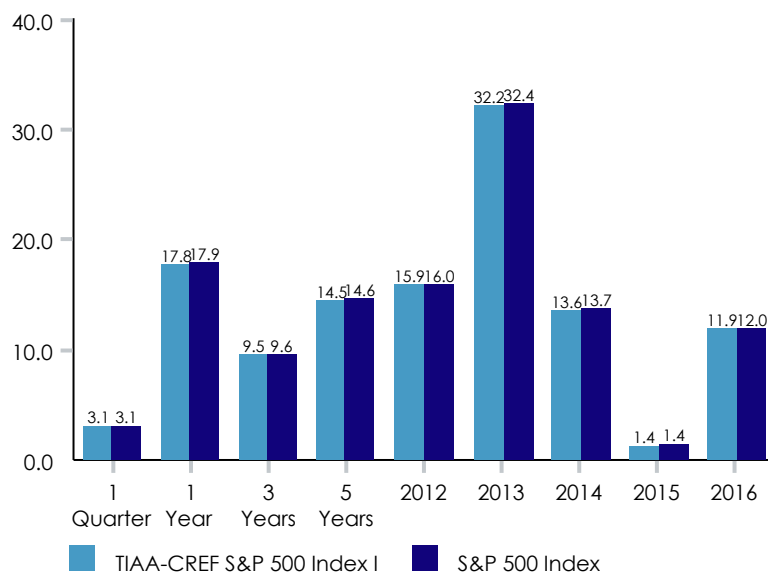
**Monitoring Status**

**Acceptable**

Mutual Fund Info

Product Name : TIAA-CREF:S&P500 Idx;Ins (TISPX)  
 Fund Family : TIAA-CREF  
 Ticker : TISPX  
 Peer Group : IM S&P 500 Index (MF)  
 Benchmark : S&P 500 Index  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Campagna/Liao  
 Total Assets : \$3,221 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 8%

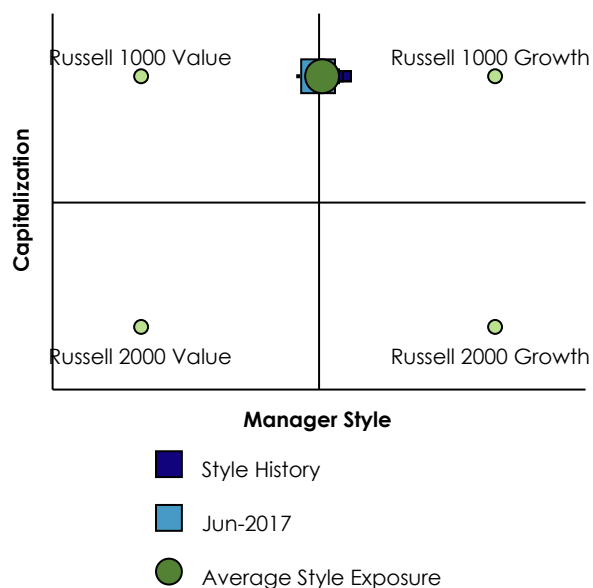
Comparative Performance



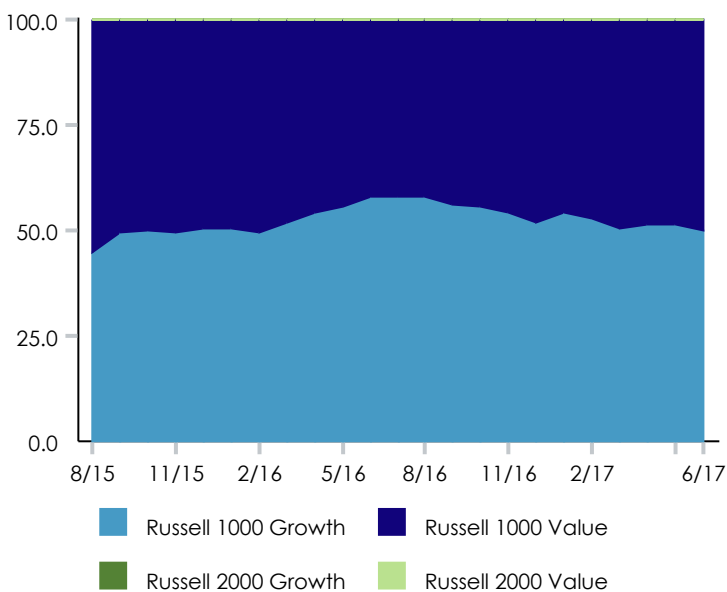
Fund Investment Policy

The Fund seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities of large domestic companies selected to track U.S. equity markets based on a market index.

Style Map (3 Years)



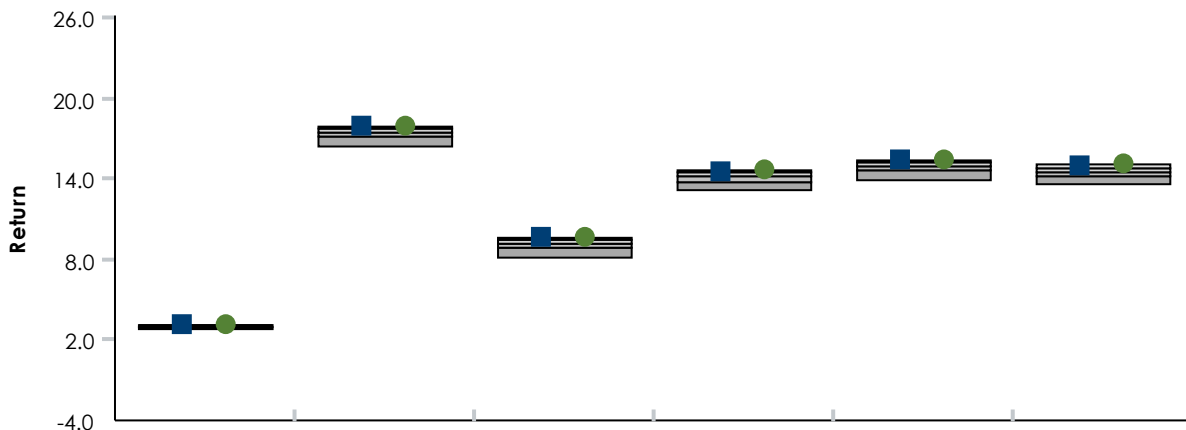
Style History (3 Years)



Historical Statistics (3 Years)

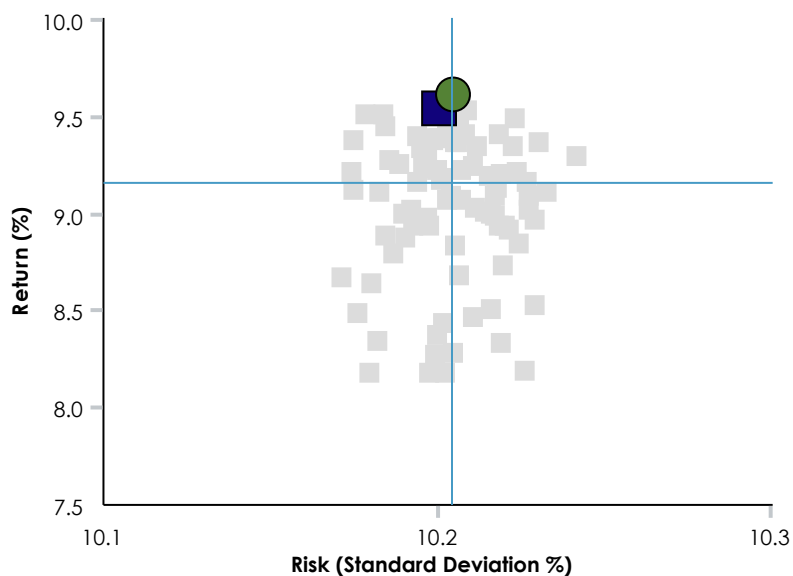
|                              | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|------------------------------|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF S&P 500 Index I    | 9.5    | 10.2               | 0.9          | -0.1  | 1.0  | 1.0       | 0.1            | -1.1              | 99.8              | 100.3               |
| S&P 500 Index                | 9.6    | 10.2               | 0.9          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM S&P 500 Index (MF) Median | 9.2    | 10.2               | 0.9          | -0.4  | 1.0  | 1.0       | 0.1            | -5.5              | 98.5              | 101.8               |

Peer Group Analysis



|                             | 1 Quarter | 1 Year    | 3 Years  | 5 Years   | 7 Years  | Since Inception Dec-2011 |
|-----------------------------|-----------|-----------|----------|-----------|----------|--------------------------|
| ■ TIAA-CREF S&P 500 Index I | 3.1 (10)  | 17.8 (14) | 9.5 (10) | 14.5 (10) | 15.3 (7) | 15.0 (9)                 |
| ● S&P 500 Index             | 3.1 (4)   | 17.9 (2)  | 9.6 (1)  | 14.6 (1)  | 15.4 (1) | 15.1 (1)                 |
| Median                      | 3.0       | 17.5      | 9.2      | 14.1      | 14.9     | 14.5                     |

Peer Group Scattergram (3 Years)



|                             | Return | Standard Deviation |
|-----------------------------|--------|--------------------|
| ■ TIAA-CREF S&P 500 Index I | 9.5    | 10.2               |
| ● S&P 500 Index             | 9.6    | 10.2               |
| — Median                    | 9.2    | 10.2               |

Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 24     | 99.8  |
| Down Markets           | 12     | 100.3 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 24     | 33.3  |
| Down Markets           | 12     | 25.0  |
| Overall                | 36     | 30.6  |

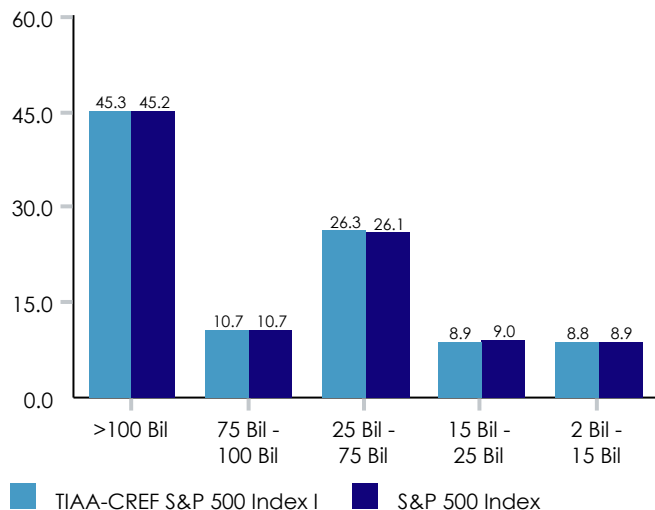
Portfolio Characteristics (As of 4/30/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 166,834   | 166,646   |
| Median Mkt. Cap (\$M)     | 20,866    | 20,641    |
| Price/Earnings ratio      | 21.5      | 21.6      |
| Price/Book ratio          | 3.3       | 3.3       |
| 5 Yr. EPS Growth Rate (%) | 11.3      | 11.3      |
| Current Yield (%)         | 2.0       | 2.0       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 506       | 505       |

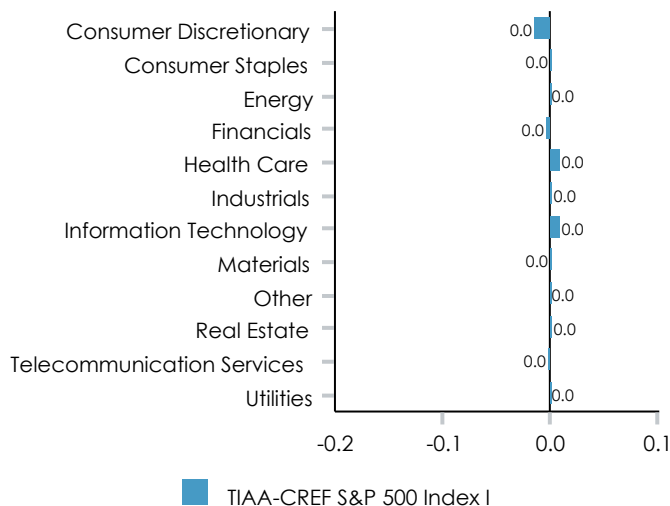
Top 10 Holdings (As of 4/30/2017)

|                        | Portfolio Weight (%) | Benchmark Weight (%) | Quarterly Return (%) |
|------------------------|----------------------|----------------------|----------------------|
| Apple Inc              | 3.6                  | 3.6                  | 0.7                  |
| Microsoft Corp         | 2.6                  | 2.6                  | 5.2                  |
| Amazon.com Inc         | 1.8                  | 1.8                  | 9.2                  |
| Facebook Inc           | 1.7                  | 1.7                  | 6.3                  |
| Johnson & Johnson      | 1.7                  | 1.7                  | 6.9                  |
| JPMorgan Chase & Co    | 1.6                  | 1.6                  | 4.6                  |
| Exxon Mobil Corp       | 1.6                  | 1.6                  | -0.6                 |
| Berkshire Hathaway Inc | 1.5                  | 1.5                  | 1.6                  |
| Alphabet Inc           | 1.3                  | 1.3                  | 9.5                  |
| Alphabet Inc           | 1.3                  | 1.3                  | 9.7                  |
| % of Portfolio         | 18.7                 | 18.7                 |                      |

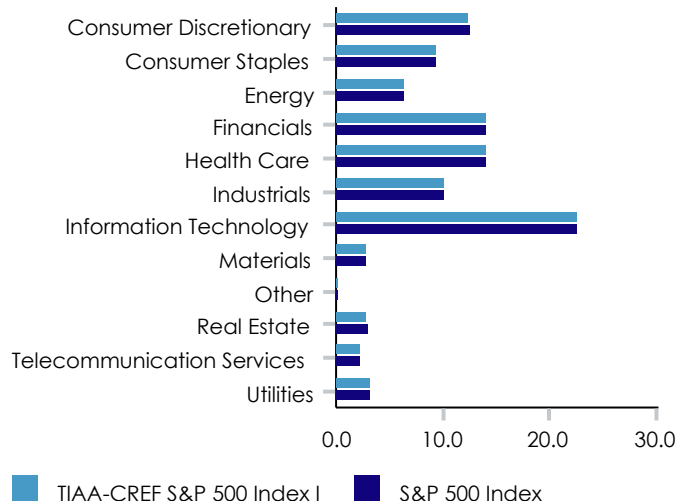
Market Cap Distribution (As of 4/30/2017)



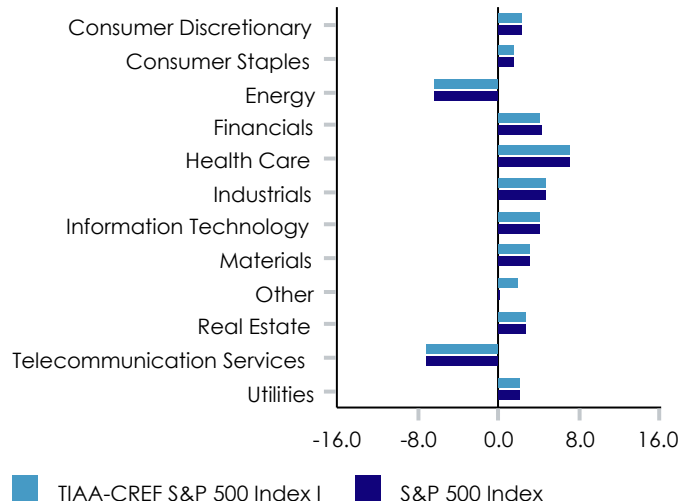
Sector Attribution (1 Quarter as of 4/30/2017)



Sector Allocation (1 Quarter as of 4/30/2017)

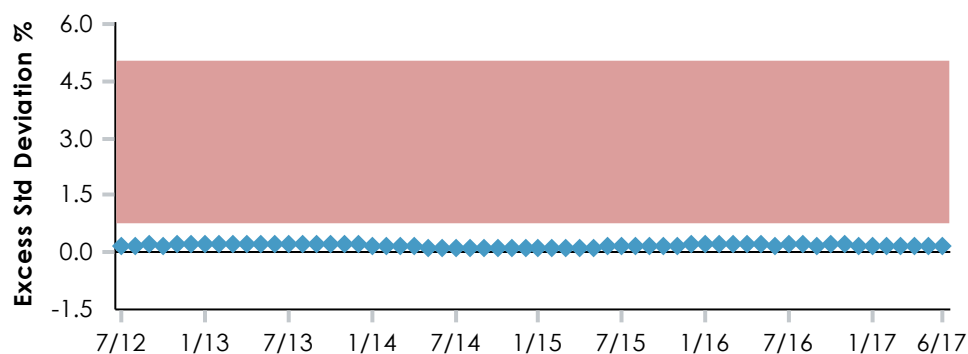


Sector Performance (1 Quarter as of 4/30/2017)



# TIAA-CREF Interational Equity Index I (actual) vs. MSCI EAFE (Net) Index

## Short-term (Rolling 12 Months Tracking Error)

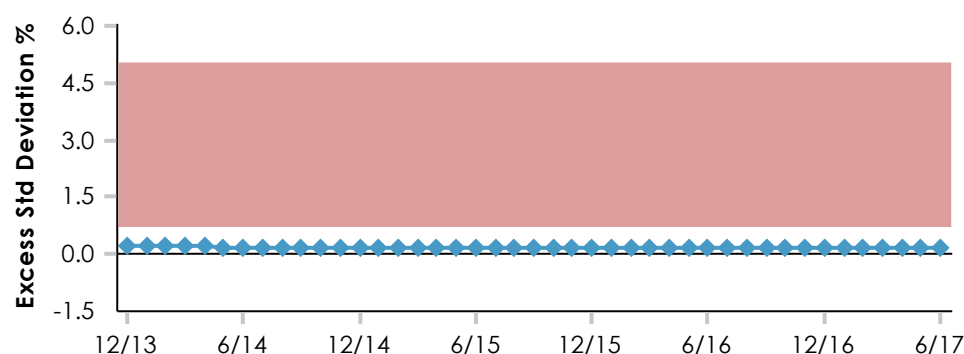


### Short-Term Performance

Positive

Probationary Performance 0.75%

## Medium-term (Rolling 36 Months Tracking Error)

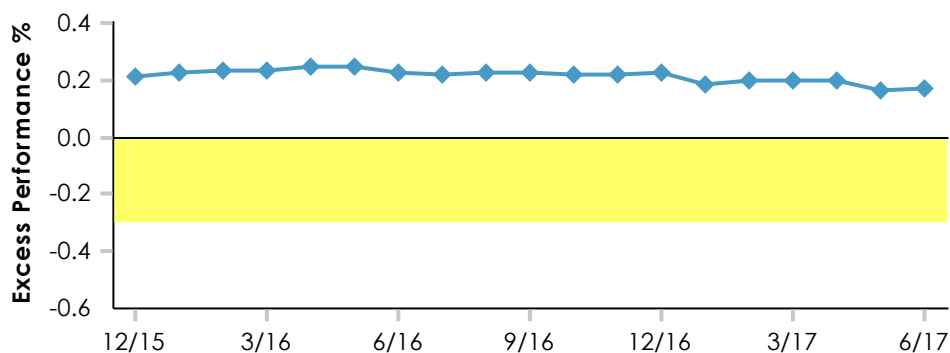


### Medium-Term Performance

Positive

Probationary Performance 0.70%

## Long-term (Rolling 60 Months Excess Performance)



### Long-Term Performance

Positive

Probationary Performance -0.30%

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|--|----------|-----------|----------|----------|---------------------|
| TIAA-CREF Interational Equity Index I (actual)     | 6.2 (51) | 20.4 (35) | 1.3 (48) | 8.9 (31) | 8.3 (29)            |
| MSCI EAFE (Net) Index                              | 6.1 (53) | 20.3 (36) | 1.1 (53) | 8.7 (36) | 8.1 (35)            |
| IM International Multi-Cap Core Equity (MF) Median | 6.2      | 19.8      | 1.2      | 8.3      | 7.7                 |

Monitoring Status

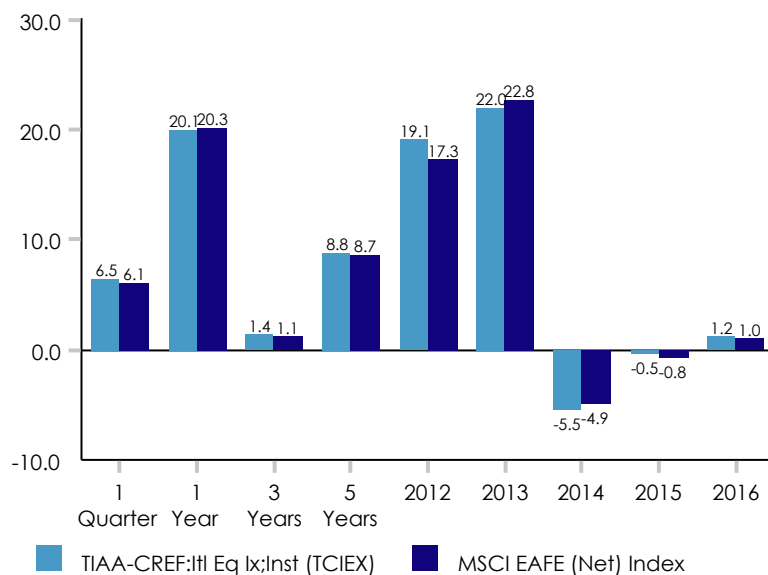
Positive



Mutual Fund Info

Product Name : TIAA-CREF:Itl Eq Ix;Inst (TCIEX)  
 Fund Family : TIAA-CREF  
 Ticker : TCIEX  
 Peer Group : IM International Multi-Cap Core Equity (MF)  
 Benchmark : MSCI EAFE IMI  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Campagna/Liao  
 Total Assets : \$9,159 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 11%

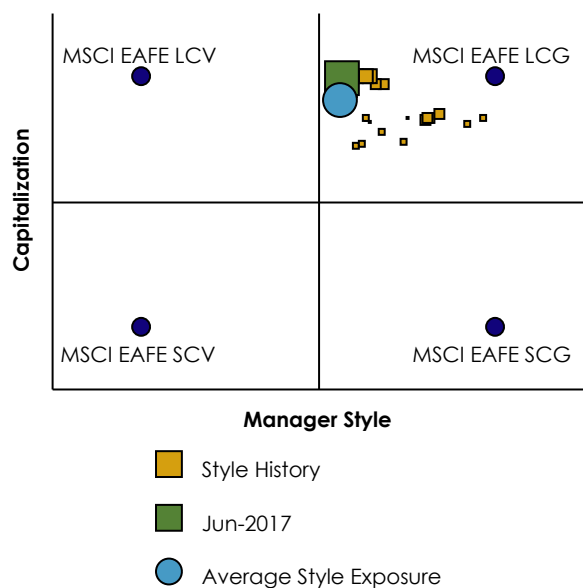
Comparative Performance



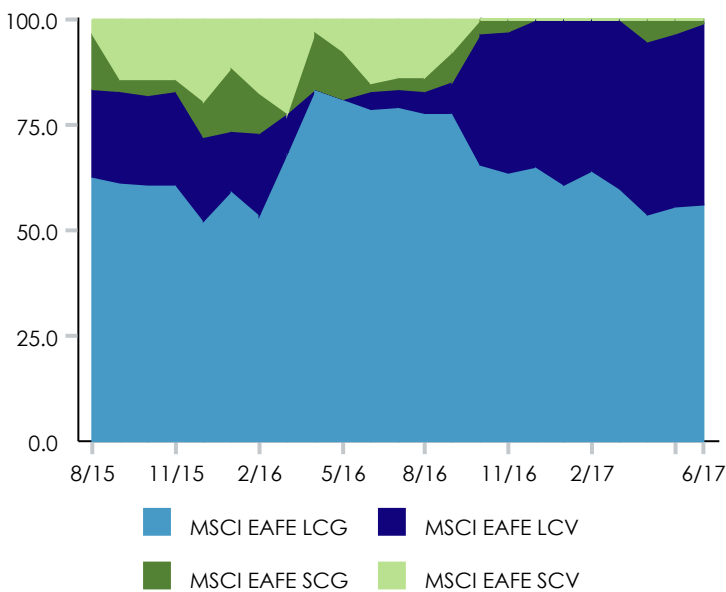
Fund Investment Policy

The Fund seeks a favorable long-term total return, mainly through capital appreciation. The Fund has a policy of investing, under normal circumstances, at least 80% of its assets (net assets, plus the amount of any borrowings for investment purposes) in the equity securities of its benchmark index, the MSCI EAFE Index.

Style Map (3 Years)



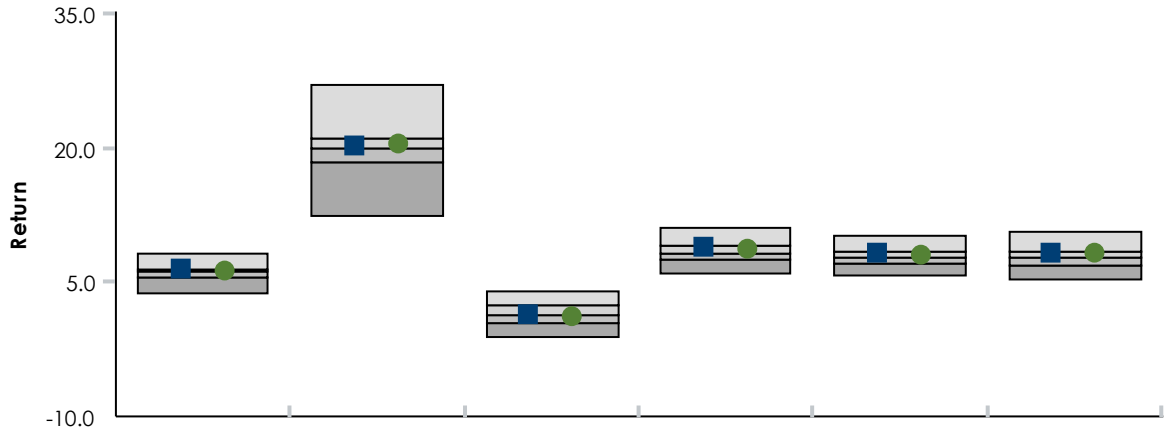
Style History (3 Years)



Historical Statistics (3 Years)

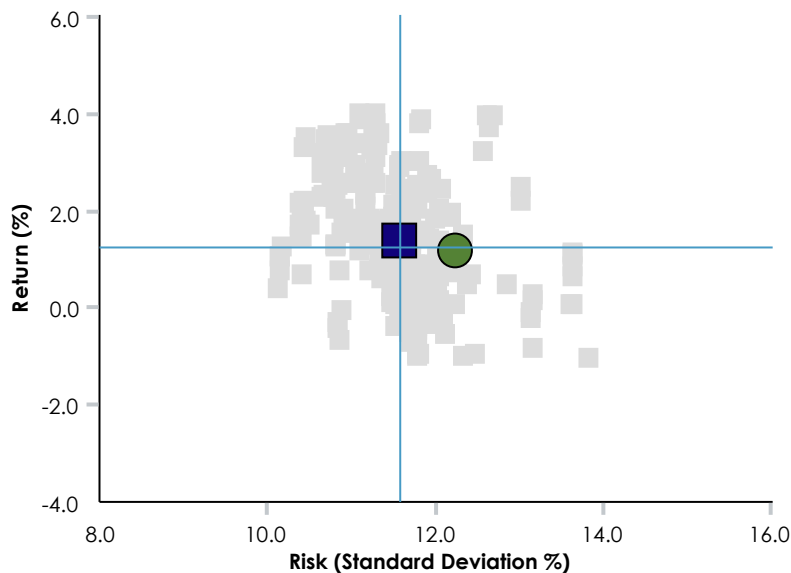
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF:Itl Eq Ix;Inst (TCIEX)                   | 1.4    | 11.6               | 0.2          | 0.3   | 0.9  | 1.0       | 2.1            | 0.1               | 94.4              | 92.8                |
| MSCI EAFE (Net) Index                              | 1.1    | 12.2               | 0.1          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM International Multi-Cap Core Equity (MF) Median | 1.2    | 11.6               | 0.1          | 0.2   | 0.9  | 0.9       | 3.5            | 0.0               | 91.3              | 89.0                |

Peer Group Analysis



|                                    | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|------------------------------------|-----------|-----------|----------|----------|----------|--------------------------|
| ■ TIAA-CREF:Itl Eq Ix;Inst (TCIEX) | 6.5 (26)  | 20.1 (43) | 1.4 (44) | 8.8 (33) | 8.3 (30) | 8.2 (33)                 |
| ● MSCI EAFE (Net) Index            | 6.1 (53)  | 20.3 (36) | 1.1 (53) | 8.7 (36) | 7.9 (43) | 8.1 (35)                 |
| Median                             | 6.2       | 19.8      | 1.2      | 8.3      | 7.7      | 7.7                      |

Peer Group Scattergram (3 Years)



|                                    | Return | Standard Deviation |
|------------------------------------|--------|--------------------|
| ■ TIAA-CREF:Itl Eq Ix;Inst (TCIEX) | 1.4    | 11.6               |
| ● MSCI EAFE (Net) Index            | 1.1    | 12.2               |
| — Median                           | 1.2    | 11.6               |

Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 17     | 94.4 |
| Down Markets           | 19     | 92.8 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 17     | 47.1 |
| Down Markets           | 19     | 68.4 |
| Overall                | 36     | 58.3 |

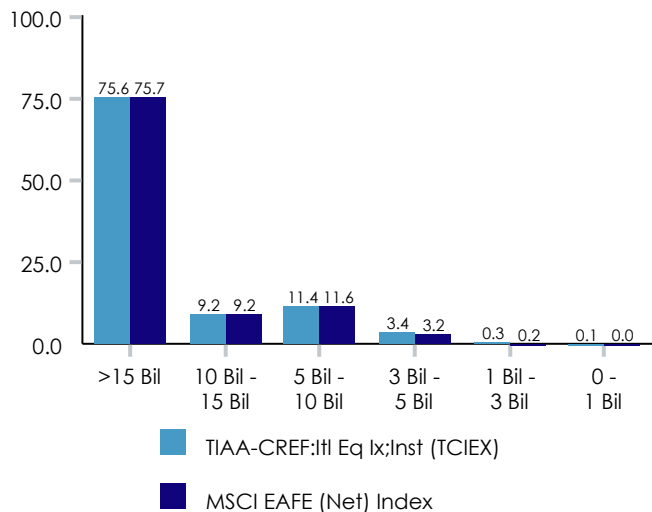
Portfolio Characteristics (As of 4/30/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 59,464    | 58,507    |
| Median Mkt. Cap (\$M)     | 10,530    | 10,401    |
| Price/Earnings ratio      | 17.1      | 17.3      |
| Price/Book ratio          | 2.2       | 2.2       |
| 5 Yr. EPS Growth Rate (%) | 5.1       | 5.1       |
| Current Yield (%)         | 2.8       | 3.2       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 933       | 927       |

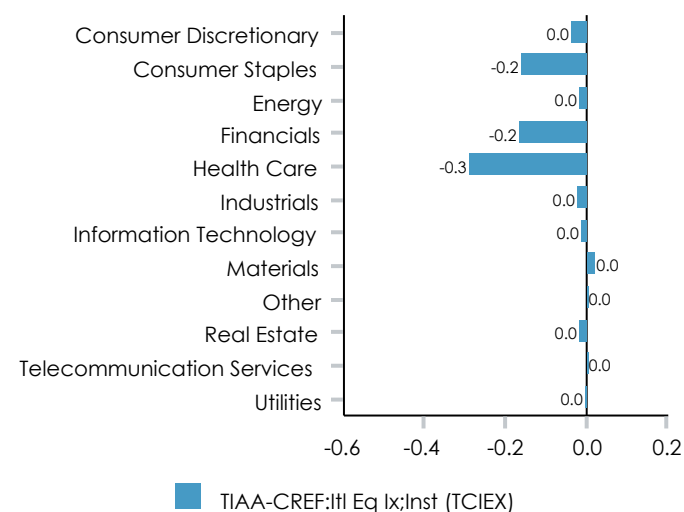
Top 10 Holdings (As of 4/30/2017)

|                                | Portfolio Weight (%) | Benchmark Weight (%) | Quarter Return (%) |
|--------------------------------|----------------------|----------------------|--------------------|
| Nestle SA                      | 2.0                  | 2.0                  | 16.9               |
| NOVARTIS AG                    | 1.4                  | 0.0                  | N/A                |
| HSBC Holdings PLC              | 1.3                  | 1.3                  | 14.9               |
| Roche Holding AG               | 1.3                  | 1.3                  | -0.2               |
| Toyota Motor Corp              | 1.0                  | 1.0                  | -3.2               |
| Royal Dutch Shell PLC          | 0.9                  | 0.9                  | 2.4                |
| British American Tobacco       | 0.9                  | 0.9                  | 2.3                |
| Sanofi                         | 0.8                  | 0.8                  | 9.0                |
| Commonwealth Bank of Australia | 0.8                  | 0.8                  | -3.0               |
| Total SA Oil & Gas             | 0.8                  | 0.8                  | -1.3               |
| % of Portfolio                 | 11.2                 | 9.8                  |                    |

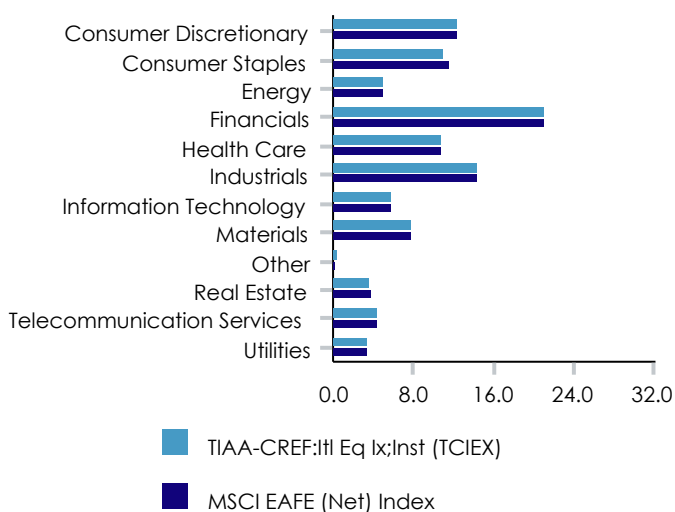
Market Cap Distribution (As of 4/30/2017)



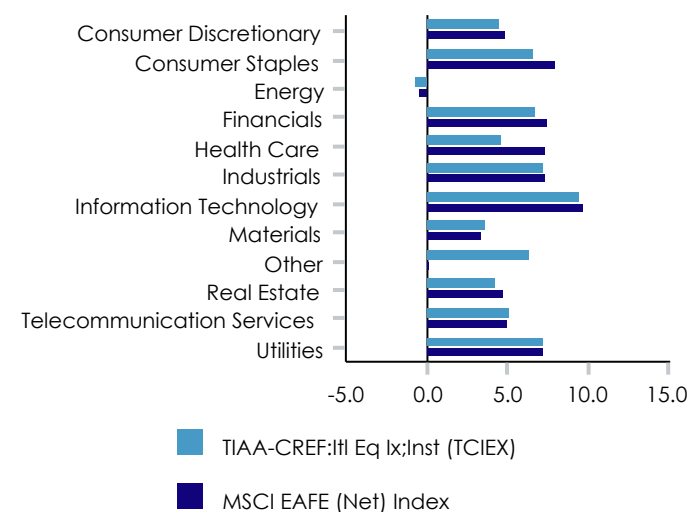
Sector Attribution (1 Quarter as of 4/30/2017)



Sector Allocation (1 Quarter as of 4/30/2017)

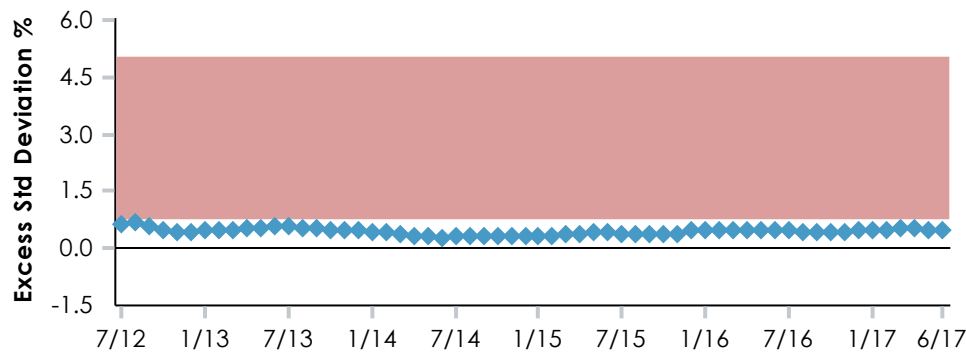


Sector Performance (1 Quarter as of 4/30/2017)



# TIAA-CREF Emerging Markets Equity Index (actual) vs. MSCI Emerging Markets (

## Short-term (Rolling 12 Months Tracking Error)

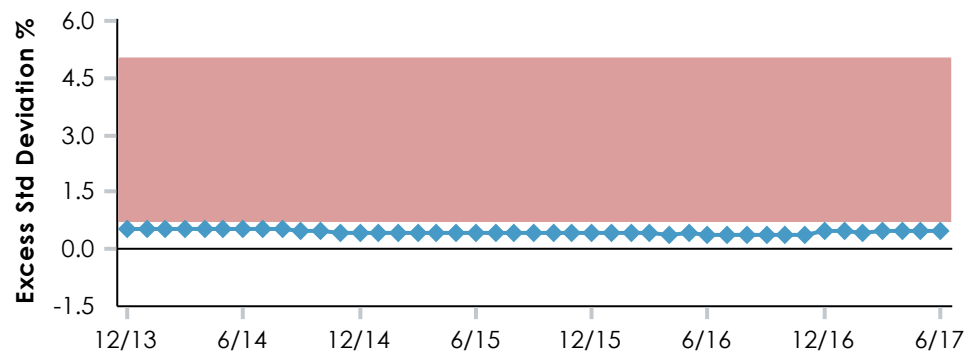


### Short-Term Performance

Positive

Probationary Performance 0.75%

## Medium-term (Rolling 36 Months Tracking Error)

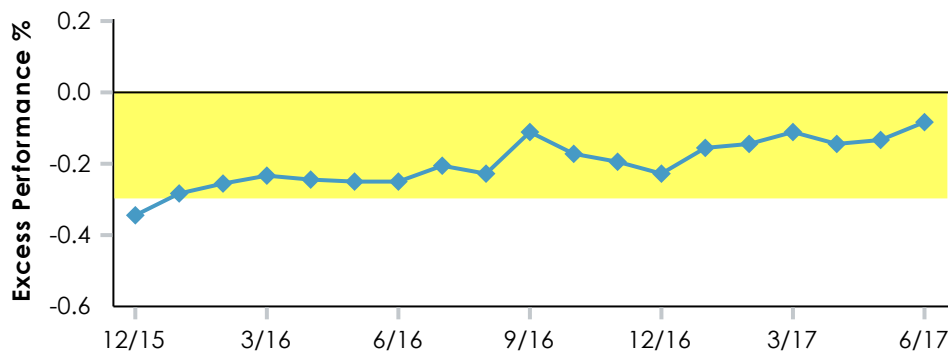


### Medium-Term Performance

Positive

Probationary Performance 0.70%

## Long-term (Rolling 60 Months Excess Performance)



### Long-Term Performance

Acceptable

Probationary Performance -0.30%

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|--|----------|-----------|----------|----------|---------------------|
| TIAA-CREF Emerging Markets Equity Index (actual) | 6.3 (39) | 24.0 (28) | 1.2 (42) | 3.9 (50) | 3.8 (49)            |
| MSCI Emerging Markets (Net)                      | 6.3 (40) | 23.7 (29) | 1.1 (43) | 4.0 (48) | 4.0 (46)            |
| IM Emerging Markets Equity (MF) Median           | 6.0      | 21.1      | 0.7      | 3.8      | 3.7                 |

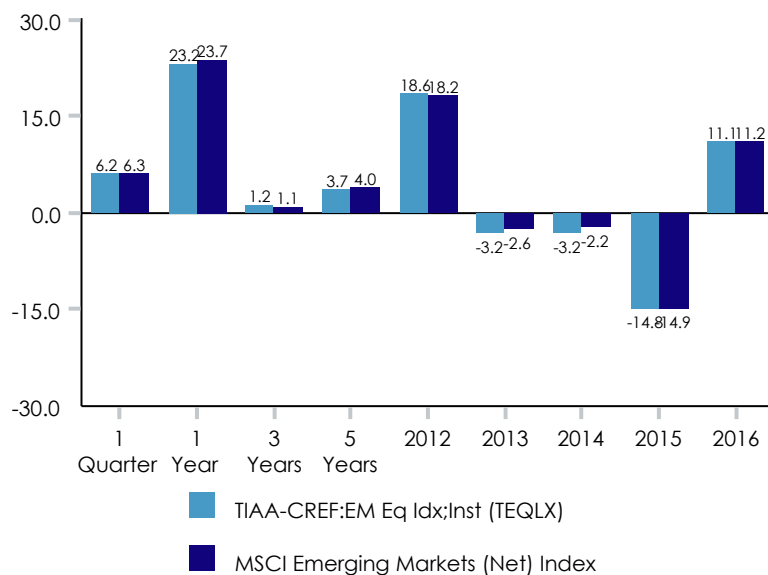
**Monitoring Status**

**Acceptable**

Mutual Fund Info

Product Name : TIAA-CREF:EM Eq Idx;Inst (TEQLX)  
 Fund Family : TIAA-CREF  
 Ticker : TEQLX  
 Peer Group : IM Emerging Markets Equity (MF)  
 Benchmark : MSCI Emerging Markets Index  
 Fund Inception : 08/31/2010  
 Portfolio Manager : Campagna/Liao  
 Total Assets : \$1,802 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 30%

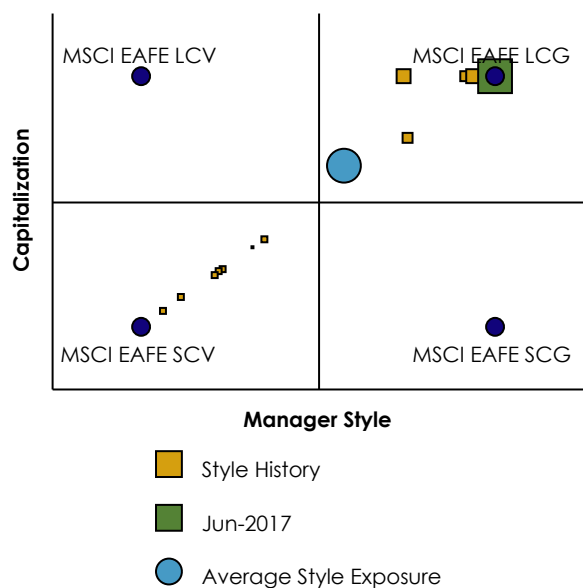
Comparative Performance



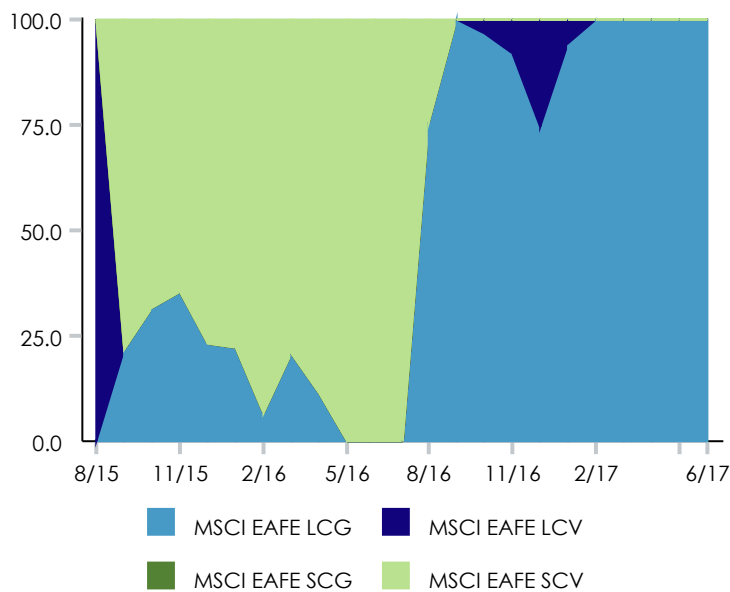
Fund Investment Policy

The Fund seeks a favorable long-term total return. The Fund seeks a favorable long-term total return from a diversified portfolio of equity securities selected to track publicly-traded stocks in emerging markets, as represented by its benchmark index, the MSCI Emerging Markets Index.

Style Map (3 Years)



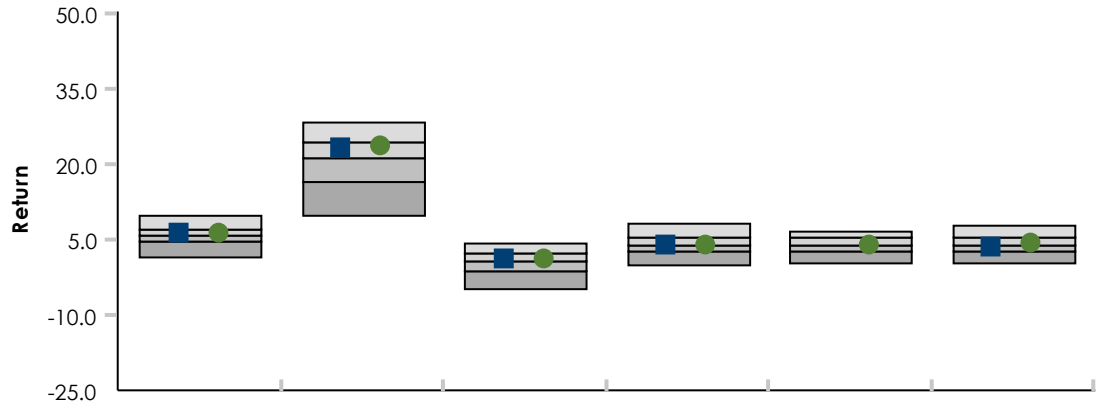
Style History (3 Years)



Historical Statistics (3 Years)

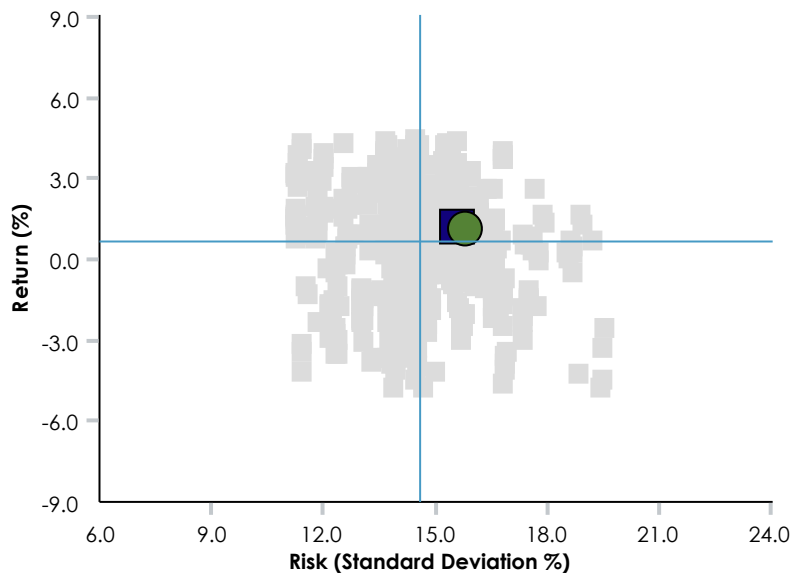
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF:EM Eq Idx;Inst (TEQLX)       | 1.2    | 15.6               | 0.1          | 0.1   | 1.0  | 1.0       | 1.4            | 0.0               | 99.4              | 99.1                |
| MSCI Emerging Markets (Net) Index      | 1.1    | 15.8               | 0.1          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM Emerging Markets Equity (MF) Median | 0.7    | 14.6               | 0.1          | -0.3  | 0.9  | 0.9       | 5.2            | -0.1              | 88.2              | 91.3                |

Peer Group Analysis



|                                     | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|-------------------------------------|-----------|-----------|----------|----------|----------|--------------------------|
| ■ TIAA-CREF:EM Eq Idx;Inst (TEQLX)  | 6.2 (42)  | 23.2 (33) | 1.2 (41) | 3.7 (54) | N/A      | 3.4 (56)                 |
| ● MSCI Emerging Markets (Net) Index | 6.3 (40)  | 23.7 (29) | 1.1 (43) | 4.0 (48) | 3.9 (49) | 4.0 (46)                 |
| Median                              | 6.0       | 21.1      | 0.7      | 3.8      | 3.8      | 3.7                      |

Peer Group Scattergram (3 Years)



Performance Statistics (3 Years)

|                        | Months | %    |
|------------------------|--------|------|
| <b>Market Capture</b>  |        |      |
| Up Markets             | 21     | 99.4 |
| Down Markets           | 15     | 99.1 |
| <b>Batting Average</b> |        |      |
| Up Markets             | 21     | 52.4 |
| Down Markets           | 15     | 46.7 |
| Overall                | 36     | 50.0 |

|                                     | Return | Standard Deviation |
|-------------------------------------|--------|--------------------|
| ■ TIAA-CREF:EM Eq Idx;Inst (TEQLX)  | 1.2    | 15.6               |
| ● MSCI Emerging Markets (Net) Index | 1.1    | 15.8               |
| — Median                            | 0.7    | 14.6               |

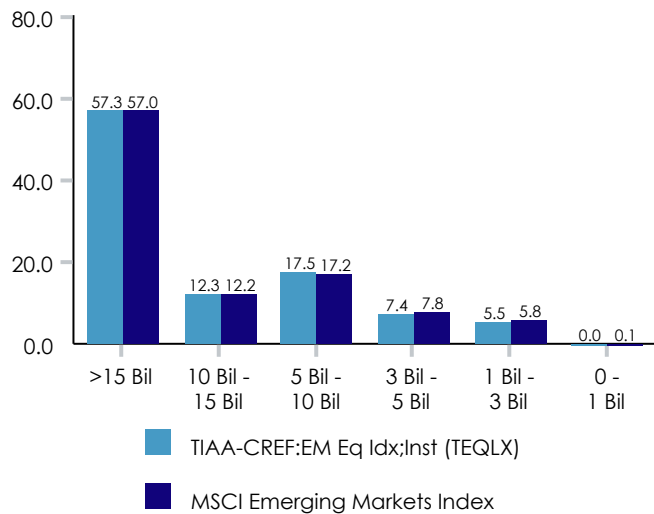
Portfolio Characteristics (As of 2/28/2017)

|                           | Portfolio | Benchmark |
|---------------------------|-----------|-----------|
| Wtd. Avg. Mkt. Cap (\$M)  | 60,285    | 68,310    |
| Median Mkt. Cap (\$M)     | 5,594     | 5,575     |
| Price/Earnings ratio      | 14.7      | 14.1      |
| Price/Book ratio          | 2.6       | 2.4       |
| 5 Yr. EPS Growth Rate (%) | 10.4      | 10.6      |
| Current Yield (%)         | 2.3       | 2.3       |
| Beta (5 Years, Monthly)   | 1.0       | 1.0       |
| Number of Stocks          | 818       | 845       |

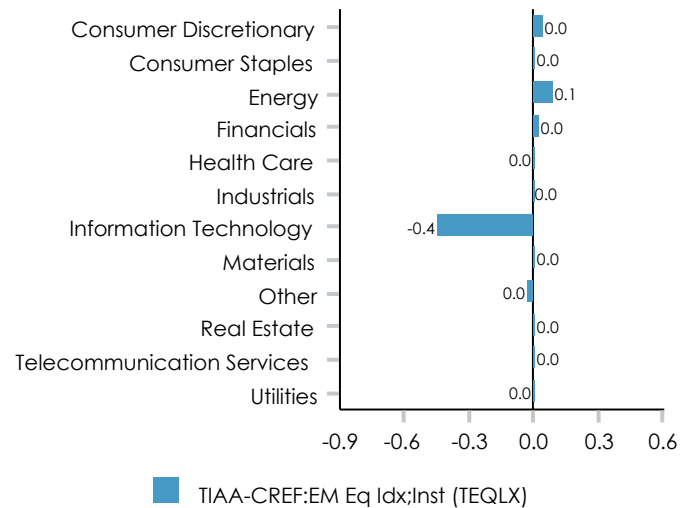
Top 10 Holdings (As of 2/28/2017)

|  | Portfolio Weight (%) | Benchmark Weight (%) |
|--|----------------------|----------------------|
| Tencent Holdings LTD                   | 4.6                  | 4.4                  |
| Taiwan Semiconductor                   | 3.7                  | 3.6                  |
| Alibaba Group Holding Ltd              | 3.6                  | 3.4                  |
| Naspers Ltd                            | 2.0                  | 1.8                  |
| iShares Core MSCI Emerging Markets ETF | 1.6                  | 0.0                  |
| China Construction Bank Corp           | 1.5                  | 1.4                  |
| China Mobile Ltd                       | 1.5                  | 1.4                  |
| Hon Hai Precision Industry             | 1.3                  | 1.3                  |
| Ind & Comm Bank of China               | 1.2                  | 1.1                  |
| Baidu Inc                              | 1.1                  | 1.0                  |
| % of Portfolio                         | 22.1                 | 19.4                 |

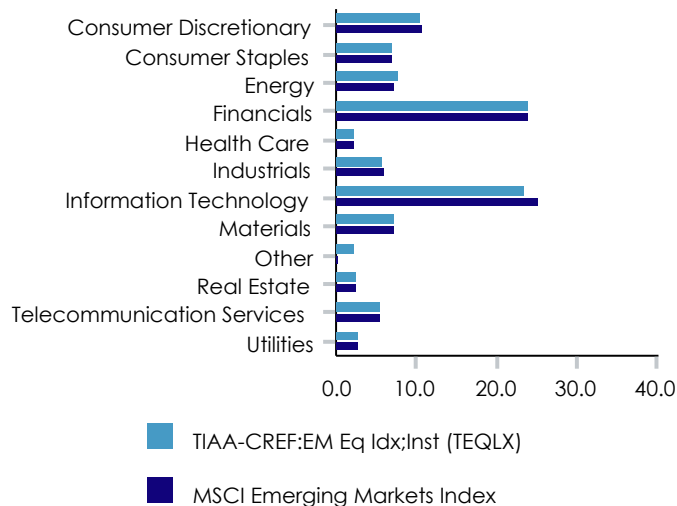
Market Cap Distribution (As of 2/28/2017)



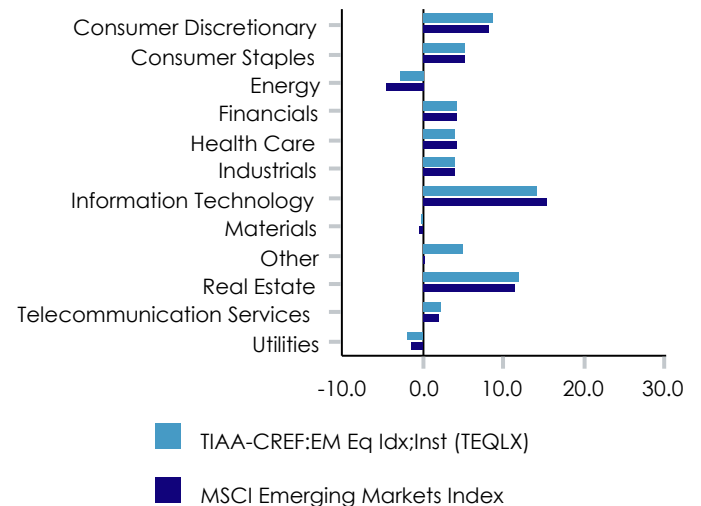
Sector Attribution (1 Quarter as of 2/28/2017)



Sector Allocation (1 Quarter as of 2/28/2017)

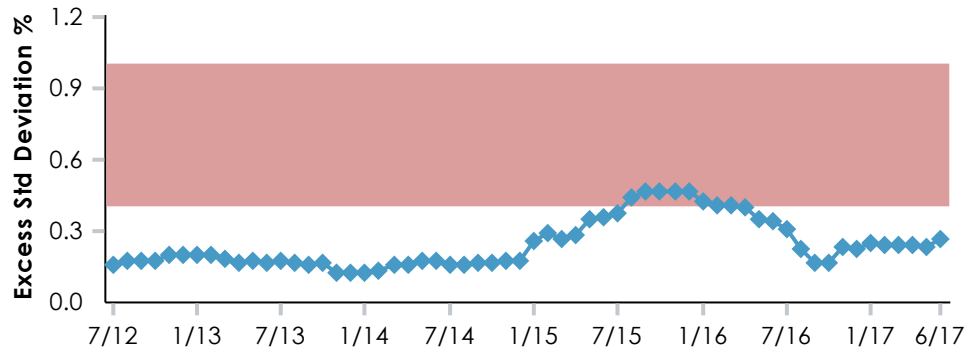


Sector Performance (1 Quarter as of 2/28/2017)



# TIAA-CREF Bond Index I vs. BBg BC U.S. Aggregate Index

## Short-term (Rolling 12 Months Tracking Error)

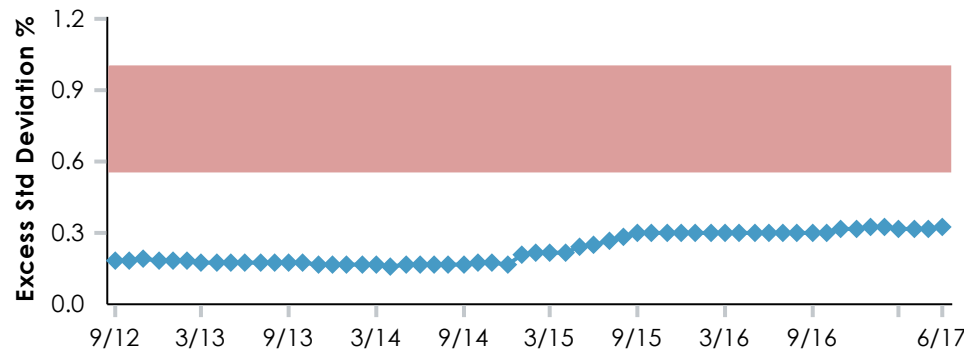


### Short-Term Performance

Positive

Probationary Performance 0.40%

## Medium-term (Rolling 36 Months Tracking Error)

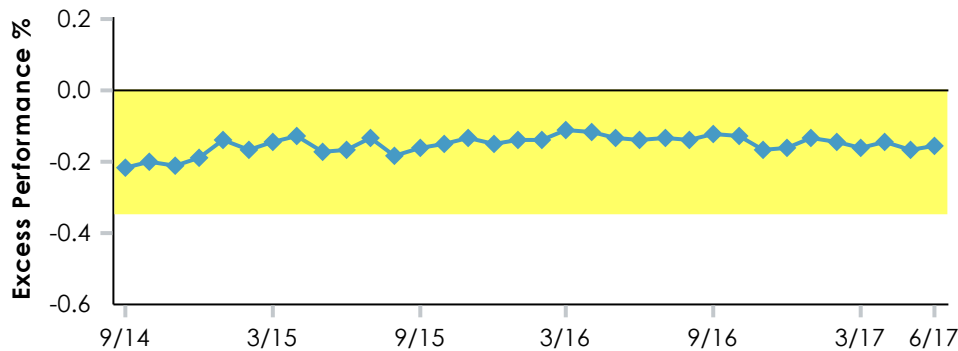


### Medium-Term Performance

Positive

Probationary Performance 0.55%

## Long-term (Rolling 60 Months Excess Performance)



### Long-Term Performance

Acceptable

Probationary Performance -0.35%

## Annualized Performance Results (Net of management fees)

|  | Qtr      | 1 Year    | 3 Years  | 5 Years  | Inception (12/2011) |
|--|----------|-----------|----------|----------|---------------------|
| TIAA-CREF Bond Index I                             | 1.4 (53) | -0.5 (80) | 2.4 (36) | 2.1 (66) | 2.5 (72)            |
| BBg BC U.S. Aggregate Index                        | 1.4 (52) | -0.3 (73) | 2.5 (27) | 2.2 (54) | 2.6 (61)            |
| IM U.S. Broad Market Core Fixed Income (MF) Median | 1.5      | 0.3       | 2.2      | 2.3      | 2.8                 |

**Monitoring Status**

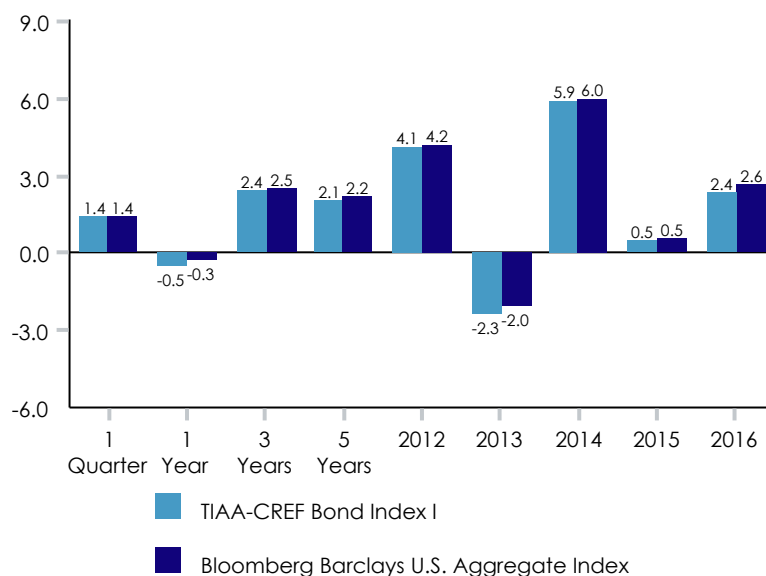
**Acceptable**



Mutual Fund Info

Product Name : TIAA-CREF:Bond Indx;Inst (TBIX)  
 Fund Family : TIAA-CREF  
 Ticker : TBIX  
 Peer Group : IM U.S. Broad Market Core Fixed Income (MF)  
 Benchmark : Bloomberg Barclays U.S. Aggregate  
 Fund Inception : 09/14/2009  
 Portfolio Manager : Chen/Tsang  
 Total Assets : \$7,888 Million  
 Total Assets Date : 06/30/2017  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 14%

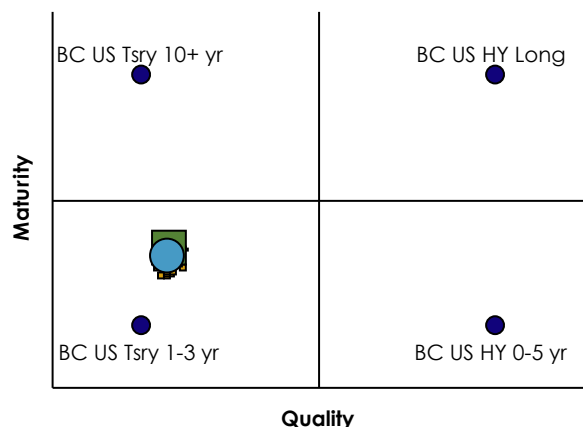
Comparative Performance



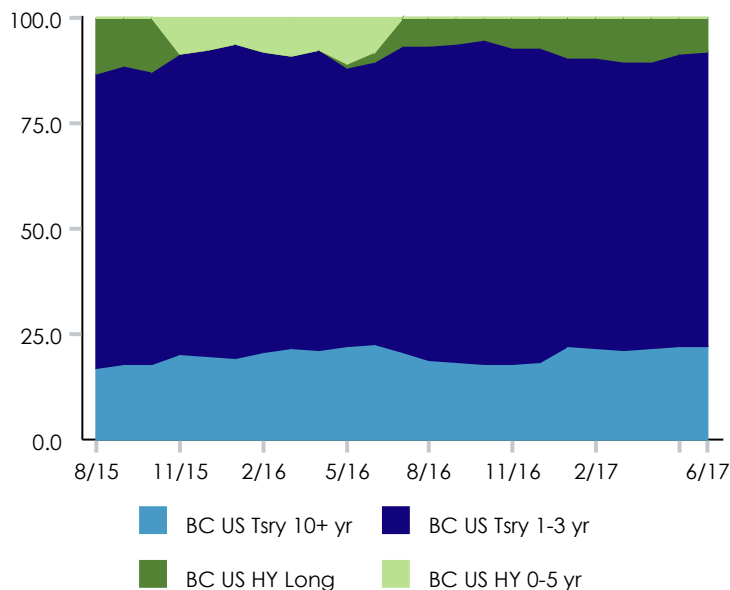
Fund Investment Policy

The Fund seeks a favorable long term total return. The Fund invests at least 80% of its assets bonds within its benchmark and portfolio tracking index, the Barclay's Capital U.S. Aggregate Bond Index.

Style Map (3 Years)



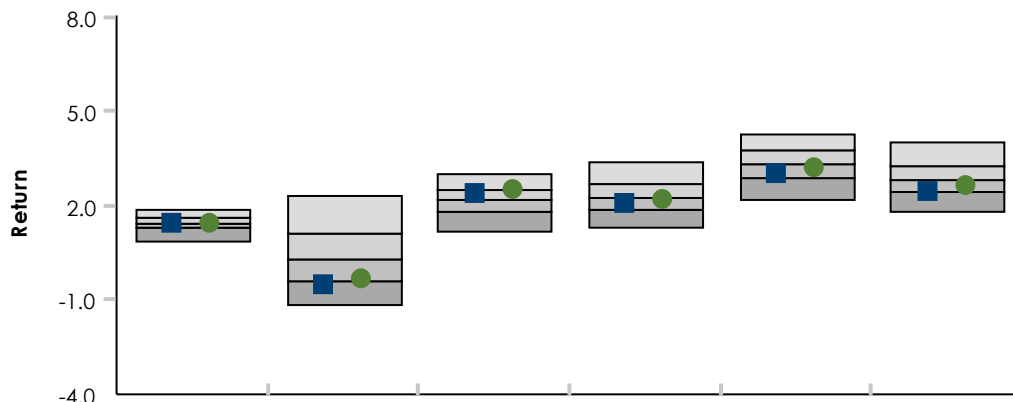
Style History (3 Years)



## Historical Statistics (3 Years)

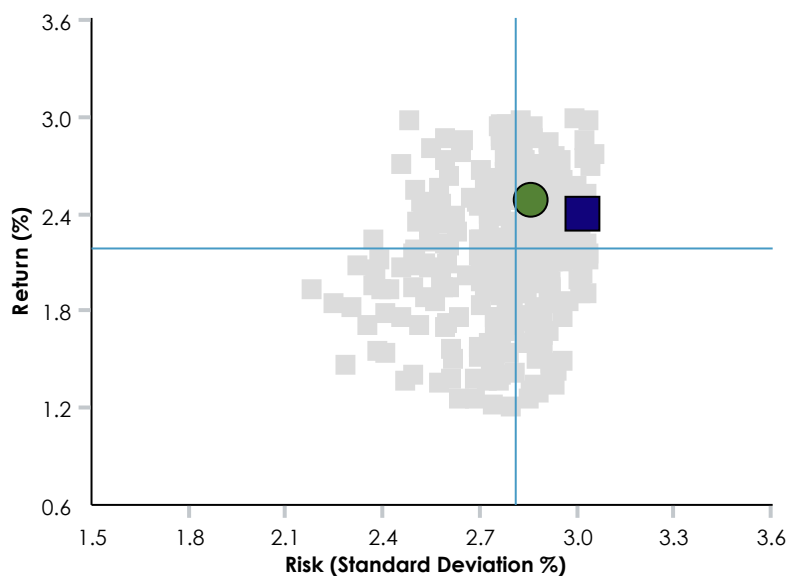
|  | Return | Standard Deviation | Sharpe Ratio | Alpha | Beta | R-Squared | Tracking Error | Information Ratio | Up Market Capture | Down Market Capture |
|--|--------|--------------------|--------------|-------|------|-----------|----------------|-------------------|-------------------|---------------------|
| TIAA-CREF Bond Index I                             | 2.4    | 3.0                | 0.7          | -0.2  | 1.1  | 1.0       | 0.3            | -0.2              | 102.4             | 107.8               |
| Bloomberg Barclays U.S. Aggregate Index            | 2.5    | 2.9                | 0.8          | 0.0   | 1.0  | 1.0       | 0.0            | N/A               | 100.0             | 100.0               |
| IM U.S. Broad Market Core Fixed Income (MF) Median | 2.2    | 2.8                | 0.7          | -0.1  | 0.9  | 0.9       | 0.7            | -0.4              | 94.7              | 99.6                |

## Peer Group Analysis



|   | 1 Quarter | 1 Year    | 3 Years  | 5 Years  | 7 Years  | Since Inception Dec-2011 |
|---|-----------|-----------|----------|----------|----------|--------------------------|
| ■ TIAA-CREF Bond Index I                  | 1.4 (53)  | -0.5 (80) | 2.4 (36) | 2.1 (66) | 3.0 (65) | 2.5 (72)                 |
| ● Bloomberg Barclays U.S. Aggregate Index | 1.4 (52)  | -0.3 (73) | 2.5 (27) | 2.2 (54) | 3.2 (57) | 2.6 (61)                 |
| Median                                    | 1.5       | 0.3       | 2.2      | 2.3      | 3.3      | 2.8                      |

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

|                        | Months | %     |
|------------------------|--------|-------|
| <b>Market Capture</b>  |        |       |
| Up Markets             | 21     | 102.4 |
| Down Markets           | 15     | 107.8 |
| <b>Batting Average</b> |        |       |
| Up Markets             | 21     | 52.4  |
| Down Markets           | 15     | 33.3  |
| Overall                | 36     | 44.4  |

|   | Return | Standard Deviation |
|---|--------|--------------------|
| ■ TIAA-CREF Bond Index I                  | 2.4    | 3.0                |
| ● Bloomberg Barclays U.S. Aggregate Index | 2.5    | 2.9                |
| — Median                                  | 2.2    | 2.8                |

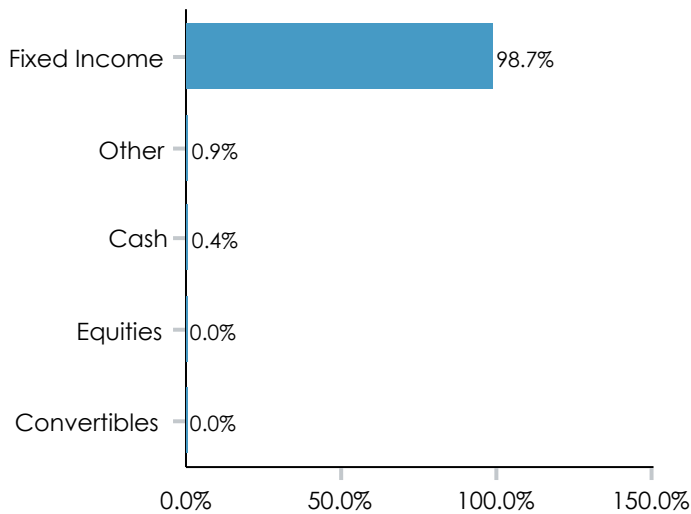
**Portfolio Characteristics (As of 3/31/2017)**

|                     |            |
|---------------------|------------|
| Avg. Coupon         | 2.98 %     |
| Nominal Maturity    | 7.92 Years |
| Effective Maturity  | N/A        |
| Duration            | 5.97 Years |
| SEC 30 Day Yield    | 2.8        |
| Avg. Credit Quality | AA         |

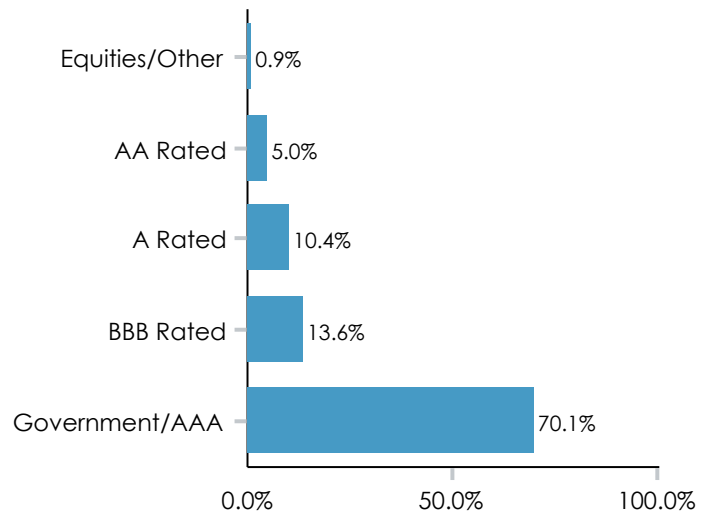
**Top 10 Holdings (As of 3/31/2017)**

|                              |        |
|------------------------------|--------|
| Treasury Notes/Bonds         | 36.2 % |
| GNMA and Other Mtg Backed    | 29.5 % |
| Corporate Notes/Bonds        | 20.7 % |
| US\$ Denominated Fgn. Gvt.   | 9.2 %  |
| Government Agency Securities | 2.2 %  |
| Asset Backed Securities      | 0.9 %  |

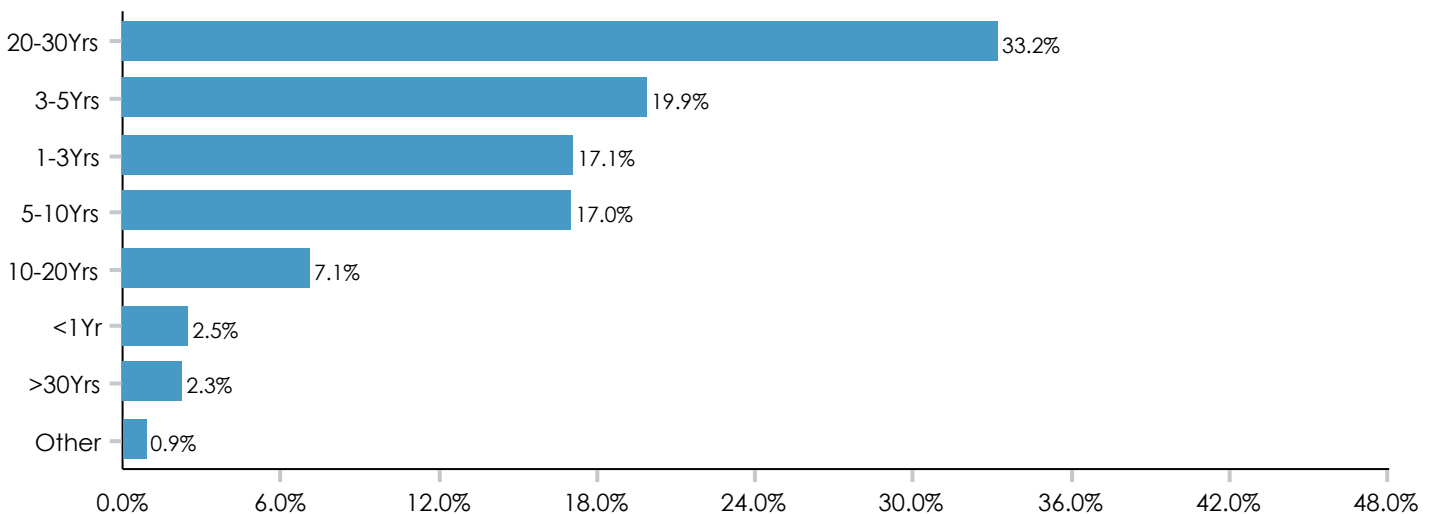
**Asset Allocation (As of 3/31/2017)**



**Quality Allocation (As of 3/31/2017)**



**Maturity Distribution (As of 3/31/2017)**



## T-C LIFE FUNDING AGREEMENTS

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# T-C LIFE FUNDING AGREEMENTS

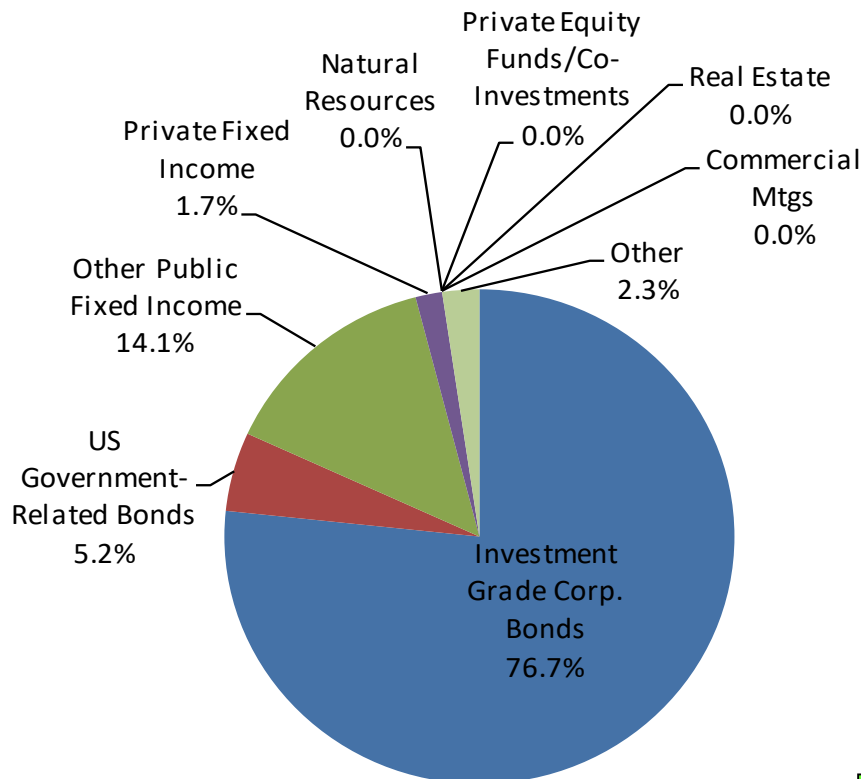
(based on non-investment performance criteria)

| Criteria                       | Status as of 6/30/2017   | Status as of 3/31/2017   | Status as of 12/31/2016  | Status as of 9/30/2016   |
|--------------------------------|--|--|--|--|
| <b>Financial Strength</b>      | Moody's = Aa1<br>Standard & Poor's = AA+<br>A.M. Best = A++<br>Fitch = AAA | Moody's = Aa1<br>Standard & Poor's = AA+<br>A.M. Best = A++<br>Fitch = AAA | Moody's = Aa1<br>Standard & Poor's = AA+<br>A.M. Best = A++<br>Fitch = AAA | Moody's = Aa1<br>Standard & Poor's = AA+<br>A.M. Best = A++<br>Fitch = AAA |
| <b>Mortgage Portfolio</b>      | 100% in Good Standing*   | 100% in Good Standing*   | 100% in Good Standing*   | 100% in Good Standing*   |
| <b>Bond Portfolio</b>          | 98.90% in Investment Grade (at least 90%)                                  | 98.70% in Investment Grade (at least 90%)                                  | 98.60% in Investment Grade (at least 90%)                                  | 98.40% in Investment Grade (at least 90%)                                  |
| <b>Account Diversification</b> | Portfolio is diversified across asset classes and types (see chart below)  | Portfolio is diversified across asset classes and types (see chart below)  | Portfolio is diversified across asset classes and types (see chart below)  | Portfolio is diversified across asset classes and types (see chart below)  |

\*Portfolio did not contain any commercial mortgages.

Note, prior-period investment status will shift to the right.

Source: TIAA-CREF



**Current Status**

**Positive**

## SECTION 5

## SUMMARY POINTS

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# SUMMARY POINTS

|                                      | Criteria Utilized for Performance Watch Status |                             |                             |                             |
|--------------------------------------|--|-----------------------------|-----------------------------|-----------------------------|
|                                      | On Watch                                       | Short-term                  | Medium-term                 | Long-term                   |
| T. Rowe Price Instl Large Cap Growth | No   | ---                         | ---                         | ---                         |
| T. Rowe Price Instl Large Cap Value  | No   | ---                         | ---                         | ---                         |
| TIAA-CREF Small Cap Equity           | No   | ---                         | ---                         | ---                         |
| TIAA-CREF Social Choice Equity       | No   | ---                         | ---                         | ✓                           |
| TIAA-CREF Real Estate Securities     | No   | ---                         | ---                         | ---                         |
| DFA Large Cap International          | No   | ---                         | ---                         | ---                         |
| DFA Emerging Markets Core Equity     | No   | ---                         | ---                         | ---                         |
| Metropolitan West Total Return Bond  | No   | ---                         | ---                         | N/A                         |
| PIMCO Real Return                    | No   | ---                         | ---                         | ---                         |
| PIMCO Income                         | No   | ---                         | ---                         | ---                         |
| TIAA-CREF Inflation-Linked Bond      | No   | ---                         | ---                         | ---                         |
| T. Rowe Price Instl Floating Rate    | No   | ---                         | ---                         | ---                         |
| TIAA-CREF High Yield Bond            | No   | ---                         | ---                         | ---                         |
| TIAA-CREF Equity Index               | No   | ---                         | ---                         | ---                         |
| TIAA-CREF S&P 500 Index              | No   | ---                         | ---                         | ---                         |
| TIAA-CREF International Eq Index     | No   | ---                         | ---                         | ---                         |
| TIAA-CREF Emerging Markets Eq Index  | No   | ---                         | ---                         | ---                         |
| TIAA-CREF Bond Index                 | No   | ---                         | ---                         | ---                         |
| T-C Life Funding Agreements          | No   | N/A                         | N/A                         | N/A                         |
| Total                                | 0 of 19  | 0 of 18 eligible portfolios | 0 of 18 eligible portfolios | 1 of 17 eligible portfolios |

- Performance-based watch status criteria is on a *relative* basis
  - Absolute results may still be negative
  
- Criteria set up to evaluate managers over differing time periods

**SECTION 6**

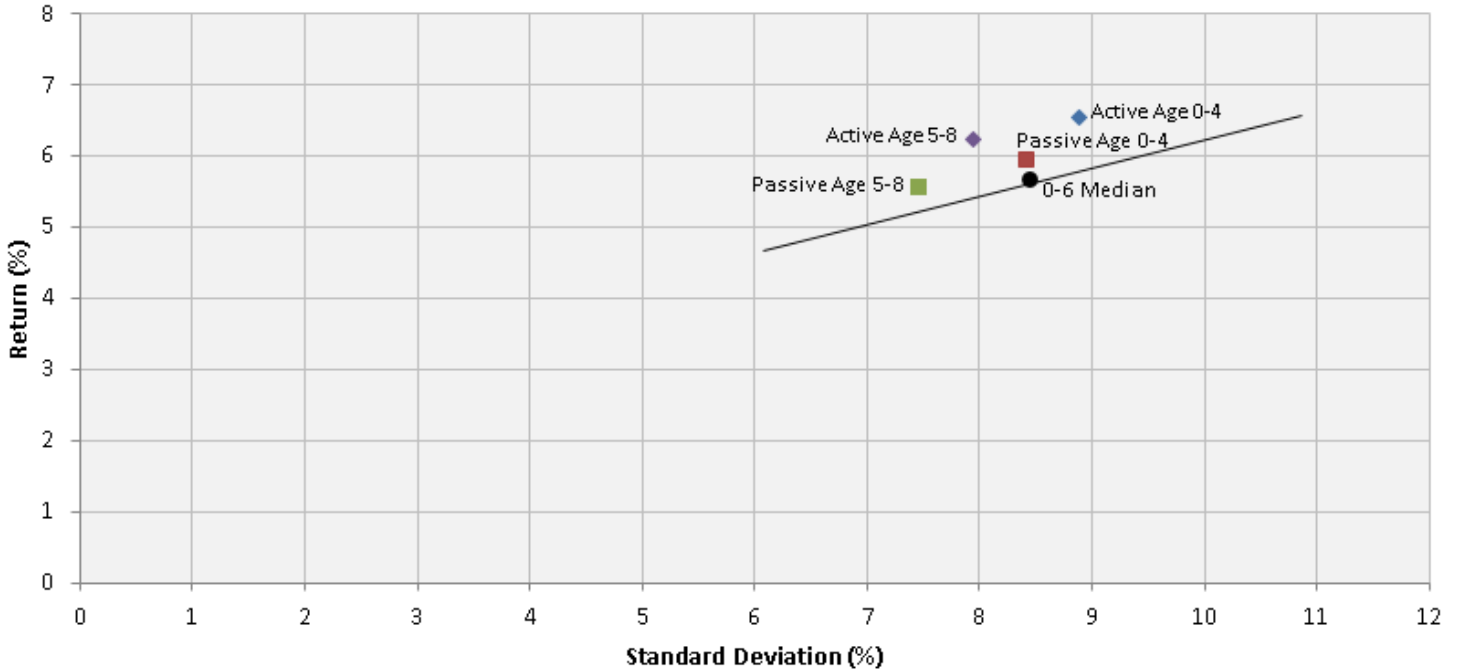
**AGE-BASED FUND ANALYSIS**

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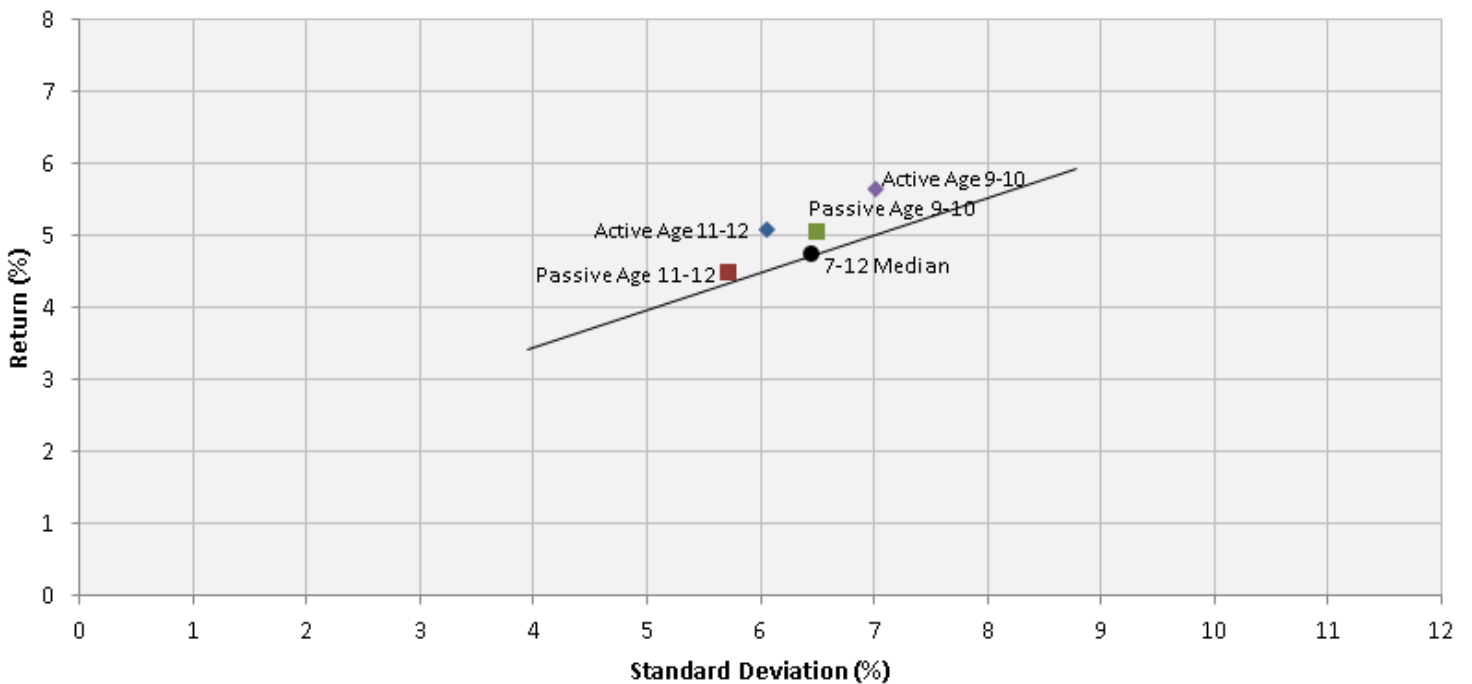


# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 0-6 : 3-YEAR (as of 6/30/2017)



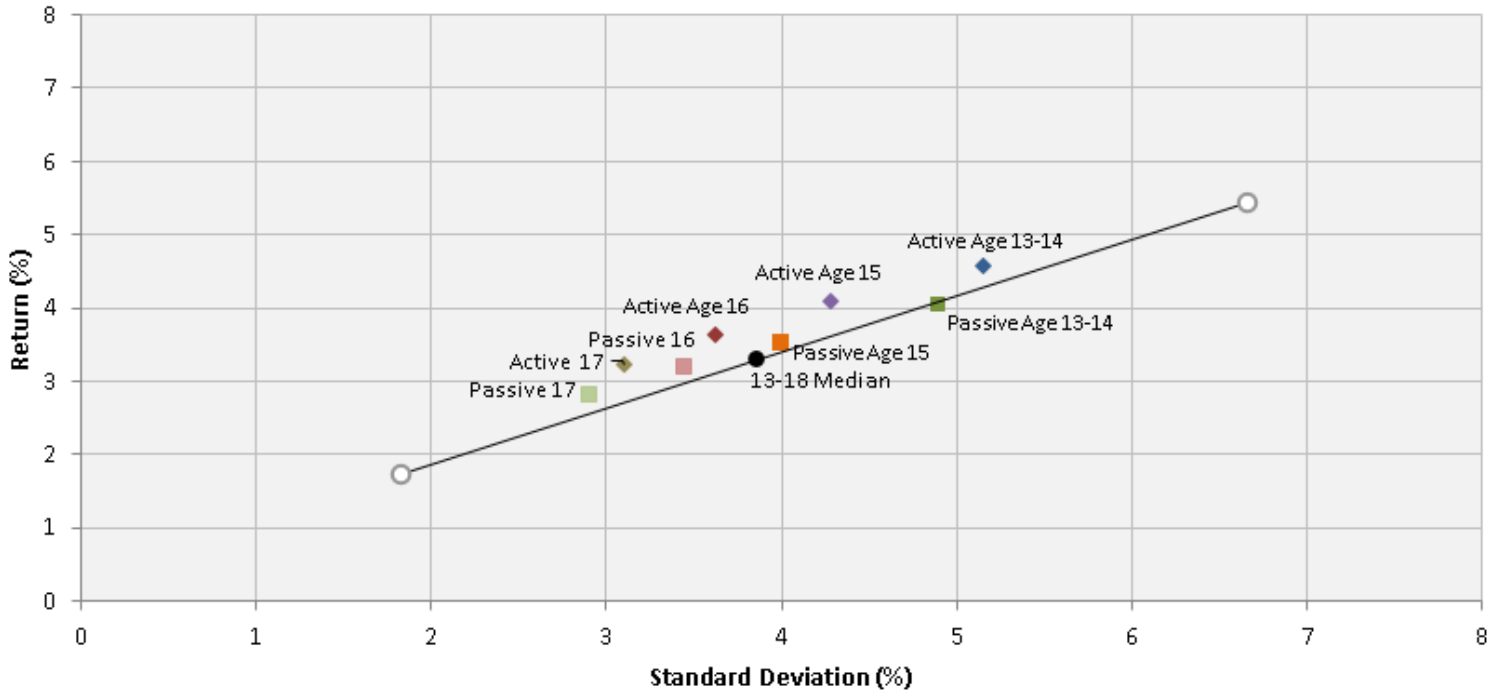
## AGE 7-13 : 3-YEAR (as of 6/30/2017)



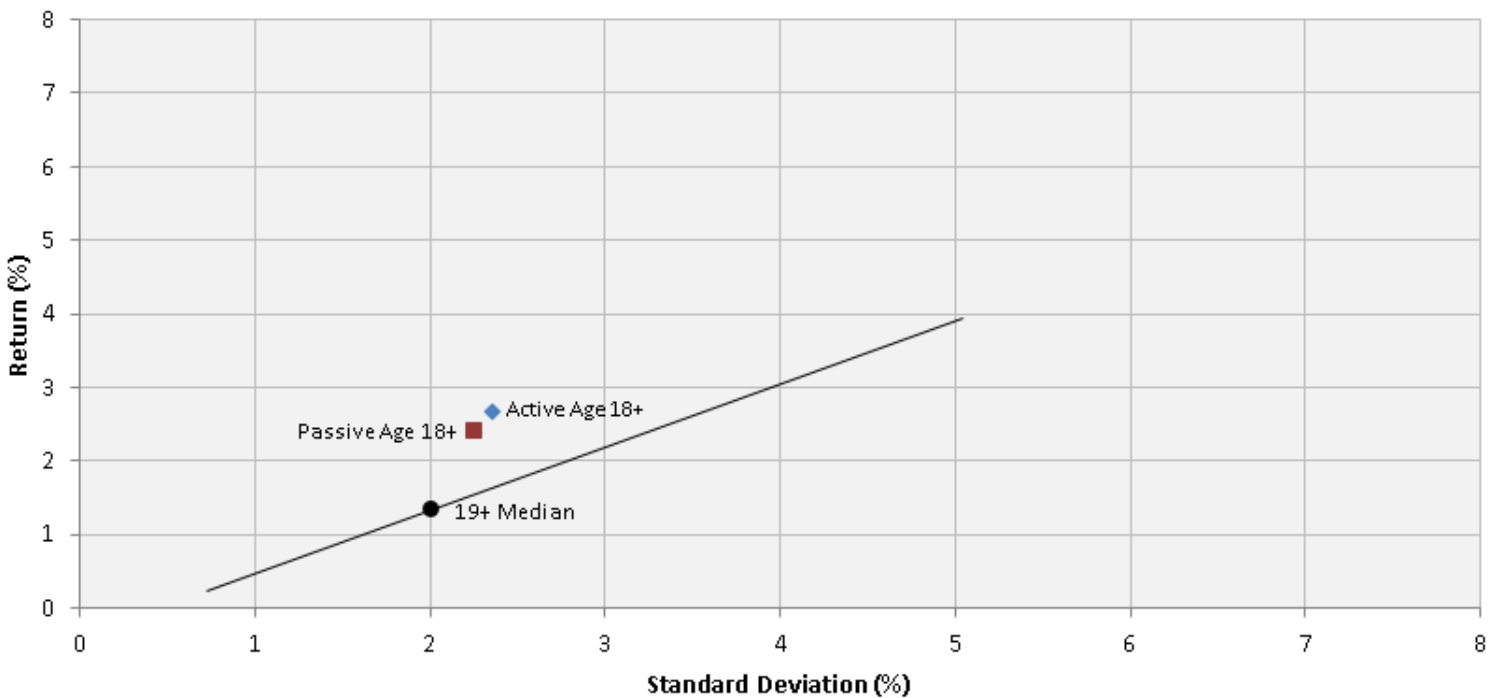
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 13-18 : 3-YEAR (as of 6/30/2017)



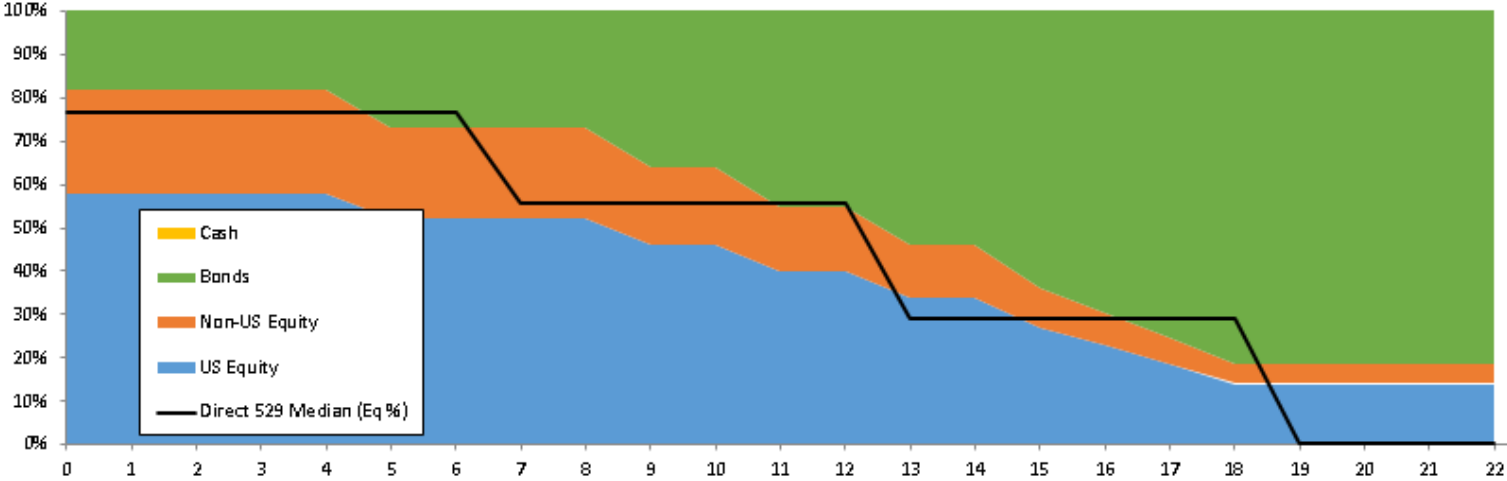
## AGE 19+ : 3-YEAR (as of 6/30/2017)



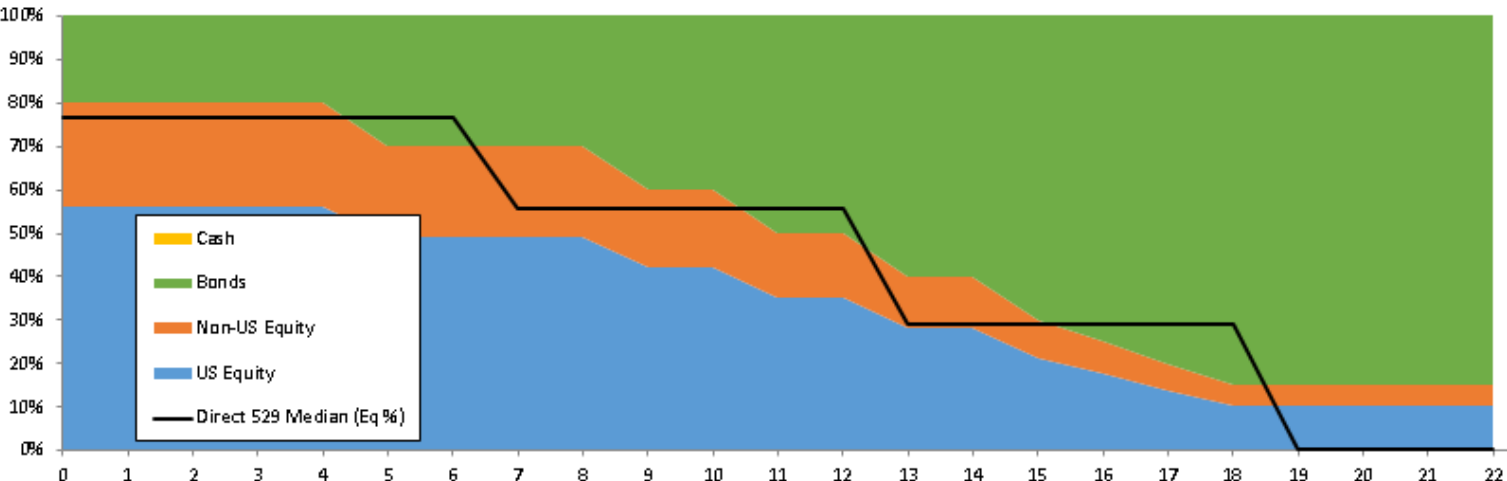
Source: Morningstar

# SCHOLARSHARE AGE-BASED GLIDEPATH

## ACTIVE AGE-BASED PORTFOLIO



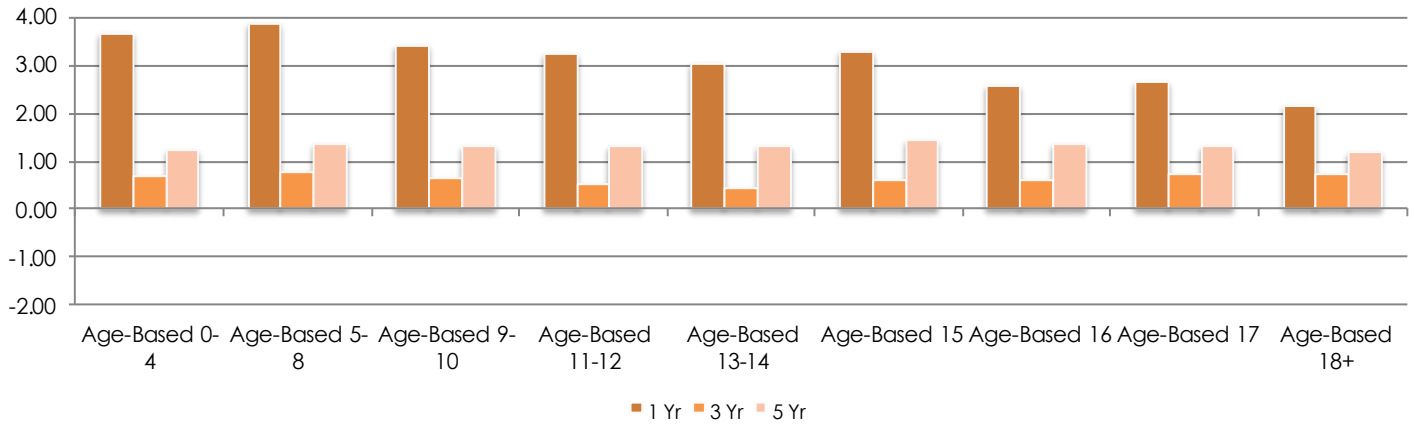
## PASSIVE AGE-BASED PORTFOLIO



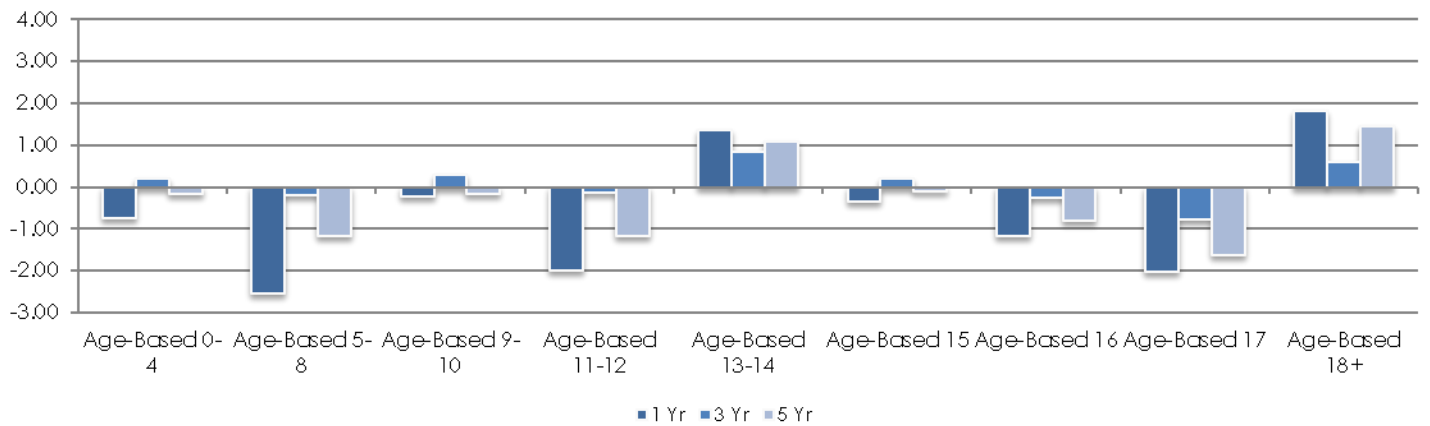
# SCHOLARSHARE AGE-BASED ATTRIBUTION

## ACTIVE AGE-BASED PORTFOLIO

Contribution to Return From Selection



Contribution to Return From Allocation



# APPENDIX

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# GLOSSARY

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**Annualized Return** – The average annual return of either the manager or its benchmark.

**Excess Performance** – Manager returns in excess of the benchmark returns.

**Standard Deviation** – A measure of dispersion of a set of data from its mean.

**Excess Standard Deviation** – A measure of the volatility of the average annual difference between the manager's return and the benchmark's return, same as tracking error.

**VRR – Value Relative Ratio** – Is calculated as:  $\text{Manager Cumulative Return} / \text{Benchmark Cumulative Return}$ .

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**Date:** August 31, 2017  
**To:** ScholarShare Investment Board (SIB)  
**From:** Pension Consulting Alliance, LLC (PCA)  
**CC:** Allan Emkin – PCA; Eric White, CFA – PCA; Kay Ceserani – PCA  
**RE: Review of Underlying Funds Qualifying for “Watch” Status**

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**Summary**

PCA has conducted a review of the underlying funds in the ScholarShare College Savings Plan. The review included a quantitative analysis of the underlying funds based on specific performance criteria (as per the *Monitoring Procedures and Criteria*) as well as a qualitative analysis, including a review of organizational concerns, stability of personnel, changes in investment objectives, etc. This memo summarizes the period from April 1, 2017 through June 30, 2017.

PCA has determined that as of June 30, 2017, one fund qualifies for “Watch” status due to performance concerns. PCA recommends the TIAA-CREF Social Choice Equity fund be placed on “Watch” status. This fund is discussed in more detail on the following pages.

**Performance of Funds on Watch Status  
As of 6/30/2017**

| Funds on Watch Status          | Board Action Date | Watch Status Start Date | No. Months Since Watch Began | Excess Perf. Since Watch Began |
|--------------------------------|-------------------|-------------------------|------------------------------|--------------------------------|
| TIAA-CREF Social Choice Equity | Pending           | Pending                 | ---                          | ---                            |



## Background

### Funds Currently on “Watch” Status

As of June 30, 2017, no funds were on “Watch” status.

### Funds Qualifying for “Watch” Status

PCA has conducted a review of the underlying funds in the ScholarShare College Savings Plan (see the 2Q2017 ScholarShare College Savings Plan Investment Performance Status Report), and determined that one fund, the TIAA-CREF Social Choice Equity fund, qualifies for “Watch” status. As of June 30, 2017, the fund breached the long-term Watch List Criteria with a Value Relative Ratio (VRR)<sup>1</sup> of < 0.97 for the last six consecutive months. The long-term Watch criteria for the fund had taken effect as of the latest period end, following the fund’s five-year Program inception.

### TIAA-CREF Social Choice Equity Fund

The fund qualifies for “Watch” status as of June 30, 2017, as long-term performance places below acceptable limits as per the Program’s *Monitoring Procedures and Criteria*.

### *Investment Role in Program*

The investment seeks a favorable long-term total return that reflects the investment performance of the overall U.S. stock market while giving special consideration to certain ESG criteria. Under normal circumstances, the fund invests at least 80% of its assets in equity securities. The fund attempts to achieve the return of the U.S. stock market as represented by its benchmark, the Russell 3000 Index, while investing only in companies whose activities are consistent with the fund’s ESG criteria.

### *History and Organizational Structure*

In October 2014, TIAA completed its acquisition of Nuveen Investments. In 2016, the executive management, distribution teams, marketing organization and other non-investment functions of TIAA-CREF Asset Management and Nuveen Investments were combined into a unified operating structure. In January of 2017, the company rebranded the organization as Nuveen to deliver all their capabilities under one name and operating mandate; Nuveen has become the umbrella brand for TIAA’s asset management capabilities, including TIAA Investments, which oversees TIAA-CREF branded mutual funds.

Nuveen brings together the investment heritage of two 100-year-old companies and the specialist knowledge of their affiliates to be a global asset manager dedicated to helping their clients achieve their investment goals. Nuveen has been providing investment solutions and strategies to a wide range of clients worldwide, including institutional investors, intermediaries, plan sponsors, investment and pension consultants, and individual investors. They are one of the largest global asset managers across multiple asset classes.

Teachers Insurance and Annuity Association of America® (TIAA®) has built its reputation on its long-term investment capabilities, below-average expenses and seasoned portfolio managers. Their extensive capabilities give their portfolio managers access to investment opportunities throughout the world.

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<sup>1</sup> VRR – Value Relative Ratio – is calculated as: Manager Cumulative Return / Benchmark Cumulative Return

### *Investment Team*

Philip James Campagna is the lead portfolio manager for the fund. Mr. Campagna is a quantitative portfolio manager and has portfolio management responsibilities for all TIAA-CREF equity index strategies and the Social Choice Equity fund. He joined TIAA-CREF in February 2005, became a manager on the Social Choice Equity fund at the end of 2005, and has more than 15 years of investment experience. His prior experience includes seven years at Mellon Capital Management where he was responsible for several mandates and was an index strategy manager.

Lei Liao joined Mr. Campagna as a portfolio manager on the fund in May 2014. Mr. Liao is a managing director and equity index portfolio manager for TIAA. He has 13 years of industry experience, including several years at Northern Trust as a senior equity portfolio manager.

Both portfolio managers are responsible for the day-to-day investment management of the strategy. The fund is also supported by the Responsible Investment Team. While the Responsible Investment Team does not make investment decisions on the portfolio, they do develop the criteria for the eligible investment universe.

### *Investment Philosophy and Approach*

The Social Choice Equity strategy's underlying philosophy is to offer competitive returns consistent with the performance of the Russell 3000 Index while giving special consideration to certain environmental, social, and governance (ESG) criteria. The strategy seeks returns consistent with a broad U.S. core equity benchmark and a portfolio that has higher ESG performance quality relative to the benchmark.

TIAA's ESG criteria for the Social Choice Equity fund seeks to include companies that are leaders within their respective sectors on ESG performance. This performance should reflect a company's positive and negative impacts on its key stakeholders: employees, communities, customers, suppliers, and the planet. Public company performance evaluations should be based on the ESG factors most relevant to the industry a company operates in while also reflecting a company's adherence to international norms and conventions. Typically, ESG performance categories can include: environmental factors related to climate change, natural resource use, waste management, and environmental opportunities; social factors related to human capital, product safety, and social opportunities; and governance factors related to corporate governance, business ethics, and government & public policy.

Additionally, the eligible universe:

- Has no categorical industry exclusions; however, companies' exposure to historically controversial businesses (e.g., alcohol, firearms, tobacco) is incorporated into their overall ESG performance assessment. While not automatically excluded from the fund, companies with exposure are typically ineligible for inclusion.
- Balances considerations of company strengths and weaknesses in ESG performance.
- Leverages a research process that is built upon diverse sources and the input of multiple stakeholders.
- Results in a portfolio with significantly higher ESG performance than the benchmark.

Consistent with the approach used in all TIAA Global Asset Management's Social Choice products, TIAA partners with leading independent ESG research providers to implement the ESG guidelines and criteria they have established for the fund. Their partnership with established ESG research partners increases the transparency of the ESG evaluation processes and decisions

and provides TIAA Global Asset Management's equity portfolio managers with broadly diversified and reasonably sized eligible investment universes from which to build portfolios that can achieve their investment mandates.

The team has developed a comprehensive and robust due diligence process to evaluate existing and potential ESG research partners. All potential research partners are assessed per an internally developed framework that includes consideration of the partner's track record and history in ESG research and analysis, analytical capabilities, sources of data utilized, comprehensive factors that encompass a broad range of ESG issues, and consistent ESG methodologies applied across regions.

The portfolio managers for the Social Choice Equity fund begin with the eligible universe of securities and, combining industry-recognized optimization techniques with proprietary enhancements, seek to match the risk characteristics of the fund's underlying benchmark: the Russell 3000 Index. The intent is to neutralize, to the extent possible, the inherent biases introduced by the constrained universe of securities. Using a non-proprietary, industry-recognized risk model, the team can avoid unintended exposure to any common or security-specific sources of risk. Its models are designed to replicate the risk characteristics of the Russell 3000 Index and does not try to identify specific stocks that will perform better or worse than the Index. This results in a well-balanced and diversified portfolio that allows them to better track the benchmark with minimal risk. The portfolio's sector weightings do not deviate too far from the benchmark because the process is designed to avoid large sector bets. The fund keeps underweightings in certain industries, such as big oil companies and money-center banks, and overweightings in other areas to keep sector weightings close to the benchmark. These differences frequently help or hurt the fund relative to the broader market in the short-term, but have tended to balance out over time. Since Mr. Campagna joined the portfolio management team in late 2005, there has been less of an emphasis on excluding companies and more on finding stocks that best fit a set of positive criteria.

The risk model incorporates industry and style factors to capture risk due to the sources common to the universe of equity securities and a sub-model to capture security-specific risk. The models use covariance factors to target risk characteristics like the index, including 13 fundamental factors and 55 industry group factors. The risk model is reviewed periodically by BARRA to ensure relevance, accuracy, and reliability. While there are no quantifiable formal tracking error guidelines, ex-post tracking has generally been in the range of 100 to 150 basis points versus the underlying benchmarks.

The investment team typically sells or trims a position when either the optimization model or the risk model recommends a reduction in a stock's weighting due to changes in the stock's or the benchmark's characteristics. If a stock needs to be eliminated because of ESG criteria, a sale is initiated in an orderly fashion to minimize market impact.

### *Performance*

The fund outperformed its benchmark, the Russell 3000 Index, over the recent quarter and 1-year period by 80 and 30 basis points, respectively. Some stocks that are in the Russell 3000 Index are not part of the fund's eligible investment universe due to the exclusion of certain stocks based on the fund's ESG criteria; the social screening eliminates some stocks that are prominent in the benchmark (i.e., Apple, Exxon Mobil, etc.). Thus, some individual securities in the eligible universe may be either overweighted or underweighted relative to the benchmark. For the quarter, not holding stocks such as General Electric and AT&T, proved beneficial. An overweight in NVIDIA

(a semiconductor chipmaker) also helped results. Partially offsetting these gains were detractions from not owning stocks – Amazon.com or UnitedHealth Group. Over the 3- and 5-year periods the fund trailed the benchmark by (1.2%) and (0.5%) per annum, respectively.

**Trailing Performance Results, Net of Fees**  
Ending June 30, 2017

| Fund                           | Quarter    | 1 Year      | 3 Years    | 5 Years     | Since Addition (12/2011) |
|--------------------------------|------------|-------------|------------|-------------|--------------------------|
| TIAA-CREF Social Choice Equity | 3.8        | 18.8        | 7.9        | 14.1        | 13.7                     |
| <i>Russell 3000 Index</i>      | <i>3.0</i> | <i>18.5</i> | <i>9.1</i> | <i>14.6</i> | <i>15.0</i>              |
| Difference                     | 0.8        | 0.3         | (1.2)      | (0.5)       | (1.3)                    |
| Percentile Rank*               | 20         | 32          | 57         | 34          | 54                       |

\*IM US Large Cap Core Equity Universe. 1 = Best, 100 = Worst.

Compared to its peers in the Large Cap Core category, the fund placed in the top third over the short-term periods and above or near the peer median over the longer-term periods. It should also be noted that the fund earns a Morningstar Sustainability Rating of 'High,' with a Sustainability Score in the top 5% of its category. The high sustainability markings are a sign that the fund has done a good job of adhering to ESG standards. When looking at other institutional Large Cap Core funds with a Morningstar Sustainability Rating of 'High', the TIAA-CREF Social Choice Equity fund return exceeded the custom peer group median across short- and long-term periods measured. Note, while the fund outperformed the custom peer median over the since addition period, only five funds in the custom peer group with a performance track record of 5+ years outperformed the Russell 3000 Index as of the latest period end.

| Annualized Risk-Adjusted Performance  |        |        |        |               |
|---------------------------------------|--------|--------|--------|---------------|
|                                       | 1-year | 3-year | 5-year | Since 12/2011 |
| <b>TIAA-CREF Social Choice Equity</b> |        |        |        |               |
| Return                                | 18.8%  | 7.9%   | 14.1%  | 13.7%         |
| Peer Group Absolute Rank*             | 10     | 8      | 6      | 7             |
| <b>Custom Peer Group Median*</b>      |        |        |        |               |
| Return                                | 16.7%  | 7.8%   | 13.3%  | 13.4%         |
| <b>Russell 3000 Index</b>             |        |        |        |               |
| Return                                | 18.5%  | 9.1%   | 14.6%  | 15.0%         |

\*28 funds as of 6/30/2017

On a calendar year basis, the fund has struggled versus its benchmark over three of the last five years. In 2012, shortly after being added to the Program in late 2011, the fund trailed about two-thirds of its peers and the Russell 3000 Index by (2.4%) as not holding Apple stock in the portfolio detracted. The portfolio posted strong gains and ranked in the top quartile of the peer group in the bull market of 2013; this time, the absence of Apple stock benefitted results as the stock struggled and performance improved to the Acceptable range throughout the period. In 2014 and 2015, the fund underperformed the benchmark by (1.4%) and (2.9%), respectively. During these periods, the fund's exclusion of certain ineligible holdings negatively impacted performance. For 2015, notable names that were not owned by the fund due to the ESG criteria

included Amazon, Facebook, and General Electric; these specific exclusions that produced strong results detracted from relative results. The fund's performance improved in 2016 to exceed the benchmark by 80 basis points and ranked in the top quartile of the peer group. The fund has exhibited a historical tendency to perform relatively well in speculation-driven bull markets where risk is favorable.

**Calendar Year Performance Results, Net of Fees**

Ending December 31

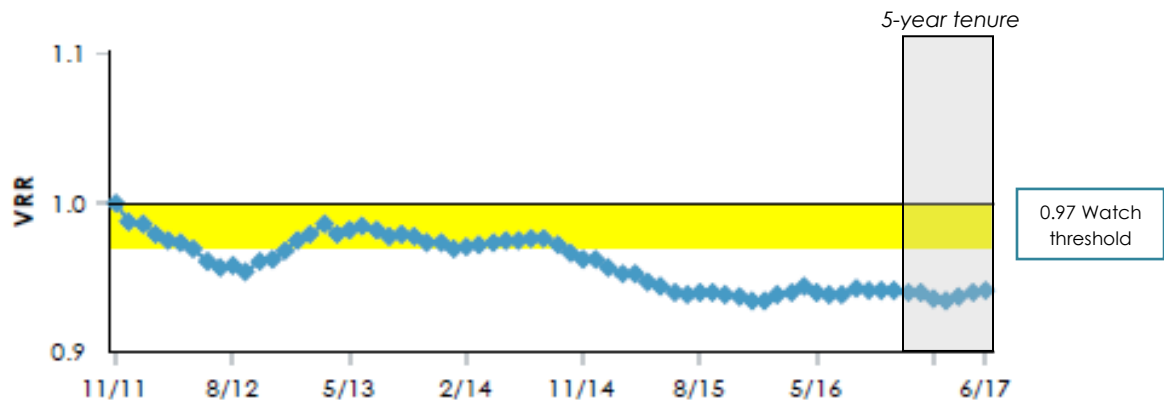
| Fund                           | 2012        | 2013        | 2014        | 2015       | 2016        |
|--------------------------------|-------------|-------------|-------------|------------|-------------|
| TIAA-CREF Social Choice Equity | 14.0        | 34.3        | 11.2        | -2.4       | 13.5        |
| <i>Russell 3000 Index</i>      | <i>16.4</i> | <i>33.6</i> | <i>12.6</i> | <i>0.5</i> | <i>12.7</i> |
| Difference                     | (2.4)       | 0.7         | (1.4)       | (2.9)      | 0.8         |
| Percentile Rank*               | 69          | 20          | 53          | 75         | 16          |

\*IM US Large Cap Core Equity Universe. 1 = Best, 100 = Worst.

The graph below shows the cumulative relative results of the TIAA-CREF Social Choice Equity portfolio since being added to the Program in late 2011. A VRR of greater than 1.0 would represent outperformance of the portfolio versus its respective benchmark. It is evident that the portfolio's relative underperformance soon after being added to the Program has had a significant impact on longer-term results and will likely continue for some time to come.

**Long-Term Performance – Value Relative Ratio (VRR)**

(Since Inception – 6/30/2017)



**Recommendation**

While the fund's underperformance can be attributed to specific stock exclusions due to the fund's strict ESG criteria, longer-term results are expected to be in-line with the benchmark. Due to the fund's underperformance, **PCA recommends that the TIAA-CREF Social Choice Equity fund be placed on "Watch" status.**

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