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**SEPTEMBER 19, 2019**

**AGENDA ITEM 6  
INFORMATION ITEM**

**SCHOLARSHARE INVESTMENT BOARD**

*Review and Analysis of Investment Performance for ScholarShare 529 for  
Second Quarter 2019.*

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***Background***

The ScholarShare Investment Board (SIB or Board) and its investment consultant, Meketa Investment Group, Inc. (Meketa), monitor all portfolios in ScholarShare 529 (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 2019, provided by TIAA Tuition Financing, Inc., and the “Investment Performance Status Report” (Exhibit B) for second quarter 2019, provided by Meketa. Exhibit B provides comparisons for 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 2019:

- Five underlying funds were in the “positive” status, and
- 13 underlying funds were in the “acceptable” status
- One underlying fund was in the “caution” status (currently also on “watch” status).

As outlined in its memo (Exhibit C), Meketa is recommending that:

- The TIAA-CREF Social Choice Equity Fund remain on “watch” status; and
- No new funds qualify for “watch” status.

***Presenters***

Eric White, Principal, Meketa Investment Group, Inc.  
Glenn Friedman, Manager, TIAA Tuition Financing, Inc.

# Quarterly Investment Report

2nd Quarter, 2019

BUILT TO PERFORM.

CREATED TO SERVE.

**For Institutional client use only. Not for distribution.**

Before investing in the ScholarShare 529 College Savings Plan, you should consider the investment objectives, risks, charges, and expenses. The information contained in this report is subject to further change and amendments over time. Some changes may occur due to the result of adjustments. For a prospectus containing this and other information, as well as a Participant Agreement and Disclosure Statement, please call 1-800-544-5248 or view it online at [www.scholarshare529.com](http://www.scholarshare529.com). Please read these documents carefully before investing.

TIAA-CREF Tuition Financing, Inc., Program Manager. TIAA-CREF Individual & Institutional Services, LLC, member FINRA and SIPC, distributor and underwriter for the ScholarShare 529 College Savings Plan.

ScholarShare529 

# Market Overview: Q2 2019

## Key Themes

- Overall, Q2 was in some ways a continuation of the first quarter of the year, with many risk markets achieving positive results. Volatility returned in May, as fear of a global slowdown and geopolitics once again contributed to uncertainty, though June was particularly positive.

## Equities

- Ten of eleven U.S. equity sectors had positive returns. Financials had the highest returns while Energy was the laggard. International developed and emerging markets also had positive returns, though to a lesser extent.

## Fixed Income

- At the June FOMC meeting, the Federal Reserve Board again kept its benchmark fed funds rate unchanged at a target range of 2.25%-2.50%. Expectations of a rate cut have begun to get priced into the market and some officials are calling for a decrease as early as July. Falling yields benefited fixed income assets.

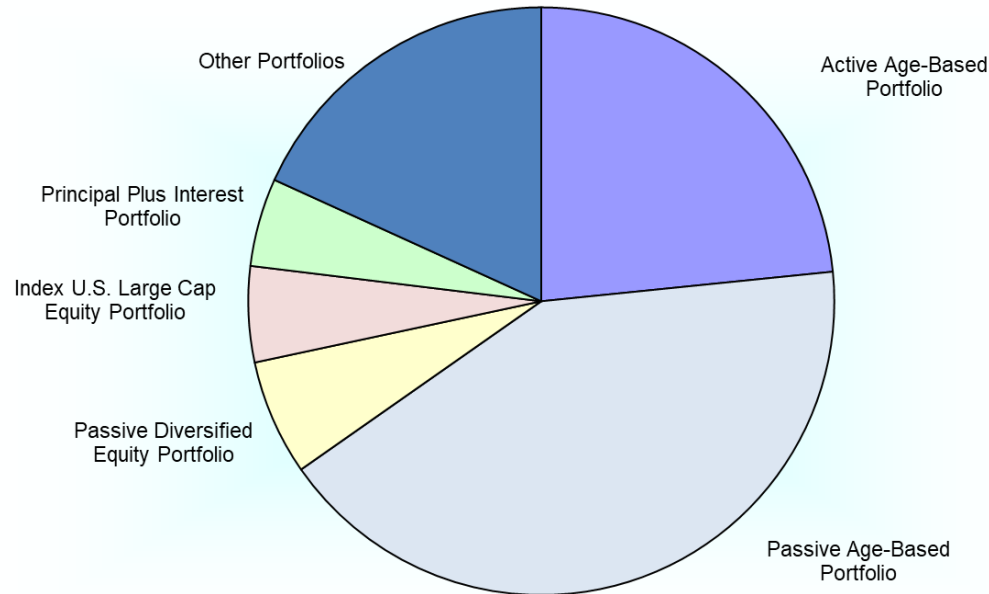
Asset Class	3 Month	1 Year	3 Year	5 Year
U.S. Equities	4.10	8.98	14.02	10.19
U.S. Growth Stocks	4.64	11.56	18.07	13.39
U.S. Value Stocks	3.84	8.46	10.19	7.46
U.S. Mid-Cap Stocks	4.13	7.83	12.16	8.63
U.S. Small-Cap Stocks	2.10	-3.31	12.30	7.06
Int'l Developed Stocks	3.68	1.08	9.11	2.25
Emerging Markets Stocks	0.61	1.21	10.66	2.49
Real Estate Stocks	1.79	13.01	5.92	8.88
U.S. Investment Grade Bonds	3.08	7.87	2.31	2.95
Long-dated Bonds	6.59	13.82	3.76	5.68
Inflation-Linked Bonds	2.53	4.67	1.93	1.42
High Yield Bonds	2.81	8.61	7.14	4.81
Commodities	-1.19	-6.75	-2.18	-9.15
Cash	0.64	2.33	1.40	0.89
<b>Annualized Tuition Inflation Ending as of 2018-2019 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		2.51	2.75	2.85
National Average Private Nonprofit 4-Year		3.26	3.48	3.53
Consumer Price Index, June 2019		1.65	2.05	1.45

\*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 2018 and U.S. Department of Labor: Bureau of Labor Statistics

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; Long-dated Bonds – 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

# Assets by Portfolio as of Q2 2019

## Total Assets: \$9.36 Billion

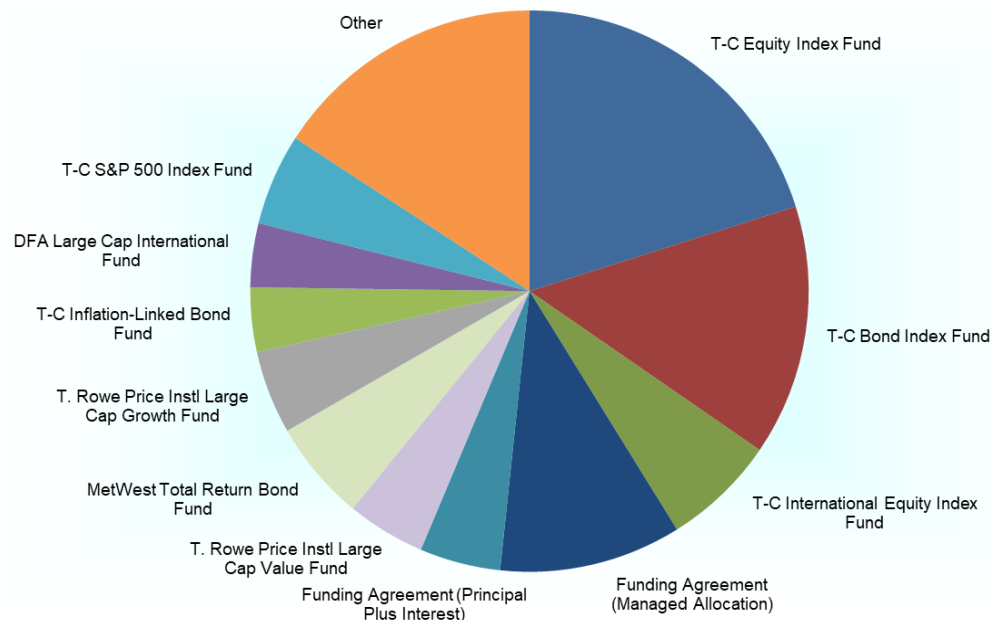


Portfolio	% of Assets	\$ Millions	Portfolio	% of Assets	\$ Millions
Passive Age-Based Portfolio	41.90%	\$ 3,922	Index U.S. Large Cap Equity Portfolio	5.27%	\$ 493
Active Age-Based Portfolio	23.40%	\$ 2,190	Principal Plus Interest Portfolio	4.85%	\$ 454
Passive Diversified Equity Portfolio	6.36%	\$ 595	Other Portfolios (see below)	18.23%	\$ 1,706

### Other Portfolios

Index U.S. Equity Portfolio	4.86%	\$ 455	Active Moderate Growth Portfolio	0.67%	\$ 63
Active Diversified Equity Portfolio	2.91%	\$ 273	Passive Moderate Growth Portfolio	0.64%	\$ 60
Social Choice Portfolio	1.94%	\$ 182	Passive Conservative Portfolio	0.50%	\$ 47
Active Growth Portfolio	1.91%	\$ 179	Active Conservative Portfolio	0.42%	\$ 39
Passive Growth Portfolio	1.43%	\$ 134	Active International Equity Portfolio	0.31%	\$ 29
Index International Equity Portfolio	1.36%	\$ 127	Active Diversified Fixed Income Portfolio	0.28%	\$ 26
Index Bond Portfolio	0.75%	\$ 70	Passive Diversified Fixed Income Portfolio	0.24%	\$ 22

# Assets by Underlying Fund as of Q2 2019

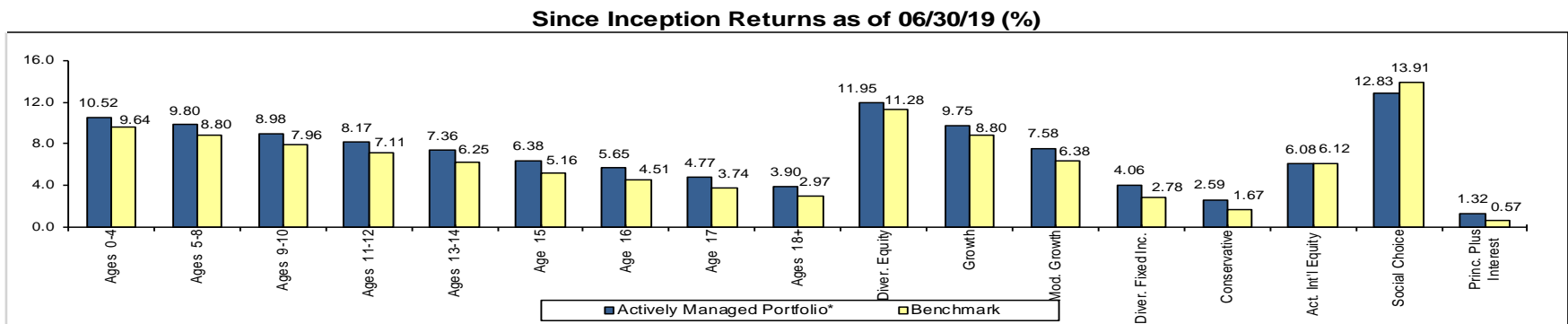
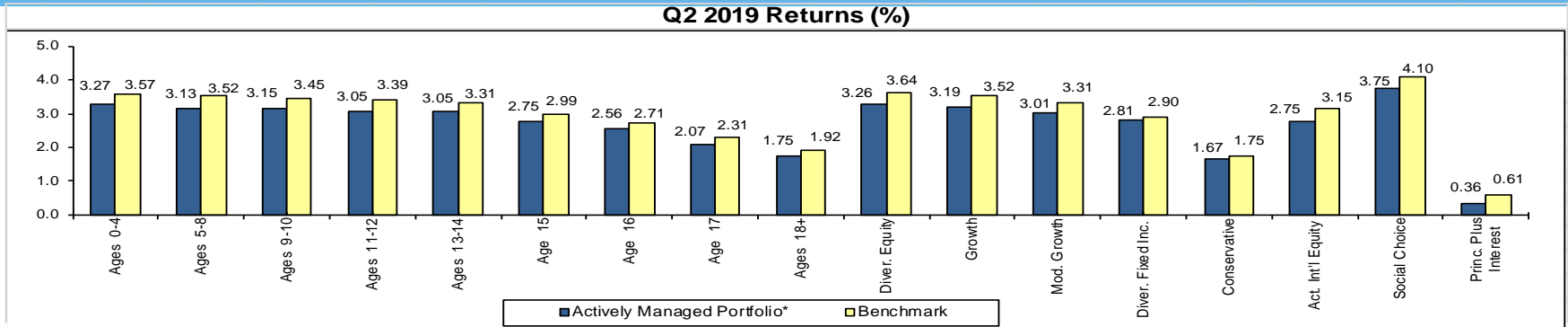


Fund	% of Assets	\$ Millions	Fund	% of Assets	\$ Millions
T-C Equity Index Fund	20.13%	\$ 1,879	T. Rowe Price Instl Large Cap Growth Fund	4.79%	\$ 447
T-C Bond Index Fund	14.45%	\$ 1,349	Funding Agreement (Principal Plus Interest)	4.68%	\$ 437
Funding Agreement (Managed Allocation)	10.54%	\$ 984	T. Rowe Price Instl Large Cap Value Fund	4.54%	\$ 424
T-C International Equity Index Fund	6.57%	\$ 613	T-C Inflation-Linked Bond Fund	3.71%	\$ 347
Metropolitan West Total Return Bond Fund	5.81%	\$ 543	DFA Large Cap International Fund	3.67%	\$ 343
T-C S&P 500 Index Fund	5.28%	\$ 493	Other	15.83%	\$ 1,477

## Other Funds

T-C Real Estate Securities Fund	3.10%	\$ 281	T-C Emerging Markets Equity Index Fund	1.49%	\$ 139
PIMCO Income Fund	2.30%	\$ 206	T-C Small Cap Equity Fund	1.10%	\$ 100
PIMCO Real Return Fund	2.04%	\$ 182	T. Rowe Price Instl Floating Rate Fund	1.01%	\$ 91
T-C High Yield Bond Fund	2.00%	\$ 180	DFA Emerging Markets Core Equity Portfolio	0.83%	\$ 77
T-C Social Choice Equity Fund	1.95%	\$ 175			

# Actively Managed Portfolios vs Composite Benchmarks Q2 and Since Inception Returns (%)



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

- Total nonfarm payroll employment increased by 224,000 in June. Notable job gains occurred in professional and business services, health care, and transportation and warehousing. The unemployment rate was little changed at 3.7%.
- Average hourly earnings of all employees on private nonfarm payrolls showed a strong 3.14% year-over-year increase.
- The Conference Board's index of leading economic indicators (LEI) remained unchanged in May, following an improvement in April.
- All age bands in the Actively Managed Portfolios had positive absolute returns in Q2 and underperformed their blended benchmarks after fees. Younger age bands generally had higher returns than older age bands.
- Contributing to absolute returns was the T. Rowe Price Institutional Large Cap Value Fund, which returned 4.33% and outperformed its benchmark by 49 basis points. Also contributing to absolute performance was the MetWest Total Return Bond Fund, which generated 3.27% and beat its benchmark by 19 basis points.
- Other funds also impacted relative returns. The TIAA-CREF Real Estate Securities Fund gained 2.92% for the quarter and outperformed its benchmark by 113 basis points – this was the highest outperforming fund in the program in Q2. However, the T. Rowe Price Institutional Large Cap Growth Fund weighed on relative results, as it underperformed by 164 basis points due to both sector allocation and stock selection.

# Actively Managed Portfolios vs Composite Benchmarks

Investment Portfolios	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Active Age-Based Portfolios**</b>							
Active Age-Based Portfolio 0-4	3.27%	14.54%	5.96%	11.81%	7.48%	10.52%	11/04/11
Blended Benchmark Returns	3.57%	15.09%	7.09%	10.26%	6.84%	9.64%	
Difference	-0.30%	-0.55%	-1.13%	1.55%	0.64%	0.88%	
Active Age-Based Portfolio 5-8	3.13%	13.30%	6.01%	10.86%	7.03%	9.80%	11/04/11
Blended Benchmark Returns	3.52%	13.99%	7.18%	9.33%	6.38%	8.80%	
Difference	-0.39%	-0.69%	-1.17%	1.53%	0.65%	1.00%	
Active Age-Based Portfolio 9-10	3.15%	12.46%	6.22%	9.74%	6.45%	8.98%	11/04/11
Blended Benchmark Returns	3.45%	12.87%	7.22%	8.38%	5.91%	7.96%	
Difference	-0.30%	-0.41%	-1.00%	1.36%	0.54%	1.02%	
Active Age-Based Portfolio 11-12	3.05%	11.29%	6.29%	8.73%	5.88%	8.17%	11/04/11
Blended Benchmark Returns	3.39%	11.75%	7.25%	7.43%	5.43%	7.11%	
Difference	-0.34%	-0.46%	-0.96%	1.30%	0.45%	1.06%	
Active Age-Based Portfolio 13-14	3.05%	10.38%	6.36%	7.66%	5.32%	7.36%	11/04/11
Blended Benchmark Returns	3.31%	10.63%	7.23%	6.47%	4.93%	6.25%	
Difference	-0.26%	-0.25%	-0.87%	1.19%	0.39%	1.11%	
Active Age-Based Portfolio 15	2.75%	8.96%	6.01%	6.70%	4.74%	6.38%	11/04/11
Blended Benchmark Returns	2.99%	8.99%	6.73%	5.38%	4.22%	5.16%	
Difference	-0.24%	-0.03%	-0.72%	1.32%	0.52%	1.22%	
Active Age-Based Portfolio 16	2.56%	7.78%	5.47%	5.80%	4.23%	5.65%	11/04/11
Blended Benchmark Returns	2.71%	7.92%	6.23%	4.77%	3.76%	4.51%	
Difference	-0.15%	-0.14%	-0.76%	1.03%	0.47%	1.14%	
Active Age-Based Portfolio 17	2.07%	6.56%	4.69%	5.01%	3.66%	4.77%	11/04/11
Blended Benchmark Returns	2.31%	6.61%	5.50%	4.10%	3.20%	3.74%	
Difference	-0.24%	-0.05%	-0.81%	0.91%	0.46%	1.03%	
Active Age-Based Portfolio 18 & Over	1.75%	5.26%	4.04%	4.12%	3.07%	3.90%	11/04/11
Blended Benchmark Returns	1.92%	5.30%	4.76%	3.43%	2.64%	2.97%	
Difference	-0.17%	-0.04%	-0.72%	0.69%	0.43%	0.93%	
<b>Active Multi-Fund Investment Portfolios</b>							
Active Diversified Equity Portfolio	3.26%	16.32%	5.70%	13.69%	8.41%	11.95%	11/04/11
Blended Benchmark Returns	3.64%	17.29%	6.83%	12.12%	7.72%	11.28%	
Difference	-0.38%	-0.97%	-1.13%	1.57%	0.69%	0.67%	
Active Growth Portfolio	3.19%	13.47%	6.04%	10.73%	6.96%	9.75%	11/04/11
Blended Benchmark Returns	3.52%	13.99%	7.18%	9.33%	6.38%	8.80%	
Difference	-0.33%	-0.52%	-1.14%	1.40%	0.58%	0.95%	
Active Moderate Growth Portfolio	3.01%	10.21%	6.39%	7.78%	5.44%	7.58%	11/09/11
Blended Benchmark Returns	3.31%	10.63%	7.23%	6.47%	4.93%	6.38%	
Difference	-0.30%	-0.42%	-0.84%	1.31%	0.51%	1.20%	
Active Conservative Portfolio	1.67%	3.49%	4.11%	2.41%	2.16%	2.59%	11/04/11
Blended Benchmark Returns	1.75%	3.63%	4.58%	1.98%	1.84%	1.67%	
Difference	-0.08%	-0.14%	-0.47%	0.43%	0.32%	0.92%	
Active International Equity Portfolio	2.75%	13.11%	0.45%	8.92%	2.00%	6.08%	11/10/11
Blended Benchmark Returns	3.15%	13.83%	1.31%	9.38%	2.20%	6.12%	
Difference	-0.40%	-0.72%	-0.86%	-0.46%	-0.20%	-0.04%	
Active Diversified Fixed Income Portfolio	2.81%	6.19%	6.77%	3.53%	3.12%	4.06%	11/08/11
Blended Benchmark Returns	2.90%	6.09%	6.89%	2.58%	2.83%	2.78%	
Difference	-0.09%	0.10%	-0.12%	0.95%	0.29%	1.28%	
<b>Active Single Fund Investment Portfolios</b>							
Social Choice Portfolio	3.75%	18.20%	8.86%	13.64%	9.12%	12.83%	11/04/11
Benchmark Returns	4.10%	18.71%	8.98%	14.02%	10.19%	13.91%	
Difference	-0.35%	-0.51%	-0.12%	-0.38%	-1.07%	-1.08%	
Principal Plus Interest Portfolio**	0.36%	0.82%	1.47%	1.36%	1.26%	1.32%	11/04/11
Benchmark Returns	0.61%	1.21%	2.30%	1.36%	0.84%	0.06%	
Difference	-0.25%	-0.39%	-0.83%	0.00%	0.42%	1.26%	

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

\*\*The crediting rate of 1.70% for the TC Life Funding Agreement in the Active Age-Based Portfolio for the Principal Plus Interest Portfolio are guaranteed through 12/31/19.

# Asset Allocation, Fees, and Performance

Active Age-Based Portfolio Age of Beneficiary	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	T. Rowe Price Instl Large Cap Growth Fund	T. Rowe Price Instl Large Cap Value Fund	T. Rowe Price Instl Floating Rate Fund	TIAA- CREF Quant Small Cap Equity Fund	TIAA- CREF Real Estate Securities Fund	DFA Large Cap International Portfolio	DFA Emerging Markets Core Equity I Portfolio	MetWest Total Return Bond Fund	PIMCO Real Return Fund	PIMCO Income Fund	T-C Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>				<b>56</b>	<b>57</b>	<b>57</b>	<b>41</b>	<b>51</b>	<b>24</b>	<b>52</b>	<b>37</b>	<b>45</b>	<b>50</b>	<b>N/A</b>
<b>0 - 4</b>	3.27%	3.57%	<b>54</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>	3.13%	3.52%	<b>54</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>	3.15%	3.45%	<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>	3.05%	3.39%	<b>53</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>	3.05%	3.31%	<b>53</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>	2.75%	2.99%	<b>48</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>	2.56%	2.71%	<b>44</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>	2.07%	2.31%	<b>37</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>	1.75%	1.92%	<b>30</b>	4.25%	4.25%	3.50%	0.95%	1.05%	3.60%	0.90%	17.50%	7.00%	7.00%	50.00%

## Active Multi-Fund Investment Portfolios

<b>Active Diversified Equity Portfolio</b>	3.26%	3.64%	<b>55</b>	28.35%	28.35%		6.30%	7.00%	24.00%	6.00%				
<b>Active Growth Portfolio</b>	3.19%	3.52%	<b>54</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>	3.01%	3.31%	<b>53</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>	2.81%	2.90%	<b>51</b>			10.00%					50.00%	20.00%	20.00%	
<b>Active Conservative Portfolio</b>	1.67%	1.75%	<b>30</b>			5.00%					25.00%	10.00%	10.00%	50.00%
<b>Active International Equity Portfolio</b>	2.75%	3.15%	<b>38</b>						80.00%	20.00%				
<b>Fund's Performance vs Benchmk Q2 2019 (bp)</b>				<b>(164)</b>	<b>49</b>	<b>4</b>	<b>55</b>	<b>113</b>	<b>(51)</b>	<b>25</b>	<b>19</b>	<b>(16)</b>	<b>(68)</b>	<b>(25)</b>

## Active Single Fund Investment Portfolios

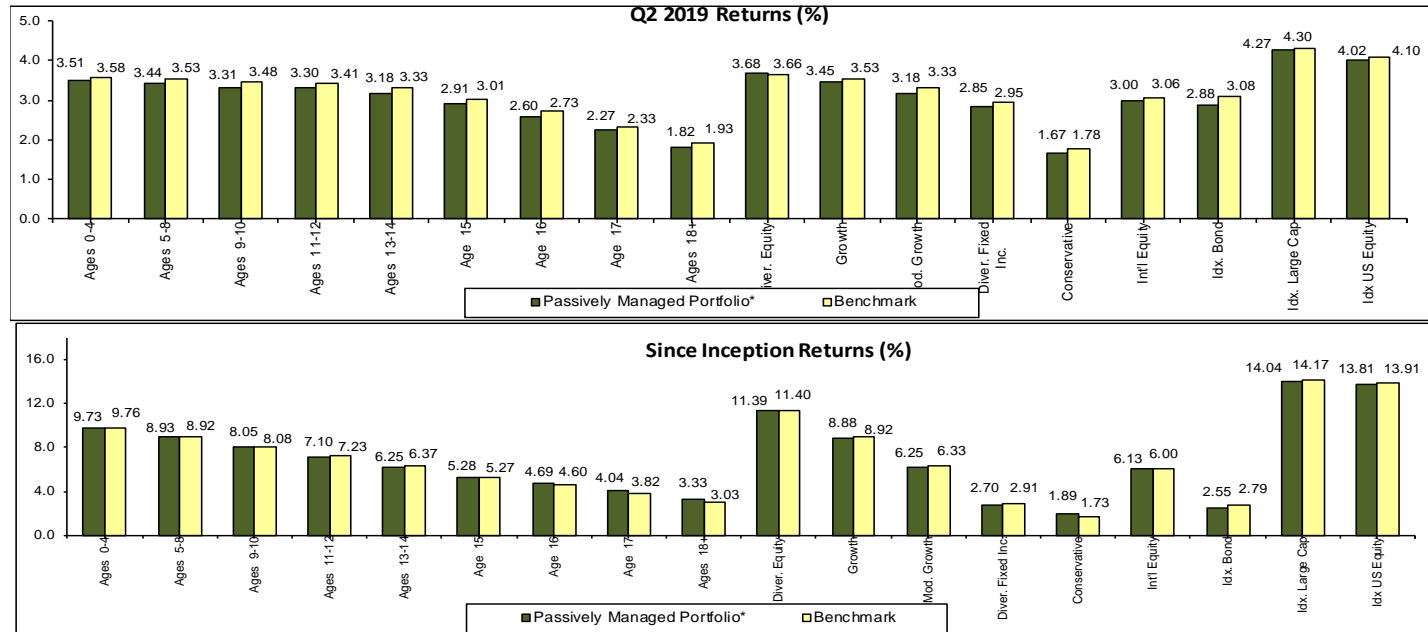
Investment Portfolios	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q2 2019 (bp)
<b>Social Choice Portfolio</b>	3.75%	4.10%	<b>25</b>	100.00%	TIAA-CREF Social Choice Equity Fund	<b>(34)</b>
<b>Principal Plus Interest Portfolio</b>	0.36%	0.61%	<b>N/A</b>	100.00%	TIAA-CREF Life Co. Funding Agreement	<b>(25)</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 and Since Inception Returns (%)

## Passively Managed Portfolios vs. Composite Benchmarks



\* 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.

- After a very strong first quarter, the S&P 500 continued to fly high with a gain of 4.30% in Q2, though experienced a fair amount of volatility in May.
- Treasury yields ended the quarter lower on expectations of a more dovish Fed and the Bloomberg Barclays U.S. Aggregate Bond Index returned 3.08%, which continued a positive return trend from the first quarter. Year-to-date, this index returned over 6%.
- All age bands in the Passively Managed Portfolios posted positive absolute returns for the quarter and underperformed their blended benchmarks after fees.
- Positive absolute returns were primarily driven by the TIAA-CREF Equity Index Fund and TIAA-CREF International Equity Index Fund, though all equity and fixed income funds had positive results in Q2.
- Positive relative returns were, in large part, due to the TIAA-CREF Real Estate Securities Fund, which outperformed by 113 basis points, as well as the TIAA-CREF High Yield Fund, which outperformed by 14 basis points.
- All Multi-Fund and Single Fund Portfolios also saw positive absolute returns. More aggressive investment portfolios had slightly higher returns, and more conservative portfolios with lower volatility assets had lower returns in Q2.

# Passively Managed Portfolios vs Composite Benchmarks

Investment Portfolios	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Passive Age-Based Portfolio**</b>							
Passive Age-Based Portfolio 0-4	3.51%	15.04%	7.11%	10.34%	6.90%	9.73%	11/04/11
Blended Benchmark Returns	3.58%	15.04%	7.28%	10.33%	6.91%	9.76%	
Difference	-0.07%	0.00%	-0.17%	0.01%	-0.01%	-0.03%	
Passive Age-Based Portfolio 5-8	3.44%	13.91%	7.19%	9.44%	6.46%	8.93%	11/04/11
Blended Benchmark Returns	3.53%	13.97%	7.39%	9.40%	6.44%	8.92%	
Difference	-0.09%	-0.06%	-0.20%	0.04%	0.02%	0.01%	
Passive Age-Based Portfolio 9-10	3.31%	12.64%	7.23%	8.46%	5.93%	8.05%	11/04/11
Blended Benchmark Returns	3.48%	12.90%	7.47%	8.46%	5.96%	8.08%	
Difference	-0.17%	-0.26%	-0.24%	0.00%	-0.03%	-0.03%	
Passive Age-Based Portfolio 11-12	3.30%	11.54%	7.23%	7.43%	5.34%	7.10%	11/04/11
Blended Benchmark Returns	3.41%	11.82%	7.51%	7.52%	5.47%	7.23%	
Difference	-0.11%	-0.28%	-0.28%	-0.09%	-0.13%	-0.13%	
Passive Age-Based Portfolio 13-14	3.18%	10.80%	7.14%	6.45%	4.81%	6.25%	11/04/11
Blended Benchmark Returns	3.33%	10.73%	7.53%	6.57%	4.97%	6.37%	
Difference	-0.15%	0.07%	-0.39%	-0.12%	-0.16%	-0.12%	
Passive Age-Based Portfolio 15	2.91%	9.20%	6.61%	5.47%	4.20%	5.28%	11/04/11
Blended Benchmark Returns	3.01%	9.10%	7.01%	5.48%	4.25%	5.27%	
Difference	-0.10%	0.10%	-0.40%	-0.01%	-0.05%	0.01%	
Passive Age-Based Portfolio 16	2.60%	8.07%	6.05%	4.93%	3.81%	4.69%	11/04/11
Blended Benchmark Returns	2.73%	8.03%	6.49%	4.86%	3.79%	4.60%	
Difference	-0.13%	0.04%	-0.44%	0.07%	0.02%	0.09%	
Passive Age-Based Portfolio 17	2.27%	6.70%	5.29%	4.28%	3.36%	4.04%	11/04/11
Blended Benchmark Returns	2.33%	6.69%	5.71%	4.17%	3.22%	3.82%	
Difference	-0.06%	0.01%	-0.42%	0.11%	0.14%	0.22%	
Passive Age-Based Portfolio 18 & Over	1.82%	5.41%	4.39%	3.56%	2.82%	3.33%	11/04/11
Blended Benchmark Returns	1.93%	5.37%	4.92%	3.49%	2.65%	3.03%	
Difference	-0.11%	0.04%	-0.53%	0.07%	0.17%	0.30%	
<b>Passive Multi-Fund Investment Portfolios</b>							
Passive Diversified Equity Portfolio	3.68%	17.19%	6.98%	12.15%	7.88%	11.39%	11/04/11
Blended Benchmark Returns	3.66%	17.17%	6.97%	12.17%	7.82%	11.40%	
Difference	0.02%	0.02%	0.01%	-0.02%	0.06%	-0.01%	
Passive Growth Portfolio	3.45%	13.96%	7.09%	9.32%	6.42%	8.88%	11/04/11
Blended Benchmark Returns	3.53%	13.97%	7.39%	9.40%	6.44%	8.92%	
Difference	-0.08%	-0.01%	-0.30%	-0.08%	-0.02%	-0.04%	
Passive Moderate Growth Portfolio	3.18%	10.58%	7.22%	6.54%	4.87%	6.25%	11/08/11
Blended Benchmark Returns	3.33%	10.73%	7.53%	6.57%	4.97%	6.33%	
Difference	-0.15%	-0.15%	-0.31%	-0.03%	-0.10%	-0.08%	
Passive Conservative Portfolio	1.67%	3.68%	4.43%	1.98%	1.95%	1.89%	11/04/11
Blended Benchmark Returns	1.78%	3.76%	4.79%	2.05%	1.85%	1.73%	
Difference	-0.11%	-0.08%	-0.36%	-0.07%	0.10%	0.16%	
Index International Equity Portfolio	3.00%	13.37%	1.35%	9.41%	2.53%	6.13%	11/04/11
Blended Benchmark Returns	3.06%	13.34%	1.14%	9.46%	2.37%	6.00%	
Difference	-0.06%	0.03%	0.21%	-0.05%	0.16%	0.13%	
Passive Diversified Fixed Income Portfolio	2.85%	6.42%	7.17%	2.57%	2.66%	2.70%	11/08/11
Blended Benchmark Returns	2.95%	6.35%	7.32%	2.72%	2.84%	2.91%	
Difference	-0.10%	0.07%	-0.15%	-0.15%	-0.18%	-0.21%	
<b>Passive Single Fund Investment Portfolios</b>							
Index Bond Portfolio	2.88%	5.94%	7.73%	2.09%	2.77%	2.55%	11/04/11
Benchmark Returns	3.08%	6.11%	7.87%	2.31%	2.95%	2.79%	
Difference	-0.20%	-0.17%	-0.14%	-0.22%	-0.18%	-0.24%	
Index U.S. Large Cap Equity Portfolio	4.27%	18.52%	10.34%	14.08%	10.61%	14.04%	11/04/11
Benchmark Returns	4.30%	18.54%	10.42%	14.19%	10.71%	14.17%	
Difference	-0.03%	-0.02%	-0.08%	-0.11%	-0.10%	-0.13%	
Index U.S. Equity Portfolio	4.02%	18.60%	8.90%	13.94%	10.12%	13.81%	11/04/11
Benchmark Returns	4.10%	18.71%	8.98%	14.02%	10.19%	13.91%	
Difference	-0.08%	-0.11%	-0.08%	-0.08%	-0.07%	-0.10%	

\* 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 1.70% for the TC Life Funding Agreement in the Passive Age-Based Portfolio is guaranteed through 12/31/19.

# Asset Allocation, Fees, and Performance

Passive Age-Based Portfolio Age of Beneficiary	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	TIAA-CREF Equity Index Fund	TIAA-CREF International Equity Index Fund	TIAA-CREF Emerging Markets Equity Index Fund	TIAA-CREF Real Estate Securities Fund	TIAA-CREF Bond Index Fund	TIAA-CREF Inflation- Linked Bond Fund	TIAA-CREF High Yield Fund	T-C Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>				<b>5</b>	<b>6</b>	<b>20</b>	<b>51</b>	<b>12</b>	<b>26</b>	<b>36</b>	<b>N/A</b>
<b>0 - 4</b>	3.51%	3.58%	<b>14</b>	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
<b>5 - 8</b>	3.44%	3.53%	<b>15</b>	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	0.00%
<b>9 - 10</b>	3.31%	3.48%	<b>15</b>	37.80%	14.40%	3.60%	4.20%	28.00%	8.00%	4.00%	0.00%
<b>11 - 12</b>	3.30%	3.41%	<b>16</b>	31.50%	12.00%	3.00%	3.50%	35.00%	10.00%	5.00%	0.00%
<b>13 - 14</b>	3.18%	3.33%	<b>17</b>	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	0.00%
<b>15</b>	2.91%	3.01%	<b>16</b>	18.90%	7.20%	1.80%	2.10%	42.00%	12.00%	6.00%	10.00%
<b>16</b>	2.60%	2.73%	<b>15</b>	15.75%	6.00%	1.50%	1.75%	38.50%	11.00%	5.50%	20.00%
<b>17</b>	2.27%	2.33%	<b>13</b>	12.60%	4.80%	1.20%	1.40%	31.50%	9.00%	4.50%	35.00%
<b>18 +</b>	1.82%	1.93%	<b>10</b>	9.45%	3.60%	0.90%	1.05%	24.50%	7.00%	3.50%	50.00%

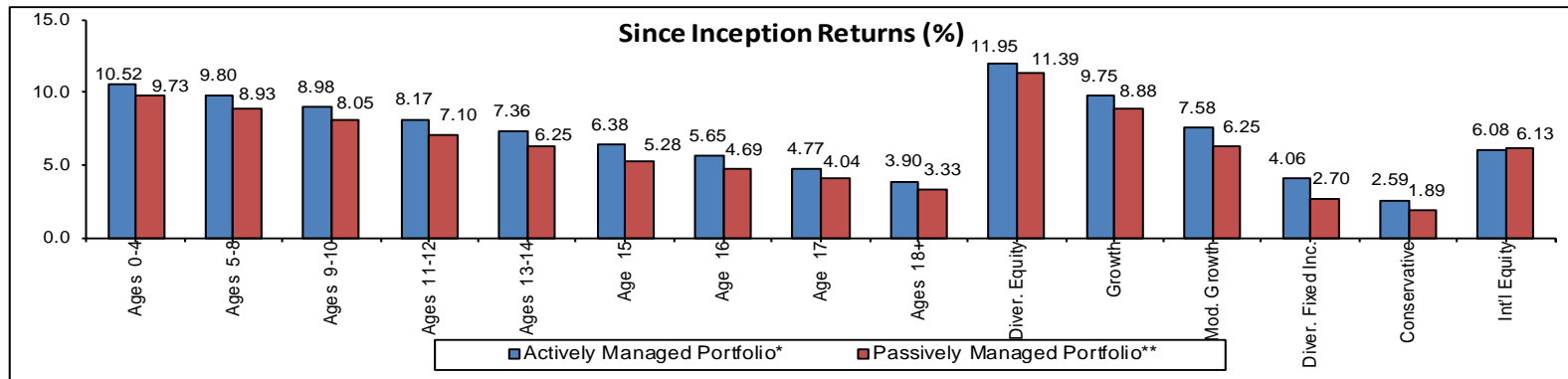
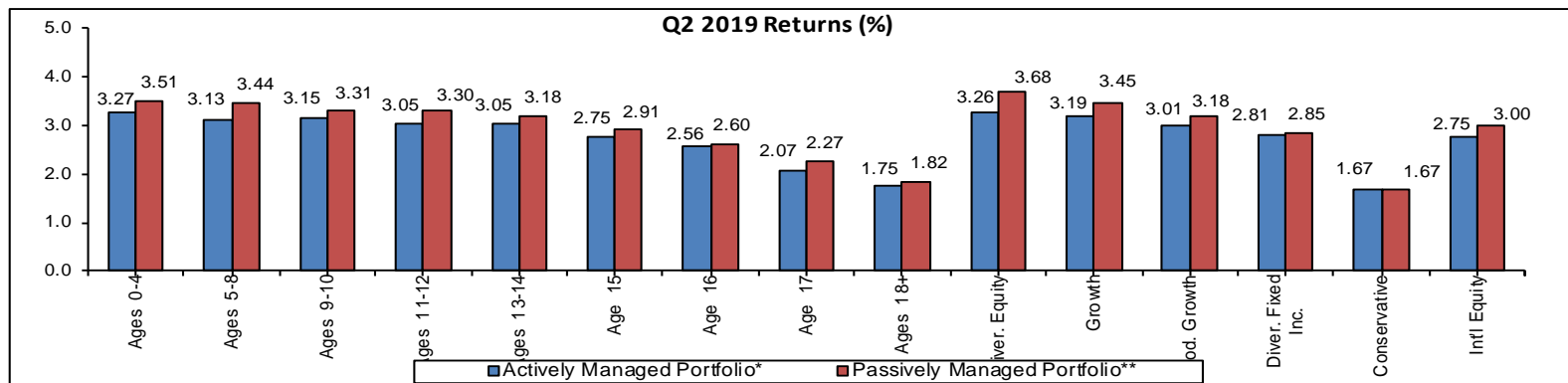
## Passive Multi-Fund Investment Portfolios

Passive Diversified Equity Portfolio	3.68%	3.66%	<b>12</b>	63.00%	24.00%	6.00%	7.00%				
Passive Growth Portfolio	3.45%	3.53%	<b>15</b>	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
Passive Moderate Growth Portfolio	3.18%	3.33%	<b>17</b>	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	
Passive Diversified Fixed Income Portfolio	2.85%	2.95%	<b>20</b>					70.00%	20.00%	10.00%	
Passive Conservative Portfolio	1.67%	1.78%	<b>12</b>					35.00%	10.00%	5.00%	50.00%
Index International Equity Portfolio	3.00%	3.06%	<b>12</b>		80.00%	20.00%					
<b>Fund's Performance vs Benchmk Q2 2019 (bp)</b>				<b>(5)</b>	<b>(3)</b>	<b>(7)</b>	<b>113</b>	<b>(15)</b>	<b>(19)</b>	<b>14</b>	<b>(25)</b>

Investment Portfolios	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q2 2019 (bp)
Index Bond Portfolio	2.88%	3.08%	<b>15</b>	100.00%	TIAA-CREF Bond Index Fund	<b>(15)</b>
Index U.S. Large Cap Equity Portfolio	4.27%	4.30%	<b>9</b>	100.00%	TIAA-CREF S&P 500 Index Fund	<b>(1)</b>
Index U.S. Equity Portfolio	4.02%	4.10%	<b>8</b>	100.00%	TIAA-CREF Equity Index Fund	<b>(5)</b>

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

# Actively Managed Portfolios vs. Passively Managed Portfolios



\* 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, most Passively Managed Portfolios outperformed the Actively Managed Portfolios.
- Certain underlying funds in the Active Portfolios underperformed their benchmark, which resulted in lower returns for some portfolios with allocations to those funds compared to their passive counterparts. For example, the T. Rowe Price Large Cap Growth Fund and the PIMCO Income Fund underperformed their respective benchmarks. However, other active underlying funds outperformed, which moderated some of Active's underperformance.
- Since Inception returns largely continue to favor the Actively Managed Portfolios.

# Underlying Funds vs. Benchmarks

	Average Annual Total Return							Standard Deviation	Fund Incept. Date
	3 Month	YTD	1 Year	3 Year	5 Year	Life	3-Year		
<b>TIAA-CREF FUNDS</b>									
T-C Bond Index Fund	2.93%	5.93%	7.70%	2.12%	2.82%	3.46%	3.04%	09/14/2009	
Bloomberg Barclays U.S. Aggregate Bond Index	3.08%	6.11%	7.87%	2.32%	2.95%	3.66%	3.03%		
Difference	<b>-0.15%</b>	<b>-0.18%</b>	<b>-0.17%</b>	<b>-0.20%</b>	<b>-0.13%</b>	<b>-0.20%</b>			
T-C Emerging Markets Equity Index Fund*	0.54%	10.69%	1.31%	10.38%	2.48%	3.08%	14.03%	08/31/2010	
MSCI Emerging Markets® Index	0.61%	10.58%	1.21%	10.67%	2.49%	3.41%	13.85%		
Difference	<b>-0.07%</b>	<b>0.11%</b>	<b>0.10%</b>	<b>-0.29%</b>	<b>-0.01%</b>	<b>-0.33%</b>			
T-C Equity Index Fund	4.05%	18.63%	8.94%	14.00%	10.17%	6.20%	12.52%	07/01/1999	
Russell 3000 Index	4.10%	18.71%	8.98%	14.03%	10.19%	6.27%	12.53%		
Difference	<b>-0.05%</b>	<b>-0.08%</b>	<b>-0.04%</b>	<b>-0.03%</b>	<b>-0.02%</b>	<b>-0.07%</b>			
T-C High Yield Bond Fund	2.95%	11.45%	8.36%	7.42%	4.56%	6.99%	4.89%	03/31/2006	
ICE BofAML BB/B Cash Pay Index	2.81%	10.36%	8.61%	7.14%	4.81%	6.90%	4.19%		
Difference	<b>0.14%</b>	<b>1.09%</b>	<b>-0.25%</b>	<b>0.28%</b>	<b>-0.25%</b>	<b>0.09%</b>			
T-C Inflation-Linked Bond Fund	2.34%	5.04%	4.40%	1.68%	1.20%	3.95%	2.22%	10/01/2002	
Bloomberg Barclays 1-10 Year U.S. TIPS Index	2.53%	5.17%	4.67%	1.94%	1.42%	3.74%	2.19%		
Difference	<b>-0.19%</b>	<b>-0.13%</b>	<b>-0.27%</b>	<b>-0.26%</b>	<b>-0.22%</b>	<b>0.21%</b>			
T-C International Equity Index Fund*	3.65%	14.06%	1.46%	9.06%	2.40%	7.57%	11.05%	10/01/2002	
MSCI EAFE Index	3.68%	14.03%	1.08%	9.11%	2.25%	7.52%	11.08%		
Difference	<b>-0.03%</b>	<b>0.03%</b>	<b>0.38%</b>	<b>-0.05%</b>	<b>0.15%</b>	<b>0.05%</b>			
T-C Real Estate Securities Fund	2.92%	20.71%	14.02%	7.64%	9.56%	10.69%	12.25%	10/01/2002	
FTSE NAREIT Equity Index	1.79%	19.27%	13.01%	5.93%	8.88%	10.84%	12.72%		
Difference	<b>1.13%</b>	<b>1.44%</b>	<b>1.01%</b>	<b>1.71%</b>	<b>0.68%</b>	<b>-0.15%</b>			
T-C S&P 500 Index Fund	4.29%	18.50%	10.35%	14.13%	10.64%	9.85%	12.19%	10/01/2002	
S&P 500 Index	4.30%	18.54%	10.42%	14.20%	10.71%	9.94%	12.19%		
Difference	<b>-0.01%</b>	<b>-0.04%</b>	<b>-0.07%</b>	<b>-0.07%</b>	<b>-0.07%</b>	<b>-0.09%</b>			
T-C Quant Small Cap Equity Fund	2.65%	18.30%	-0.45%	13.31%	8.11%	10.71%	16.93%	10/01/2002	
Russell 2000 Index	2.10%	16.98%	-3.31%	12.31%	7.06%	10.50%	17.11%		
Difference	<b>0.55%</b>	<b>1.32%</b>	<b>2.86%</b>	<b>1.00%</b>	<b>1.05%</b>	<b>0.21%</b>			
T-C Social Choice Equity Fund	3.76%	18.24%	8.97%	13.75%	9.21%	5.98%	12.36%	07/01/1999	
Russell 3000 Index	4.10%	18.71%	8.98%	14.03%	10.19%	6.27%	12.53%		
Difference	<b>-0.34%</b>	<b>-0.47%</b>	<b>-0.01%</b>	<b>-0.28%</b>	<b>-0.98%</b>	<b>-0.29%</b>			
<b>DFA FUNDS</b>									
DFA Emerging Markets Core Equity Portfolio*	0.86%	9.54%	1.30%	9.12%	2.27%	7.43%	13.49%	04/05/2005	
MSCI Emerging Markets® Index	0.61%	10.58%	1.21%	10.67%	2.49%	7.21%	13.85%		
Difference	<b>0.25%</b>	<b>-1.04%</b>	<b>0.09%</b>	<b>-1.55%</b>	<b>-0.22%</b>	<b>0.22%</b>			
DFA Large Cap International Portfolio*	3.28%	14.11%	0.32%	8.97%	2.05%	5.59%	11.40%	07/17/1991	
MSCI World Ex US Index	3.79%	14.64%	1.29%	9.02%	2.04%	5.67%	11.05%		
Difference	<b>-0.51%</b>	<b>-0.53%</b>	<b>-0.97%</b>	<b>-0.05%</b>	<b>0.01%</b>	<b>-0.08%</b>			
<b>METWEST FUNDS</b>									
MetWest Total Return Bond Fund	3.27%	6.52%	8.25%	2.75%	2.99%	4.01%	2.92%	07/01/1999	
Bloomberg Barclays U.S. Aggregate Bond Index	3.08%	6.11%	7.87%	2.32%	2.95%	3.04%	3.03%		
Difference	<b>0.19%</b>	<b>0.41%</b>	<b>0.38%</b>	<b>0.43%</b>	<b>0.04%</b>	<b>0.97%</b>			
<b>PIMCO FUNDS</b>									
PIMCO Income Fund	2.40%	5.50%	6.87%	6.32%	5.30%	8.38%	1.73%	03/30/2007	
Barclays Capital U.S. Aggregate Bond Index	3.08%	6.11%	7.87%	2.32%	2.95%	4.20%	3.03%		
Difference	<b>-0.68%</b>	<b>-0.61%</b>	<b>-1.00%</b>	<b>4.00%</b>	<b>2.35%</b>	<b>4.18%</b>			
PIMCO Real Return Fund	2.70%	6.33%	4.50%	2.37%	1.44%	5.70%	3.00%	01/29/1997	
Bloomberg Barclays U.S. TIPS Index	2.86%	6.15%	4.84%	2.08%	1.76%	-	2.94%		
Difference	<b>-0.16%</b>	<b>0.18%</b>	<b>-0.34%</b>	<b>0.29%</b>	<b>-0.32%</b>	<b>-</b>			
<b>T. ROWE PRICE FUNDS</b>									
T. Rowe Price Instl Floating Rate Fund	1.75%	5.58%	4.38%	4.65%	3.73%	5.10%	2.47%	01/31/2008	
S&P/LSTA Performing Loan Index	1.71%	5.76%	4.01%	5.41%	4.04%	5.30%	2.81%		
Difference	<b>0.04%</b>	<b>-0.18%</b>	<b>0.37%</b>	<b>-0.76%</b>	<b>-0.31%</b>	<b>-0.20%</b>			
T. Rowe Price Instl Large Cap Growth Fund	3.00%	18.12%	9.96%	23.15%	15.13%	10.73%	13.73%	10/31/2001	
Russell 1000 Growth Index	4.64%	21.49%	11.56%	18.08%	13.39%	8.66%	13.40%		
Difference	<b>-1.64%</b>	<b>-3.37%</b>	<b>-1.60%</b>	<b>5.07%</b>	<b>1.74%</b>	<b>2.07%</b>			
T. Rowe Price Instl Large Cap Value Fund	4.33%	16.08%	6.22%	10.63%	7.64%	8.15%	12.09%	3/31/2000	
Russell 1000 Value Index	3.84%	16.24%	8.46%	10.20%	7.46%	6.82%	12.11%		
Difference	<b>0.49%</b>	<b>-0.16%</b>	<b>-2.24%</b>	<b>0.43%</b>	<b>0.18%</b>	<b>1.33%</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.



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# AGENDA

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## TAKEAWAYS

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- All of the Program's age-based portfolios posted positive absolute results for the quarter. All actively-managed and passively-managed portfolios underperformed their respective benchmarks for the period, across age groups. The majority of passively-managed portfolios outperformed the actively-managed portfolios.
- Global equity markets experienced solid gains in the second quarter. All of the Program's underlying funds produced positive returns on an absolute basis during the quarter.
- US equities produced positive absolute results over the second quarter and mixed benchmark relative results. Large cap stocks outperformed small cap stocks. Growth indices outperformed value indices, however the Program's T. Rowe Institutional Large Cap Growth fund underperformed the T. Rowe Institutional Large Cap Value fund, which was the top equity contributor for the period.
- International equities provided positive results in developed markets and modest positive results in emerging markets. The DFA Large Cap International and TIAA-CREF Emerging Market Index funds slightly underperformed their benchmarks.
- Fixed income results nearly kept pace with equities over the recent quarter and high yield bonds provided the strongest performance in the segment. The majority of the Program's actively-managed fixed income funds modestly underperformed their respective benchmarks for the quarter. The TIAA-CREF High Yield Bond fund generated the highest benchmark relative and absolute return of the Program's fixed income funds.
- Real Estate was a positive contributor over the quarter with results falling in between equities and fixed income. The TIAA-CREF Real Estate Securities Fund posted the strongest benchmark relative return, exceeding its benchmark by 1.1%.



SECTION 1

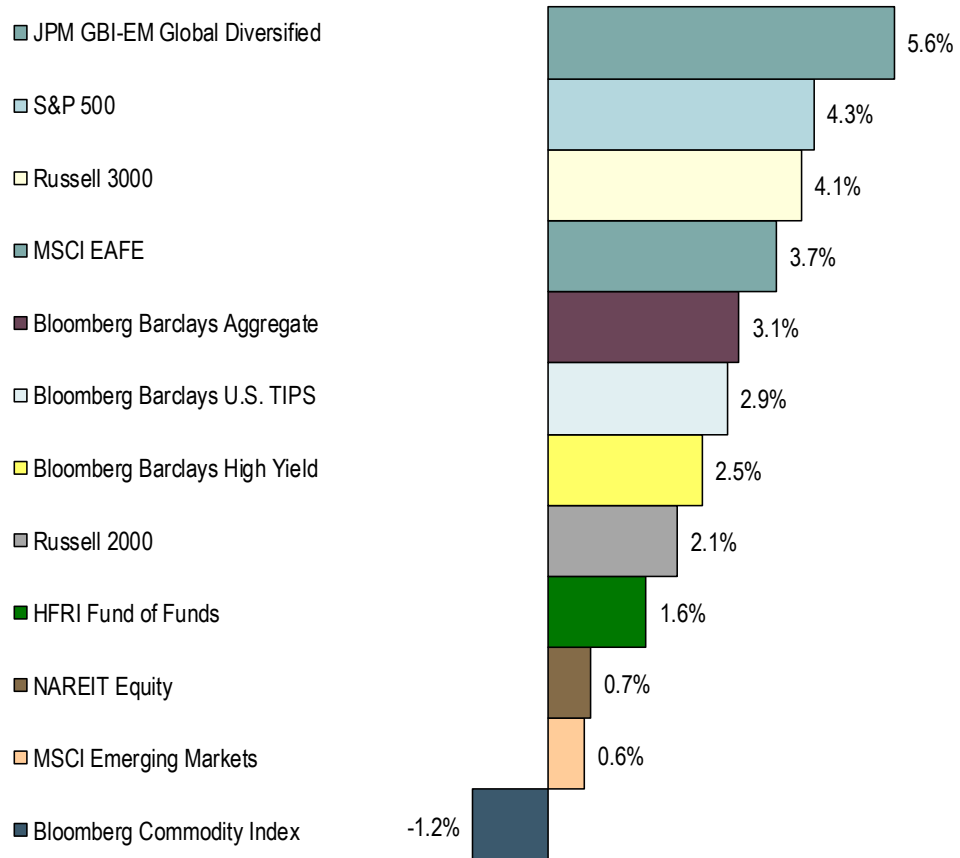
ECONOMIC OVERVIEW

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# **The World Markets Second Quarter of 2019**

## The World Markets<sup>1</sup> Second Quarter of 2019



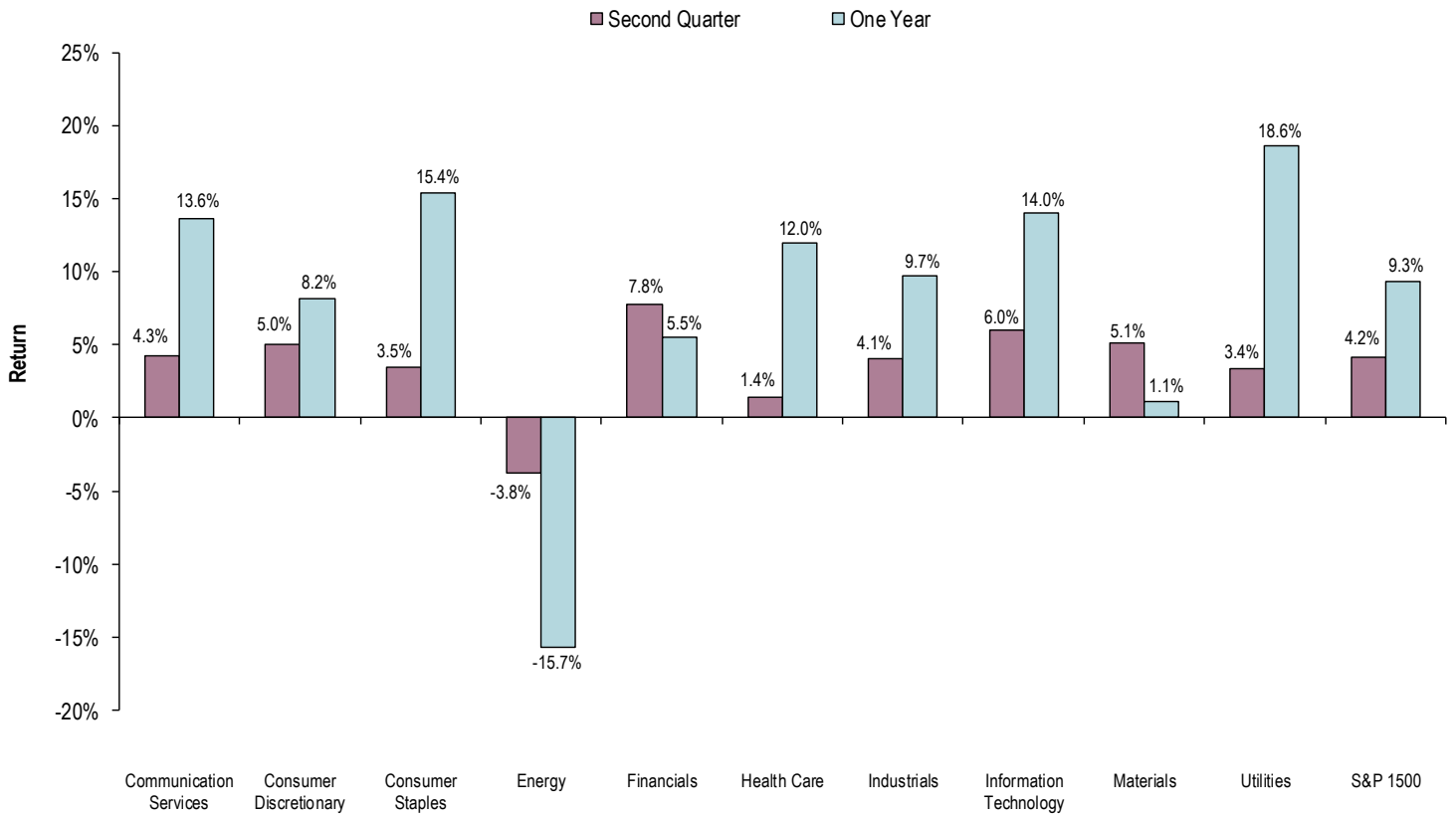
<sup>1</sup> Source: InvestorForce.

Index Returns<sup>1</sup>

	2Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
<b>Domestic Equity</b>					
S&P 500	4.3	10.4	14.2	10.7	14.7
Russell 3000	4.1	9.0	14.0	10.2	14.7
Russell 1000	4.2	10.0	14.1	10.5	14.8
Russell 1000 Growth	4.6	11.6	18.1	13.4	16.3
Russell 1000 Value	3.8	8.5	10.2	7.5	13.2
Russell MidCap	4.1	7.8	12.2	8.6	15.2
Russell MidCap Growth	5.4	13.9	16.5	11.1	16.0
Russell MidCap Value	3.2	3.7	8.9	6.7	14.6
Russell 2000	2.1	-3.3	12.3	7.1	13.4
Russell 2000 Growth	2.7	-0.5	14.7	8.6	14.4
Russell 2000 Value	1.4	-6.2	9.8	5.4	12.4
<b>Foreign Equity</b>					
MSCI ACWI (ex. U.S.)	3.0	1.3	9.4	2.2	6.5
MSCI EAFE	3.7	1.1	9.1	2.2	6.9
MSCI EAFE (Local Currency)	2.8	2.2	9.8	5.9	8.3
MSCI EAFE Small Cap	1.7	-6.3	9.1	4.4	9.7
MSCI Emerging Markets	0.6	1.2	10.7	2.5	5.8
MSCI Emerging Markets (Local Currency)	7.4	9.4	13.8	7.6	8.6
<b>Fixed Income</b>					
Bloomberg Barclays Universal	3.1	8.1	2.8	3.2	4.4
Bloomberg Barclays Aggregate	3.1	7.9	2.3	2.9	3.9
Bloomberg Barclays U.S. TIPS	2.9	4.8	2.1	1.8	3.6
Bloomberg Barclays High Yield	2.5	7.5	7.5	4.7	9.2
JPM GBI-EM Global Diversified	5.6	9.0	4.2	-0.5	3.4
<b>Other</b>					
NAREIT Equity	0.7	10.1	3.8	7.7	15.3
Bloomberg Commodity Index	-1.2	-6.8	-2.2	-9.1	-3.7
HFRI Fund of Funds	1.6	1.3	4.3	2.2	3.2

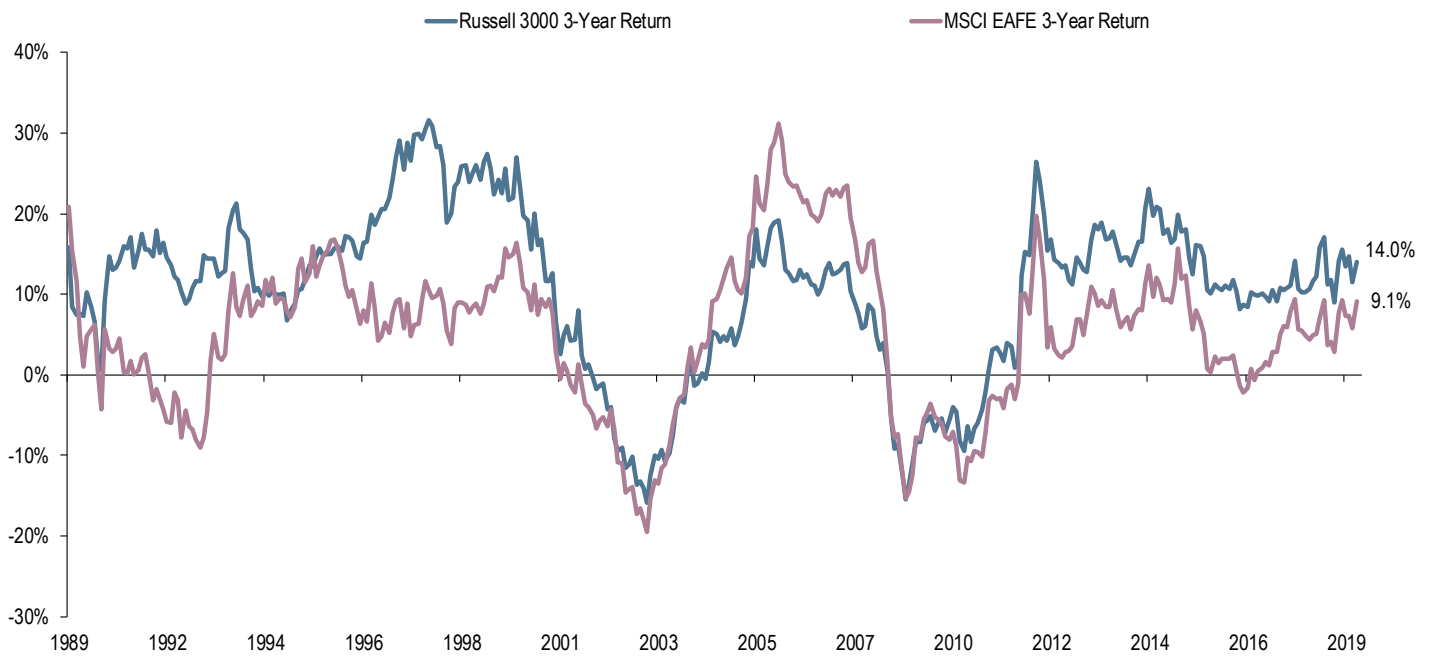
<sup>1</sup> Source: InvestorForce.

### S&P Sector Returns<sup>1</sup>



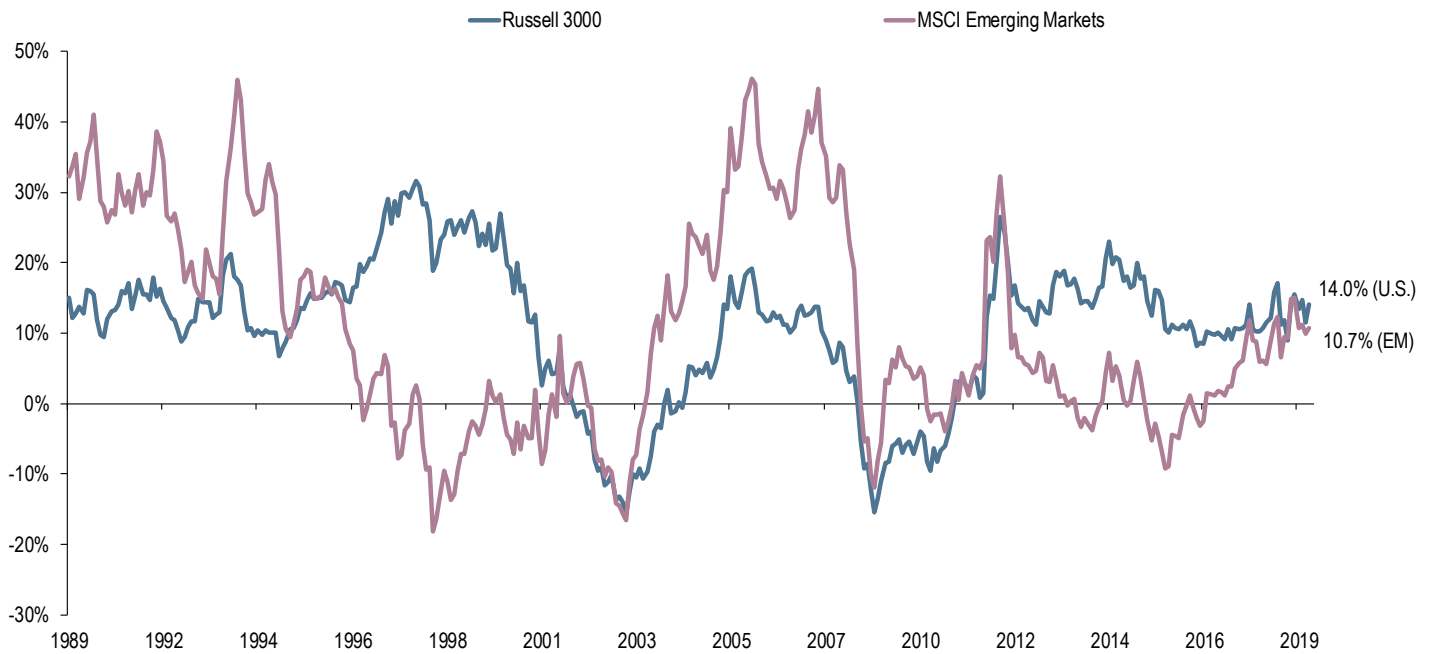
<sup>1</sup> Source: InvestorForce. Represents S&P 1500 (All Cap) data.

## U.S. and Developed Market Foreign Equity Rolling Three-Year Returns<sup>1</sup>



<sup>1</sup> Source: InvestorForce.

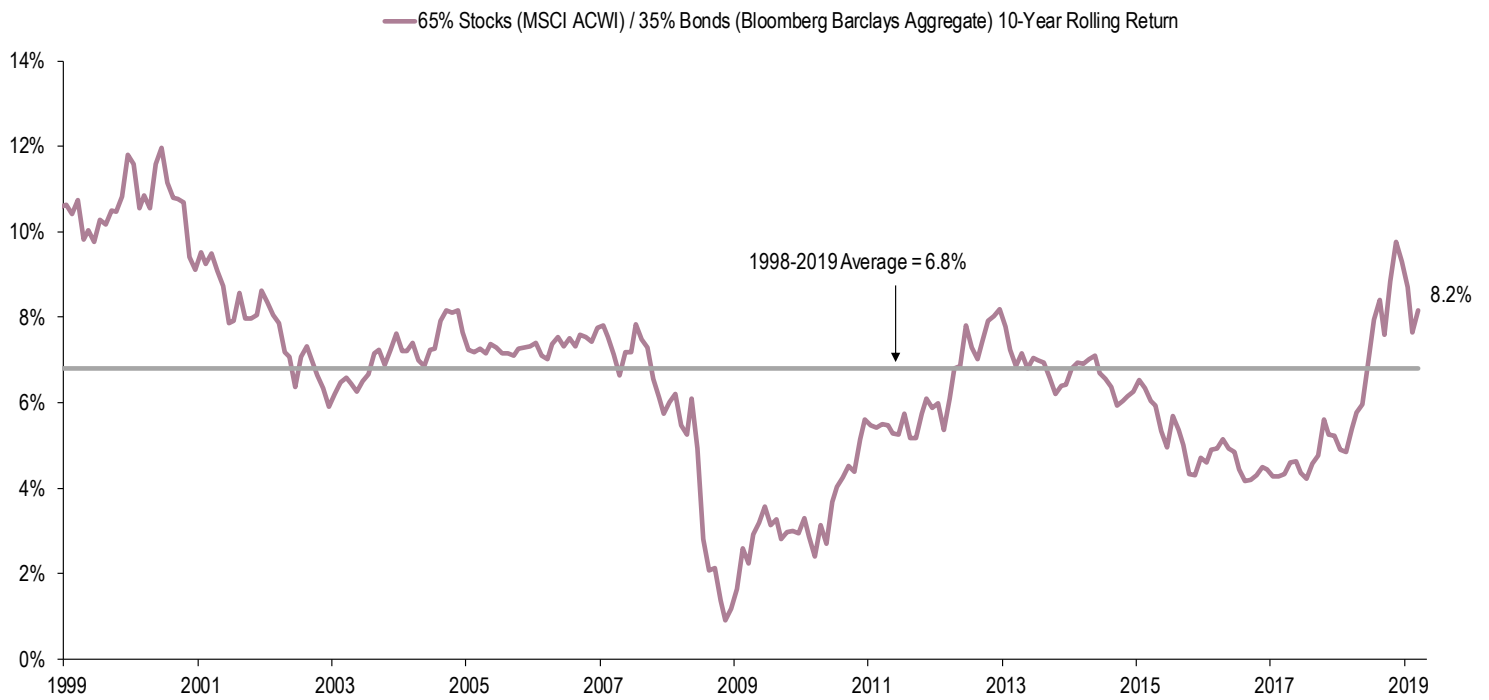
## U.S. and Emerging Market Equity Rolling Three-Year Returns<sup>1</sup>



<sup>1</sup> Source: InvestorForce.

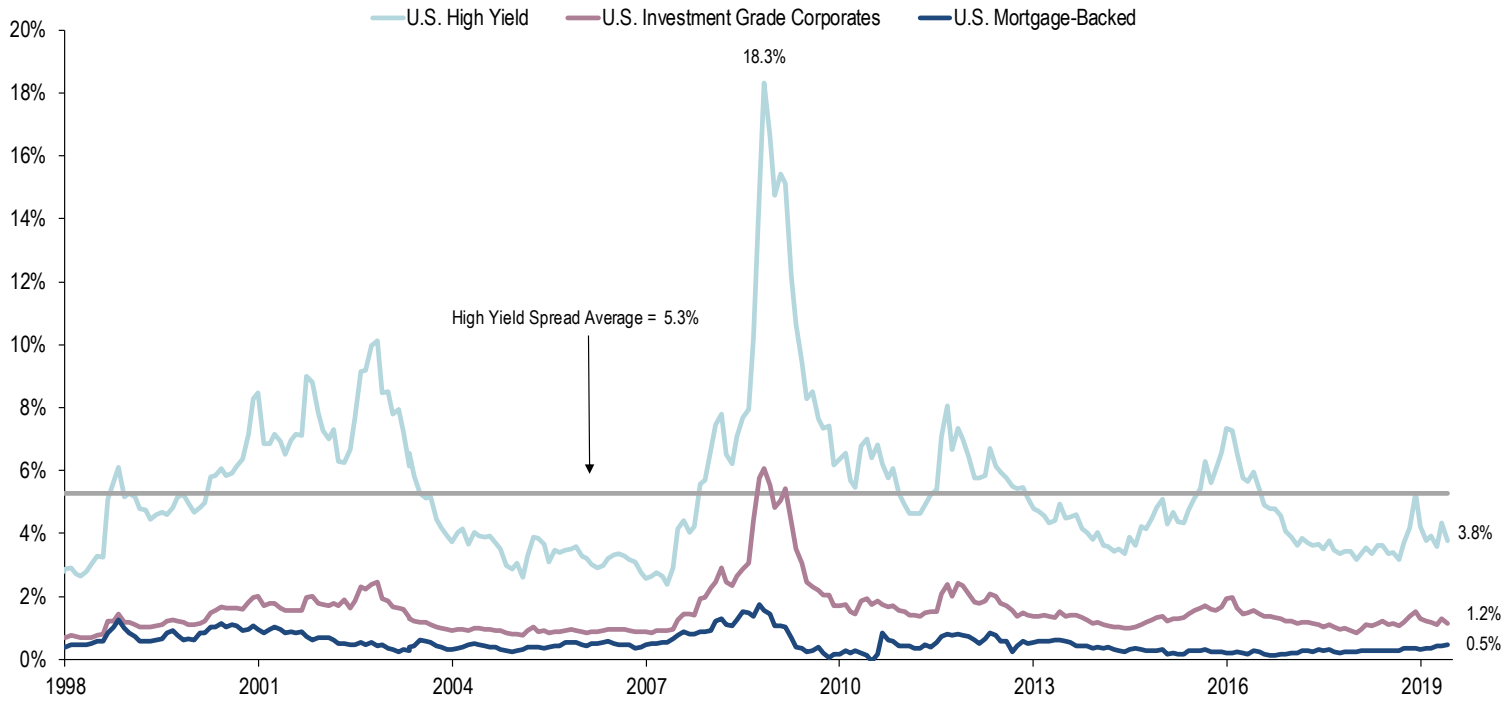


## Rolling Ten-Year Returns: 65% Stocks and 35% Bonds<sup>1</sup>



<sup>1</sup> Source: InvestorForce.

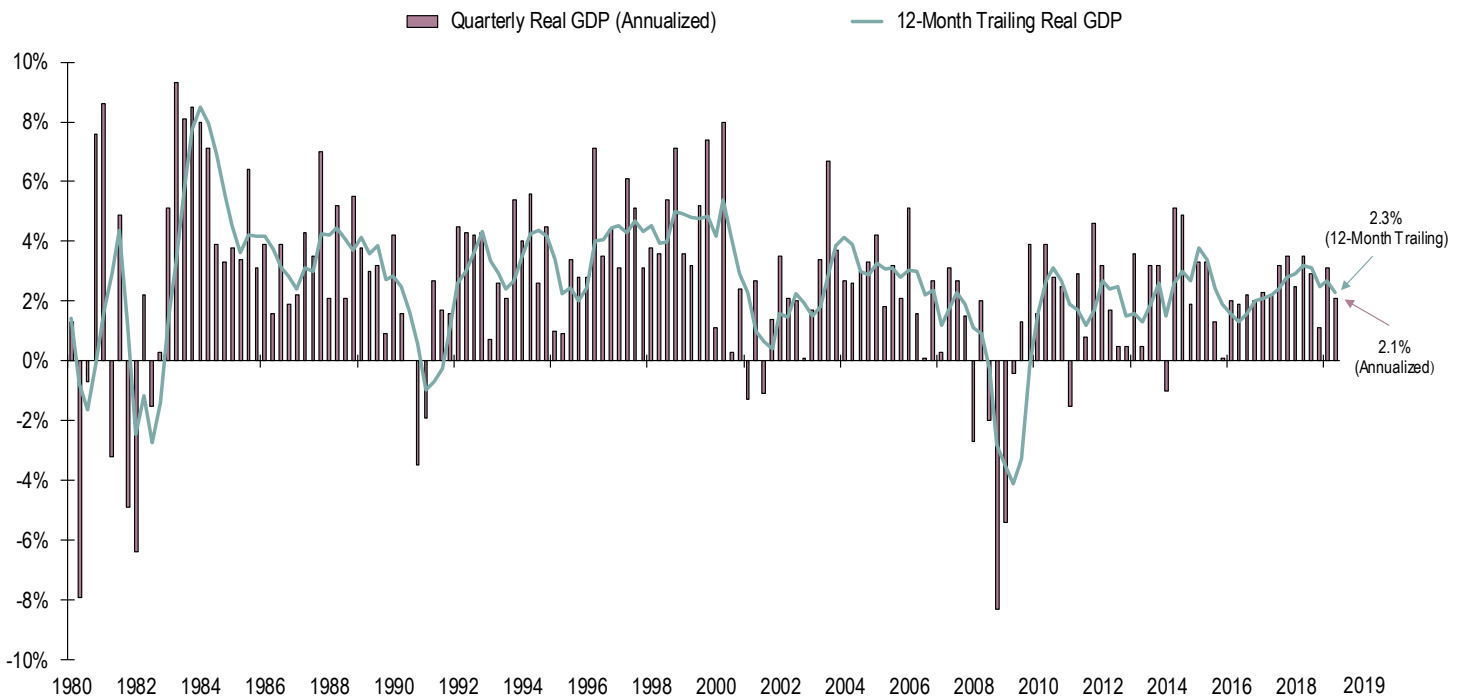
## Credit Spreads vs. U.S. Treasury Bonds<sup>1,2</sup>



<sup>1</sup> Source: Barclays Live.

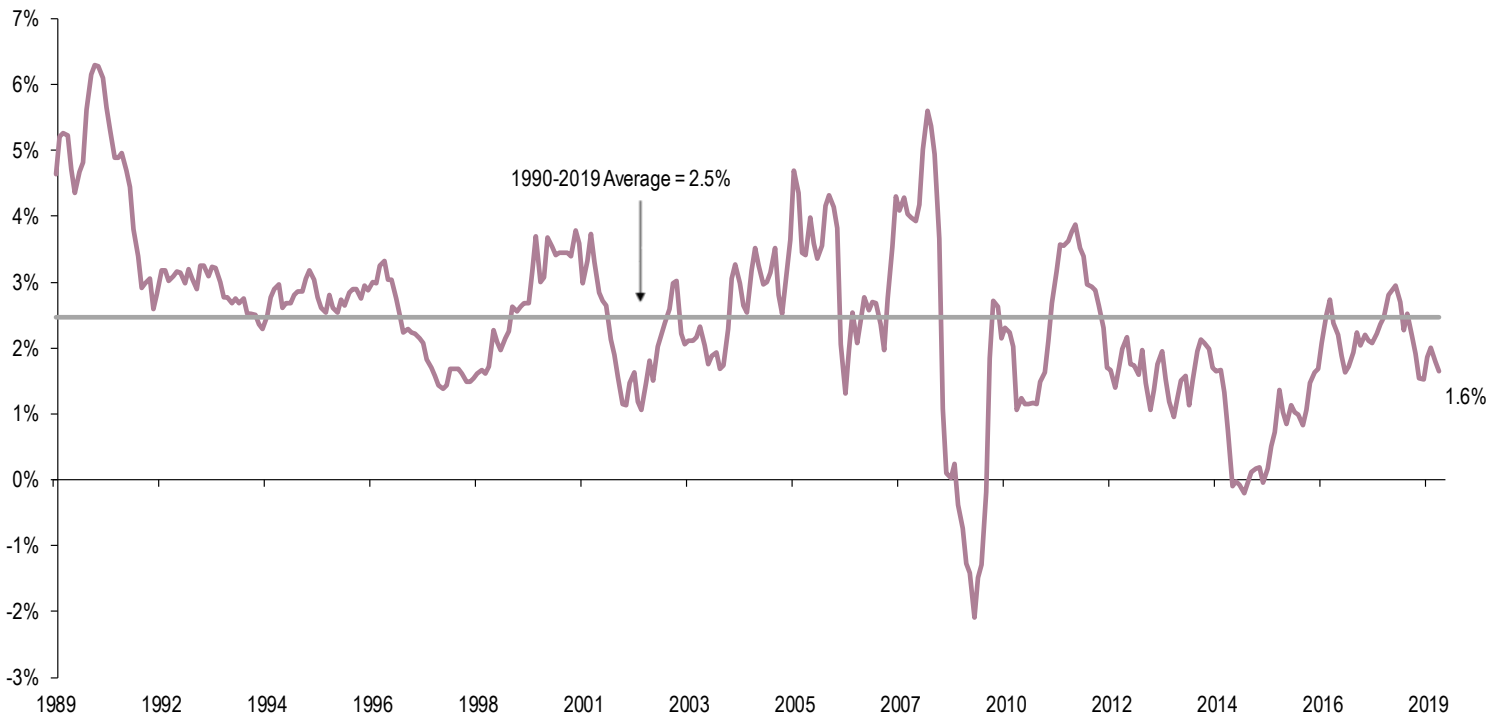
<sup>2</sup> The median high yield spread was 4.8% from 1997-2019.

## U.S. Real Gross Domestic Product (GDP) Growth<sup>1</sup>



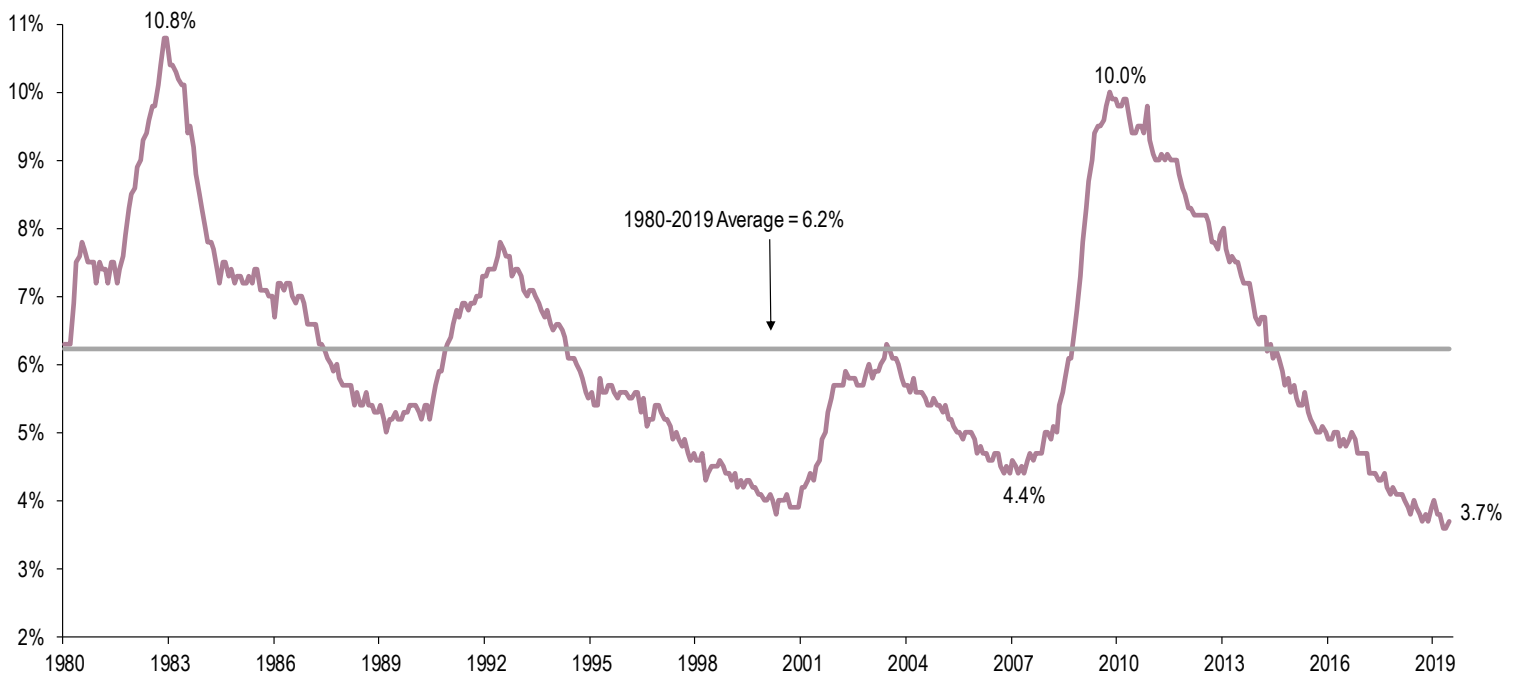
<sup>1</sup> Source: Bureau of Economic Analysis. Data is as of Q2 2019 and represents the first estimate.

## U.S. Inflation (CPI) Trailing Twelve Months<sup>1</sup>



<sup>1</sup> Source: Bureau of Labor Statistics. Data is non-seasonally adjusted CPI, which may be volatile in the short-term. Data is as of June 30, 2019.

## U.S. Unemployment<sup>1</sup>



<sup>1</sup> Source: Bureau of Labor Statistics. Data is as of June 30, 2019.

## SECTION 2

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

### Passively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (rolling 60-month periods)
Domestic Equity	Tracking Error > 0.30% for 6 consecutive months	Tracking Error> 0.25% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months
International Equity	Tracking Error > 0.75% for 6 consecutive months	Tracking Error> 0.70% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months
Fixed Income	Tracking Error > 0.40% for 6 consecutive months	Tracking Error> 0.55% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.35% for 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 Standard & Poor's = AAA A.M. Best = A+++ 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

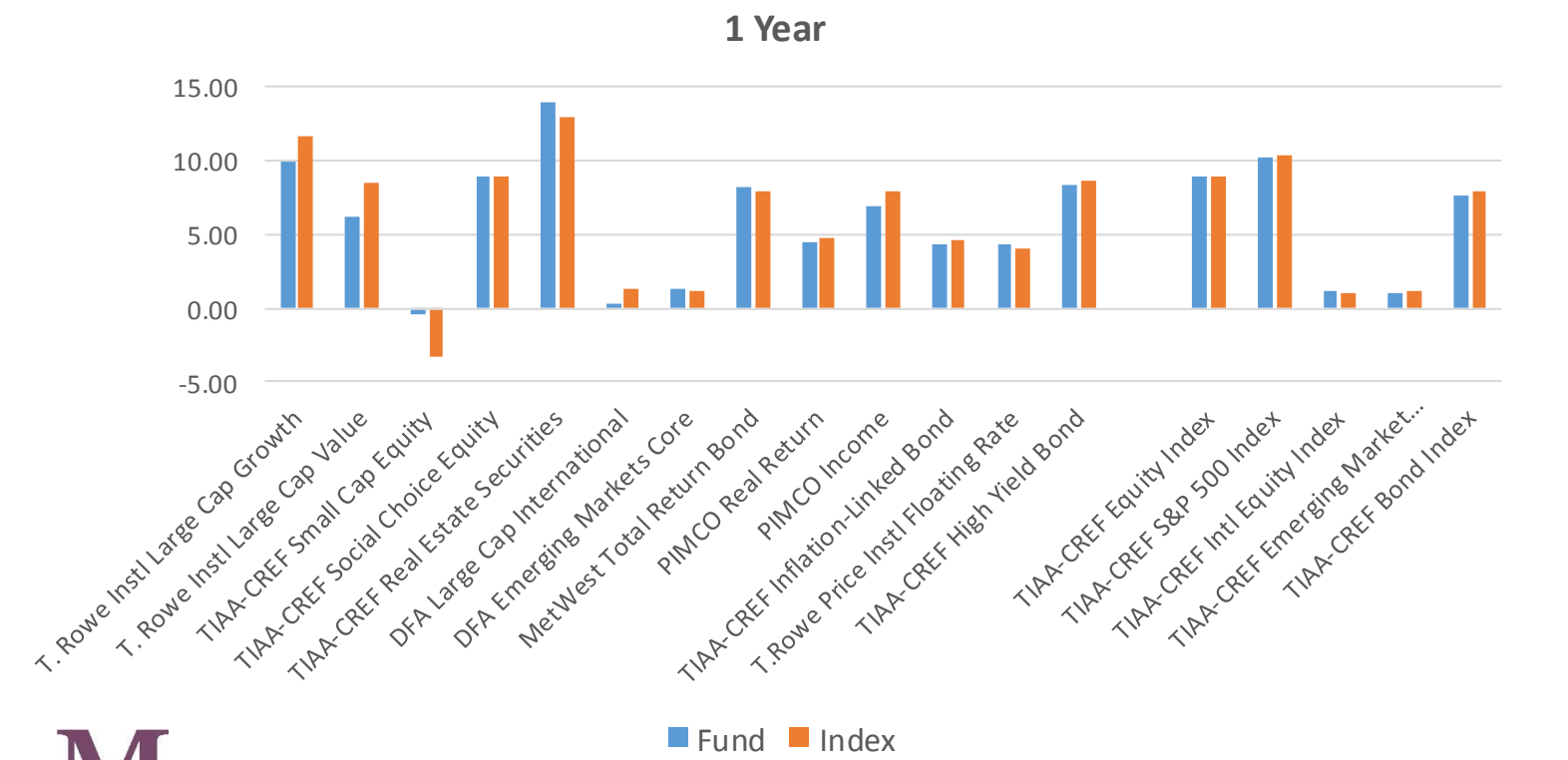
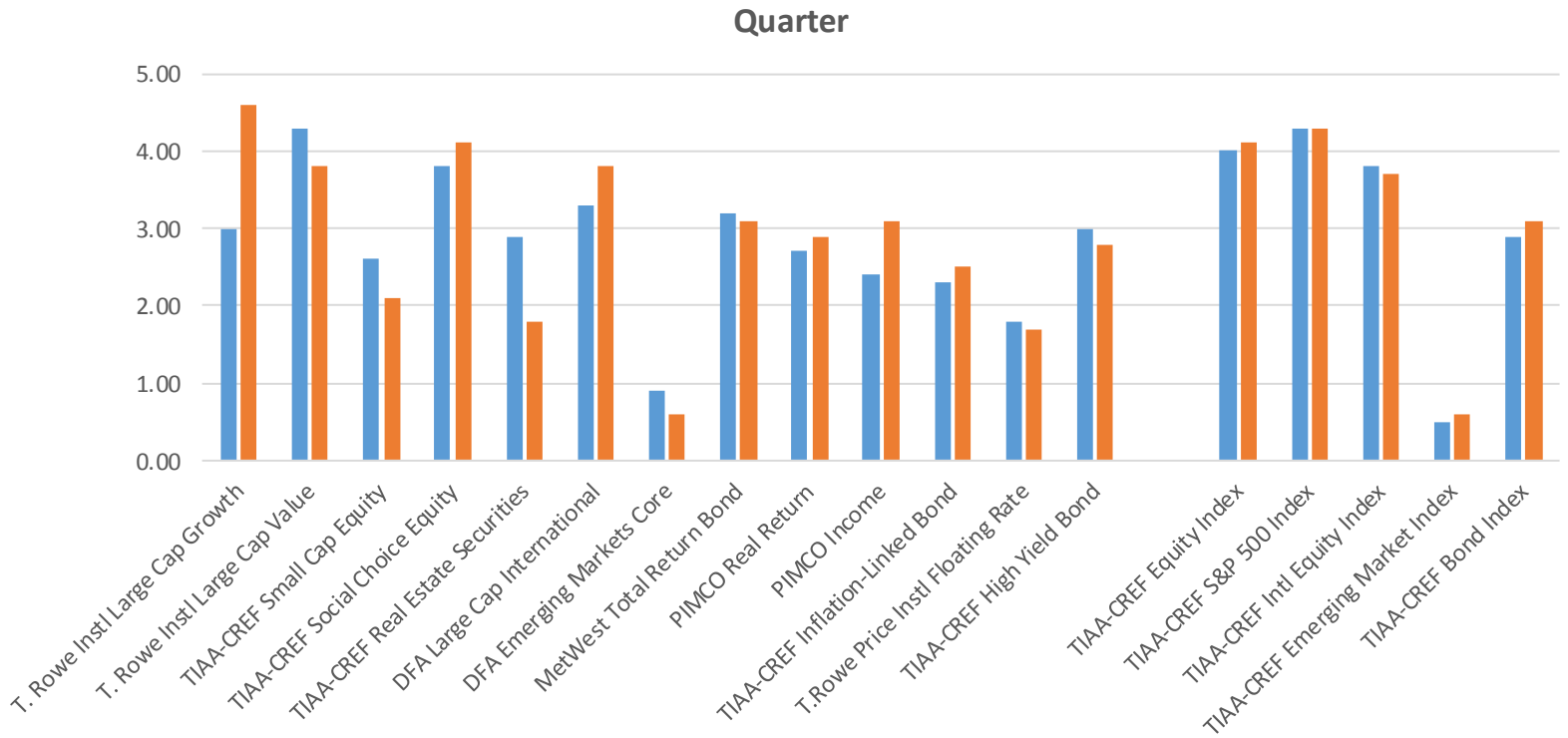
Performance Category	Actively Managed Portfolios	Passively Managed Portfolios
Positive	<ul style="list-style-type: none"> <li>Performance exceeds the benchmark.</li> </ul>	<ul style="list-style-type: none"> <li>Performance exceeds the benchmark (first 1-12 month period), or</li> <li>Tracking error is 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:                             <ol style="list-style-type: none"> <li>for less than six consecutive months, or</li> <li>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> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Tracking error falls outside of the allowable range but either                             <ol style="list-style-type: none"> <li>for less than six consecutive months, or</li> <li>the Board has not voted to place the asset class or stand alone fund on Watch</li> </ol> </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 6/30/19



■ Fund ■ Index



# SUMMARY OF FUND PERFORMANCE STATUS

Program	Total Funds	Positive	Acceptable	Caution	Watch <sup>^</sup>
<b>Number of Funds</b>	<b>19</b>	<b>5</b>	<b>13</b>	<b>1</b>	<b>1</b>
<b>% of Funds</b>	<b>100%</b>	<b>26%</b>	<b>68%</b>	<b>5%</b>	<b>5%</b>
<b>% of Program Assets</b>	<b>100%</b>	<b>31%</b>	<b>67%</b>	<b>2%</b>	<b>2%</b>
Fund Status ↑	1	--	1	--	--
Fund Status ↓	3	3	--	--	--
Domestic Equity Funds	7	1	5	1	1
Intl Equity Funds	4	1	3	--	--
Fixed Income Funds	5	2	3	--	--
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
- The status of one fund improved over the quarter
  - PIMCO Real Return
- The status of three funds declined over the quarter
  - T. Rowe Price Large Cap Growth
  - DFA Large Cap International
  - PIMCO Income
- No new funds qualify for “Watch” status



# 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	Positive		Acceptable	
T. Rowe Price Instl Large Cap Value	Acceptable		Acceptable	
TIAA-CREF Small Cap Equity	Positive		Positive	
TIAA-CREF Social Choice Equity	Caution	7/1/17	Caution	7/1/17
TIAA-CREF Real Estate Securities	Acceptable		Acceptable	
DFA Large Cap International	Positive		Acceptable	
DFA Emerging Markets Core Equity	Acceptable		Acceptable	
Metropolitan West Total Return Bond	Positive		Positive	
PIMCO Real Return	Acceptable		Positive	
PIMCO Income	Positive		Acceptable	
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 6/30/2019

Funds	Assets (\$)	% of Total
<b>Active Funds</b>		
T. Rowe Price Instl Large Cap Growth	446,976,509	4.78%
T. Rowe Price Instl Large Cap Value	423,900,739	4.53%
TIAA-CREF Small Cap Equity	102,917,398	1.10%
TIAA-CREF Social Choice Equity	181,887,191	1.94%
TIAA-CREF Real Estate Securities	289,135,555	3.09%
DFA Large Cap International	342,873,462	3.66%
DFA Emerging Markets Core Equity	77,764,030	0.83%
Metropolitan West Total Return Bond	542,823,550	5.80%
PIMCO Real Return	190,345,309	2.03%
PIMCO Income	215,054,019	2.30%
TIAA-CREF Inflation-Linked Bond	346,588,566	3.70%
T. Rowe Price Instl Floating Rate	94,611,821	1.01%
TIAA-CREF High-Yield Bond	186,873,553	2.00%
<b>Active Funds Total</b>	<b>3,441,751,702</b>	<b>36.77%</b>
<b>Passive Funds</b>		
TIAA-CREF Equity Index	1,885,938,216	20.15%
TIAA-CREF S&P 500 Index	493,179,879	5.27%
TIAA-CREF International Equity Index	613,238,075	6.55%
TIAA-CREF Emerging Markets Index	138,840,965	1.48%
TIAA-CREF Bond Index	1,348,752,179	14.41%
<b>Passive Funds Total</b>	<b>4,479,949,313</b>	<b>47.87%</b>
<b>T-C Life Funding Agreements</b>		
T-C Life Funding Agreements	1,437,763,188	15.36%
<b>TOTAL</b>	<b>\$9,359,464,203</b>	<b>100%</b>



# PORTFOLIO MANAGEMENT OVERVIEW

Fund	Ticker	Current PM Team	Recent PM Departures*
T.Rowe Price Large Cap Growth	TRLGX	01/01/2017- Taymour R. Tamaddon	12/31/2002-01/01/2017 Robert W. Sharps
T.Rowe Price Large Cap Value	TILCX	03/31/2000- John D. Linehan 02/25/2010- Mark S. Finn 01/01/2015- Heather K. McPherson	
TIAA-CREF Small Cap Equity	TISEX	12/31/2006- Adam Cao 03/01/2016- Pei Chen 03/01/2019- Max Kozlov	
TIAA-CREF Social Choice Equity	TISCX	12/31/2005- Philip James Campagna 05/30/2014- Lei Liao	
TIAA-CREF Real Estate Securities	TIREX	12/31/2005- David Copp 07/10/2006- Brendan W. Lee	
DFA Large Cap International	DFALX	02/28/2010- Jed S. Fogdall 07/21/2015- Mary T. Phillips 07/21/2015- Bhanu P. Singh	02/28/2012-02/28/2017 Henry F. Gray 02/28/2010-02/28/2019 Joseph H. Chi
DFA Emerging Markets Core Equity	DFCEX	02/28/2010- Jed S. Fogdall 07/21/2015- Allen Pu 07/21/2015- Bhanu P. Singh 02/28/2017- Mary T. Phillips 02/28/2019- William Collins-Dean	02/28/2010-02/28/2019 Joseph H. Chi
Metropolitan West Total Return Bond	MWTIX	03/31/1997- Stephen M. Kane 03/31/1997- Laird R. Landman 03/31/1997- Tad Rivelle 12/31/2004- Bryan T. Whalen	
PIMCO Real Return	PRRIX	12/31/2007- Mihir P. Worah 01/09/2019- Stephen A. Rodosky	01/02/2015-01/09/2019 Jeramie Banet
PIMCO Income	PIMIX	03/30/2007- Daniel J. Ivascyn 03/15/2013- Alfred T. Murata 07/30/2018- Joshua Anderson	
TIAA-CREF Inflation-Linked Bond	TIILX	08/21/2008- John Michael Cerra 08/01/2016- Nicholas Travaglinio 08/01/2019- Chad W. Kemper	10/01/2011-08/01/2016 Stephen M. Liberatore
T.Rowe Price Floating Rate	RPIFX	05/01/2009- Paul M. Massaro	
TIAA-CREF High Yield	TIHYX	03/31/2006- Kevin R. Lorenz 10/01/2011- Jean C. Lin	
TIAA-CREF Equity Index	TIEIX	12/31/2005- Philip James Campagna 05/30/2014- Lei Liao 03/01/2019- Darren Tran	
TIAA-CREF S&P 500 Index	TISPX	12/31/2005- Philip James Campagna 05/30/2014- Lei Liao 03/01/2019- Darren Tran	
TIAA-CREF International Equity Index	TCIEX	08/01/2005- Philip James Campagna 05/30/2014- Lei Liao 03/01/2019- Darren Tran	
TIAA-CREF Emerging Markets Equity Index	TEQLX	08/31/2010- Philip James Campagna 05/30/2014- Lei Liao 03/01/2019- Darren Tran	
TIAA-CREF Bond Index	TBIIX	12/31/2009- Lijun (Kevin) Chen 08/24/2011- James Tsang	

\*Recent is defined as having occurred in the last three years.

Source: MorningStar



# PORTFOLIO MANAGEMENT OVERVIEW

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**Observations:**

- TIAA-CREF Inflation-Linked Bond
  - Chad W. Kemper was added as a Portfolio Manager on August 1<sup>st</sup>, 2019. Mr. Kemper is also responsible for co-managing the separately managed government strategies. Mr. Kemper has been with the firm since 1999 and was previously a member of the US interest rates and government sector team, responsible for trading US Treasury and agency securities.





SECTION 4

SENSITIVITY ANALYSES

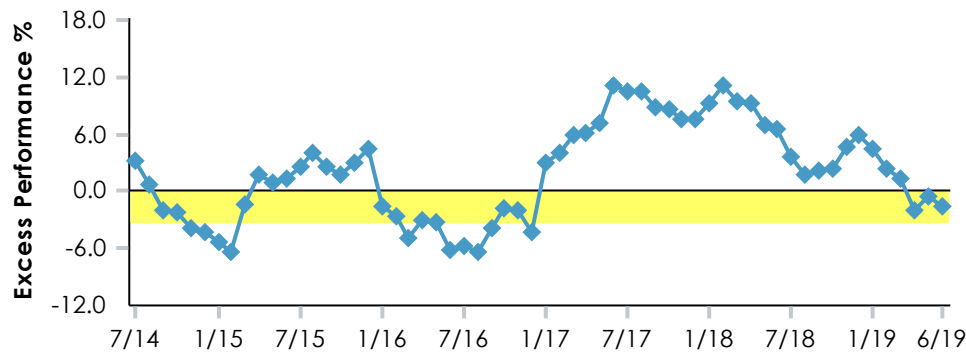
ACTIVE FUNDS

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

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

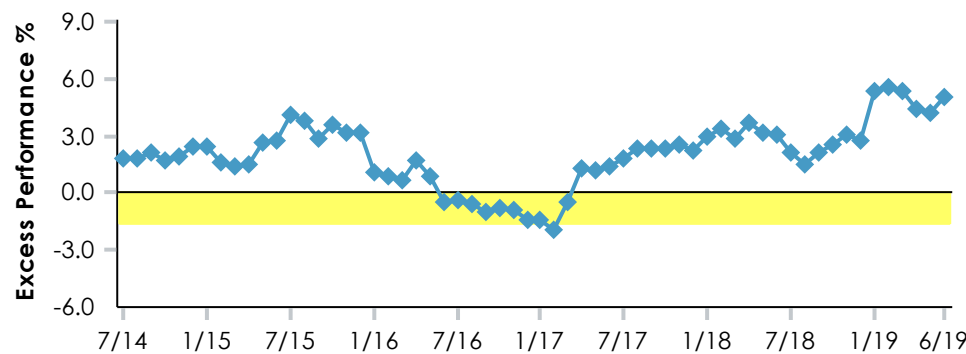


### Short-Term Performance

Acceptable

Probationary Performance -3.50%

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

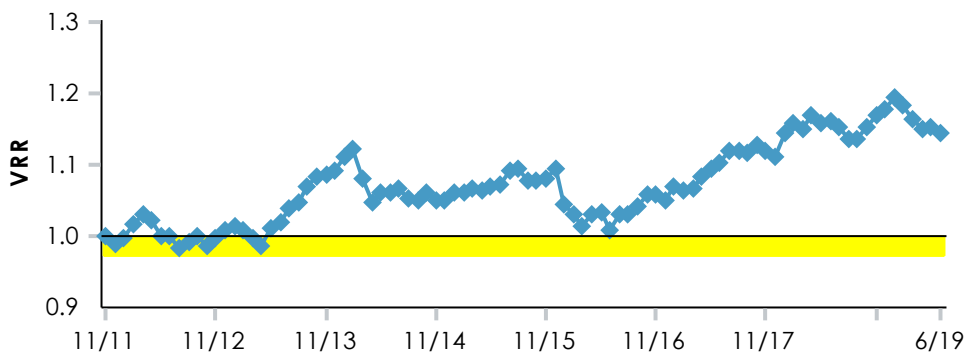


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2019 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	3.0 (92)	10.0 (59)	23.1 (2)	15.1 (5)	18.0 (3)
Russell 1000 Growth Index	4.6 (56)	11.6 (36)	18.1 (45)	13.4 (30)	15.9 (24)
IM U.S. Large Cap Growth Equity (MF) Median	4.8	10.6	17.7	12.5	15.0

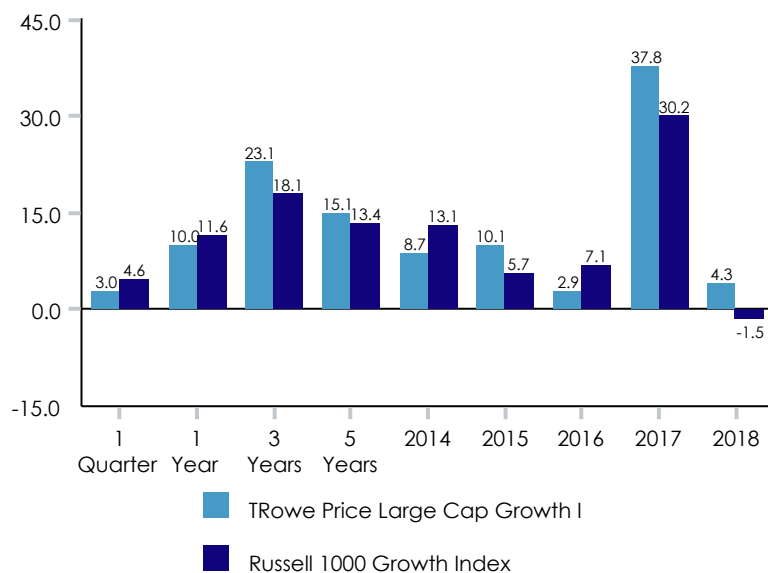
Monitoring Status

Acceptable

## 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 : \$19,125 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 33%

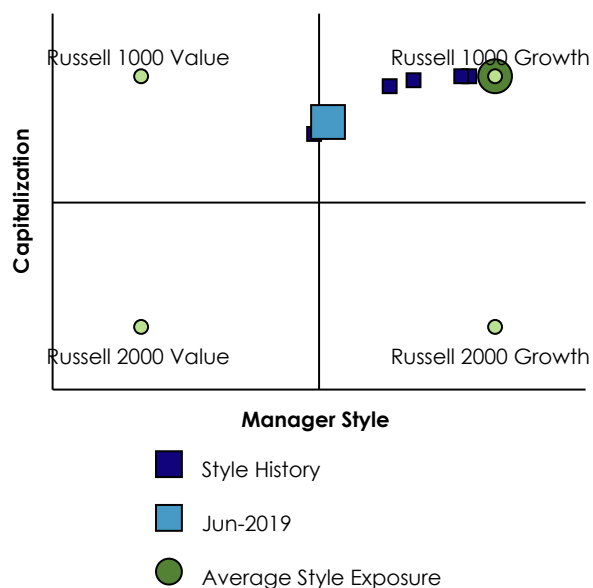
## Comparative Performance



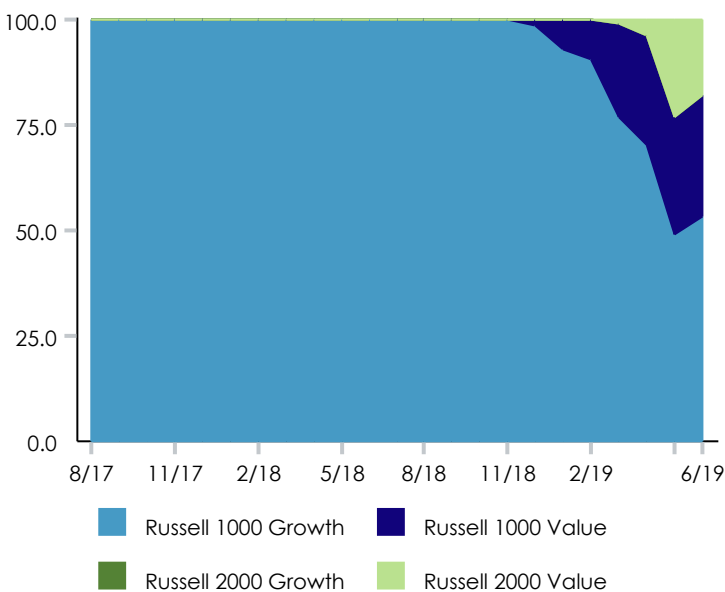
## Fund Investment Policy

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

## Style Map (3 Years)



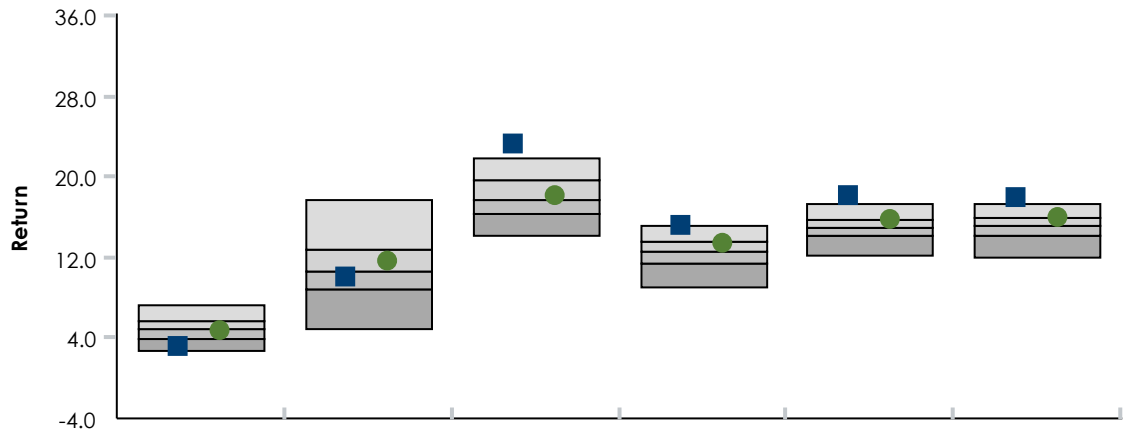
## Style History (3 Years)



## Historical Statistics (3 Years)

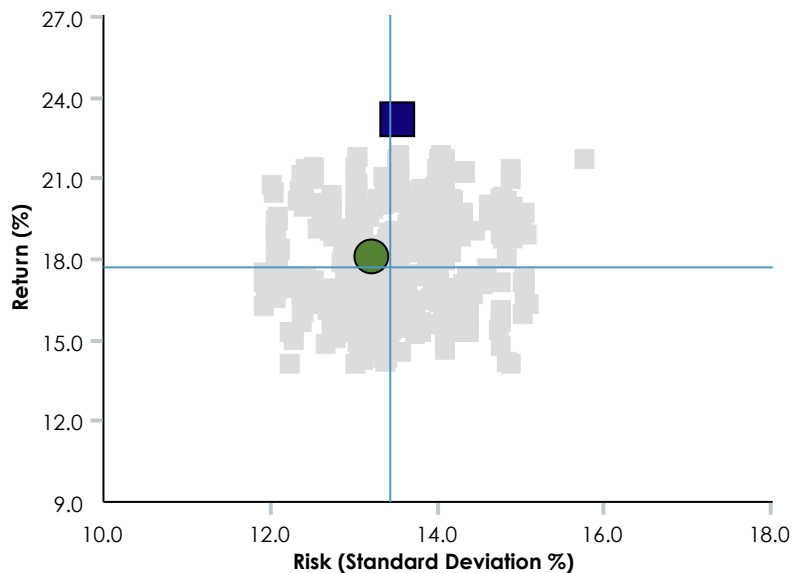
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TRowe Price Large Cap Growth I	23.1	13.5	1.5	4.8	1.0	0.9	4.1	1.1	109.3	84.7
Russell 1000 Growth Index	18.1	13.2	1.2	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Large Cap Growth Equity (MF) Median	17.7	13.4	1.2	0.0	1.0	0.9	3.2	-0.1	98.0	95.4

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TRowe Price Large Cap Growth I	3.0 (92)	10.0 (59)	23.1 (2)	15.1 (5)	18.0 (2)	18.0 (3)
● Russell 1000 Growth Index	4.6 (56)	11.6 (36)	18.1 (45)	13.4 (30)	15.8 (25)	15.9 (24)
Median	4.8	10.6	17.7	12.5	15.0	15.0

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TRowe Price Large Cap Growth I	23.1	13.5
● Russell 1000 Growth Index	18.1	13.2
— Median	17.7	13.4

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	28	109.3
Down Markets	8	84.7
<b>Batting Average</b>		
Up Markets	28	53.6
Down Markets	8	87.5
Overall	36	61.1

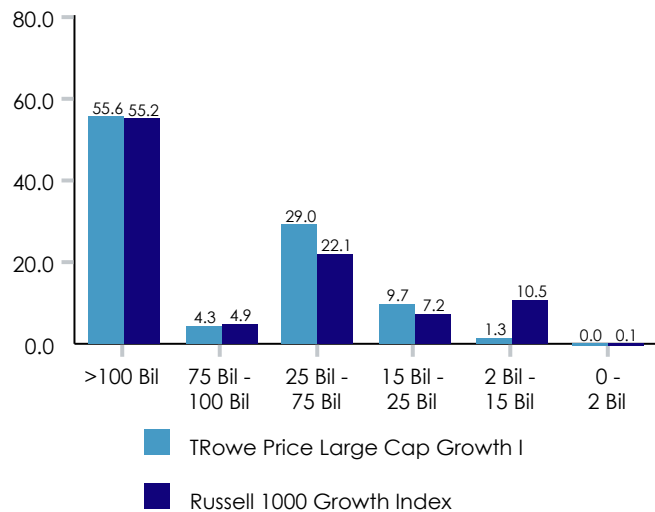
## Portfolio Characteristics (As of 6/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	333,113	300,666
Median Mkt. Cap (\$M)	48,459	12,770
Price/Earnings ratio	28.4	24.7
Price/Book ratio	6.3	6.9
5 Yr. EPS Growth Rate (%)	27.7	23.4
Current Yield (%)	0.8	1.3
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	63	546

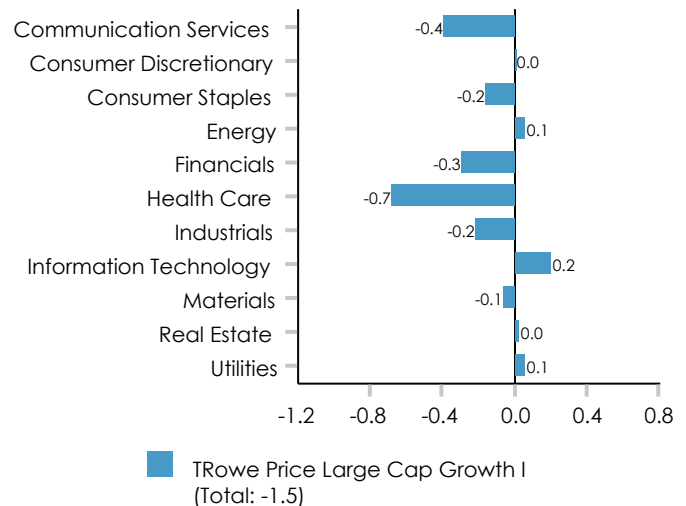
## Top 10 Holdings (As of 6/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Amazon.com Inc	8.9	5.6	6.3
Microsoft Corp	7.3	6.9	14.0
Facebook Inc	6.4	3.3	15.8
Boeing Co	5.5	1.4	-4.0
Visa Inc	5.3	2.2	11.3
Alphabet Inc	5.3	2.3	-8.0
Stryker Corp	2.4	0.5	4.3
Tencent Holdings LTD	2.4	0.0	-1.6
Intuit Inc.	2.3	0.5	0.2
Alibaba Group Holding Ltd	2.2	0.0	-7.1
% of Portfolio	48.0	22.7	

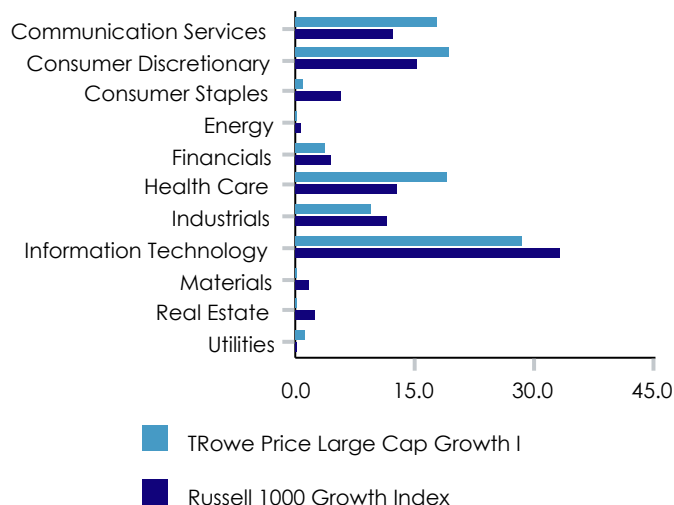
## Market Cap Distribution (As of 6/30/2019)



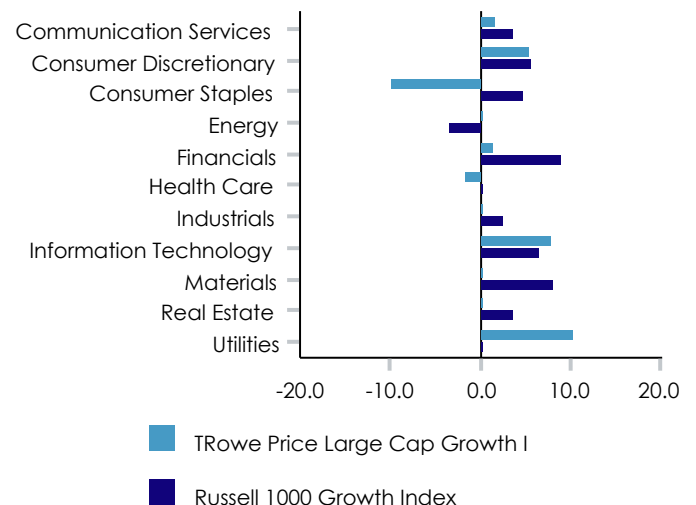
## Sector Attribution (1 Quarter as of 6/30/2019)



## Sector Allocation (1 Quarter as of 6/30/2019)

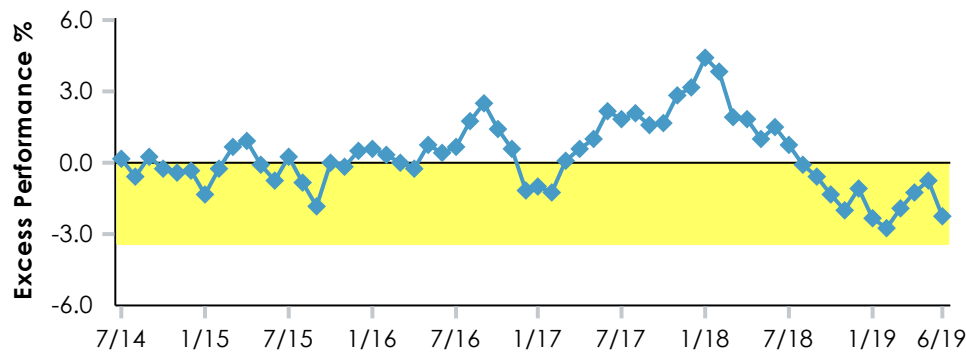


## Sector Performance (1 Quarter as of 6/30/2019)



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

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

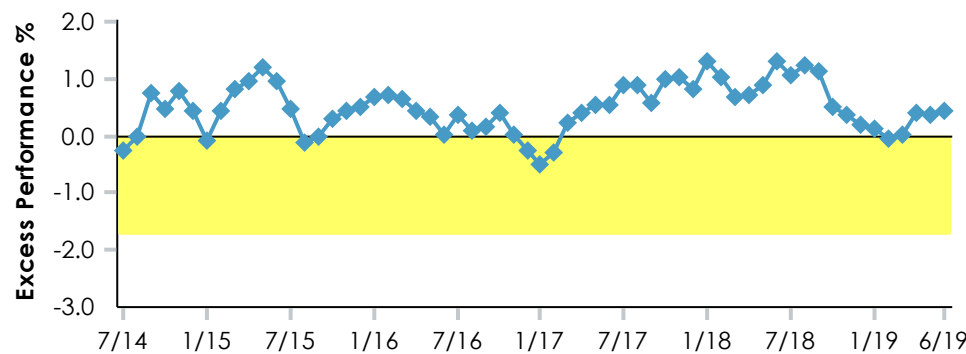


### Short-Term Performance

Acceptable

Probationary Performance -3.50%

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

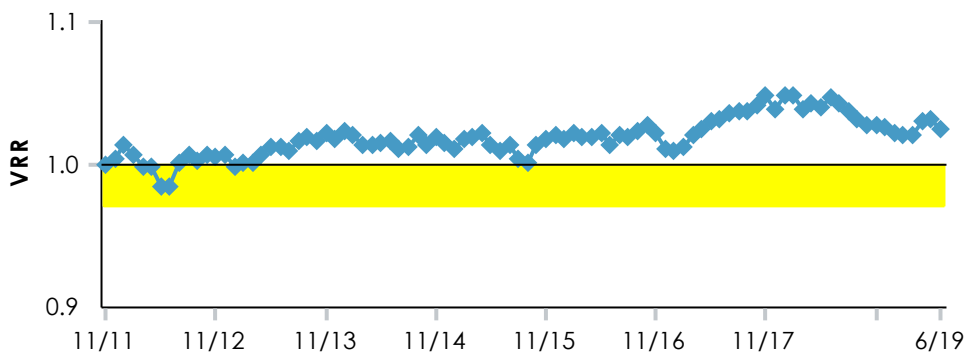


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2019 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	4.3 (19)	6.2 (51)	10.6 (48)	7.6 (26)	13.0 (12)
Russell 1000 Value Index	3.8 (38)	8.5 (31)	10.2 (61)	7.5 (33)	12.6 (19)
IM U.S. Large Cap Value Equity (MF) Median	3.5	6.4	10.5	6.9	11.8

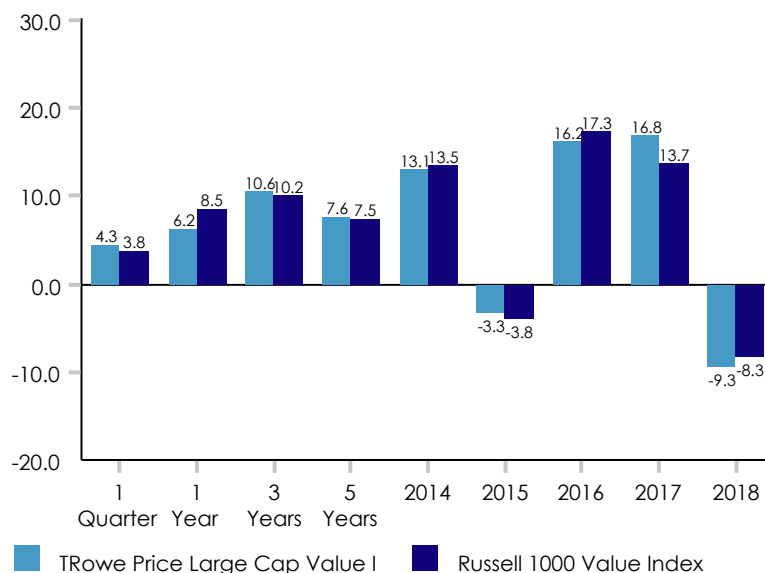
Monitoring Status

Acceptable

## 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 : \$3,438 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 28%

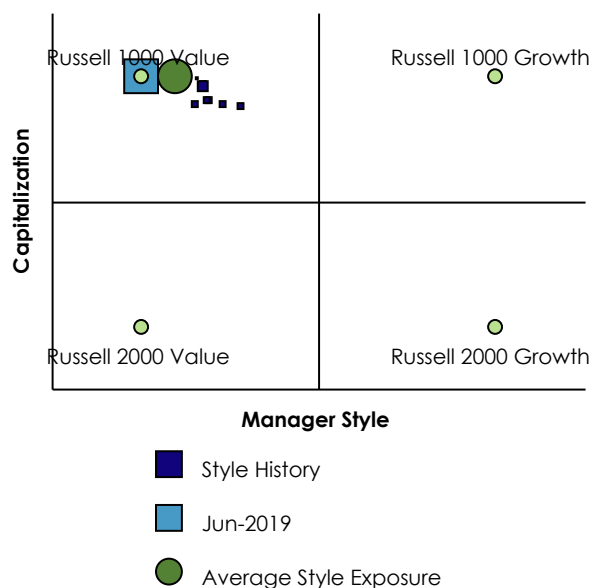
## Comparative Performance



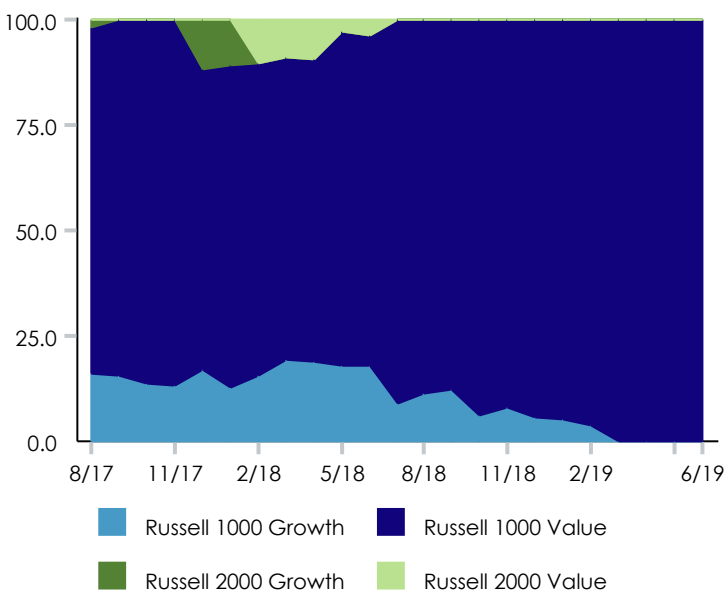
## Fund Investment Policy

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)



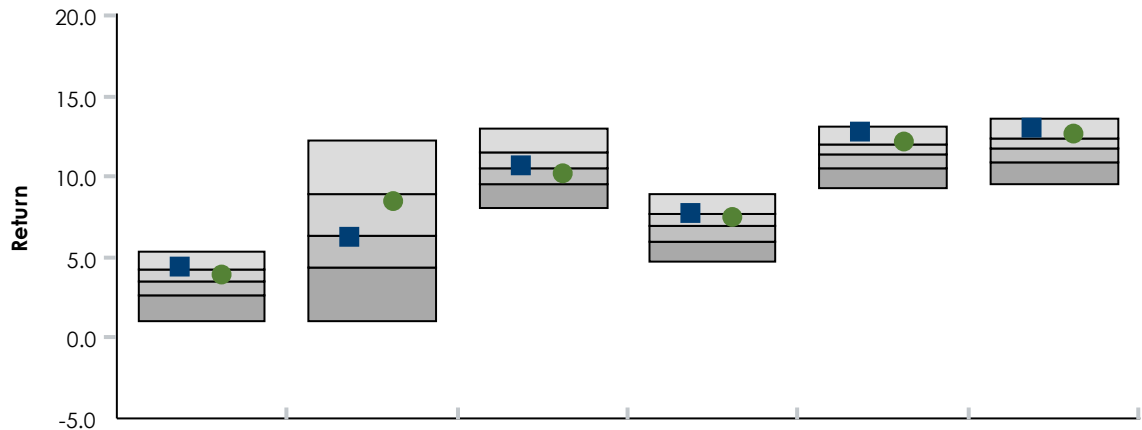
## Style History (3 Years)



## Historical Statistics (3 Years)

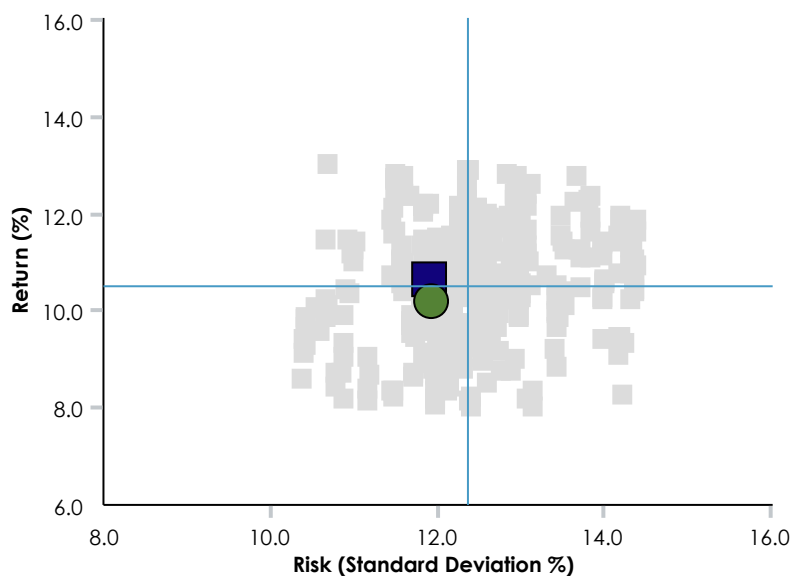
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TRowe Price Large Cap Value I	10.6	11.9	0.8	0.5	1.0	1.0	1.9	0.2	99.3	94.9
Russell 1000 Value Index	10.2	11.9	0.8	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Large Cap Value Equity (MF) Median	10.5	12.4	0.8	0.1	1.0	1.0	2.7	0.1	101.0	101.2

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TRowe Price Large Cap Value I	4.3 (19)	6.2 (51)	10.6 (48)	7.6 (26)	12.7 (11)	13.0 (12)
● Russell 1000 Value Index	3.8 (38)	8.5 (31)	10.2 (61)	7.5 (33)	12.1 (22)	12.6 (19)
Median	3.5	6.4	10.5	6.9	11.4	11.8

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TRowe Price Large Cap Value I	10.6	11.9
● Russell 1000 Value Index	10.2	11.9
— Median	10.5	12.4

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	25	99.3
Down Markets	11	94.9
<b>Batting Average</b>		
Up Markets	25	44.0
Down Markets	11	63.6
Overall	36	50.0



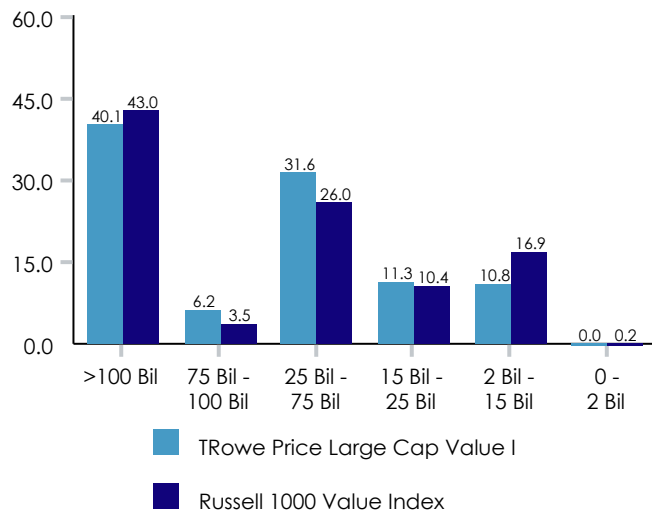
## Portfolio Characteristics (As of 6/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	144,400	130,324
Median Mkt. Cap (\$M)	46,865	9,656
Price/Earnings ratio	16.3	17.4
Price/Book ratio	2.3	2.3
5 Yr. EPS Growth Rate (%)	6.4	7.1
Current Yield (%)	2.9	2.6
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	79	722

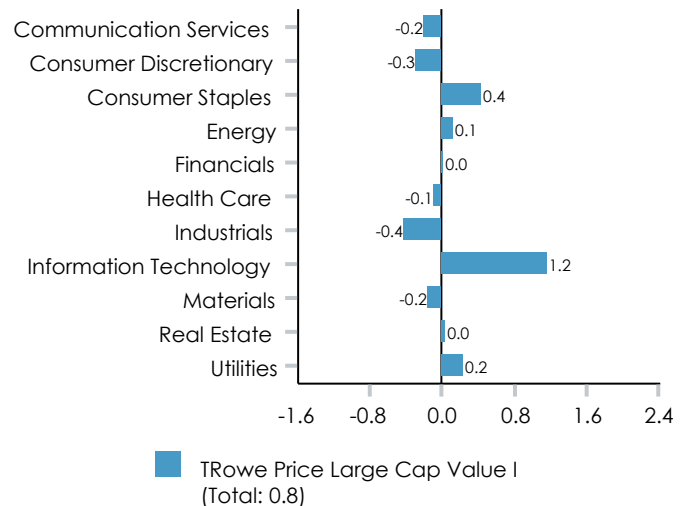
## Top 10 Holdings (As of 6/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Wells Fargo & Co	3.5	1.5	-1.1
JPMorgan Chase & Co	3.5	2.8	11.3
Microsoft Corp	3.5	0.4	14.0
Tyson Foods Inc.	2.7	0.2	16.9
TOTAL SA	2.7	0.0	1.6
Pfizer Inc	2.7	1.8	2.9
American Int'l Group Inc	2.5	0.3	24.5
Southern Co (The)	2.4	0.4	8.2
Cisco Systems Inc	2.3	1.8	2.0
Medtronic PLC	2.3	1.0	6.9
<b>% of Portfolio</b>	<b>28.1</b>	<b>10.2</b>	

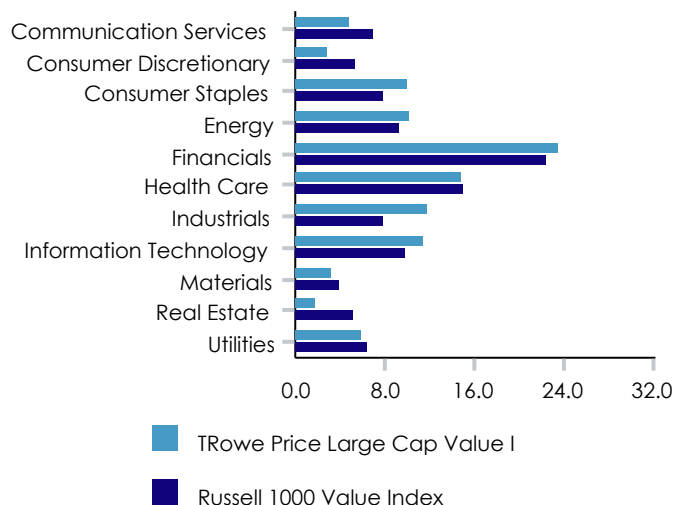
## Market Cap Distribution (As of 6/30/2019)



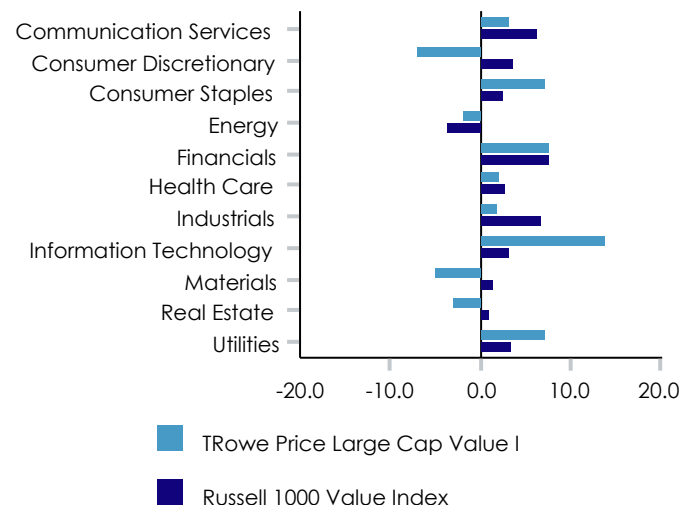
## Sector Attribution (1 Quarter as of 6/30/2019)



## Sector Allocation (1 Quarter as of 6/30/2019)

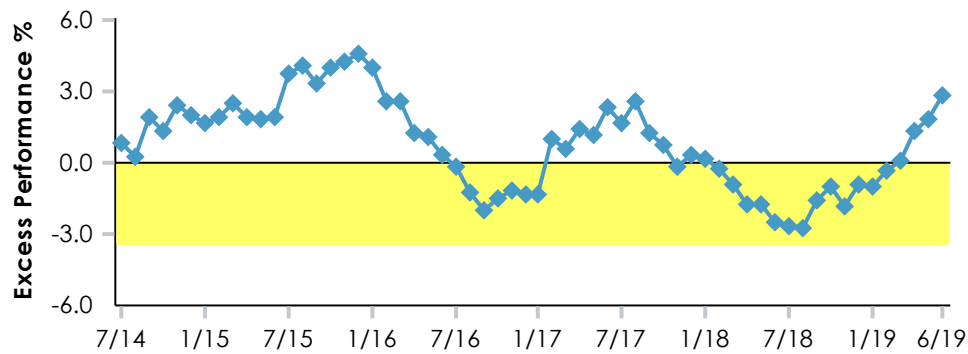


## Sector Performance (1 Quarter as of 6/30/2019)



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

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

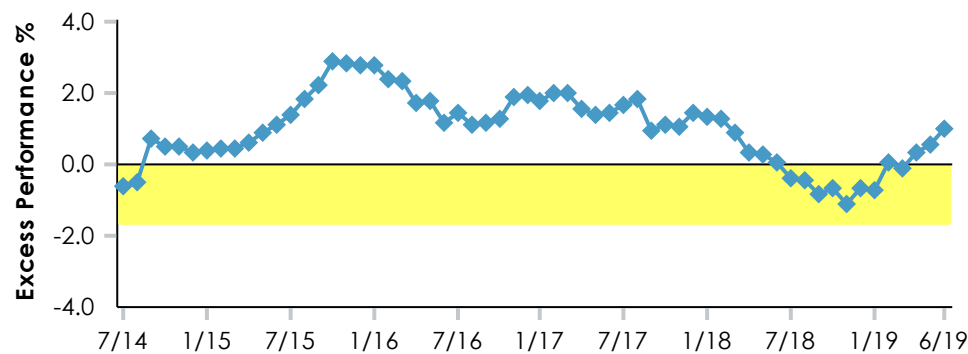


### Short-Term Performance

Positive

Probationary Performance -3.50%

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

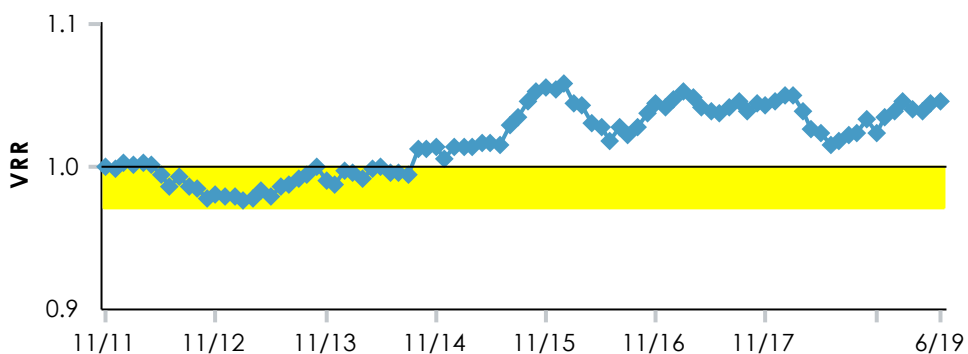


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2019 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	2.6 (49)	-0.4 (34)	13.3 (9)	8.1 (11)	12.7 (13)
Russell 2000 Index	2.1 (64)	-3.3 (56)	12.3 (21)	7.1 (30)	12.0 (28)
IM U.S. SMID Cap Core Equity (MF) Median	2.6	-2.9	10.1	6.0	11.1

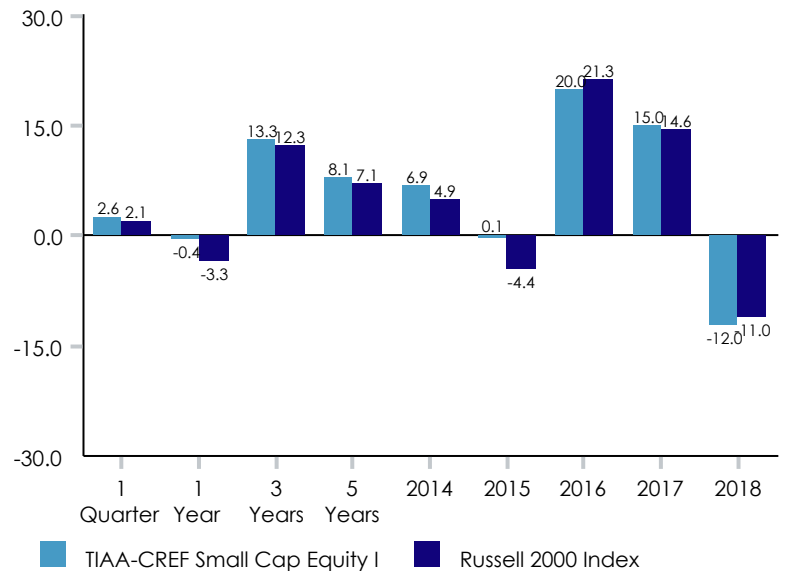
Monitoring Status

Positive

## Mutual Fund Info

Product Name : TIAA-CREF:Qnt 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/Kozlov  
 Total Assets : \$1,593 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.4%  
 Net Expense : 0.4%  
 Turnover : 87%

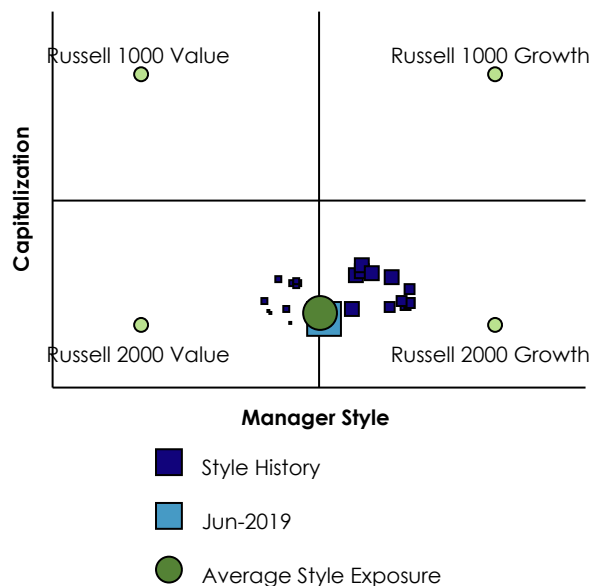
## Comparative Performance



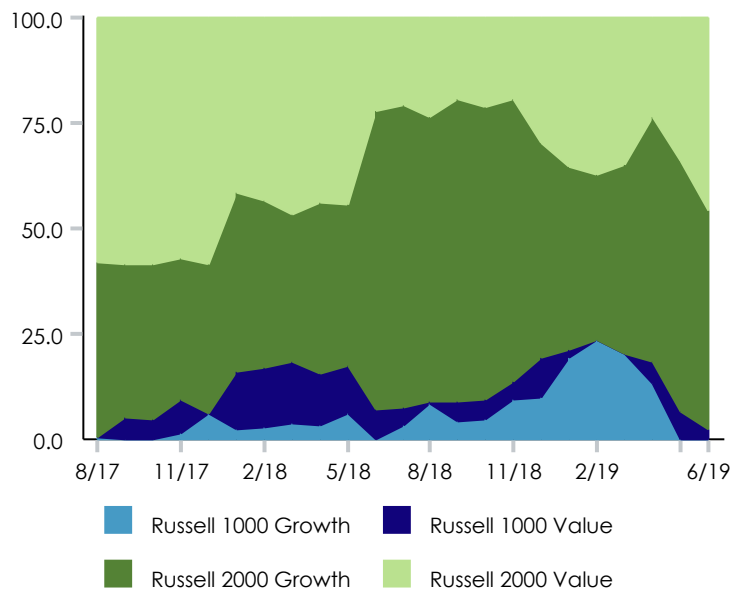
## Fund Investment Policy

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)



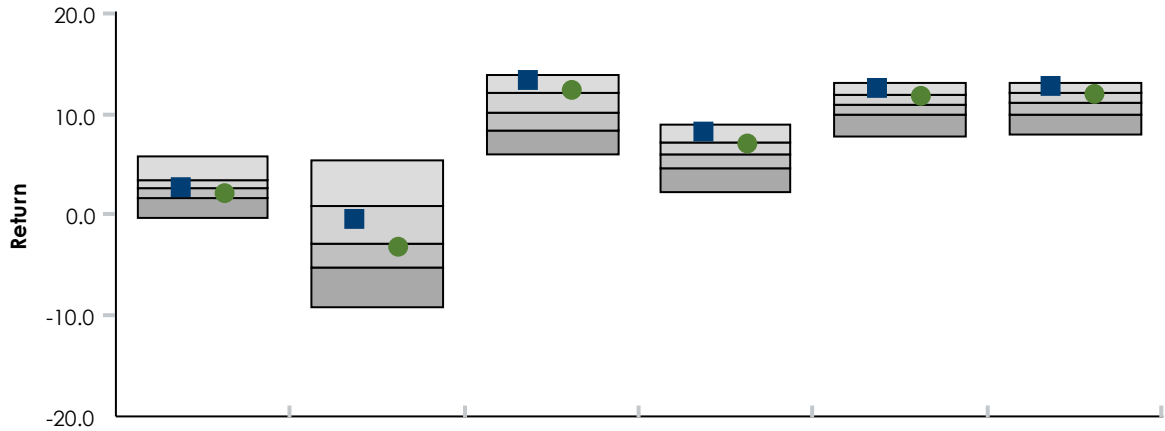
## Style History (3 Years)



## Historical Statistics (3 Years)

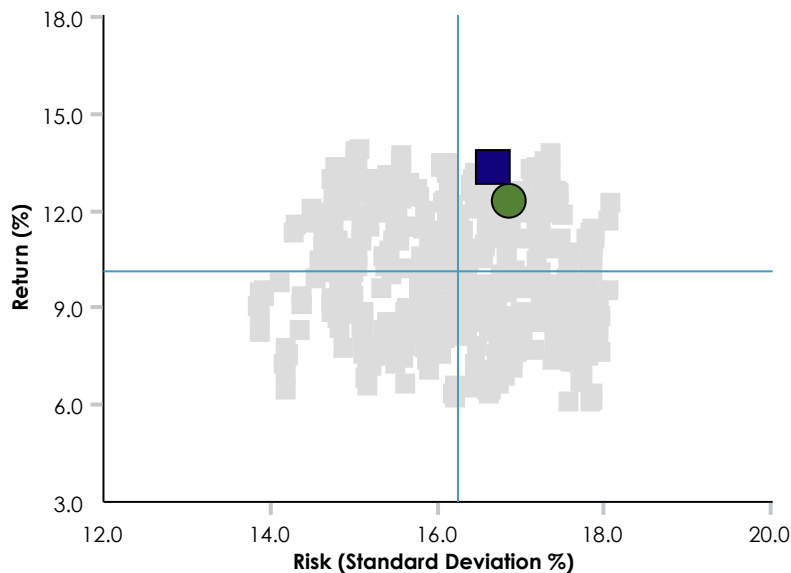
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Small Cap Equity I	13.3	16.7	0.8	1.1	1.0	1.0	2.0	0.4	99.3	93.3
Russell 2000 Index	12.3	16.9	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. SMID Cap Core Equity (MF) Median	10.1	16.3	0.6	-1.2	0.9	1.0	4.0	-0.6	89.6	95.3

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Small Cap Equity I	2.6 (49)	-0.4 (34)	13.3 (9)	8.1 (11)	12.6 (14)	12.7 (13)
● Russell 2000 Index	2.1 (64)	-3.3 (56)	12.3 (21)	7.1 (30)	11.6 (32)	12.0 (28)
Median	2.6	-2.9	10.1	6.0	11.0	11.1

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Small Cap Equity I	13.3	16.7
● Russell 2000 Index	12.3	16.9
— Median	10.1	16.3

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	26	99.3
Down Markets	10	93.3
<b>Batting Average</b>		
Up Markets	26	50.0
Down Markets	10	80.0
Overall	36	58.3

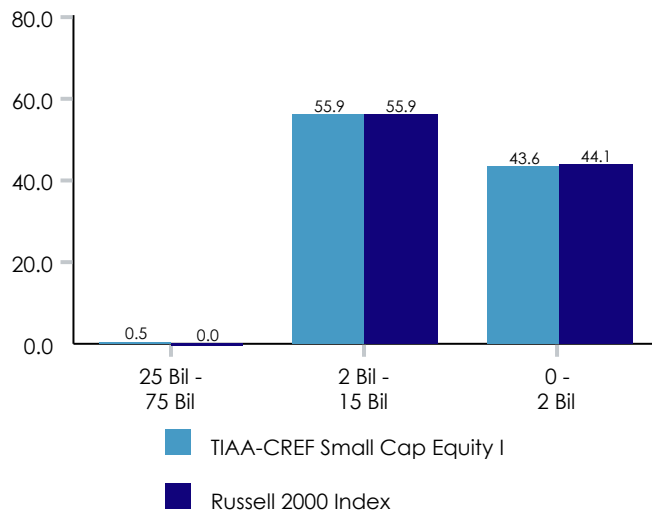
## Portfolio Characteristics (As of 4/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	2,849	2,569
Median Mkt. Cap (\$M)	1,395	787
Price/Earnings ratio	17.3	18.1
Price/Book ratio	2.5	2.4
5 Yr. EPS Growth Rate (%)	18.0	13.9
Current Yield (%)	1.3	1.4
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	360	1,977

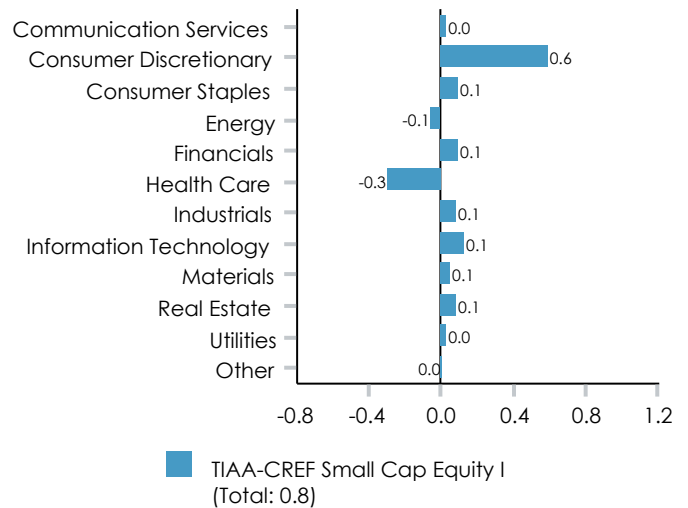
## Top 10 Holdings (As of 4/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Cousins Properties Inc	2.3	0.3	-5.7
Insperty Inc.	0.9	0.2	-1.0
Generac Holdings Inc	0.9	0.2	35.5
Portland Gen. Elec. Co.	0.9	0.2	5.2
PS Business Parks Inc.	0.8	0.2	8.1
Etsy Inc	0.8	0.4	-8.7
Deckers Outdoor Corp	0.8	0.3	19.7
EastGroup Properties Inc.	0.8	0.2	4.5
Essent Group Ltd	0.8	0.2	8.1
Paylocity Holding Corp	0.8	0.1	5.2
% of Portfolio	9.8	2.3	

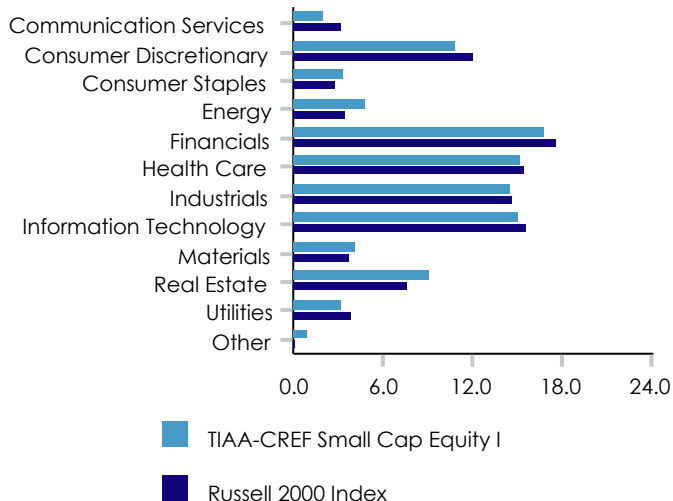
## Market Cap Distribution (As of 4/30/2019)



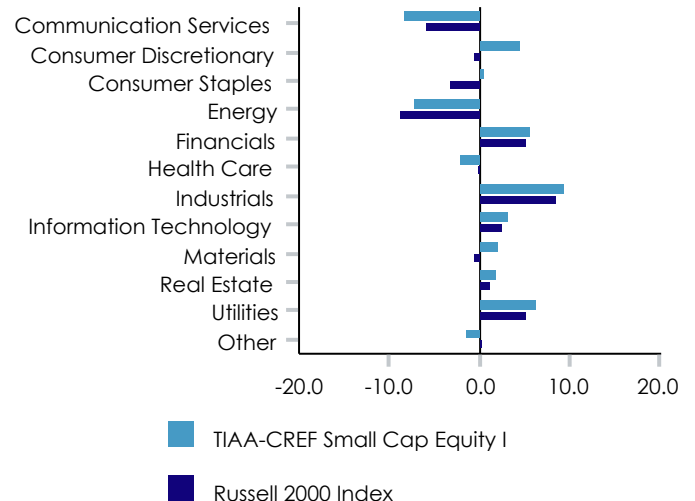
## Sector Attribution (1 Quarter as of 4/30/2019)



## Sector Allocation (1 Quarter as of 4/30/2019)

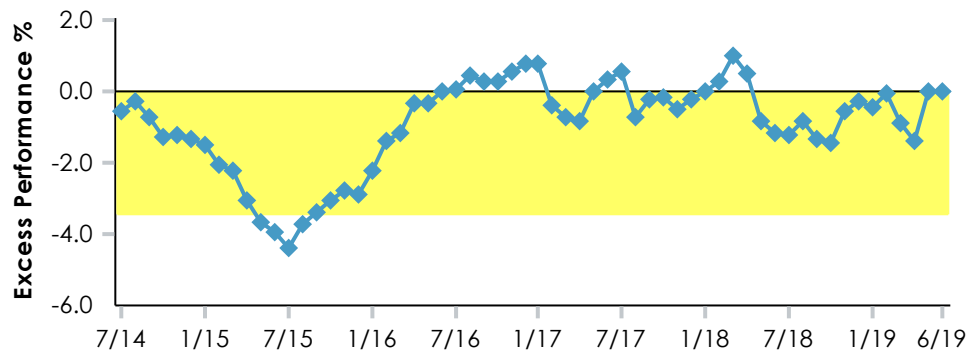


## Sector Performance (1 Quarter as of 4/30/2019)



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

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

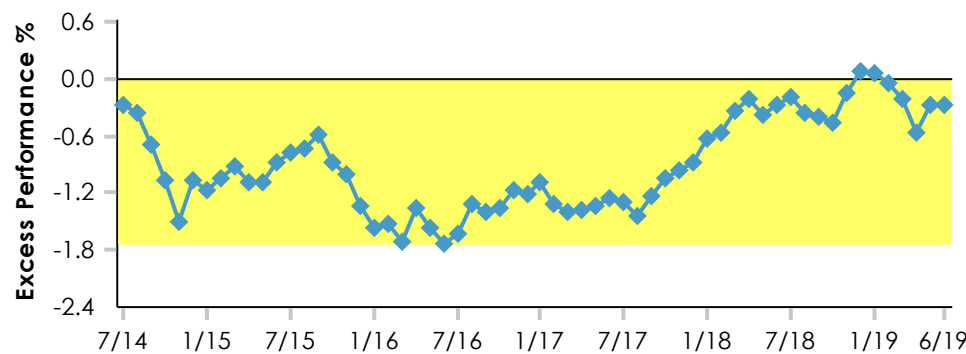


### Short-Term Performance

Acceptable

Probationary Performance -3.50%

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

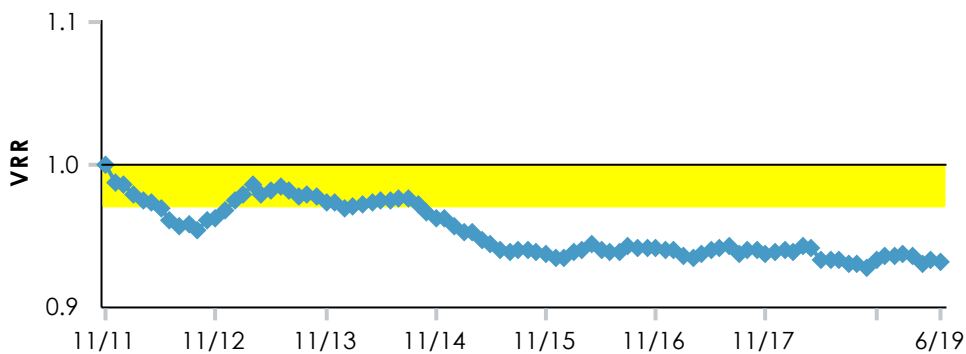


### Medium-Term Performance

Acceptable

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2019 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 (65)	9.0 (53)	13.7 (38)	9.2 (53)	13.1 (52)
Russell 3000 Index	4.1 (54)	9.0 (53)	14.0 (31)	10.2 (26)	14.1 (22)
IM U.S. Large Cap Core Equity (MF) Median	4.2	9.3	13.1	9.3	13.1

Monitoring Status

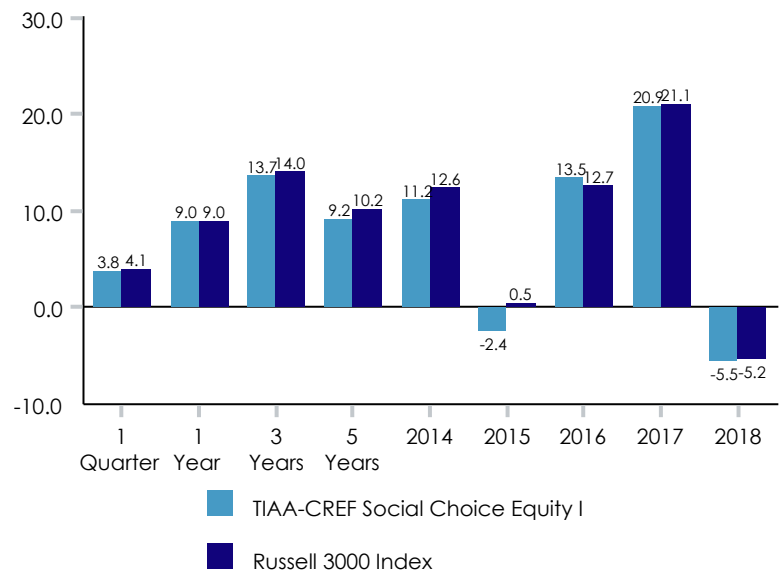
Caution/On Watch



## 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 : \$3,324 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 29%

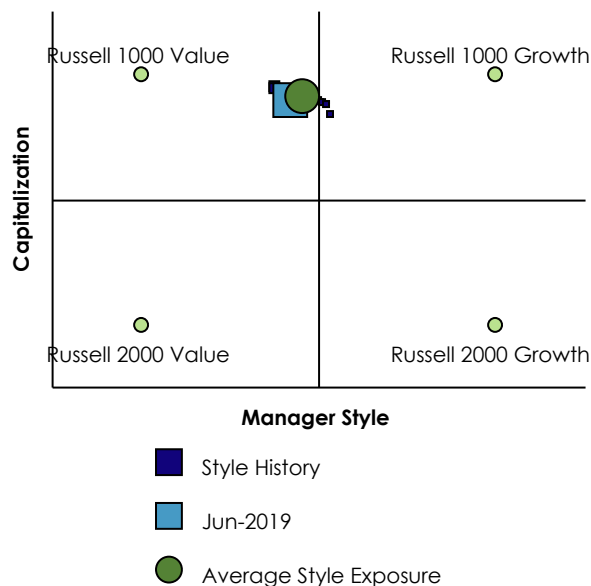
## Comparative Performance



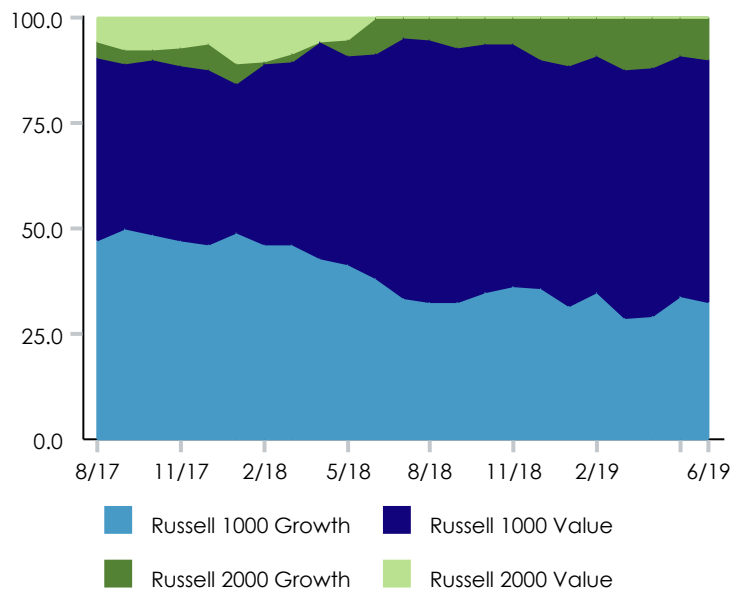
## Fund Investment Policy

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)



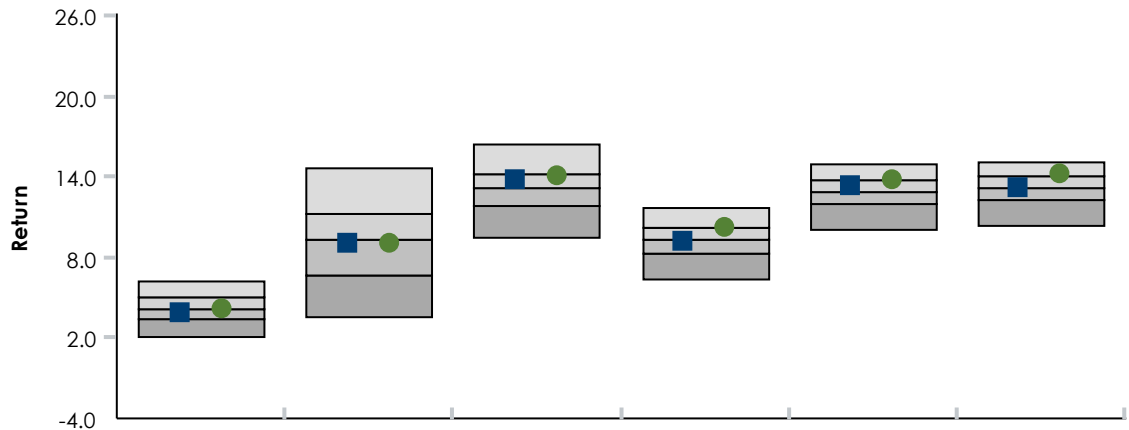
## Style History (3 Years)



## Historical Statistics (3 Years)

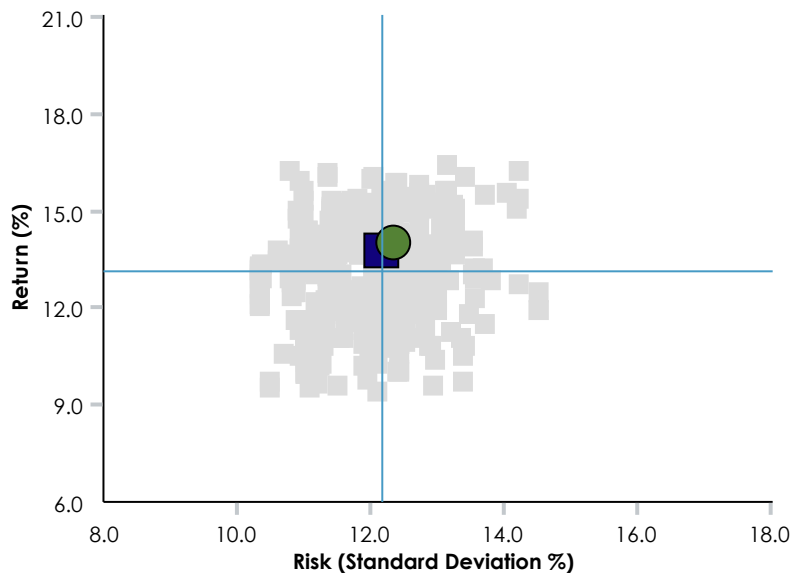
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Social Choice Equity I	13.7	12.2	1.0	0.0	1.0	1.0	1.1	-0.2	98.0	97.9
Russell 3000 Index	14.0	12.4	1.0	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Large Cap Core Equity (MF) Median	13.1	12.2	1.0	-0.2	1.0	0.9	2.9	-0.3	96.0	98.2

## 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 (65)	9.0 (53)	13.7 (38)	9.2 (53)	13.3 (37)	13.1 (52)
● Russell 3000 Index	4.1 (54)	9.0 (53)	14.0 (31)	10.2 (26)	13.8 (22)	14.1 (22)
Median	4.2	9.3	13.1	9.3	12.9	13.1

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Social Choice Equity I	13.7	12.2
● Russell 3000 Index	14.0	12.4
— Median	13.1	12.2

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	30	98.0
Down Markets	6	97.9
<b>Batting Average</b>		
Up Markets	30	40.0
Down Markets	6	50.0
Overall	36	41.7



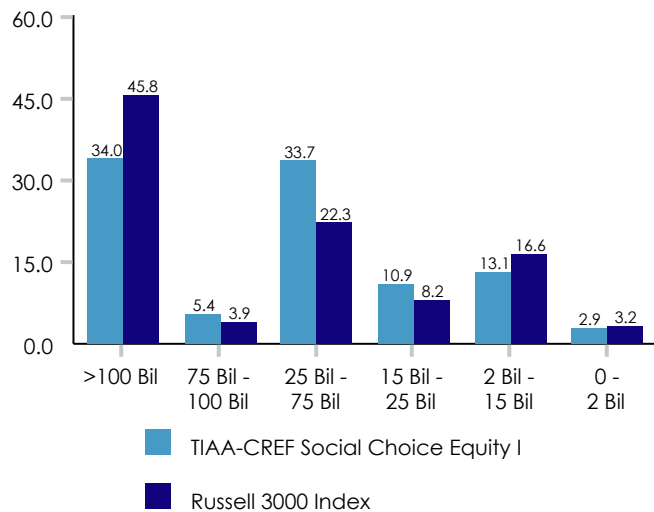
## Portfolio Characteristics (As of 4/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	156,389	202,131
Median Mkt. Cap (\$M)	4,186	1,670
Price/Earnings ratio	20.2	20.3
Price/Book ratio	3.7	3.4
5 Yr. EPS Growth Rate (%)	12.9	15.4
Current Yield (%)	1.9	1.9
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	758	2,954

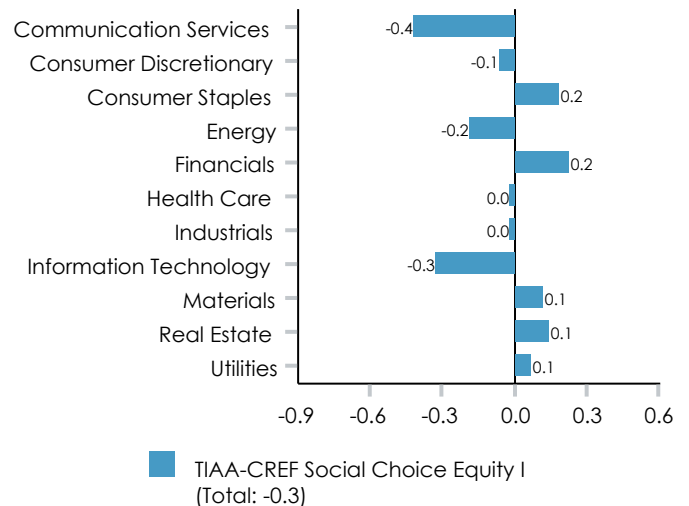
## Top 10 Holdings (As of 4/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Microsoft Corp	4.0	3.5	14.0
Apple Inc	3.5	3.2	4.6
Procter & Gamble Co (The)	1.4	0.9	6.1
Alphabet Inc	1.3	1.1	-7.9
Alphabet Inc	1.3	1.1	-8.0
Cisco Systems Inc	1.3	0.8	2.0
Merck & Co Inc.	1.3	0.7	1.5
Home Depot Inc. (The)	1.2	0.8	9.1
Coca-Cola Co (The)	1.2	0.7	9.5
PepsiCo Inc	1.1	0.6	7.8
<b>% of Portfolio</b>	<b>17.6</b>	<b>13.4</b>	

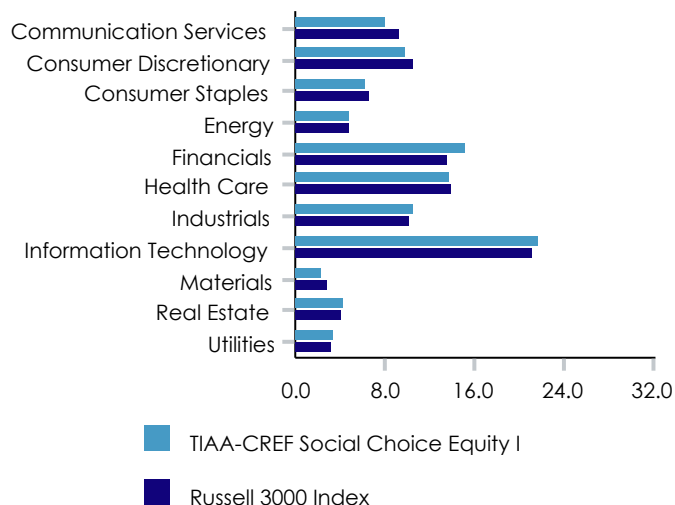
## Market Cap Distribution (As of 4/30/2019)



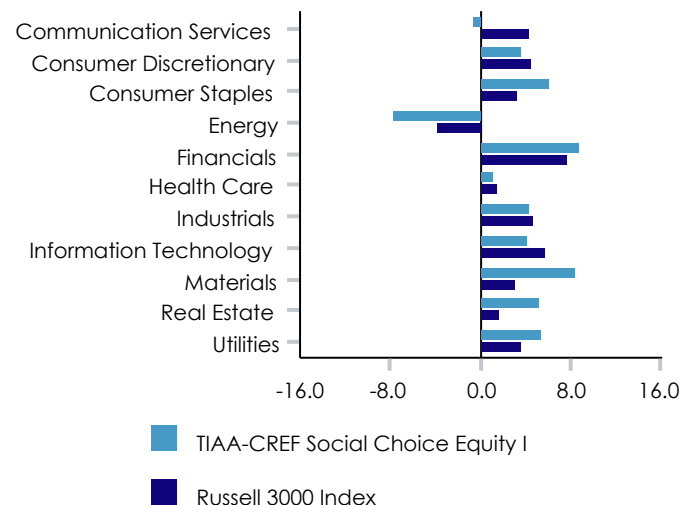
## Sector Attribution (1 Quarter as of 4/30/2019)



## Sector Allocation (1 Quarter as of 4/30/2019)

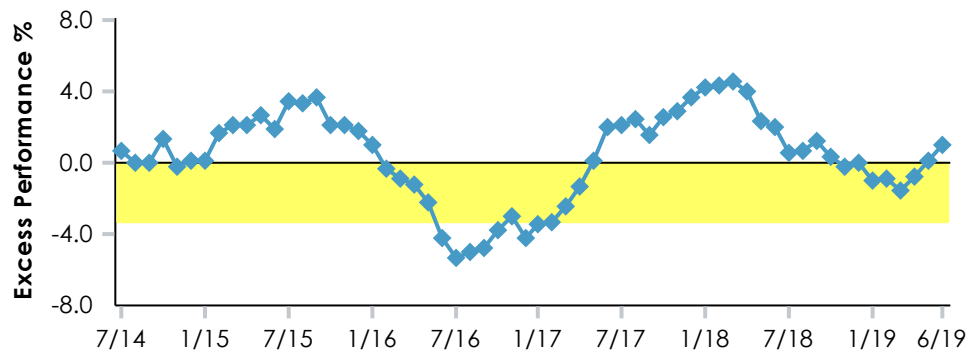


## Sector Performance (1 Quarter as of 4/30/2019)



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

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

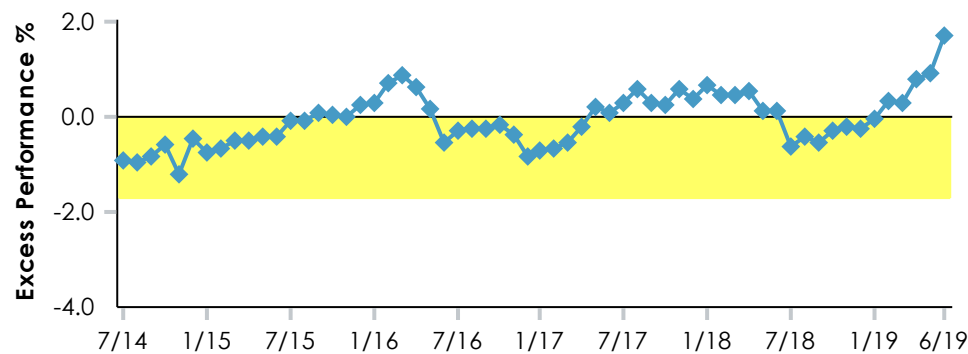


### Short-Term Performance

Positive

Probationary Performance -3.50%

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

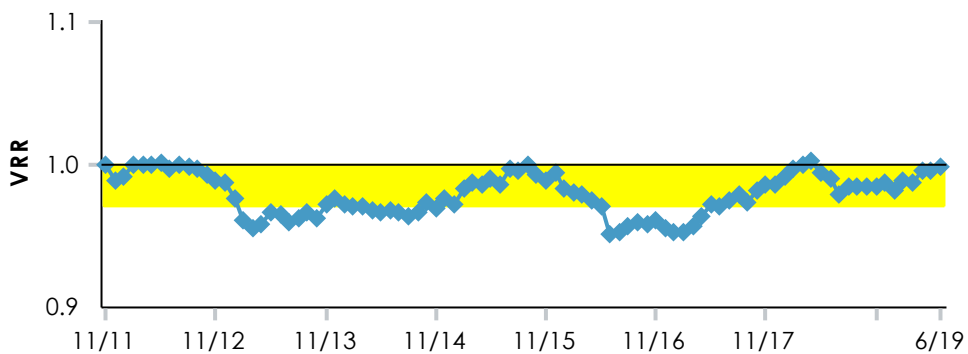


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To June 30, 2019 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	2.9 (18)	14.0 (11)	7.6 (5)	9.6 (5)	11.6 (5)
FTSE NAREIT All Equity REITs	1.8 (59)	13.0 (25)	5.9 (22)	8.9 (12)	11.6 (4)
IM Real Estate Sector (MF) Median	2.0	10.6	4.0	7.2	9.9

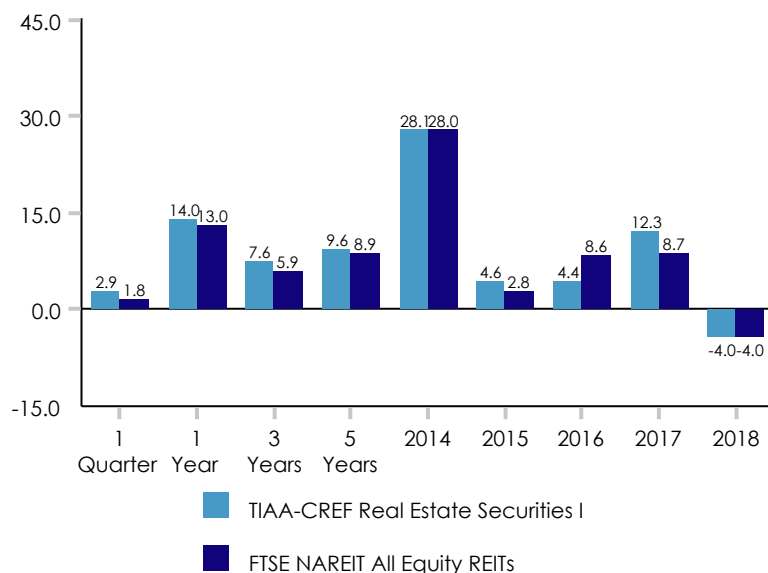
Monitoring Status

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 U.S. REIT Index  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Copp/Lee  
 Total Assets : \$1,662 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.5%  
 Net Expense : 0.5%  
 Turnover : 34%

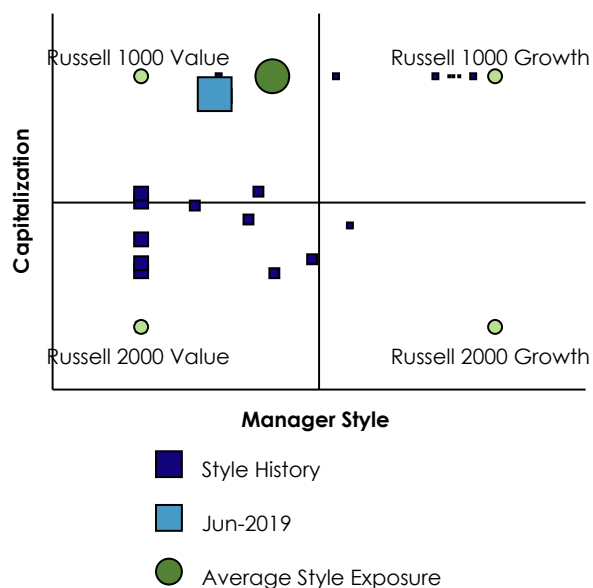
Comparative Performance



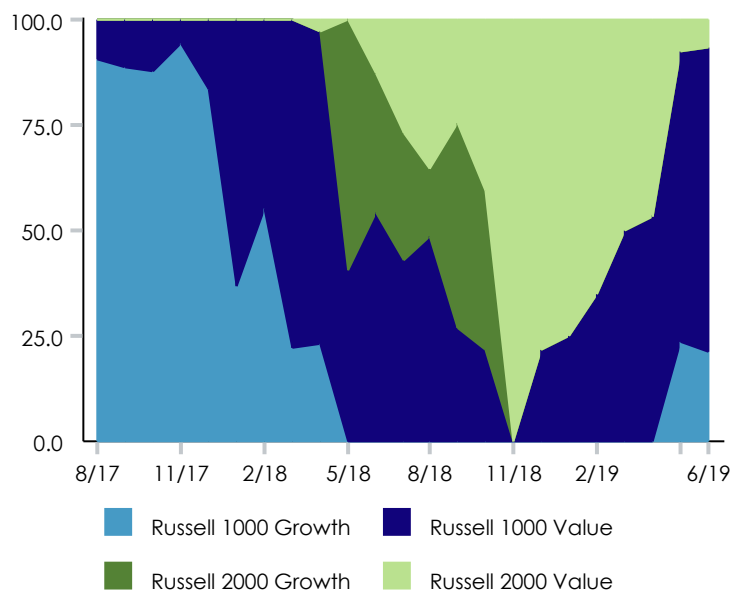
Fund Investment Policy

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)



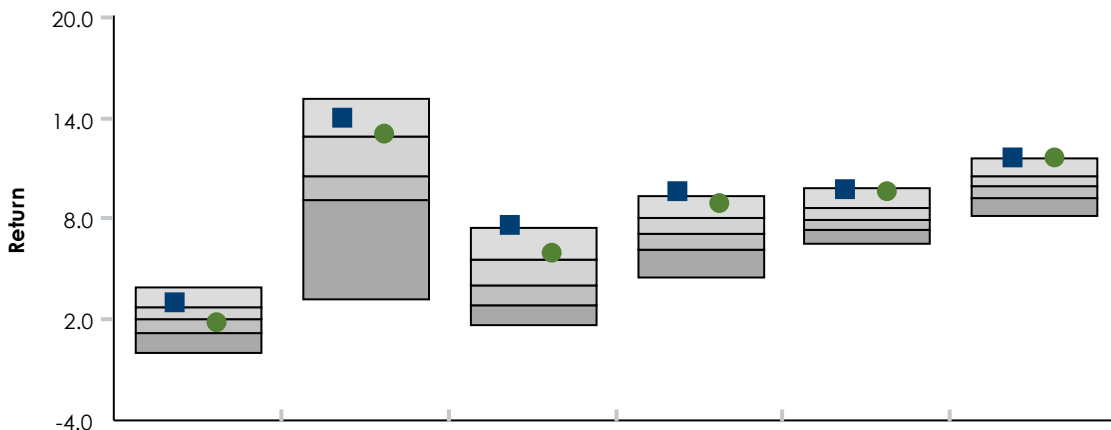
Style History (3 Years)



## Historical Statistics (3 Years)

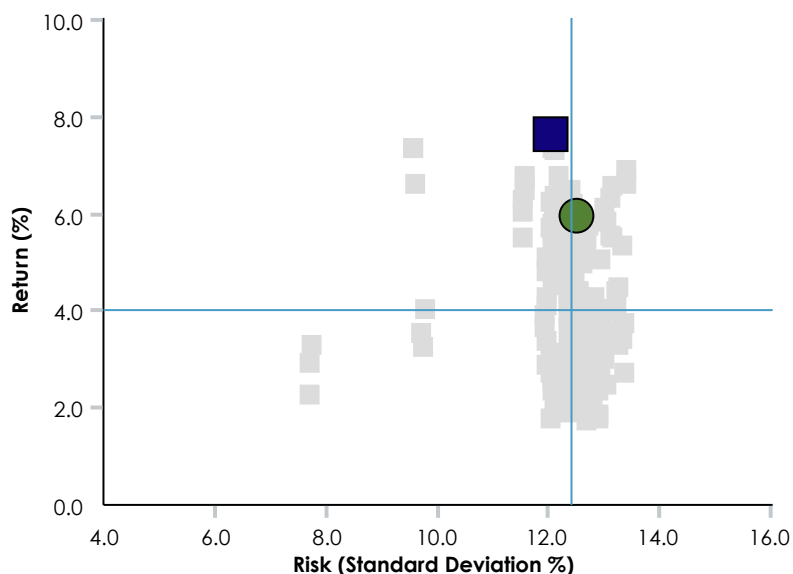
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Real Estate Securities I	7.6	12.1	0.6	1.9	1.0	1.0	1.6	1.0	101.5	90.2
FTSE NAREIT All Equity REITs	5.9	12.5	0.4	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Real Estate Sector (MF) Median	4.0	12.4	0.3	-1.6	1.0	1.0	2.1	-0.8	91.2	101.9

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Real Estate Securities I	2.9 (18)	14.0 (11)	7.6 (5)	9.6 (5)	9.7 (8)	11.6 (5)
● FTSE NAREIT All Equity REITs	1.8 (59)	13.0 (25)	5.9 (22)	8.9 (12)	9.6 (8)	11.6 (4)
Median	2.0	10.6	4.0	7.2	7.9	9.9

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Real Estate Securities I	7.6	12.1
● FTSE NAREIT All Equity REITs	5.9	12.5
— Median	4.0	12.4

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	22	101.5
Down Markets	14	90.2
<b>Batting Average</b>		
Up Markets	22	50.0
Down Markets	14	78.6
Overall	36	61.1

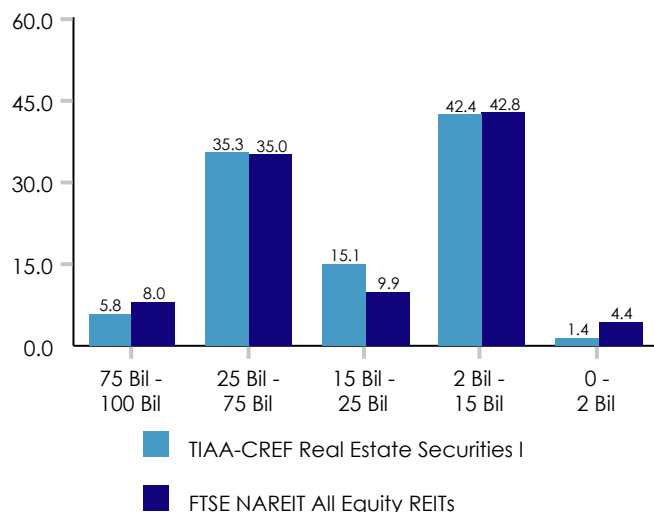
## Portfolio Characteristics (As of 4/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	26,001	26,632
Median Mkt. Cap (\$M)	10,502	3,164
Price/Earnings ratio	40.2	34.6
Price/Book ratio	2.9	2.8
5 Yr. EPS Growth Rate (%)	22.8	20.0
Current Yield (%)	3.1	3.8
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	50	166

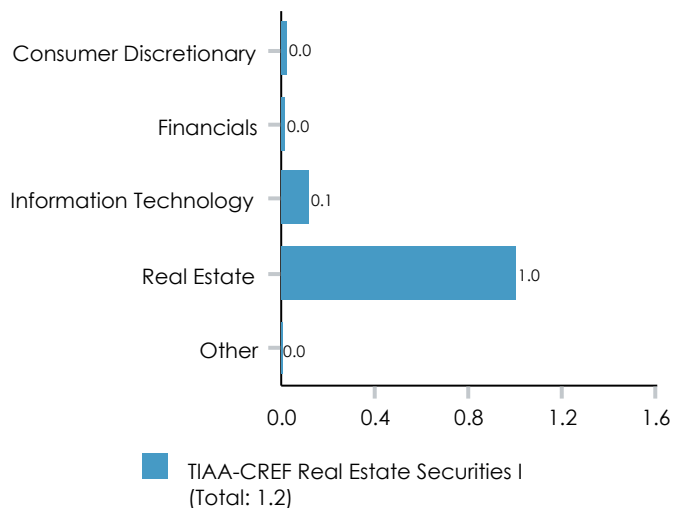
## Top 10 Holdings (As of 4/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
American Tower Corp	5.8	8.0	4.7
Prologis Inc	5.6	4.5	12.1
Simon Property Group Inc.	5.2	4.4	-11.3
Equinix Inc	4.3	3.8	11.8
Crown Castle International Corp	4.1	4.8	2.7
Rexford Industrial Realty Inc	4.0	0.4	13.3
Boston Properties Inc	4.0	1.8	-2.9
AvalonBay Communities Inc.	3.9	2.5	2.0
Sun Communities Inc.	3.4	1.0	8.8
Equity Lifestyle Properties Inc	3.2	0.9	6.7
<b>% of Portfolio</b>	<b>43.5</b>	<b>32.1</b>	

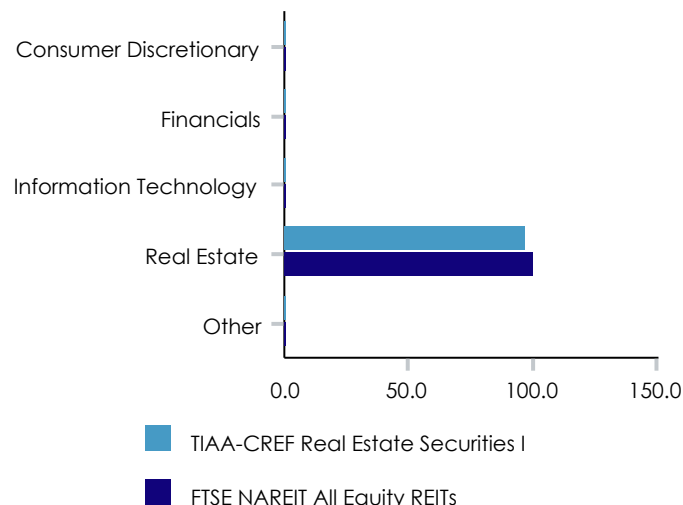
## Market Cap Distribution (As of 4/30/2019)



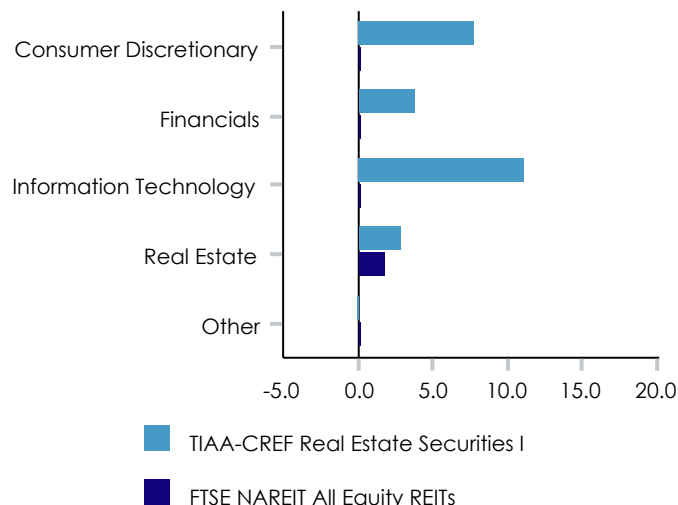
## Sector Attribution (1 Quarter as of 4/30/2019)



## Sector Allocation (1 Quarter as of 4/30/2019)

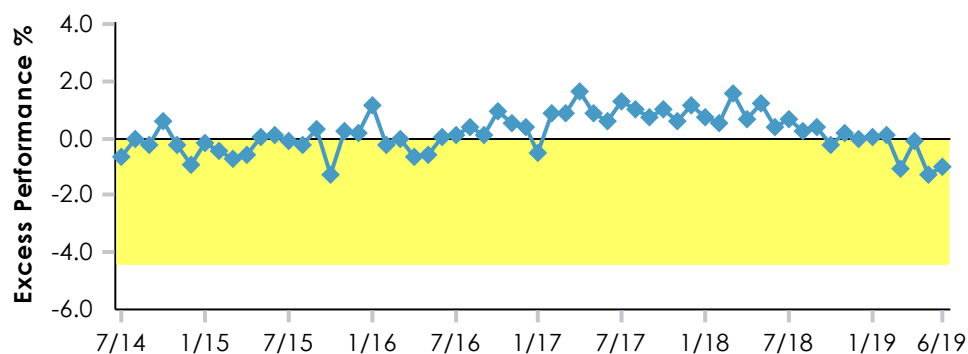


## Sector Performance (1 Quarter as of 4/30/2019)



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

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

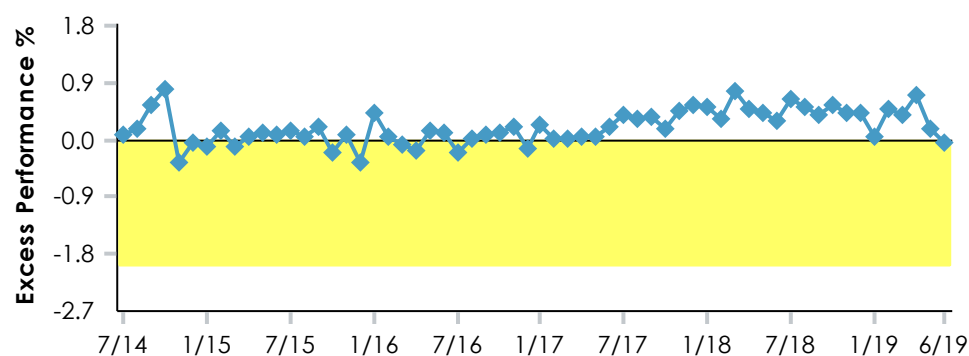


### Short-Term Performance

Acceptable

Probationary Performance -4.50%

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

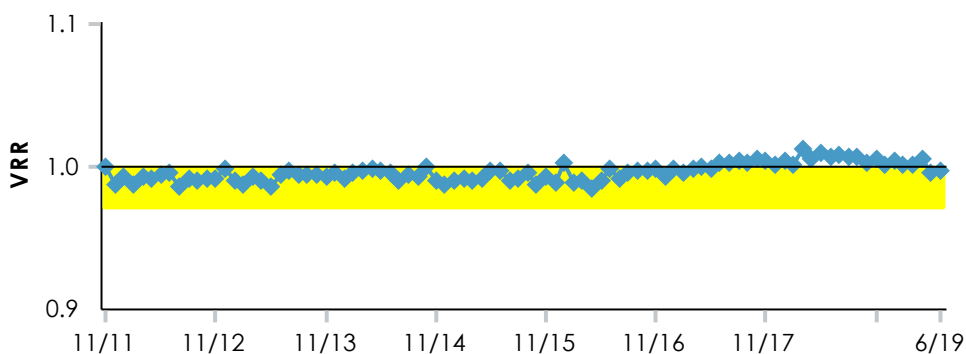


### Medium-Term Performance

Positive

Probationary Performance -2.00%

## Long-term (December 1, 2011 To June 30, 2019 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 Large Cap International I	3.3 (42)	0.3 (38)	9.0 (23)	2.0 (47)	6.6 (40)
MSCI World ex-U.S. (net)	3.8 (20)	1.3 (23)	9.0 (21)	2.0 (47)	6.6 (39)
IM International Multi-Cap Core Equity (MF) Median	2.9	-0.5	8.1	1.9	6.3

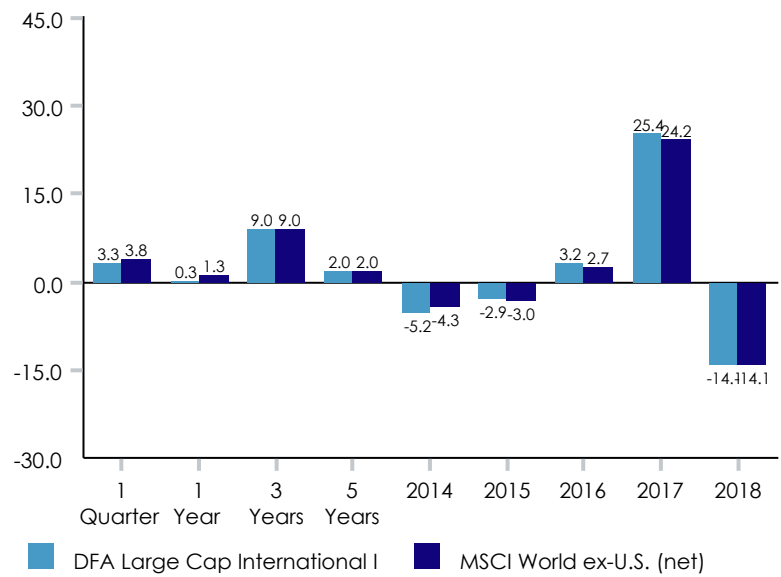
Monitoring Status

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 : Fogdall/Phillips/Singh  
 Total Assets : \$5,204 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 8%

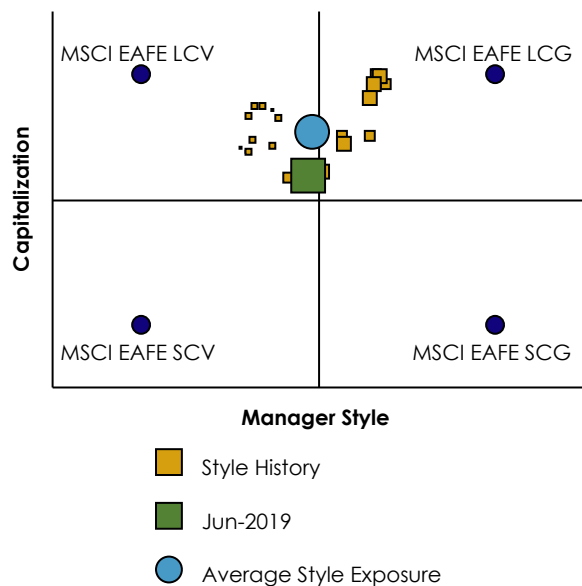
## Comparative Performance



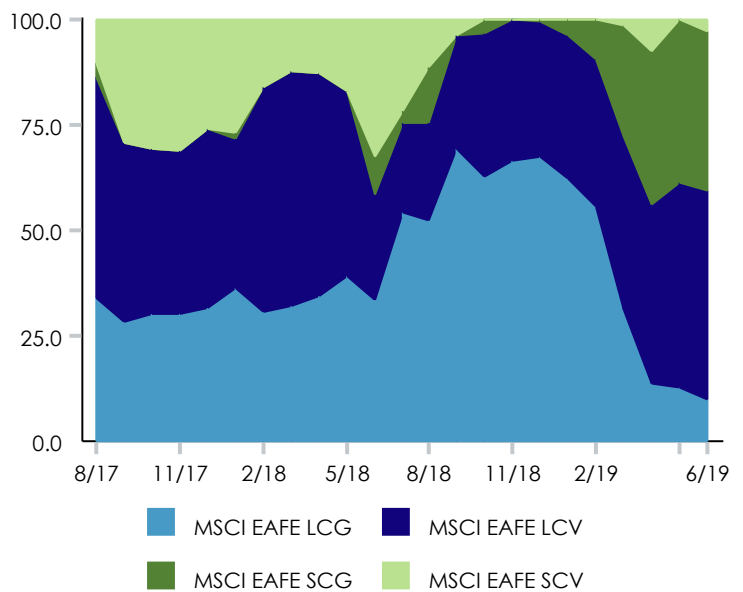
## Fund Investment Policy

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)



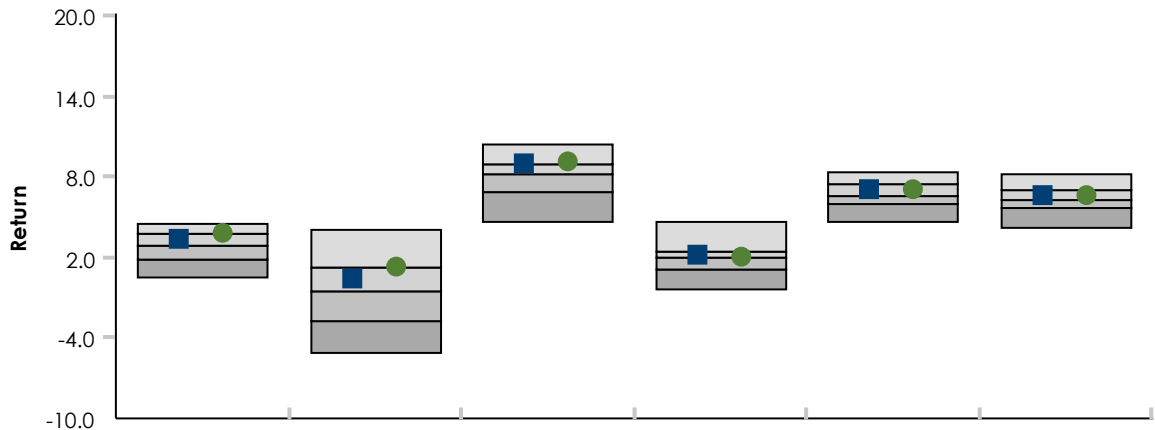
## Style History (3 Years)



## Historical Statistics (3 Years)

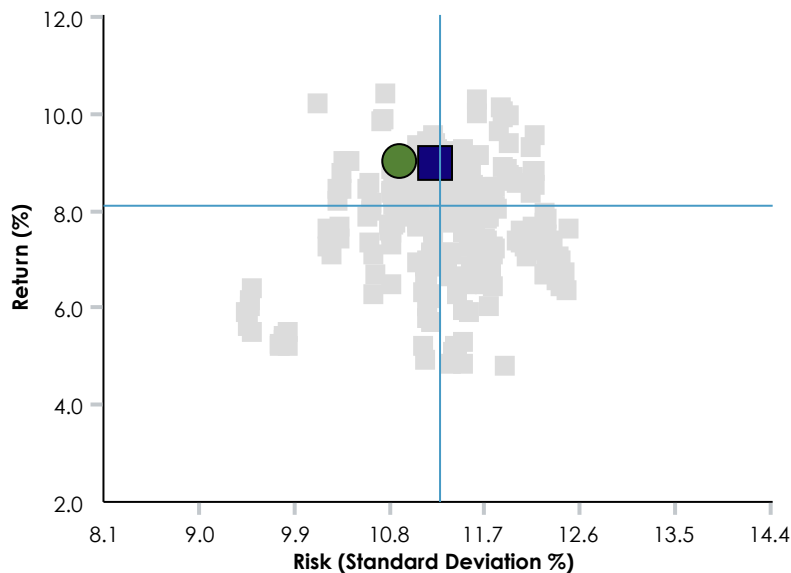
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
DFA Large Cap International I	9.0	11.2	0.7	-0.2	1.0	1.0	1.4	0.0	100.4	100.8
MSCI World ex-U.S. (net)	9.0	10.9	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM International Multi-Cap Core Equity (MF) Median	8.1	11.3	0.6	-1.0	1.0	0.9	2.8	-0.3	98.1	102.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ DFA Large Cap International I	3.3 (42)	0.3 (38)	9.0 (23)	2.0 (47)	7.0 (39)	6.6 (40)
● MSCI World ex-U.S. (net)	3.8 (20)	1.3 (23)	9.0 (21)	2.0 (47)	7.0 (39)	6.6 (39)
Median	2.9	-0.5	8.1	1.9	6.6	6.3

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ DFA Large Cap International I	9.0	11.2
● MSCI World ex-U.S. (net)	9.0	10.9
— Median	8.1	11.3

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	24	100.4
Down Markets	12	100.8
<b>Batting Average</b>		
Up Markets	24	54.2
Down Markets	12	41.7
Overall	36	50.0



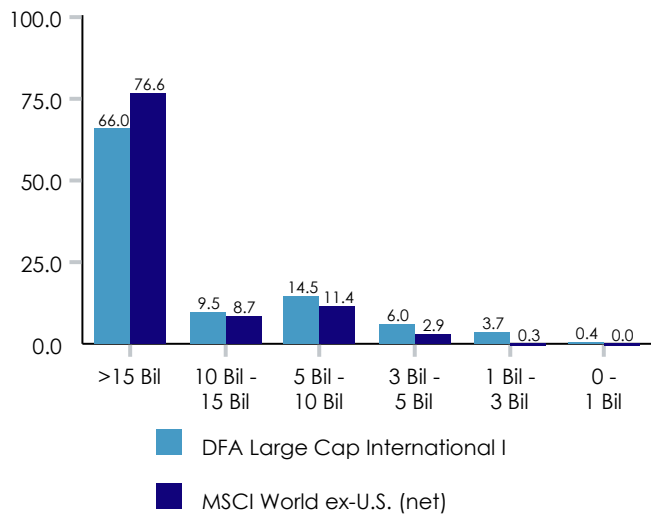
## Portfolio Characteristics (As of 1/31/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	56,886	62,853
Median Mkt. Cap (\$M)	7,861	10,316
Price/Earnings ratio	14.2	14.8
Price/Book ratio	2.1	2.2
5 Yr. EPS Growth Rate (%)	8.4	8.3
Current Yield (%)	3.3	3.5
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	1,404	1,012

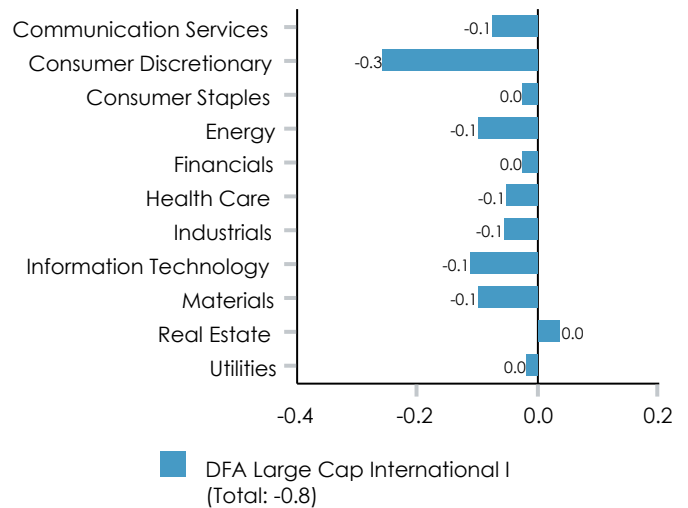
## Top 10 Holdings (As of 1/31/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarter Return (%)
Nestle SA	1.8	2.1	11.5
Roche Holding AG	1.2	1.3	2.1
BP PLC	0.9	0.9	-3.2
Toyota Motor Corp	0.8	0.9	6.0
NOVARTIS AG	0.8	0.0	N/A
Louis Vuitton Moet Hennessy	0.8	0.8	17.1
AIA Group Ltd	0.7	0.8	9.7
Royal Bank of Canada	0.7	0.7	6.1
Total SA Oil & Gas	0.6	0.9	2.2
Commonwealth Bank of Australia	0.6	0.7	15.7
<b>% of Portfolio</b>	<b>8.9</b>	<b>9.1</b>	

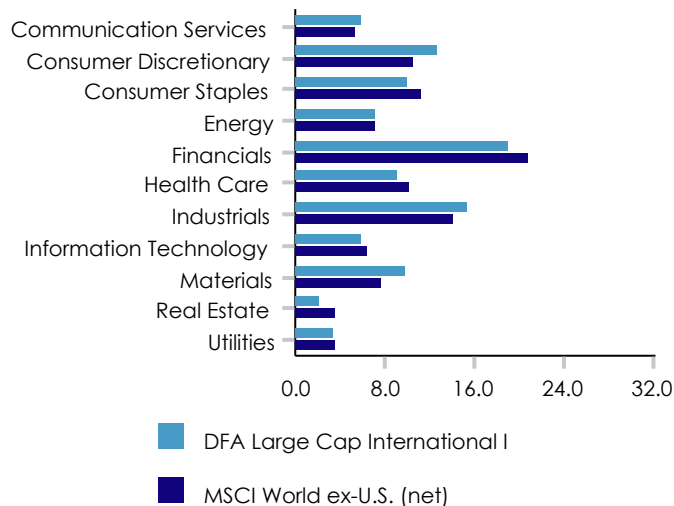
## Market Cap Distribution (As of 1/31/2019)



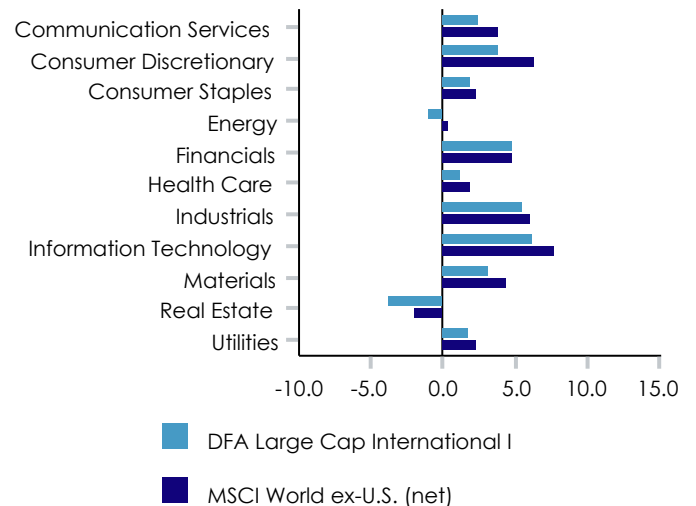
## Sector Attribution (1 Quarter as of 1/31/2019)



## Sector Allocation (1 Quarter as of 1/31/2019)

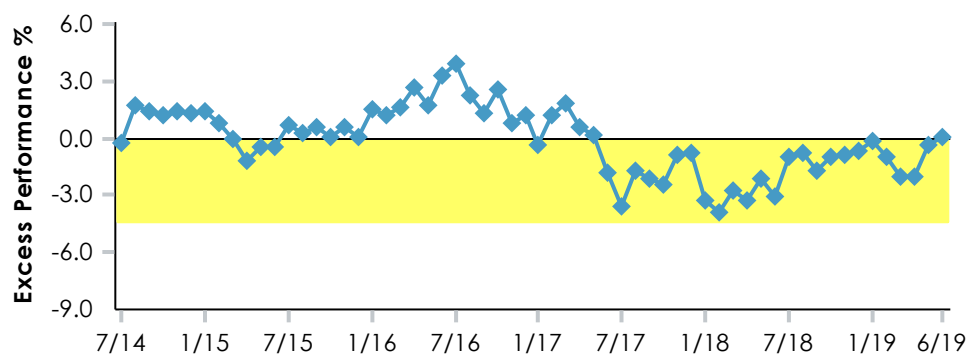


## Sector Performance (1 Quarter as of 1/31/2019)



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

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

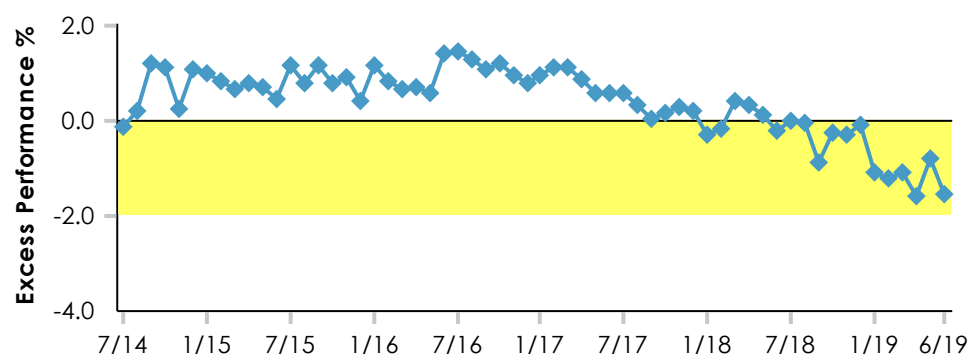


### Short-Term Performance

Positive

Probationary Performance -4.50%

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

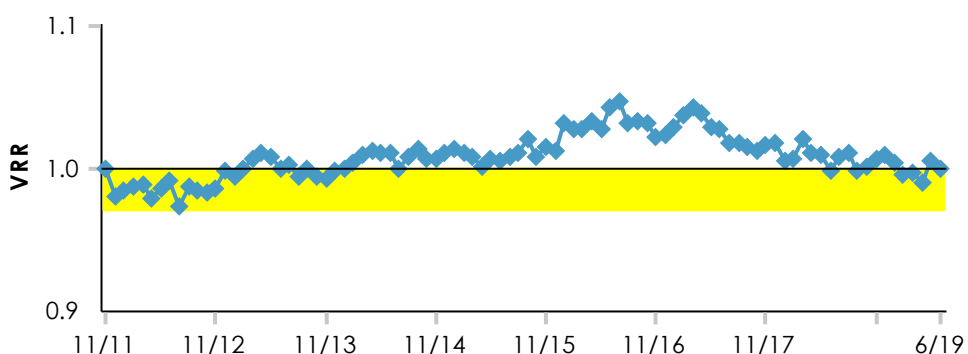


### Medium-Term Performance

Acceptable

Probationary Performance -2.00%

## Long-term (December 1, 2011 To June 30, 2019 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	0.9 (67)	1.3 (47)	9.1 (51)	2.3 (45)	4.2 (43)
MSCI Emerging Markets (Net) Index	0.6 (76)	1.2 (48)	10.7 (31)	2.5 (39)	4.2 (43)
IM Emerging Markets Equity (MF) Median	1.6	0.9	9.2	2.1	3.8

Monitoring Status

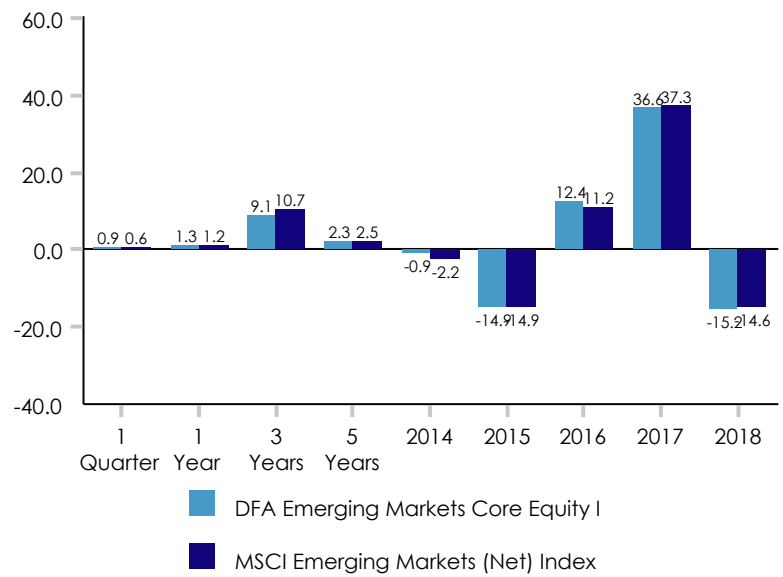
Acceptable



## 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 : \$28,955 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.5%  
 Net Expense : 0.5%  
 Turnover : 4%

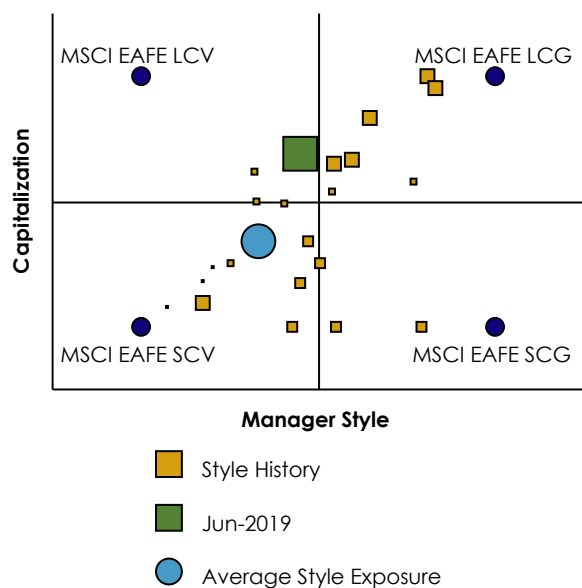
## Comparative Performance



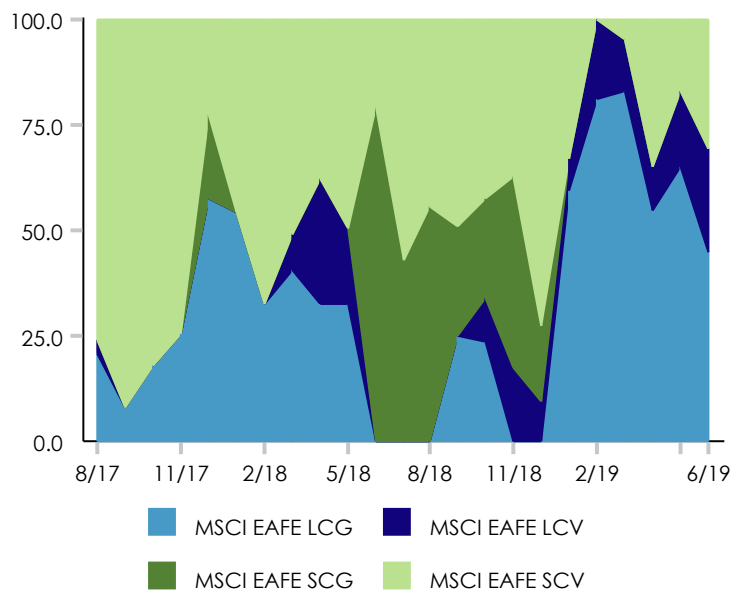
## Fund Investment Policy

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)



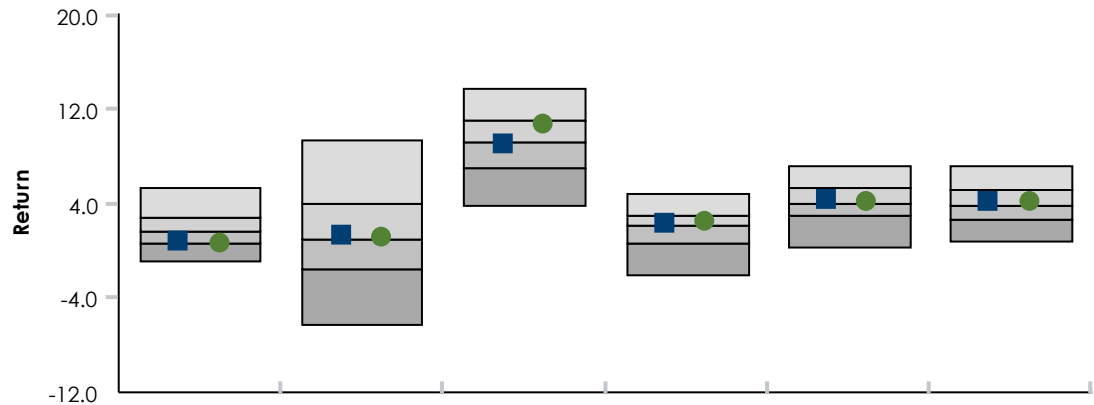
## Style History (3 Years)



## Historical Statistics (3 Years)

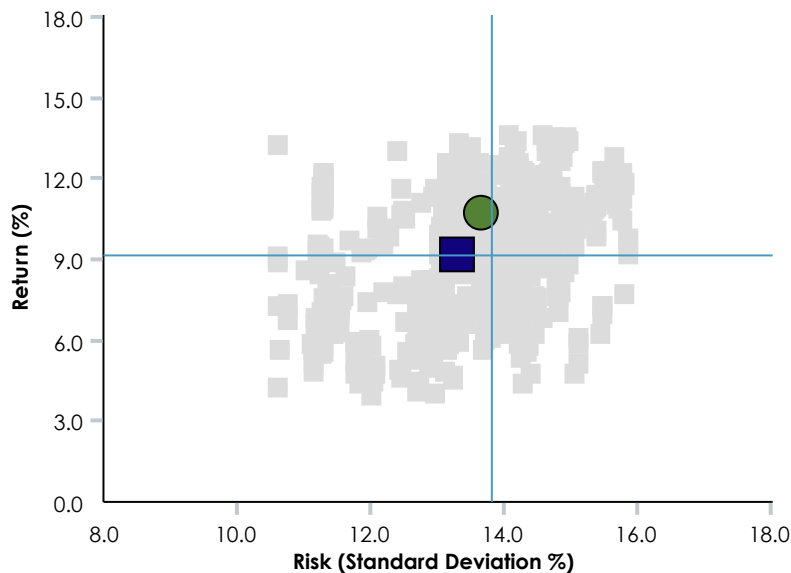
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
DFA Emerging Markets Core Equity I	9.1	13.3	0.6	-1.0	1.0	1.0	2.6	-0.6	95.2	102.0
MSCI Emerging Markets (Net) Index	10.7	13.7	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Emerging Markets Equity (MF) Median	9.2	13.8	0.6	-0.8	0.9	0.9	4.4	-0.4	94.3	99.5

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ DFA Emerging Markets Core Equity I	0.9 (67)	1.3 (47)	9.1 (51)	2.3 (45)	4.3 (44)	4.2 (43)
● MSCI Emerging Markets (Net) Index	0.6 (76)	1.2 (48)	10.7 (31)	2.5 (39)	4.2 (46)	4.2 (43)
Median	1.6	0.9	9.2	2.1	4.0	3.8

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	24	95.2
Down Markets	12	102.0
<b>Batting Average</b>		
Up Markets	24	50.0
Down Markets	12	50.0
Overall	36	50.0

	Return	Standard Deviation
■ DFA Emerging Markets Core Equity I	9.1	13.3
● MSCI Emerging Markets (Net) Index	10.7	13.7
— Median	9.2	13.8

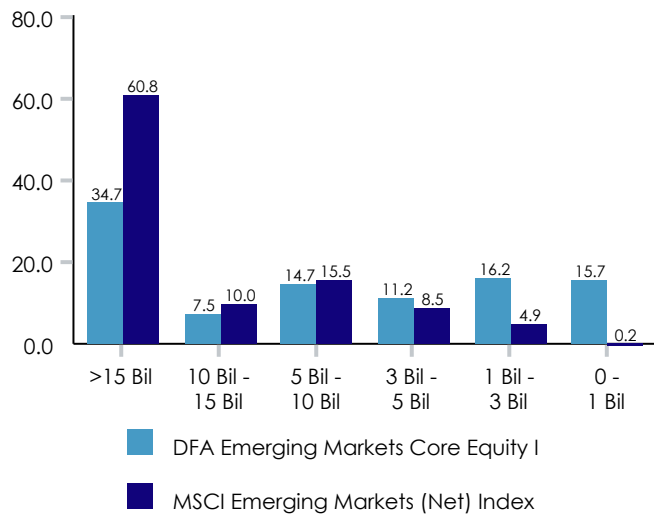
## Portfolio Characteristics (As of 1/31/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	36,465	81,469
Median Mkt. Cap (\$M)	373	5,440
Price/Earnings ratio	13.0	12.0
Price/Book ratio	2.2	2.3
5 Yr. EPS Growth Rate (%)	12.1	14.0
Current Yield (%)	3.1	3.0
Beta (5 Years, Monthly)	0.9	1.0
Number of Stocks	4,947	1,194

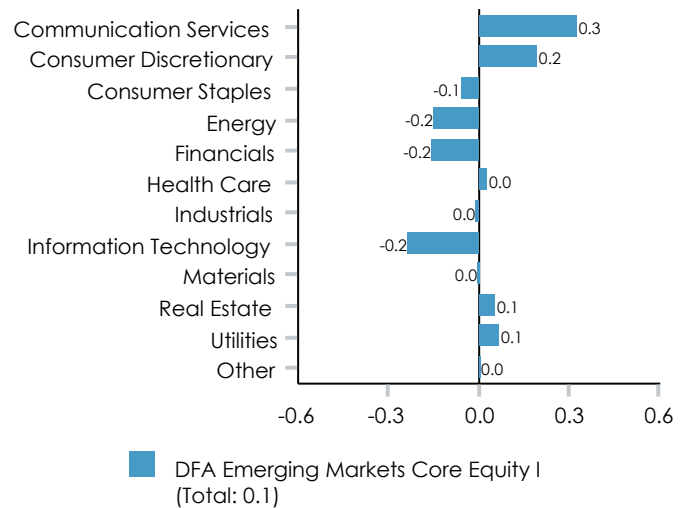
## Top 10 Holdings (As of 1/31/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Tencent Holdings LTD	1.8	4.7	-1.6
Taiwan Semiconductor	1.6	3.4	-1.3
Taiwan Semiconductor	1.2	3.4	0.1
Vale SA	1.0	0.8	3.5
Alibaba Group Holding Ltd	1.0	4.4	-7.1
Ping An Insurance Group	0.8	1.2	8.9
SK Hynix Inc	0.8	0.6	-7.9
China Construction Bank Corp	0.7	1.5	0.5
Naspers Ltd	0.6	1.9	4.7
Reliance Industries Ltd	0.6	0.9	-7.6
<b>% of Portfolio</b>	<b>10.1</b>	<b>22.8</b>	

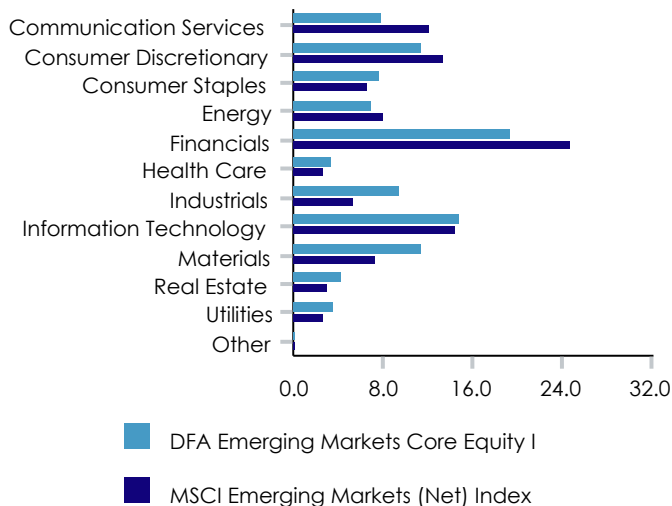
## Market Cap Distribution (As of 1/31/2019)



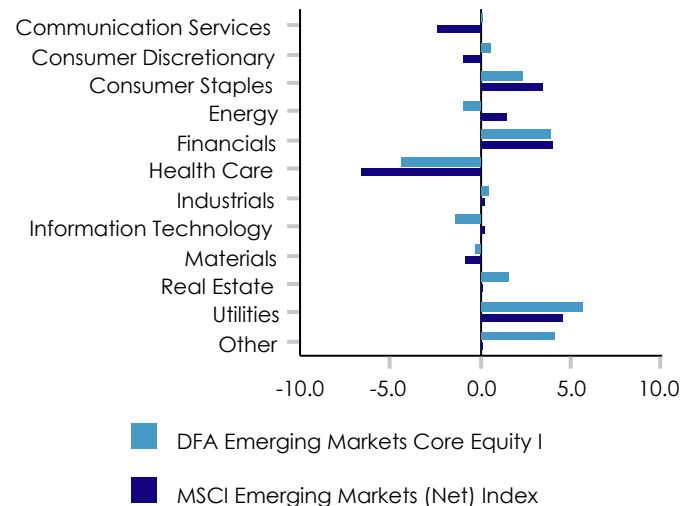
## Sector Attribution (1 Quarter as of 1/31/2019)



## Sector Allocation (1 Quarter as of 1/31/2019)

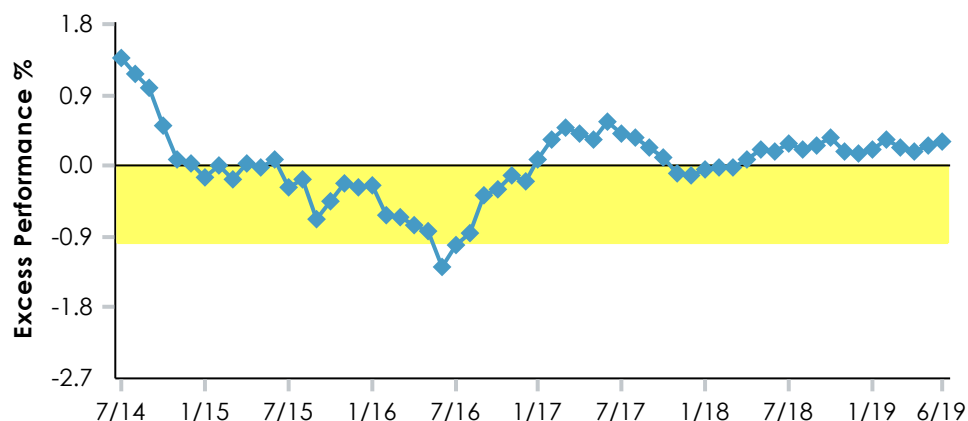


## Sector Performance (1 Quarter as of 1/31/2019)



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

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

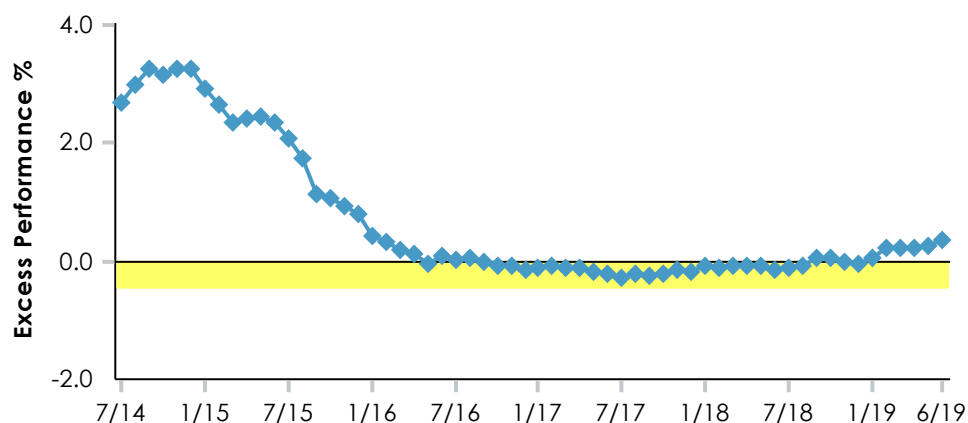


### Short-Term Performance

Positive

Probationary Performance -1.00%

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



### Medium-Term Performance

Positive

Probationary Performance -0.50%

- Long-term criteria to take effect 1Q 2021

## Annualized Performance Results (Net of management fees)

	Qtr	1 Year	3 Years	5 Years	Inception (10/2015)
Metropolitan West Total Return Bond I	3.2 (42)	8.2 (32)	2.7 (73)	2.9 (51)	3.2 (70)
BBg BC U.S. Aggregate Index	3.1 (50)	7.9 (45)	2.3 (84)	2.9 (48)	3.1 (76)
IM U.S. Broad Market Core+ Fixed Income (MF) Median	3.1	7.8	3.1	2.9	3.7

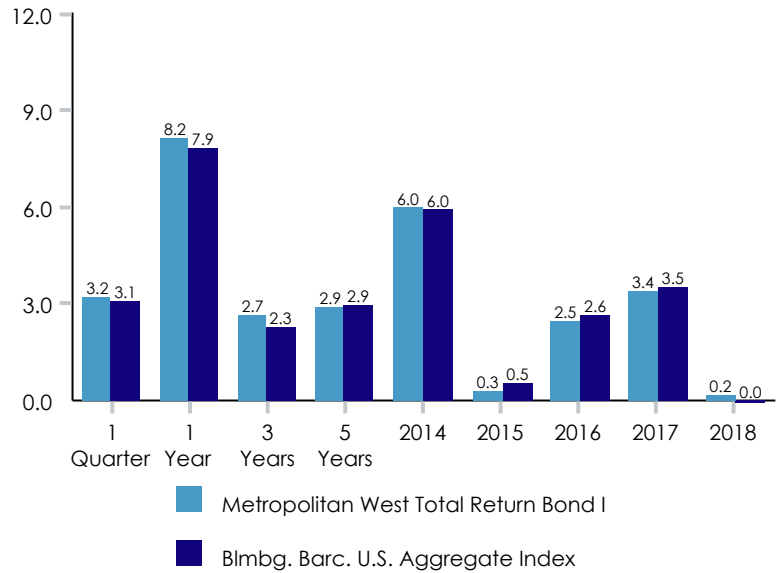
### Monitoring Status

**Positive**

## 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 :** \$42,774 Million  
**Total Assets Date :** 06/30/2019  
**Gross Expense :** 0.5%  
**Net Expense :** 0.5%  
**Turnover :** 255%

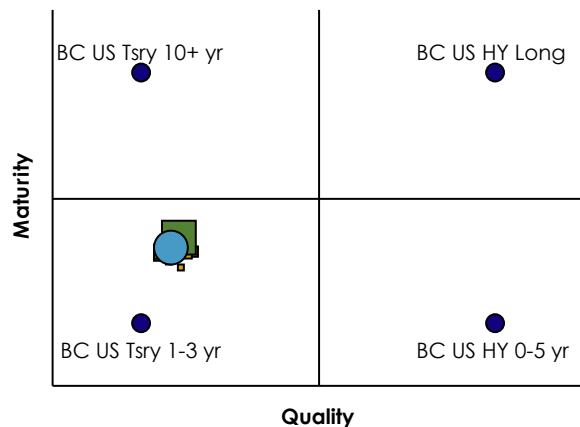
## Comparative Performance



## Fund Investment Policy

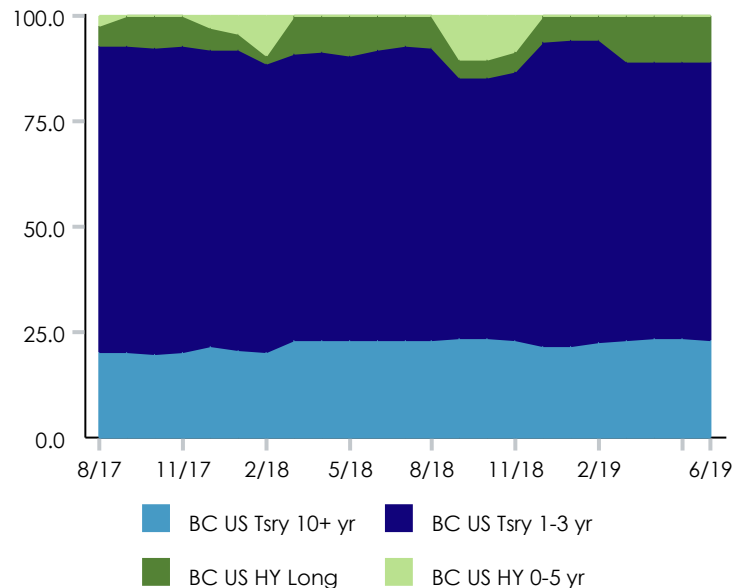
The Fund seeks to maximize long-term total return. The Fund invests at least 80% of its net assets in investment grade fixed income securities or unrated securities that are determined by the Adviser to be of similar quality. Up to 20% of the Funds net assets may be invested in securities rated below investment grade.

## Style Map (3 Years)



- Style History
- Jun-2019
- Average Style Exposure

## Style History (3 Years)



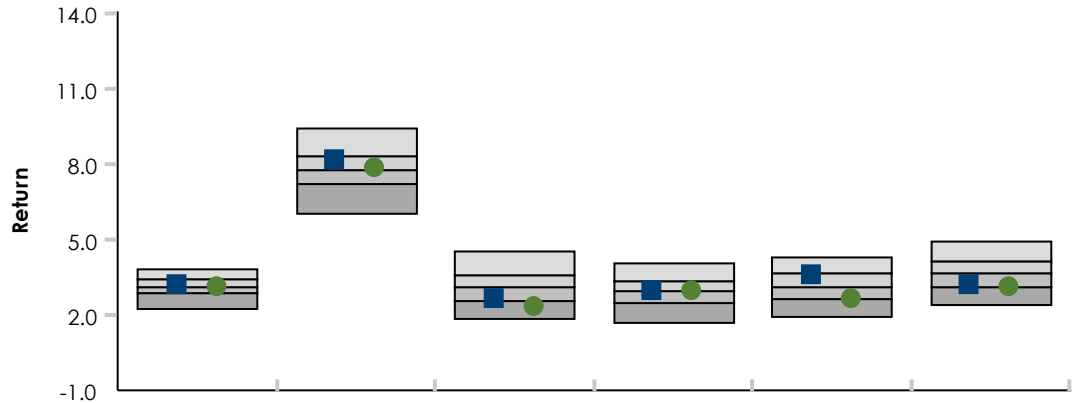
# Metropolitan West Total Return Bond I

June 30, 2019

## Historical Statistics (3 Years)

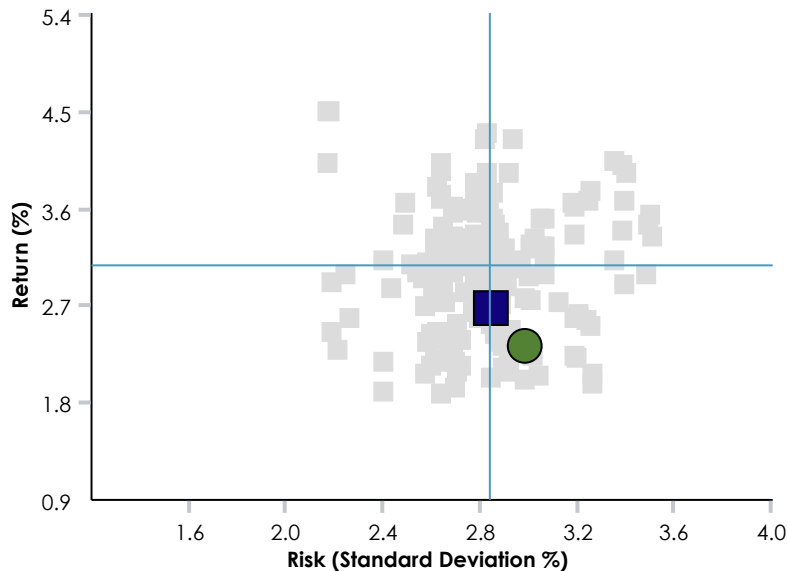
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
Metropolitan West Total Return Bond I	2.7	2.9	0.5	0.5	1.0	1.0	0.3	1.2	99.4	86.9
Blmbg. Barc. U.S. Aggregate Index	2.3	3.0	0.3	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Broad Market Core+ Fixed Income (MF) Median	3.1	2.8	0.6	1.0	0.9	0.9	1.1	0.7	100.1	79.1

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Oct-2015
■ Metropolitan West Total Return Bond I	3.2 (42)	8.2 (32)	2.7 (73)	2.9 (51)	3.6 (26)	3.2 (70)
● Blmbg. Barc. U.S. Aggregate Index	3.1 (50)	7.9 (45)	2.3 (84)	2.9 (48)	2.6 (76)	3.1 (76)
Median	3.1	7.8	3.1	2.9	3.1	3.7

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ Metropolitan West Total Return Bond I	2.7	2.9
● Blmbg. Barc. U.S. Aggregate Index	2.3	3.0
— Median	3.1	2.8

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	21	99.4
Down Markets	15	86.9
<b>Batting Average</b>		
Up Markets	21	42.9
Down Markets	15	73.3
Overall	36	55.6





# Metropolitan West Total Return Bond I

June 30, 2019

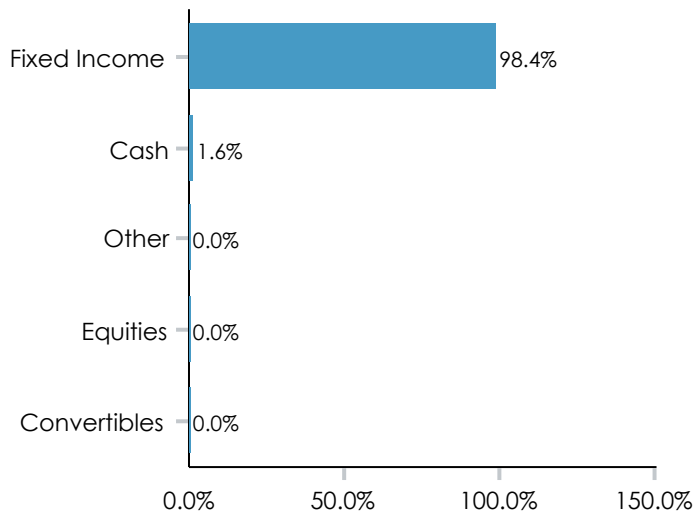
## Portfolio Characteristics (As of 3/31/2019)

Avg. Coupon	3.23 %
Nominal Maturity	7.55 Years
Effective Maturity	N/A
Duration	5.91 Years
SEC 30 Day Yield	3.9
Avg. Credit Quality	AA

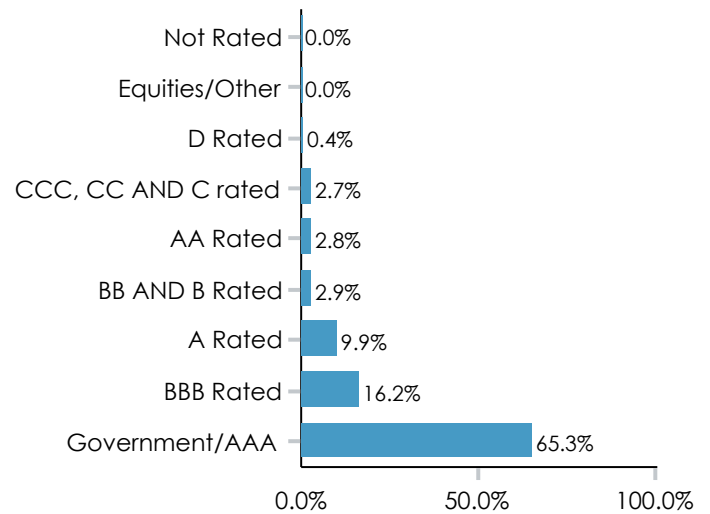
## Top 10 Holdings (As of 3/31/2019)

GNMA and Other Mtg Backed	38.6 %
Corporate Notes/Bonds	28.2 %
Government Agency Securities	26.2 %
Asset Backed Securities	5.4 %

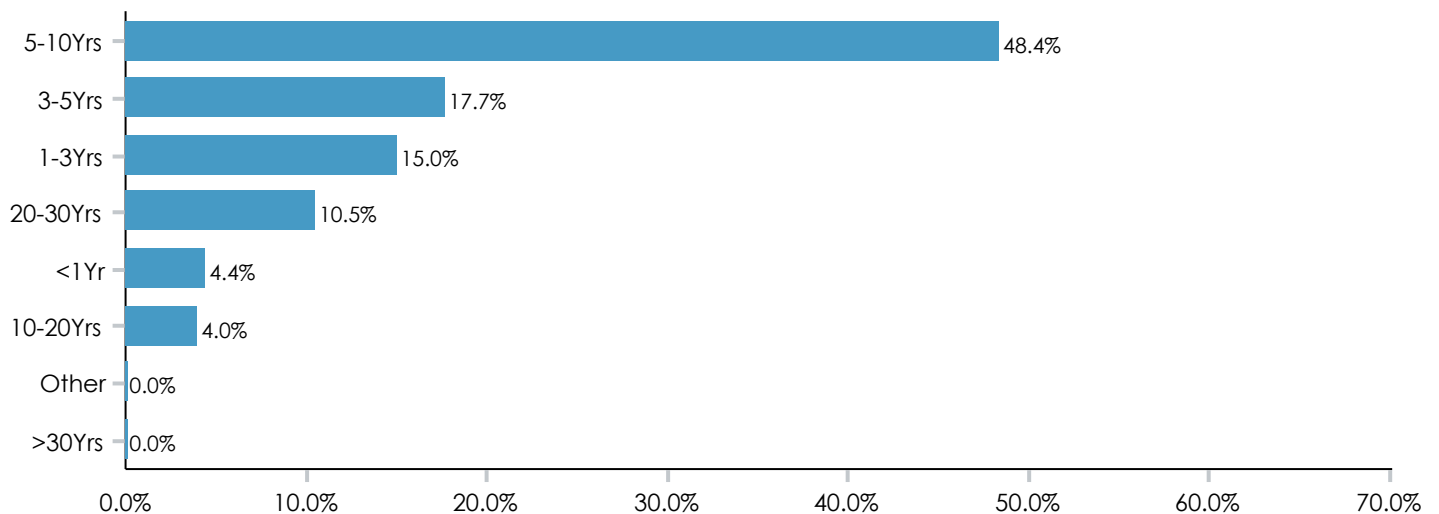
## Asset Allocation (As of 3/31/2019)



## Quality Allocation (As of 3/31/2019)

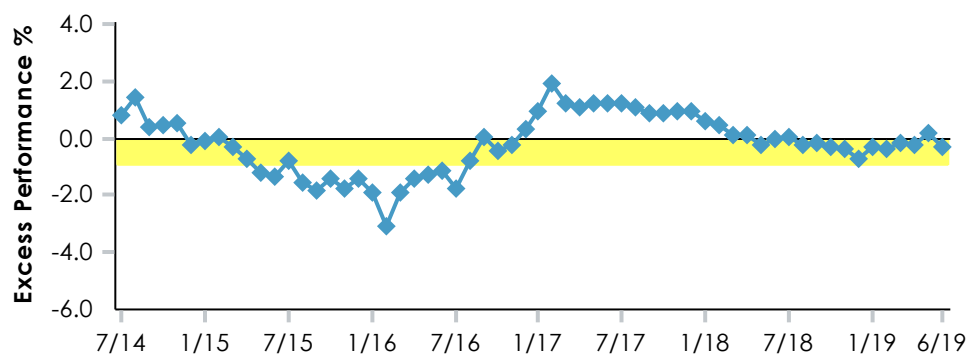


## Maturity Distribution (As of 3/31/2019)



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

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

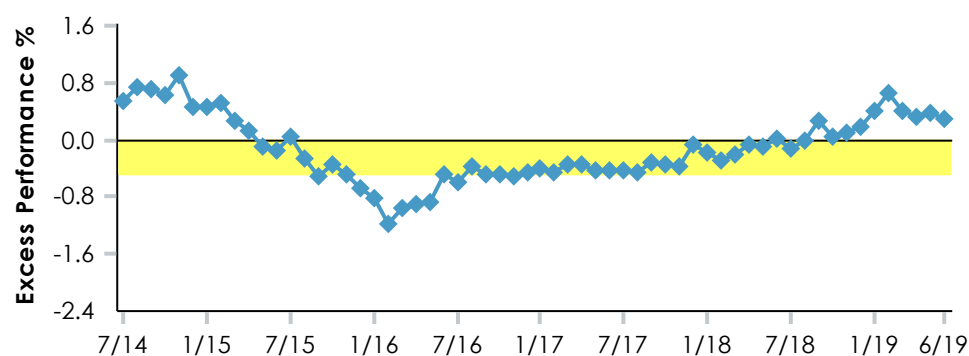


### Short-Term Performance

Positive

Probationary Performance -1.00%

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

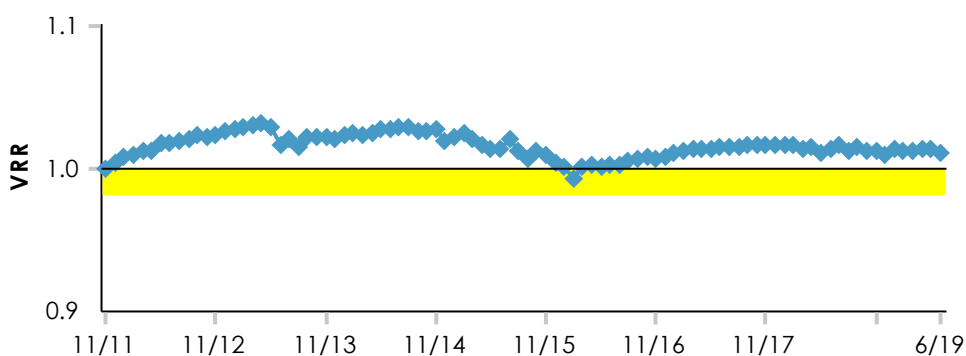


### Medium-Term Performance

Positive

Probationary Performance -0.50%

## Long-term (December 1, 2011 To June 30, 2019 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	2.7 (27)	4.5 (28)	2.4 (21)	1.4 (27)	1.8 (7)
Bloomberg Barclays U.S. TIPS Index	2.9 (11)	4.8 (13)	2.1 (31)	1.8 (12)	1.6 (13)
IM U.S. TIPS (MF) Median	2.5	4.1	1.8	1.1	1.1

Monitoring Status

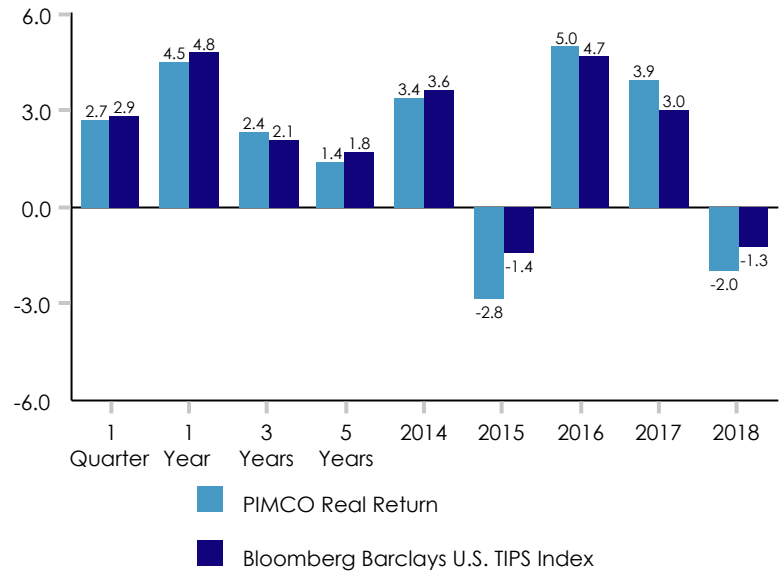
Positive



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/Rodosky  
 Total Assets : \$5,735 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.9%  
 Net Expense : 0.9%  
 Turnover : 254%

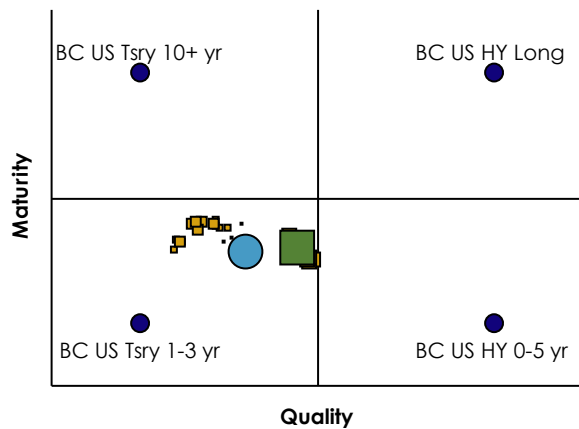
Comparative Performance



Fund Investment Policy

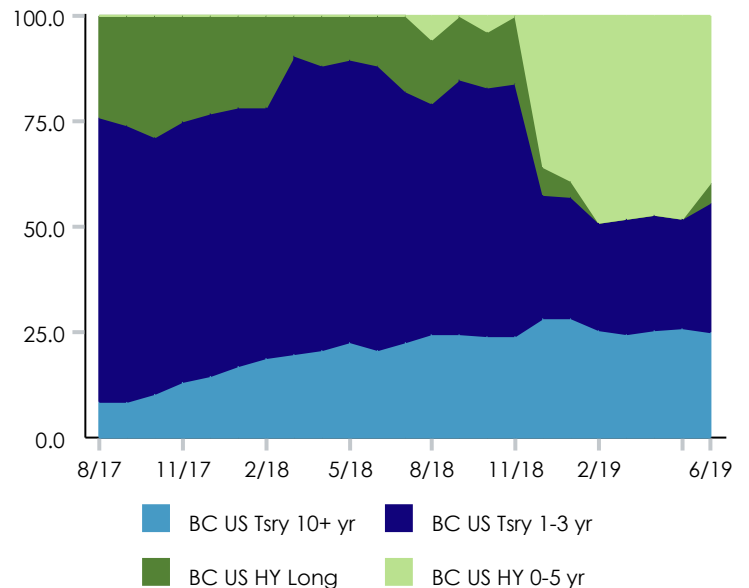
The Fund seeks to maximize real return consistent with preservation of real capital and prudent investment management. It invests at least 80% of its net assets in inflation-indexed bonds of varying maturities issued by the U.S. and non-U.S. governments, their agencies or instrumentalities, and corporations.

Style Map (3 Years)



- Style History
- Jun-2019
- Average Style Exposure

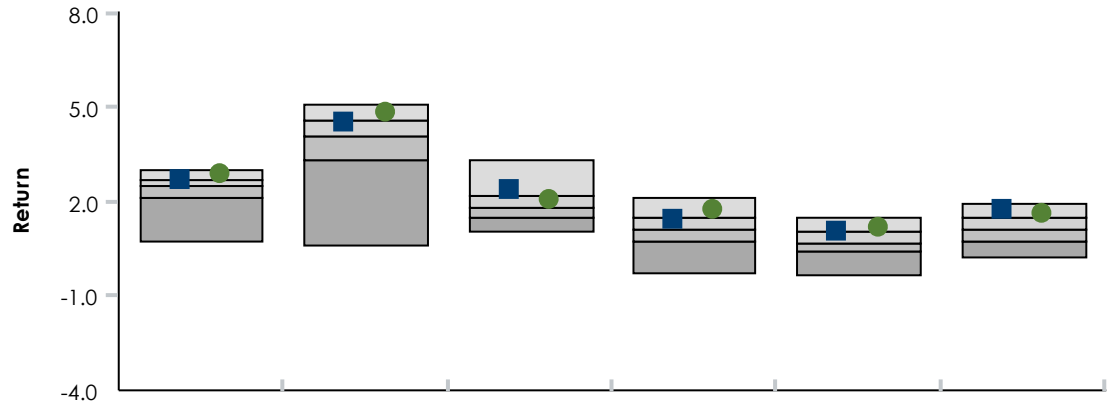
Style History (3 Years)



Historical Statistics (3 Years)

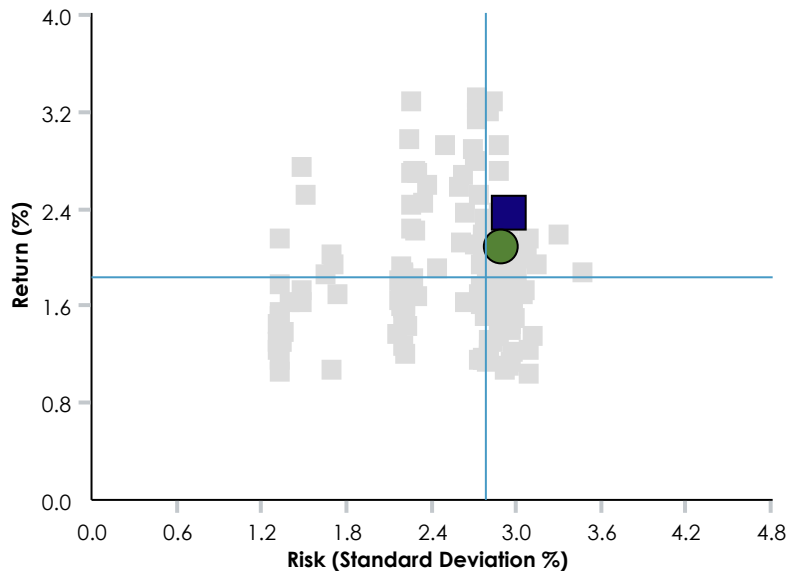
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
PIMCO Real Return	2.4	3.0	0.4	0.3	1.0	1.0	0.6	0.5	100.6	92.2
Bloomberg Barclays U.S. TIPS Index	2.1	2.9	0.3	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. TIPS (MF) Median	1.8	2.8	0.2	0.1	0.9	0.9	1.0	-0.3	86.5	88.1

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ PIMCO Real Return	2.7 (27)	4.5 (28)	2.4 (21)	1.4 (27)	1.1 (23)	1.8 (7)
● Bloomberg Barclays U.S. TIPS Index	2.9 (11)	4.8 (13)	2.1 (31)	1.8 (12)	1.2 (16)	1.6 (13)
Median	2.5	4.1	1.8	1.1	0.7	1.1

Peer Group Scattergram (3 Years)



Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	21	100.6
Down Markets	15	92.2
<b>Batting Average</b>		
Up Markets	21	61.9
Down Markets	15	73.3
Overall	36	66.7

	Return	Standard Deviation
■ PIMCO Real Return	2.4	3.0
● Bloomberg Barclays U.S. TIPS Index	2.1	2.9
— Median	1.8	2.8

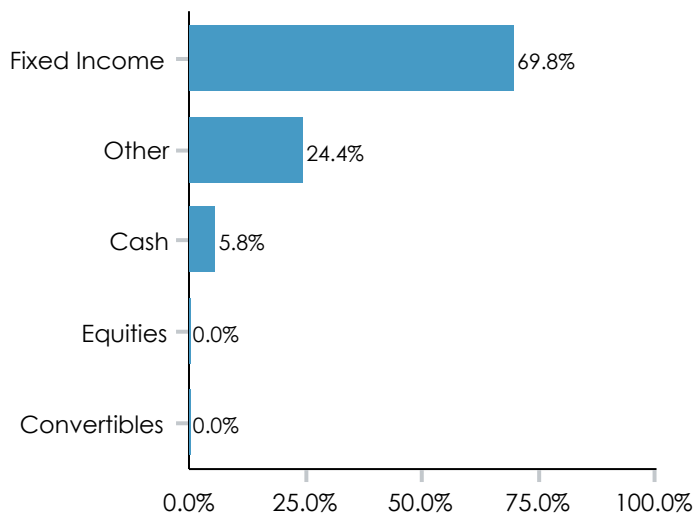
**Portfolio Characteristics (As of 3/31/2019)**

Avg. Coupon	1.91 %
Nominal Maturity	6.86 Years
Effective Maturity	N/A
Duration	7.03 Years
SEC 30 Day Yield	2.2
Avg. Credit Quality	AAA

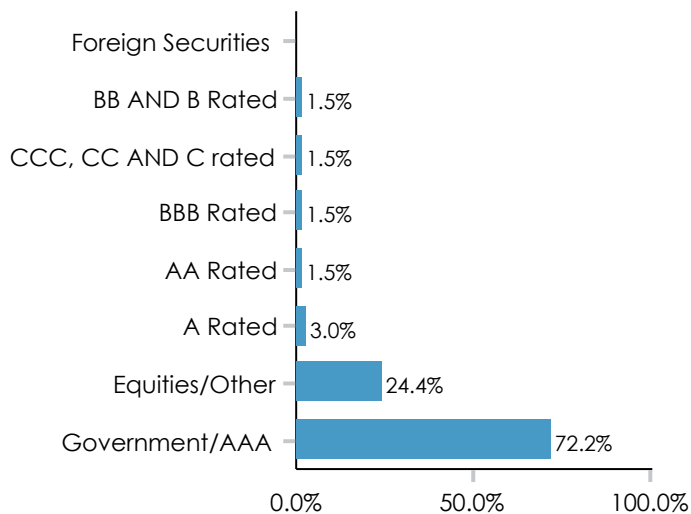
**Top 10 Holdings (As of 3/31/2019)**

Government Agency Securities	63.8 %
GNMA and Other Mtg Backed	15.8 %
Corporate Notes/Bonds	3.0 %

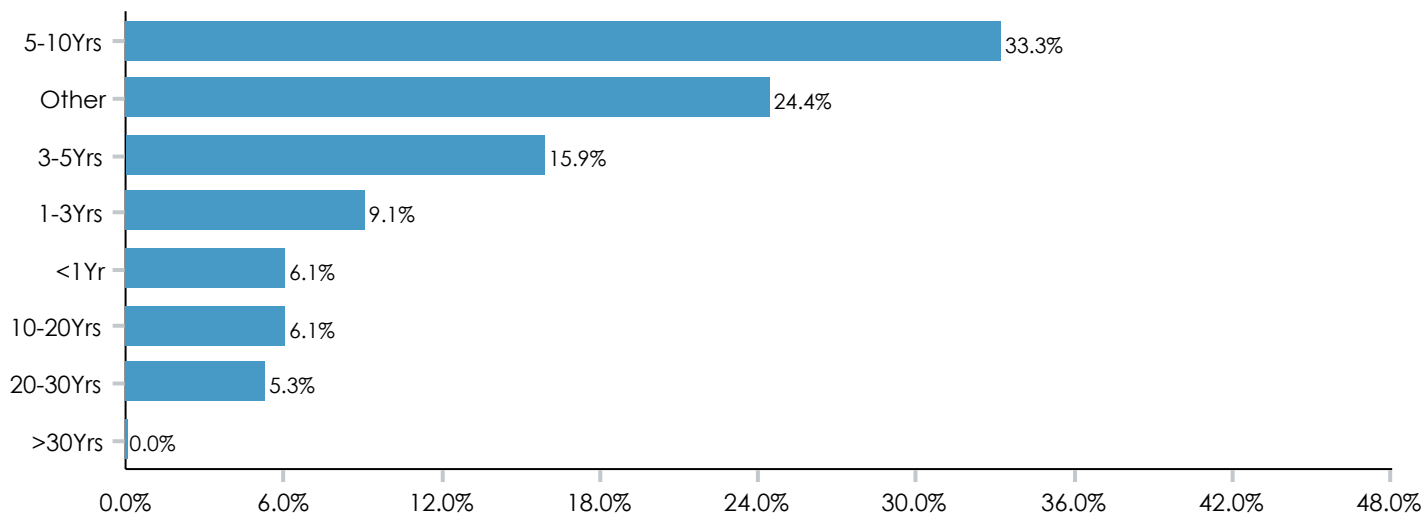
**Asset Allocation (As of 3/31/2019)**



**Quality Allocation (As of 3/31/2019)**

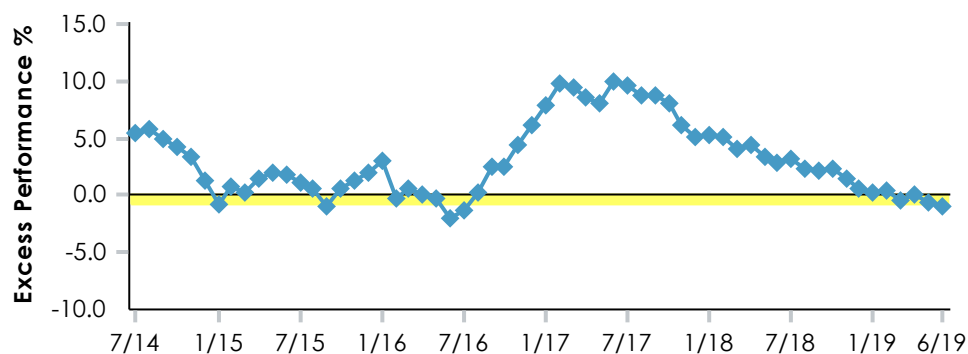


**Maturity Distribution (As of 3/31/2019)**



# PIMCO Income I vs. Blmbg. Barc. U.S. Aggregate Index

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

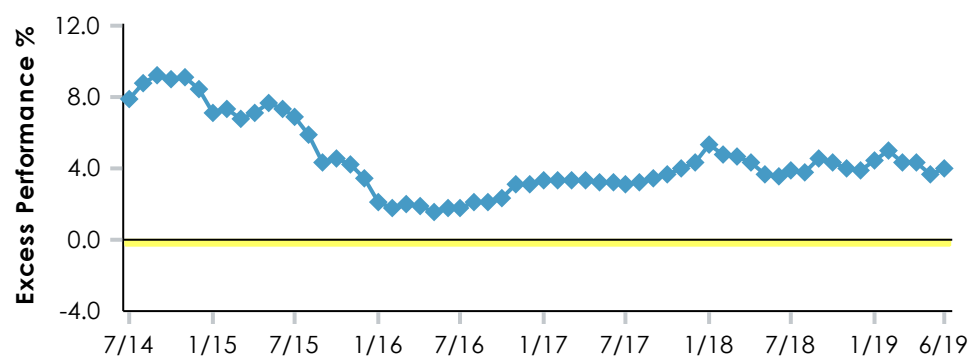


### Short-Term Performance

Acceptable

Probationary Performance -1.00%

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

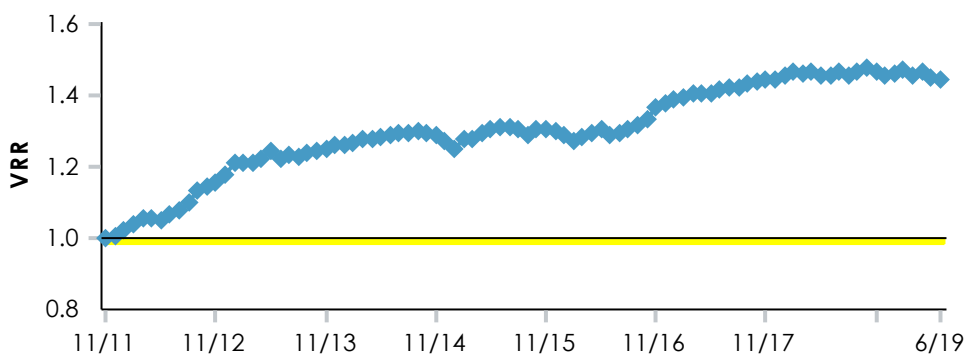


### Medium-Term Performance

Positive

Probationary Performance -0.50%

## Long-term (December 1, 2011 To June 30, 2019 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	2.4 (64)	6.9 (37)	6.3 (9)	5.3 (2)	8.0 (1)
Blmbg. Barc. U.S. Aggregate Index	3.1 (27)	7.9 (17)	2.3 (94)	2.9 (54)	2.9 (91)
IM Multi-Sector General Bond (MF) Median	2.7	6.5	4.5	3.1	4.4

Monitoring Status

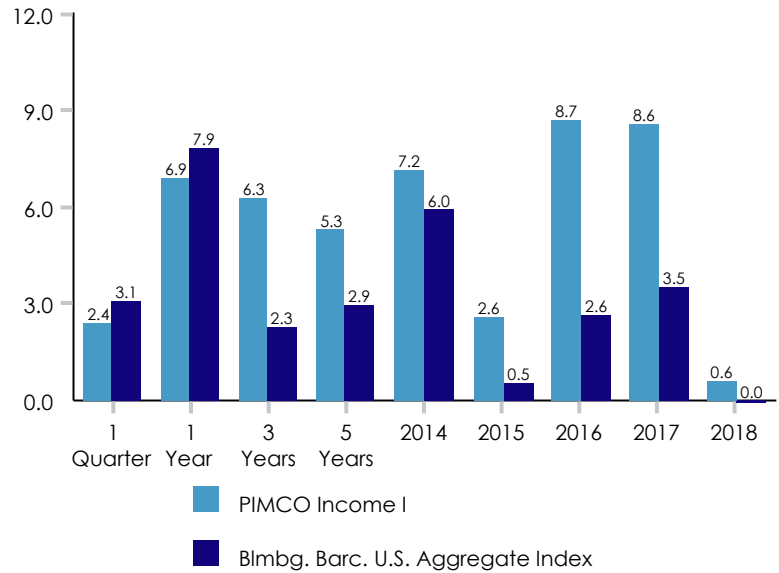
Acceptable



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 : \$67,170 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.7%  
 Net Expense : 0.7%  
 Turnover : 472%

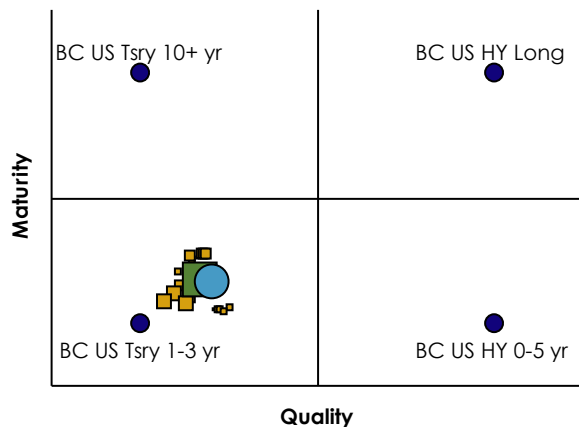
Comparative Performance



Fund Investment Policy

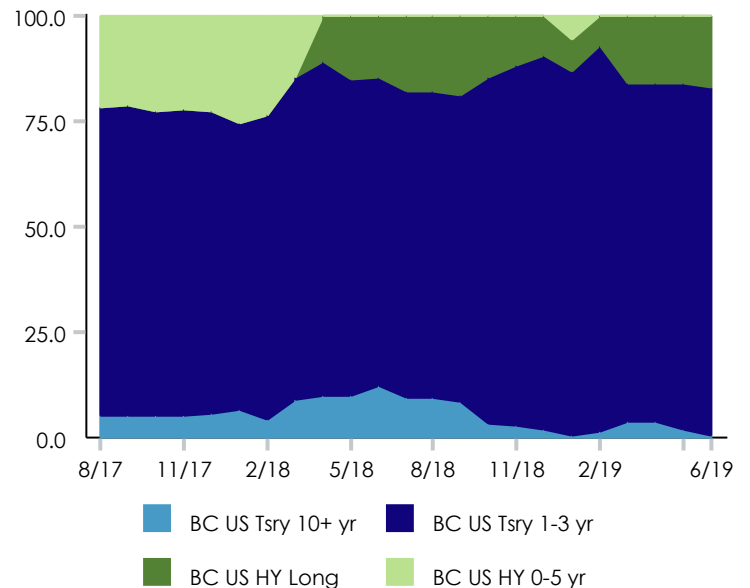
The Fund seeks to maximize current income. The Fund typically invests at least 65% of its total assets in a multi-sector portfolio of fixed income instruments of varying maturities. The Fund will generally allocate its assets among several investment sectors.

Style Map (3 Years)



- Style History
- Jun-2019
- Average Style Exposure

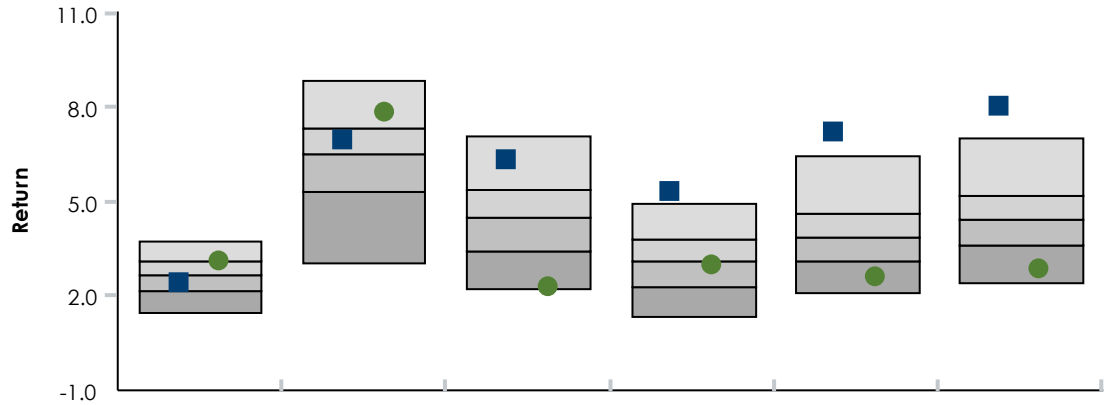
Style History (3 Years)



Historical Statistics (3 Years)

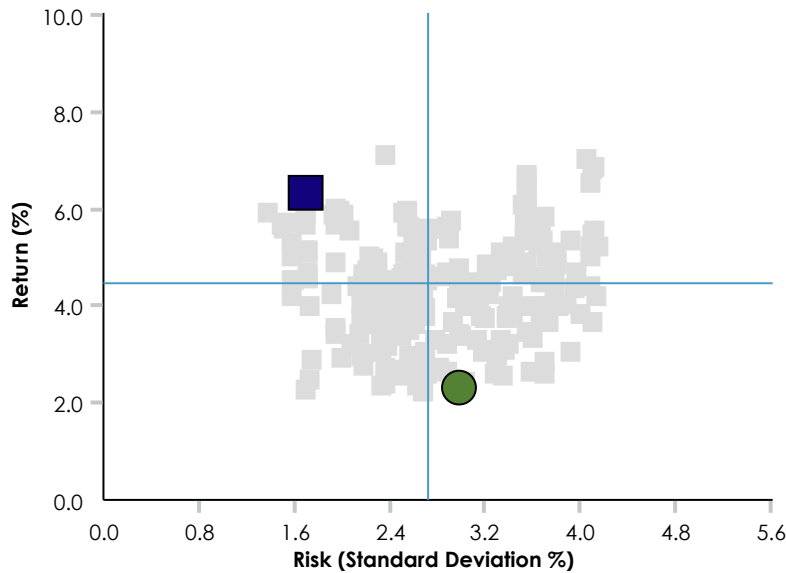
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
PIMCO Income I	6.3	1.7	2.7	5.5	0.3	0.3	2.5	1.5	97.1	-40.2
Blmbg. Barc. U.S. Aggregate Index	2.3	3.0	0.3	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Multi-Sector General Bond (MF) Median	4.5	2.7	1.0	3.5	0.5	0.2	3.0	0.7	91.2	14.8

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ PIMCO Income I	2.4 (64)	6.9 (37)	6.3 (9)	5.3 (2)	7.2 (1)	8.0 (1)
● Blmbg. Barc. U.S. Aggregate Index	3.1 (27)	7.9 (17)	2.3 (94)	2.9 (54)	2.6 (88)	2.9 (91)
Median	2.7	6.5	4.5	3.1	3.8	4.4

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ PIMCO Income I	6.3	1.7
● Blmbg. Barc. U.S. Aggregate Index	2.3	3.0
— Median	4.5	2.7

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	21	97.1
Down Markets	15	-40.2
<b>Batting Average</b>		
Up Markets	21	52.4
Down Markets	15	100.0
Overall	36	72.2



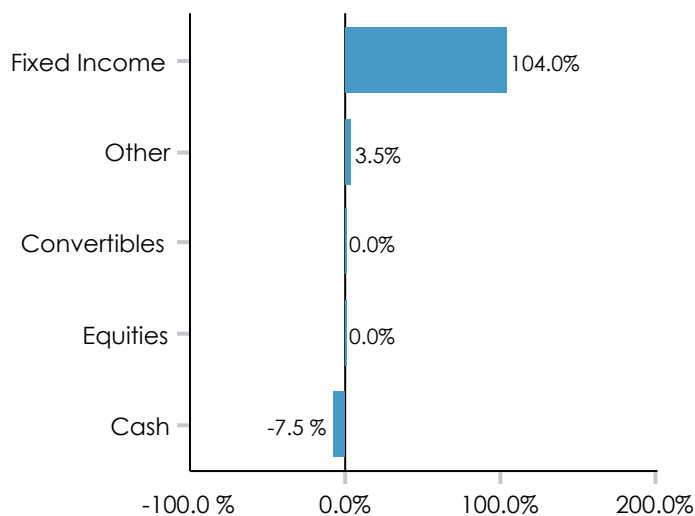
Portfolio Characteristics (As of 3/31/2019)

Avg. Coupon	4.24 %
Nominal Maturity	3.34 Years
Effective Maturity	N/A
Duration	0.94 Years
SEC 30 Day Yield	6.7
Avg. Credit Quality	BBB

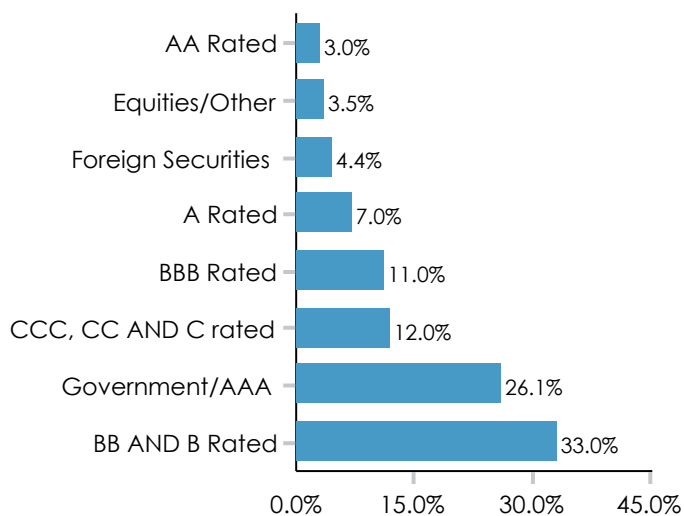
Top 10 Holdings (As of 3/31/2019)

GNMA and Other Mtg Backed	68.8 %
Corporate Notes/Bonds	21.1 %
Government Agency Securities	8.4 %
Fgn. Currency Denominated Bonds	4.4 %
Treasury Notes/Bonds	1.3 %
Convertible Securities	0.0%

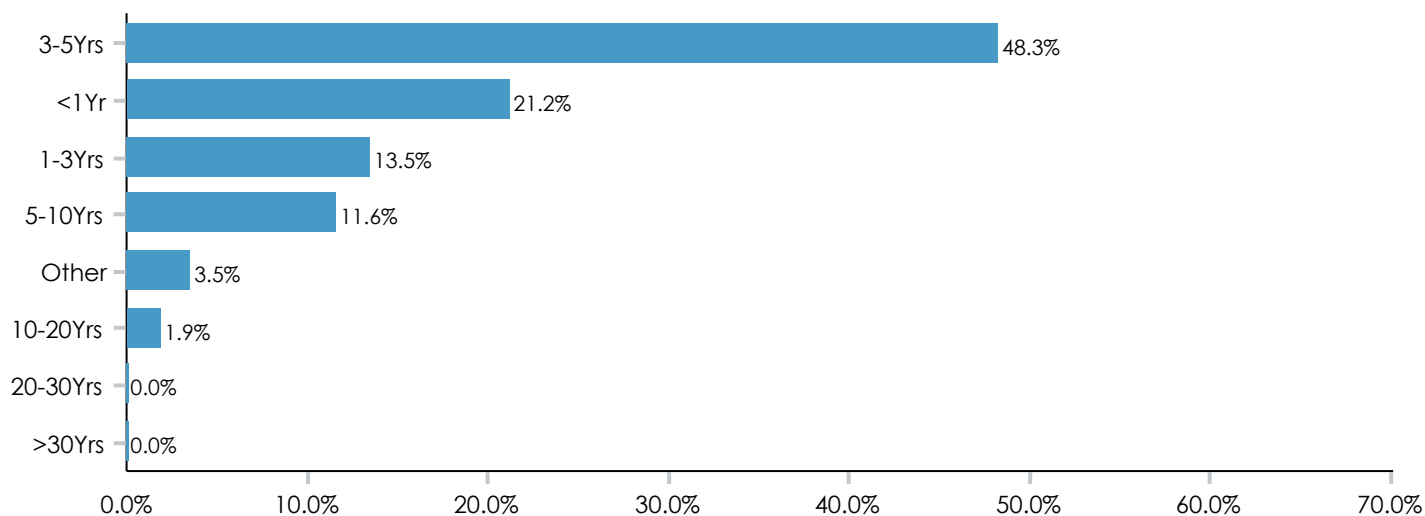
Asset Allocation (As of 3/31/2019)



Quality Allocation (As of 3/31/2019)

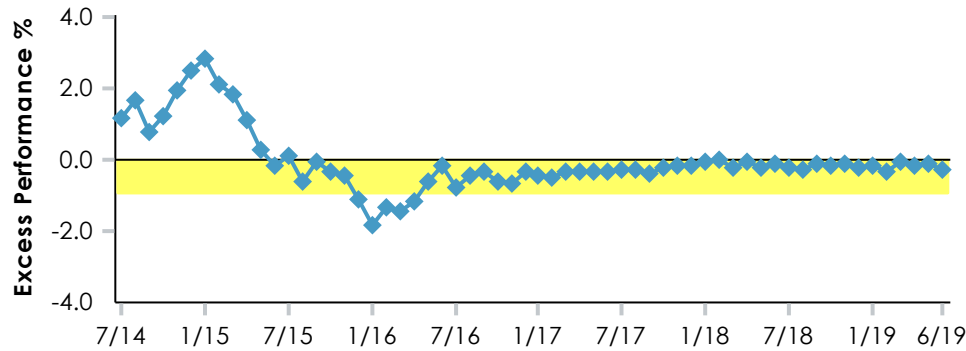


Maturity Distribution (As of 3/31/2019)



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

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

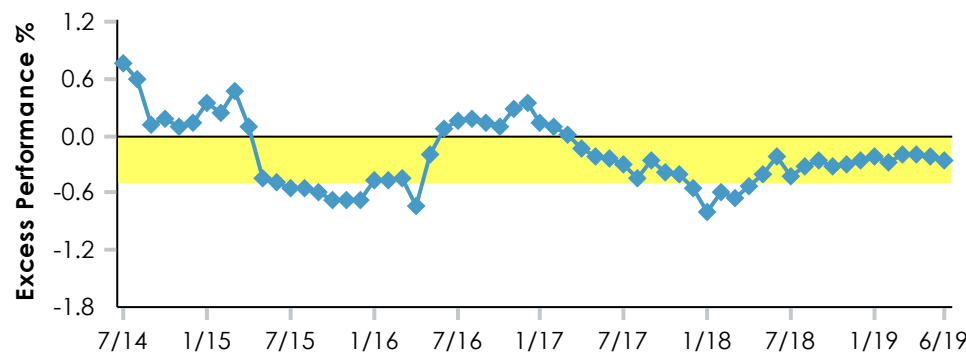


### Short-Term Performance

Acceptable

Probationary Performance -1.00%

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

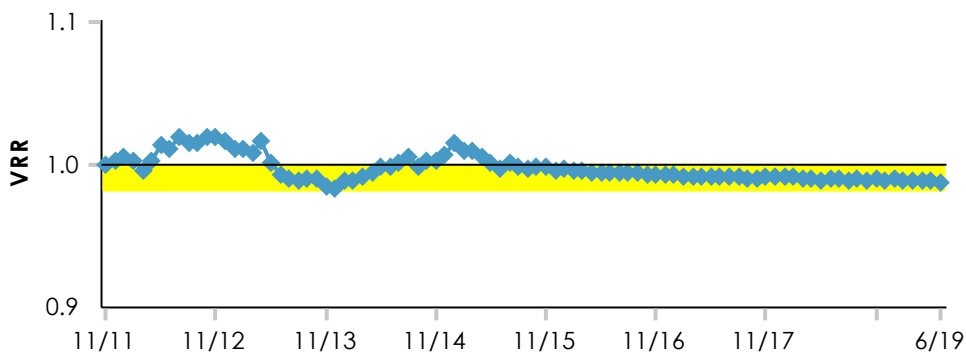


### Medium-Term Performance

Acceptable

Probationary Performance -0.50%

## Long-term (December 1, 2011 To June 30, 2019 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	2.3 (65)	4.4 (33)	1.7 (60)	1.2 (45)	1.2 (46)
Blmbg. Barc. U.S. TIPS 1-10 Year	2.5 (46)	4.7 (21)	1.9 (42)	1.4 (28)	1.3 (38)
IM U.S. TIPS (MF) Median	2.5	4.1	1.8	1.1	1.1

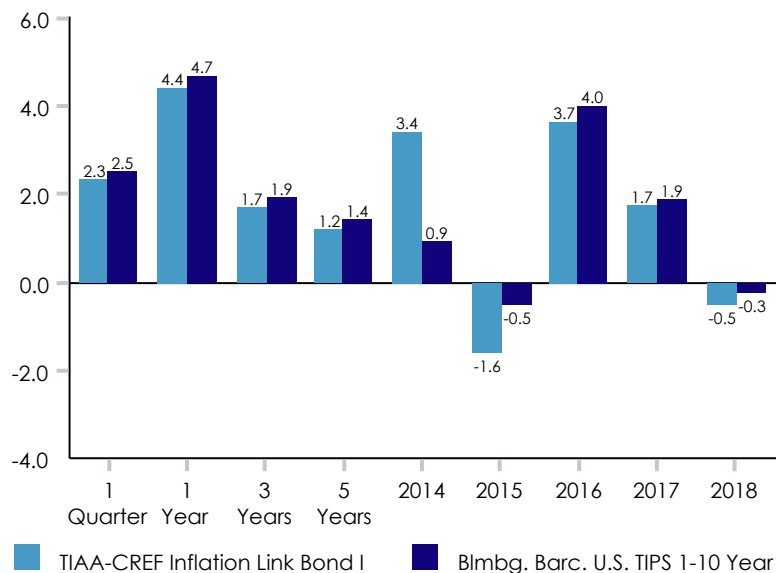
Monitoring Status

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 : \$1,678 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.3%  
 Net Expense : 0.3%  
 Turnover : 21%

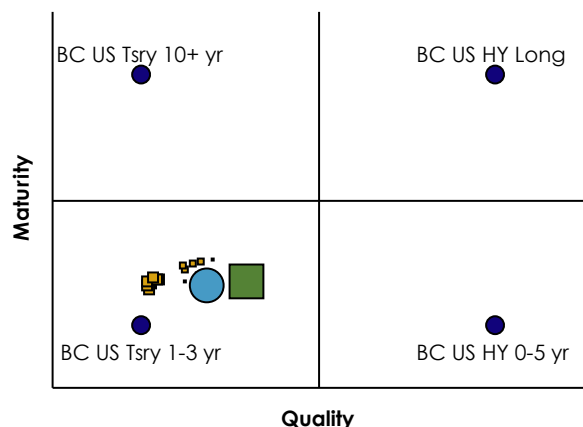
Comparative Performance



Fund Investment Policy

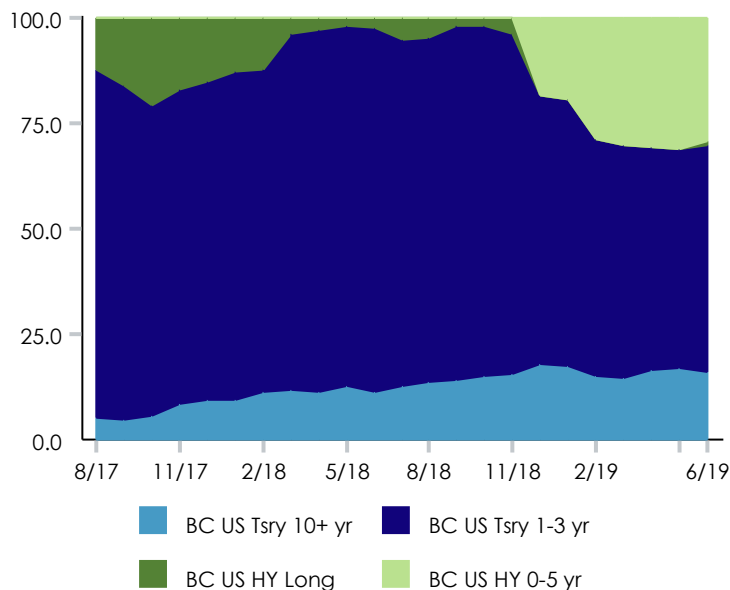
The Fund seeks a long-term rate of return that outpaces inflation primarily through investment in inflation-indexed bonds. The Fund invests primarily in U.S. Treasury Inflation-Indexed Securities ("TIIS"). The Fund can also invest in other inflation-indexed bonds issued or guaranteed by the U.S. Government.

Style Map (3 Years)



- Style History
- Jun-2019
- Average Style Exposure

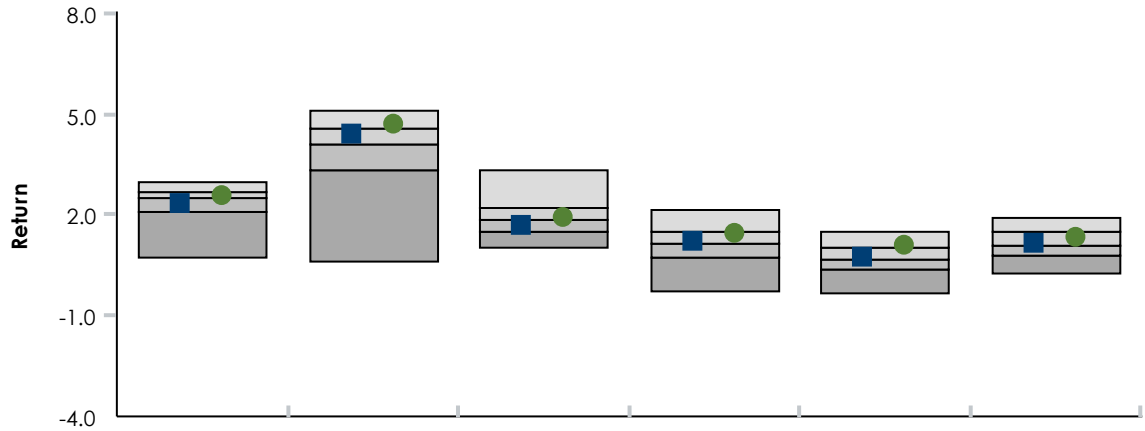
Style History (3 Years)



## Historical Statistics (3 Years)

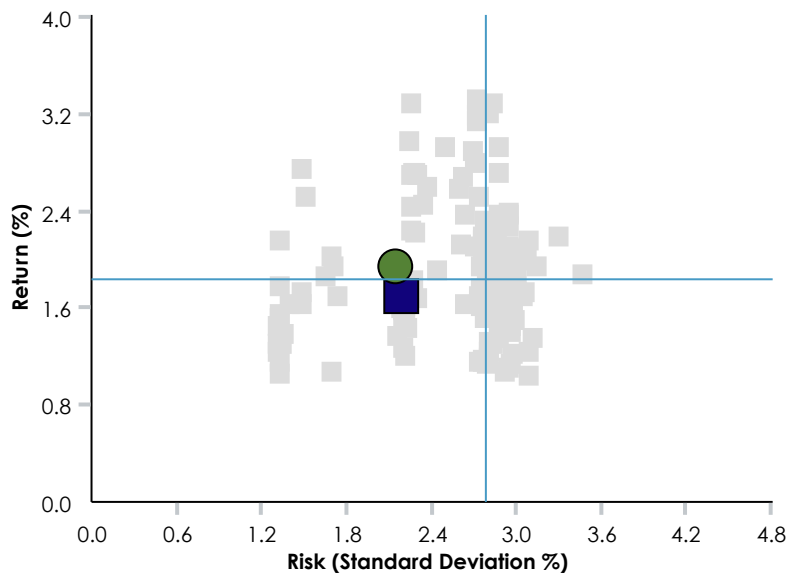
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Inflation Link Bond I	1.7	2.2	0.2	-0.3	1.0	1.0	0.3	-0.9	95.6	102.9
Blmbg. Barc. U.S. TIPS 1-10 Year	1.9	2.2	0.3	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. TIPS (MF) Median	1.8	2.8	0.2	-0.3	1.2	0.9	1.1	-0.1	108.2	122.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Inflation Link Bond I	2.3 (65)	4.4 (33)	1.7 (60)	1.2 (45)	0.7 (48)	1.2 (46)
● Blmbg. Barc. U.S. TIPS 1-10 Year	2.5 (46)	4.7 (21)	1.9 (42)	1.4 (28)	1.1 (23)	1.3 (38)
Median	2.5	4.1	1.8	1.1	0.7	1.1

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Inflation Link Bond I	1.7	2.2
● Blmbg. Barc. U.S. TIPS 1-10 Year	1.9	2.2
— Median	1.8	2.8

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	23	95.6
Down Markets	13	102.9
<b>Batting Average</b>		
Up Markets	23	47.8
Down Markets	13	53.8
Overall	36	50.0

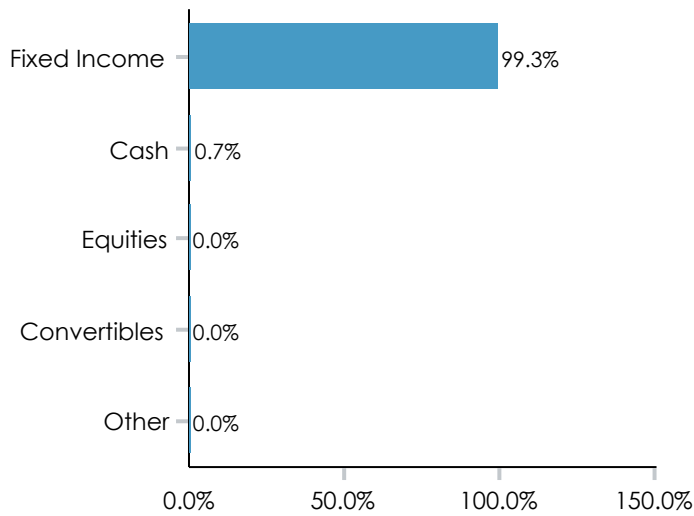
**Portfolio Characteristics (As of 3/31/2019)**

Avg. Coupon	0.92 %
Nominal Maturity	5.32 Years
Effective Maturity	N/A
Duration	5.03 Years
SEC 30 Day Yield	0.6
Avg. Credit Quality	AAA

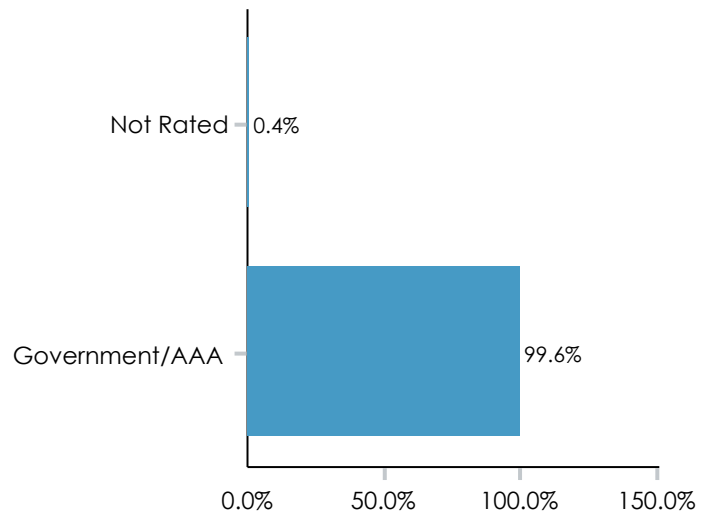
**Top 10 Holdings (As of 3/31/2019)**

Treasury Notes/Bonds	96.9 %
Government Agency Securities	1.3 %
GNMA and Other Mtg Backed	0.9 %
US\$ Denominated Fgn. Gvt.	0.2 %

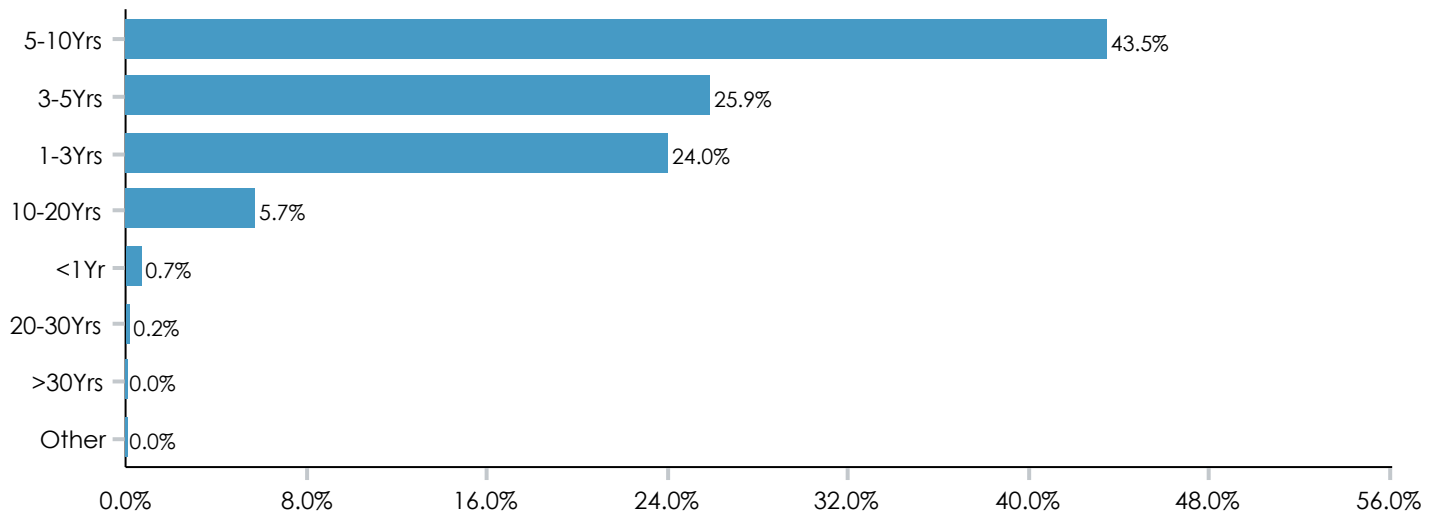
**Asset Allocation (As of 3/31/2019)**



**Quality Allocation (As of 3/31/2019)**

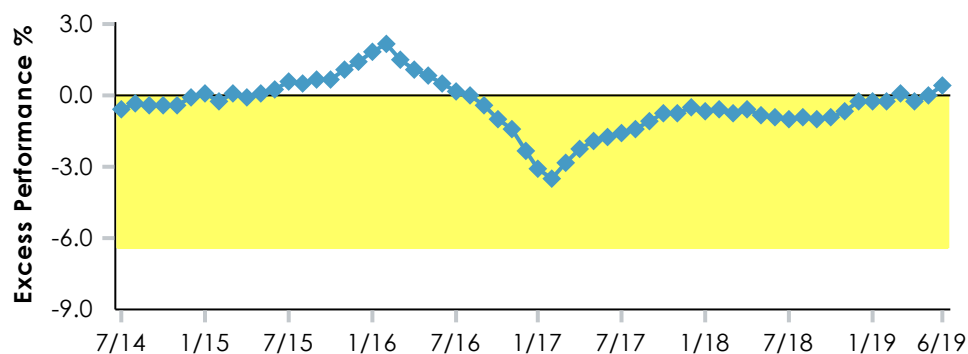


**Maturity Distribution (As of 3/31/2019)**



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

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

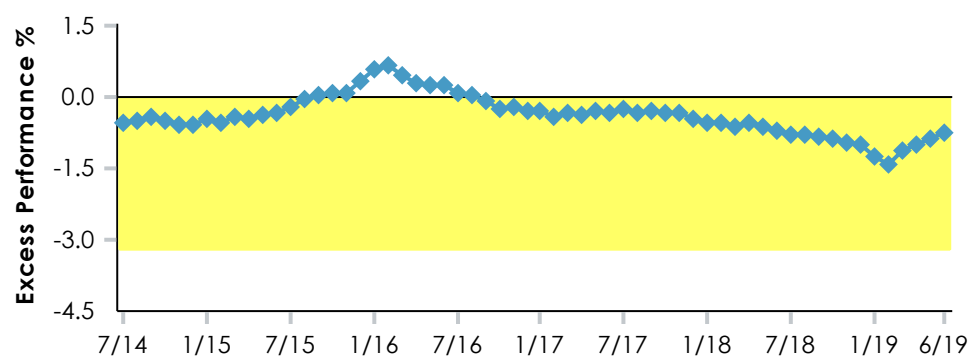


### Short-Term Performance

Positive

Probationary Performance -6.50%

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

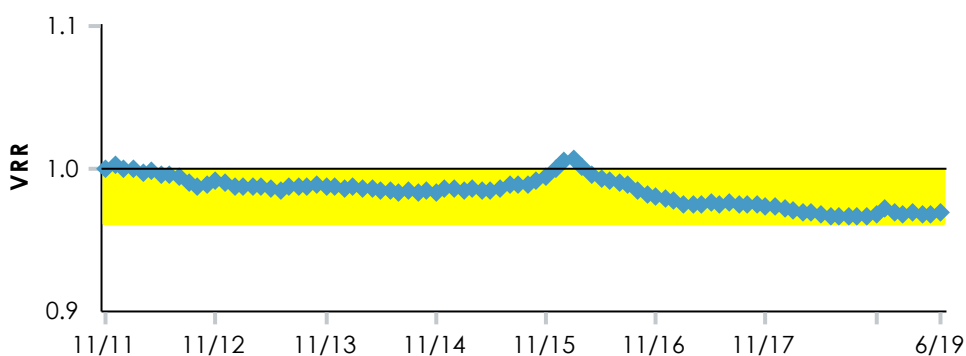


### Medium-Term Performance

Acceptable

Probationary Performance -3.25%

## Long-term (December 1, 2011 To June 30, 2019 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	1.8 (5)	4.4 (3)	4.6 (39)	3.7 (5)	4.6 (20)
S&P/LSTA Performing Loans Index	1.7 (9)	4.0 (8)	5.4 (8)	4.0 (2)	5.0 (7)
IM U.S. Bank Loans (MF) Median	1.3	3.1	4.4	3.0	4.0

Monitoring Status

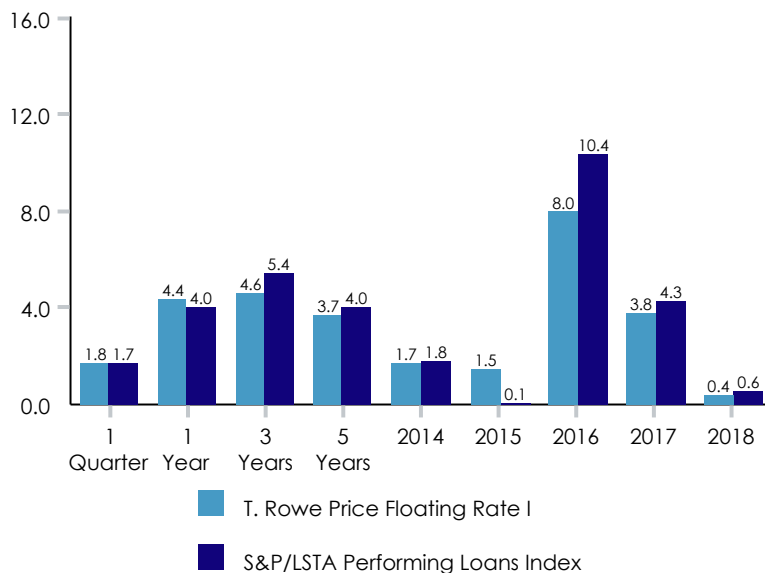
Acceptable



## 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 : \$3,257 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 54%

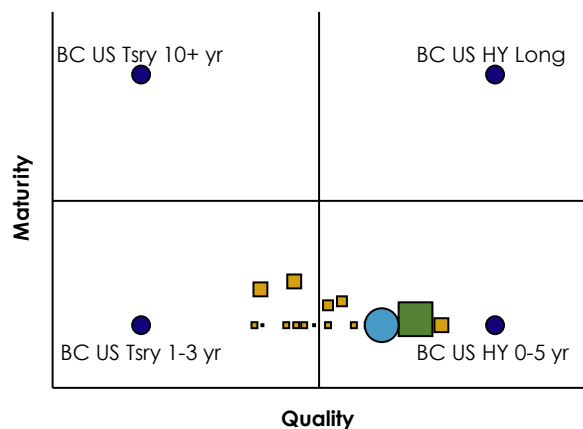
## Comparative Performance



## Fund Investment Policy

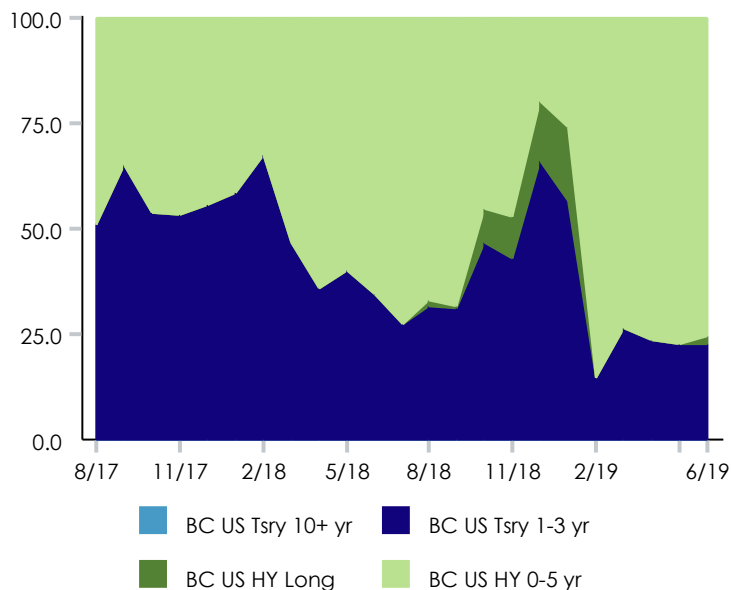
The Fund seeks high current income and, secondarily, capital appreciation. The Fund seeks to normally invest at least 80% of net assets in floating rate loans and debt securities.

## Style Map (3 Years)



- Style History
- Jun-2019
- Average Style Exposure

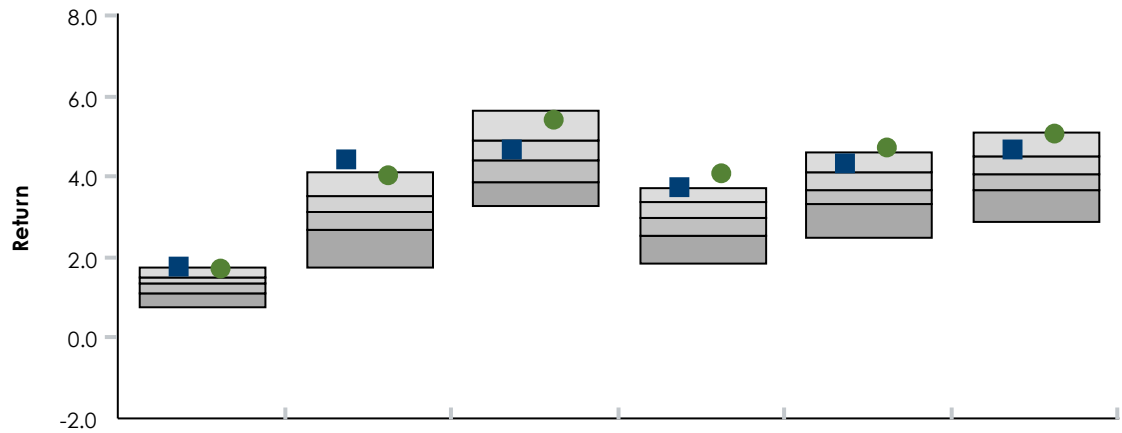
## Style History (3 Years)



## Historical Statistics (3 Years)

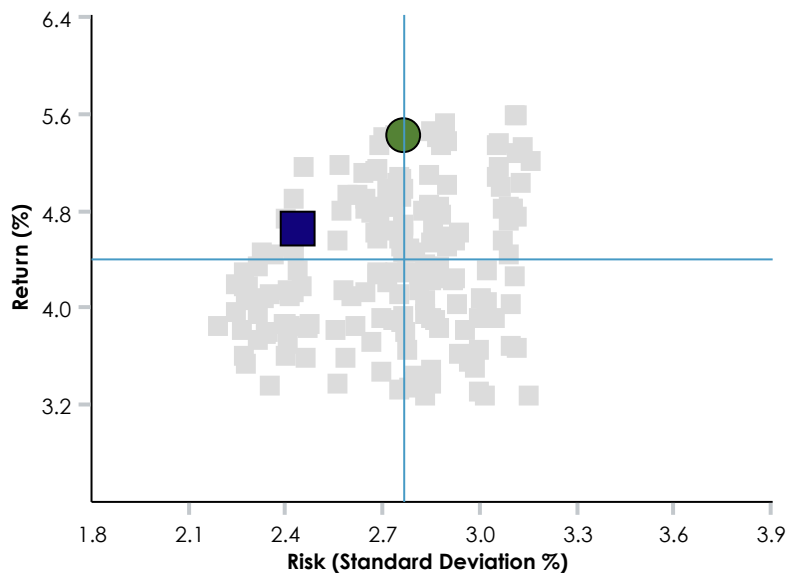
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
T. Rowe Price Floating Rate I	4.6	2.4	1.3	-0.1	0.9	1.0	0.5	-1.4	85.6	83.3
S&P/LSTA Performing Loans Index	5.4	2.8	1.4	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Bank Loans (MF) Median	4.4	2.8	1.1	-0.7	1.0	1.0	0.6	-1.6	87.0	116.4

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ T. Rowe Price Floating Rate I	1.8 (5)	4.4 (3)	4.6 (39)	3.7 (5)	4.3 (18)	4.6 (20)
● S&P/LSTA Performing Loans Index	1.7 (9)	4.0 (8)	5.4 (8)	4.0 (2)	4.7 (2)	5.0 (7)
Median	1.3	3.1	4.4	3.0	3.7	4.0

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ T. Rowe Price Floating Rate I	4.6	2.4
● S&P/LSTA Performing Loans Index	5.4	2.8
— Median	4.4	2.8

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	29	85.6
Down Markets	7	83.3
<b>Batting Average</b>		
Up Markets	29	24.1
Down Markets	7	71.4
Overall	36	33.3



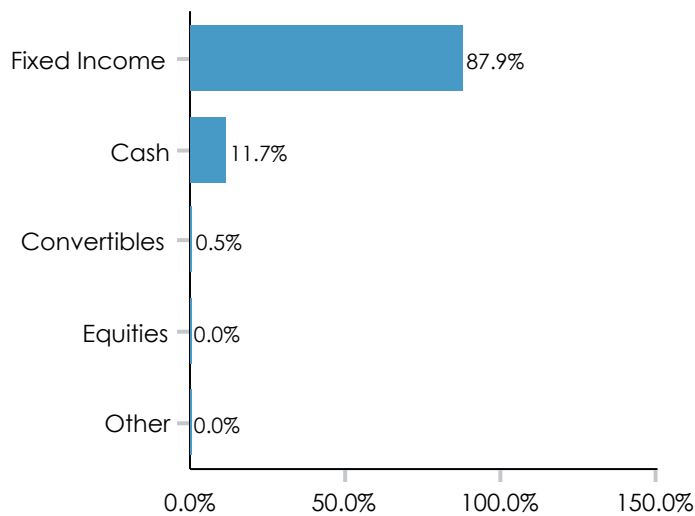
## Portfolio Characteristics (As of 3/31/2019)

Avg. Coupon	6.04 %
Nominal Maturity	N/A
Effective Maturity	5.22 Years
Duration	0.35 Years
SEC 30 Day Yield	5.5
Avg. Credit Quality	BB

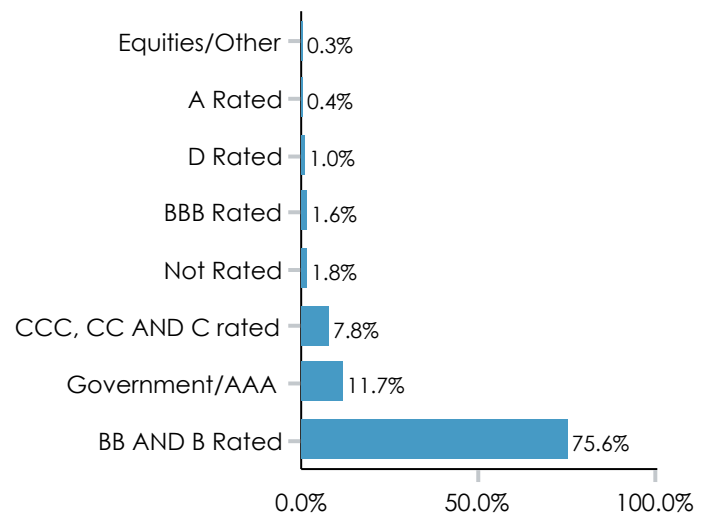
## Top 10 Holdings (As of 3/31/2019)

Corporate Notes/Bonds	81.9 %
US\$ Denominated Fgn. Gvt.	5.9 %
Convertible Securities	0.5 %
Asset Backed Securities	0.1 %
Treasury Notes/Bonds	0.0%

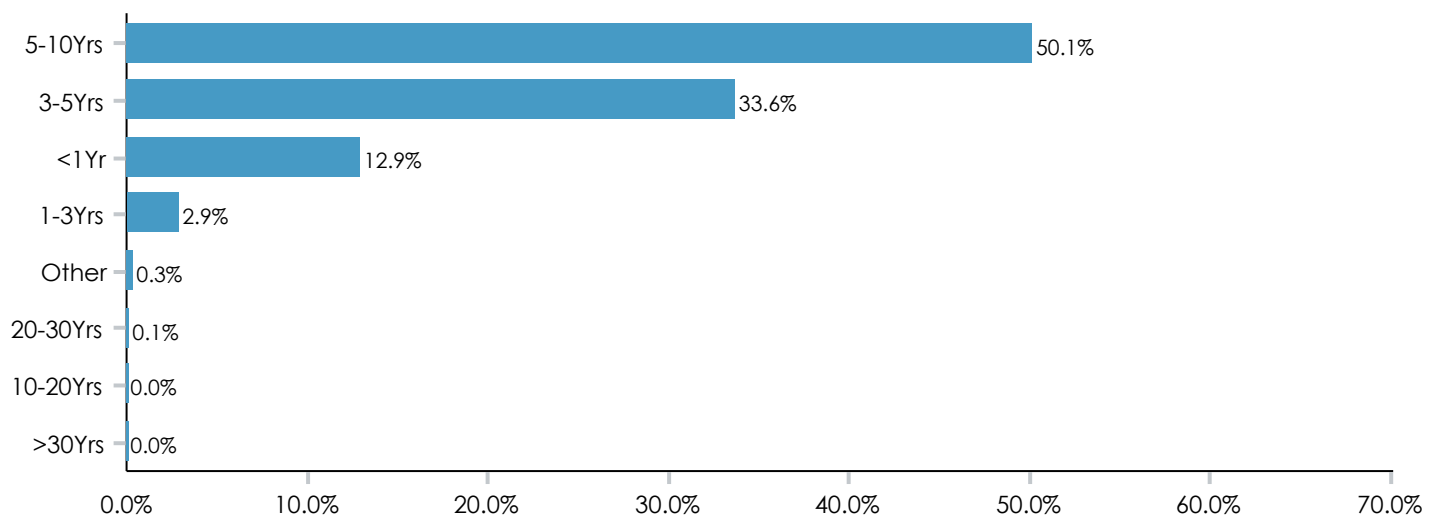
## Asset Allocation (As of 3/31/2019)



## Quality Allocation (As of 3/31/2019)

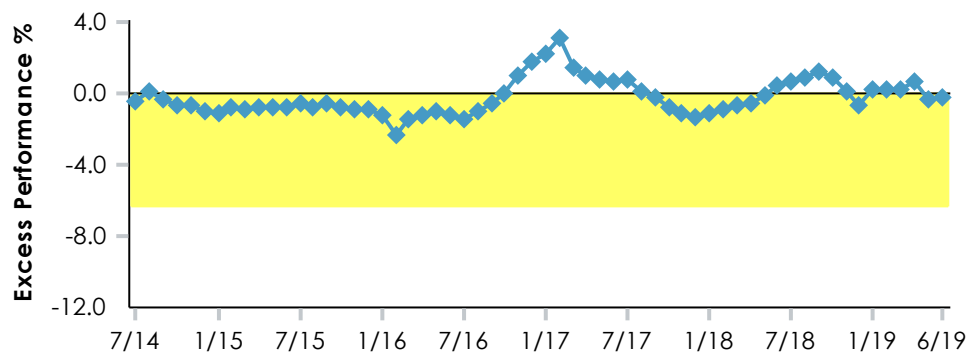


## Maturity Distribution (As of 3/31/2019)



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

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

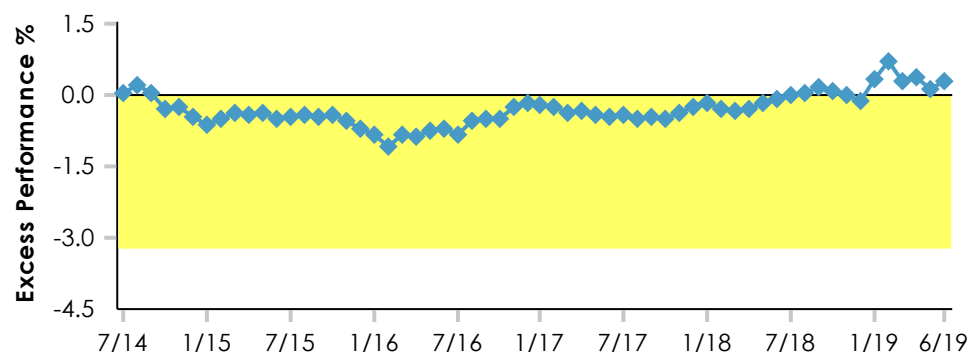


### Short-Term Performance

Positive

Probationary Performance -6.50%

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

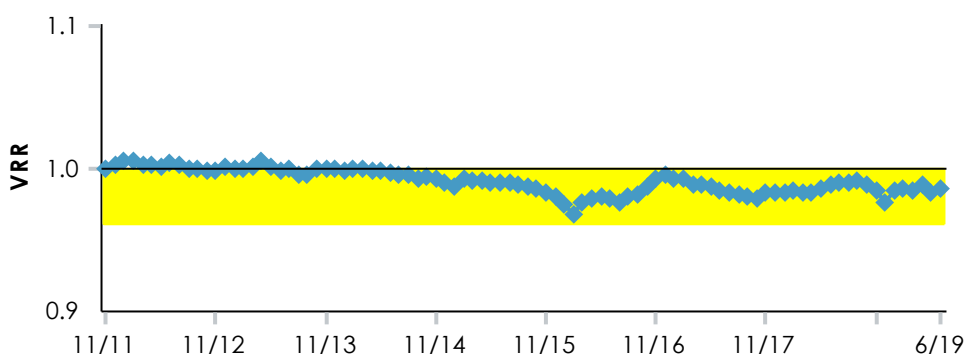


### Medium-Term Performance

Positive

Probationary Performance -3.25%

## Long-term (December 1, 2011 To June 30, 2019 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	3.0 (16)	8.4 (9)	7.4 (14)	4.6 (11)	6.8 (21)
ICE BofAML High Yield BB-B Constrained Index	2.8 (23)	8.6 (6)	7.1 (23)	4.8 (7)	6.9 (16)
IM U.S. High Yield Bonds (MF) Median	2.4	6.4	6.4	3.5	6.2

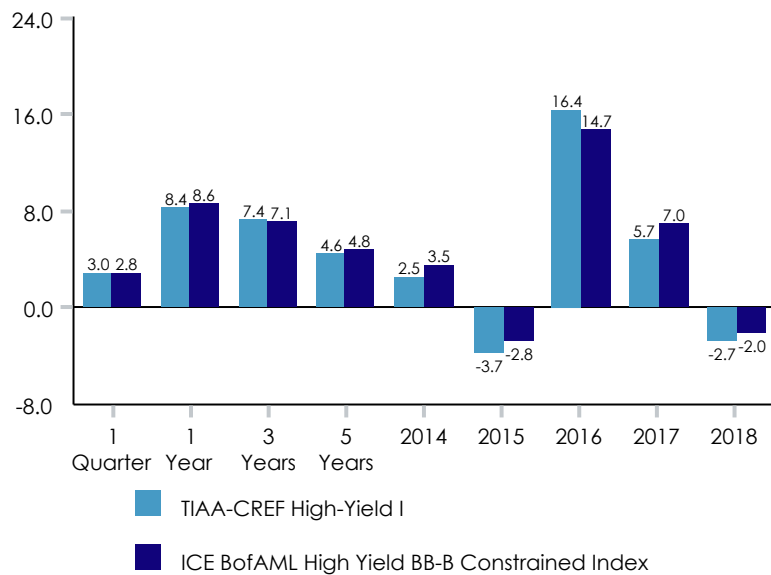
**Monitoring Status**  
**Acceptable**



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 : FTSE High Yield Market Index  
 Fund Inception : 03/31/2006  
 Portfolio Manager : Lorenz/Lin  
 Total Assets : \$2,768 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.4%  
 Net Expense : 0.4%  
 Turnover : 45%

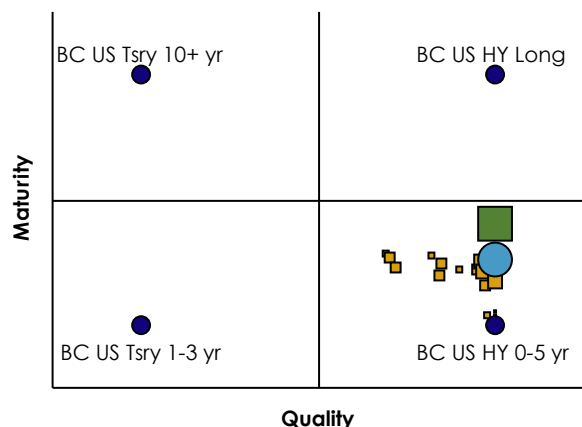
Comparative Performance



Fund Investment Policy

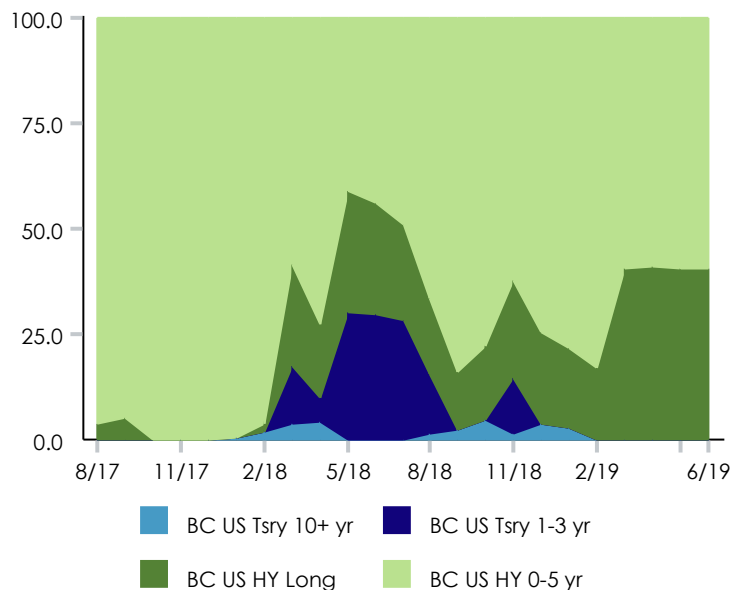
The Fund seeks high current income and, when consistent with its primary objective, capital appreciation. The Fund achieves this objective by investing at least 80% of its assets in debt and other fixed-income securities rated lower than investment grade or other high-yielding debt securities.

Style Map (3 Years)



- Style History
- Jun-2019
- Average Style Exposure

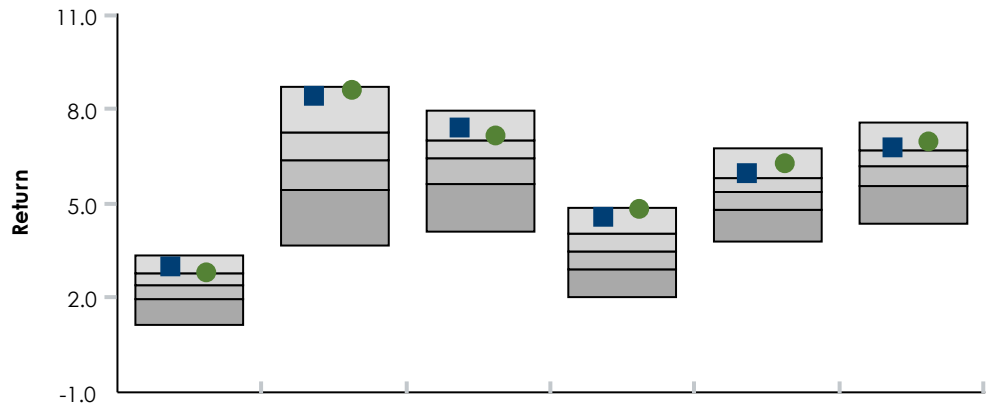
Style History (3 Years)



## Historical Statistics (3 Years)

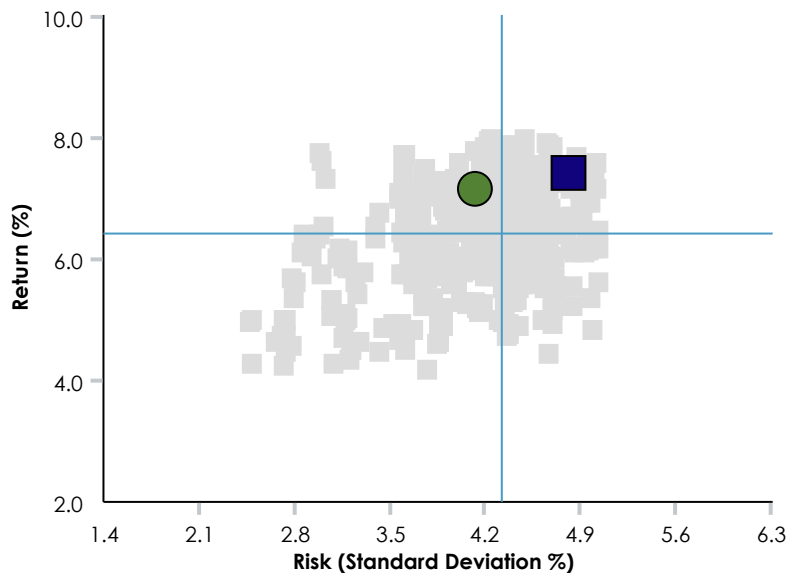
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF High-Yield I	7.4	4.8	1.2	-0.7	1.1	1.0	1.1	0.3	107.4	116.1
ICE BofAML High Yield BB-B Constrained Index	7.1	4.1	1.4	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. High Yield Bonds (MF) Median	6.4	4.3	1.2	-0.6	1.0	0.9	1.2	-0.6	96.8	112.3

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF High-Yield I	3.0 (16)	8.4 (9)	7.4 (14)	4.6 (11)	6.0 (20)	6.8 (21)
● ICE BofAML High Yield BB-B Constrained Index	2.8 (23)	8.6 (6)	7.1 (23)	4.8 (7)	6.2 (13)	6.9 (16)
Median	2.4	6.4	6.4	3.5	5.4	6.2

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	26	107.4
Down Markets	10	116.1
<b>Batting Average</b>		
Up Markets	26	57.7
Down Markets	10	40.0
Overall	36	52.8

	Return	Standard Deviation
■ TIAA-CREF High-Yield I	7.4	4.8
● ICE BofAML High Yield BB-B Constrained Index	7.1	4.1
— Median	6.4	4.3

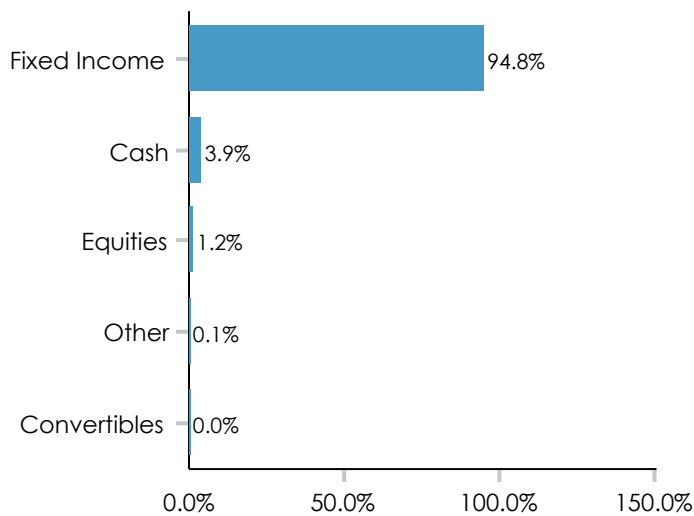
## Portfolio Characteristics (As of 3/31/2019)

Avg. Coupon	N/A
Nominal Maturity	0.06 Years
Effective Maturity	N/A
Duration	6.60 Years
SEC 30 Day Yield	6.4
Avg. Credit Quality	A

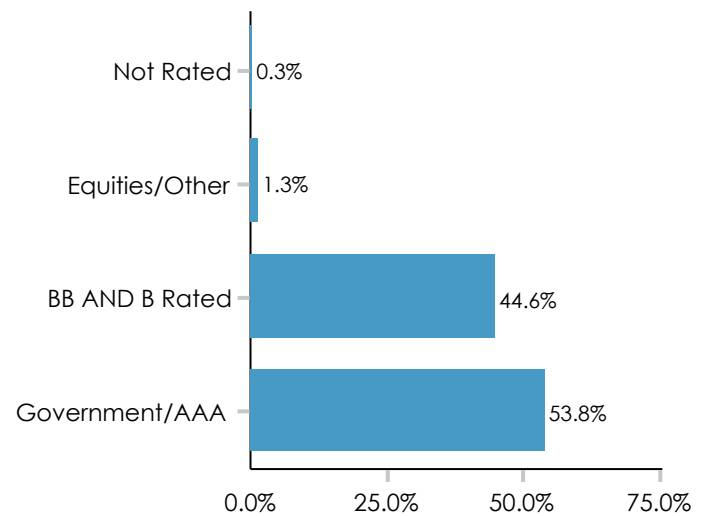
## Top 10 Holdings (As of 3/31/2019)

Corporate Notes/Bonds	81.3 %
US\$ Denominated Fgn. Gvt.	13.5 %
Common Stock	1.2 %

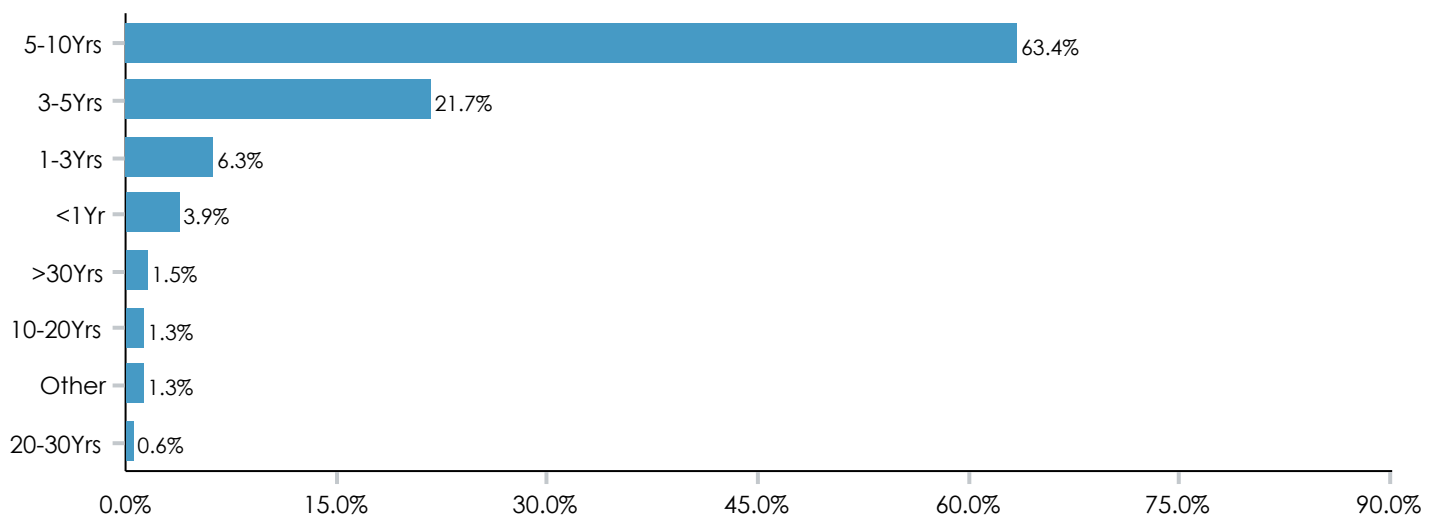
## Asset Allocation (As of 3/31/2019)



## Quality Allocation (As of 3/31/2019)



## Maturity Distribution (As of 3/31/2019)



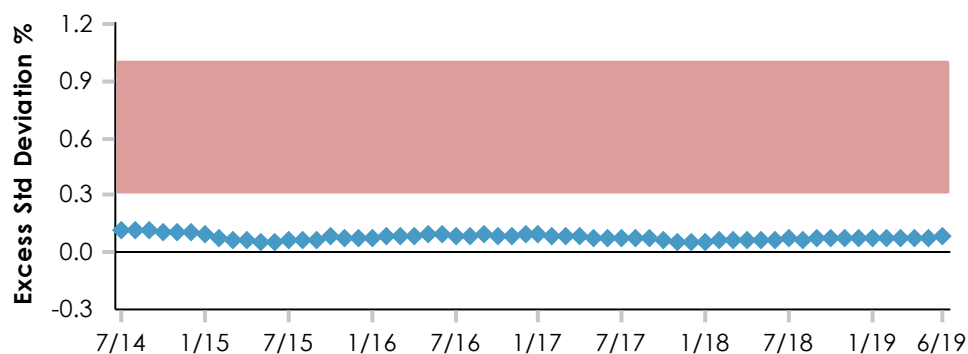
## PASSIVE FUNDS

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

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

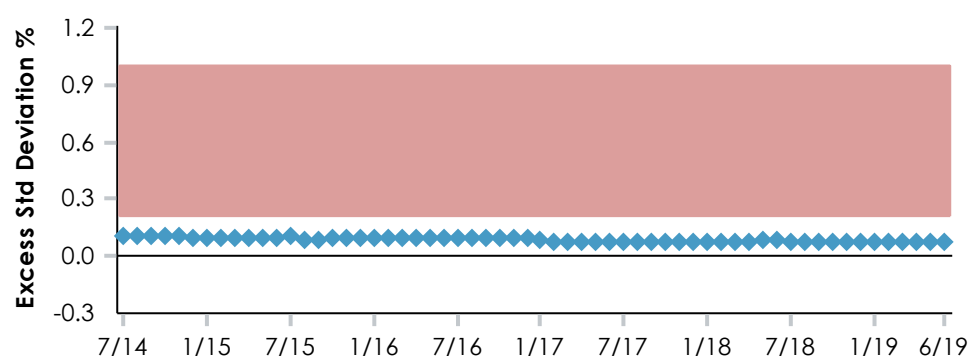


### Short-Term Performance

Positive

Probationary Performance 0.30%

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

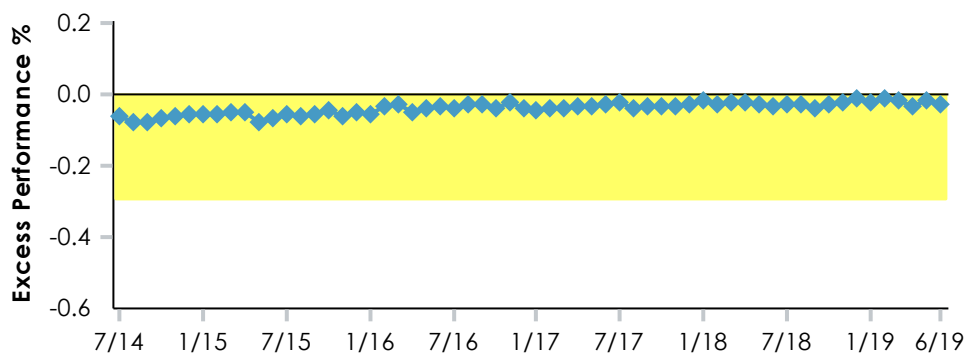


### Medium-Term Performance

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	4.0 (45)	8.9 (27)	14.0 (21)	10.2 (10)	14.1 (13)
Russell 3000 Index	4.1 (41)	9.0 (27)	14.0 (19)	10.2 (9)	14.1 (12)
IM U.S. Multi-Cap Core Equity (MF) Median	3.9	6.3	12.4	8.1	12.5

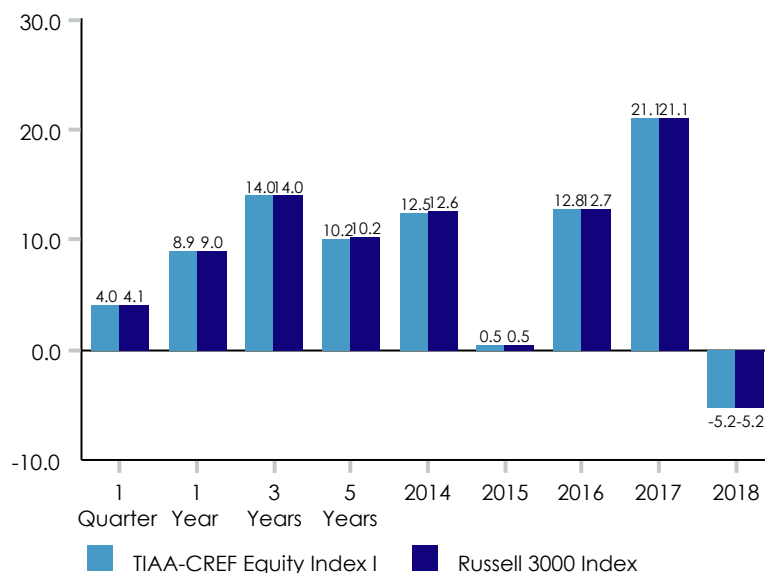
**Monitoring Status**

**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/Tran  
 Total Assets : \$8,892 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 5%

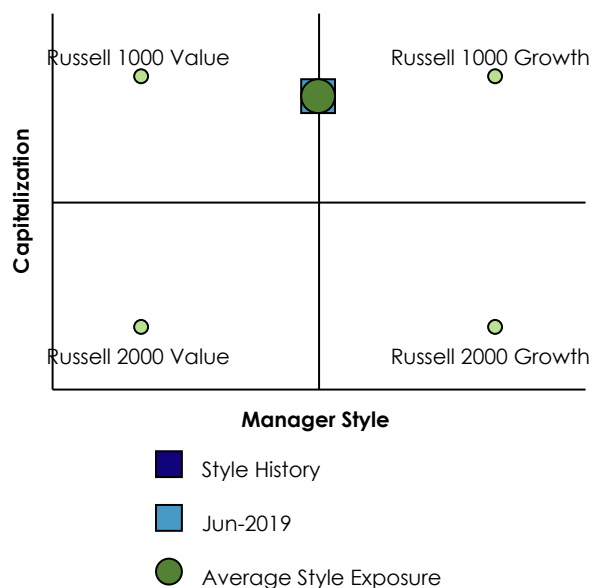
## Comparative Performance



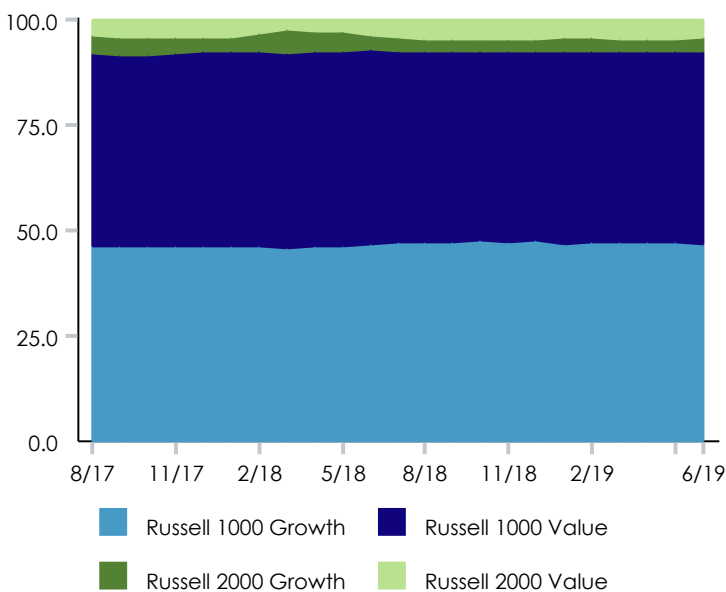
## Fund Investment Policy

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)

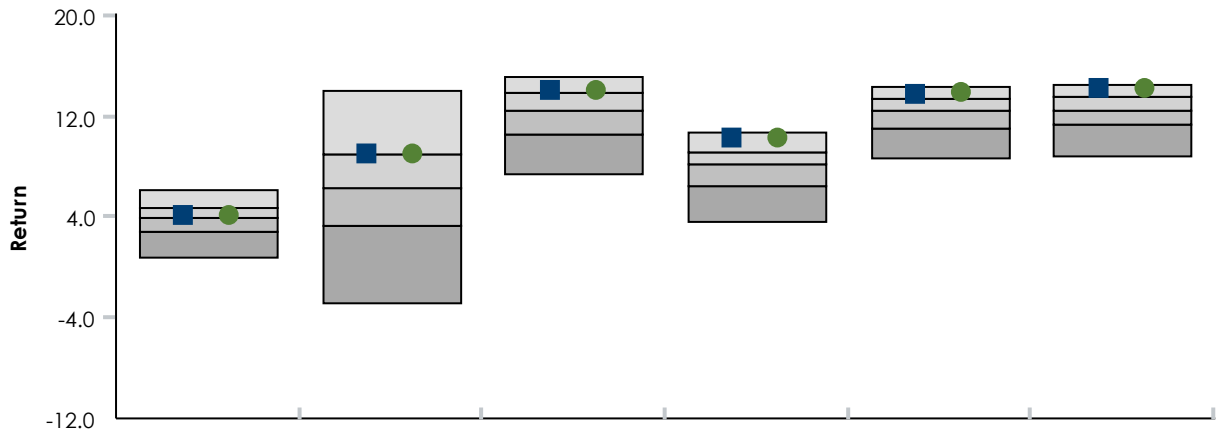




## Historical Statistics (3 Years)

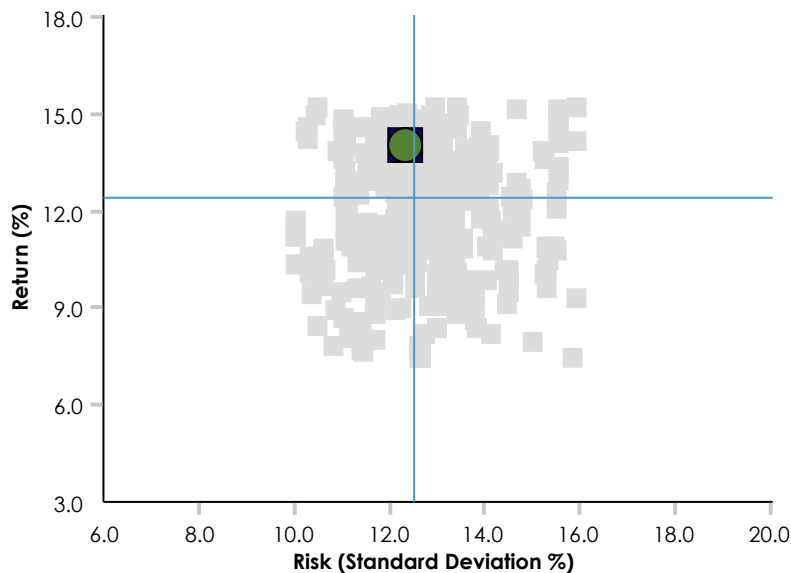
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Equity Index I	14.0	12.3	1.0	0.0	1.0	1.0	0.1	-0.4	99.9	100.1
Russell 3000 Index	14.0	12.4	1.0	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Multi-Cap Core Equity (MF) Median	12.4	12.5	0.9	-1.3	1.0	0.9	3.2	-0.5	95.1	100.1

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Equity Index I	4.0 (45)	8.9 (27)	14.0 (21)	10.2 (10)	13.8 (17)	14.1 (13)
● Russell 3000 Index	4.1 (41)	9.0 (27)	14.0 (19)	10.2 (9)	13.8 (15)	14.1 (12)
Median	3.9	6.3	12.4	8.1	12.5	12.5

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Equity Index I	14.0	12.3
● Russell 3000 Index	14.0	12.4
— Median	12.4	12.5

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	30	99.9
Down Markets	6	100.1
<b>Batting Average</b>		
Up Markets	30	43.3
Down Markets	6	33.3
Overall	36	41.7

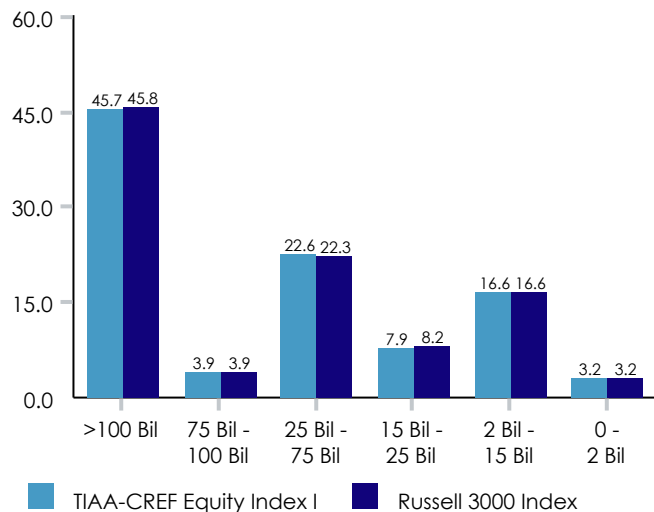
## Portfolio Characteristics (As of 4/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	202,832	202,131
Median Mkt. Cap (\$M)	1,882	1,670
Price/Earnings ratio	20.4	20.3
Price/Book ratio	3.4	3.4
5 Yr. EPS Growth Rate (%)	15.2	15.4
Current Yield (%)	1.9	1.9
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	2,769	2,954

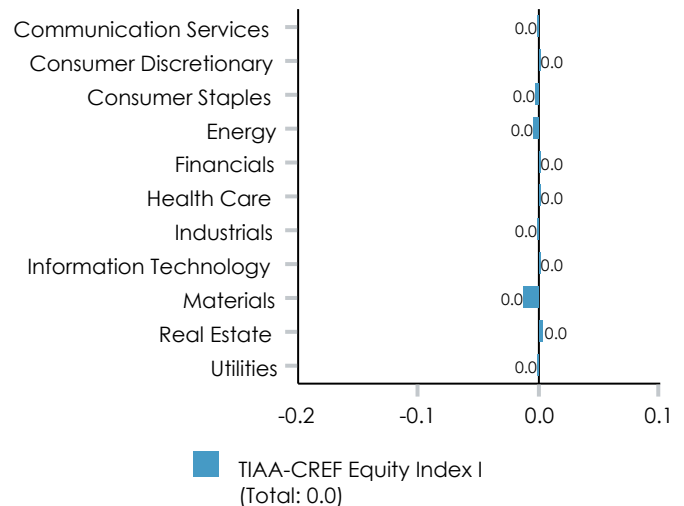
## Top 10 Holdings (As of 4/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Microsoft Corp	3.5	3.5	14.0
Apple Inc	3.2	3.2	4.6
Amazon.com Inc	2.7	2.7	6.3
Facebook Inc	1.6	1.6	15.8
Berkshire Hathaway Inc	1.4	1.4	6.1
Johnson & Johnson	1.3	1.3	0.3
JPMorgan Chase & Co	1.3	1.3	11.3
Alphabet Inc	1.1	1.1	-7.9
Exxon Mobil Corp	1.1	1.1	-4.1
Alphabet Inc	1.1	1.1	-8.0
% of Portfolio	18.3	18.3	

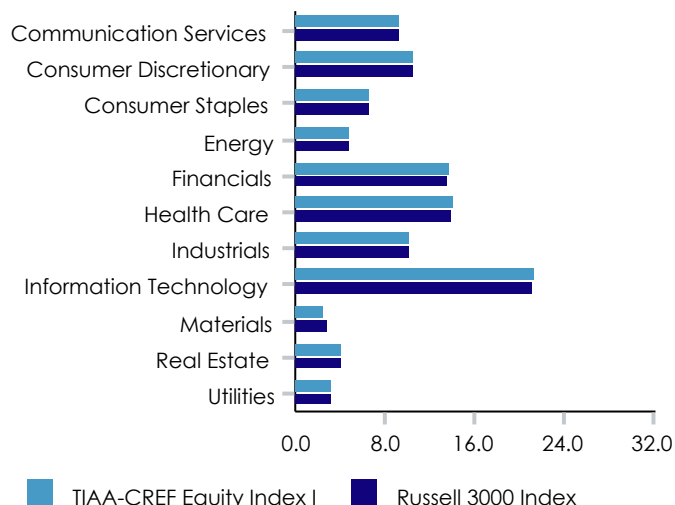
## Market Cap Distribution (As of 4/30/2019)



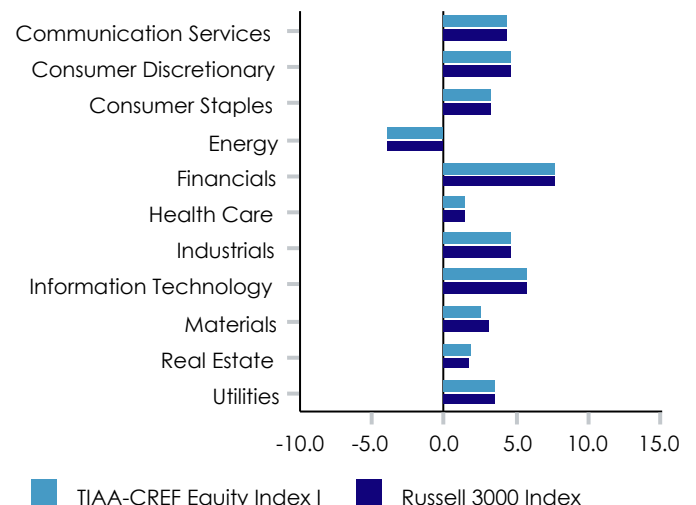
## Sector Attribution (1 Quarter as of 4/30/2019)



## Sector Allocation (1 Quarter as of 4/30/2019)

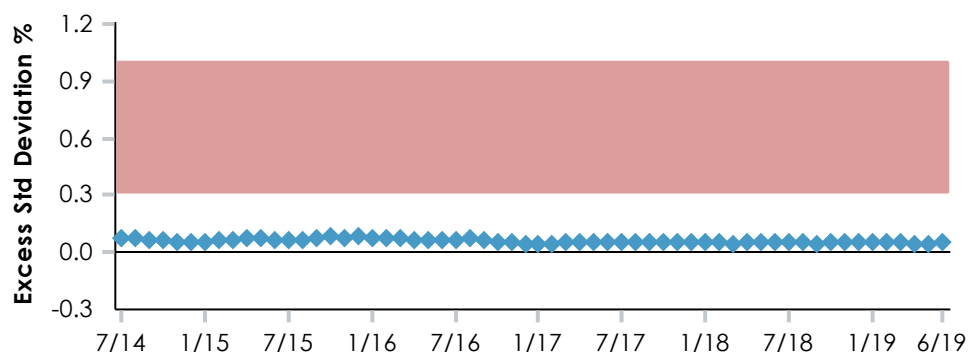


## Sector Performance (1 Quarter as of 4/30/2019)



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

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

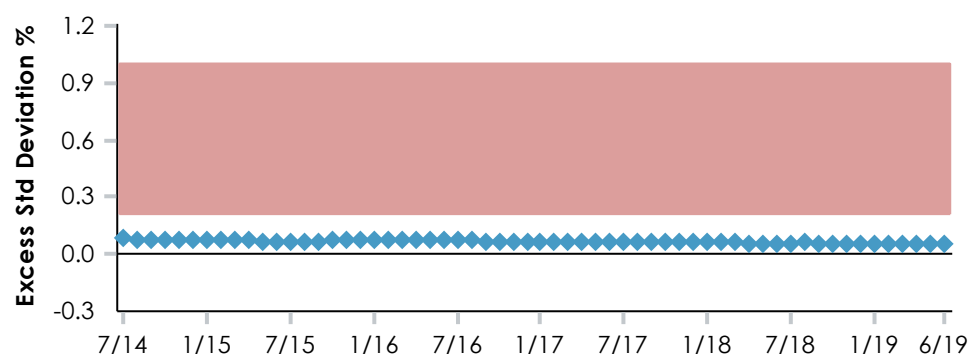


### Short-Term Performance

Positive

Probationary Performance 0.30%

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

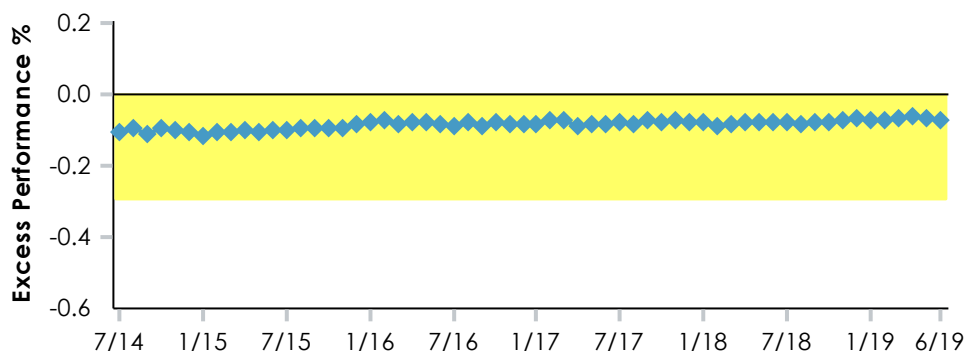


### Medium-Term Performance

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	4.3 (17)	10.3 (18)	14.1 (13)	10.6 (11)	14.3 (10)
S&P 500 Index	4.3 (6)	10.4 (7)	14.2 (2)	10.7 (1)	14.4 (1)
IM S&P 500 Index (MF) Median	4.2	10.1	13.8	10.3	13.9

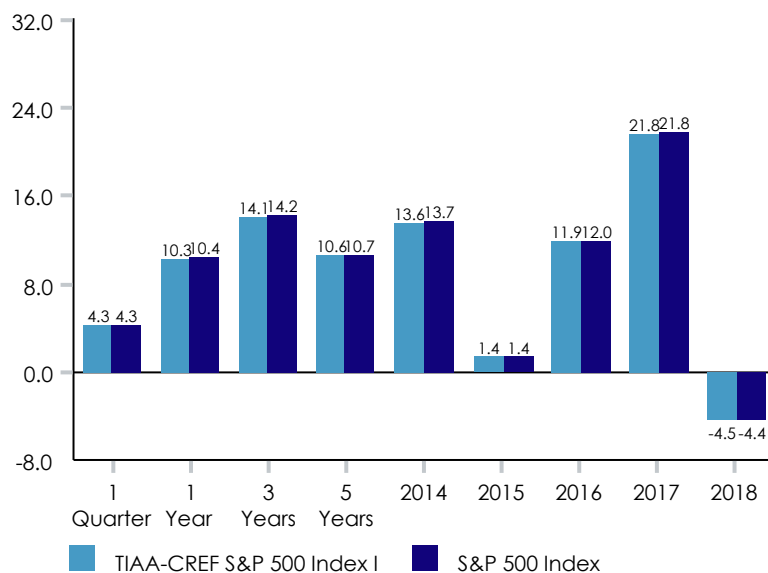
**Monitoring Status**

**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/Tran  
 Total Assets : \$3,837 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 8%

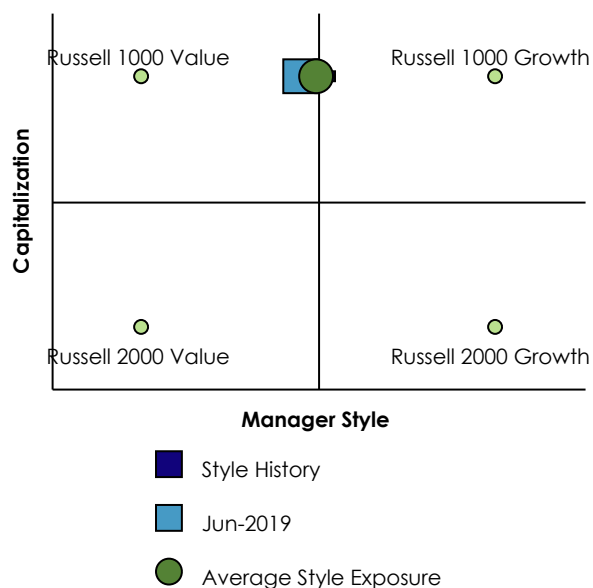
Comparative Performance



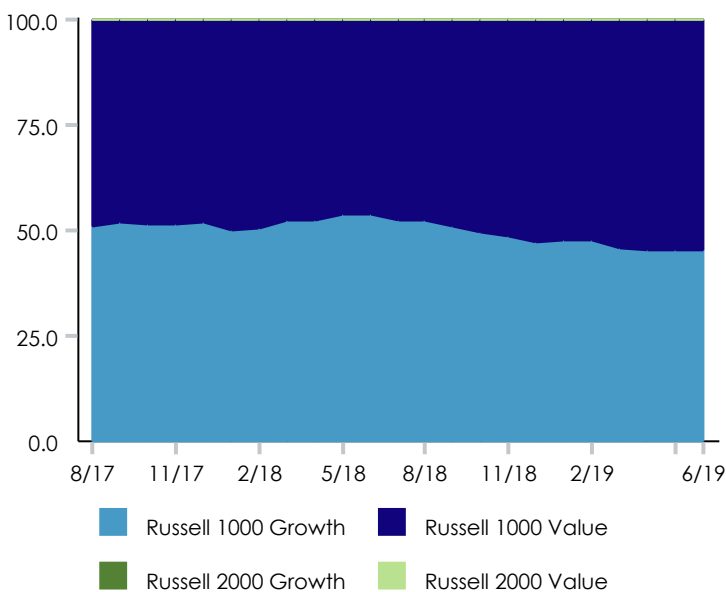
Fund Investment Policy

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)



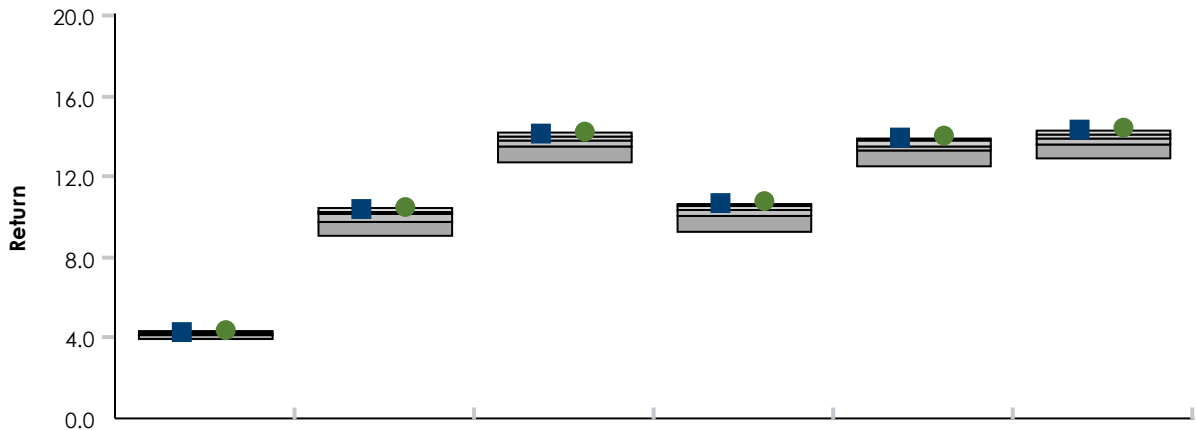
Style History (3 Years)



Historical Statistics (3 Years)

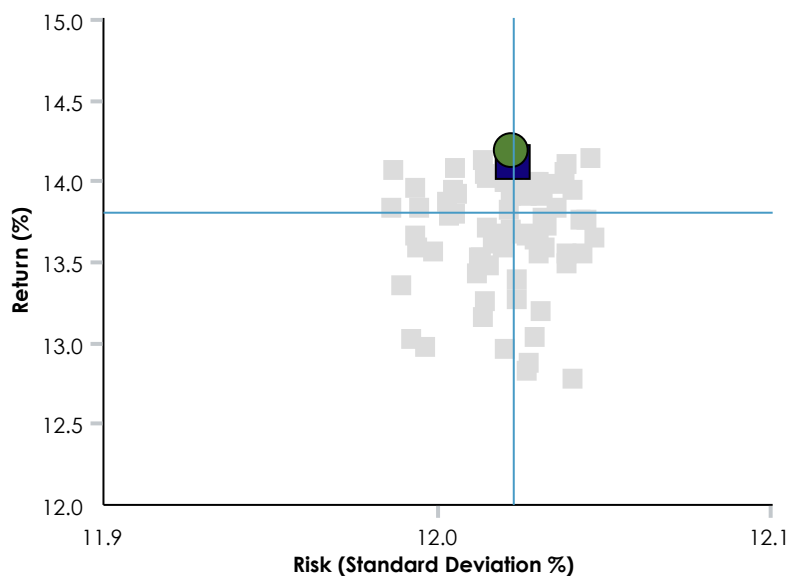
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF S&P 500 Index I	14.1	12.0	1.1	-0.1	1.0	1.0	0.1	-1.2	99.8	100.1
S&P 500 Index	14.2	12.0	1.1	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM S&P 500 Index (MF) Median	13.8	12.0	1.0	-0.3	1.0	1.0	0.1	-5.2	98.8	100.5

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF S&P 500 Index I	4.3 (17)	10.3 (18)	14.1 (13)	10.6 (11)	13.9 (11)	14.3 (10)
● S&P 500 Index	4.3 (6)	10.4 (7)	14.2 (2)	10.7 (1)	14.0 (1)	14.4 (1)
Median	4.2	10.1	13.8	10.3	13.5	13.9

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF S&P 500 Index I	14.1	12.0
● S&P 500 Index	14.2	12.0
— Median	13.8	12.0

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	30	99.8
Down Markets	6	100.1
<b>Batting Average</b>		
Up Markets	30	26.7
Down Markets	6	16.7
Overall	36	25.0

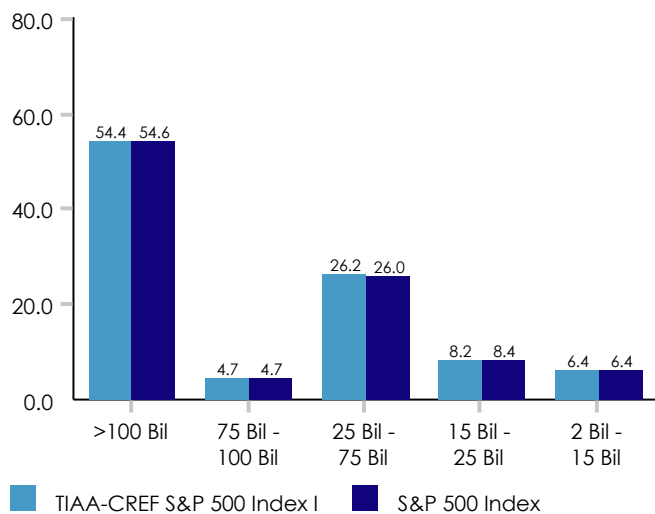
Portfolio Characteristics (As of 4/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	239,700	238,882
Median Mkt. Cap (\$M)	22,381	22,707
Price/Earnings ratio	20.5	20.4
Price/Book ratio	3.5	3.5
5 Yr. EPS Growth Rate (%)	15.3	15.5
Current Yield (%)	2.0	2.0
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	501	505

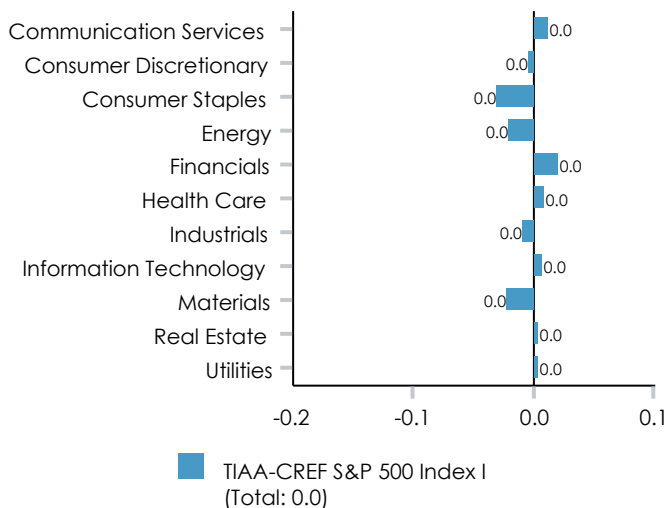
Top 10 Holdings (As of 4/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Microsoft Corp	4.2	4.2	14.0
Apple Inc	3.6	3.5	4.6
Amazon.com Inc	3.2	3.2	6.3
Facebook Inc	1.9	1.9	15.8
Berkshire Hathaway Inc	1.7	1.7	6.1
Johnson & Johnson	1.5	1.5	0.3
JPMorgan Chase & Co	1.5	1.5	11.3
Alphabet Inc	1.4	1.4	-7.9
Exxon Mobil Corp	1.3	1.3	-4.1
Alphabet Inc	1.3	1.3	-8.0
% of Portfolio	21.6	21.5	

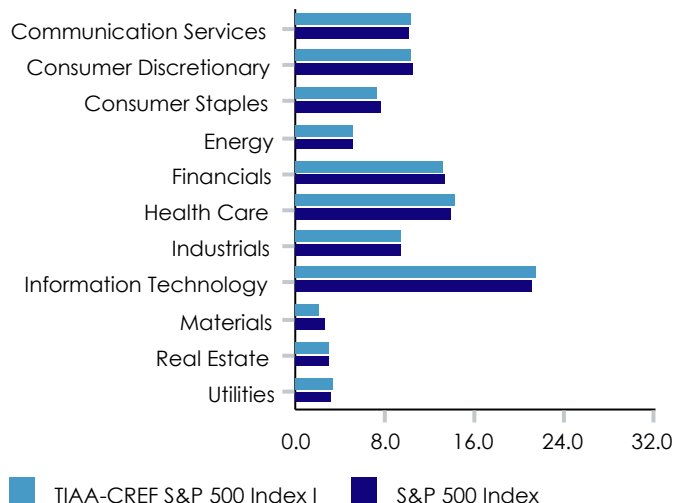
Market Cap Distribution (As of 4/30/2019)



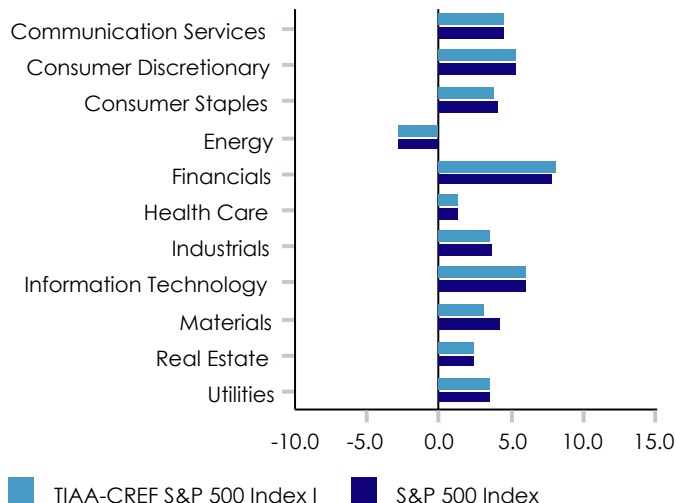
Sector Attribution (1 Quarter as of 4/30/2019)



Sector Allocation (1 Quarter as of 4/30/2019)

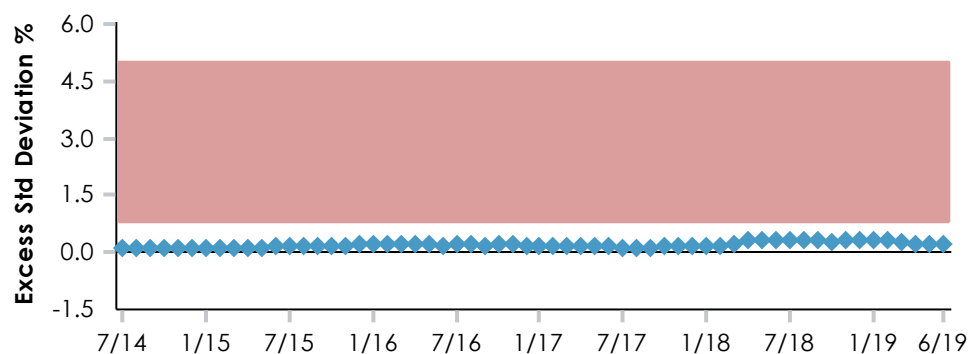


Sector Performance (1 Quarter as of 4/30/2019)



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

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

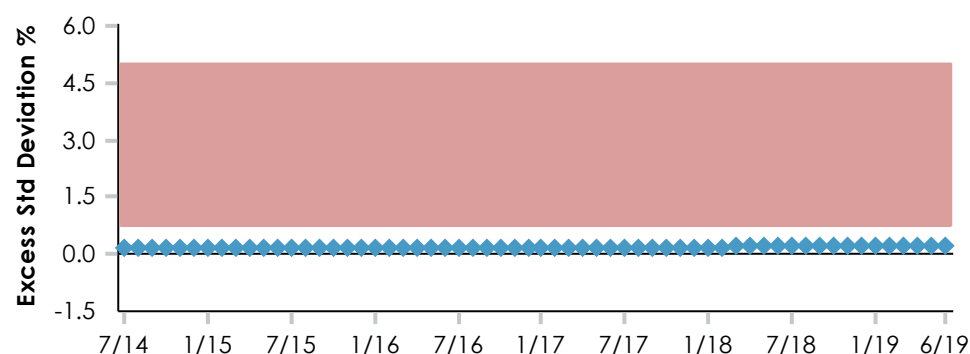


### Short-Term Performance

Positive

Probationary Performance 0.75%

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

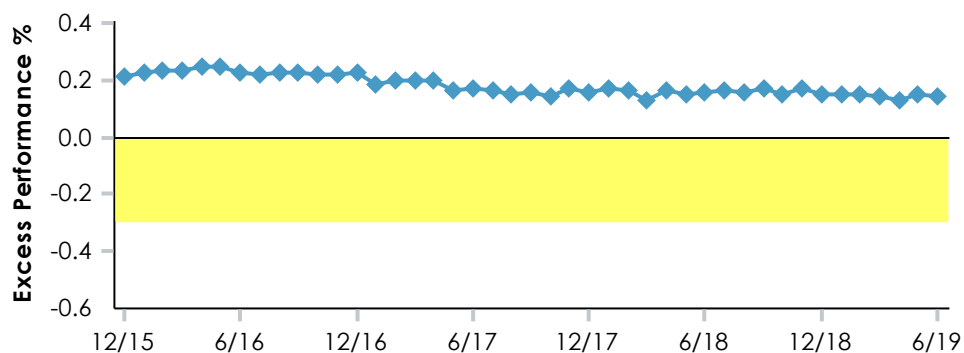


### Medium-Term Performance

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)	3.8 (20)	1.2 (24)	9.2 (14)	2.4 (28)	7.2 (19)
MSCI EAFE (Net) Index	3.7 (25)	1.1 (28)	9.1 (18)	2.2 (34)	7.0 (27)
IM International Multi-Cap Core Equity (MF) Median	2.9	-0.5	8.1	1.9	6.3

Monitoring Status

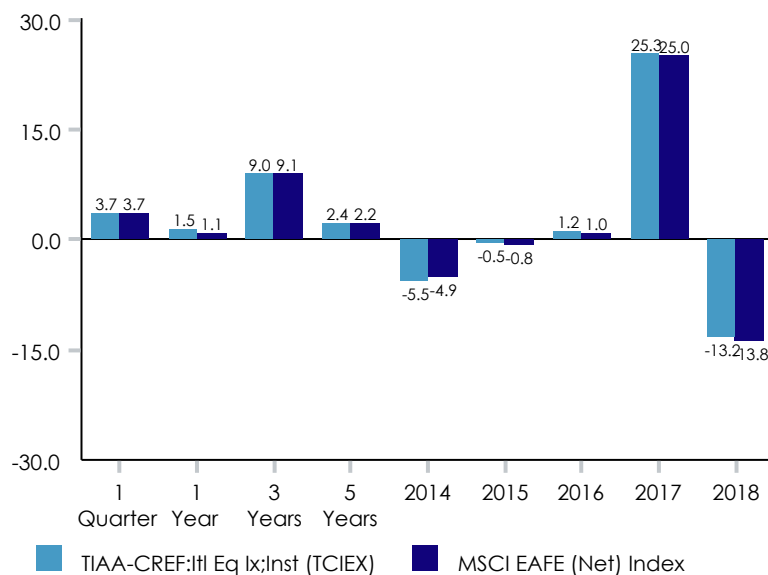
Positive



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/Tran  
 Total Assets : \$7,467 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 4%

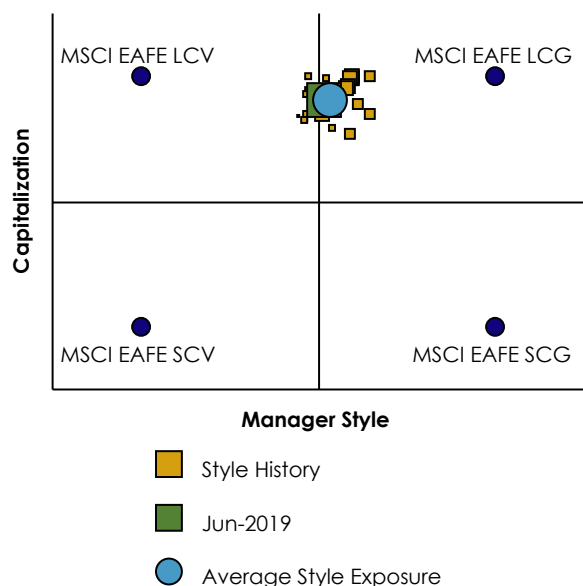
Comparative Performance



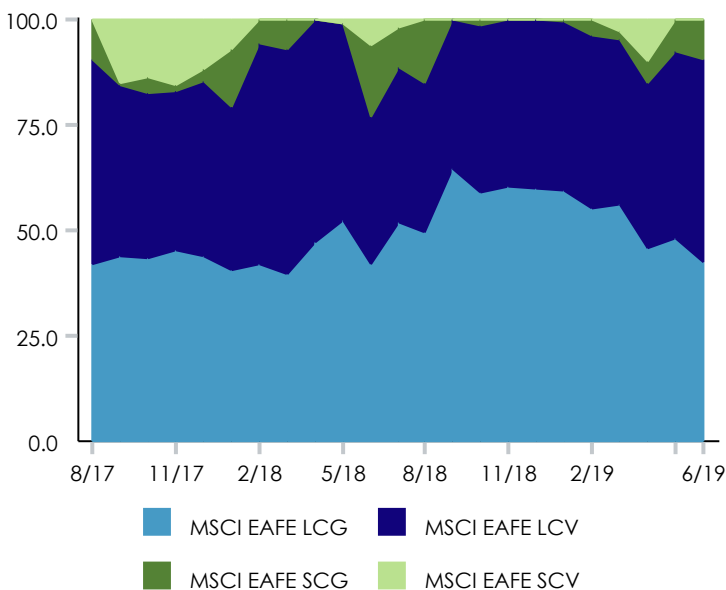
Fund Investment Policy

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)

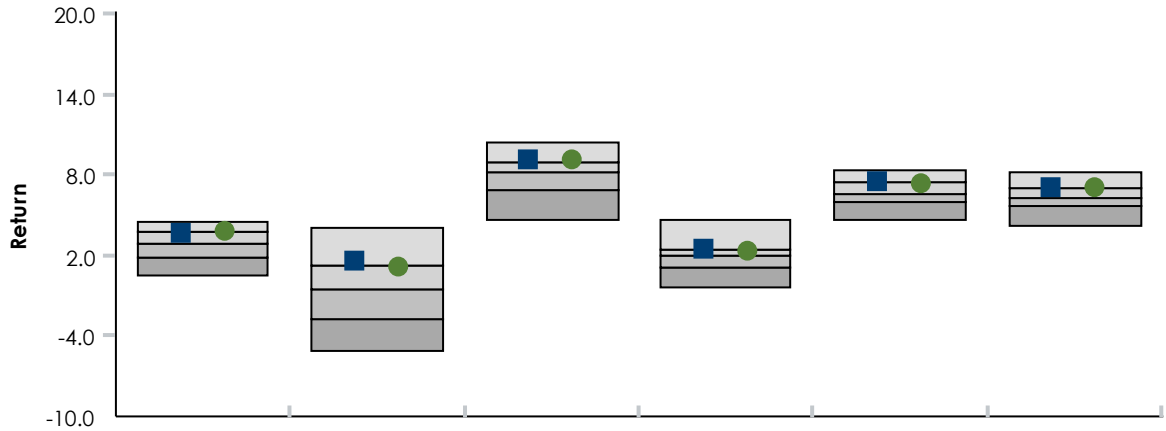




Historical Statistics (3 Years)

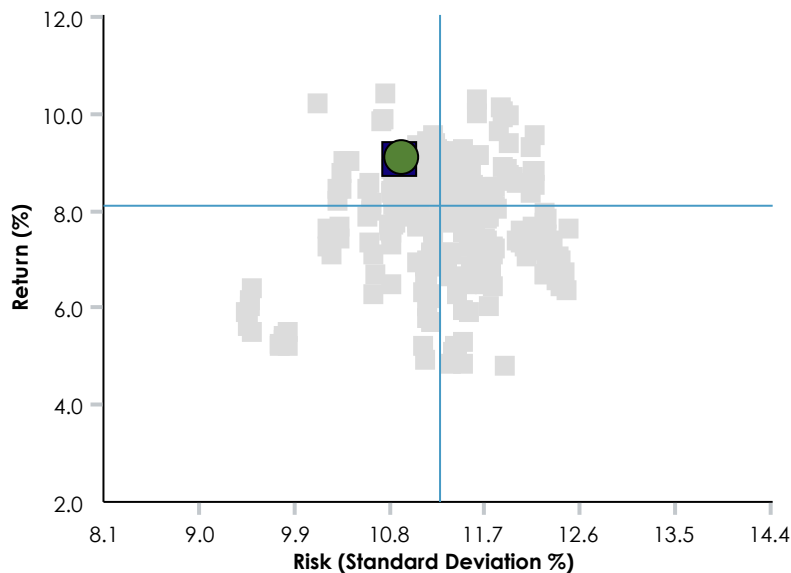
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF:Itl Eq Ix;Inst (TCIEX)	9.0	10.9	0.7	0.0	1.0	1.0	1.3	0.0	98.1	97.1
MSCI EAFE (Net) Index	9.1	10.9	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM International Multi-Cap Core Equity (MF) Median	8.1	11.3	0.6	-1.0	1.0	0.9	2.8	-0.3	96.1	99.6

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF:Itl Eq Ix;Inst (TCIEX)	3.7 (27)	1.5 (19)	9.0 (18)	2.4 (27)	7.4 (25)	7.0 (26)
● MSCI EAFE (Net) Index	3.7 (25)	1.1 (28)	9.1 (18)	2.2 (34)	7.3 (27)	7.0 (27)
Median	2.9	-0.5	8.1	1.9	6.6	6.3

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF:Itl Eq Ix;Inst (TCIEX)	9.0	10.9
● MSCI EAFE (Net) Index	9.1	10.9
— Median	8.1	11.3

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	23	98.1
Down Markets	13	97.1
<b>Batting Average</b>		
Up Markets	23	47.8
Down Markets	13	53.8
Overall	36	50.0

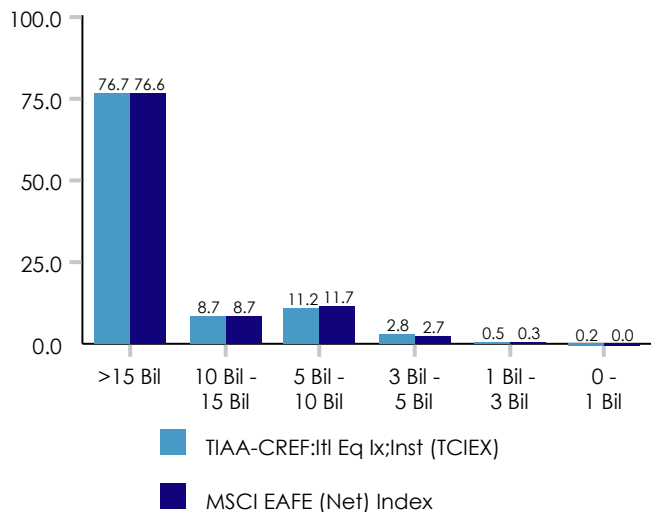
Portfolio Characteristics (As of 4/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	65,733	64,588
Median Mkt. Cap (\$M)	10,179	10,228
Price/Earnings ratio	14.8	14.8
Price/Book ratio	2.2	2.3
5 Yr. EPS Growth Rate (%)	7.2	8.1
Current Yield (%)	3.2	3.6
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	918	923

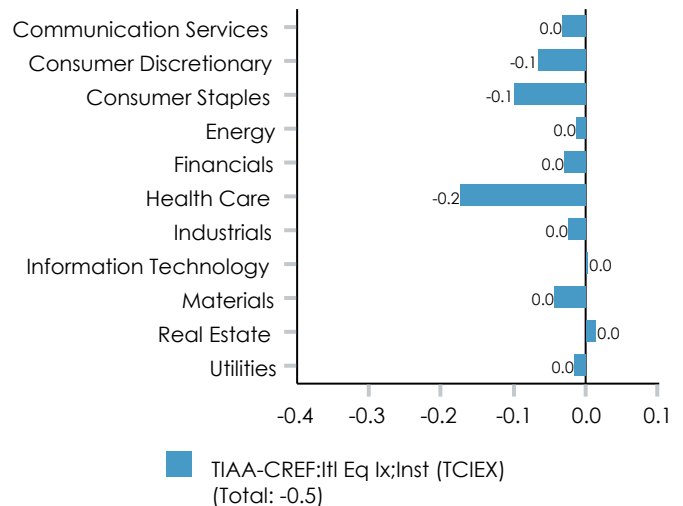
Top 10 Holdings (As of 4/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Nestle SA	2.3	2.3	11.5
Roche Holding AG	1.4	1.4	2.1
NOVARTIS AG	1.4	0.0	N/A
HSBC Holdings PLC	1.2	1.2	4.1
Royal Dutch Shell PLC	1.1	1.0	4.0
Toyota Motor Corp	1.0	1.0	6.0
BP PLC	1.0	1.0	-2.7
Total SA Oil & Gas	1.0	1.0	2.2
SAP AG	1.0	1.0	20.4
AIA Group Ltd	1.0	0.9	9.7
% of Portfolio	12.4	10.8	

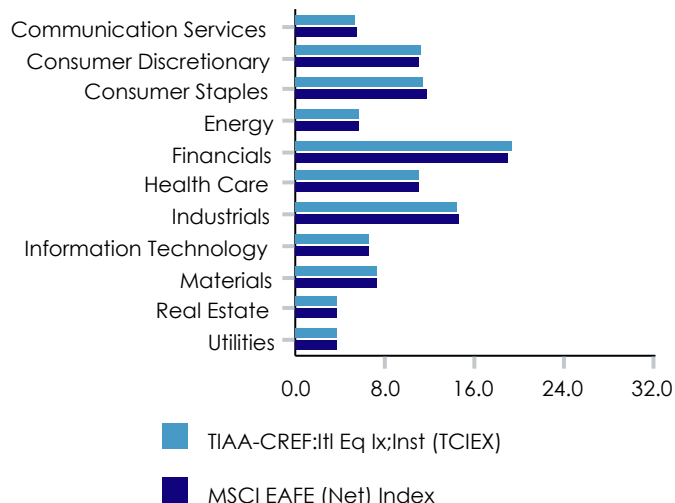
Market Cap Distribution (As of 4/30/2019)



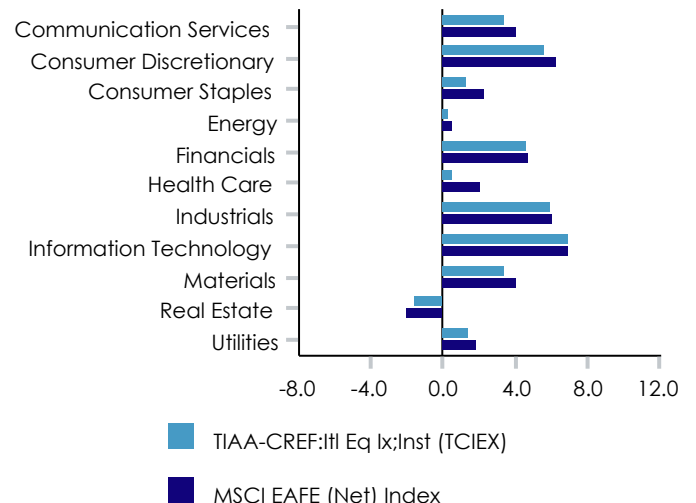
Sector Attribution (1 Quarter as of 4/30/2019)



Sector Allocation (1 Quarter as of 4/30/2019)

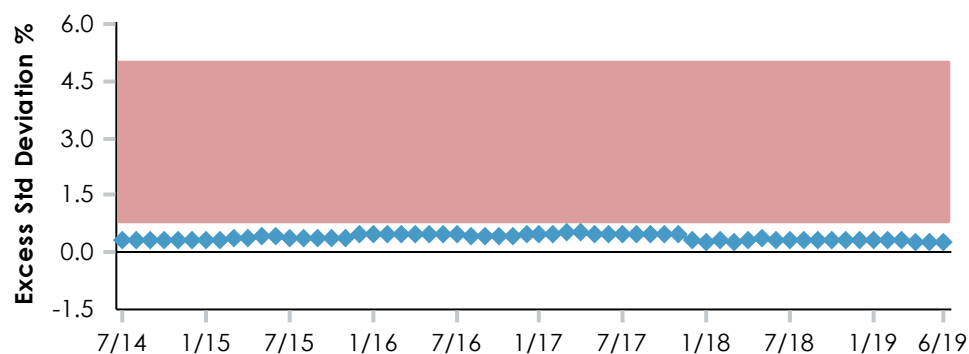


Sector Performance (1 Quarter as of 4/30/2019)



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

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

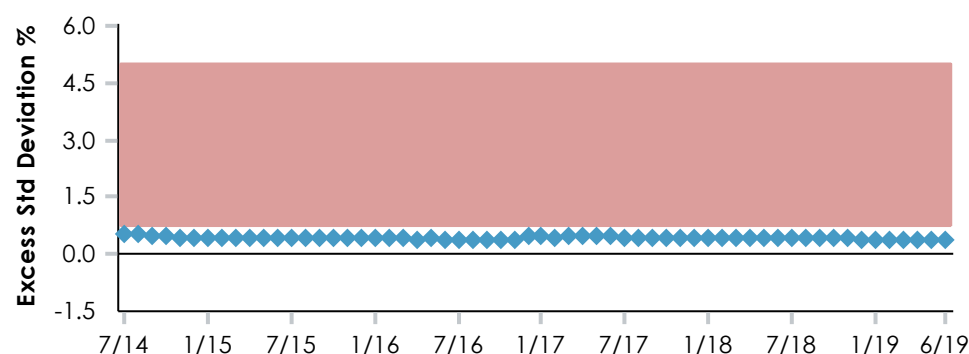


### Short-Term Performance

Positive

Probationary Performance 0.75%

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

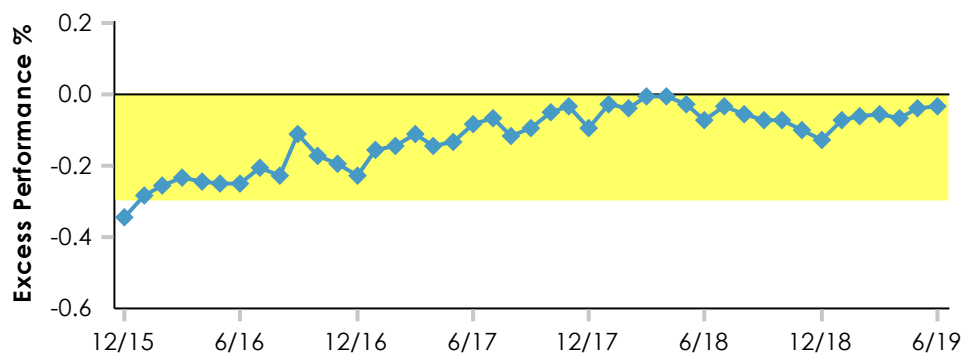


### Medium-Term Performance

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)	0.5 (78)	1.1 (49)	10.6 (32)	2.5 (40)	4.0 (47)
MSCI Emerging Markets (Net)	0.6 (76)	1.2 (48)	10.7 (31)	2.5 (39)	4.2 (43)
IM Emerging Markets Equity (MF) Median	1.6	0.9	9.2	2.1	3.8

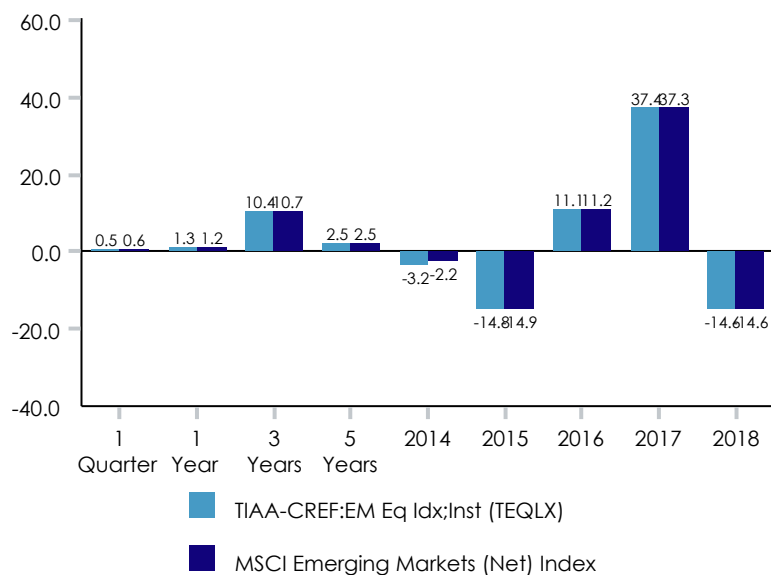
**Monitoring Status**

**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/Tran  
 Total Assets : \$879 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 27%

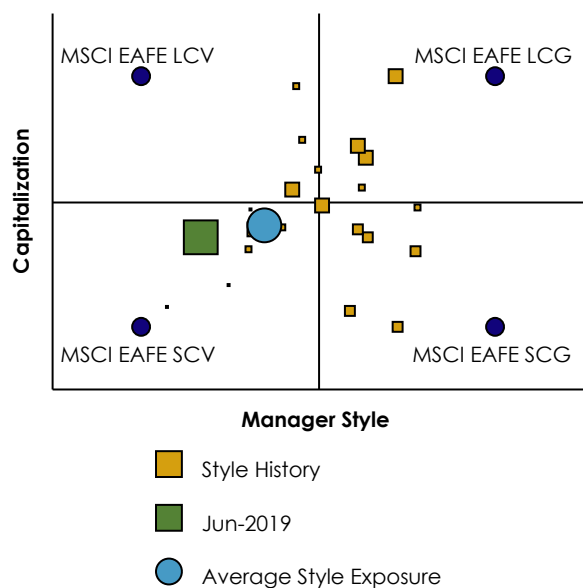
Comparative Performance



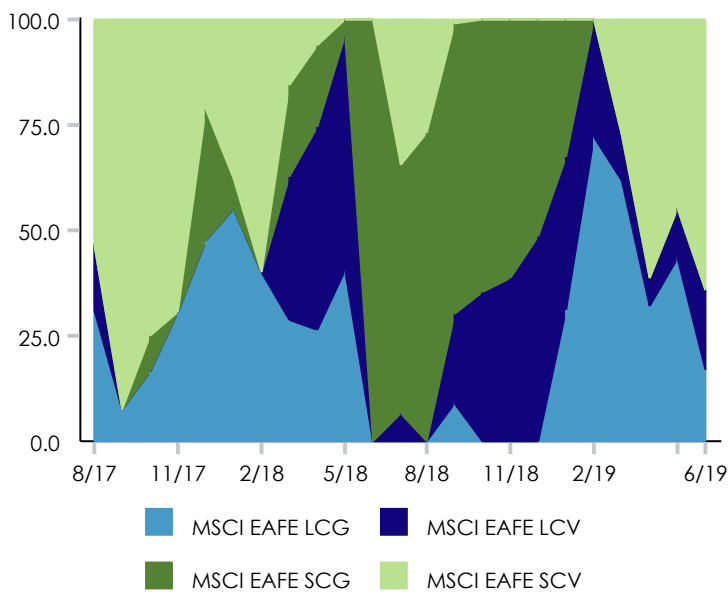
Fund Investment Policy

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)



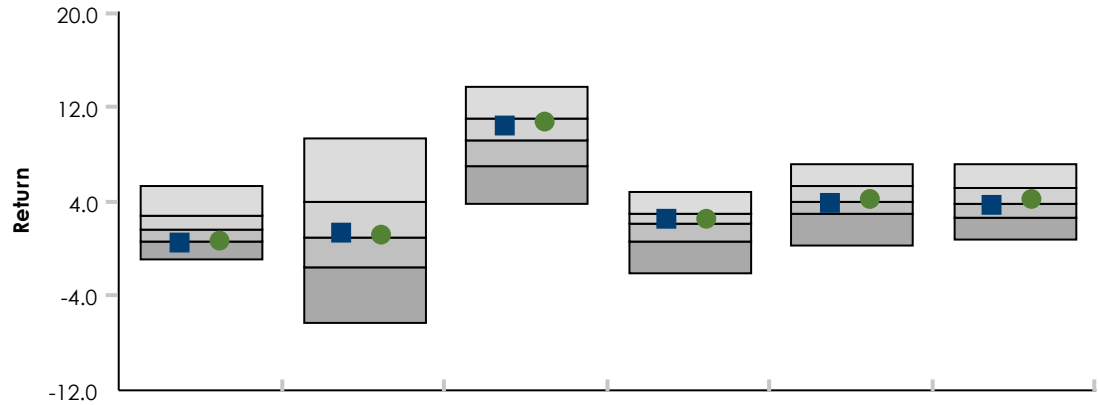
Style History (3 Years)



Historical Statistics (3 Years)

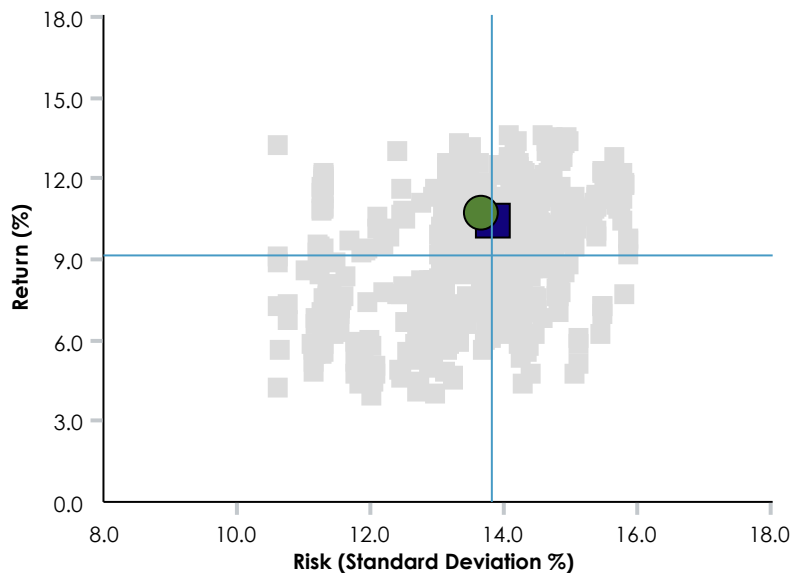
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF:EM Eq Idx;Inst (TEQLX)	10.4	13.8	0.7	-0.3	1.0	1.0	1.4	-0.2	99.7	101.1
MSCI Emerging Markets (Net) Index	10.7	13.7	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Emerging Markets Equity (MF) Median	9.2	13.8	0.6	-0.8	0.9	0.9	4.4	-0.4	94.3	99.5

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF:EM Eq Idx;Inst (TEQLX)	0.5 (78)	1.3 (47)	10.4 (34)	2.5 (39)	3.9 (52)	3.7 (53)
● MSCI Emerging Markets (Net) Index	0.6 (76)	1.2 (48)	10.7 (31)	2.5 (39)	4.2 (46)	4.2 (43)
Median	1.6	0.9	9.2	2.1	4.0	3.8

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF:EM Eq Idx;Inst (TEQLX)	10.4	13.8
● MSCI Emerging Markets (Net) Index	10.7	13.7
— Median	9.2	13.8

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	24	99.7
Down Markets	12	101.1
<b>Batting Average</b>		
Up Markets	24	50.0
Down Markets	12	41.7
Overall	36	47.2

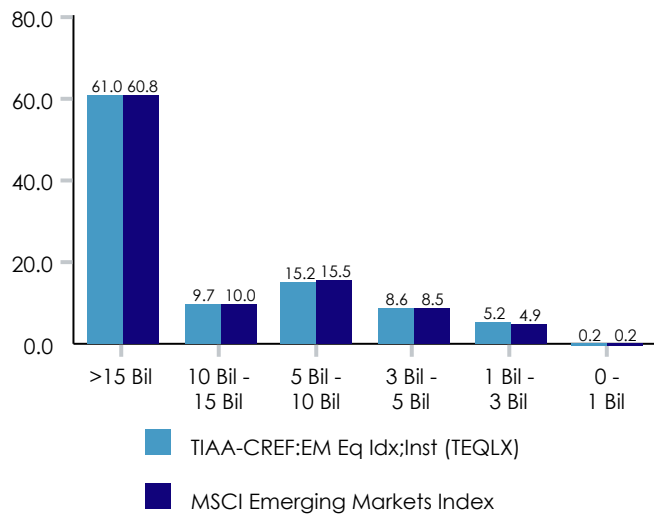
Portfolio Characteristics (As of 4/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	77,258	81,469
Median Mkt. Cap (\$M)	5,787	5,440
Price/Earnings ratio	13.4	12.0
Price/Book ratio	2.4	2.3
5 Yr. EPS Growth Rate (%)	13.1	14.0
Current Yield (%)	3.0	3.0
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	1,041	1,194

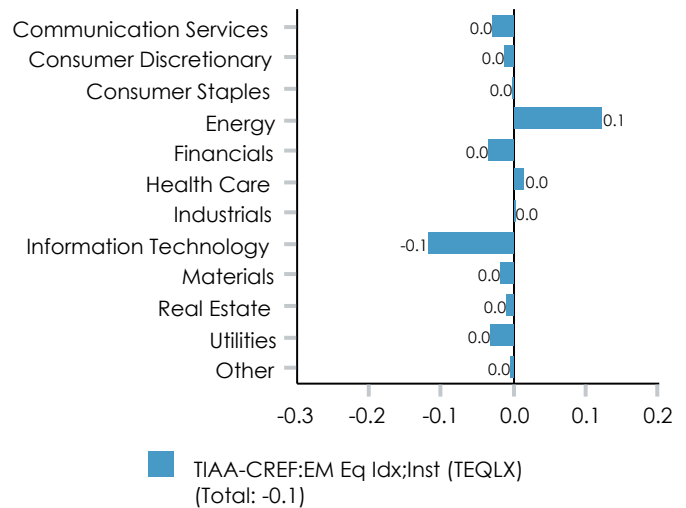
Top 10 Holdings (As of 4/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Qua Re (%)
Tencent Holdings LTD	5.0	4.7	-
Alibaba Group Holding Ltd	4.3	4.4	-
Taiwan Semiconductor	3.7	3.4	-
Naspers Ltd	2.1	1.9	-
Vanguard FTSE Emerging Markets ETF	1.8	0.0	-
China Construction Bank Corp	1.6	1.5	-
Ping An Insurance Group	1.2	1.2	-
China Mobile Ltd	1.1	1.0	-
HDFC	1.0	0.9	1
Reliance Industries Ltd	1.0	0.9	-
% of Portfolio	22.8	19.9	

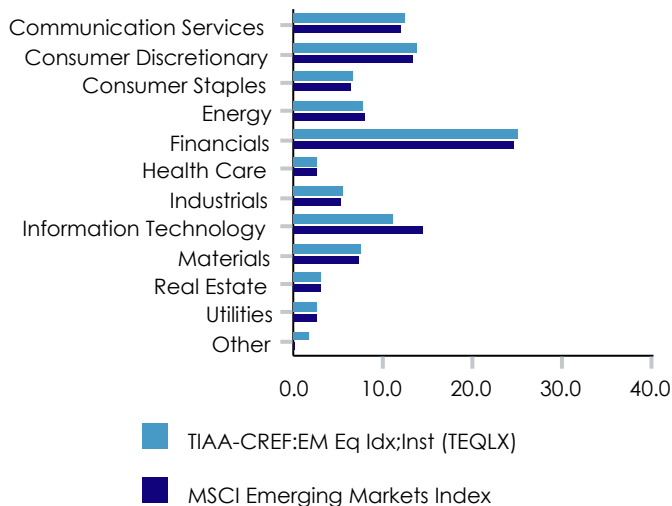
Market Cap Distribution (As of 4/30/2019)



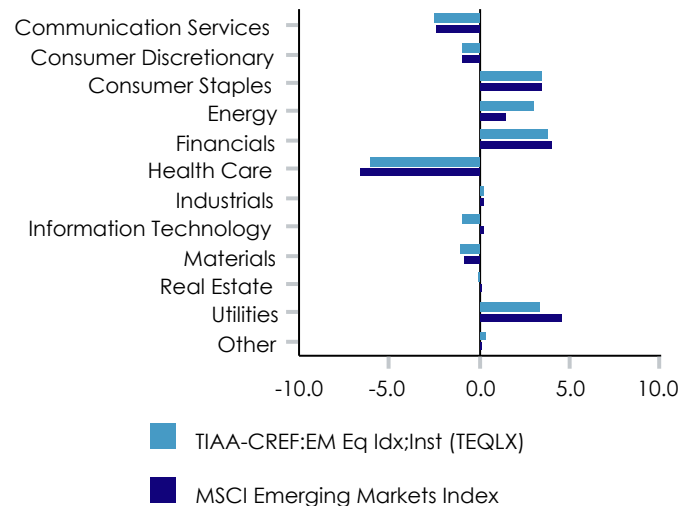
Sector Attribution (1 Quarter as of 4/30/2019)



Sector Allocation (1 Quarter as of 4/30/2019)

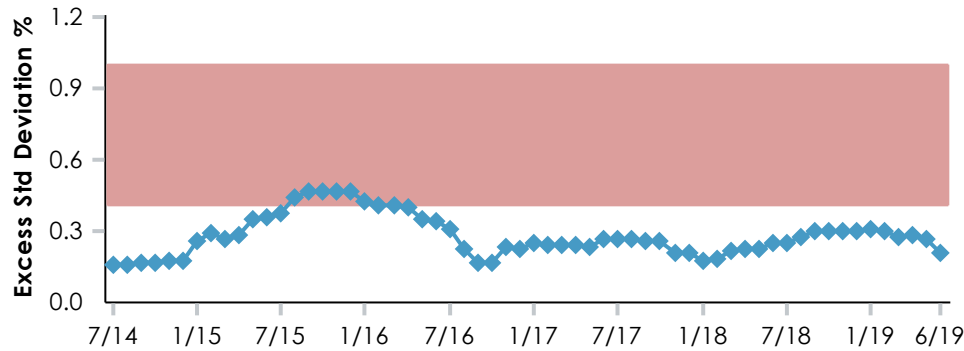


Sector Performance (1 Quarter as of 4/30/2019)



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

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

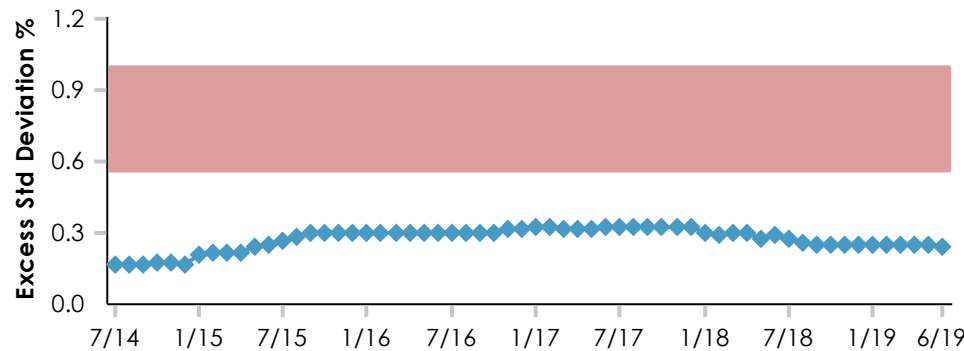


### Short-Term Performance

Positive

Probationary Performance 0.40%

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

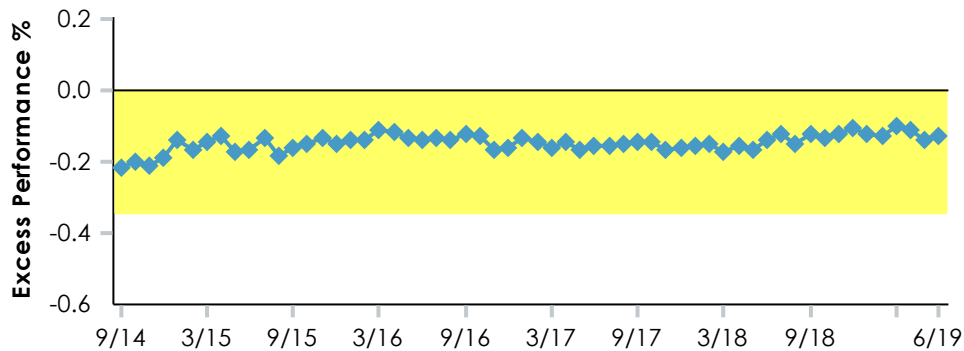


### Medium-Term Performance

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	2.9 (69)	7.7 (41)	2.1 (68)	2.8 (38)	2.7 (69)
BBg BC U.S. Aggregate Index	3.1 (41)	7.9 (28)	2.3 (54)	2.9 (26)	2.9 (58)
IM U.S. Broad Market Core Fixed Income (MF) Median	3.0	7.6	2.4	2.7	3.0

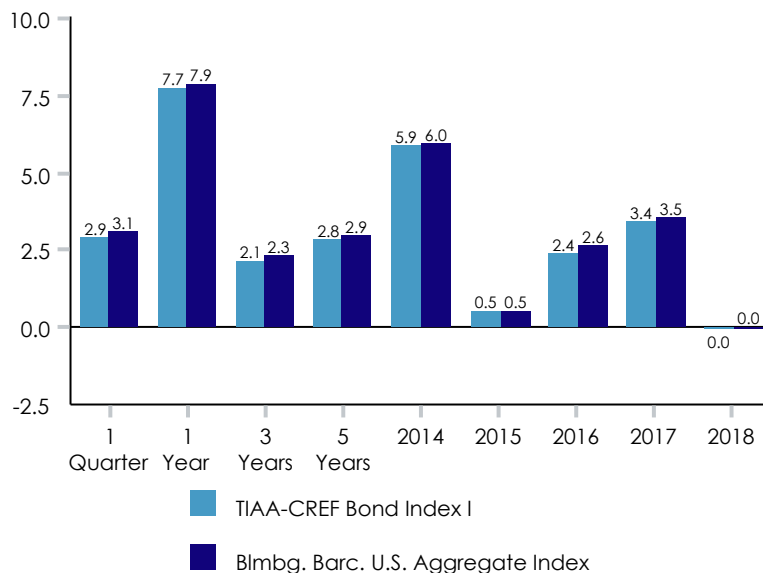
**Monitoring Status**

**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 : \$10,375 Million  
 Total Assets Date : 06/30/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 20%

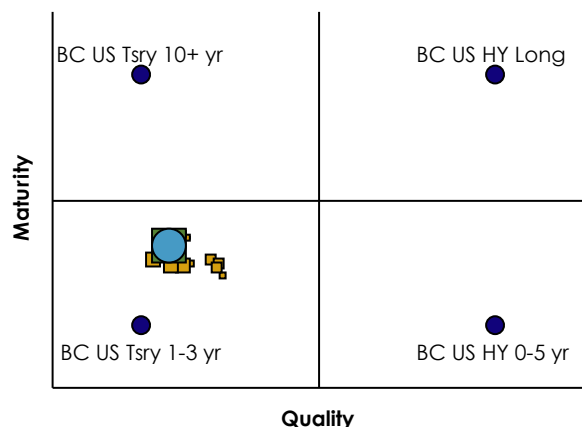
## Comparative Performance



## Fund Investment Policy

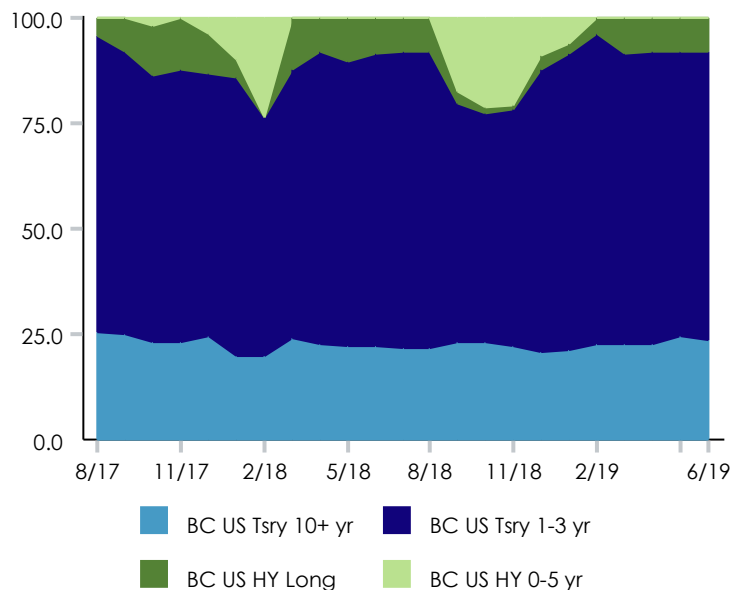
The Fund seeks a favorable long term total return. The Fund invests at least 80% of its assets bonds within its benchmark and portfolio tracking index, the Barclay's Capital U.S. Aggregate Bond Index.

## Style Map (3 Years)



- Style History
- Jun-2019
- Average Style Exposure

## Style History (3 Years)

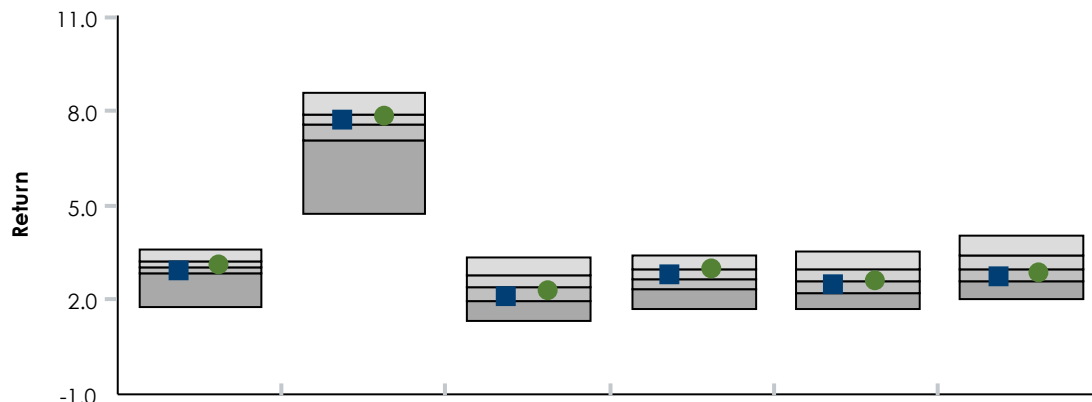




## Historical Statistics (3 Years)

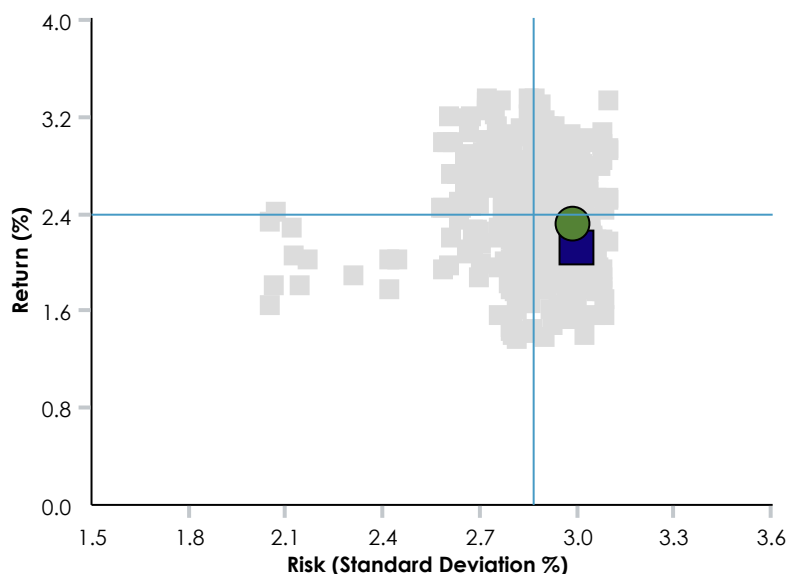
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Bond Index I	2.1	3.0	0.3	-0.2	1.0	1.0	0.2	-0.8	95.4	98.4
Blmbg. Barc. U.S. Aggregate Index	2.3	3.0	0.3	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Broad Market Core Fixed Income (MF) Median	2.4	2.9	0.4	0.2	0.9	1.0	0.6	0.1	96.8	90.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Bond Index I	2.9 (69)	7.7 (41)	2.1 (68)	2.8 (38)	2.5 (64)	2.7 (69)
● Blmbg. Barc. U.S. Aggregate Index	3.1 (41)	7.9 (28)	2.3 (54)	2.9 (26)	2.6 (50)	2.9 (58)
Median	3.0	7.6	2.4	2.7	2.6	3.0

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Bond Index I	2.1	3.0
● Blmbg. Barc. U.S. Aggregate Index	2.3	3.0
— Median	2.4	2.9

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	21	95.4
Down Markets	15	98.4
<b>Batting Average</b>		
Up Markets	21	28.6
Down Markets	15	53.3
Overall	36	38.9

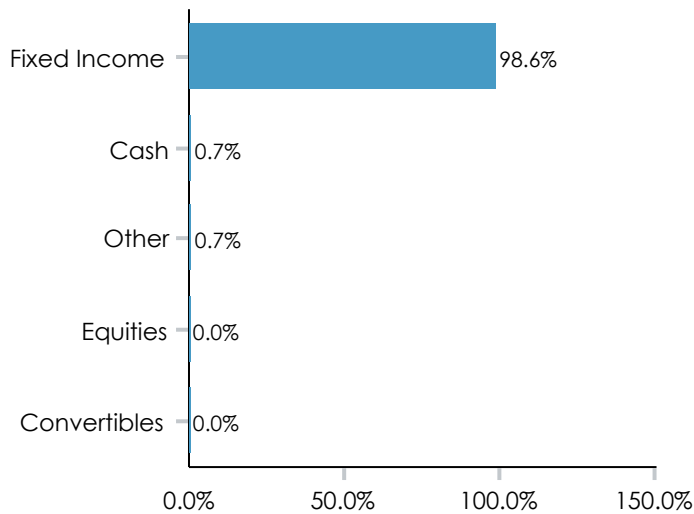
Portfolio Characteristics (As of 3/31/2019)

Avg. Coupon	3.19 %
Nominal Maturity	7.96 Years
Effective Maturity	N/A
Duration	5.80 Years
SEC 30 Day Yield	2.8
Avg. Credit Quality	AA

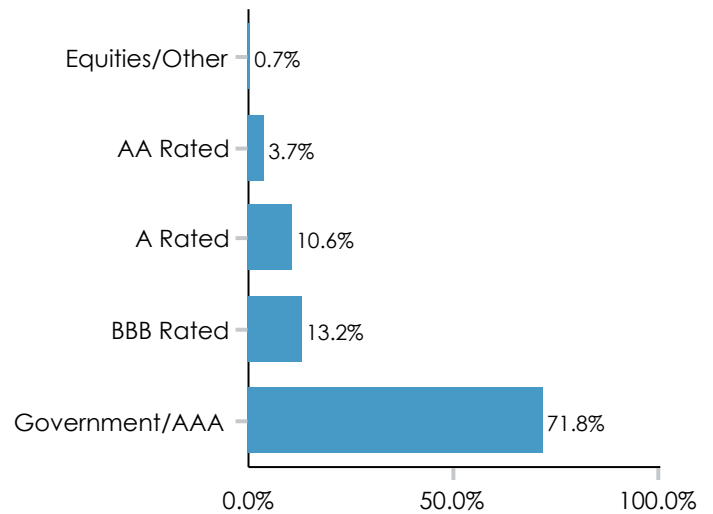
Top 10 Holdings (As of 3/31/2019)

Treasury Notes/Bonds	38.4 %
GNMA and Other Mtg Backed	29.2 %
Corporate Notes/Bonds	20.3 %
US\$ Denominated Fgn. Gvt.	8.3 %
Government Agency Securities	1.6 %
Asset Backed Securities	0.8 %

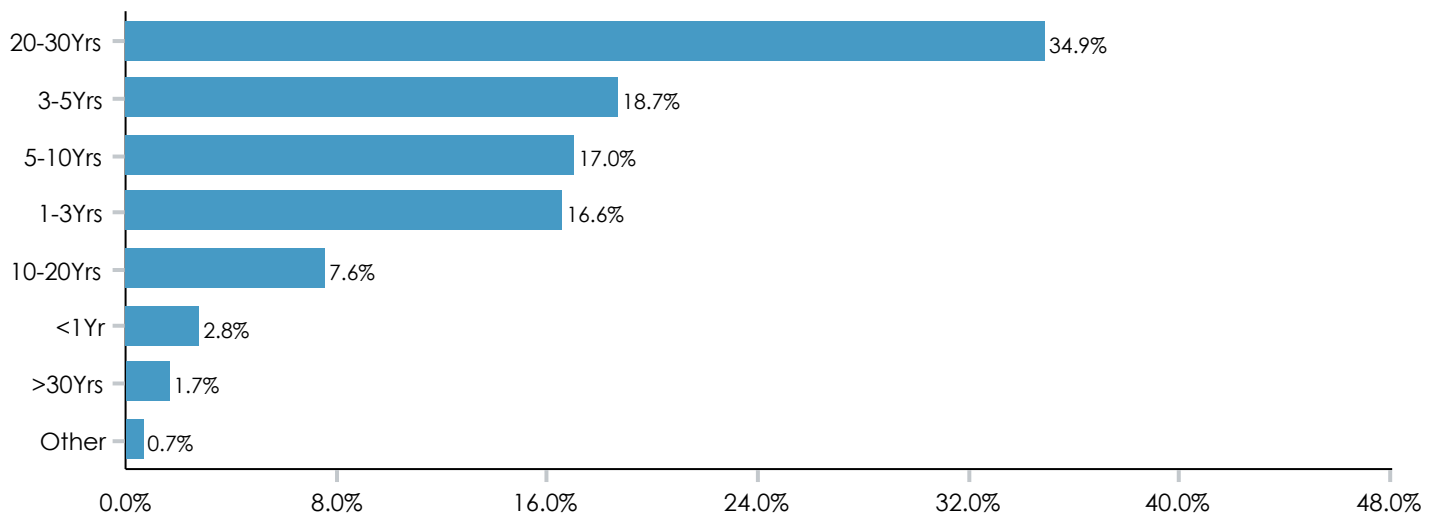
Asset Allocation (As of 3/31/2019)



Quality Allocation (As of 3/31/2019)



Maturity Distribution (As of 3/31/2019)



## T-C LIFE FUNDING AGREEMENTS

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# T-C LIFE FUNDING AGREEMENTS

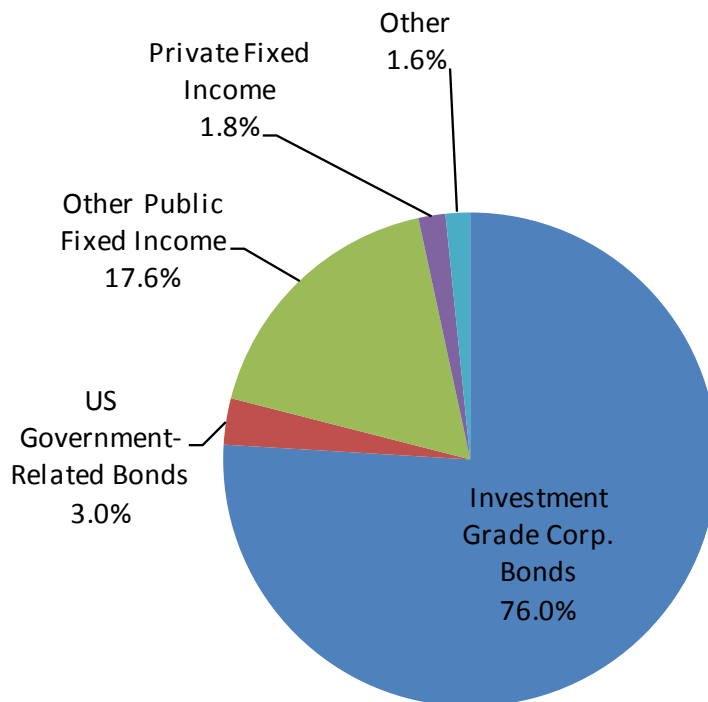
(based on non-investment performance criteria)

Criteria	Status as of 6/30/2019	Status as of 3/31/2019	Status as of 12/31/2018	Status as of 9/30/2018
<b>Financial Strength</b>	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ 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>	99.4% in Investment Grade (at least 90%)	99.4% in Investment Grade (at least 90%)	99.4% in Investment Grade (at least 90%)	99.34% 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



**Monitoring 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	Yes	---	---	✓
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	1 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

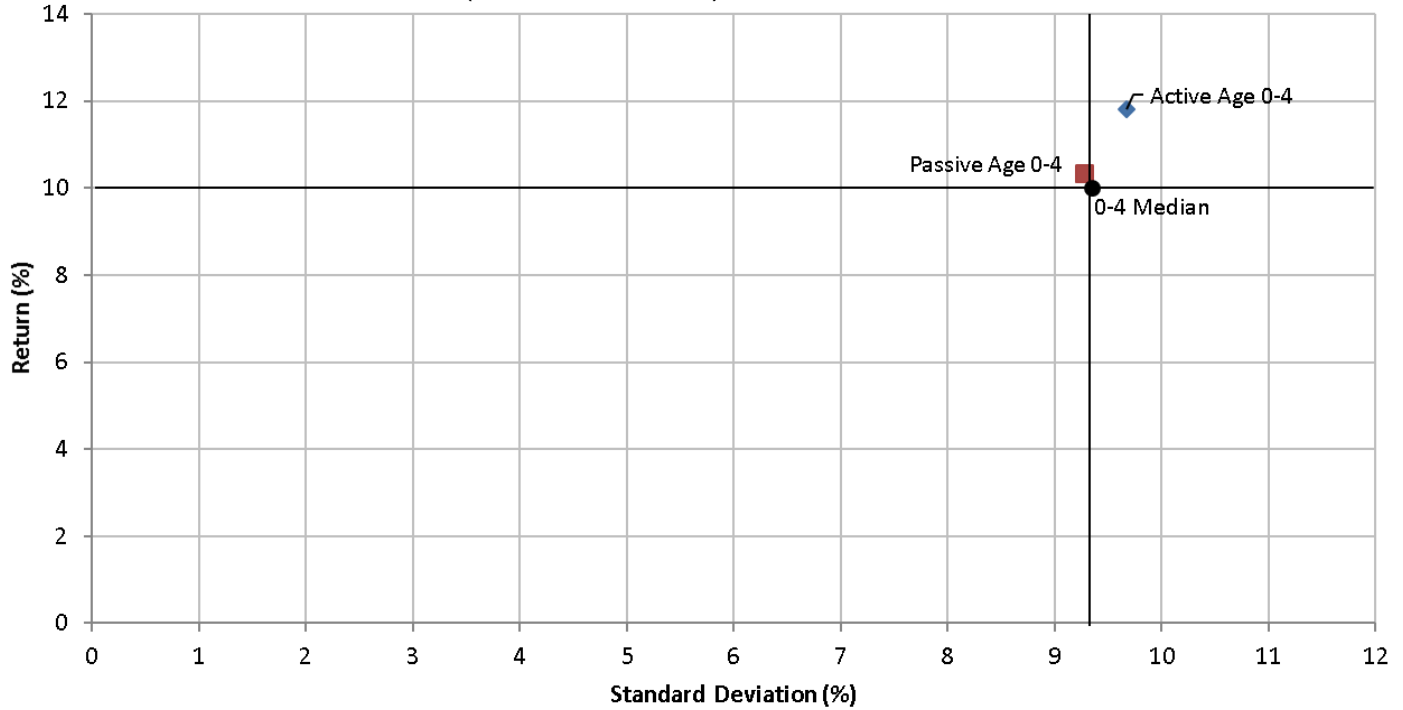
AGE-BASED FUND ANALYSIS

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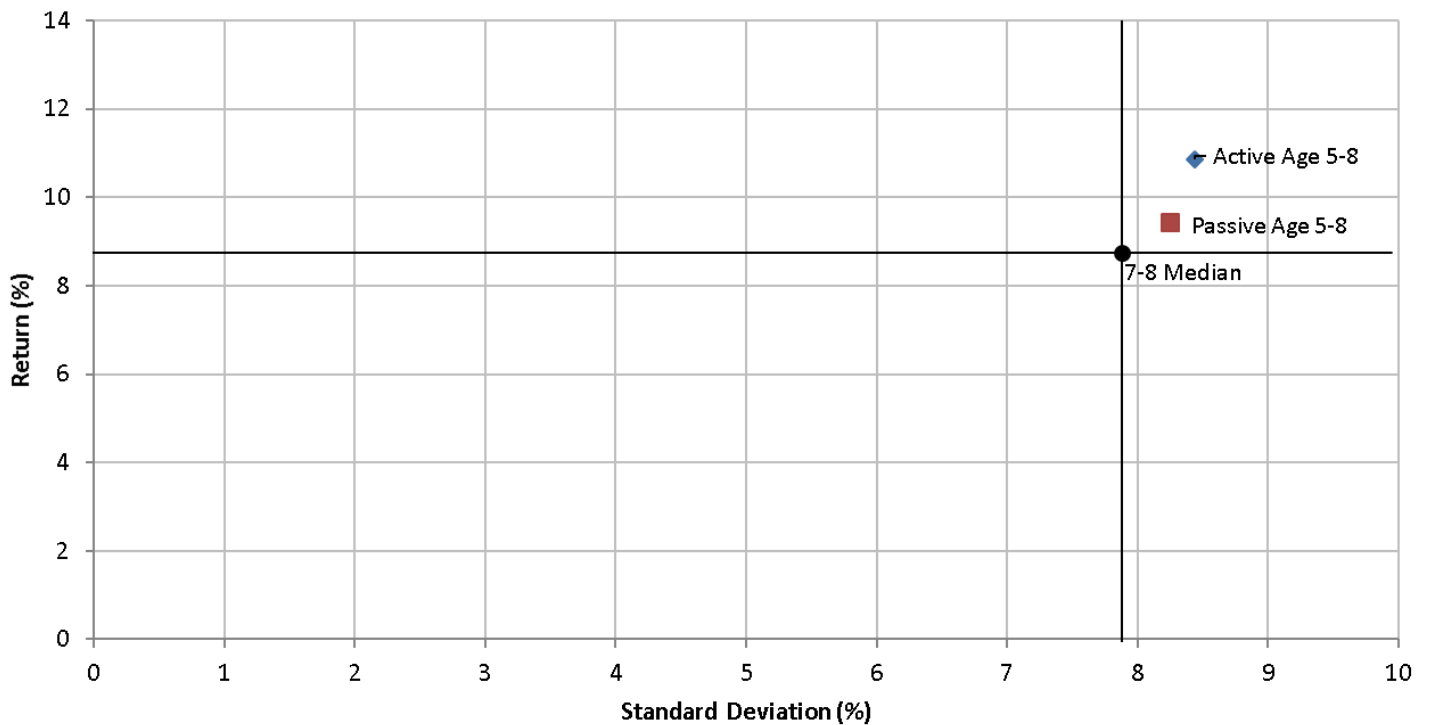


# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 0-4 : 3-YEAR (as of 6/30/2019)



## AGE 7-8 : 3-YEAR (as of 6/30/2019)



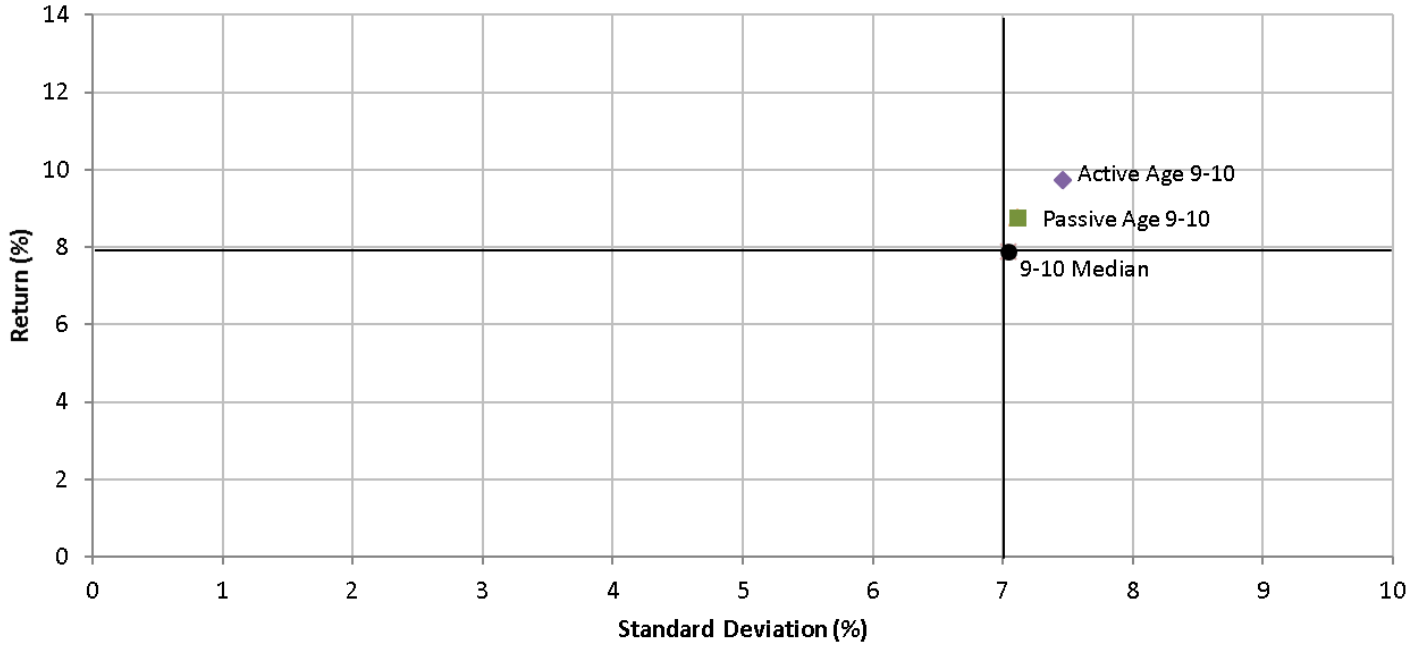
Source: Morningstar

California ScholarShare

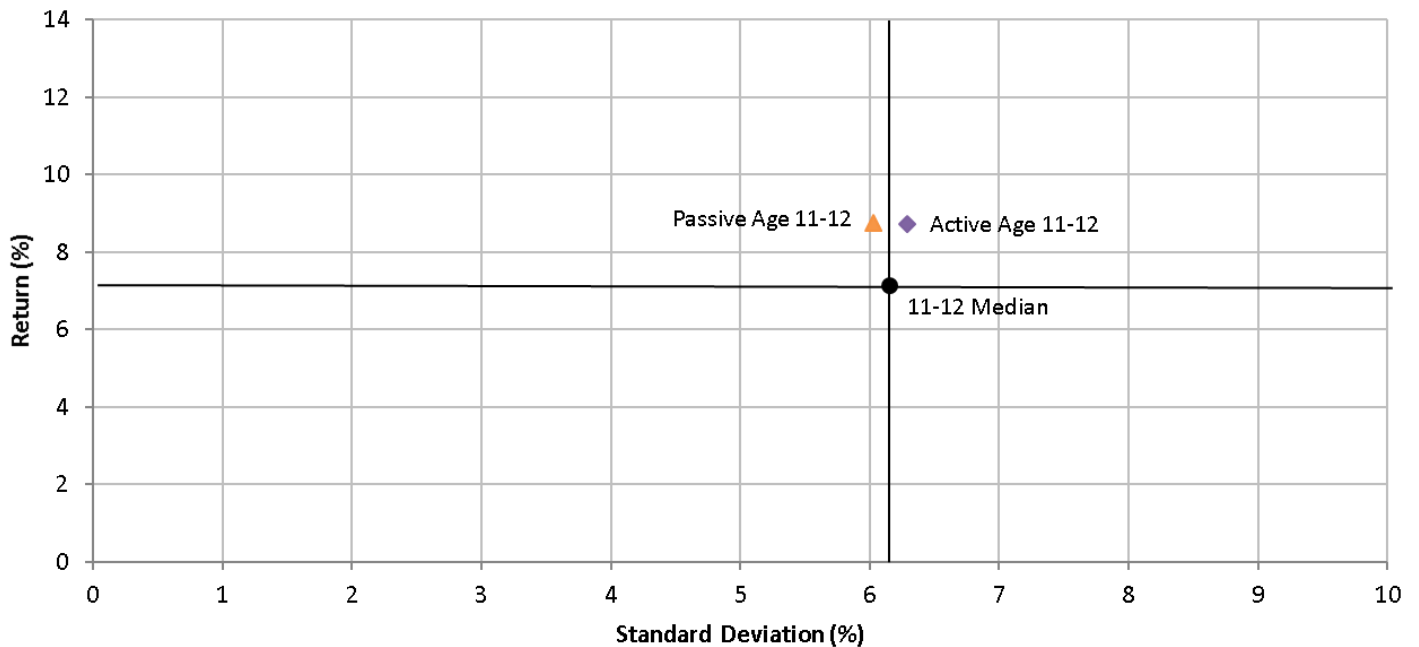


# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 9-10 : 3-YEAR (as of 6/30/2019)



## AGE 11-12 : 3-YEAR (as of 6/30/2019)

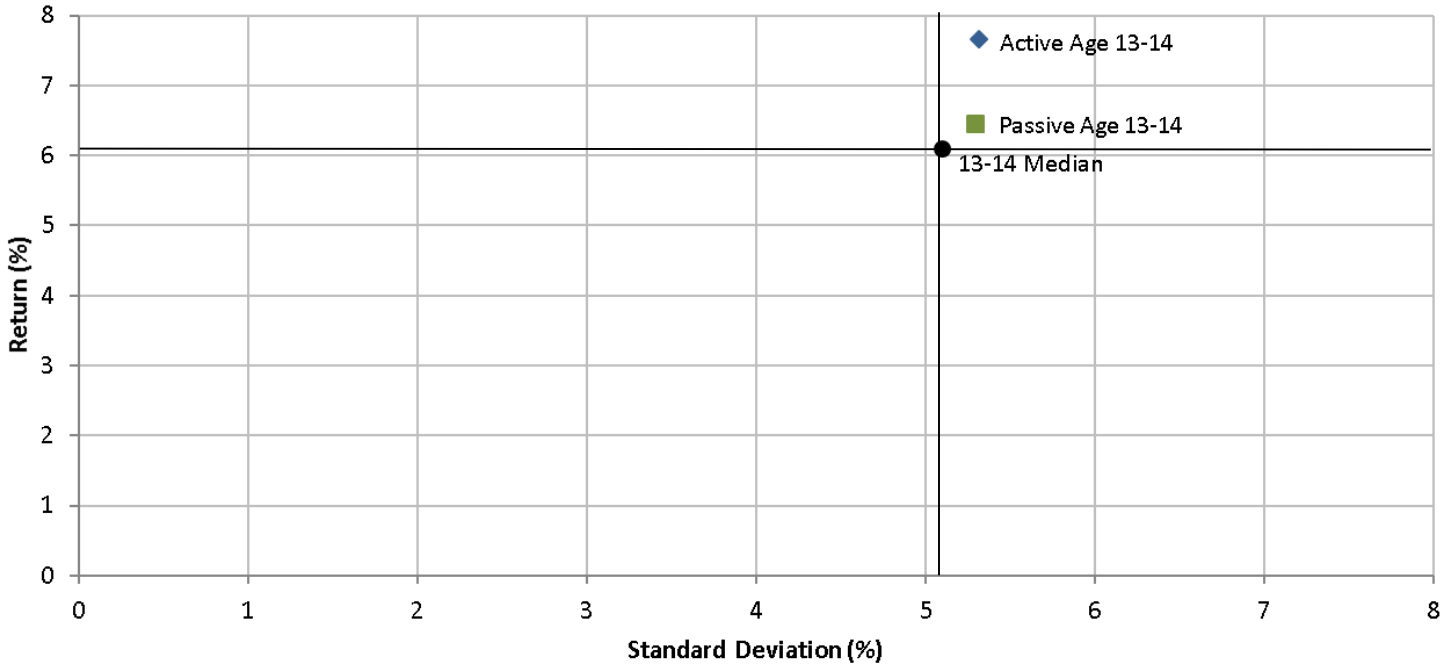


Source: Morningstar

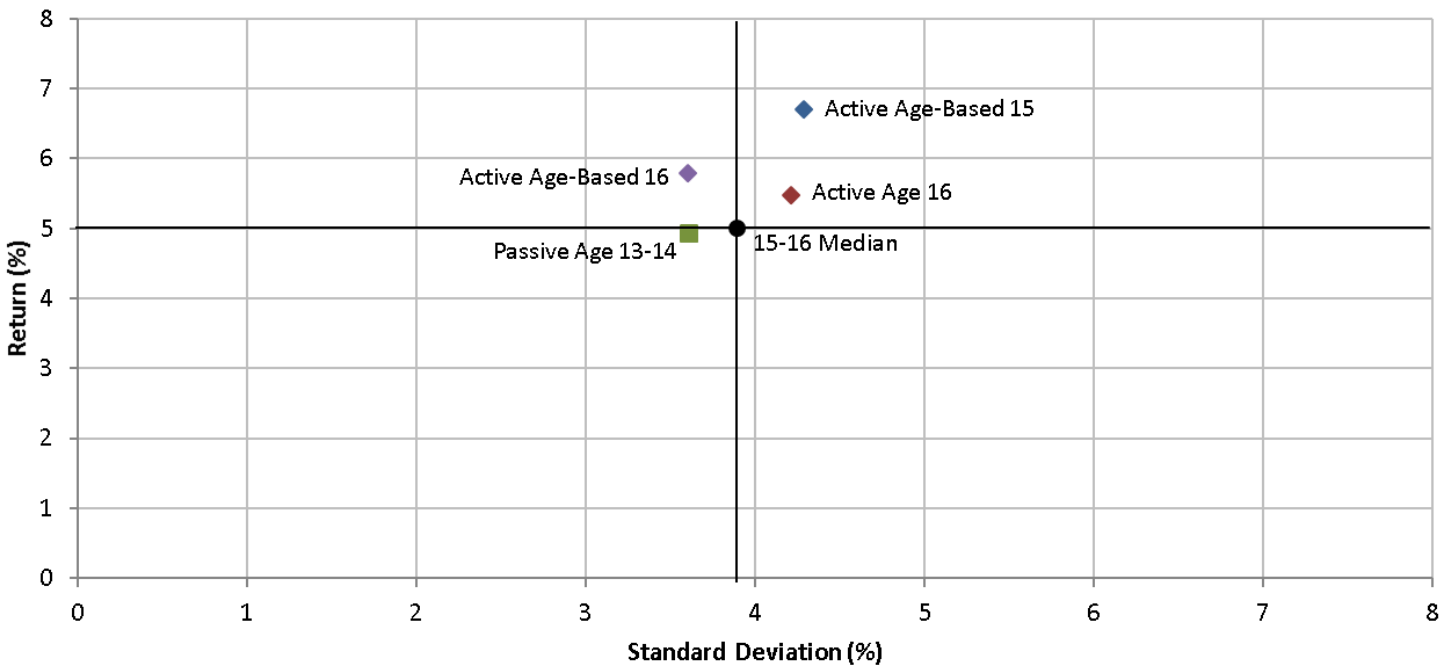
California ScholarShare

# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 13-14 : 3-YEAR (as of 6/30/2019)



## AGE 15-16 : 3-YEAR (as of 6/30/2019)

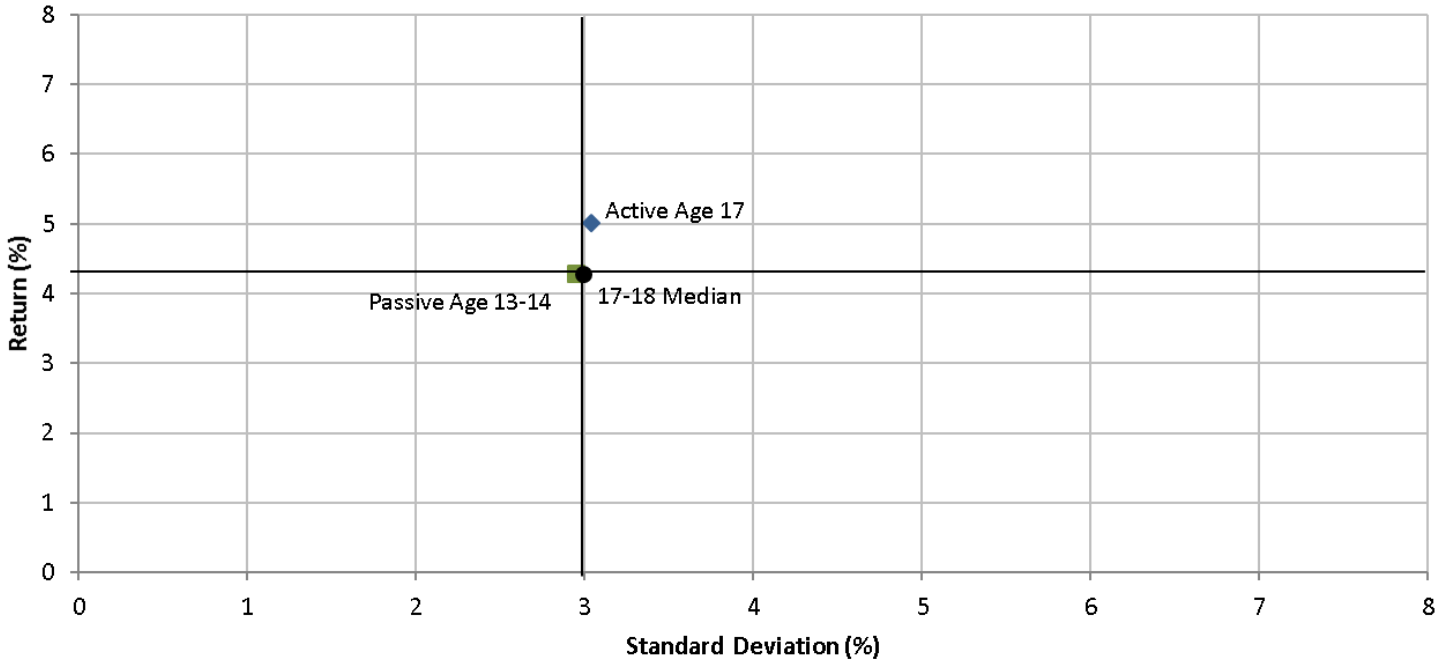


Source: Morningstar

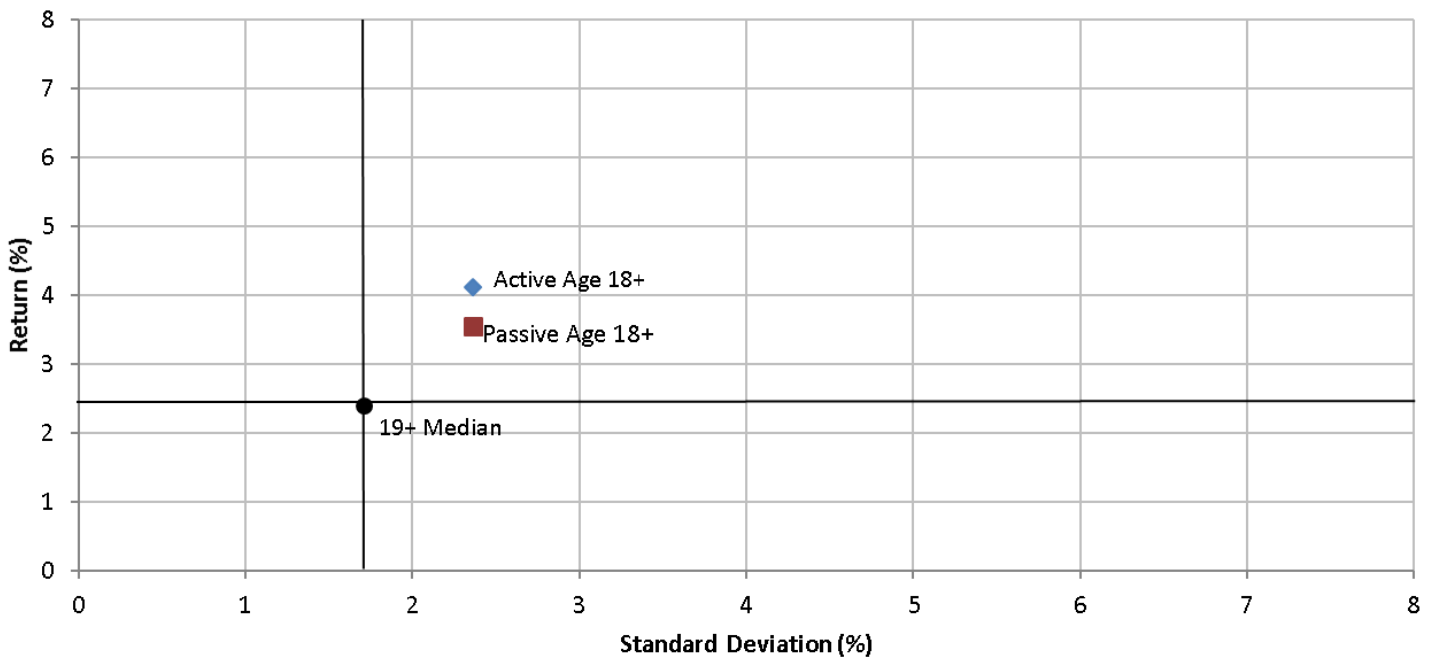
California ScholarShare

# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 17-18 : 3-YEAR (as of 6/30/2019)



## AGE 19+ : 3-YEAR (as of 6/30/2019)

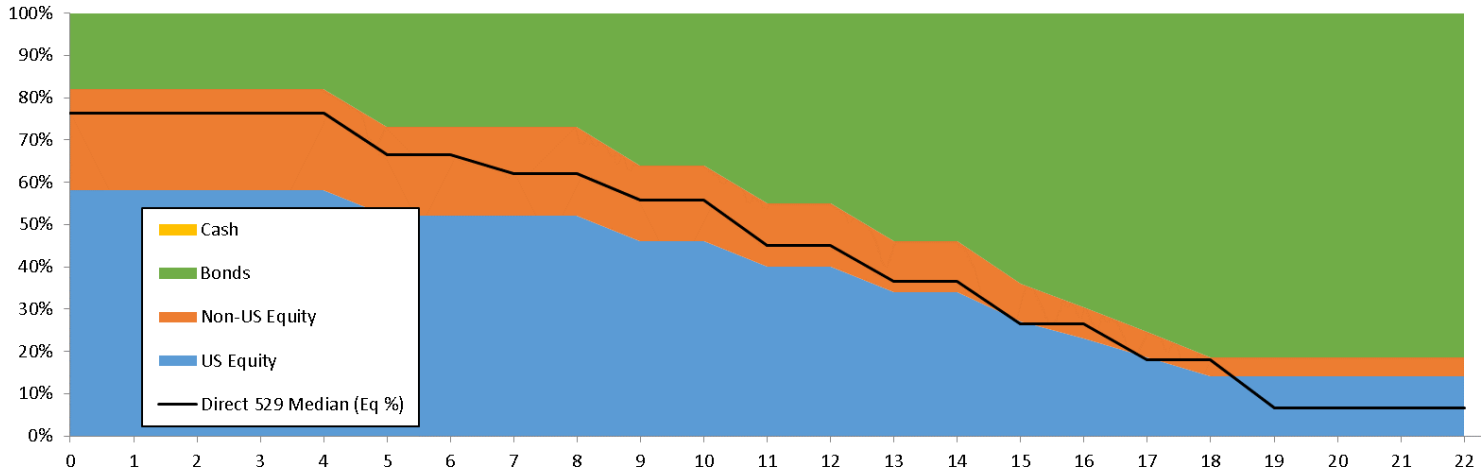


Source: Morningstar

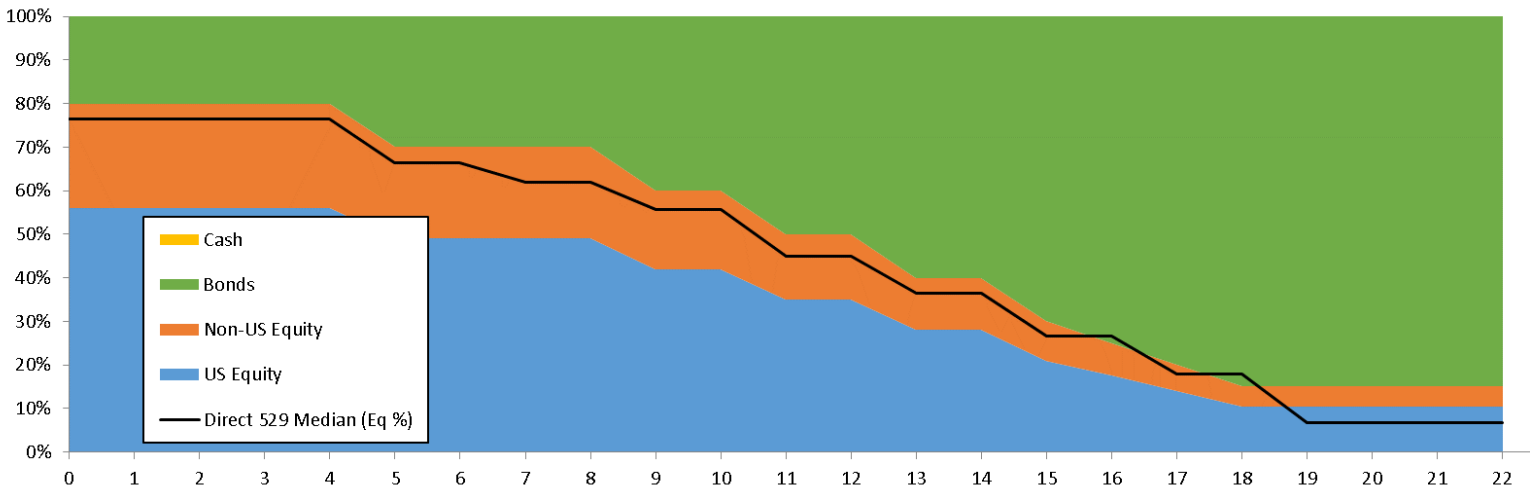
California ScholarShare

# SCHOLARSHARE AGE-BASED GLIDEPATH

## ACTIVE AGE-BASED PORTFOLIO



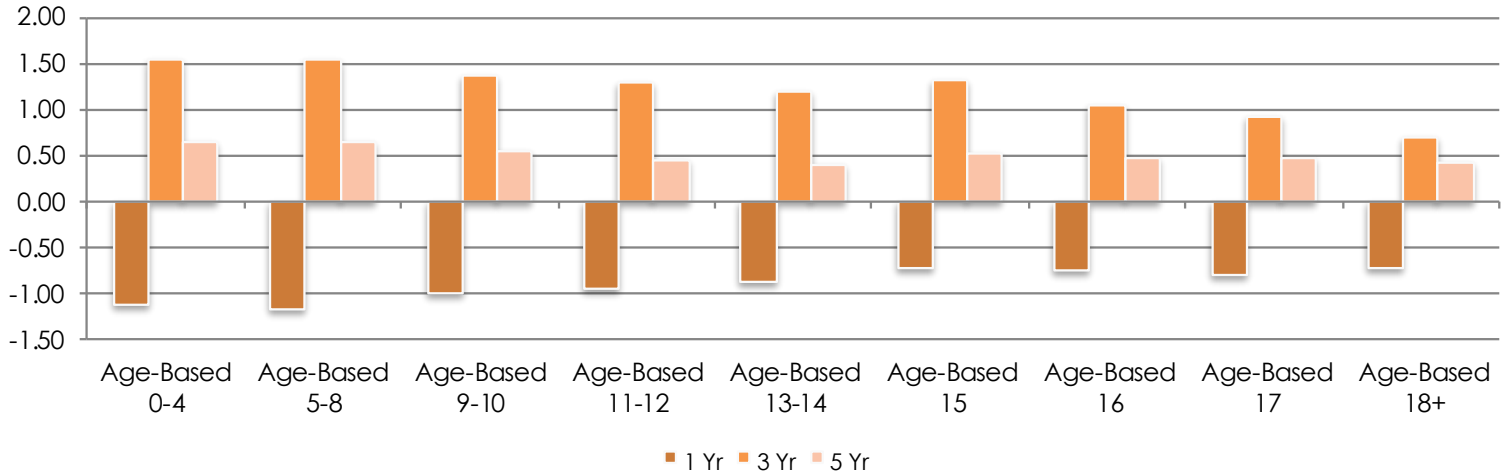
## PASSIVE AGE-BASED PORTFOLIO



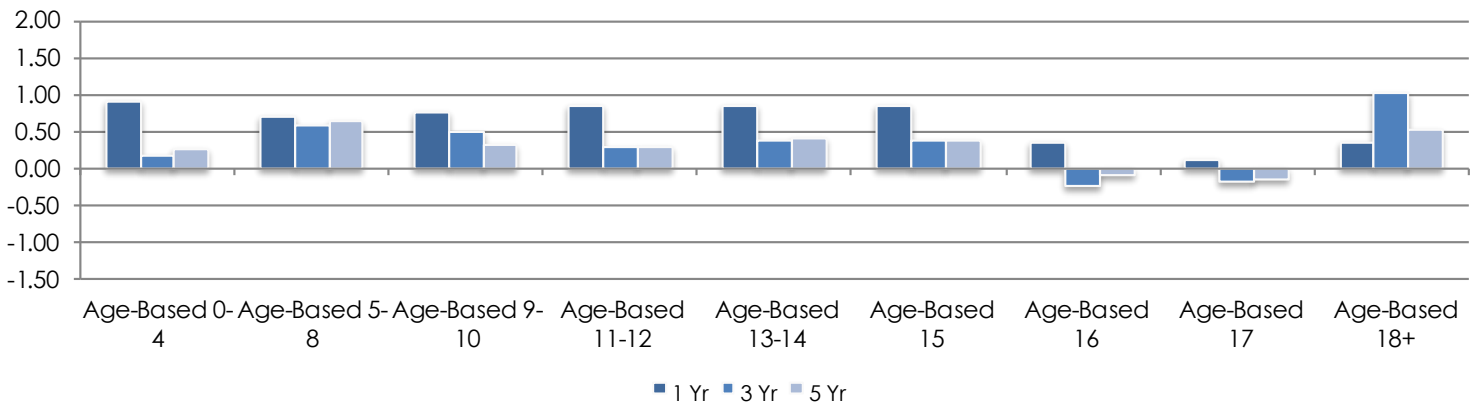
# SCHOLARSHARE AGE-BASED ATTRIBUTION

## 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:  $\text{Manager Cumulative Return} / \text{Benchmark Cumulative Return}$ .





## MEMORANDUM

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**To:** ScholarShare Investment Board (SIB)  
**From:** Eric White, Kay Ceserani, Meketa Investment Group  
**Date:** August 18, 2019  
**Re:** Review of Underlying Funds Qualifying for “Watch” Status

### SUMMARY

Meketa Investment Group has conducted a review of the underlying funds in the ScholarShare 529 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, 2019 through June 30, 2019.

At the end of the period, **one fund, the TIAA-CREF Social Choice Equity Fund, remains on “Watch” status, and no new funds qualify for “Watch” status.** At the April 2018 SIB meeting, the SIB elected to keep the TIAA-CREF Social Choice Equity fund on “Watch” status as Meketa Investment Group conducts more research to identify a benchmark more aligned with the strategy’s ESG focus. Meketa Investment Group recommends the TIAA-CREF Social Choice Equity Fund remain on “Watch” as the SIB discusses options for monitoring the fund going forward. This fund is discussed in more detail on the following pages.

### Performance of Funds on Watch Status As of 6/30/2019

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	10/4/2017	7/1/2017	24	(0.5%)



## **BACKGROUND**

**New Funds Qualifying for “Watch” Status:** Meketa Investment Group has conducted a review of the underlying funds in the ScholarShare College Savings Plan (see also the 2Q 2019 ScholarShare 529 Plan Investment Performance Status Report) and determined that no additional funds qualify for “Watch” status at this time.

**Funds Currently on “Watch” Status:** As of June 30, 2019, one fund, the TIAA-CREF Social Choice Equity Fund, remains on “Watch” status for performance concerns. The fund is discussed in further detail below.

**TIAA-CREF Social Choice Equity Fund:** The fund was placed on “Watch” status for performance concerns upon breaching the long-term investment monitoring guidelines as per the Program’s *Monitoring Procedures and Criteria* as of the period ended June 30, 2017.

## **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 environmental, social, and governance (“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.

### **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. A team led by Amy O'Brien, Nuveen's Director of Social Investing, oversees the social screening for this strategy and several other socially screened portfolios. The team has grown over recent years and had 18 members as of January 2019, eight of whom were hired in 2018 in a conscious effort to boost Nuveen's ESG capabilities.

### **INVESTMENT PHILOSOPHY AND APPROACH**

The Social Choice Equity fund's underlying philosophy is to offer competitive returns consistent with the performance of the Russell 3000 Index while giving special consideration to certain 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 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 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.

Nuveen's responsible investing team currently works in collaboration with the social-investment department at MSCI, one of the two largest socially responsible investing research firms in the world. The MSCI team does most of the detailed SRI analysis of individual companies, while Nuveen's team focuses more on the big picture, deciding what screening criteria the strategy should use, as well as overseeing corporate engagement and community investing. The strategy formerly used a standard set of ESG criteria from MSCI, but in 2018 Nuveen and the MSCI teams collaborated to create customized criteria for the strategy. Now, the ESG score threshold for companies to be eligible for portfolio inclusion is generally higher, but ESG momentum is also taken into account, thus advantaging firms with an improving ESG profile. Following more than a decade of stability, these recent changes were designed to improve the strategy's environmental, social, and governance profile, and isn't expected to necessarily have much effect on returns. After the social responsible team at MSCI ranks the stocks in the MSCI Investable Market Index according to how well they meet ESG criteria established by Nuveen's team, the quantitative team at TIAA-CREF narrows the acceptable list.

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 do 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 matched or underperformed its prospectus benchmark, the Russell 3000 Index, across all periods reported. Over the most recent quarter and trailing 3-year period the fund underperformed its benchmark by (30) basis points. Over the trailing 5-year period and Since Addition to the program, the fund underperformed by (1.0%). The fund matched its benchmark over the trailing 1-year period. 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., Facebook, Exxon Mobil, etc.). Thus, some individual securities in the eligible universe may be either overweighted or underweighted relative to the benchmark, which is determined through quantitative modeling.

For the quarter, the fund modestly underperformed the Russell 3000 Index by (30) basis points. Driven by individual stock positioning within the two sectors, communication services was the largest detractor from fund performance, while consumer staples contributed the most. Not owning Facebook, Walt Disney, or Occidental Petroleum Corporation largely contributed to the fund's relative underperformance. All three stocks outperformed the benchmark during the quarter, but their ineligibility for inclusion in the fund based on ESG criteria hurt relative returns. Conversely, not owning Exxon Mobil Corp., Altria Group, Inc., or Phillip Morris International Inc., contributed to the Fund's relative performance, as their stocks lagged the overall market. All three stocks are ineligible for inclusion in the fund based on ESG criteria.

**Trailing Performance Results, Net of Fees**  
*Ending June 30, 2019*

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (12/2011)
TIAA-CREF Social Choice Equity	3.8	9.0	13.7	9.2	13.1
<i>Russell 3000 Index</i>	4.1	9.0	14.0	10.2	14.1
<b>Difference</b>	<b>(0.3)</b>	<b>0.0</b>	<b>(0.3)</b>	<b>(1.0)</b>	<b>(1.0)</b>
Percentile Rank*	65	53	38	53	52

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

The fund's results placed below the Large Cap Core peer median across 4 of the 5 time periods measured.

The fund continues to earn a Morningstar Sustainability Rating of 'High,' with a Sustainability Score in the top 10% 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 Blend funds with a Morningstar Sustainability Rating of 'High,' the TIAA-CREF Social Choice Equity fund trailed the custom peer median over the 1-year period but outperformed over the extended 3-year, 5-year, and since Program inception periods. Note, over the since inception period, only six of 26 reported funds in the custom peer group outperformed the Russell 3000 Index.

Annualized Risk-Adjusted Performance				
	1-year	3-year	5-year	Since 12/2011
<b>TIAA-CREF Social Choice Equity</b>				
Return	9.0%	13.7%	9.2%	13.1%
<i>Peer Group Percentile Rank*</i>	67	34	43	44
<b>Custom Peer Group Median*</b>				
Return	10.2%	12.9%	9.0%	12.3%
<b>Russell 3000 Index</b>				
Return	9.0%	14.0%	10.2%	14.1%

\*35 funds as of 6/30/2019

Since being added to the Program in late 2011, on a calendar year basis, the fund has struggled versus its benchmark over five of the last seven years. In 2012, 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. Over the two most recent calendar years (2017 and 2018), the fund performed roughly in-line with the benchmark and the peer group.

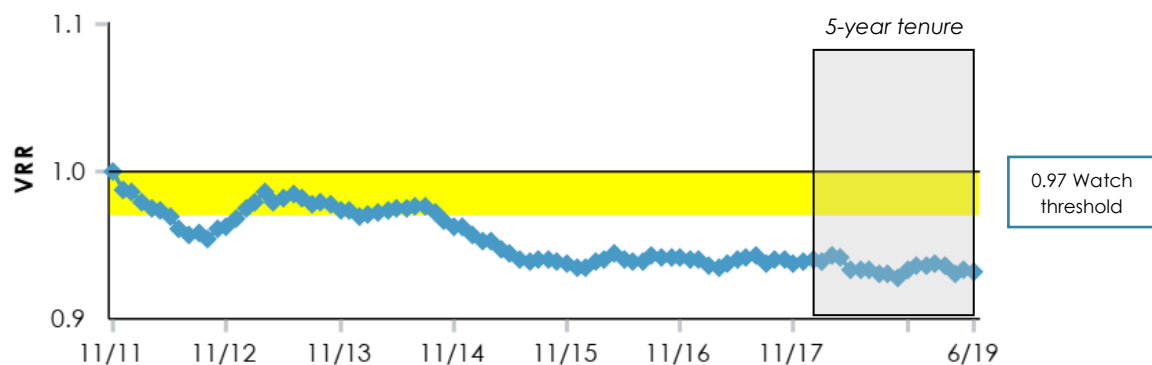
**Calendar Year Performance Results, Net of Fees**  
*Ending December 31*

<b>Fund</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
TIAA-CREF Social Choice Equity	14.0	34.3	11.2	-2.4	13.5	20.9	(5.5)
<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>	<i>21.1</i>	<i>(5.2)</i>
<b>Difference</b>	<b>(2.4)</b>	<b>0.7</b>	<b>(1.4)</b>	<b>(2.9)</b>	<b>0.8</b>	<b>(0.2)</b>	<b>(0.3)</b>
Percentile Rank*	69	20	53	75	16	50	49

\*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 - 6/30/2019)



When evaluating the fund on several quantitative factors, the fund's strict ESG focus will cause the fund to deviate from its benchmark, but the strategy's use of quantitative modeling should result in overall risk characteristics similar to that of the index. The table below summarizes the fund's 5-year portfolio statistics versus its benchmark.

**Risk/Return Stats**  
 (5-Years ending 6/30/19)

	Return	StdDev	Alpha <sup>1</sup>	Beta <sup>2</sup>	Sharpe Ratio <sup>3</sup>	Up Mkt Capture	Down Mkt Capture
T-C Social Choice Equity	9.21	12.23	-1.42	1.01	0.71	96.14	104.76
Russell 3000 Index	10.19	12.33	0.00	1.00	0.78	100.00	100.00
Custom Peer Group Median	9.01	11.93	-1.42	0.95	0.66	91.74	102.64

<sup>1</sup> Alpha: Is the difference between a Manager's performance and the Manager's expected performance given its market sensitivity or Beta. It is used as a measure of value added by a Manager. A positive Alpha indicates that a Manager has performed better than its Beta would predict. In contrast, a negative Alpha indicates the portfolio has underperformed given the expectations set by Beta.

<sup>2</sup> Beta: Is defined as a Manager's sensitivity to the market movements and is used to evaluate market related or systemic risk. Beta is a measure of the linear relationship, over time, of the Manager's returns and those of the Benchmark.

<sup>3</sup> Sharpe Ratio: Is used to characterize how well the return of the portfolio compensates for the risk taken. The higher the portfolio's Sharpe Ratio, the better the portfolio's returns have been relative to the risk taken on. Sharpe Ratio = (Portfolio Return - Risk Free Rate) / Standard Deviation.

Versus the benchmark, the fund has exhibited a lower level of volatility (as measured by Standard Deviation). The fund's Beta also remains in-line with the benchmark, while it exhibited a slightly lower Sharpe Ratio. Reviewing these statistics, it is evident the fund has been able to meet its risk objectives while being consistent with its investment philosophy and process.

### RECOMMENDATION

Upon reviewing the performance of the TIAA-CREF Social Choice Equity fund, Meketa Investment Group continues to find the long-term performance deviations versus its current benchmark to be reasonable. The fund has delivered long-term results in-line with peer ESG funds and has demonstrated risk characteristics like the benchmark, therefore meeting its investment objectives while maintaining its investment philosophy.

At the April 2018 SIB meeting, the SIB elected that the TIAA-CREF Social Choice Equity fund remain on "Watch" status. The SIB requested that Meketa Investment Group conduct research to possibly identify a benchmark more closely aligned with the strategy's ESG focus that can be used for performance monitoring purposes. Upon research, Meketa identified the Russell 3000 ESG Index as a possible suitable benchmark. The Russell 3000 ESG Index is a new benchmark still being developed by FTSE Russell and ESG research firm Sustainalytics and is a sustainable version of the fund's prospectus benchmark, the Russell 3000 index. Meketa Investment Group will continue monitoring the availability of the new index which is expected to be released sometime in 2019.

*Meketa Investment Group recommends that the TIAA-CREF Social Choice Equity Fund remain on "Watch" as the SIB continues to discuss options for monitoring the fund going forward.*



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