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**MARCH 19, 2020**

**AGENDA ITEM 4  
ACTION ITEM**

**SCHOLARSHARE INVESTMENT BOARD**

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

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***Recommendation***

Meketa Investment Group, Inc. (Meketa) and ScholarShare Investment Board (SIB or Board) staff recommend that the Board adopt Resolution No. 2020-02 approving changes to the ScholarShare Monitoring Procedures and Criteria (Procedures).

***Background***

SIB and its investment consultant, Meketa, monitor all portfolios in ScholarShare 529 (Plan) in accordance with the Procedures adopted by the Board.

In this item, SIB will review and discuss the “Investment Performance Report” (Exhibit A) for the Plan for fourth quarter 2019, provided by TIAA-CREF Tuition Financing, Inc., and the “Investment Performance Status Report” (Exhibit B) for fourth 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 fourth quarter of 2019:

- Seven underlying funds were in the “positive” status, and
- 10 underlying funds were in the “acceptable” status
- Two underlying funds were in the “caution” status (one fund is currently on “watch” status).

As outlined in its memo (Exhibit C), Meketa has provided options related to the on-going monitoring of the TIAA-CREF Social Choice Equity Fund (Fund), one of which Meketa and SIB staff are recommending for the Board’s approval. The recommendation is to approve changes to the investment performance criteria for the Fund as outlined in redline in the Procedures attached to Meketa’s memo. Additionally, the memo notes that no new funds qualify for “watch” status.

***Presenters***

Jeremy Thiessen, Senior Director, Institutional Investment Strategist,  
TIAA-CREF Tuition Financing, Inc.

Glenn Friedman, Director, Asset Allocation and Investments, TIAA-CREF Tuition Financing, Inc.  
Eric White, Principal, Meketa Investment Group, Inc.

**RESOLUTION NO. 2020-02**

**RESOLUTION OF THE SCHOLARSHARE INVESTMENT BOARD  
RELATING TO THE APPROVAL OF CHANGES TO THE  
SCHOLARSHARE MONITORING PROCEDURES AND CRITERIA**

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

**WHEREAS**, the Board has a fiduciary responsibility on behalf of the ScholarShare 529 College Savings Plan (the “Plan”) participants and beneficiaries to monitor the investment manager’s mutual funds and investment performance;

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

**WHEREAS**, the SIB staff and Board’s investment consultant (the “Consultant”) have reviewed the Procedures and are recommending revisions to the investment performance criteria for the TIAA-CREF Social Choice Equity Fund;

**NOW, THEREFORE, BE IT RESOLVED**, that the Board hereby approves the changes to the Procedures as recommended by SIB staff and the Consultant and as shown in redline in the attachment to the Consultant’s memo dated March 19, 2020.

**BE IT FURTHER RESOLVED**, that this Resolution becomes effective on March 19, 2020.

Attest: \_\_\_\_\_  
Chairperson

Date of Adoption: \_\_\_\_\_

# Quarterly Investment Report

4th 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: Q4 2019

## Key Themes

- The same economic and political themes that persisted much of the year continued in the fourth quarter. We saw uneasy international relations and uncertainty regarding international trade; however, there was optimism around the potential for a Phase I trade deal with China.

## Equities

- Ten of eleven U.S. equity sectors had positive results. Information Technology had the highest returns, registering 14.40% for the quarter, while Real Estate lagged, falling 0.54%. Non-U.S. developed and emerging markets both had a strong showing, with EM outperforming most other markets.

## Fixed Income

- At the December FOMC meeting, the Federal Reserve Board maintained the current level for its benchmark fed funds rate. The statement released from Chair Powell struck a dovish tone by emphasizing that the Fed has no plans to re-raise interest rates in the near term, stating that monetary policy is “appropriate to sustain the current expansion.” Fixed income yields rose for the quarter but had little reaction to this news.

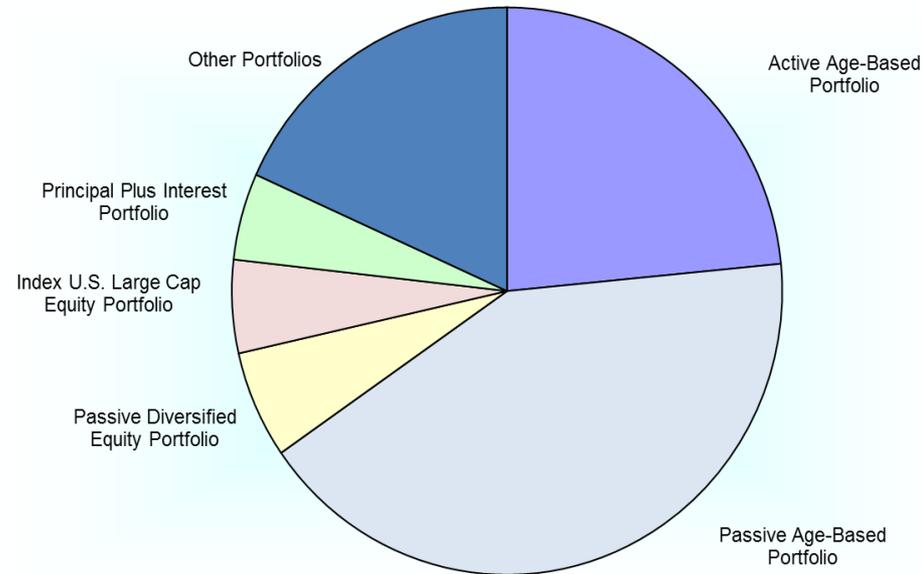
Asset Class	3 Month	1 Year	3 Year	5 Year
U.S. Equities	9.10	31.02	14.57	11.24
U.S. Growth Stocks	10.62	36.39	20.49	14.63
U.S. Value Stocks	7.41	26.54	9.68	8.29
U.S. Mid-Cap Stocks	7.06	30.54	12.06	9.33
U.S. Small-Cap Stocks	9.94	25.52	8.59	8.23
Int'l Developed Stocks	8.17	22.01	9.56	5.67
Emerging Markets Stocks	11.84	18.42	11.57	5.61
Real Estate Stocks	0.13	28.66	10.29	8.43
U.S. Investment Grade Bonds	0.18	8.72	4.03	3.05
Long-dated Bonds	-1.12	19.59	8.07	5.42
Inflation-Linked Bonds	1.00	6.85	2.79	2.36
High Yield Bonds	2.57	15.09	6.44	6.11
Commodities	4.42	7.69	-0.94	-3.92
Cash	0.47	2.30	1.68	1.09
<b>Annualized Tuition Inflation Ending as of 2019-2020 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	2.25	2.59	2.67	
National Average Private Nonprofit 4-Year	3.36	3.26	3.35	
Consumer Price Index, December 2019	2.29	2.10	1.82	

\*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 2019 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 Q4 2019

## Total Assets: \$9.88 Billion

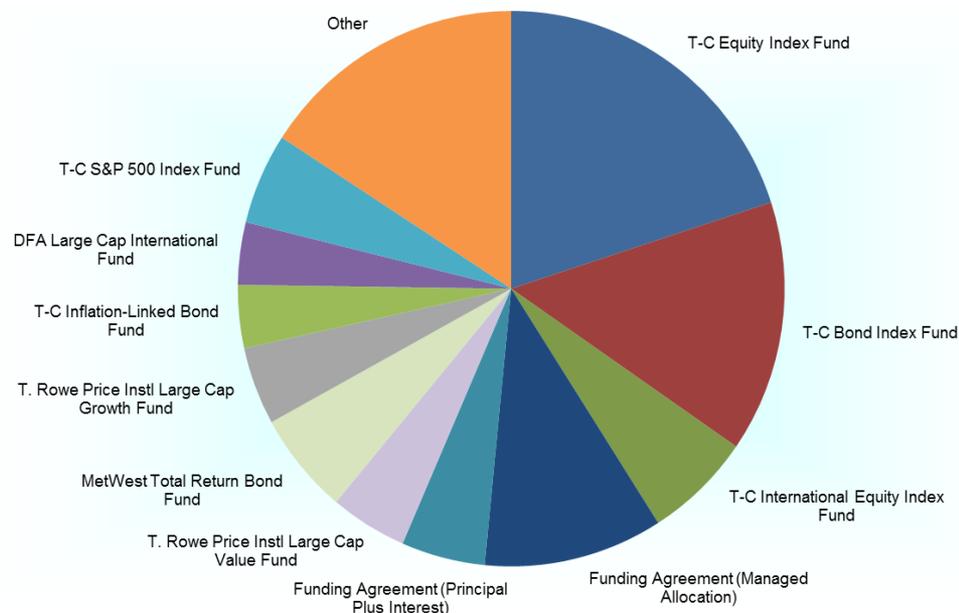


Portfolio	% of Assets	\$ Millions	Portfolio	% of Assets	\$ Millions
Passive Age-Based Portfolio	41.38%	\$ 4,089	Index U.S. Large Cap Equity Portfolio	5.59%	\$ 553
Active Age-Based Portfolio	23.38%	\$ 2,310	Principal Plus Interest Portfolio	4.74%	\$ 468
Passive Diversified Equity Portfolio	6.18%	\$ 611	Other Portfolios (see below)	18.72%	\$ 1,850

### Other Portfolios

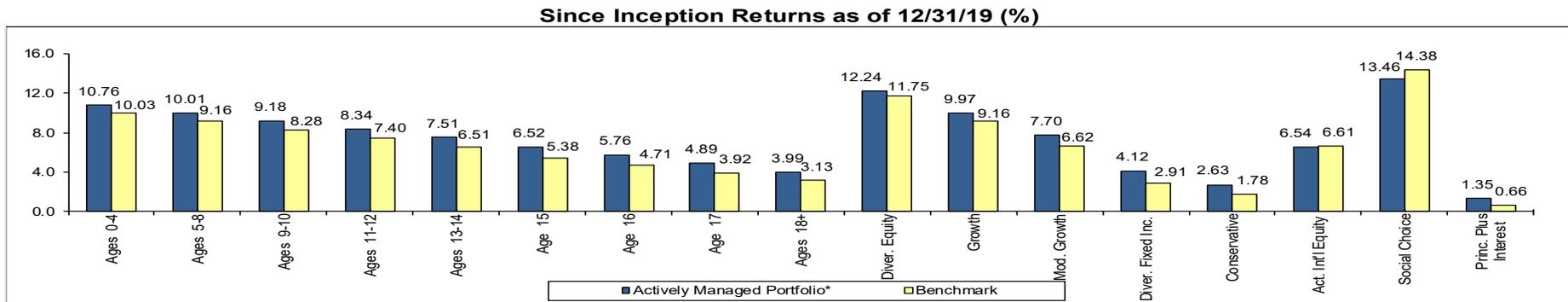
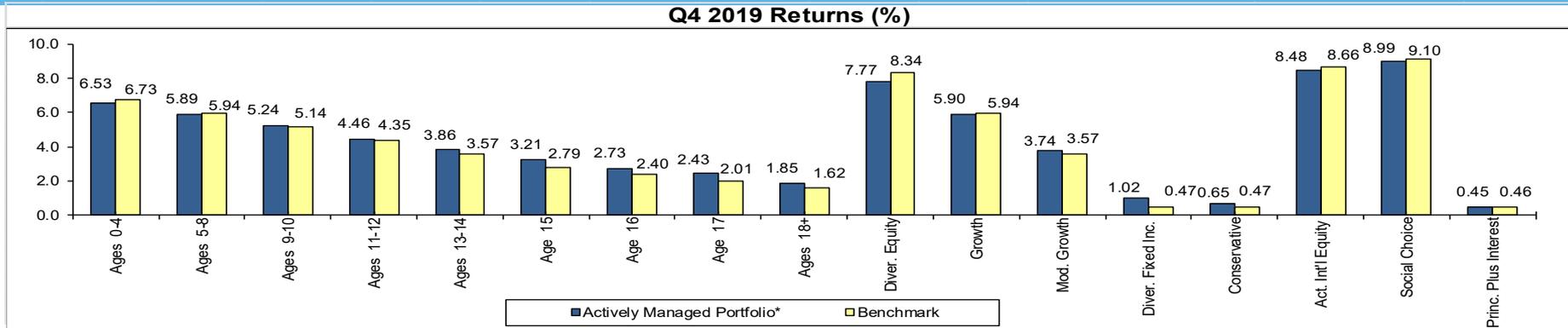
Index U.S. Equity Portfolio	5.13%	\$ 507	Active Moderate Growth Portfolio	0.69%	\$ 68
Active Diversified Equity Portfolio	2.87%	\$ 284	Passive Moderate Growth Portfolio	0.68%	\$ 67
Social Choice Portfolio	1.97%	\$ 195	Passive Conservative Portfolio	0.55%	\$ 54
Active Growth Portfolio	1.92%	\$ 190	Active Conservative Portfolio	0.42%	\$ 41
Passive Growth Portfolio	1.46%	\$ 144	Active Diversified Fixed Income Portfolio	0.31%	\$ 30
Index International Equity Portfolio	1.33%	\$ 132	Active International Equity Portfolio	0.31%	\$ 30
Index Bond Portfolio	0.82%	\$ 81	Passive Diversified Fixed Income Portfolio	0.27%	\$ 26

# Assets by Underlying Fund as of Q4 2019



Fund	% of Assets	\$ Millions	Fund	% of Assets	\$ Millions
T-C Equity Index Fund	20.57%	\$ 2,032	Funding Agreement (Principal Plus Interest)	4.74%	\$ 468
T-C Bond Index Fund	14.16%	\$ 1,398	T. Rowe Price Instl Large Cap Growth Fund	4.72%	\$ 466
Funding Agreement (Managed Allocation)	10.33%	\$ 1,021	T. Rowe Price Instl Large Cap Value Fund	4.60%	\$ 455
T-C International Equity Index Fund	6.50%	\$ 642	DFA Large Cap International Fund	3.71%	\$ 367
Metropolitan West Total Return Bond Fund	5.77%	\$ 570	T-C Inflation-Linked Bond Fund	3.54%	\$ 349
T-C S&P 500 Index Fund	5.59%	\$ 553	Other	15.77%	\$ 1,557
<b>Other Funds</b>					
T-C Real Estate Securities Fund	3.13%	\$ 310	T-C Emerging Markets Equity Index Fund	1.47%	\$ 146
PIMCO Income Fund	2.29%	\$ 226	T-C Small Cap Equity Fund	1.07%	\$ 106
PIMCO Real Return Fund	2.03%	\$ 200	T. Rowe Price Instl Floating Rate Fund	1.01%	\$ 100
T-C Social Choice Equity Fund	1.98%	\$ 195	DFA Emerging Markets Core Equity Portfolio	0.81%	\$ 80
T-C High Yield Bond Fund	1.97%	\$ 195			

# Actively Managed Portfolios vs Composite Benchmarks Q4 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 145,000 in December, capping a decade of solid job creation and robust wage growth but falling just shy of economist expectations of 160,000.
- Average hourly earnings of all employees on private nonfarm payrolls showed a 3.1% year-over-year increase from last October.
- The Conference Board's index of leading economic indicators (LEI) remained unchanged in November, following a 0.2% decline in both October and September.
- All age bands in the Actively Managed Portfolios had positive absolute returns in Q4 and most outperformed their blended benchmarks.
- Contributing to absolute returns was the DFA Emerging Markets Core Equity Portfolio, which returned 10.55%. Also contributing to absolute performance was the T. Rowe Price Large Cap Growth Fund, which generated 10.00%.
- The largest absolute detractors were the MetWest Total Return Bond Fund and TIAA-CREF Real Estate Securities Fund. Both of these funds had modestly positive absolute returns and outperformed their respective benchmark.
- The highest performing investment option was the Social Choice Portfolio. This returned 8.99%, in line with U.S. stock markets.

# Actively Managed Portfolios vs Composite Benchmarks

Investment Portfolios	3 Month	YTD	Average Annual Total Return			Since Inception	Inception Date
			1 Year	3 Year	5 Year		
<b>Active Age-Based Portfolios**</b>							
Active Age-Based Portfolio 0-4	6.53%	22.59%	22.59%	11.95%	8.78%	10.76%	11/04/11
Blended Benchmark Returns	6.73%	24.06%	24.06%	11.11%	8.22%	10.03%	
Difference	-0.20%	-1.47%	-1.47%	0.84%	0.56%	0.73%	
Active Age-Based Portfolio 5-8	5.89%	20.61%	20.61%	11.04%	8.21%	10.01%	11/04/11
Blended Benchmark Returns	5.94%	22.10%	22.10%	10.24%	7.62%	9.16%	
Difference	-0.05%	-1.49%	-1.49%	0.80%	0.59%	0.85%	
Active Age-Based Portfolio 9-10	5.24%	19.22%	19.22%	10.12%	7.54%	9.18%	11/04/11
Blended Benchmark Returns	5.14%	20.15%	20.15%	9.36%	7.02%	8.28%	
Difference	0.10%	-0.93%	-0.93%	0.76%	0.52%	0.90%	
Active Age-Based Portfolio 11-12	4.46%	17.27%	17.27%	9.15%	6.88%	8.34%	11/04/11
Blended Benchmark Returns	4.35%	18.22%	18.22%	8.48%	6.40%	7.40%	
Difference	0.11%	-0.95%	-0.95%	0.67%	0.48%	0.94%	
Active Age-Based Portfolio 13-14	3.86%	15.71%	15.71%	8.17%	6.23%	7.51%	11/04/11
Blended Benchmark Returns	3.57%	16.29%	16.29%	7.58%	5.77%	6.51%	
Difference	0.29%	-0.58%	-0.58%	0.59%	0.46%	1.00%	
Active Age-Based Portfolio 15	3.21%	13.57%	13.57%	7.20%	5.55%	6.52%	11/04/11
Blended Benchmark Returns	2.79%	13.67%	13.67%	6.45%	4.91%	5.38%	
Difference	0.42%	-0.10%	-0.10%	0.75%	0.64%	1.14%	
Active Age-Based Portfolio 16	2.73%	11.75%	11.75%	6.29%	4.88%	5.76%	11/04/11
Blended Benchmark Returns	2.40%	12.04%	12.04%	5.76%	4.38%	4.71%	
Difference	0.33%	-0.29%	-0.29%	0.53%	0.50%	1.05%	
Active Age-Based Portfolio 17	2.43%	10.07%	10.07%	5.44%	4.24%	4.89%	11/04/11
Blended Benchmark Returns	2.01%	10.09%	10.09%	4.96%	3.73%	3.92%	
Difference	0.42%	-0.02%	-0.02%	0.48%	0.51%	0.97%	
Active Age-Based Portfolio 18 & Over	1.85%	8.09%	8.09%	4.46%	3.55%	3.99%	11/04/11
Blended Benchmark Returns	1.62%	8.17%	8.17%	4.16%	3.09%	3.13%	
Difference	0.23%	-0.08%	-0.08%	0.30%	0.46%	0.86%	
<b>Active Multi-Fund Investment Portfolios</b>							
Active Diversified Equity Portfolio	7.77%	25.74%	25.74%	13.66%	9.87%	12.24%	11/04/11
Blended Benchmark Returns	8.34%	27.99%	27.99%	12.82%	9.37%	11.75%	
Difference	-0.57%	-2.25%	-2.25%	0.84%	0.50%	0.49%	
Active Growth Portfolio	5.90%	20.88%	20.88%	10.99%	8.14%	9.97%	11/04/11
Blended Benchmark Returns	5.94%	22.10%	22.10%	10.24%	7.62%	9.16%	
Difference	-0.04%	-1.22%	-1.22%	0.75%	0.52%	0.81%	
Active Moderate Growth Portfolio	3.74%	15.38%	15.38%	8.24%	6.32%	7.70%	11/09/11
Blended Benchmark Returns	3.57%	16.29%	16.29%	7.58%	5.77%	6.62%	
Difference	0.17%	-0.91%	-0.91%	0.66%	0.55%	1.08%	
Active Conservative Portfolio	0.65%	5.19%	5.19%	2.85%	2.43%	2.63%	11/04/11
Blended Benchmark Returns	0.47%	5.43%	5.43%	2.80%	2.10%	1.78%	
Difference	0.18%	-0.24%	-0.24%	0.05%	0.33%	0.85%	
Active International Equity Portfolio	8.48%	20.68%	20.68%	9.58%	5.44%	6.54%	11/10/11
Blended Benchmark Returns	8.66%	21.71%	21.71%	9.82%	5.53%	6.61%	
Difference	-0.18%	-1.03%	-1.03%	-0.24%	-0.09%	-0.07%	
Active Diversified Fixed Income Portfolio	1.02%	8.77%	8.77%	4.31%	3.62%	4.12%	11/08/11
Blended Benchmark Returns	0.47%	8.67%	8.67%	3.94%	3.14%	2.91%	
Difference	0.55%	0.10%	0.10%	0.37%	0.48%	1.21%	
<b>Active Single Fund Investment Portfolios</b>							
Social Choice Portfolio	8.99%	31.38%	31.38%	14.44%	10.62%	13.46%	11/04/11
Benchmark Returns	9.10%	31.02%	31.02%	14.57%	11.24%	14.38%	
Difference	-0.11%	0.36%	0.36%	-0.13%	-0.62%	-0.92%	
Principal Plus Interest Portfolio**	0.45%	1.73%	1.73%	1.48%	1.32%	1.35%	11/04/11
Benchmark Returns	0.46%	2.25%	2.25%	1.65%	1.05%	0.06%	
Difference	-0.01%	-0.52%	-0.52%	-0.17%	0.27%	1.29%	

\* 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 12/31/20.

# Asset Allocation, Fees, and Performance

Active Age-Based Portfolio Age of Beneficiary	Q4 Portfolio Return	Q4 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>23</b>	<b>52</b>	<b>37</b>	<b>45</b>	<b>50</b>	<b>N/A</b>
<b>0 - 4</b>	6.53%	6.73%	<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>	5.89%	5.94%	<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>	5.24%	5.14%	<b>53</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>	4.46%	4.35%	<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>	3.86%	3.57%	<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>	3.21%	2.79%	<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>	2.73%	2.40%	<b>43</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>	2.43%	2.01%	<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>	1.85%	1.62%	<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

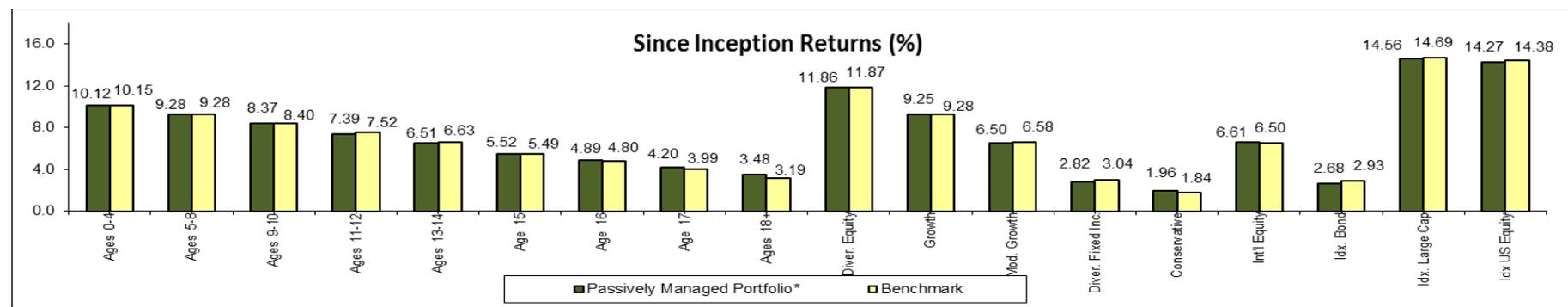
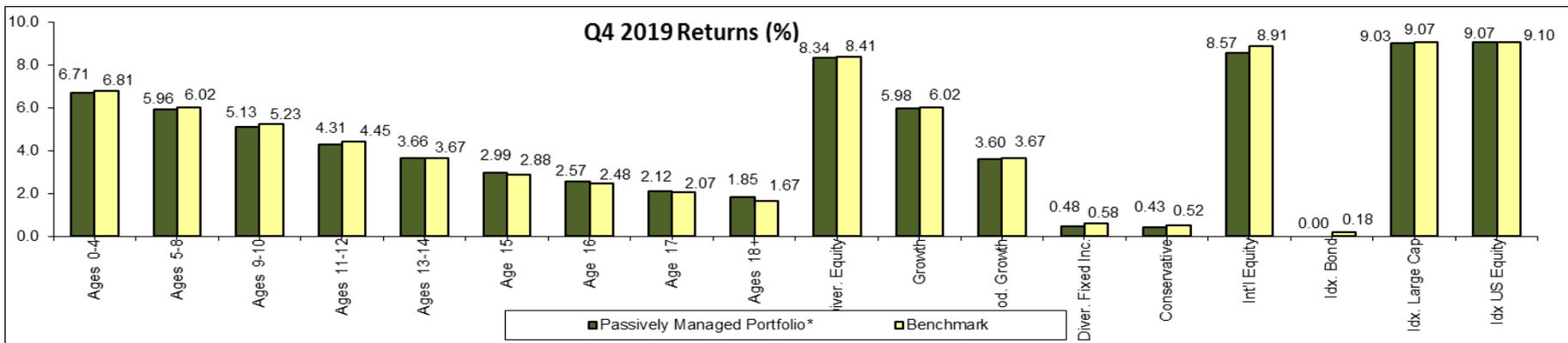
<b>Active Diversified Equity Portfolio</b>	7.77%	8.34%	<b>55</b>	28.35%	28.35%		6.30%	7.00%	24.00%	6.00%				
<b>Active Growth Portfolio</b>	5.90%	5.94%	<b>54</b>	19.85%	19.85%	3.00%	4.40%	4.90%	16.80%	4.20%	15.00%	6.00%	6.00%	
<b>Active Moderate Growth Portfolio</b>	3.74%	3.57%	<b>53</b>	11.34%	11.34%	6.00%	2.52%	2.80%	9.60%	2.40%	30.00%	12.00%	12.00%	
<b>Active Diversified Fixed Income Portfolio</b>	1.02%	0.47%	<b>51</b>			10.00%					50.00%	20.00%	20.00%	
<b>Active Conservative Portfolio</b>	0.65%	0.47%	<b>30</b>			5.00%					25.00%	10.00%	10.00%	50.00%
<b>Active International Equity Portfolio</b>	8.48%	8.66%	<b>37</b>						80.00%	20.00%				
<b>Fund's Performance vs Benchmk Q4 2019 (bp)</b>				<b>(62)</b>	<b>(60)</b>	<b>(13)</b>	<b>(234)</b>	<b>45</b>	<b>16</b>	<b>(129)</b>	<b>10</b>	<b>13</b>	<b>235</b>	<b>(1)</b>

## Active Single Fund Investment Portfolios

Investment Portfolios	Q4 Portfolio Return	Q4 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q4 2019 (bp)
<b>Social Choice Portfolio</b>	8.99%	9.10%	<b>25</b>	100.00%	TIAA-CREF Social Choice Equity Fund	<b>(7)</b>
<b>Principal Plus Interest Portfolio</b>	0.45%	0.46%	<b>N/A</b>	100.00%	TIAA-CREF Life Co. Funding Agreement	<b>(1)</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 Q4 and Since Inception Returns (%)



- The S&P 500 Index gained 9.07% for the quarter, capping off the best year for U.S. stocks since 2013.
- Treasury yields ended the quarter higher. The Bloomberg Barclays U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds returned 0.18%.
- All age bands in the Passively Managed Portfolios posted positive absolute returns for the quarter and some outperformed their blended benchmarks.
- Positive absolute returns were driven most by the TIAA-CREF Emerging Markets Equity Index Fund. Also contributing was the TIAA-CREF Equity Index Fund, which returned 9.06%.
- There were modestly negative relative returns for some equity and fixed income funds, in line with expectations. The TIAA-CREF High Yield Fund and TIAA-CREF Real Estate Securities Fund outperformed for both the fourth quarter, as well as the full year.
- All Multi-Fund and Single Fund Portfolios also saw non-negative absolute returns. The Index U.S. Equity Portfolio saw the highest absolute results, due to strength in the U.S. stock markets, returning 9.07%.

# Passively Managed Portfolios vs Composite Benchmarks

Investment Portfolios	Average Annual Total Return						
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	Inception Date
<b>Passive Age-Based Portfolio**</b>							
Passive Age-Based Portfolio 0-4	6.71%	24.08%	24.08%	11.32%	8.30%	10.12%	11/04/11
Blended Benchmark Returns	6.81%	24.11%	24.11%	11.26%	8.31%	10.15%	
Difference	-0.10%	-0.03%	-0.03%	0.06%	-0.01%	-0.03%	
Passive Age-Based Portfolio 5-8	5.96%	22.14%	22.14%	10.52%	7.71%	9.28%	11/04/11
Blended Benchmark Returns	6.02%	22.18%	22.18%	10.38%	7.71%	9.28%	
Difference	-0.06%	-0.04%	-0.04%	0.14%	0.00%	0.00%	
Passive Age-Based Portfolio 9-10	5.13%	19.99%	19.99%	9.57%	7.06%	8.37%	11/04/11
Blended Benchmark Returns	5.23%	20.27%	20.27%	9.49%	7.09%	8.40%	
Difference	-0.10%	-0.28%	-0.28%	0.08%	-0.03%	-0.03%	
Passive Age-Based Portfolio 11-12	4.31%	18.01%	18.01%	8.54%	6.33%	7.39%	11/04/11
Blended Benchmark Returns	4.45%	18.36%	18.36%	8.60%	6.47%	7.52%	
Difference	-0.14%	-0.35%	-0.35%	-0.06%	-0.14%	-0.13%	
Passive Age-Based Portfolio 13-14	3.66%	16.59%	16.59%	7.60%	5.70%	6.51%	11/04/11
Blended Benchmark Returns	3.67%	16.46%	16.46%	7.70%	5.83%	6.63%	
Difference	-0.01%	0.13%	0.13%	-0.10%	-0.13%	-0.12%	
Passive Age-Based Portfolio 15	2.99%	14.14%	14.14%	6.59%	4.97%	5.52%	11/04/11
Blended Benchmark Returns	2.88%	13.85%	13.85%	6.54%	4.97%	5.49%	
Difference	0.11%	0.29%	0.29%	0.05%	0.00%	0.03%	
Passive Age-Based Portfolio 16	2.57%	12.33%	12.33%	5.89%	4.47%	4.89%	11/04/11
Blended Benchmark Returns	2.48%	12.20%	12.20%	5.85%	4.42%	4.80%	
Difference	0.09%	0.13%	0.13%	0.04%	0.05%	0.09%	
Passive Age-Based Portfolio 17	2.12%	10.24%	10.24%	5.07%	3.89%	4.20%	11/04/11
Blended Benchmark Returns	2.07%	10.22%	10.22%	5.03%	3.77%	3.99%	
Difference	0.05%	0.02%	0.02%	0.04%	0.12%	0.21%	
Passive Age-Based Portfolio 18 & Over	1.85%	8.45%	8.45%	4.21%	3.28%	3.48%	11/04/11
Blended Benchmark Returns	1.67%	8.27%	8.27%	4.21%	3.12%	3.19%	
Difference	0.18%	0.18%	0.18%	0.00%	0.16%	0.29%	
<b>Passive Multi-Fund Investment Portfolios</b>							
Passive Diversified Equity Portfolio	8.34%	27.96%	27.96%	13.08%	9.53%	11.86%	11/04/11
Blended Benchmark Returns	8.41%	27.99%	27.99%	12.99%	9.48%	11.87%	
Difference	-0.07%	-0.03%	-0.03%	0.09%	0.05%	-0.01%	
Passive Growth Portfolio	5.98%	22.22%	22.22%	10.42%	7.68%	9.25%	11/04/11
Blended Benchmark Returns	6.02%	22.18%	22.18%	10.38%	7.71%	9.28%	
Difference	-0.04%	0.04%	0.04%	0.04%	-0.03%	-0.03%	
Passive Moderate Growth Portfolio	3.60%	16.21%	16.21%	7.64%	5.73%	6.50%	11/08/11
Blended Benchmark Returns	3.67%	16.46%	16.46%	7.70%	5.83%	6.58%	
Difference	-0.07%	-0.25%	-0.25%	-0.06%	-0.10%	-0.08%	
Passive Conservative Portfolio	0.43%	5.30%	5.30%	2.64%	2.16%	1.96%	11/04/11
Blended Benchmark Returns	0.52%	5.58%	5.58%	2.84%	2.12%	1.84%	
Difference	-0.09%	-0.28%	-0.28%	-0.20%	0.04%	0.12%	
Index International Equity Portfolio	8.57%	21.14%	21.14%	10.29%	6.00%	6.61%	11/04/11
Blended Benchmark Returns	8.91%	21.33%	21.33%	10.00%	5.73%	6.50%	
Difference	-0.34%	-0.19%	-0.19%	0.29%	0.27%	0.11%	
Passive Diversified Fixed Income Portfolio	0.48%	8.85%	8.85%	3.84%	3.01%	2.82%	11/08/11
Blended Benchmark Returns	0.58%	8.98%	8.98%	4.03%	3.19%	3.04%	
Difference	-0.10%	-0.13%	-0.13%	-0.19%	-0.18%	-0.22%	
<b>Passive Single Fund Investment Portfolios</b>							
Index Bond Portfolio	0.00%	8.38%	8.38%	3.85%	2.86%	2.68%	11/04/11
Benchmark Returns	0.18%	8.72%	8.72%	4.03%	3.05%	2.93%	
Difference	-0.18%	-0.34%	-0.34%	-0.18%	-0.19%	-0.25%	
Index U.S. Large Cap Equity Portfolio	9.03%	31.40%	31.40%	15.16%	11.59%	14.56%	11/04/11
Benchmark Returns	9.07%	31.49%	31.49%	15.27%	11.70%	14.69%	
Difference	-0.04%	-0.09%	-0.09%	-0.11%	-0.11%	-0.13%	
Index U.S. Equity Portfolio	9.07%	30.85%	30.85%	14.50%	11.18%	14.27%	11/04/11
Benchmark Returns	9.10%	31.02%	31.02%	14.57%	11.24%	14.38%	
Difference	-0.03%	-0.17%	-0.17%	-0.07%	-0.06%	-0.11%	

\* 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 12/31/20.

# Asset Allocation, Fees, and Performance

Passive Age-Based Portfolio Age of Beneficiary	Q4 Portfolio Return	Q4 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>11</b>	<b>26</b>	<b>36</b>	<b>N/A</b>
<b>0 - 4</b>	6.71%	6.81%	<b>14</b>	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
<b>5 - 8</b>	5.96%	6.02%	<b>15</b>	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	0.00%
<b>9 - 10</b>	5.13%	5.23%	<b>15</b>	37.80%	14.40%	3.60%	4.20%	28.00%	8.00%	4.00%	0.00%
<b>11 - 12</b>	4.31%	4.45%	<b>16</b>	31.50%	12.00%	3.00%	3.50%	35.00%	10.00%	5.00%	0.00%
<b>13 - 14</b>	3.66%	3.67%	<b>17</b>	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	0.00%
<b>15</b>	2.99%	2.88%	<b>16</b>	18.90%	7.20%	1.80%	2.10%	42.00%	12.00%	6.00%	10.00%
<b>16</b>	2.57%	2.48%	<b>14</b>	15.75%	6.00%	1.50%	1.75%	38.50%	11.00%	5.50%	20.00%
<b>17</b>	2.12%	2.07%	<b>12</b>	12.60%	4.80%	1.20%	1.40%	31.50%	9.00%	4.50%	35.00%
<b>18 +</b>	1.85%	1.67%	<b>10</b>	9.45%	3.60%	0.90%	1.05%	24.50%	7.00%	3.50%	50.00%

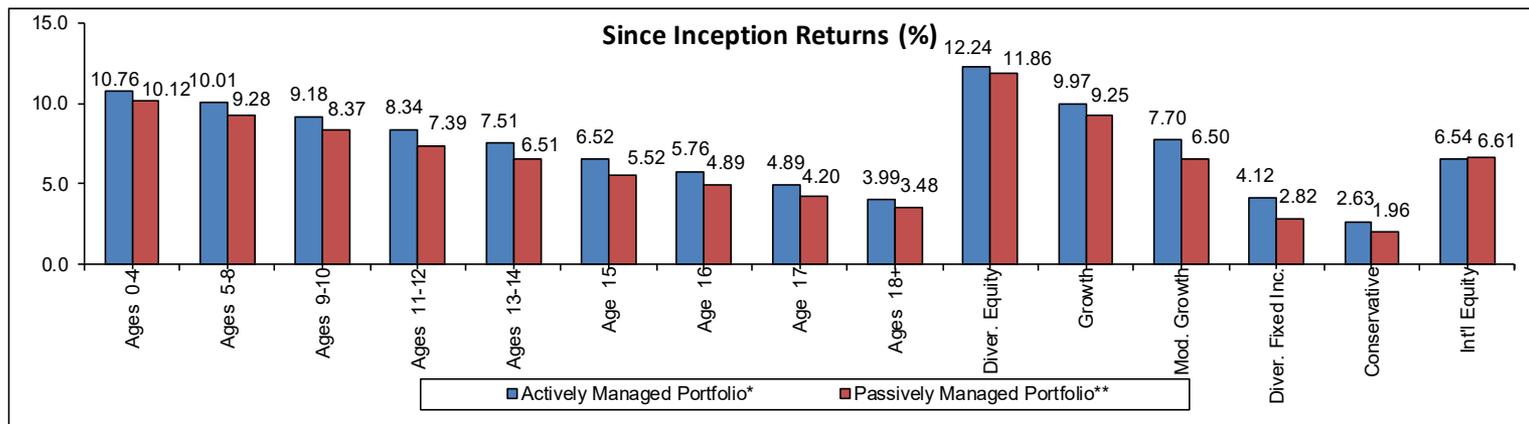
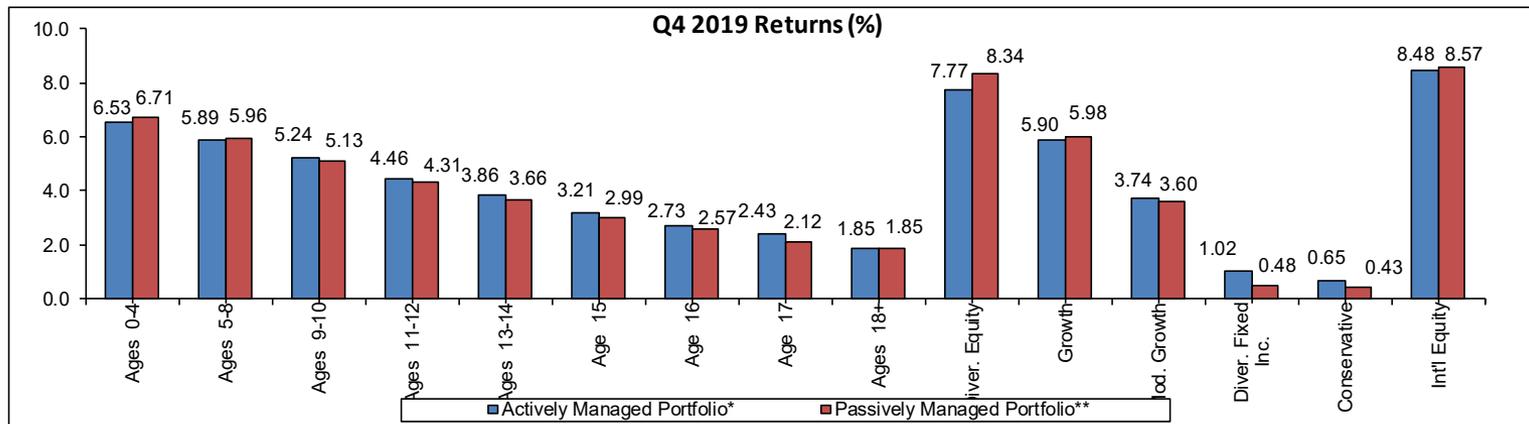
## Passive Multi-Fund Investment Portfolios

Passive Diversified Equity Portfolio	8.34%	8.41%	<b>12</b>	63.00%	24.00%	6.00%	7.00%				
Passive Growth Portfolio	5.98%	6.02%	<b>15</b>	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
Passive Moderate Growth Portfolio	3.60%	3.67%	<b>17</b>	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	
Passive Diversified Fixed Income Portfolio	0.48%	0.58%	<b>20</b>					70.00%	20.00%	10.00%	
Passive Conservative Portfolio	0.43%	0.52%	<b>11</b>					35.00%	10.00%	5.00%	50.00%
Index International Equity Portfolio	8.57%	8.91%	<b>12</b>		80.00%	20.00%					
<b>Fund's Performance vs Benchmk Q4 2019 (bp)</b>				<b>(4)</b>	<b>(27)</b>	<b>(8)</b>	<b>45</b>	<b>(17)</b>	<b>(20)</b>	<b>69</b>	<b>(1)</b>

Investment Portfolios	Q4 Portfolio Return	Q4 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q4 2019 (bp)
Index Bond Portfolio	0.00%	0.18%	<b>14</b>	100.00%	TIAA-CREF Bond Index Fund	<b>(17)</b>
Index U.S. Large Cap Equity Portfolio	9.03%	9.07%	<b>8</b>	100.00%	TIAA-CREF S&P 500 Index Fund	<b>0</b>
Index U.S. Equity Portfolio	9.07%	9.10%	<b>8</b>	100.00%	TIAA-CREF Equity Index Fund	<b>(4)</b>

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

# Actively Managed Portfolios vs. Passively Managed Portfolios



- In Q4, most Actively Managed Portfolios outperformed the Passively Managed Portfolios.
- Certain underlying funds in the Active Portfolios outperformed their benchmark, which resulted in higher returns for some portfolios with allocations to those funds compared to their passive counterparts. The primary cause for outperformance was the PIMCO Income Fund, which beat its benchmark by 235 basis points due to securitized credit, among other factors.
- Since Inception returns largely continue to favor the Actively Managed Portfolios due to strong long term results.

# Underlying Funds vs. Benchmarks

	Average Annual Total Return						Standard Deviation	Fund Incept. Date
	3 Month	YTD	1 Year	3 Year	5 Year	Life		
<b>TIAA-CREF FUNDS</b>								
T-C Bond Index Fund	0.01%	8.38%	8.38%	3.87%	2.90%	3.52%	2.88%	09/14/2009
Bloomberg Barclays U.S. Aggregate Bond Index	0.18%	8.72%	8.72%	4.03%	3.05%	3.72%	2.91%	
Difference	<b>-0.17%</b>	<b>-0.34%</b>	<b>-0.34%</b>	<b>-0.16%</b>	<b>-0.15%</b>	<b>-0.20%</b>		
T-C Emerging Markets Equity Index Fund*	11.76%	18.57%	18.57%	11.67%	5.66%	3.67%	14.49%	08/31/2010
MSCI Emerging Markets® Index	11.84%	18.42%	18.42%	11.58%	5.61%	3.98%	14.37%	
Difference	<b>-0.08%</b>	<b>0.15%</b>	<b>0.15%</b>	<b>0.09%</b>	<b>0.05%</b>	<b>-0.31%</b>		
T-C Equity Index Fund	9.06%	30.87%	30.87%	14.53%	11.21%	6.55%	12.36%	07/01/1999
Russell 3000 Index	9.10%	31.02%	31.02%	14.58%	11.24%	6.62%	12.38%	
Difference	<b>-0.04%</b>	<b>-0.15%</b>	<b>-0.15%</b>	<b>-0.05%</b>	<b>-0.03%</b>	<b>-0.07%</b>		
T-C High Yield Bond Fund	3.26%	16.21%	16.21%	6.13%	6.03%	7.05%	4.75%	03/31/2006
ICE BofAML BB/B Cash Pay Index	2.57%	15.09%	15.09%	6.45%	6.11%	6.97%	3.89%	
Difference	<b>0.69%</b>	<b>1.12%</b>	<b>1.12%</b>	<b>-0.32%</b>	<b>-0.08%</b>	<b>0.08%</b>		
T-C Inflation-Linked Bond Fund	0.80%	6.59%	6.59%	2.57%	1.93%	3.92%	2.09%	10/01/2002
Bloomberg Barclays 1-10 Year U.S. TIPS Index	1.00%	6.85%	6.85%	2.79%	2.36%	3.73%	2.09%	
Difference	<b>-0.20%</b>	<b>-0.26%</b>	<b>-0.26%</b>	<b>-0.22%</b>	<b>-0.43%</b>	<b>0.19%</b>		
T-C International Equity Index Fund*	7.90%	21.79%	21.79%	9.82%	5.93%	7.75%	11.05%	10/01/2002
MSCI EAFE Index	8.17%	22.01%	22.01%	9.57%	5.67%	7.71%	10.96%	
Difference	<b>-0.27%</b>	<b>-0.22%</b>	<b>-0.22%</b>	<b>0.25%</b>	<b>0.26%</b>	<b>0.04%</b>		
T-C Real Estate Securities Fund	0.58%	31.09%	31.09%	12.21%	9.06%	10.89%	11.31%	10/01/2002
FTSE NAREIT Equity Index	0.13%	28.66%	28.66%	10.30%	8.43%	11.00%	11.72%	
Difference	<b>0.45%</b>	<b>2.43%</b>	<b>2.43%</b>	<b>1.91%</b>	<b>0.63%</b>	<b>-0.11%</b>		
T-C S&P 500 Index Fund	9.07%	31.42%	31.42%	15.22%	11.63%	10.21%	12.10%	10/01/2002
S&P 500 Index	9.07%	31.49%	31.49%	15.28%	11.70%	10.29%	12.10%	
Difference	<b>0.00%</b>	<b>-0.07%</b>	<b>-0.07%</b>	<b>-0.06%</b>	<b>-0.07%</b>	<b>-0.08%</b>		
T-C Quant Small Cap Equity Fund	7.60%	23.86%	23.86%	7.84%	8.54%	10.67%	15.39%	10/01/2002
Russell 2000 Index	9.94%	25.52%	25.52%	8.60%	8.23%	10.63%	15.94%	
Difference	<b>-2.34%</b>	<b>-1.66%</b>	<b>-1.66%</b>	<b>-0.76%</b>	<b>0.31%</b>	<b>0.04%</b>		
T-C Social Choice Equity Fund	9.03%	31.49%	31.49%	14.54%	10.73%	6.38%	12.21%	07/01/1999
Russell 3000 Index	9.10%	31.02%	31.02%	14.58%	11.24%	6.62%	12.38%	
Difference	<b>-0.07%</b>	<b>0.47%</b>	<b>0.47%</b>	<b>-0.04%</b>	<b>-0.51%</b>	<b>-0.24%</b>		
<b>DFA FUNDS</b>								
DFA Emerging Markets Core Equity Portfolio*	10.55%	16.04%	16.04%	10.33%	5.14%	7.58%	13.86%	04/05/2005
MSCI Emerging Markets® Index	11.84%	18.42%	18.42%	11.58%	5.61%	7.45%	14.37%	
Difference	<b>-1.29%</b>	<b>-2.38%</b>	<b>-2.38%</b>	<b>-1.25%</b>	<b>-0.47%</b>	<b>0.13%</b>		
DFA Large Cap International Portfolio*	8.02%	22.04%	22.04%	9.52%	5.65%	5.73%	11.48%	07/17/1991
MSCI World Ex US Index	7.86%	22.49%	22.49%	9.34%	5.42%	5.81%	10.95%	
Difference	<b>0.16%</b>	<b>-0.45%</b>	<b>-0.45%</b>	<b>0.18%</b>	<b>0.23%</b>	<b>-0.08%</b>		
<b>METWEST FUNDS</b>								
MetWest Total Return Bond Fund	0.28%	9.23%	9.23%	4.27%	3.11%	4.08%	2.87%	07/01/1999
Bloomberg Barclays U.S. Aggregate Bond Index	0.18%	8.72%	8.72%	4.03%	3.05%	3.16%	2.91%	
Difference	<b>0.10%</b>	<b>0.51%</b>	<b>0.51%</b>	<b>0.24%</b>	<b>0.06%</b>	<b>0.92%</b>		
<b>PIMCO FUNDS</b>								
PIMCO Income Fund	2.53%	8.05%	8.05%	5.68%	5.66%	8.24%	1.92%	03/30/2007
Barclays Capital U.S. Aggregate Bond Index	0.18%	8.72%	8.72%	4.03%	3.05%	4.23%	2.91%	
Difference	<b>2.35%</b>	<b>-0.67%</b>	<b>-0.67%</b>	<b>1.65%</b>	<b>2.61%</b>	<b>4.01%</b>		
PIMCO Real Return Fund	0.92%	8.52%	8.52%	3.40%	2.46%	5.66%	2.87%	01/29/1997
Bloomberg Barclays U.S. TIPS Index	0.79%	8.43%	8.43%	3.32%	2.62%	-	3.00%	
Difference	<b>0.13%</b>	<b>0.09%</b>	<b>0.09%</b>	<b>0.08%</b>	<b>-0.16%</b>	<b>-</b>		
<b>T. ROWE PRICE FUNDS</b>								
T. Rowe Price Instl Floating Rate Fund	1.73%	8.79%	8.79%	4.26%	4.43%	5.14%	2.45%	01/31/2008
S&P/LSTA Performing Loan Index	1.86%	8.70%	8.70%	4.49%	4.73%	5.32%	2.87%	
Difference	<b>-0.13%</b>	<b>0.09%</b>	<b>0.09%</b>	<b>-0.23%</b>	<b>-0.30%</b>	<b>-0.18%</b>		
T. Rowe Price Instl Large Cap Growth Fund	10.00%	28.49%	28.49%	22.72%	15.91%	10.93%	13.64%	10/31/2001
Russell 1000 Growth Index	10.62%	36.39%	36.39%	20.50%	14.63%	9.10%	13.26%	
Difference	<b>-0.62%</b>	<b>-7.90%</b>	<b>-7.90%</b>	<b>2.22%</b>	<b>1.28%</b>	<b>1.83%</b>		
T. Rowe Price Instl Large Cap Value Fund	6.81%	26.69%	26.69%	10.30%	8.56%	8.41%	12.07%	3/31/2000
Russell 1000 Value Index	7.41%	26.54%	26.54%	9.69%	8.29%	7.10%	12.02%	
Difference	<b>-0.60%</b>	<b>0.15%</b>	<b>0.15%</b>	<b>0.61%</b>	<b>0.27%</b>	<b>1.31%</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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4Q

2019

## SCHOLARSHARE COLLEGE SAVINGS PLAN INVESTMENT PERFORMANCE STATUS REPORT



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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. Benchmark relative results were mixed for both actively-managed and passively managed portfolios.
- In 4Q 2019, the markets provided positive absolute results. 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 fourth quarter and mixed benchmark relative results. Large cap stocks outperformed small cap stocks. Large Cap Growth indices outperformed Large Cap Value indices, however the Program's T. Rowe Institutional Large Cap Growth fund once again underperformed its target benchmark.
- International equity markets experienced strong performance in the fourth quarter. The Program's underlying international funds produced positive returns on an absolute basis during the quarter.
- Fixed income posted modestly positive returns over the recent quarter. The Program's actively-managed fixed income funds experienced mixed results when compared with their respective benchmarks for the quarter. The Metropolitan West Total Return Bond fund generated the highest absolute return of the Program's fixed income funds.
- Real Estate produced modest results over the quarter and outperformed its benchmark for the period.

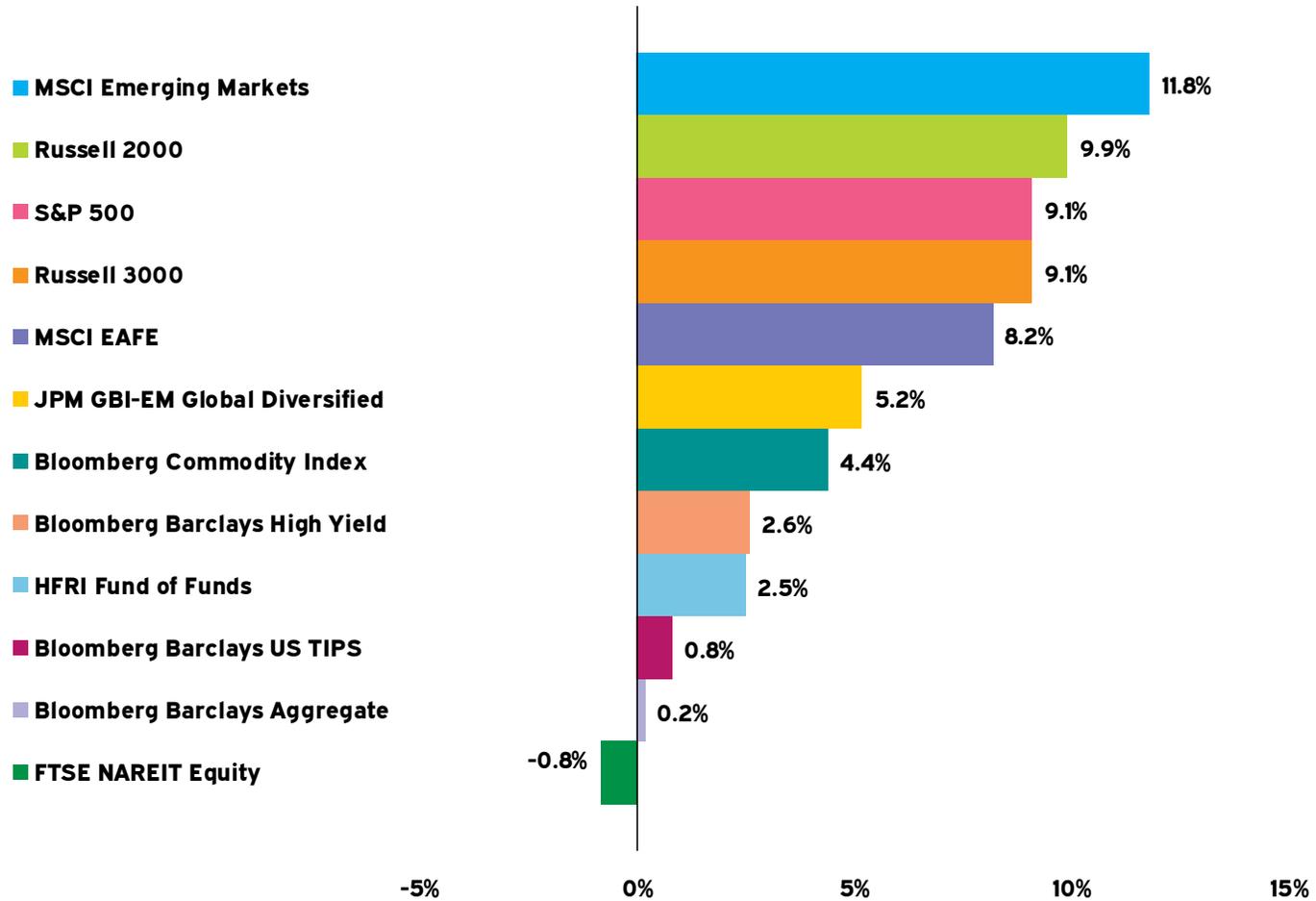
## SECTION 1

## ECONOMIC OVERVIEW

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

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



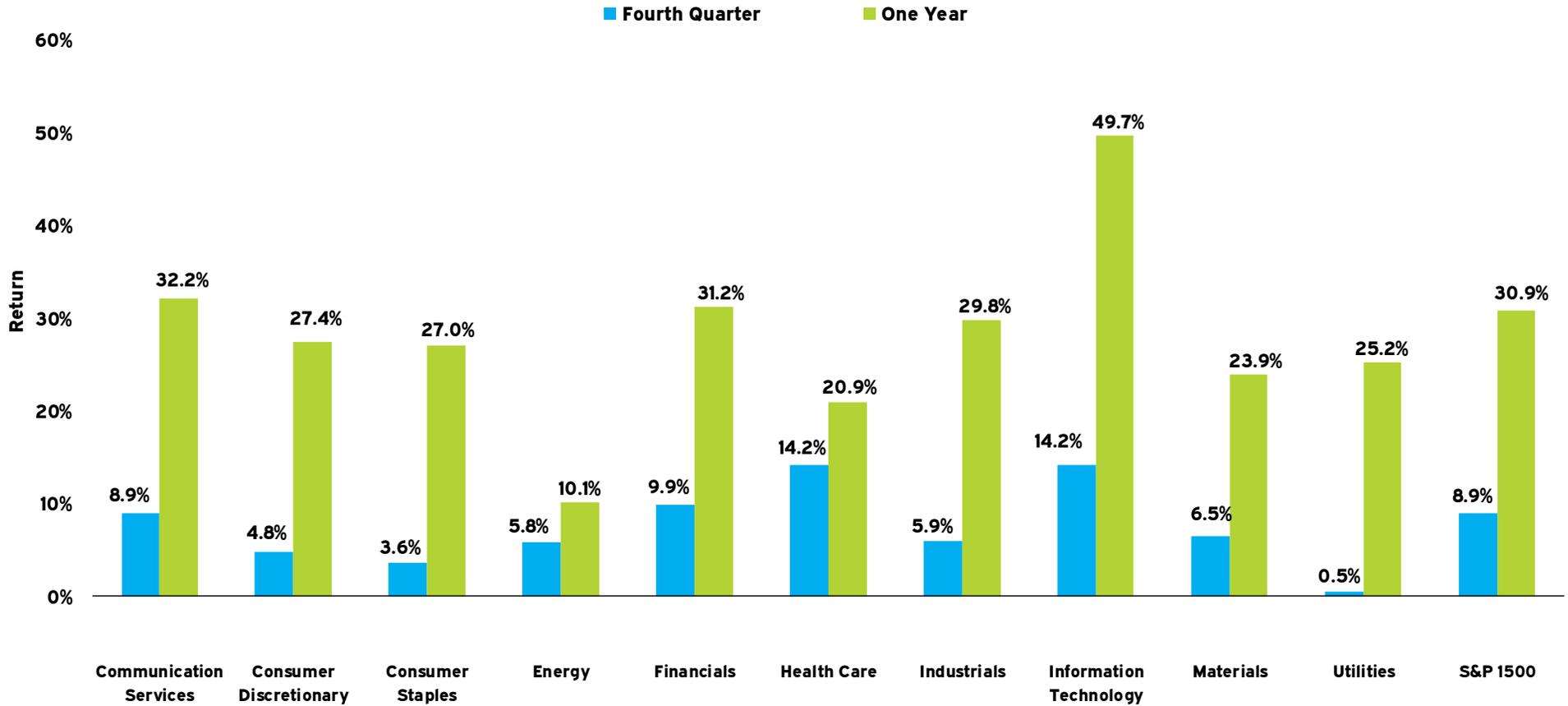
<sup>1</sup> Source: InvestorForce.

Index Returns<sup>1</sup>

	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
<b>Domestic Equity</b>					
S&P 500	9.1	31.5	15.3	11.7	13.6
Russell 3000	9.1	31.0	14.6	11.2	13.4
Russell 1000	9.0	31.4	15.0	11.5	13.5
Russell 1000 Growth	10.6	36.4	20.5	14.6	15.2
Russell 1000 Value	7.4	26.5	9.7	8.3	11.8
Russell MidCap	7.1	30.5	12.1	9.3	13.2
Russell MidCap Growth	8.2	35.5	17.4	11.6	14.2
Russell MidCap Value	6.4	27.1	8.1	7.6	12.4
Russell 2000	9.9	25.5	8.6	8.2	11.8
Russell 2000 Growth	11.4	28.5	12.5	9.3	13.0
Russell 2000 Value	8.5	22.4	4.8	7.0	10.6
<b>Foreign Equity</b>					
MSCI ACWI (ex. US)	8.9	21.5	9.9	5.5	5.0
MSCI EAFE	8.2	22.0	9.6	5.7	5.5
MSCI EAFE (Local Currency)	5.2	21.7	7.7	6.7	7.2
MSCI EAFE Small Cap	11.5	25.0	10.9	8.9	8.7
MSCI Emerging Markets	11.8	18.4	11.6	5.6	3.7
MSCI Emerging Markets (Local Currency)	9.5	18.1	11.5	7.5	6.1
<b>Fixed Income</b>					
Bloomberg Barclays Universal	0.5	9.3	4.3	3.4	4.1
Bloomberg Barclays Aggregate	0.2	8.7	4.0	3.0	3.7
Bloomberg Barclays US TIPS	0.8	8.4	3.3	2.6	3.4
Bloomberg Barclays High Yield	2.6	14.3	6.4	6.1	7.6
JPM GBI-EM Global Diversified	5.2	13.5	7.0	2.8	2.7
<b>Other</b>					
FTSE NAREIT Equity	-0.8	26.0	8.1	7.2	11.9
Bloomberg Commodity Index	4.4	7.7	-0.9	-3.9	-4.7
HFRI Fund of Funds	2.5	7.8	3.7	2.2	2.8

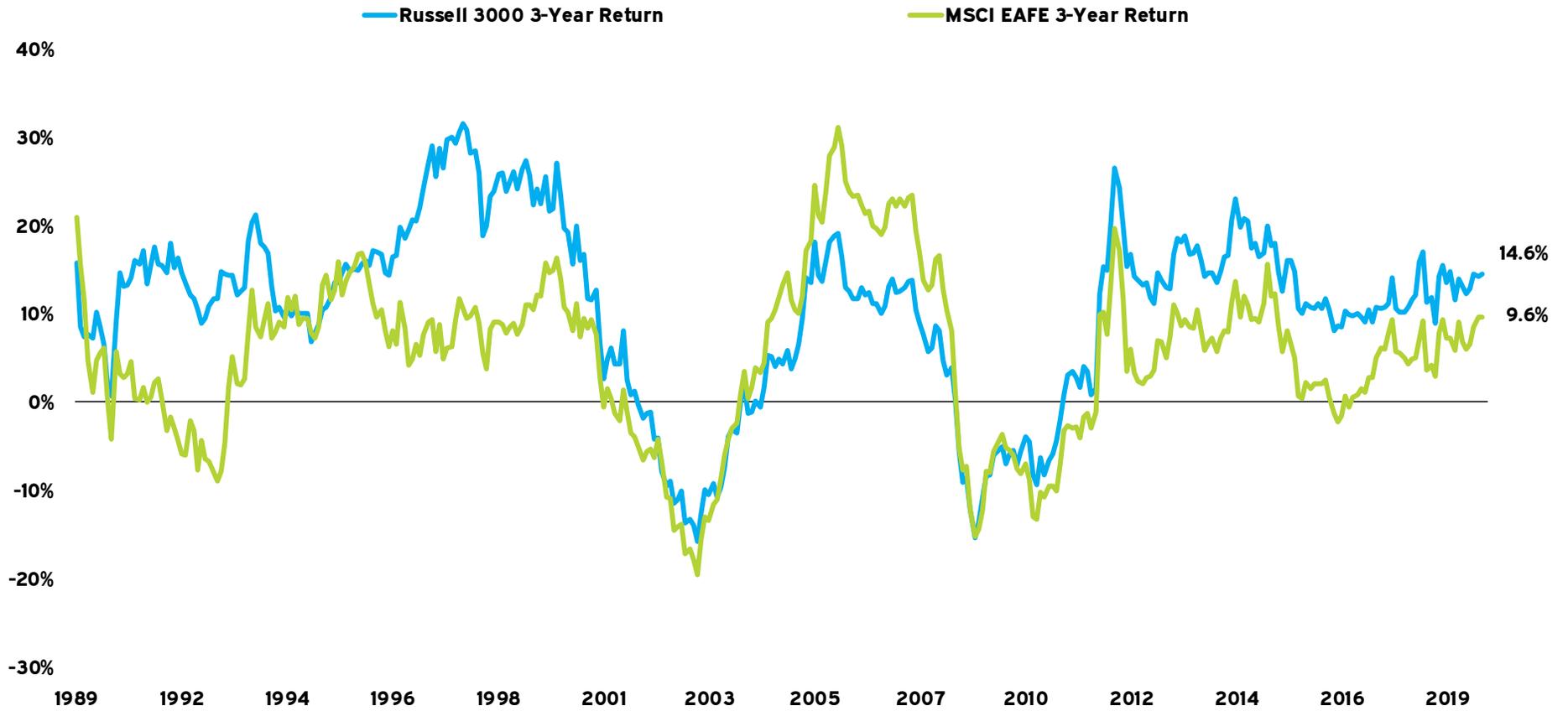
<sup>1</sup> Source: InvestorForce.

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



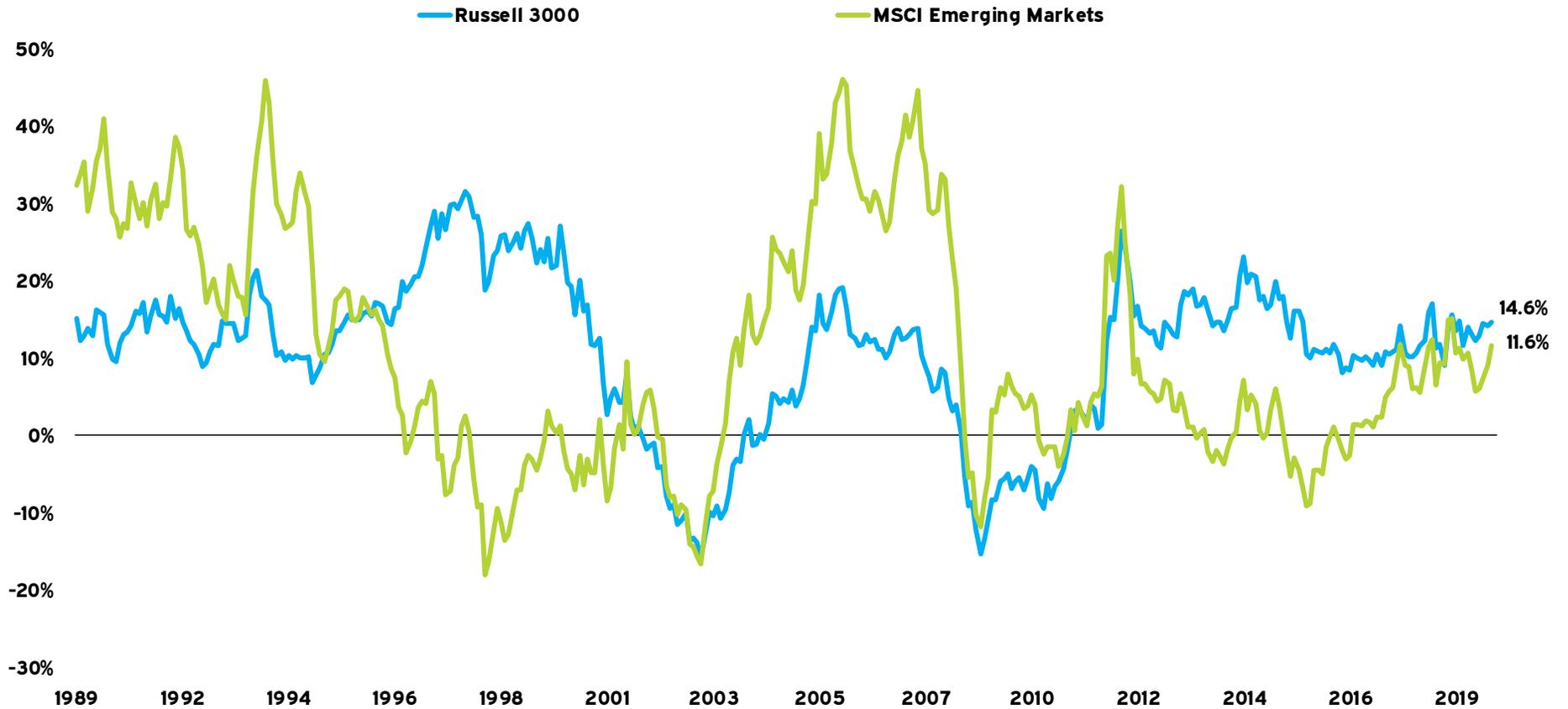
<sup>1</sup> Source: InvestorForce. Represents S&P 1500 (All Cap) data.

US and Developed Market Foreign Equity Rolling Three-Year Returns<sup>1</sup>



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

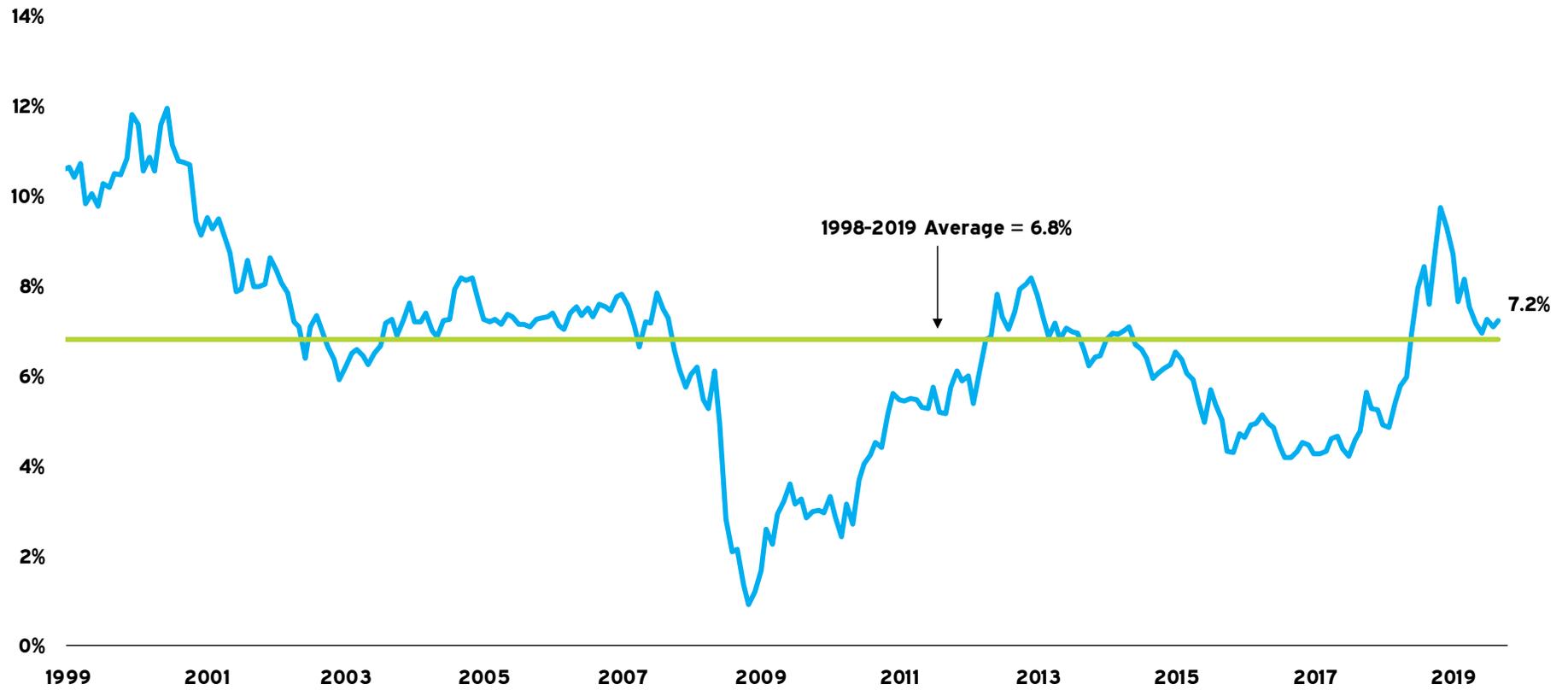
US and Emerging Market Equity Rolling Three-Year Returns<sup>1</sup>



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

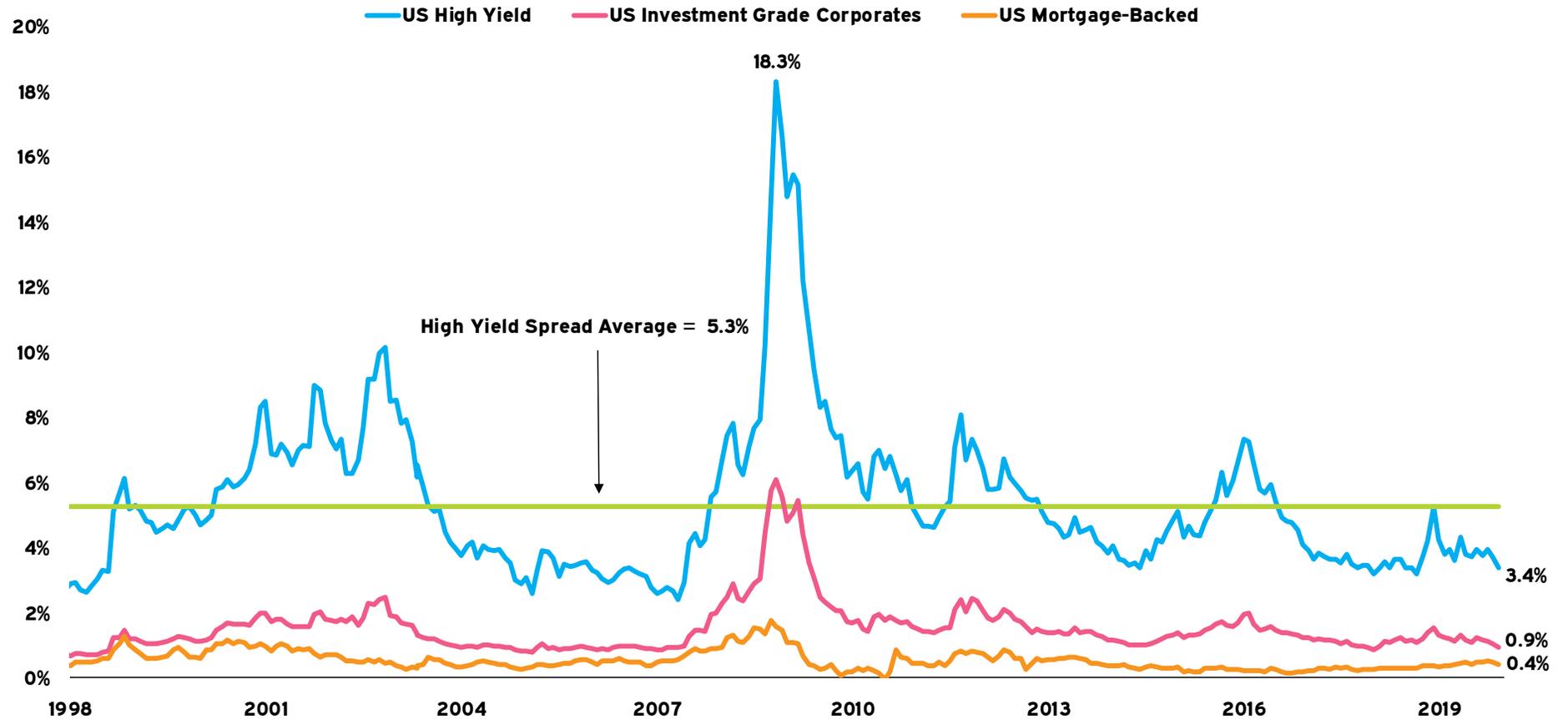
### Rolling Ten-Year Returns: 65% Stocks and 35% Bonds<sup>1</sup>

— 65% Stocks (MSCI ACWI) / 35% Bonds (Bloomberg Barclays Aggregate) 10-Year Rolling Return



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

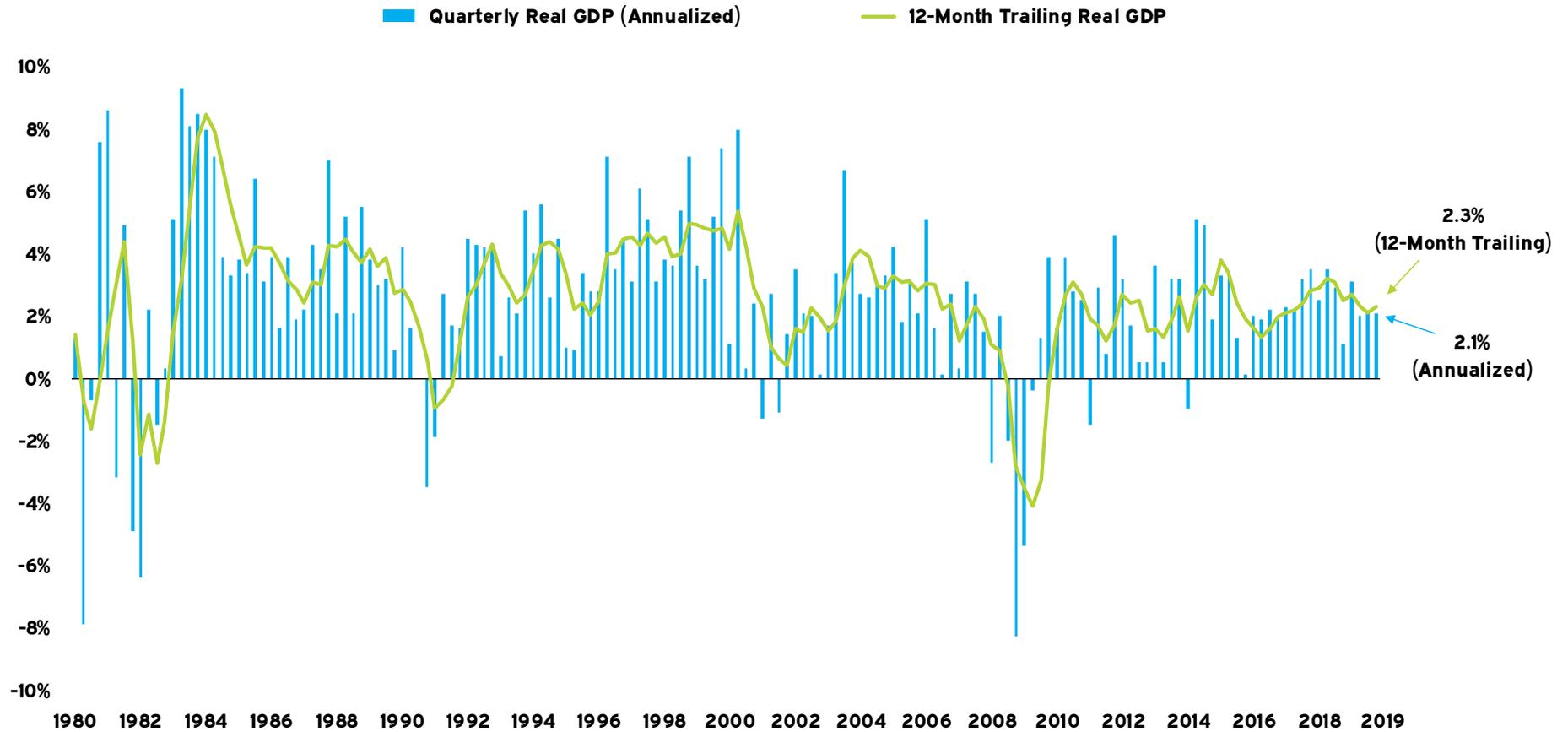
### Credit Spreads vs. US Treasury Bonds<sup>1,2</sup>



<sup>1</sup> Source: Barclays Live. Data represents the OAS.

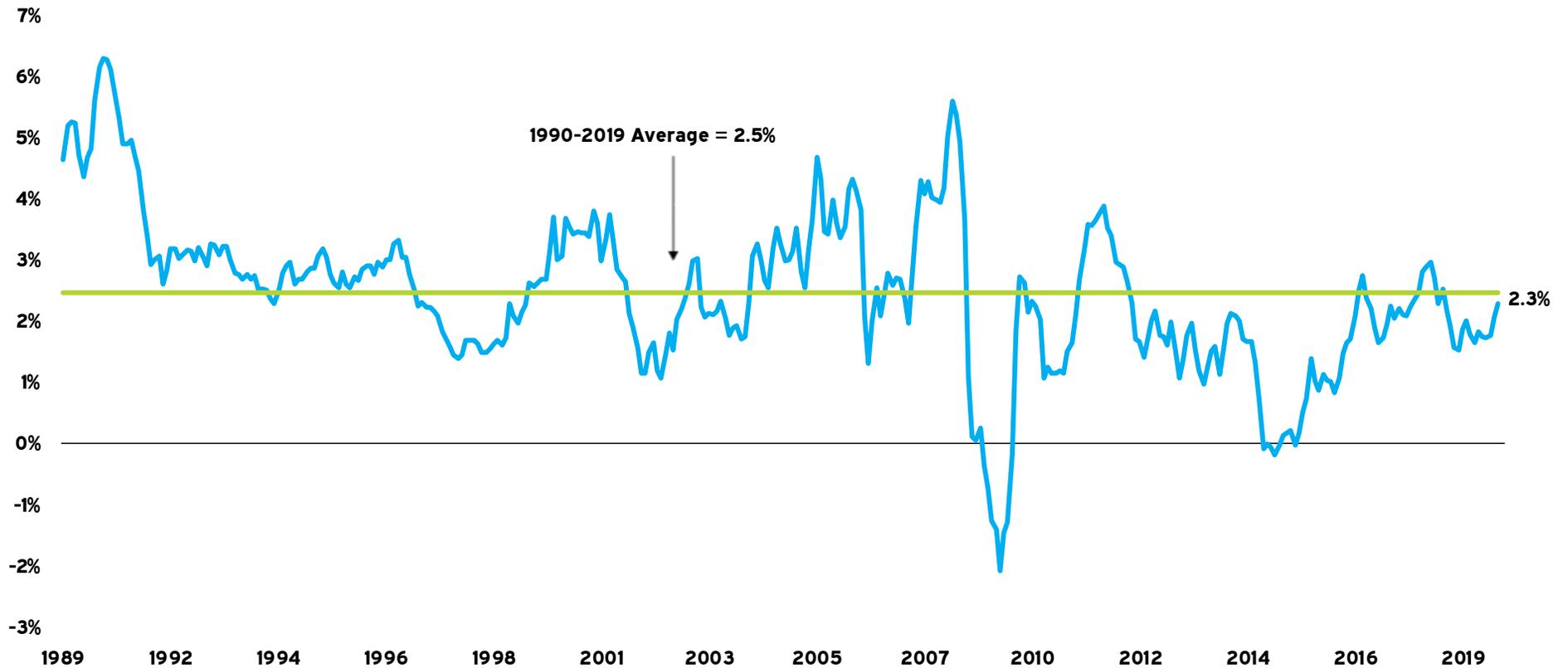
<sup>2</sup> The median high yield spread was 4.7% from 1997-2019.

### US Real Gross Domestic Product (GDP) Growth<sup>1</sup>



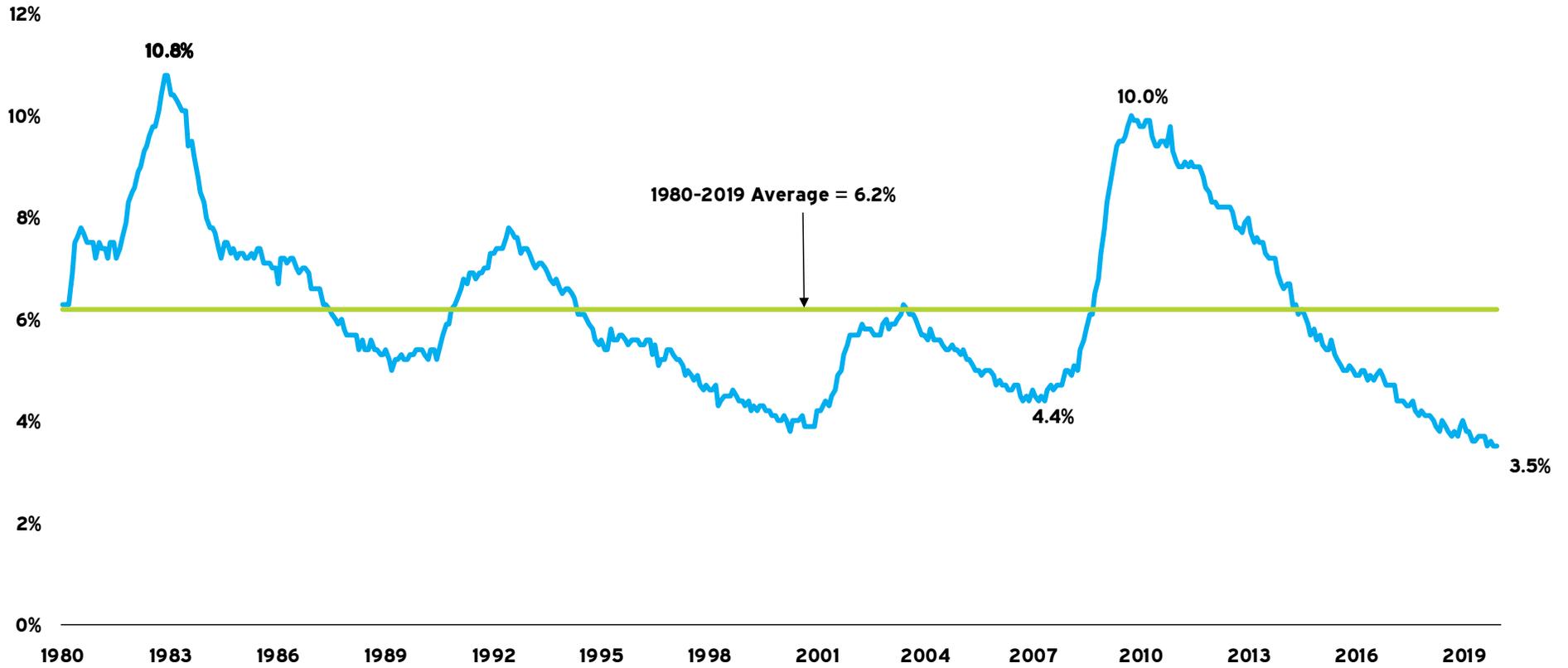
<sup>1</sup> Source: Bureau of Economic Analysis. Data is as of Q4 2019 and represents the first estimate.

### US 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 December 31, 2019.

### US Unemployment<sup>1</sup>



<sup>1</sup> Source: Bureau of Labor Statistics. Data is as of December 31, 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 $\geq$ Aa2 Standard & Poor's $\geq$ AA A.M. Best $\geq$ A+ Fitch $\geq$ AA	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

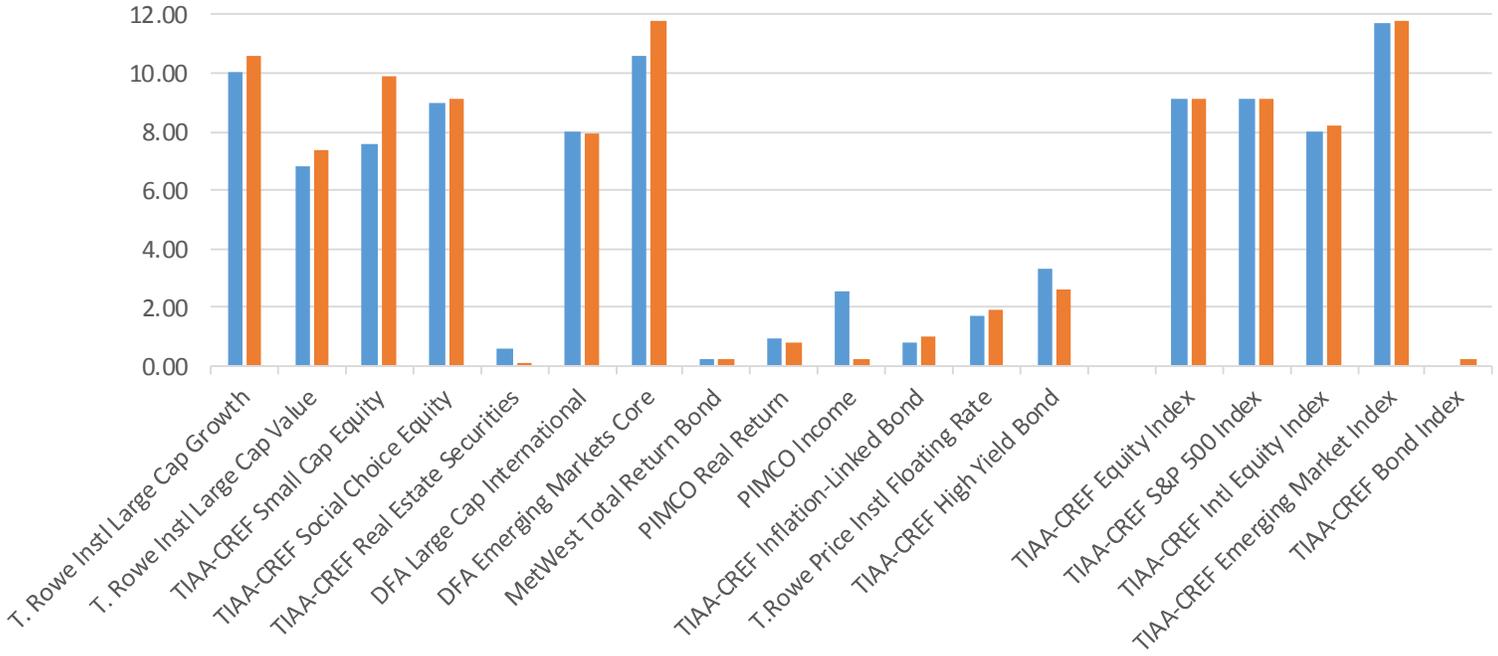
Performance Category	Actively Managed Portfolios	Passively Managed Portfolios
Positive	<ul style="list-style-type: none"> <li>Performance exceeds the benchmark.</li> </ul>	<ul style="list-style-type: none"> <li>Performance exceeds the benchmark (first 1-12 month period), or</li> <li>Tracking error is 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.

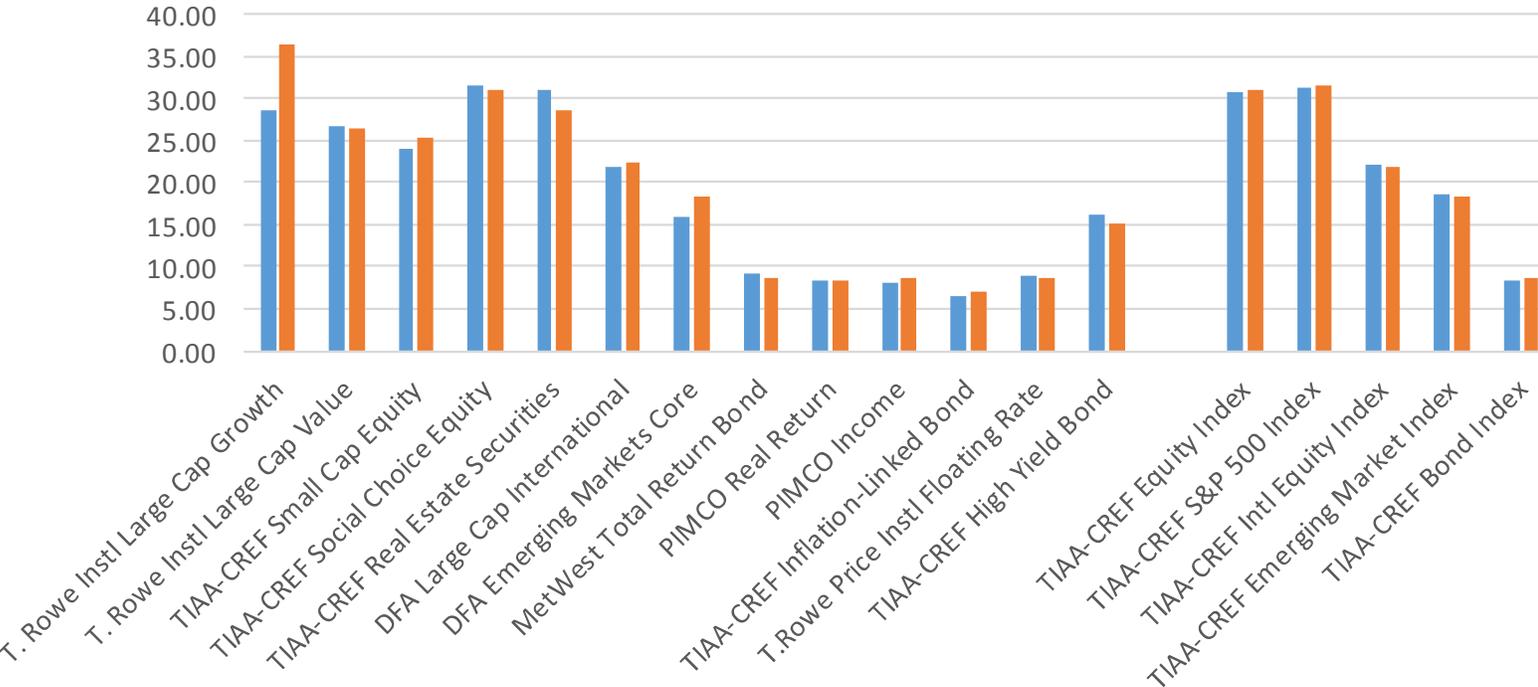
<sup>2</sup> The amount of time generally required before an investment is put on watch.

# SUMMARY OF FUND PERFORMANCE 12/31/19

## Quarter



## 1 Year



# SUMMARY OF FUND PERFORMANCE STATUS

Program	Total Funds	Positive	Acceptable	Caution	Watch <sup>^</sup>
<b>Number of Funds</b>	<b>19</b>	<b>7</b>	<b>10</b>	<b>2</b>	<b>1</b>
<b>% of Funds</b>	<b>100%</b>	<b>37%</b>	<b>53%</b>	<b>10%</b>	<b>5%</b>
<b>% of Program Assets</b>	<b>100%</b>	<b>39%</b>	<b>55%</b>	<b>7%</b>	<b>2%</b>
Fund Status ↑	3	2	1	--	--
Fund Status ↓	2	--	1	1	--
Domestic Equity Funds	7	2	3	2	1
Intl Equity Funds	4	2	2	--	--
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.

- Eighty-nine percent of the Program's funds have either a Positive or Acceptable performance status
- The status of three funds improved over the quarter
  - PIMCO Real Return
  - PIMCO Income
  - TIAA-CREF International Equity
- The status of three funds declined over the quarter
  - T. Rowe Price Large Cap Growth
  - TIAA-CREF Small Cap Equity
- 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	Acceptable		Caution	
T. Rowe Price Instl Large Cap Value	Positive		Positive	
TIAA-CREF Small Cap Equity	Positive		Acceptable	
TIAA-CREF Social Choice Equity	Caution	7/1/17	Caution	7/1/17
TIAA-CREF Real Estate Securities	Positive		Positive	
DFA Large Cap International	Acceptable		Acceptable	
DFA Emerging Markets Core Equity	Acceptable		Acceptable	
Metropolitan West Total Return Bond	Positive		Positive	
PIMCO Real Return	Acceptable		Positive	
PIMCO Income	Caution		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	Caution		Positive	
TIAA-CREF Emerging Markets Index	Positive		Positive	
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 12/31/2019

Funds	Assets (\$)	% of Total
<b>Active Funds</b>		
T. Rowe Price Instl Large Cap Growth	465,912,968	4.72%
T. Rowe Price Instl Large Cap Value	454,822,590	4.60%
TIAA-CREF Small Cap Equity	106,032,105	1.07%
TIAA-CREF Social Choice Equity	195,158,202	1.98%
TIAA-CREF Real Estate Securities	309,534,259	3.13%
DFA Large Cap International	366,548,592	3.71%
DFA Emerging Markets Core Equity	80,494,284	0.81%
Metropolitan West Total Return Bond	570,242,909	5.77%
PIMCO Real Return	200,163,571	2.03%
PIMCO Income	225,740,908	2.28%
TIAA-CREF Inflation-Linked Bond	349,243,571	3.53%
T. Rowe Price Instl Floating Rate	100,241,915	1.01%
TIAA-CREF High-Yield Bond	194,547,712	1.97%
<b>Active Funds Total</b>	<b>3,618,683,585</b>	<b>36.62%</b>
<b>Passive Funds</b>		
TIAA-CREF Equity Index	2,035,071,898	20.60%
TIAA-CREF S&P 500 Index	552,574,787	5.59%
TIAA-CREF International Equity Index	642,117,910	6.50%
TIAA-CREF Emerging Markets Index	145,506,638	1.47%
TIAA-CREF Bond Index	1,398,454,926	14.15%
<b>Passive Funds Total</b>	<b>4,773,726,160</b>	<b>48.31%</b>
<b>T-C Life Funding Agreements</b>		
T-C Life Funding Agreements	1,488,929,553	15.07%
<b>TOTAL</b>	<b>9,881,339,298</b>	<b>100.00%</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	03/31/2000-02/25/2010-01/01/2015- John D. Linehan Mark S. Finn Heather K. McPherson	
TIAA-CREF Small Cap Equity	TISEX	12/31/2006-03/01/2016-03/01/2019- Adam Cao Pei Chen Max Kozlov	
TIAA-CREF Social Choice Equity	TISCX	12/31/2005-05/30/2014- Philip James Campagna Lei Liao	
TIAA-CREF Real Estate Securities	TIREX	12/31/2005-07/10/2006- David Copp Brendan W. Lee	
DFA Large Cap International	DFALX	02/28/2010-07/21/2015-07/21/2015- Jed S. Fogdall Mary T. Phillips 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	02/28/2010-07/21/2015-07/21/2015-02/28/2017-02/28/2019- Jed S. Fogdall Allen Pu Bhanu P. Singh Mary T. Phillips William Collins-Dean	02/28/2010-02/28/2019 Joseph H. Chi
Metropolitan West Total Return Bond	MWTIX	03/31/1997-03/31/1997-03/31/1997-12/31/2004- Stephen M. Kane Laird R. Landman Tad Rivelle Bryan T. Whalen	
PIMCO Real Return	PRRIX	01/09/2019-12/11/2019- Stephen A. Rodosky Daniel He	01/02/2015-01/09/2019 Jeramie Banet 12/31/2007-12/11/2019 Mihir P. Worah
PIMCO Income	PIMIX	03/30/2007-03/15/2013-07/30/2018- Daniel J. Ivascyn Alfred T. Murata Joshua Anderson	
TIAA-CREF Inflation-Linked Bond	TILX	08/21/2008-08/01/2016-08/01/2019 John Michael Cerra Nicholas Travaglino Chad W. Kemper	
T.Rowe Price Floating Rate	RPIFX	05/01/2009- Paul M. Massaro	
TIAA-CREF High Yield	TIHYX	03/31/2006-10/01/2011- Kevin R. Lorenz Jean C. Lin	
TIAA-CREF Equity Index	TIEIX	12/31/2005-05/30/2014-03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF S&P 500 Index	TISPX	12/31/2005-05/30/2014-03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF International Equity Index	TCIEX	08/01/2005-05/30/2014-03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF Emerging Markets Equity Index	TEQLX	08/31/2010-05/30/2014-03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF Bond Index	TBIIX	12/31/2009-08/24/2011- Lijun (Kevin) Chen James Tsang	

## Observations:

- There were no significant changes during the quarter.

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

SECTION 3

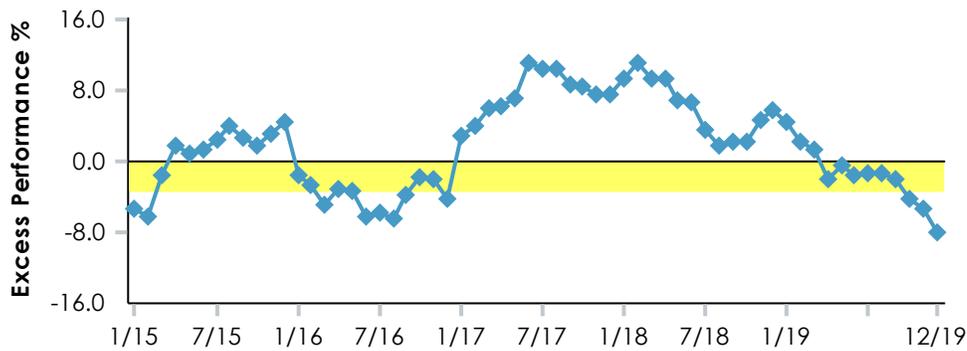
SENSITIVITY ANALYSES

ACTIVE FUNDS

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

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

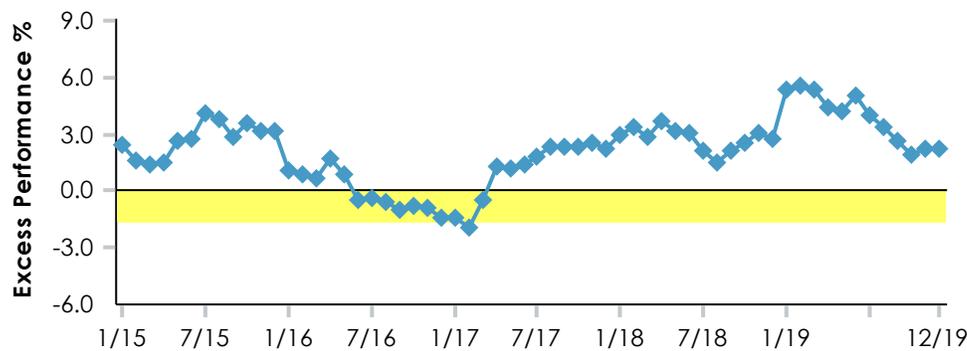


### Short-Term Performance

Caution

Probationary Performance -3.50%

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

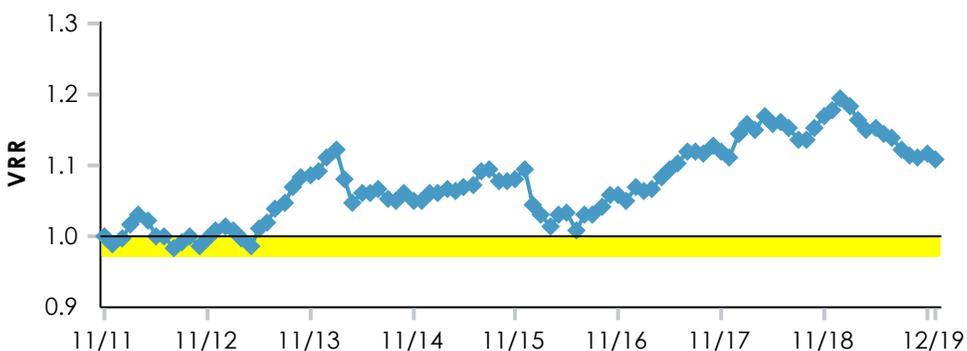


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To December 31, 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	10.0 (44)	28.5 (88)	22.7 (9)	15.9 (2)	18.0 (2)
Russell 1000 Growth Index	10.6 (27)	36.4 (21)	20.5 (40)	14.6 (19)	16.5 (15)
IM U.S. Large Cap Growth Equity (MF) Median	9.7	33.4	19.9	13.2	15.3

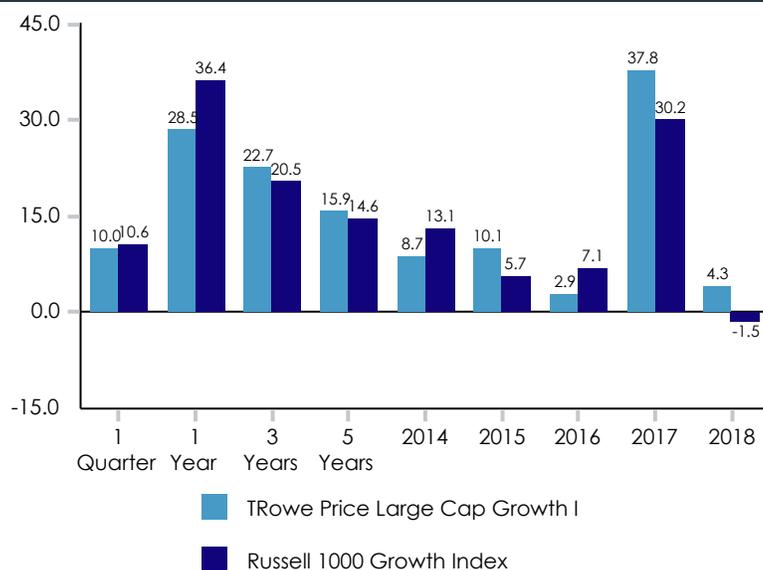
Monitoring Status

Caution

## 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 : \$16,602 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 33%

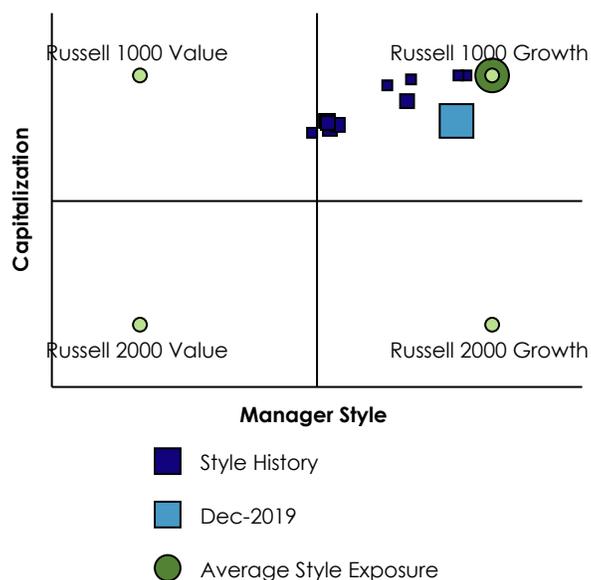
## Comparative Performance



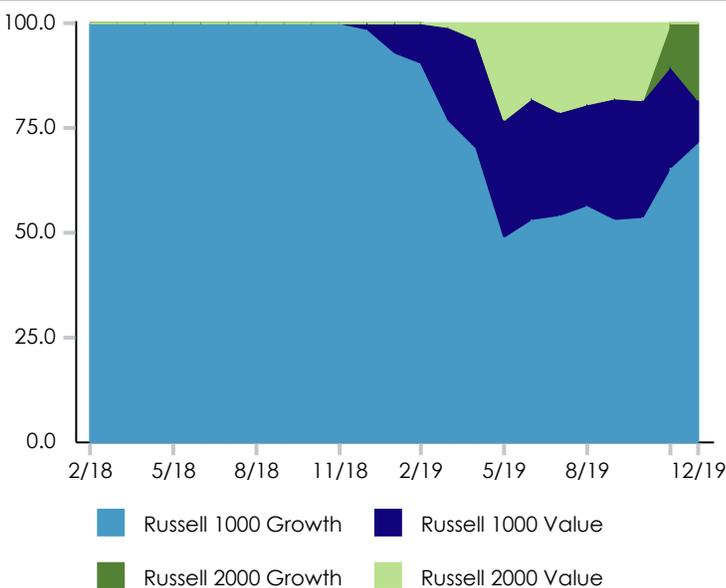
## Fund Investment Policy

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

## Style Map (3 Years)



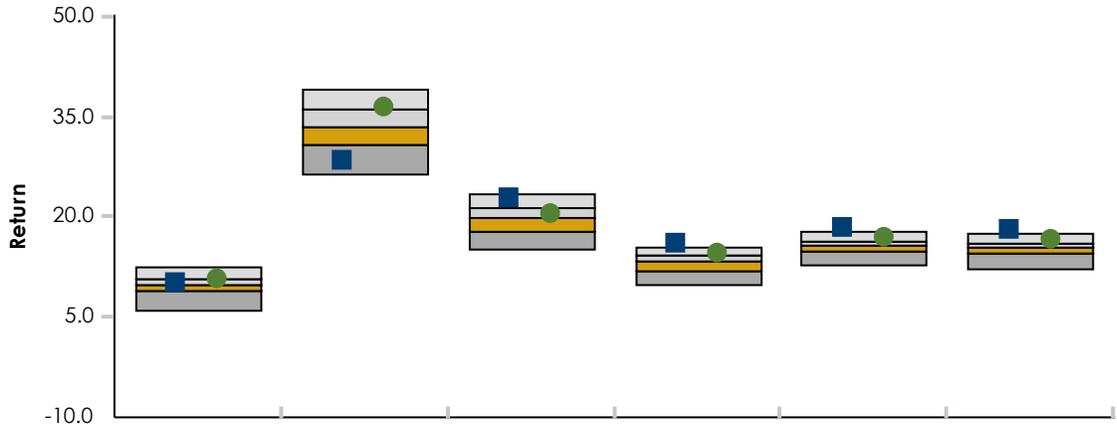
## Style History (3 Years)



## Historical Statistics (3 Years)

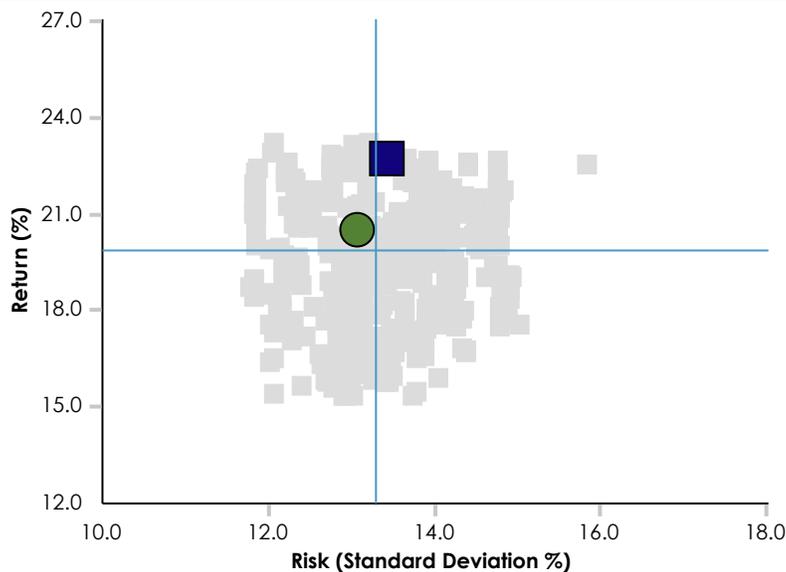
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TRowe Price Large Cap Growth I	22.7	13.4	1.5	2.3	1.0	0.9	4.0	0.5	104.1	93.4
Russell 1000 Growth Index	20.5	13.1	1.4	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Large Cap Growth Equity (MF) Median	19.9	13.3	1.3	-0.6	1.0	0.9	3.2	-0.2	97.8	99.4

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TRowe Price Large Cap Growth I	10.0 (44)	28.5 (88)	22.7 (9)	15.9 (2)	18.5 (2)	18.0 (2)
● Russell 1000 Growth Index	10.6 (27)	36.4 (21)	20.5 (40)	14.6 (19)	16.9 (14)	16.5 (15)
Median	9.7	33.4	19.9	13.2	15.6	15.3

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TRowe Price Large Cap Growth I	22.7	13.4
● Russell 1000 Growth Index	20.5	13.1
— Median	19.9	13.3

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	29	104.1
Down Markets	7	93.4
<b>Batting Average</b>		
Up Markets	29	44.8
Down Markets	7	71.4
Overall	36	50.0

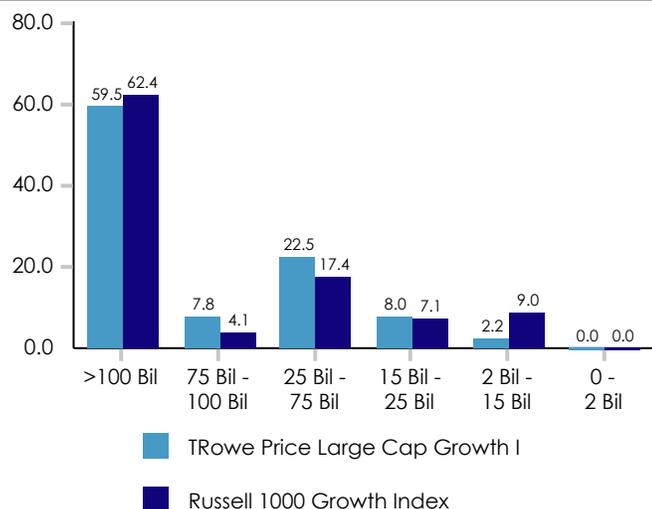
## Portfolio Characteristics (As of 12/31/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	402,476	386,597
Median Mkt. Cap (\$M)	51,304	13,375
Price/Earnings ratio	31.8	29.4
Price/Book ratio	6.1	7.9
5 Yr. EPS Growth Rate (%)	27.4	21.8
Current Yield (%)	0.6	1.2
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	63	530

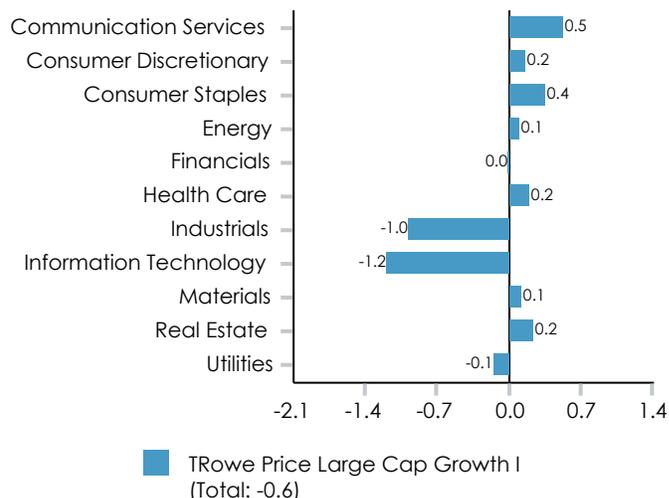
## Top 10 Holdings (As of 12/31/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Microsoft Corp	7.8	7.8	13.8
Amazon.com Inc	7.7	5.0	6.4
Facebook Inc	6.4	3.2	15.3
Alphabet Inc	6.1	2.6	9.7
Visa Inc	5.3	2.1	9.4
Boeing Co	4.5	1.1	-13.9
Apple Inc	3.5	8.5	31.5
Alibaba Group Holding Ltd	2.8	0.0	26.8
Global Payments Inc.	2.7	0.4	14.9
Alphabet Inc	2.4	2.6	9.7
<b>% of Portfolio</b>	<b>49.2</b>	<b>33.3</b>	

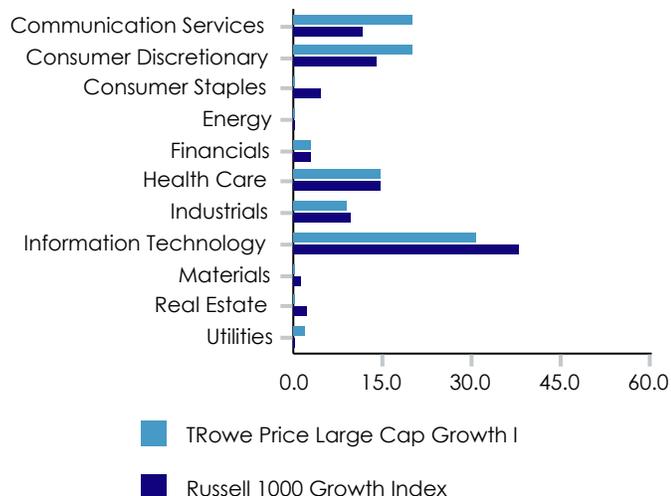
## Market Cap Distribution (As of 12/31/2019)



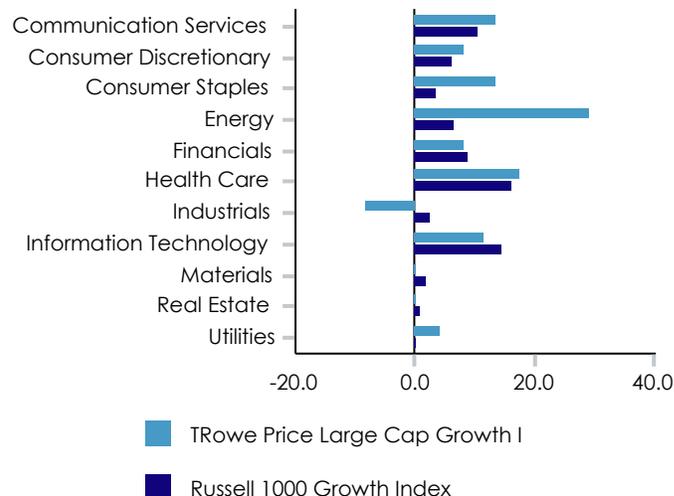
## Sector Attribution (1 Quarter as of 12/31/2019)



## Sector Allocation (1 Quarter as of 12/31/2019)

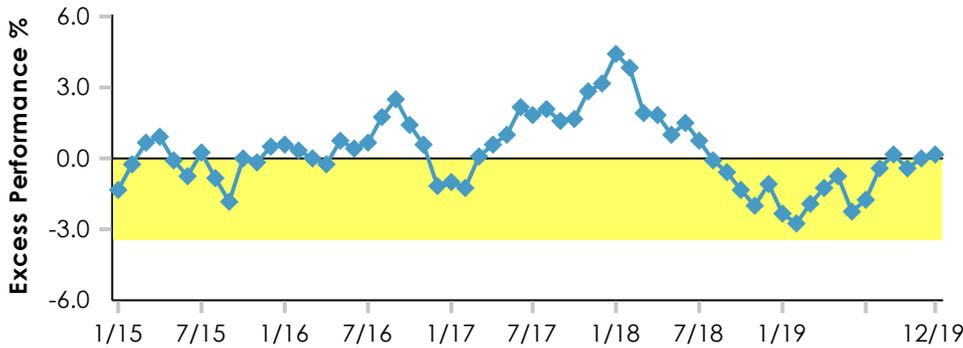


## Sector Performance (1 Quarter as of 12/31/2019)



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

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

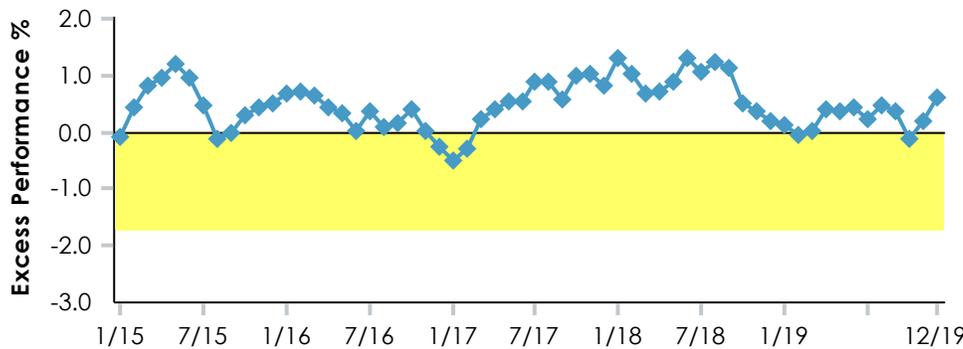


### Short-Term Performance

Positive

Probationary Performance -3.50%

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

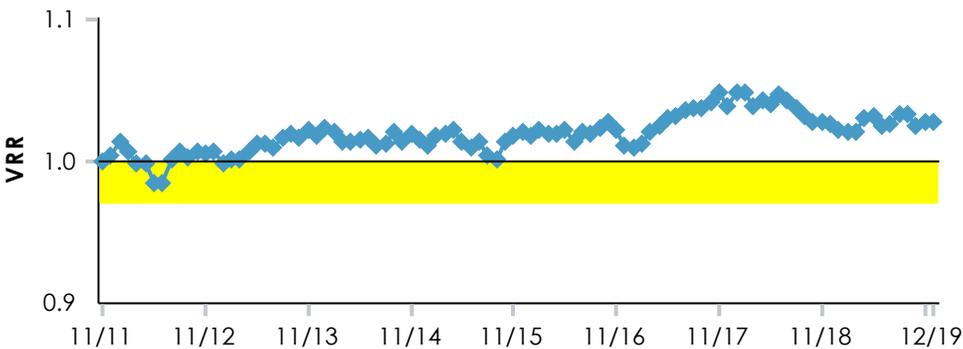


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To December 31, 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	6.8 (74)	26.7 (44)	10.3 (44)	8.6 (33)	13.4 (14)
Russell 1000 Value Index	7.4 (54)	26.5 (45)	9.7 (57)	8.3 (40)	13.0 (21)
IM U.S. Large Cap Value Equity (MF) Median	7.5	26.0	10.0	7.9	12.2

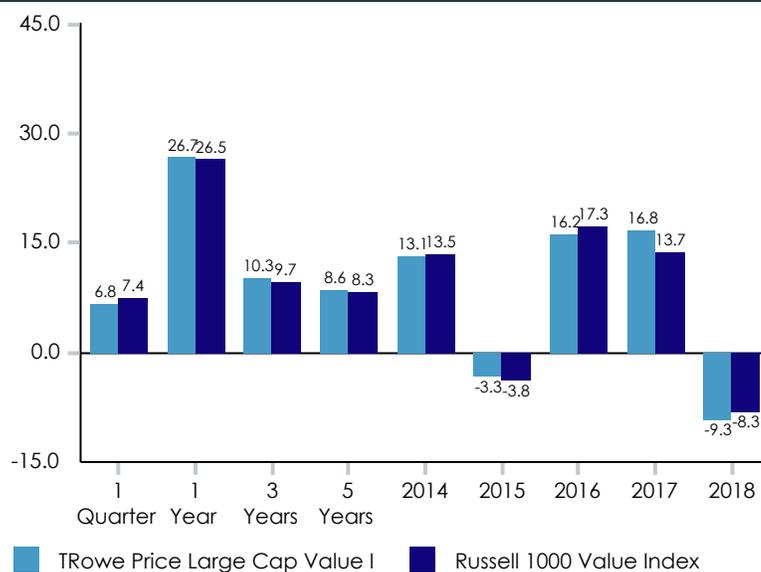
Monitoring Status

Positive

## Mutual Fund Info

Product Name : T Rowe Price I LgCp Val (TILCX)  
 Fund Family : T. Rowe Price Associates Inc  
 Ticker : TILCX  
 Peer Group : IM U.S. Large Cap Value Equity (MF)  
 Benchmark : Russell 1000 Value Index  
 Fund Inception : 03/31/2000  
 Portfolio Manager : Team Managed  
 Total Assets : \$3,757 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 28%

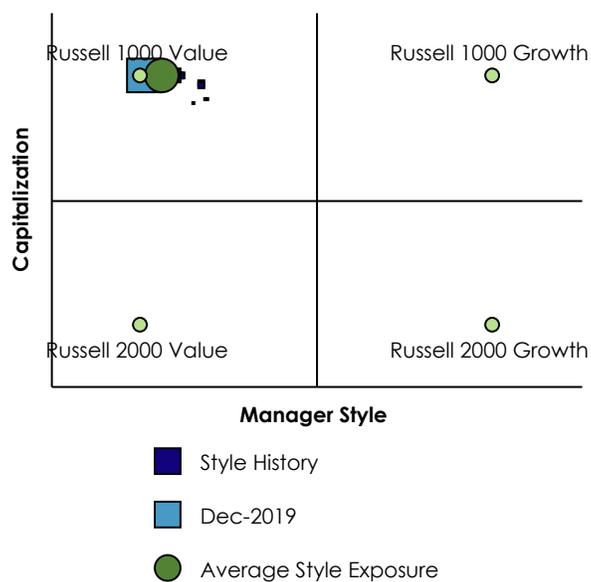
## Comparative Performance



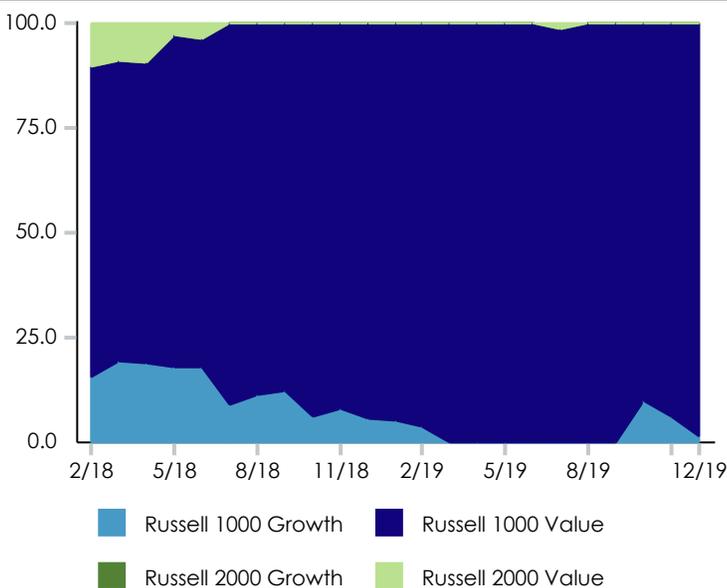
## Fund Investment Policy

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)



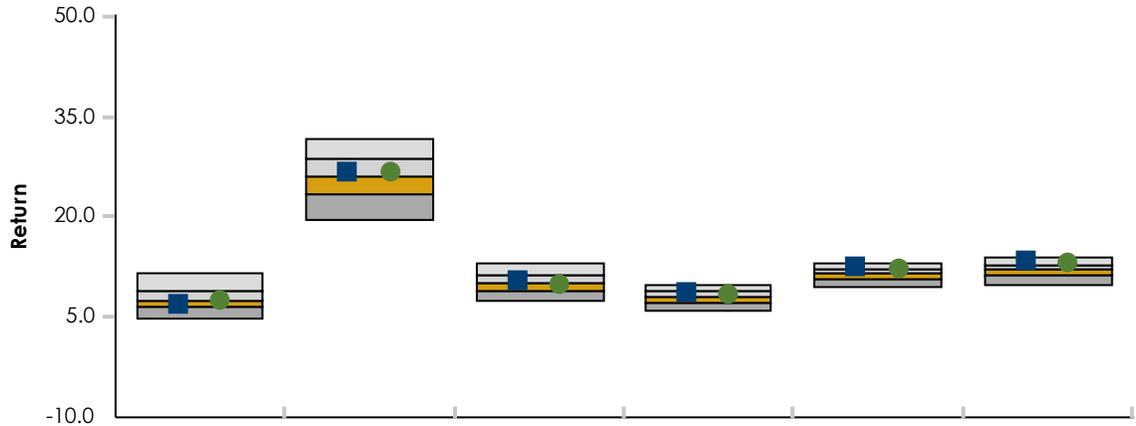
## Style History (3 Years)



## Historical Statistics (3 Years)

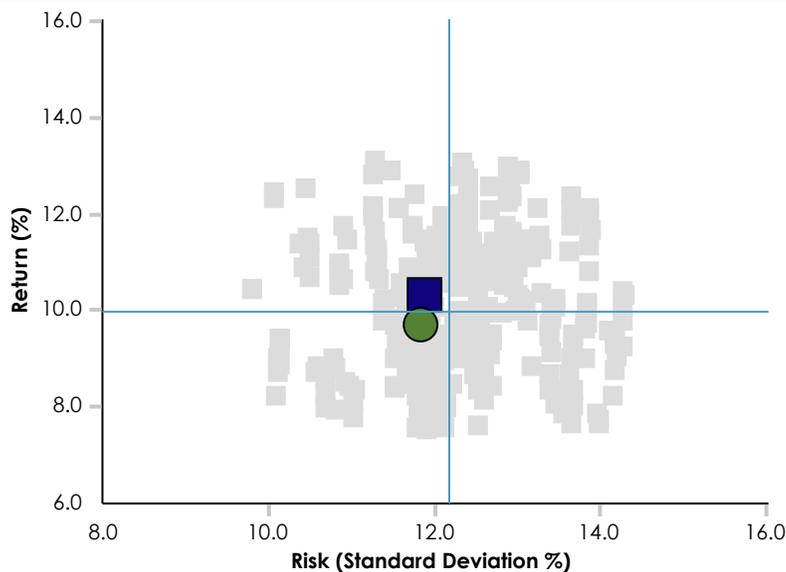
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TRowe Price Large Cap Value I	10.3	11.9	0.7	0.6	1.0	1.0	1.7	0.3	100.6	95.9
Russell 1000 Value Index	9.7	11.8	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Large Cap Value Equity (MF) Median	10.0	12.2	0.7	0.3	1.0	1.0	2.8	0.1	101.4	100.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TRowe Price Large Cap Value I	6.8 (74)	26.7 (44)	10.3 (44)	8.6 (33)	12.5 (18)	13.4 (14)
● Russell 1000 Value Index	7.4 (54)	26.5 (45)	9.7 (57)	8.3 (40)	12.2 (27)	13.0 (21)
Median	7.5	26.0	10.0	7.9	11.6	12.2

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TRowe Price Large Cap Value I	10.3	11.9
● Russell 1000 Value Index	9.7	11.8
— Median	10.0	12.2

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	26	100.6
Down Markets	10	95.9
<b>Batting Average</b>		
Up Markets	26	50.0
Down Markets	10	60.0
Overall	36	52.8

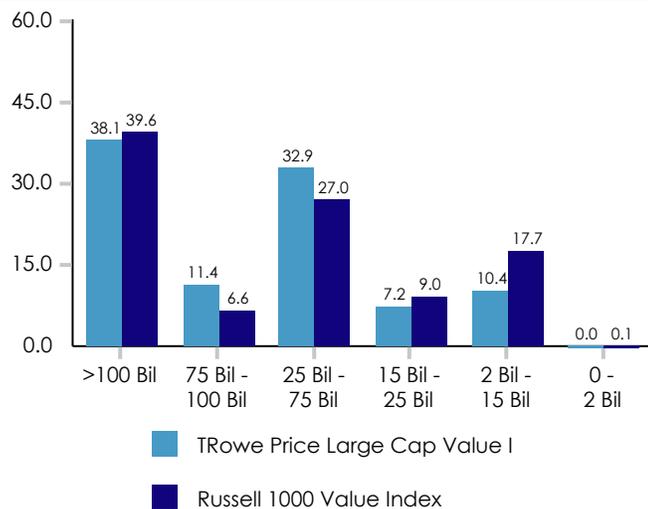
## Portfolio Characteristics (As of 12/31/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	137,387	131,913
Median Mkt. Cap (\$M)	47,953	9,882
Price/Earnings ratio	17.9	18.4
Price/Book ratio	2.3	2.3
5 Yr. EPS Growth Rate (%)	4.9	6.2
Current Yield (%)	2.8	2.5
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	85	764

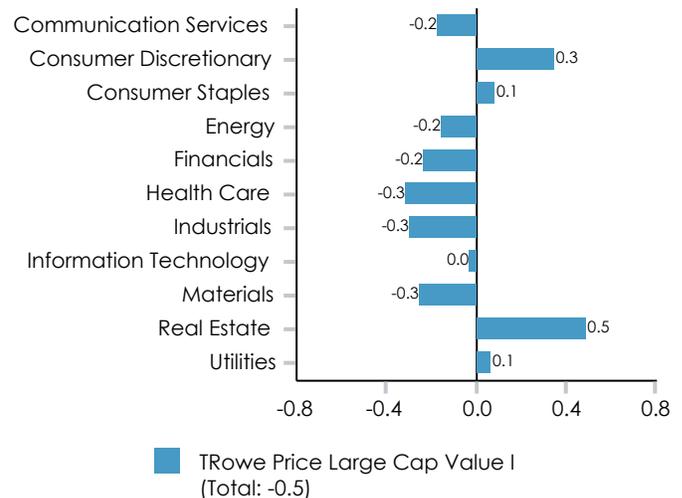
## Top 10 Holdings (As of 12/31/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
JPMorgan Chase & Co	3.9	3.0	19.4
Wells Fargo & Co	3.8	1.4	7.7
TOTAL SA	2.7	0.0	6.3
General Electric Co	2.6	0.7	24.9
Southern Co (The)	2.5	0.5	4.2
Tyson Foods Inc.	2.4	0.2	6.2
Morgan Stanley	2.4	0.4	20.7
Medtronic PLC	2.4	1.1	4.9
American Int'l Group Inc	2.3	0.3	-7.3
Johnson & Johnson	2.3	2.3	13.5
<b>% of Portfolio</b>	<b>27.3</b>	<b>9.9</b>	

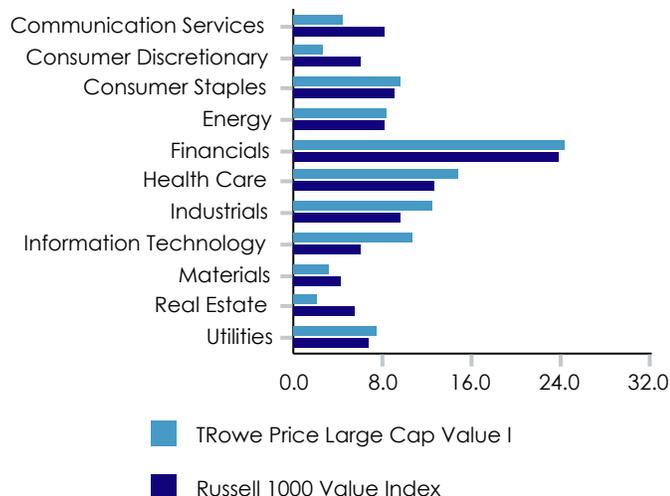
## Market Cap Distribution (As of 12/31/2019)



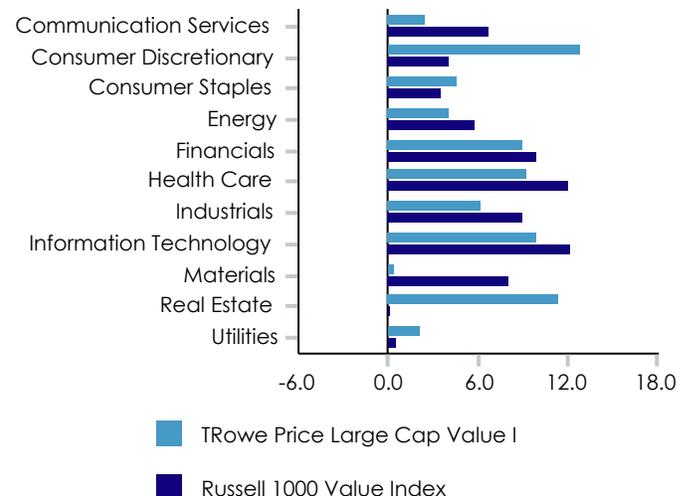
## Sector Attribution (1 Quarter as of 12/31/2019)



## Sector Allocation (1 Quarter as of 12/31/2019)

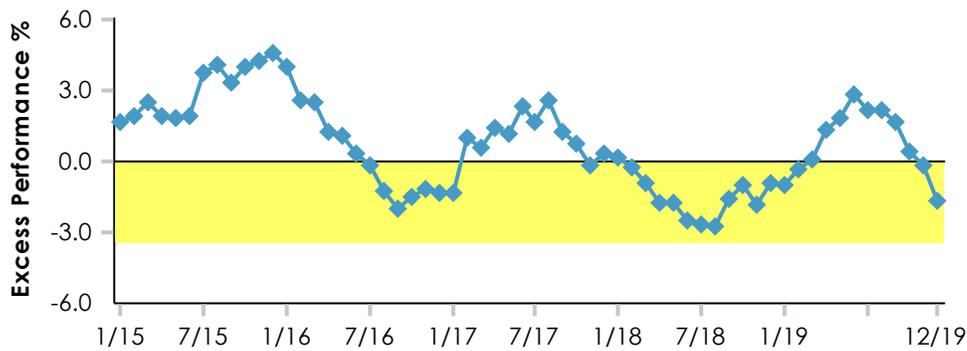


## Sector Performance (1 Quarter as of 12/31/2019)



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

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

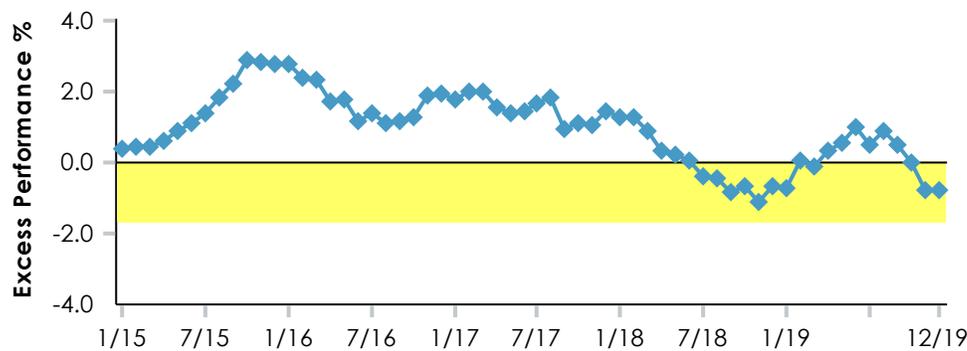


### Short-Term Performance

Positive

Probationary Performance -3.50%

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

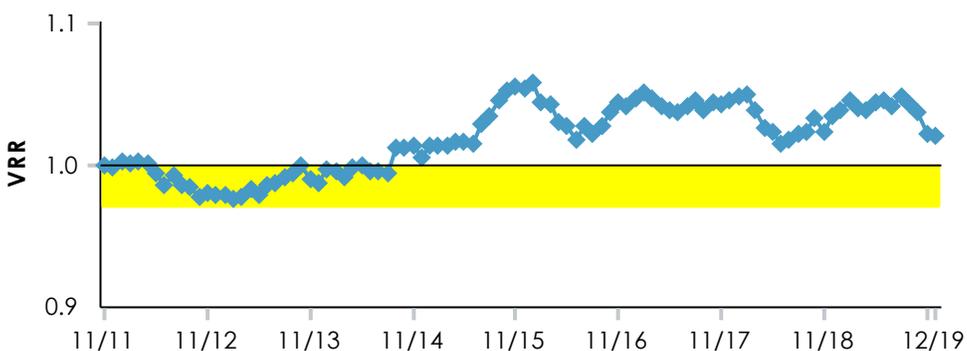


### Medium-Term Performance

Acceptable

Probationary Performance -1.75%

## Long-term (December 1, 2011 To December 31, 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	7.6 (38)	23.9 (68)	7.8 (57)	8.5 (28)	12.5 (24)
Russell 2000 Index	9.9 (8)	25.5 (55)	8.6 (45)	8.2 (35)	12.2 (30)
IM U.S. SMID Cap Core Equity (MF) Median	7.1	25.7	8.4	7.0	11.3

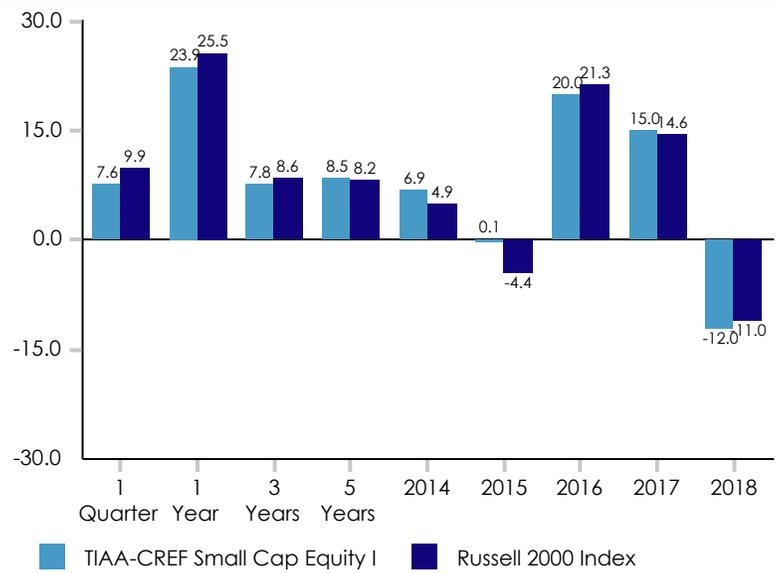
Monitoring Status

Acceptable

## Mutual Fund Info

Product Name : TIAA-CREF:Qnt SCE;Inst (TISEX)  
 Fund Family : TIAA-CREF  
 Ticker : TISEX  
 Peer Group : IM U.S. Small Cap Core Equity (MF)  
 Benchmark : Russell 2000 Index  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Cao/Chen/Kozlov  
 Total Assets : \$1,488 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.4%  
 Net Expense : 0.4%  
 Turnover : 87%

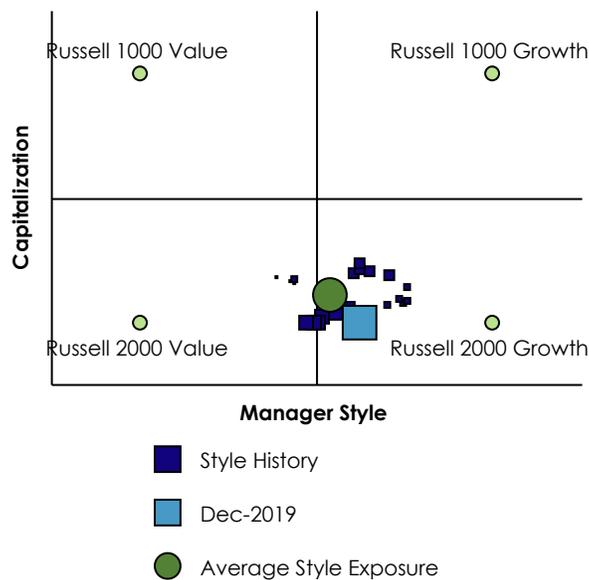
## Comparative Performance



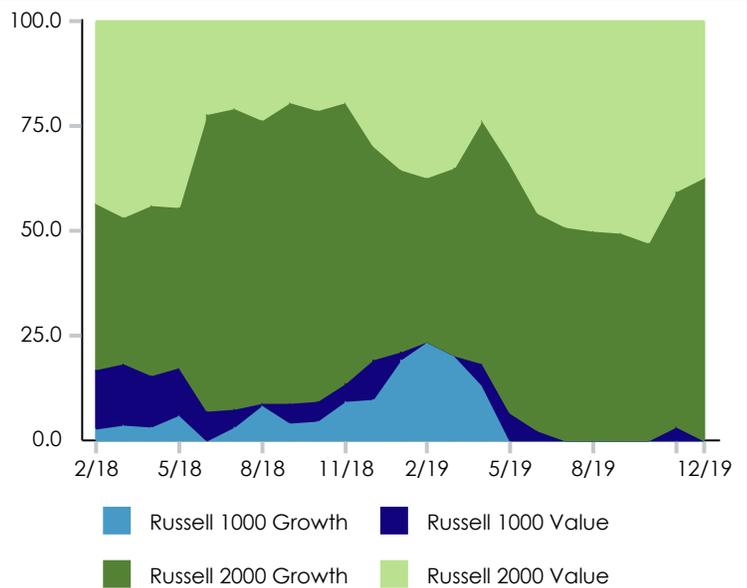
## Fund Investment Policy

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)



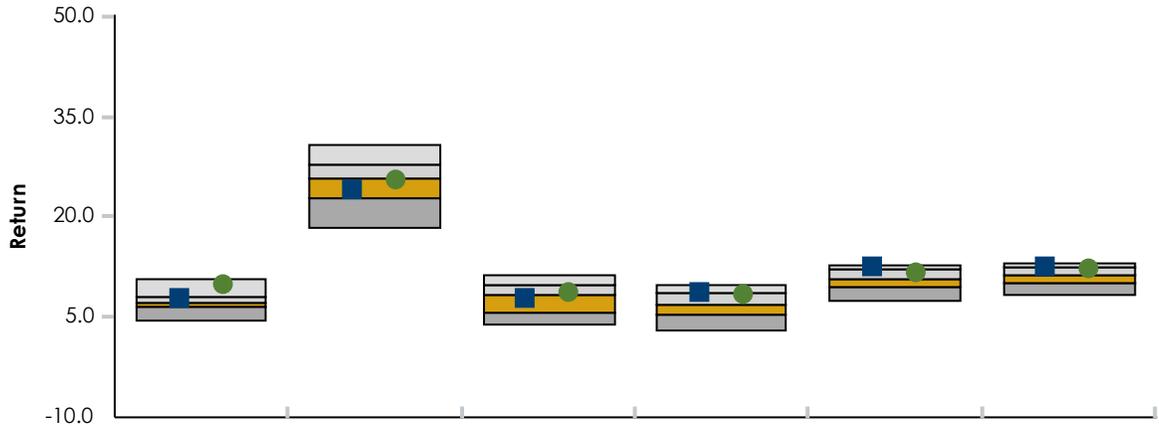
## Style History (3 Years)



## Historical Statistics (3 Years)

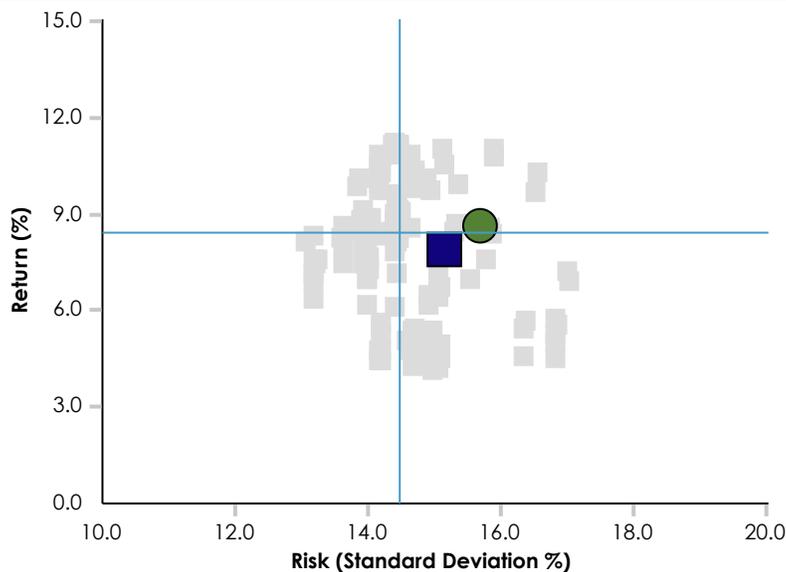
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Small Cap Equity I	7.8	15.2	0.5	-0.4	1.0	1.0	2.1	-0.4	93.1	93.9
Russell 2000 Index	8.6	15.7	0.5	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. SMID Cap Core Equity (MF) Median	8.4	14.5	0.5	0.9	0.9	0.9	3.9	-0.1	90.7	86.7

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Small Cap Equity I	7.6 (38)	23.9 (68)	7.8 (57)	8.5 (28)	12.3 (14)	12.5 (24)
● Russell 2000 Index	9.9 (8)	25.5 (55)	8.6 (45)	8.2 (35)	11.6 (37)	12.2 (30)
Median	7.1	25.7	8.4	7.0	10.7	11.3

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Small Cap Equity I	7.8	15.2
● Russell 2000 Index	8.6	15.7
— Median	8.4	14.5

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	26	93.1
Down Markets	10	93.9
<b>Batting Average</b>		
Up Markets	26	38.5
Down Markets	10	80.0
Overall	36	50.0

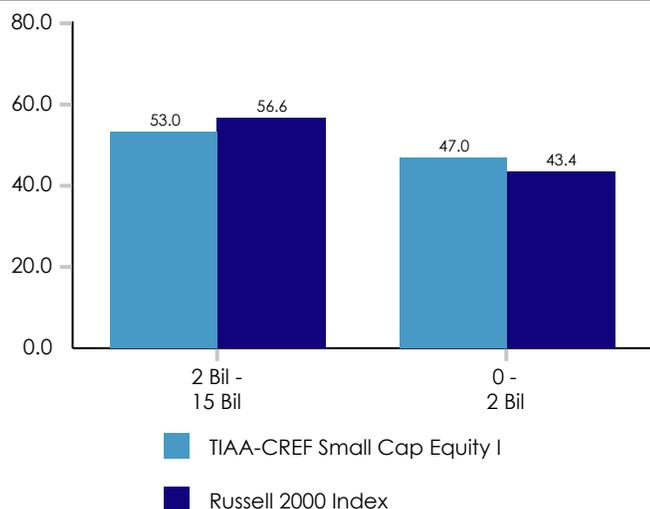
## Portfolio Characteristics (As of 11/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	2,405	2,473
Median Mkt. Cap (\$M)	1,208	803
Price/Earnings ratio	18.4	19.1
Price/Book ratio	2.4	2.5
5 Yr. EPS Growth Rate (%)	15.5	11.2
Current Yield (%)	1.2	1.4
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	396	1,995

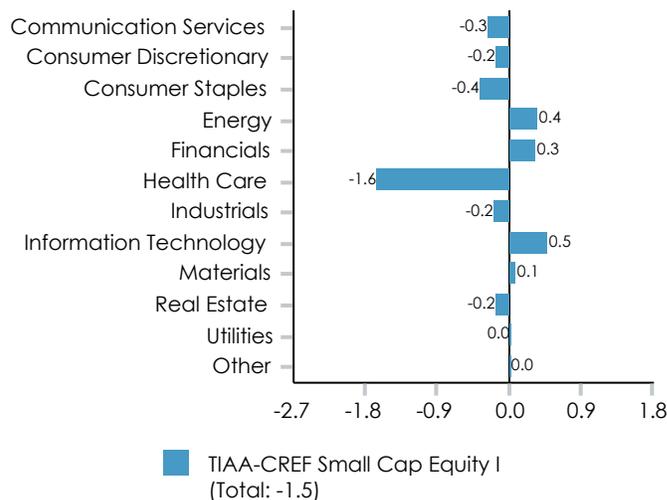
## Top 10 Holdings (As of 11/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
EastGroup Properties Inc.	1.0	0.2	6.7
Portland Gen. Elec. Co.	1.0	0.2	-0.3
Essent Group Ltd	0.9	0.2	9.4
Atkore International Group Inc	0.9	0.1	33.3
Radian Group Inc.	0.9	0.2	10.2
Tetra Tech Inc	0.8	0.2	-0.5
PS Business Parks Inc.	0.8	0.2	-8.8
Walker & Dunlop Inc	0.8	0.1	16.2
Exponent Inc	0.8	0.2	-1.0
United Community Banks Inc	0.8	0.1	9.6
% of Portfolio	8.7	1.7	

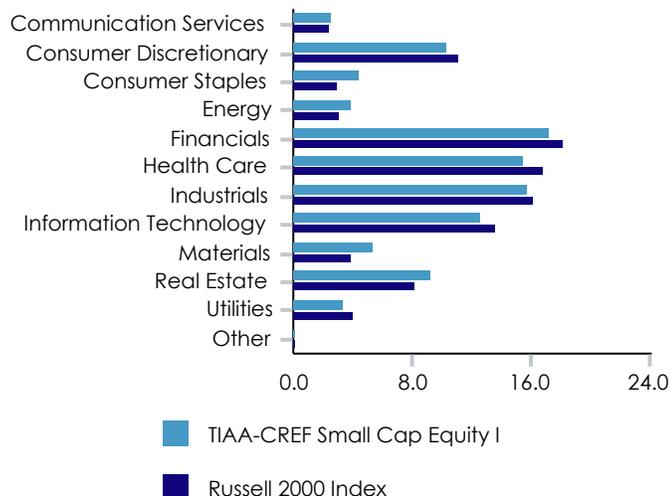
## Market Cap Distribution (As of 11/30/2019)



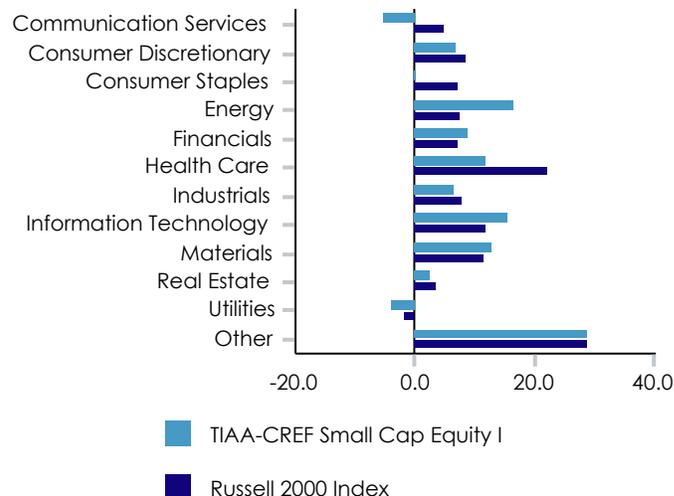
## Sector Attribution (1 Quarter as of 11/30/2019)



## Sector Allocation (1 Quarter as of 11/30/2019)

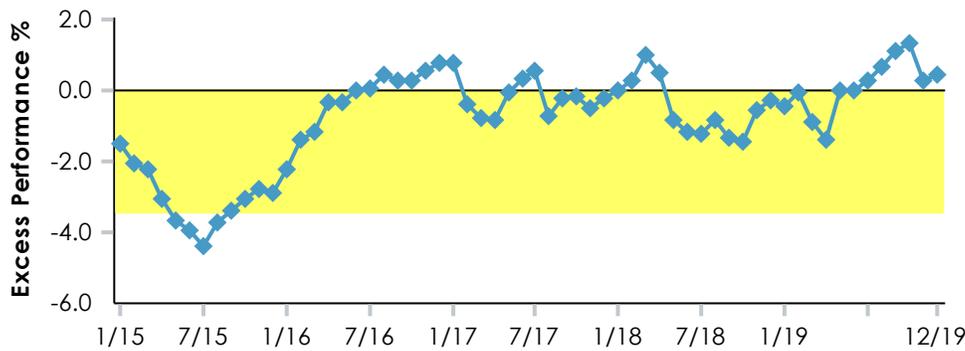


## Sector Performance (1 Quarter as of 11/30/2019)



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

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

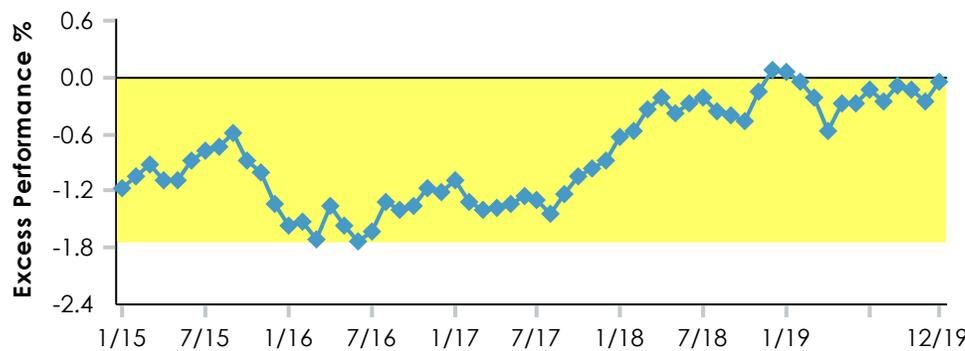


### Short-Term Performance

Positive

Probationary Performance -3.50%

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

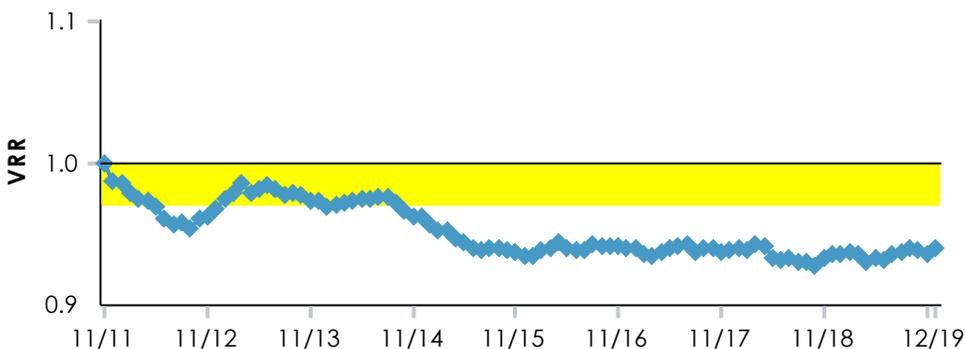


### Medium-Term Performance

Acceptable

Probationary Performance -1.75%

## Long-term (December 1, 2011 To December 31, 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	9.0 (40)	31.5 (29)	14.5 (40)	10.7 (37)	13.7 (46)
Russell 3000 Index	9.1 (36)	31.0 (37)	14.6 (39)	11.2 (25)	14.6 (22)
IM U.S. Large Cap Core Equity (MF) Median	8.7	29.6	13.9	10.3	13.5

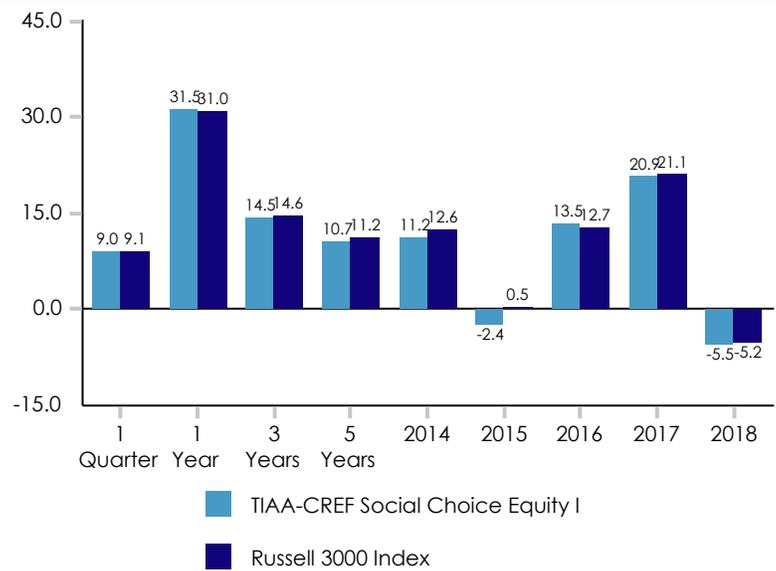
Monitoring Status

Caution/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 : \$3,651 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 29%

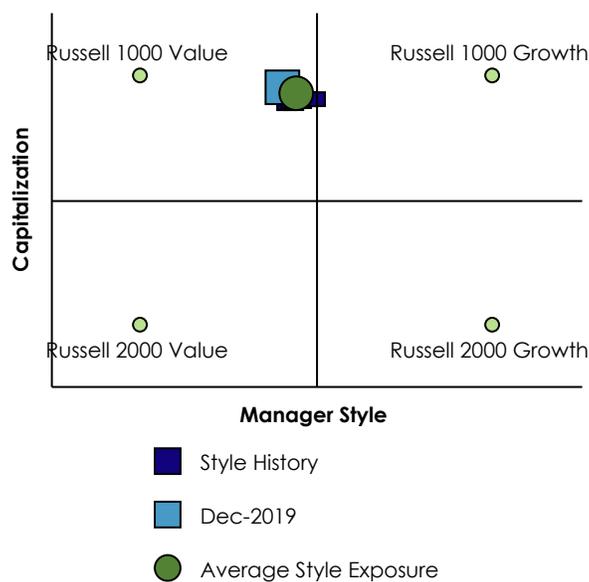
## Comparative Performance



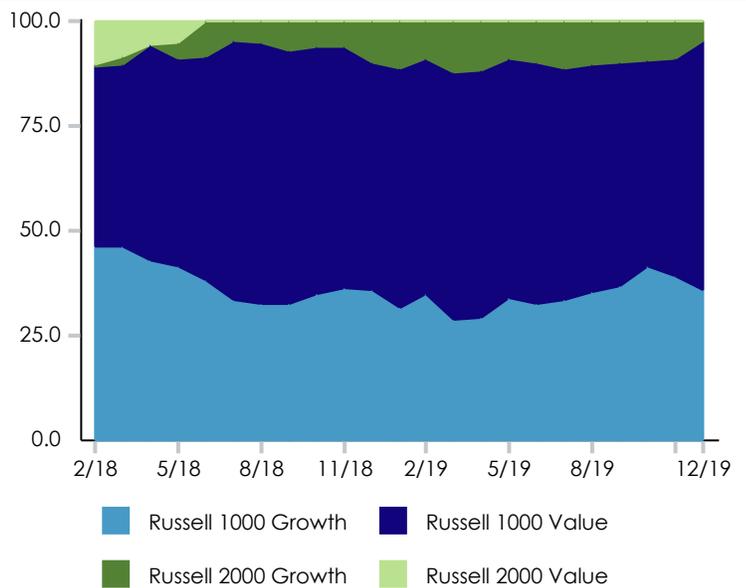
## Fund Investment Policy

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)



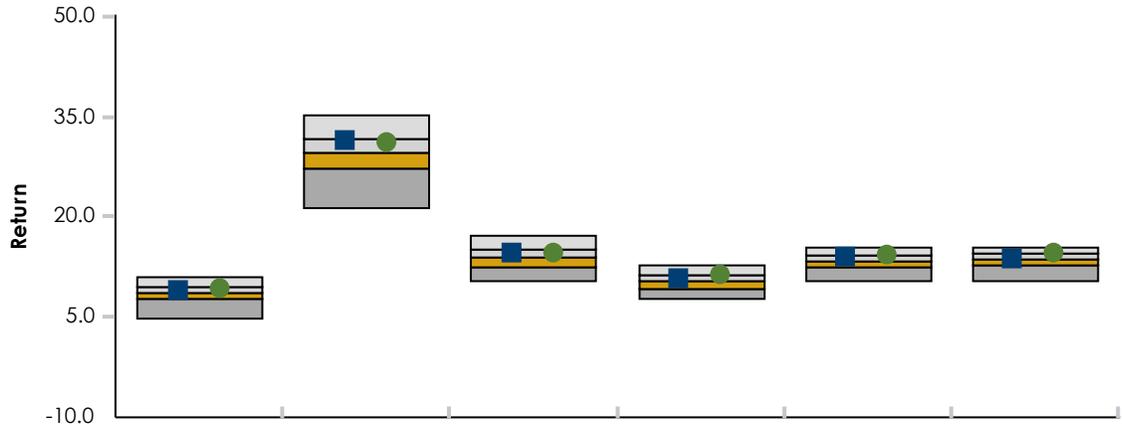
## Style History (3 Years)



## Historical Statistics (3 Years)

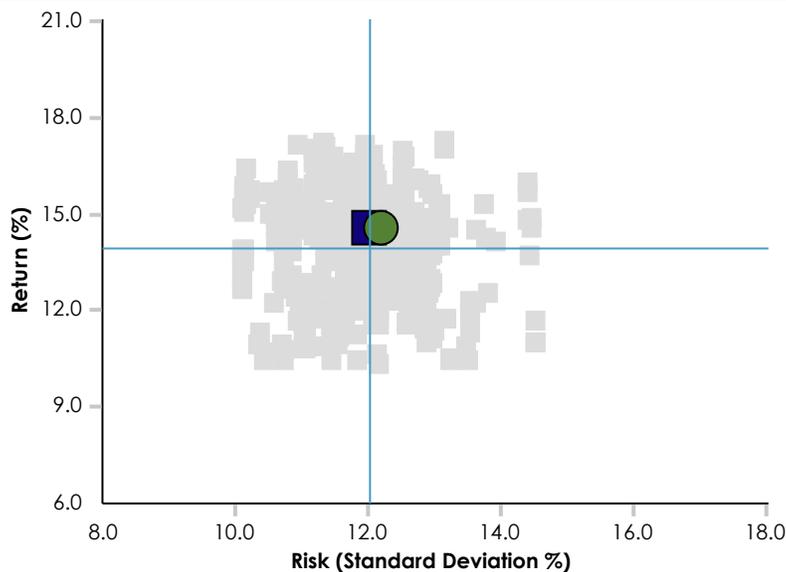
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Social Choice Equity I	14.5	12.0	1.1	0.2	1.0	1.0	1.1	-0.1	98.6	97.2
Russell 3000 Index	14.6	12.2	1.0	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Large Cap Core Equity (MF) Median	13.9	12.0	1.0	0.0	1.0	1.0	2.8	-0.2	97.3	98.0

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Social Choice Equity I	9.0 (40)	31.5 (29)	14.5 (40)	10.7 (37)	13.9 (35)	13.7 (46)
● Russell 3000 Index	9.1 (36)	31.0 (37)	14.6 (39)	11.2 (25)	14.4 (22)	14.6 (22)
Median	8.7	29.6	13.9	10.3	13.3	13.5

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Social Choice Equity I	14.5	12.0
● Russell 3000 Index	14.6	12.2
— Median	13.9	12.0

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	30	98.6
Down Markets	6	97.2
<b>Batting Average</b>		
Up Markets	30	43.3
Down Markets	6	66.7
Overall	36	47.2

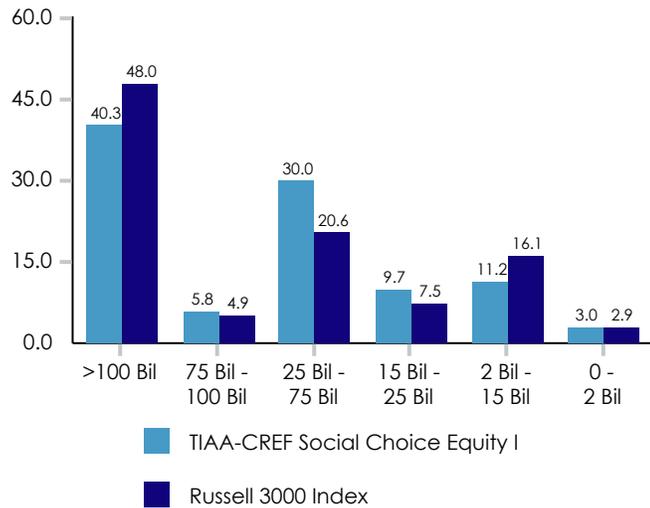
## Portfolio Characteristics (As of 11/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	227,902	245,925
Median Mkt. Cap (\$M)	4,376	1,775
Price/Earnings ratio	22.1	22.6
Price/Book ratio	3.8	3.5
5 Yr. EPS Growth Rate (%)	14.2	14.2
Current Yield (%)	1.8	1.8
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	709	2,992

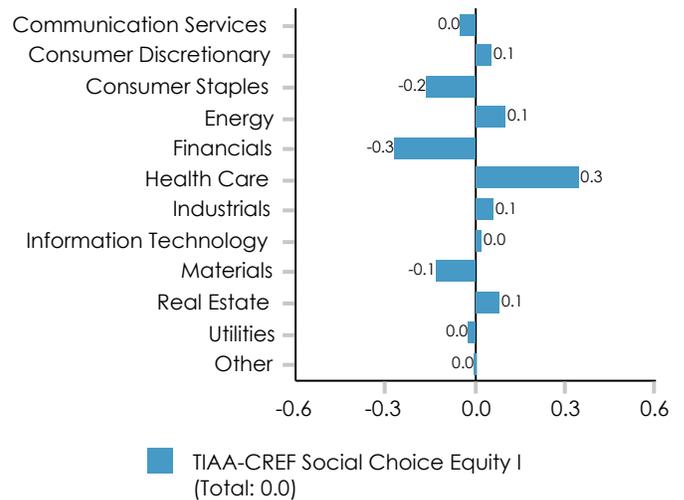
## Top 10 Holdings (As of 11/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Apple Inc	4.5	4.1	31.5
Microsoft Corp	4.2	3.8	13.8
Amazon.com Inc	2.4	2.4	6.4
Alphabet Inc	1.5	1.3	9.7
Alphabet Inc	1.5	1.3	9.7
Procter & Gamble Co (The)	1.4	1.0	1.1
Intel Corp	1.3	0.8	16.8
Verizon Communications Inc	1.3	0.8	2.8
Merck & Co Inc.	1.2	0.7	8.8
Unitedhealth Group Inc	1.2	0.9	35.8
% of Portfolio	20.5	17.1	

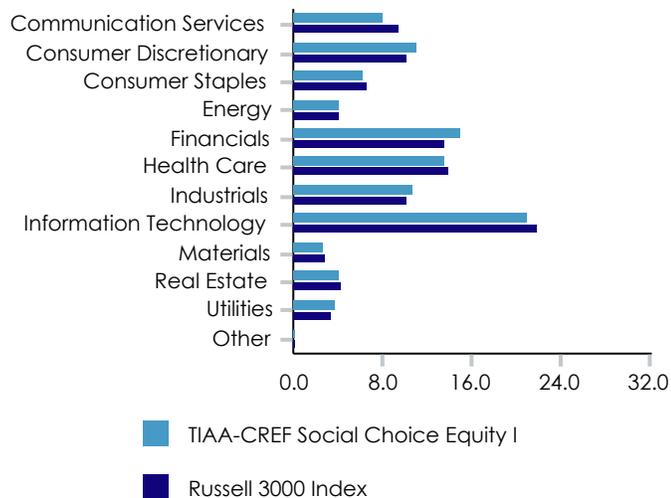
## Market Cap Distribution (As of 11/30/2019)



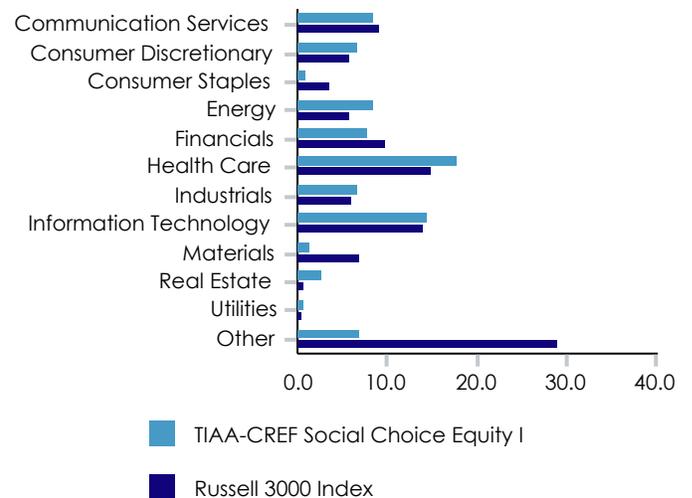
## Sector Attribution (1 Quarter as of 11/30/2019)



## Sector Allocation (1 Quarter as of 11/30/2019)

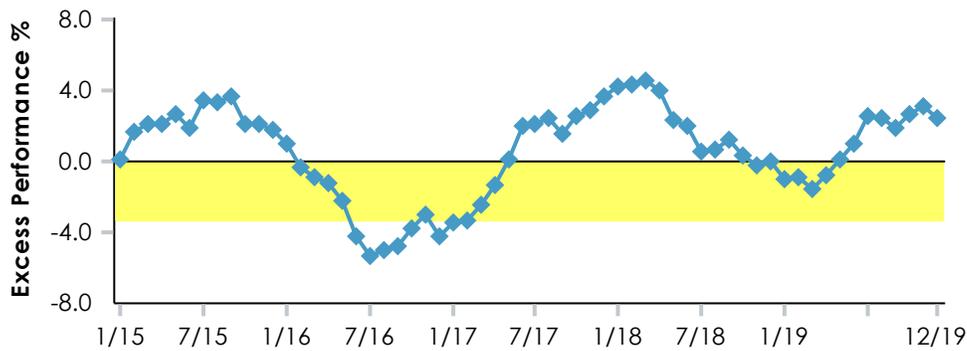


## Sector Performance (1 Quarter as of 11/30/2019)



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

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

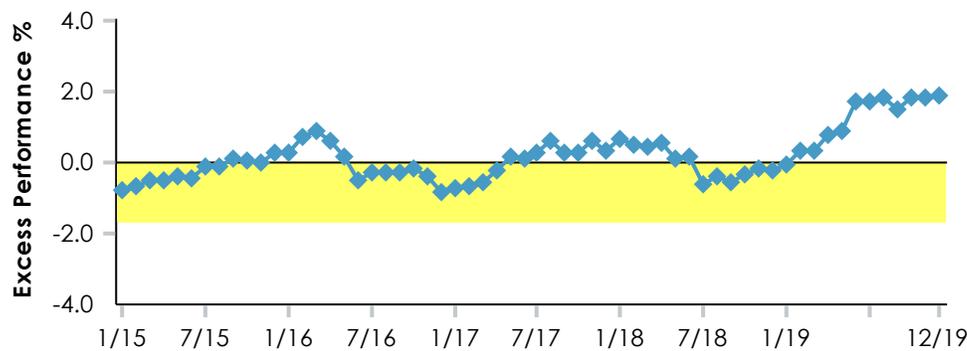


### Short-Term Performance

Positive

Probationary Performance -3.50%

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

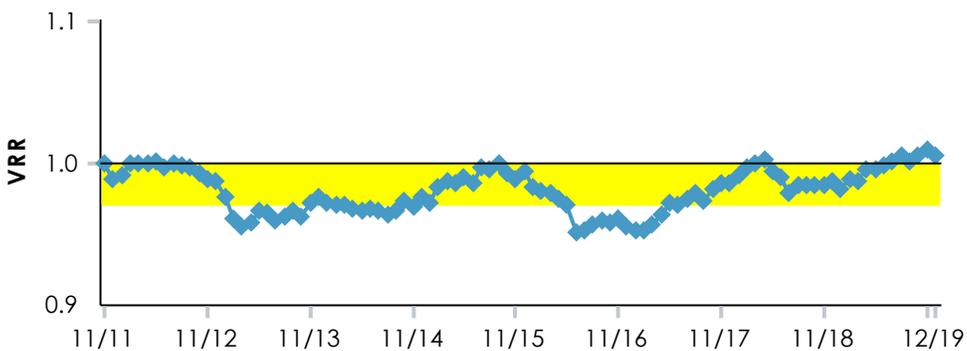


### Medium-Term Performance

Positive

Probationary Performance -1.75%

## Long-term (December 1, 2011 To December 31, 2019 VRR)



### Long-Term Performance

Positive - 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	0.6 (32)	31.1 (14)	12.2 (3)	9.1 (5)	11.9 (7)
FTSE NAREIT All Equity REITs	0.1 (51)	28.7 (38)	10.3 (18)	8.4 (10)	11.9 (8)
IM Real Estate Sector (MF) Median	0.1	27.4	7.9	6.7	10.2

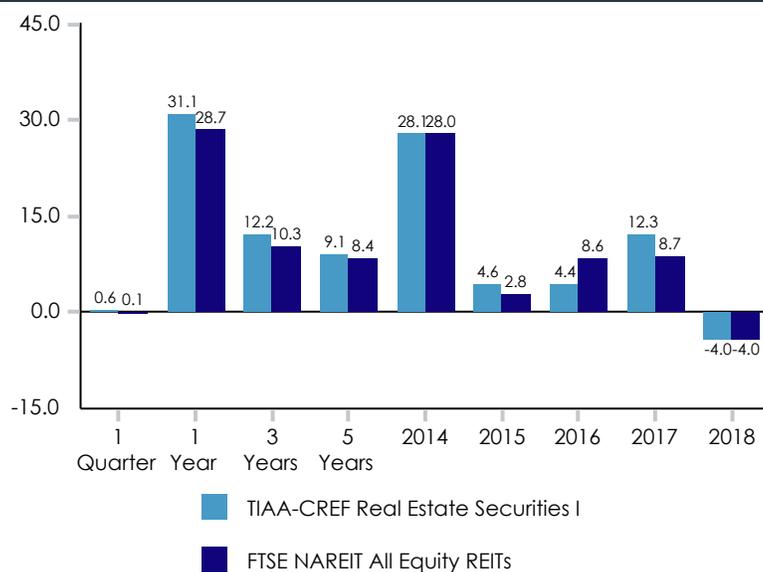
Monitoring Status

Positive

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 : \$1,864 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.5%  
 Net Expense : 0.5%  
 Turnover : 34%

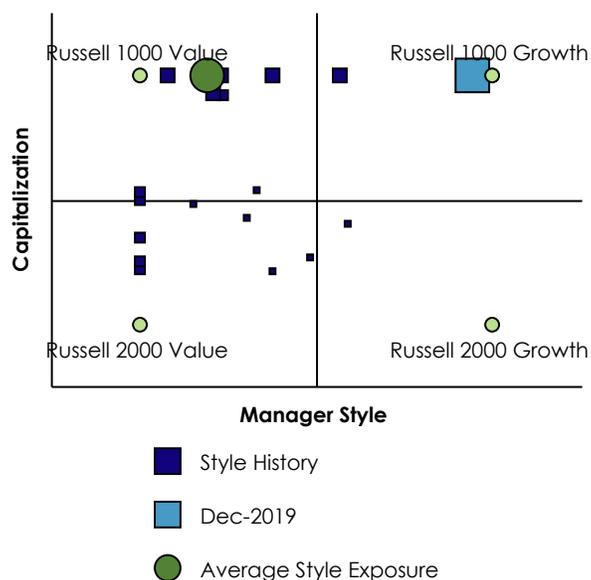
Comparative Performance



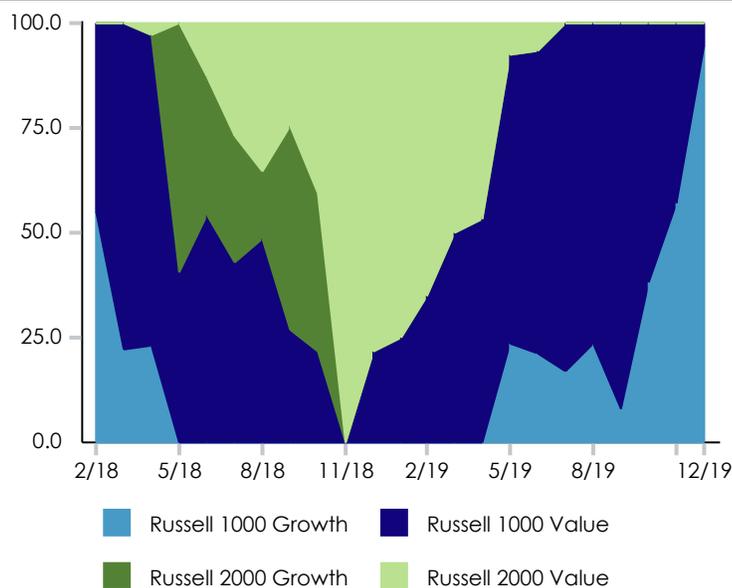
Fund Investment Policy

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)



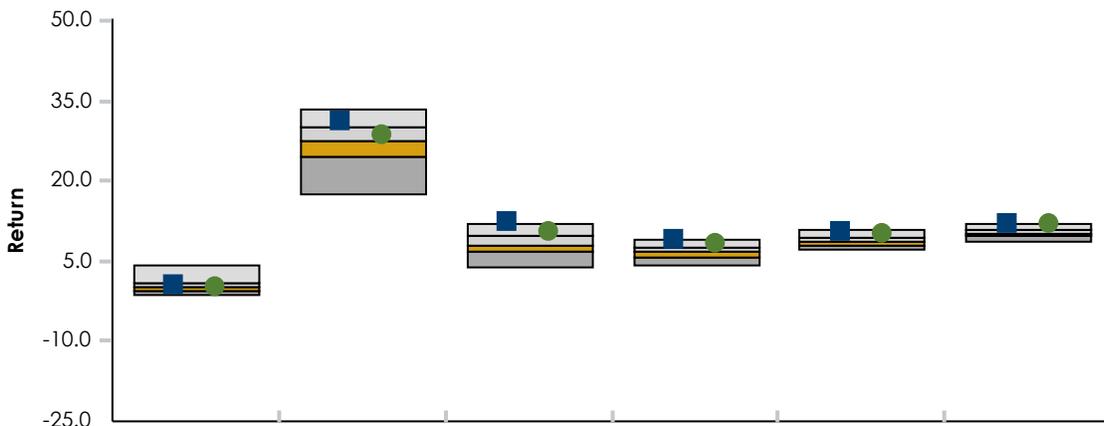
Style History (3 Years)



## Historical Statistics (3 Years)

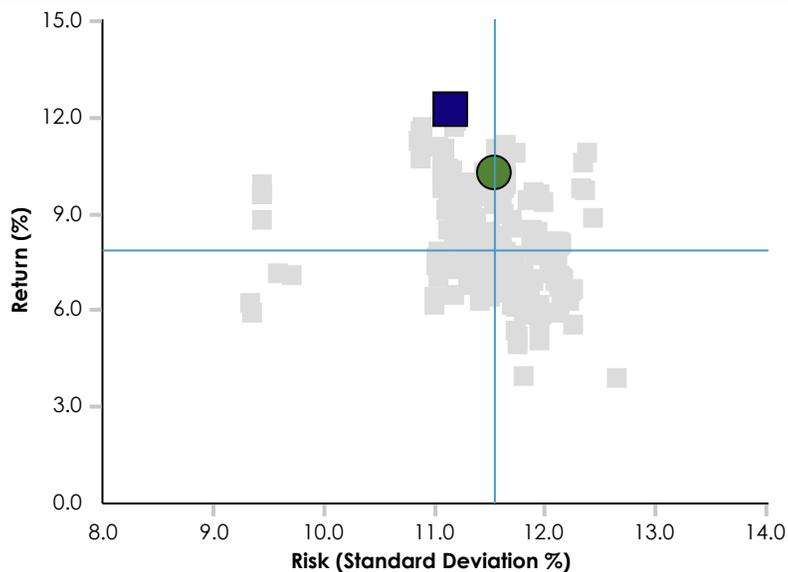
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Real Estate Securities I	12.2	11.2	0.9	2.2	1.0	1.0	1.6	1.0	102.9	87.9
FTSE NAREIT All Equity REITs	10.3	11.6	0.8	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Real Estate Sector (MF) Median	7.9	11.6	0.6	-1.7	1.0	1.0	2.4	-0.9	89.9	102.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Real Estate Securities I	0.6 (32)	31.1 (14)	12.2 (3)	9.1 (5)	10.5 (9)	11.9 (7)
● FTSE NAREIT All Equity REITs	0.1 (51)	28.7 (38)	10.3 (18)	8.4 (10)	10.2 (12)	11.9 (8)
Median	0.1	27.4	7.9	6.7	8.7	10.2

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Real Estate Securities I	12.2	11.2
● FTSE NAREIT All Equity REITs	10.3	11.6
— Median	7.9	11.6

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	25	102.9
Down Markets	11	87.9
<b>Batting Average</b>		
Up Markets	25	52.0
Down Markets	11	81.8
Overall	36	61.1

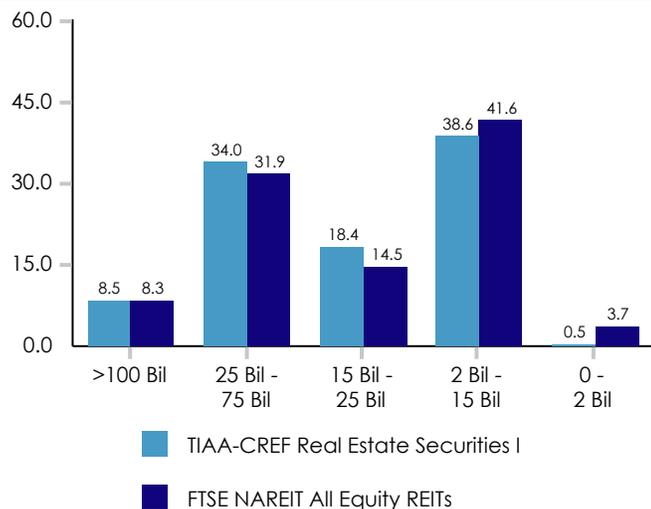
## Portfolio Characteristics (As of 11/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	30,163	28,729
Median Mkt. Cap (\$M)	11,779	3,479
Price/Earnings ratio	39.2	34.6
Price/Book ratio	3.0	2.9
5 Yr. EPS Growth Rate (%)	15.0	14.2
Current Yield (%)	3.0	3.7
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	53	164

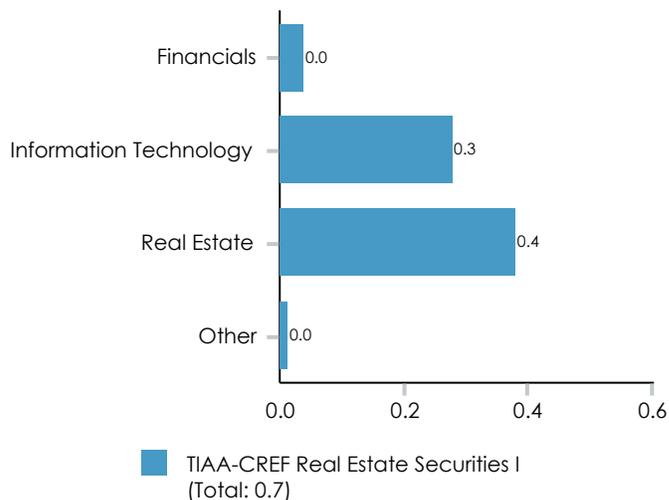
## Top 10 Holdings (As of 11/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
American Tower Corp	8.5	8.3	4.4
Prologis Inc	5.7	4.6	5.2
Equinix Inc	4.6	4.1	1.6
Crown Castle International Corp	4.0	4.9	3.2
Simon Property Group Inc.	3.6	3.8	-3.0
Welltower Inc	3.3	2.7	-8.8
Equity Residential	3.1	2.4	-5.5
Sun Communities Inc.	3.1	1.1	1.6
AvalonBay Communities Inc.	3.0	2.4	-1.9
Equity Lifestyle Properties Inc	3.0	1.0	5.8
% of Portfolio	41.9	35.3	

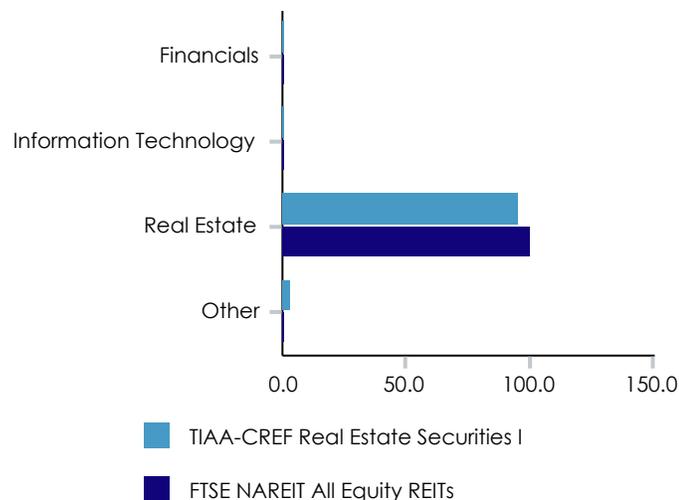
## Market Cap Distribution (As of 11/30/2019)



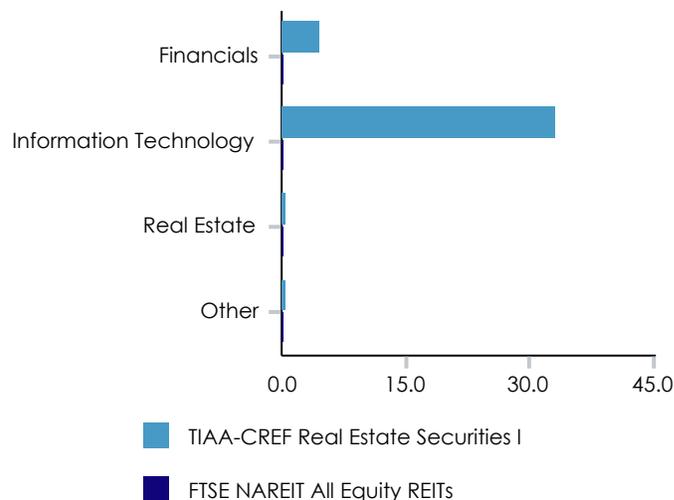
## Sector Attribution (1 Quarter as of 11/30/2019)



## Sector Allocation (1 Quarter as of 11/30/2019)

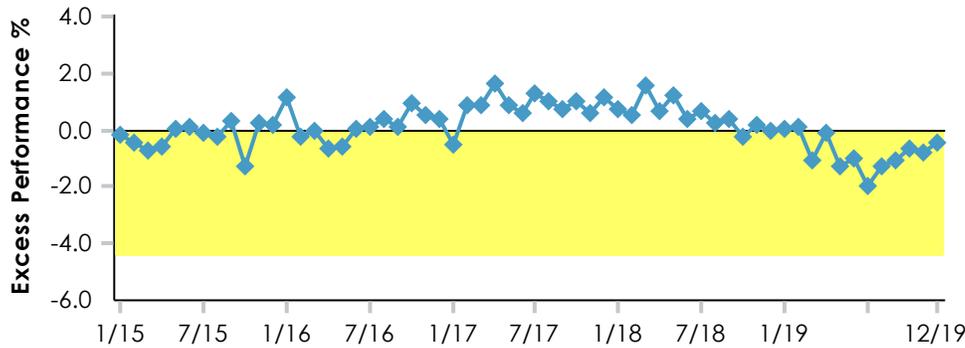


## Sector Performance (1 Quarter as of 11/30/2019)



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

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

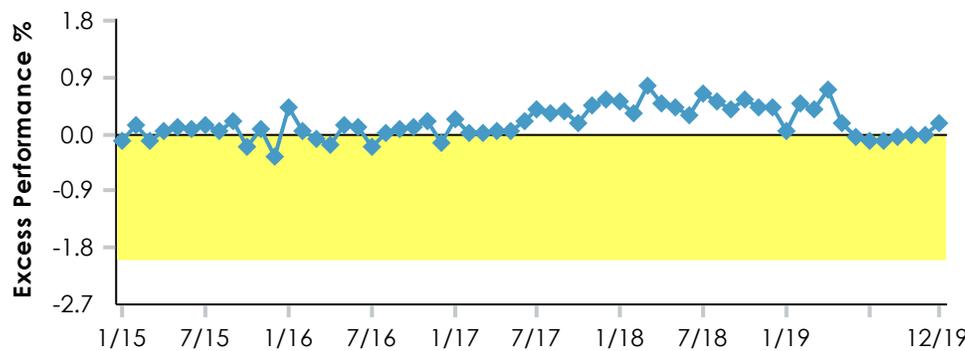


### Short-Term Performance

Acceptable

Probationary Performance -4.50%

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

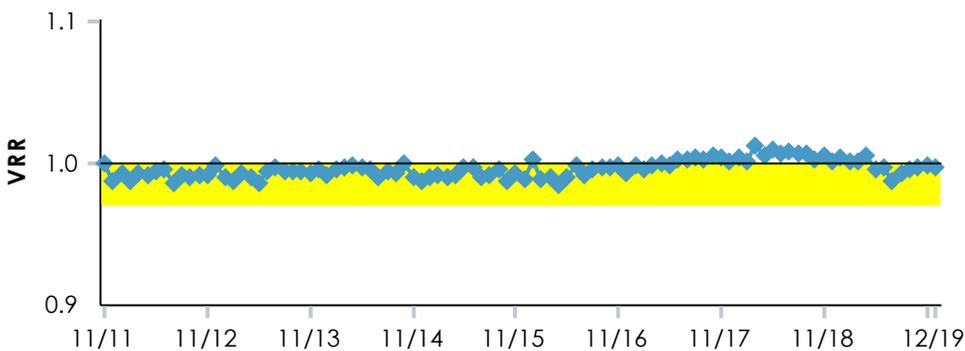


### Medium-Term Performance

Positive

Probationary Performance -2.00%

## Long-term (December 1, 2011 To December 31, 2019 VRR)



### Long-Term Performance

Acceptable

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

	Qtr	1 Year	3 Years	5 Years	Inception (12/2011)
DFA Large Cap International I	8.0 (61)	22.0 (30)	9.5 (32)	5.6 (36)	7.0 (43)
MSCI World ex-U.S. (net)	7.9 (67)	22.5 (23)	9.3 (38)	5.4 (43)	7.1 (40)
IM International Multi-Cap Core Equity (MF) Median	8.4	21.2	8.9	5.2	6.7

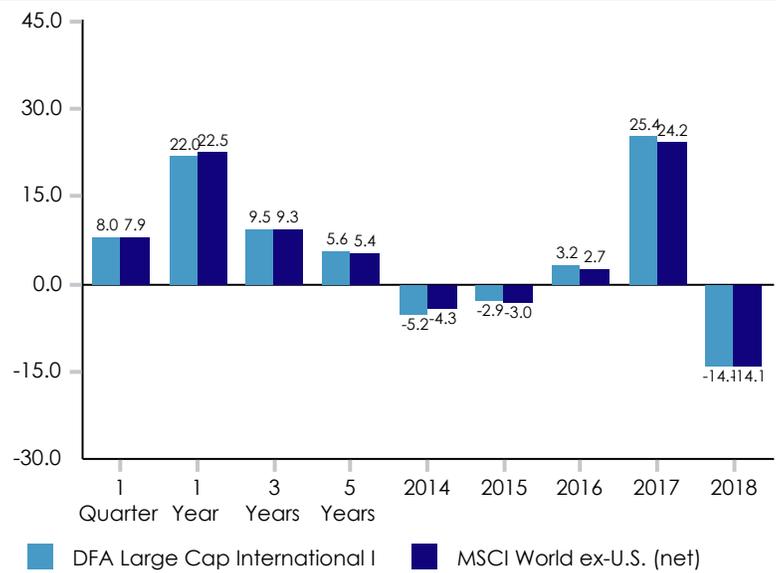
Monitoring Status

Acceptable

## Mutual Fund Info

Product Name : DFA Large Cap Intl;I (DFALX)  
 Fund Family : Dimensional Fund Advisors LP  
 Ticker : DFALX  
 Peer Group : IM International Multi-Cap Core Equity (MF)  
 Benchmark : MSCI EAFE IMI  
 Fund Inception : 07/15/1991  
 Portfolio Manager : Fogdall/Phillips/Singh  
 Total Assets : \$5,451 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 8%

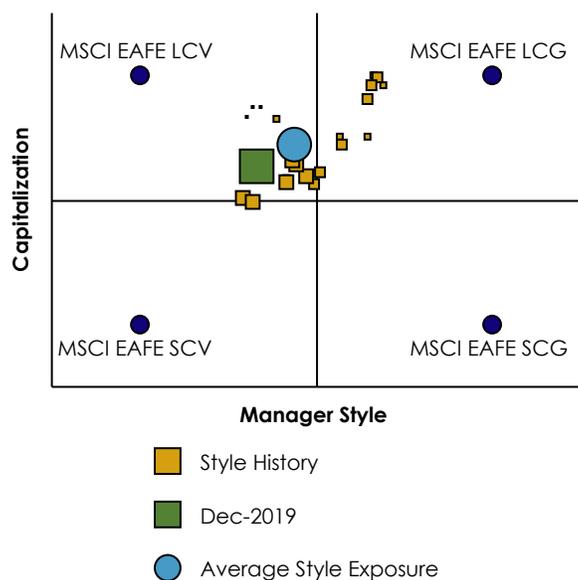
## Comparative Performance



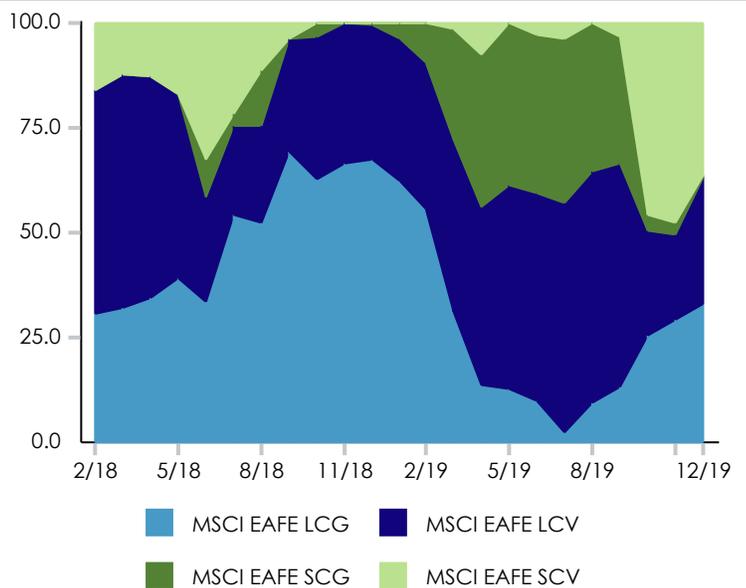
## Fund Investment Policy

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)



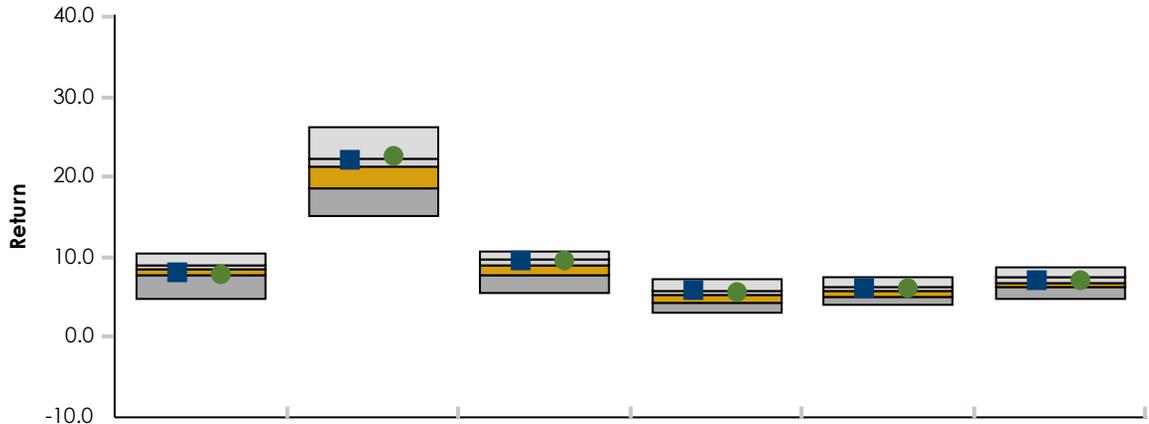
## Style History (3 Years)



## Historical Statistics (3 Years)

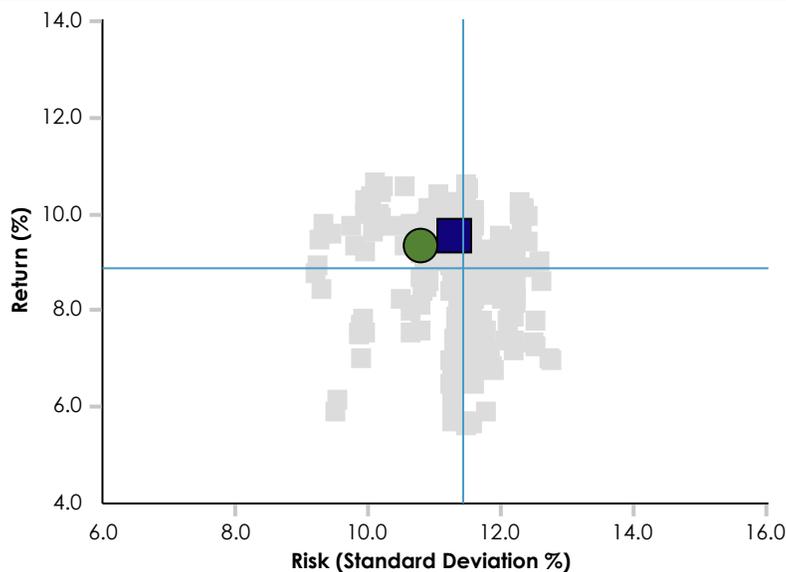
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
DFA Large Cap International I	9.5	11.3	0.7	-0.2	1.0	1.0	1.4	0.2	102.4	102.5
MSCI World ex-U.S. (net)	9.3	10.8	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM International Multi-Cap Core Equity (MF) Median	8.9	11.4	0.6	-0.7	1.0	1.0	2.6	-0.1	100.7	103.0

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ DFA Large Cap International I	8.0 (61)	22.0 (30)	9.5 (32)	5.6 (36)	6.0 (40)	7.0 (43)
● MSCI World ex-U.S. (net)	7.9 (67)	22.5 (23)	9.3 (38)	5.4 (43)	6.0 (39)	7.1 (40)
Median	8.4	21.2	8.9	5.2	5.7	6.7

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ DFA Large Cap International I	9.5	11.3
● MSCI World ex-U.S. (net)	9.3	10.8
— Median	8.9	11.4

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	24	102.4
Down Markets	12	102.5
<b>Batting Average</b>		
Up Markets	24	58.3
Down Markets	12	41.7
Overall	36	52.8

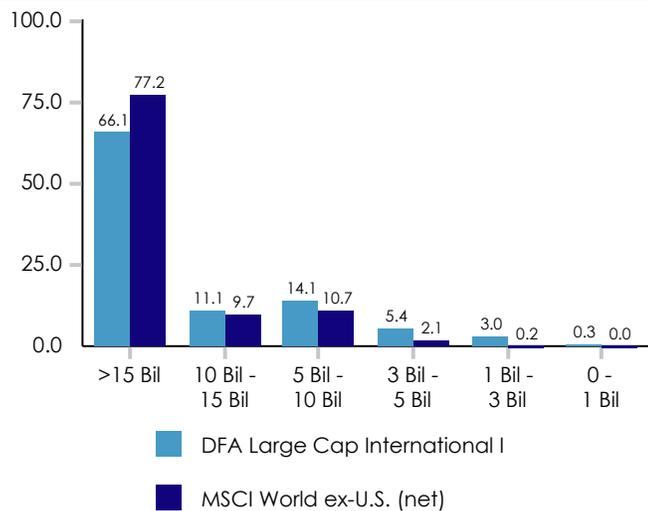
## Portfolio Characteristics (As of 7/31/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	58,378	64,744
Median Mkt. Cap (\$M)	8,338	11,110
Price/Earnings ratio	16.0	16.9
Price/Book ratio	2.2	2.3
5 Yr. EPS Growth Rate (%)	7.4	6.3
Current Yield (%)	3.2	3.4
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	1,376	1,008

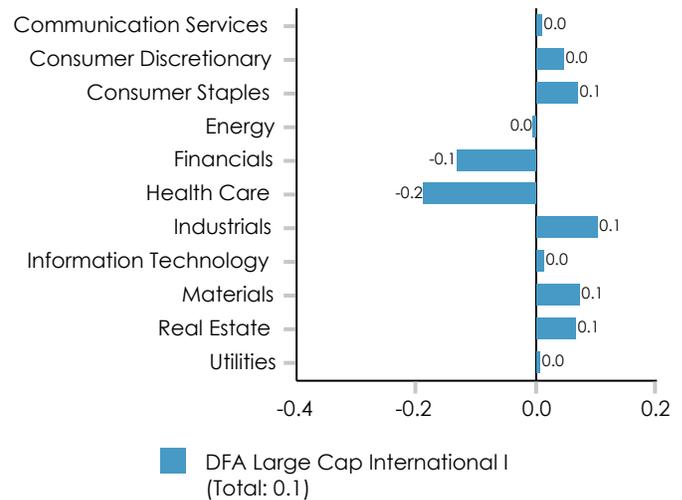
## Top 10 Holdings (As of 7/31/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Nestle SA	1.8	2.0	-0.3
Roche Holding AG	1.3	1.4	9.7
Toyota Motor Corp	0.9	1.0	6.3
Louis Vuitton Moet Hennessy	0.8	0.8	17.5
BP PLC	0.8	0.8	0.9
Total SA Oil & Gas	0.7	0.8	5.7
AIA Group Ltd	0.7	0.8	11.2
Royal Bank of Canada	0.7	0.7	-1.5
ASML Holding NV	0.6	0.8	19.6
SAP AG	0.6	0.8	14.8
<b>% of Portfolio</b>	<b>8.9</b>	<b>9.9</b>	

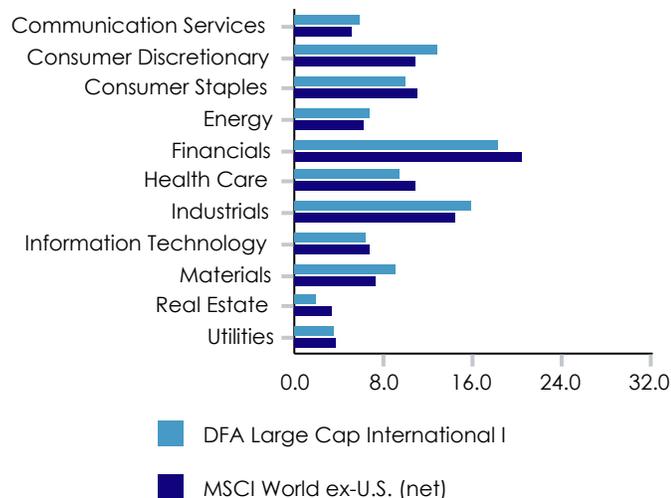
## Market Cap Distribution (As of 7/31/2019)



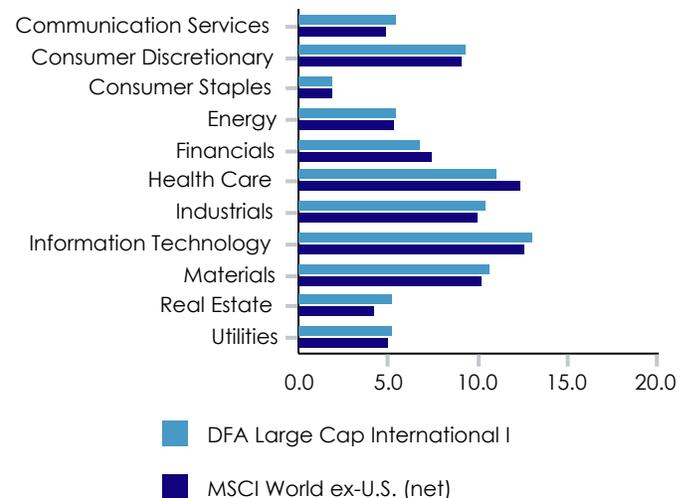
## Sector Attribution (1 Quarter as of 7/31/2019)



## Sector Allocation (1 Quarter as of 7/31/2019)

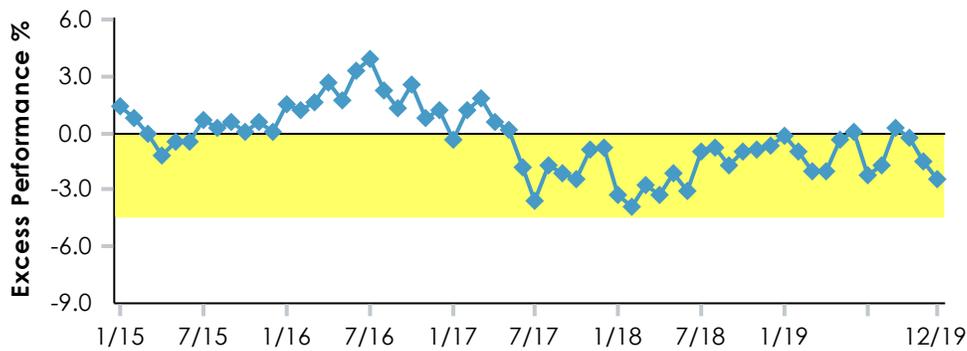


## Sector Performance (1 Quarter as of 7/31/2019)



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

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

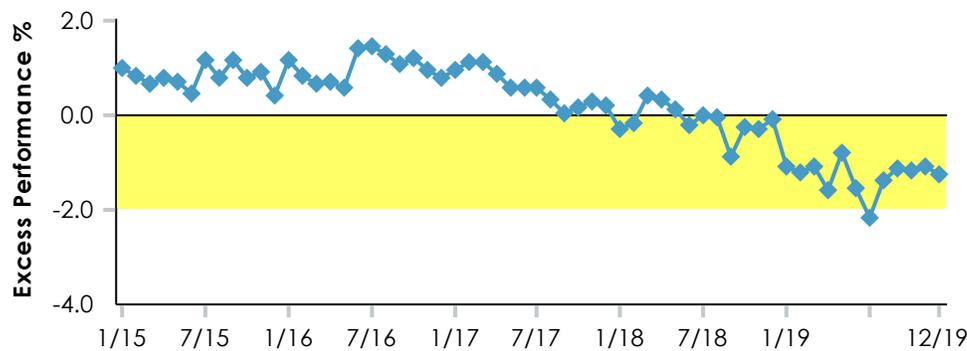


### Short-Term Performance

Acceptable

Probationary Performance -4.50%

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

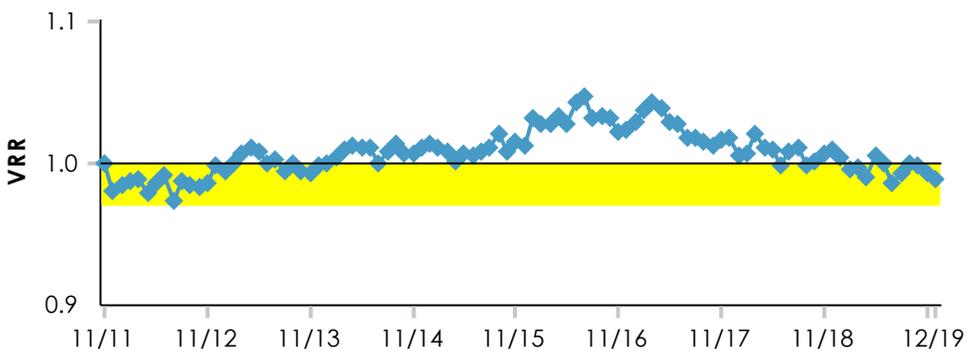


### Medium-Term Performance

Acceptable

Probationary Performance -2.00%

## Long-term (December 1, 2011 To December 31, 2019 VRR)



### Long-Term Performance

Acceptable

Probationary Performance < 0.97

## Annualized Performance Results (Net of management fees)

	Qtr	1 Year	3 Years	5 Years	Inception (12/2011)
DFA Emerging Markets Core Equity I	10.6 (60)	16.0 (77)	10.3 (56)	5.1 (50)	4.7 (46)
MSCI Emerging Markets (Net) Index	11.8 (31)	18.4 (61)	11.6 (39)	5.6 (40)	4.8 (43)
IM Emerging Markets Equity (MF) Median	11.0	20.1	10.6	5.1	4.5

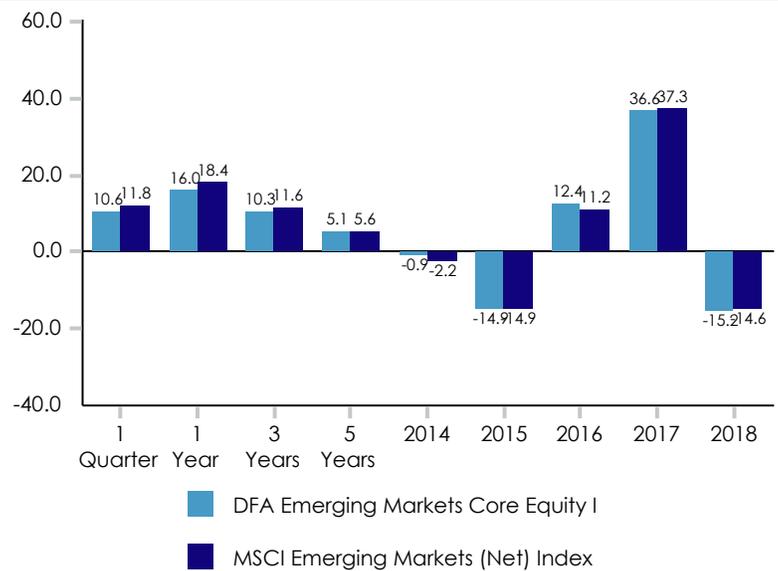
Monitoring Status

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 : \$30,265 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.5%  
 Net Expense : 0.5%  
 Turnover : 4%

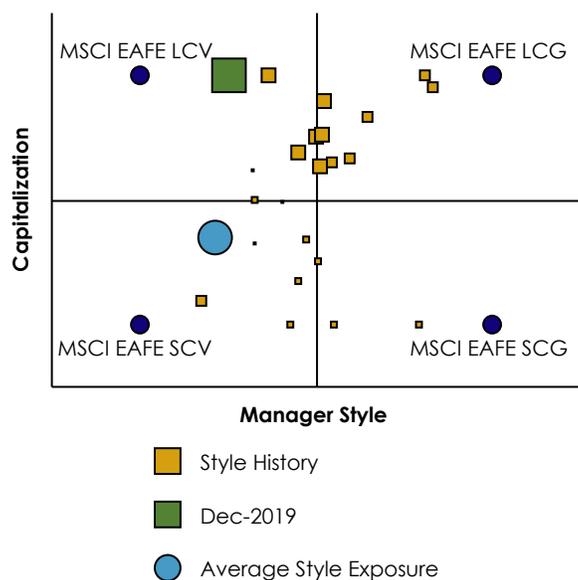
## Comparative Performance



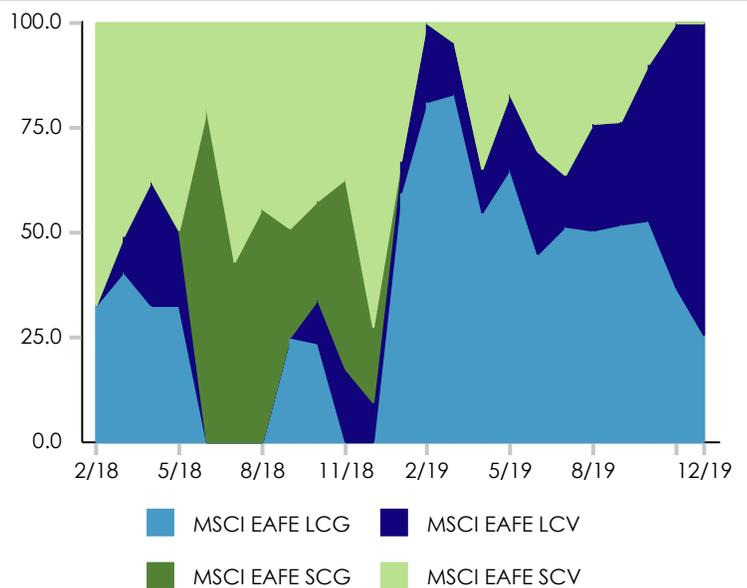
## Fund Investment Policy

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)



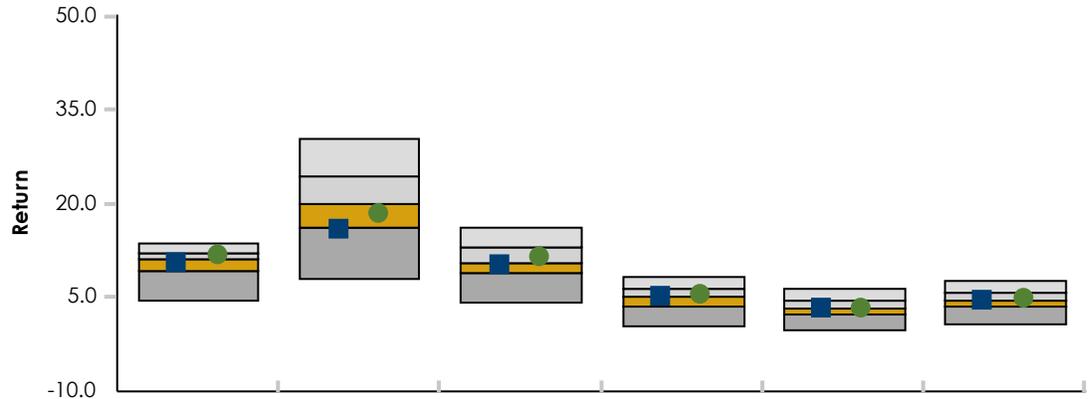
## Style History (3 Years)



## Historical Statistics (3 Years)

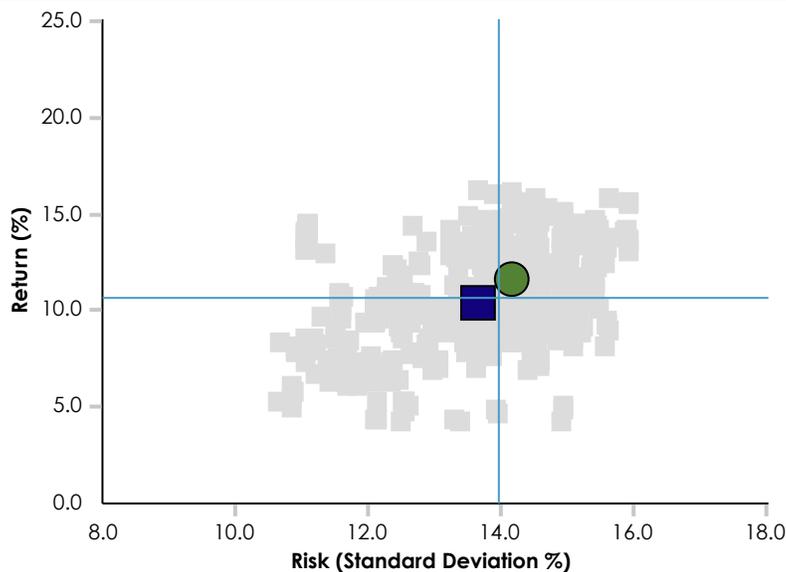
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
DFA Emerging Markets Core Equity I	10.3	13.7	0.7	-0.6	0.9	1.0	2.6	-0.5	97.1	103.0
MSCI Emerging Markets (Net) Index	11.6	14.2	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Emerging Markets Equity (MF) Median	10.6	14.0	0.7	0.3	0.9	0.9	4.3	-0.2	95.5	94.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ DFA Emerging Markets Core Equity I	10.6 (60)	16.0 (77)	10.3 (56)	5.1 (50)	3.1 (52)	4.7 (46)
● MSCI Emerging Markets (Net) Index	11.8 (31)	18.4 (61)	11.6 (39)	5.6 (40)	3.3 (48)	4.8 (43)
Median	11.0	20.1	10.6	5.1	3.2	4.5

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	22	97.1
Down Markets	14	103.0
<b>Batting Average</b>		
Up Markets	22	45.5
Down Markets	14	50.0
Overall	36	47.2

	Return	Standard Deviation
■ DFA Emerging Markets Core Equity I	10.3	13.7
● MSCI Emerging Markets (Net) Index	11.6	14.2
— Median	10.6	14.0

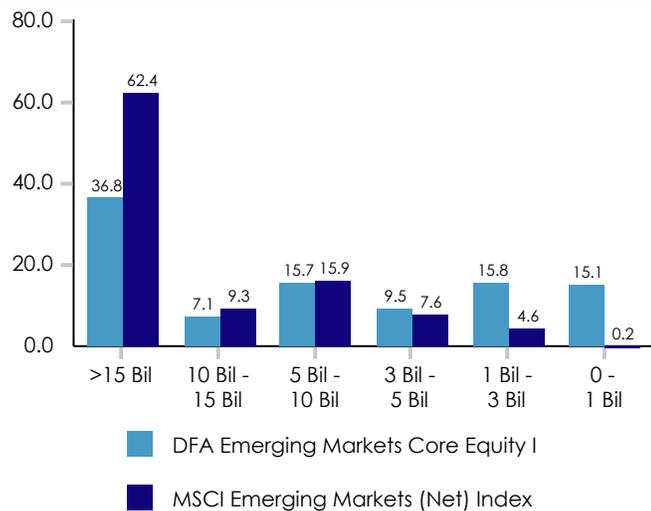
## Portfolio Characteristics (As of 7/31/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	47,813	104,152
Median Mkt. Cap (\$M)	355	5,792
Price/Earnings ratio	14.1	14.3
Price/Book ratio	2.3	2.5
5 Yr. EPS Growth Rate (%)	11.4	13.0
Current Yield (%)	2.6	2.8
Beta (5 Years, Monthly)	0.9	1.0
Number of Stocks	4,893	1,404

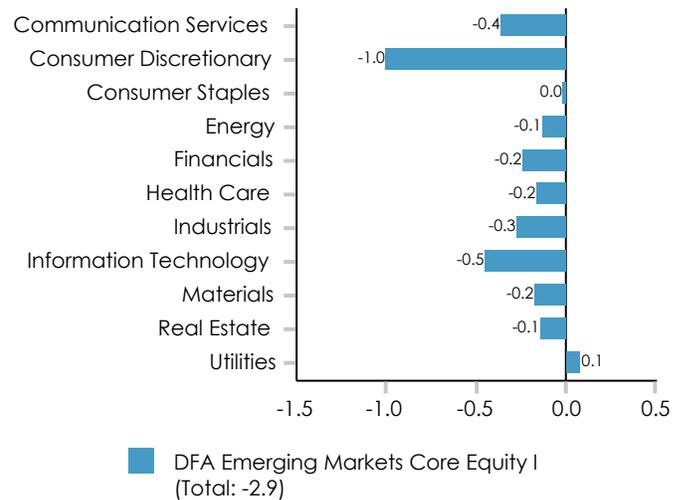
## Top 10 Holdings (As of 7/31/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Taiwan Semiconductor	2.3	4.4	25.9
TENCENT HOLDINGS LTD	2.1	0.0	N/A
Taiwan Semiconductor	1.7	4.4	27.3
Petrobras	1.4	0.4	10.5
SK Hynix Inc	1.1	0.7	20.7
Alibaba Group Holding Ltd	1.1	5.8	26.8
Vale SA	1.0	0.7	22.3
Reliance Industries Ltd	0.9	1.0	12.8
PING AN INSURANCE GROUP	0.8	0.0	N/A
CHINA CONSTR BANK CORP	0.7	0.0	N/A
<b>% of Portfolio</b>	<b>13.1</b>	<b>17.4</b>	

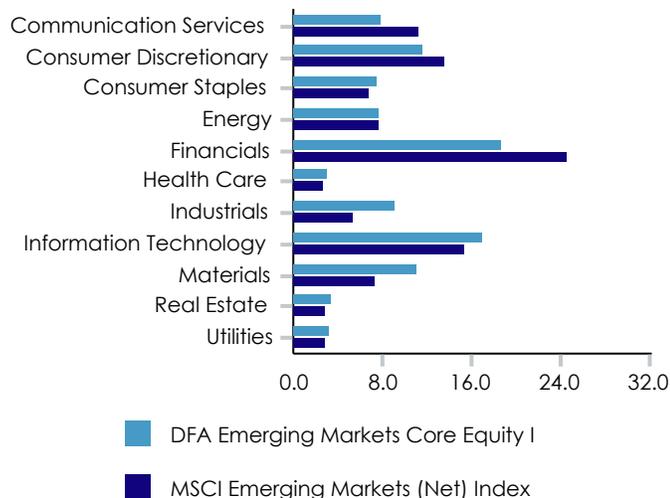
## Market Cap Distribution (As of 7/31/2019)



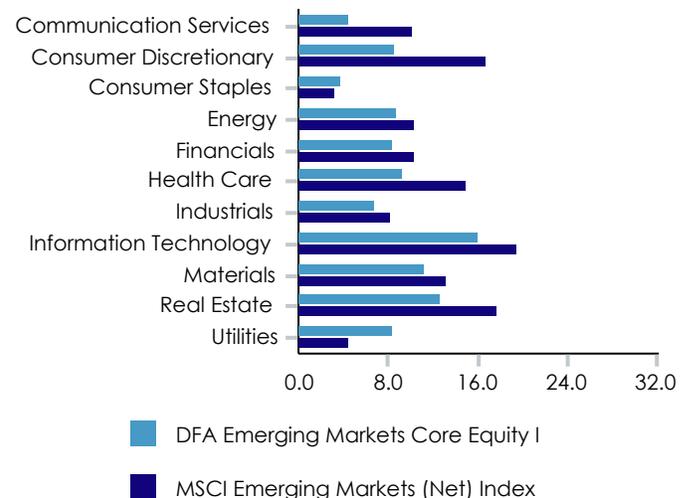
## Sector Attribution (1 Quarter as of 7/31/2019)



## Sector Allocation (1 Quarter as of 7/31/2019)

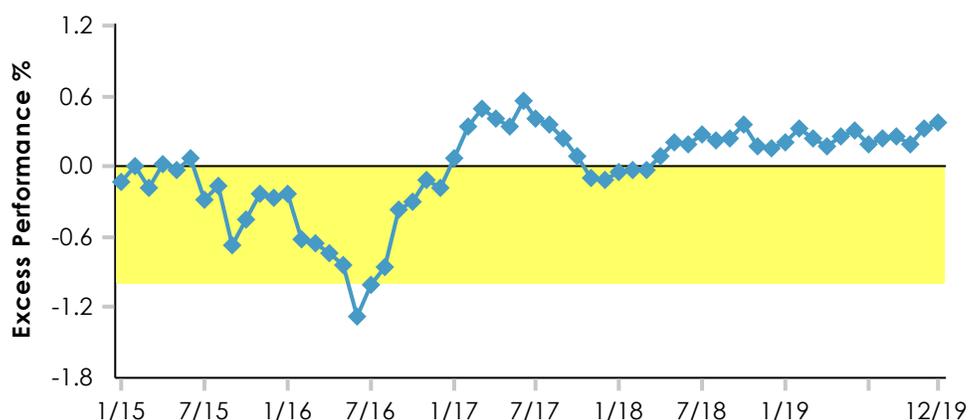


## Sector Performance (1 Quarter as of 7/31/2019)



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

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

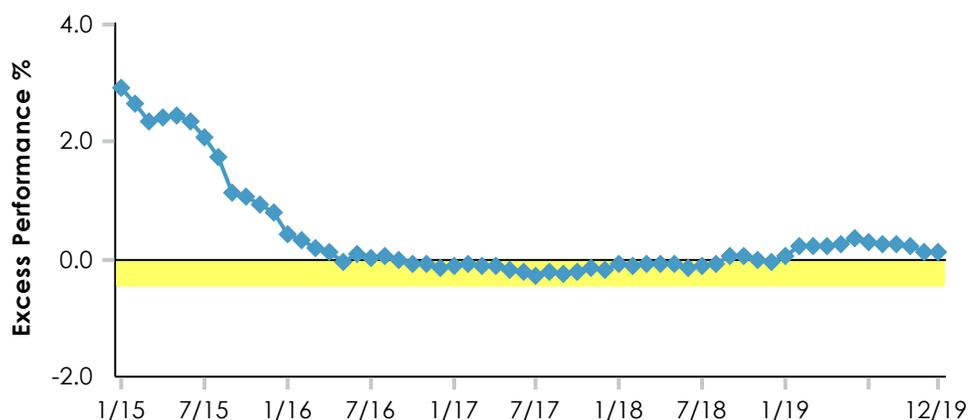


### Short-Term Performance

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	0.2 (67)	9.1 (56)	4.2 (49)	3.0 (61)	3.4 (67)
BBg BC U.S. Aggregate Index	0.2 (67)	8.7 (64)	4.0 (59)	3.0 (59)	3.3 (73)
IM U.S. Broad Market Core+ Fixed Income (MF) Median	0.4	9.3	4.1	3.2	3.8

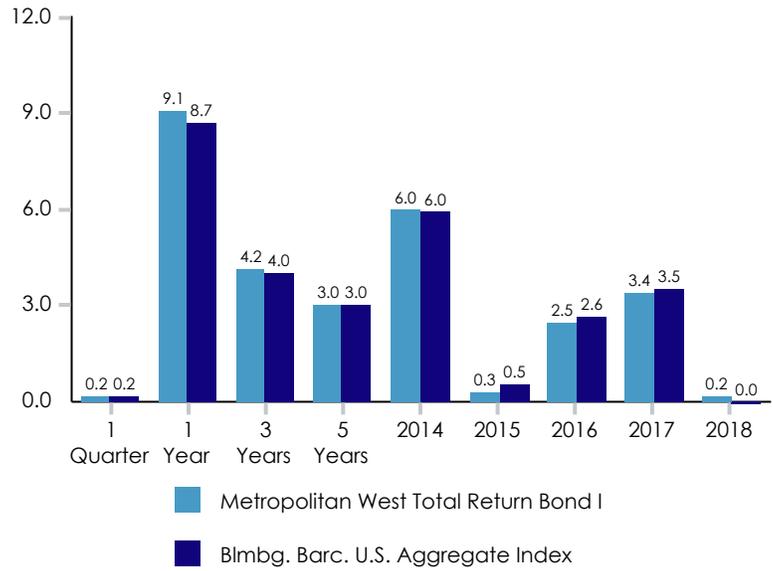
### Monitoring Status

**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 :** \$45,786 Million  
**Total Assets Date :** 12/31/2019  
**Gross Expense :** 0.4%  
**Net Expense :** 0.4%  
**Turnover :** 255%

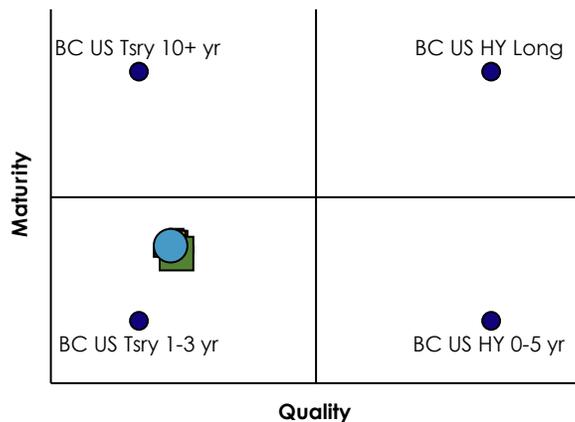
## Comparative Performance



## Fund Investment Policy

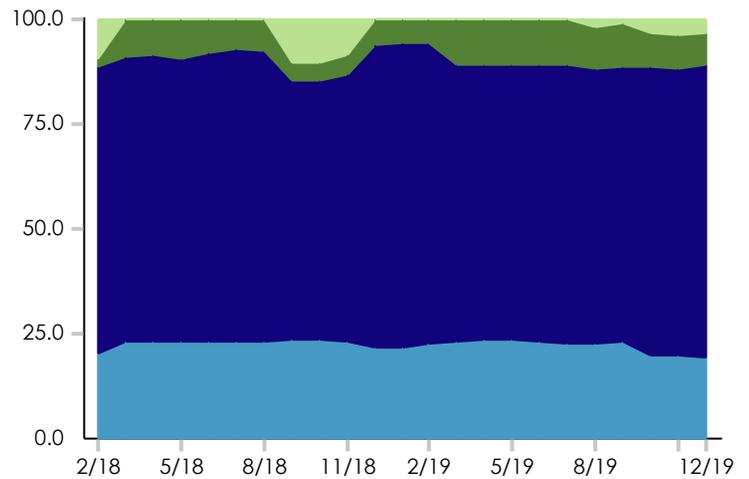
The Fund seeks to maximize long-term total return. The Fund invests at least 80% of its net assets in investment grade fixed income securities or unrated securities that are determined by the Adviser to be of similar quality. Up to 20% of the Funds net assets may be invested in securities rated below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

## Style Map (3 Years)



- Style History
- Dec-2019
- Average Style Exposure

## Style History (3 Years)



- BC US Tsry 10+ yr
- BC US Tsry 1-3 yr
- BC US HY Long
- BC US HY 0-5 yr

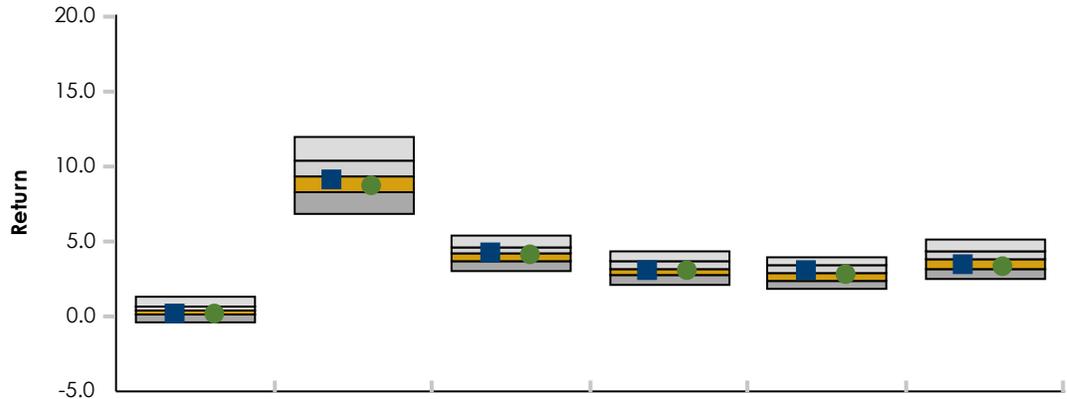
# Metropolitan West Total Return Bond I

December 31, 2019

## Historical Statistics (3 Years)

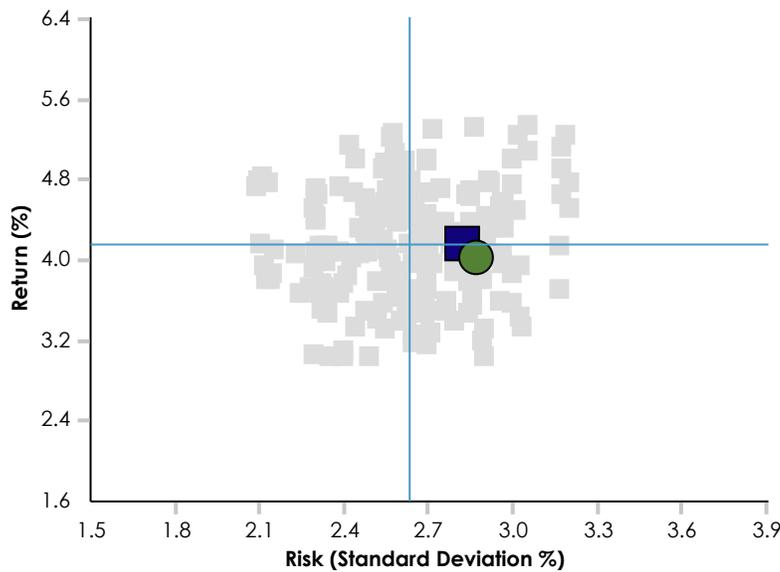
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
Metropolitan West Total Return Bond I	4.2	2.8	0.9	0.2	1.0	1.0	0.2	0.5	99.0	90.4
Blmbg. Barc. U.S. Aggregate Index	4.0	2.9	0.8	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Broad Market Core+ Fixed Income (MF) Median	4.1	2.6	1.0	0.9	0.8	0.9	1.1	0.1	93.6	76.9

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Oct-2015
■ Metropolitan West Total Return Bond I	0.2 (67)	9.1 (56)	4.2 (49)	3.0 (61)	3.1 (42)	3.4 (67)
● Blmbg. Barc. U.S. Aggregate Index	0.2 (67)	8.7 (64)	4.0 (59)	3.0 (59)	2.7 (59)	3.3 (73)
Median	0.4	9.3	4.1	3.2	2.9	3.8

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	22	99.0
Down Markets	14	90.4
<b>Batting Average</b>		
Up Markets	22	40.9
Down Markets	14	64.3
Overall	36	50.0

	Return	Standard Deviation
■ Metropolitan West Total Return Bond I	4.2	2.8
● Blmbg. Barc. U.S. Aggregate Index	4.0	2.9
— Median	4.1	2.6

# Metropolitan West Total Return Bond I

December 31, 2019

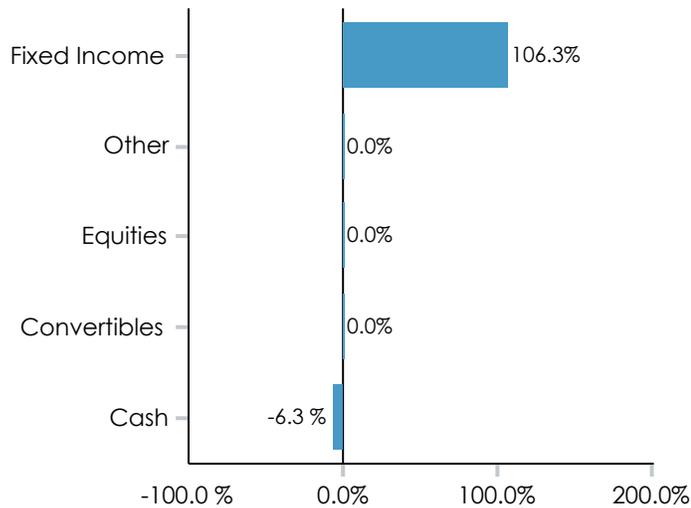
## Portfolio Characteristics (As of 9/30/2019)

Avg. Coupon	3.00 %
Nominal Maturity	7.69 Years
Effective Maturity	N/A
Duration	5.75 Years
SEC 30 Day Yield	3.9
Avg. Credit Quality	AA

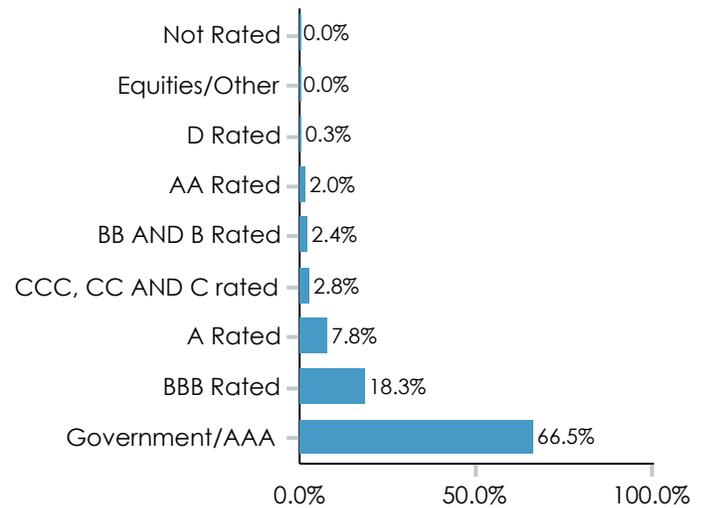
## Top 10 Holdings (As of 9/30/2019)

GNMA and Other Mtg Backed	43.6 %
Government Agency Securities	31.0 %
Corporate Notes/Bonds	26.9 %
Asset Backed Securities	4.8 %

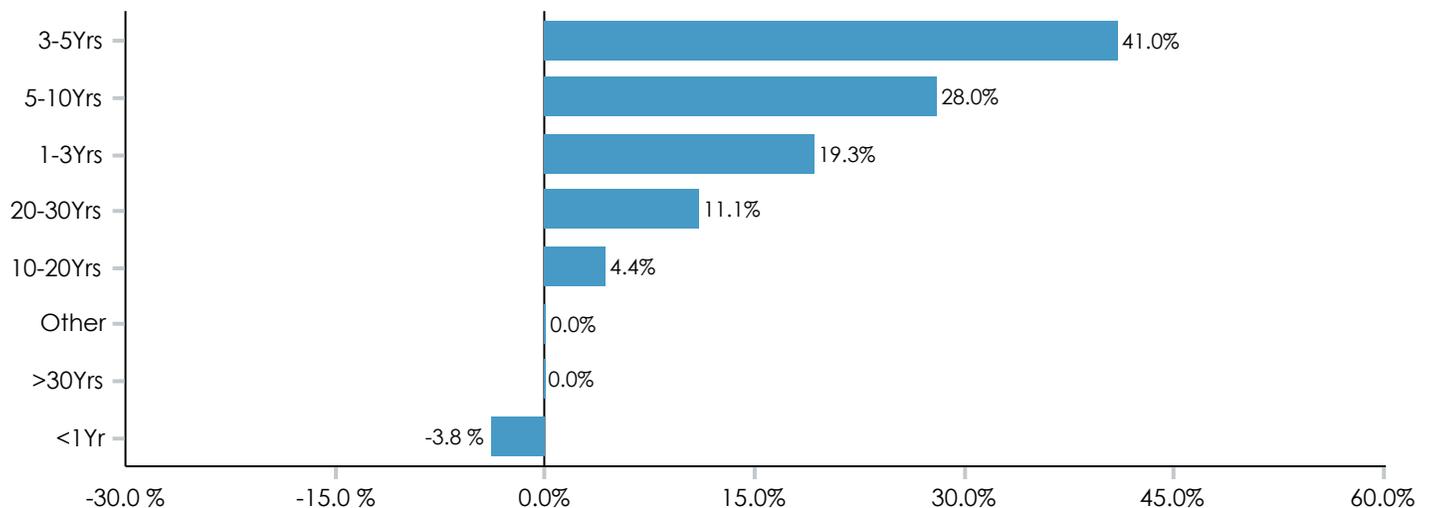
## Asset Allocation (As of 9/30/2019)



## Quality Allocation (As of 9/30/2019)

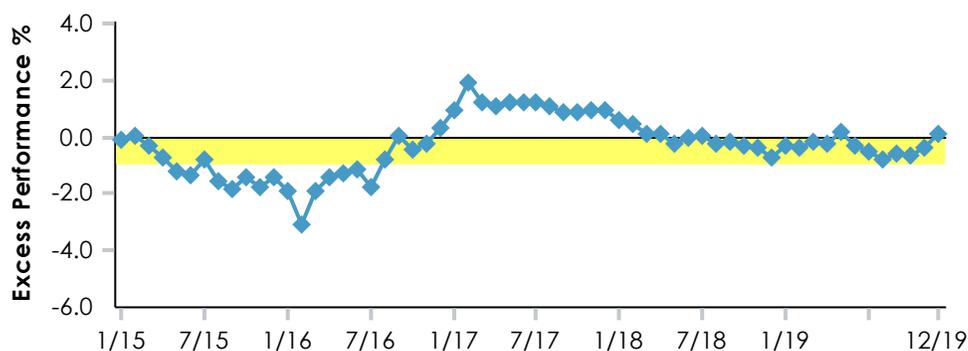


## Maturity Distribution (As of 9/30/2019)



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

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

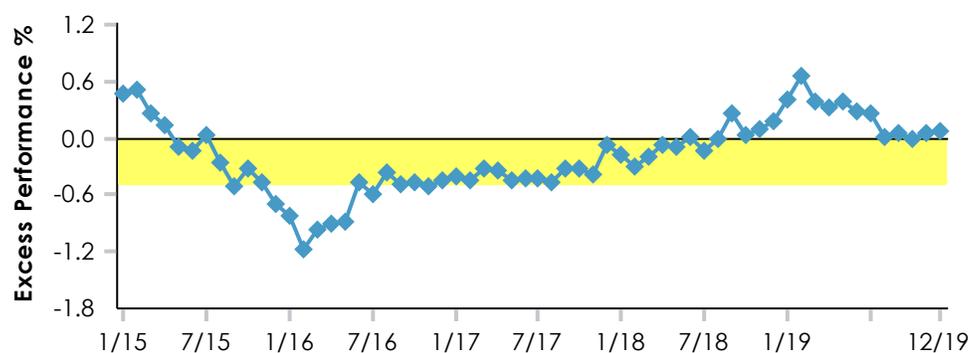


### Short-Term Performance

Positive

Probationary Performance -1.00%

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

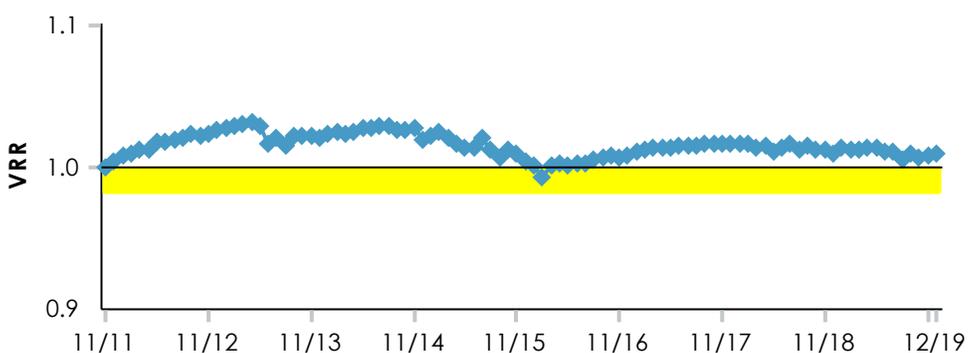


### Medium-Term Performance

Positive

Probationary Performance -0.50%

## Long-term (December 1, 2011 To December 31, 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	0.9 (54)	8.5 (17)	3.4 (10)	2.4 (24)	1.9 (7)
Bloomberg Barclays U.S. TIPS Index	0.8 (64)	8.4 (19)	3.3 (14)	2.6 (14)	1.8 (14)
IM U.S. TIPS (MF) Median	1.0	7.5	2.7	2.1	1.2

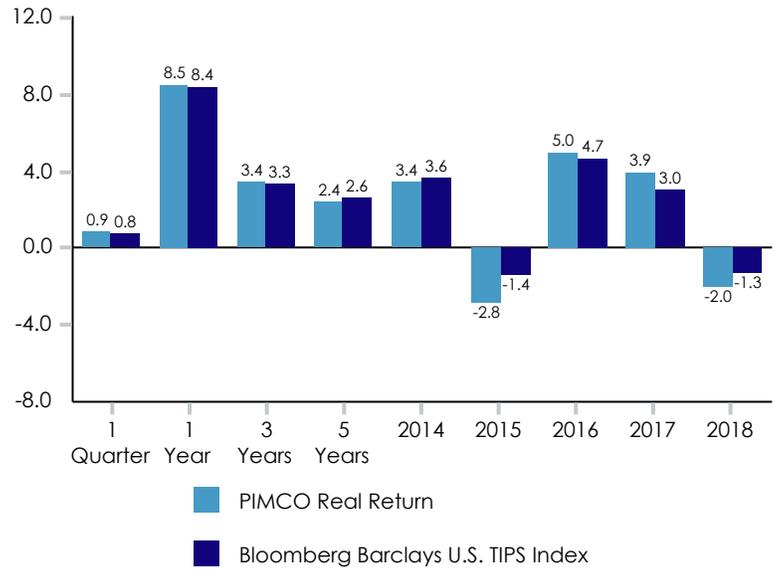
Monitoring Status

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 : Rodosky/He  
 Total Assets : \$5,635 Million  
 Total Assets Date : 11/30/2019  
 Gross Expense : 1.0%  
 Net Expense : 1.0%  
 Turnover : 254%

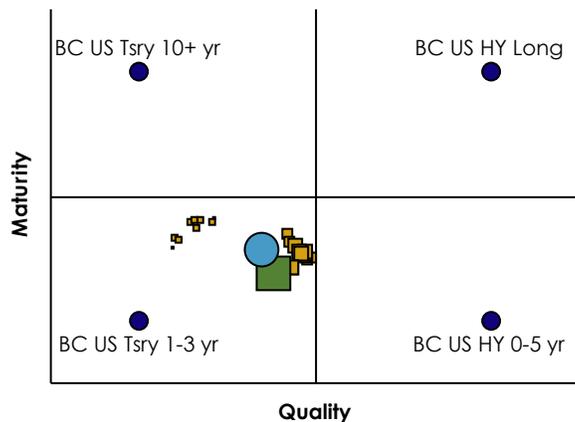
Comparative Performance



Fund Investment Policy

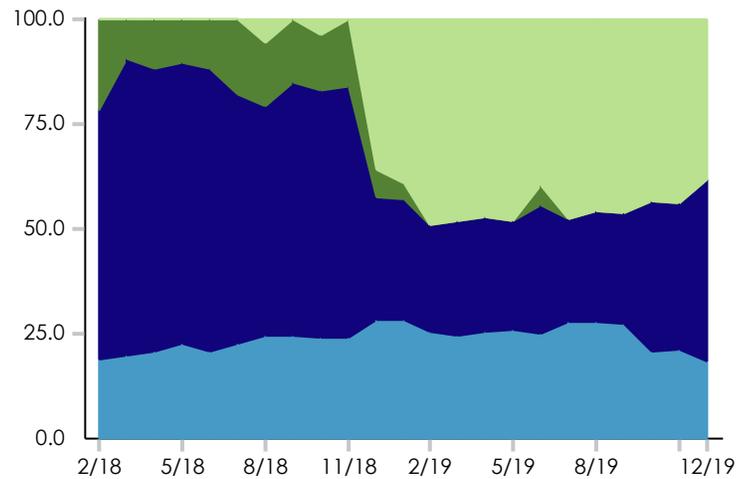
The Fund seeks to maximize real return consistent with preservation of real capital and prudent investment management. It invests at least 80% of its net assets in inflation-indexed bonds of varying maturities issued by the U.S. and non-U.S. governments, their agencies or instrumentalities, and corporations.

Style Map (3 Years)



- Style History
- Dec-2019
- Average Style Exposure

Style History (3 Years)

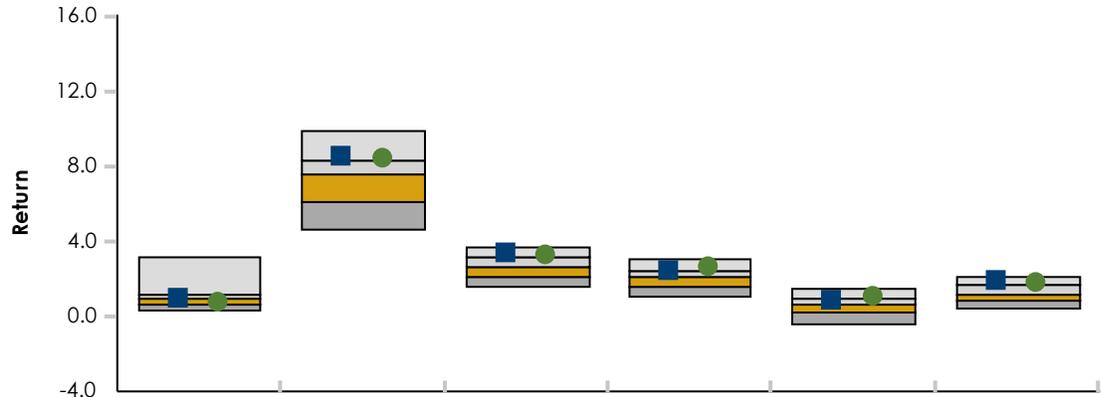


- BC US Tstry 10+ yr
- BC US Tstry 1-3 yr
- BC US HY Long
- BC US HY 0-5 yr

Historical Statistics (3 Years)

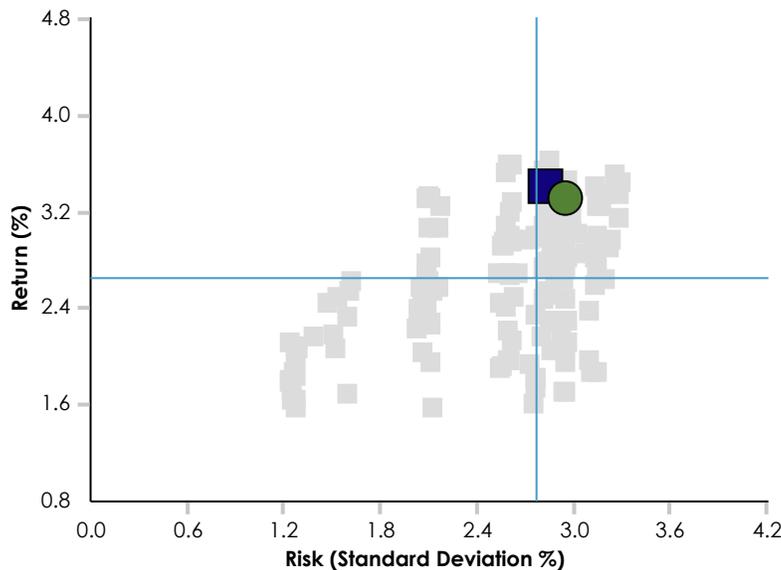
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
PIMCO Real Return	3.4	2.8	0.6	0.3	0.9	0.9	0.7	0.1	96.4	88.9
Bloomberg Barclays U.S. TIPS Index	3.3	3.0	0.6	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. TIPS (MF) Median	2.7	2.8	0.4	0.1	0.8	0.9	1.1	-0.6	85.6	88.8

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ PIMCO Real Return	0.9 (54)	8.5 (17)	3.4 (10)	2.4 (24)	0.9 (32)	1.9 (7)
● Bloomberg Barclays U.S. TIPS Index	0.8 (64)	8.4 (19)	3.3 (14)	2.6 (14)	1.1 (16)	1.8 (14)
Median	1.0	7.5	2.7	2.1	0.6	1.2

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ PIMCO Real Return	3.4	2.8
● Bloomberg Barclays U.S. TIPS Index	3.3	3.0
— Median	2.7	2.8

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	24	96.4
Down Markets	12	88.9
<b>Batting Average</b>		
Up Markets	24	54.2
Down Markets	12	75.0
Overall	36	61.1

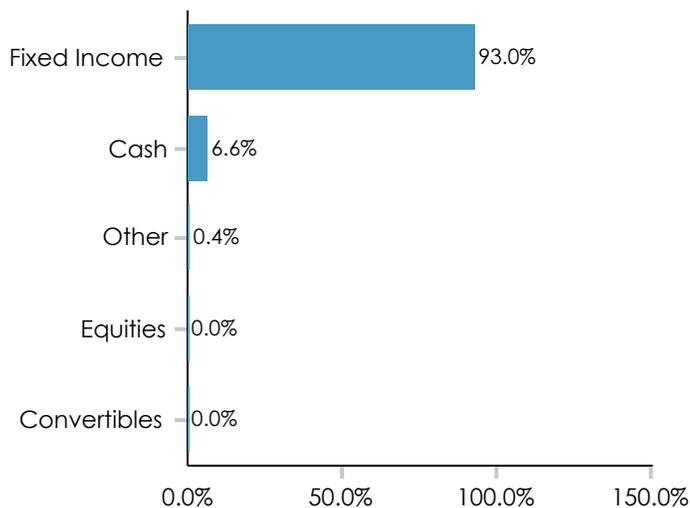
Portfolio Characteristics (As of 9/30/2019)

Avg. Coupon	1.88 %
Nominal Maturity	8.31 Years
Effective Maturity	N/A
Duration	7.63 Years
SEC 30 Day Yield	2.2
Avg. Credit Quality	AAA

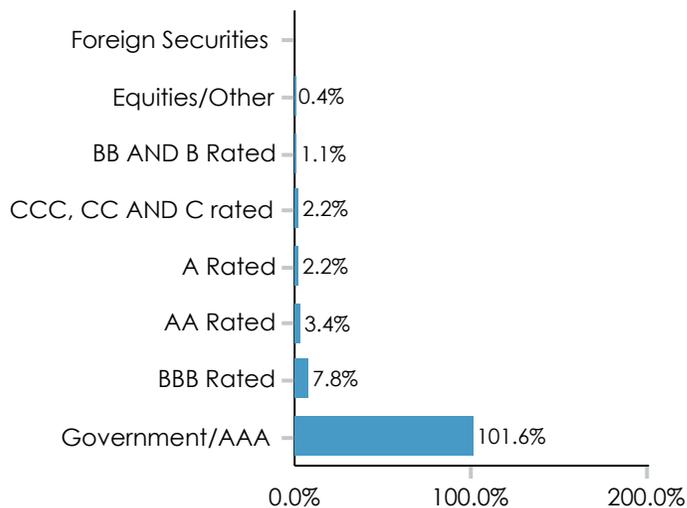
Top 10 Holdings (As of 9/30/2019)

Government Agency Securities	60.0 %
GNMA and Other Mtg Backed	26.9 %
Corporate Notes/Bonds	24.9 %

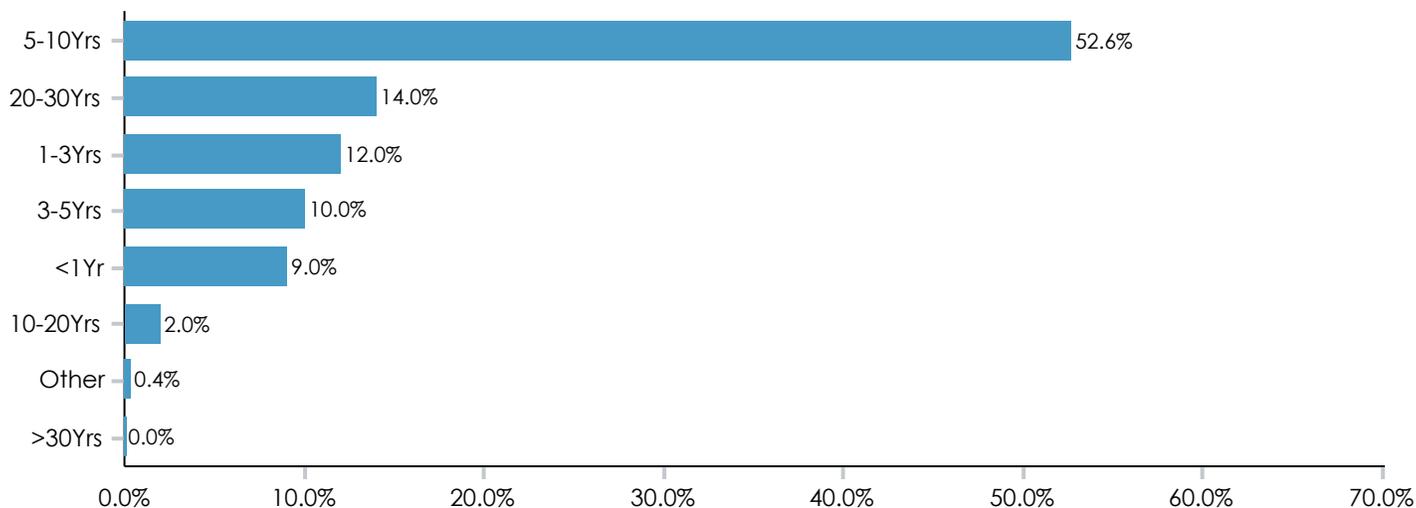
Asset Allocation (As of 9/30/2019)



Quality Allocation (As of 9/30/2019)

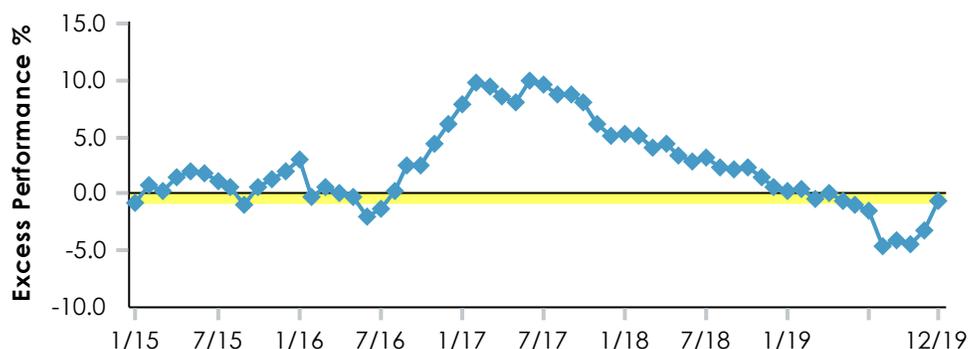


Maturity Distribution (As of 9/30/2019)



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

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

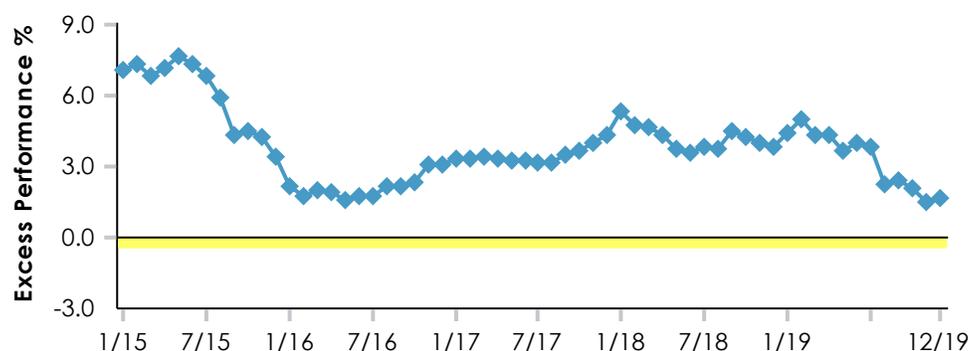


### Short-Term Performance

Acceptable

Probationary Performance -1.00%

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

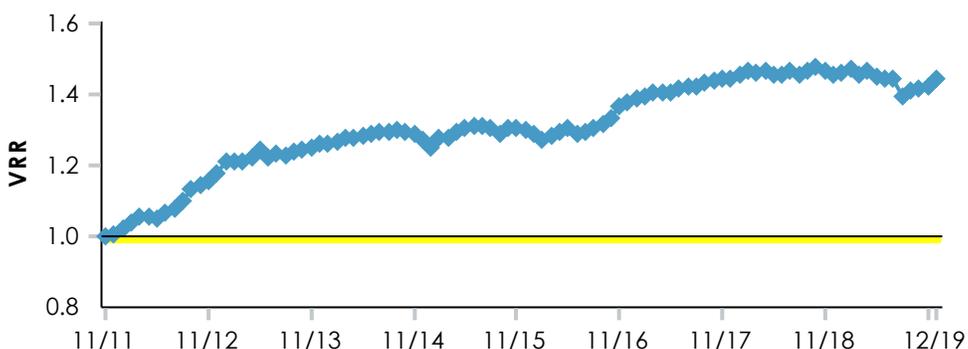


### Medium-Term Performance

Positive

Probationary Performance -0.50%

## Long-term (December 1, 2011 To December 31, 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	2.5 (3)	8.1 (74)	5.7 (16)	5.7 (5)	7.8 (1)
Blmbg. Barc. U.S. Aggregate Index	0.2 (86)	8.7 (65)	4.0 (69)	3.0 (80)	3.0 (93)
IM Multi-Sector General Bond (MF) Median	1.2	9.9	4.6	3.8	4.5

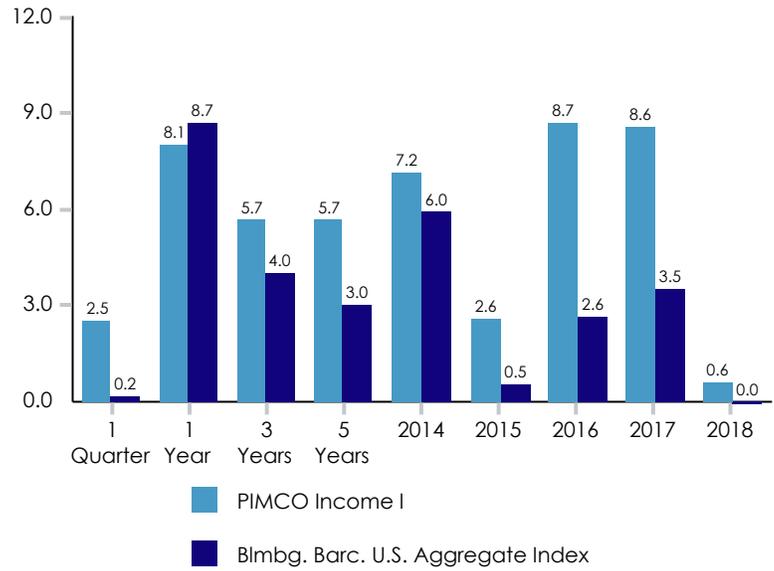
Monitoring Status

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/Anderson  
 Total Assets : \$69,738 Million  
 Total Assets Date : 11/30/2019  
 Gross Expense : 1.1%  
 Net Expense : 1.1%  
 Turnover : 472%

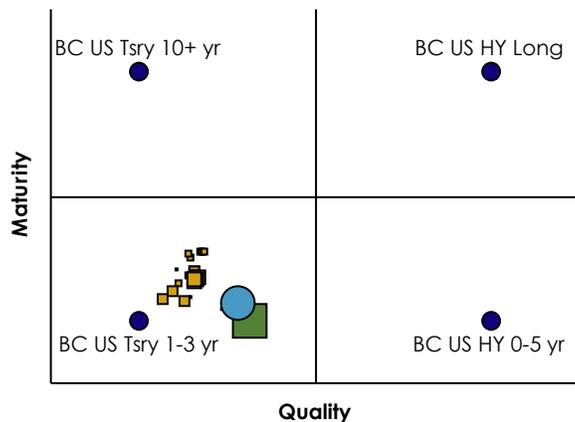
Comparative Performance



Fund Investment Policy

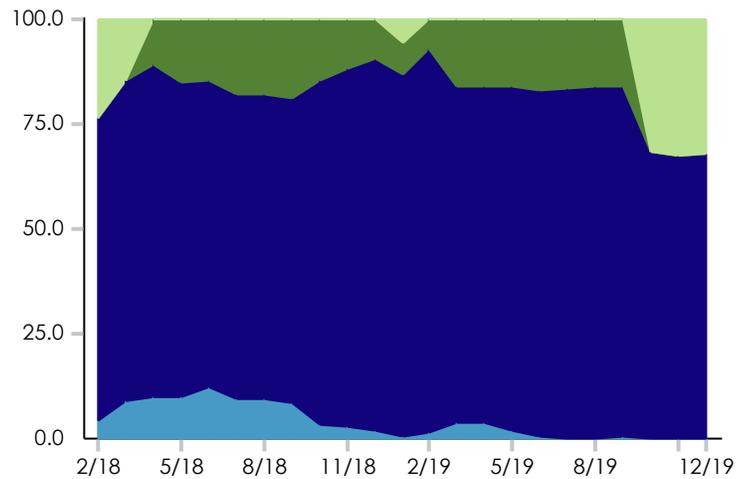
The Fund seeks to maximize current income. The Fund typically invests at least 65% of its total assets in a multi-sector portfolio of fixed income instruments of varying maturities. The Fund will generally allocate its assets among several investment sectors.

Style Map (3 Years)



- Style History
- Dec-2019
- Average Style Exposure

Style History (3 Years)

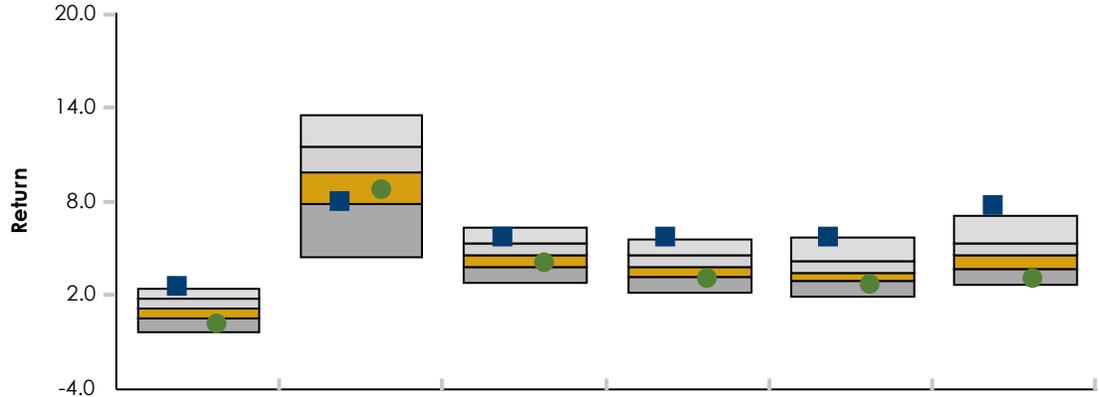


- BC US Tsry 10+ yr
- BC US Tsry 1-3 yr
- BC US HY Long
- BC US HY 0-5 yr

Historical Statistics (3 Years)

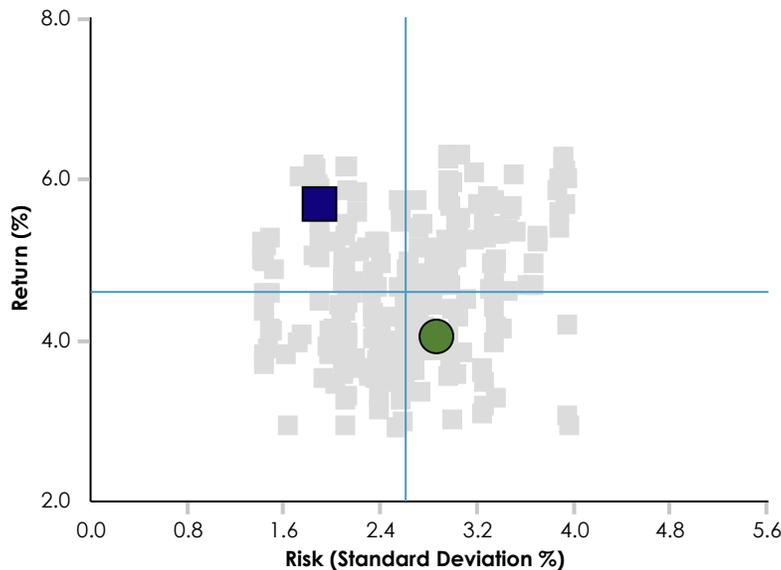
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
PIMCO Income I	5.7	1.9	2.0	5.3	0.1	0.0	3.2	0.5	71.1	-68.7
Blmbg. Barc. U.S. Aggregate Index	4.0	2.9	0.8	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Multi-Sector General Bond (MF) Median	4.6	2.6	1.1	3.3	0.3	0.1	3.0	0.2	74.4	-4.8

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ PIMCO Income I	2.5 (3)	8.1 (74)	5.7 (16)	5.7 (5)	5.8 (5)	7.8 (1)
● Blmbg. Barc. U.S. Aggregate Index	0.2 (86)	8.7 (65)	4.0 (69)	3.0 (80)	2.7 (80)	3.0 (93)
Median	1.2	9.9	4.6	3.8	3.5	4.5

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ PIMCO Income I	5.7	1.9
● Blmbg. Barc. U.S. Aggregate Index	4.0	2.9
— Median	4.6	2.6

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	22	71.1
Down Markets	14	-68.7
<b>Batting Average</b>		
Up Markets	22	50.0
Down Markets	14	100.0
Overall	36	69.4

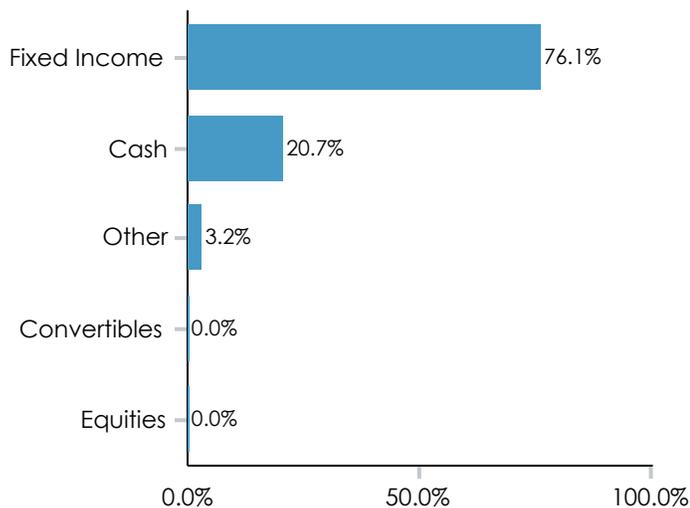
Portfolio Characteristics (As of 9/30/2019)

Avg. Coupon	4.16 %
Nominal Maturity	2.12 Years
Effective Maturity	N/A
Duration	0.41 Years
SEC 30 Day Yield	6.7
Avg. Credit Quality	A

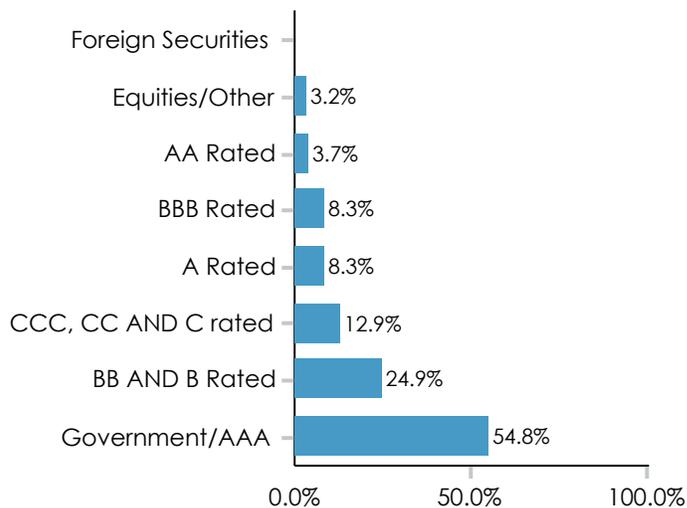
Top 10 Holdings (As of 9/30/2019)

GNMA and Other Mtg Backed	77.5 %
Corporate Notes/Bonds	21.2 %
Treasury Notes/Bonds	2.6 %
Convertible Securities	0.0%

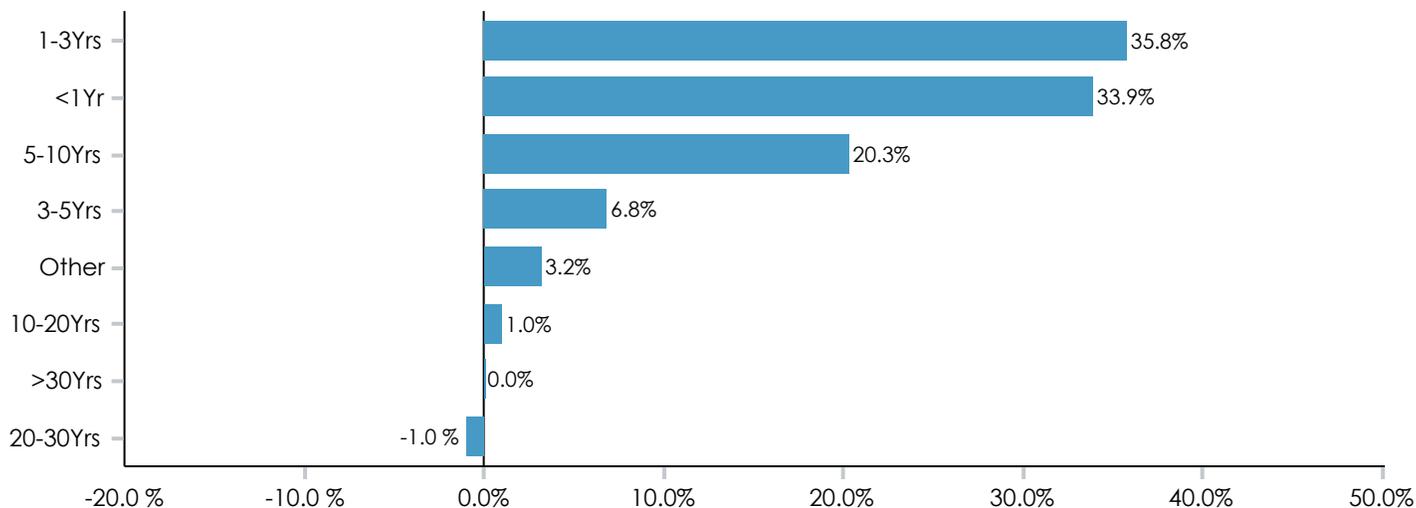
Asset Allocation (As of 9/30/2019)



Quality Allocation (As of 9/30/2019)

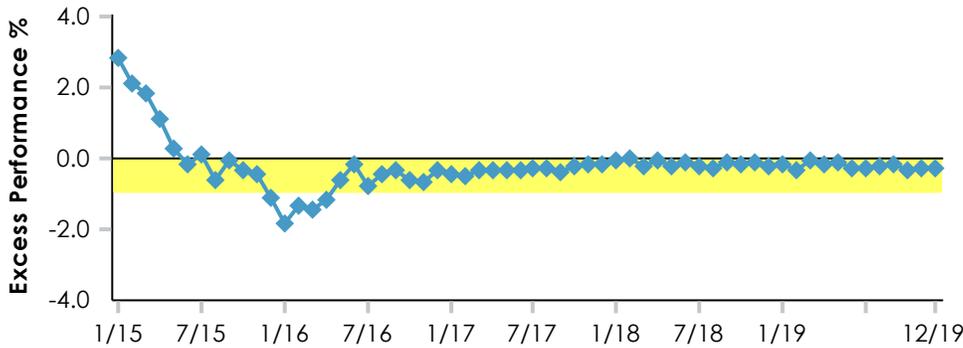


Maturity Distribution (As of 9/30/2019)



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

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

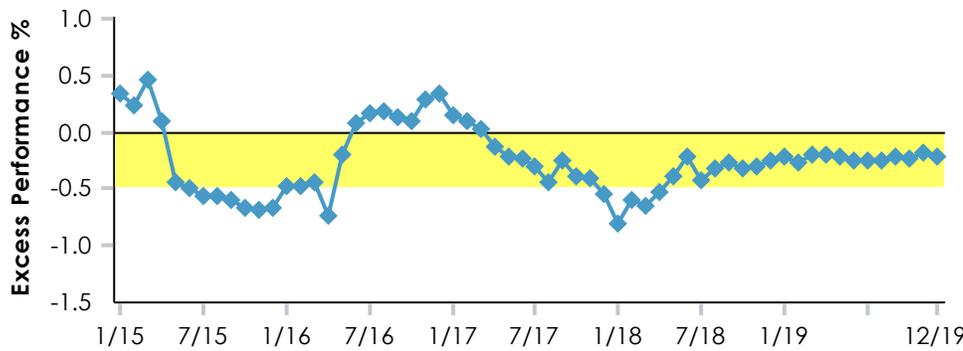


### Short-Term Performance

Acceptable

Probationary Performance -1.00%

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

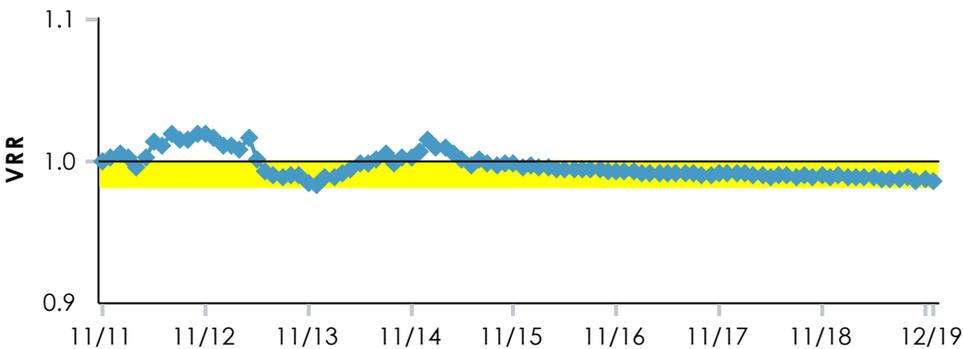


### Medium-Term Performance

Acceptable

Probationary Performance -0.50%

## Long-term (December 1, 2011 To December 31, 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	0.8 (62)	6.6 (67)	2.6 (54)	1.9 (56)	1.3 (48)
Blmbg. Barc. U.S. TIPS 1-10 Year	1.0 (47)	6.9 (62)	2.8 (44)	2.4 (26)	1.4 (41)
IM U.S. TIPS (MF) Median	1.0	7.5	2.7	2.1	1.2

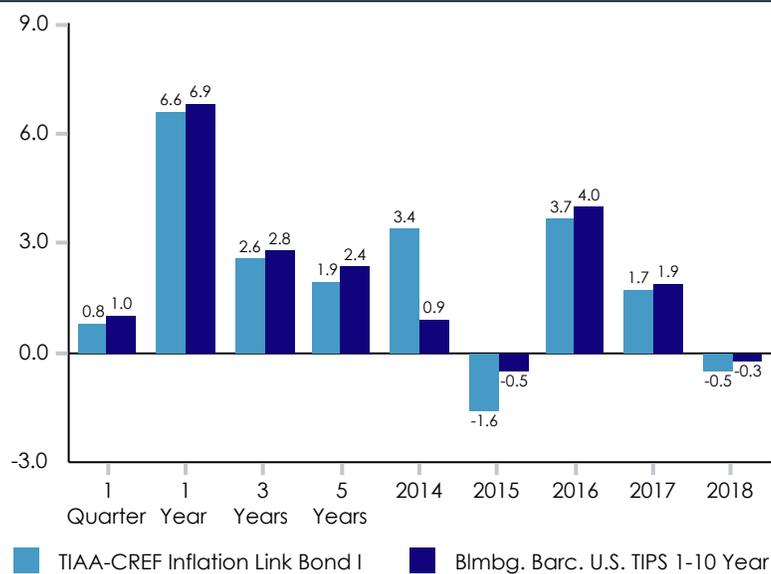
Monitoring Status

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/Kemper  
 Total Assets : \$1,614 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.3%  
 Net Expense : 0.3%  
 Turnover : 21%

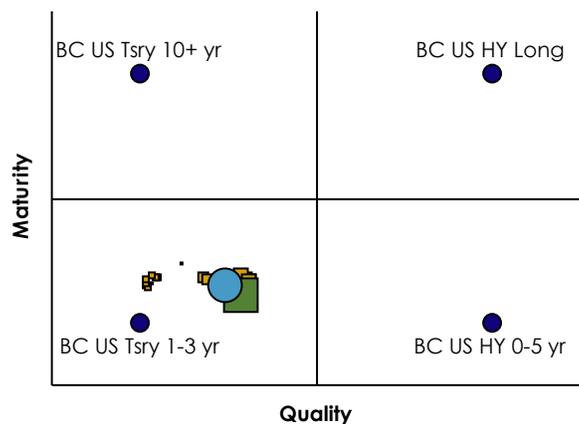
Comparative Performance



Fund Investment Policy

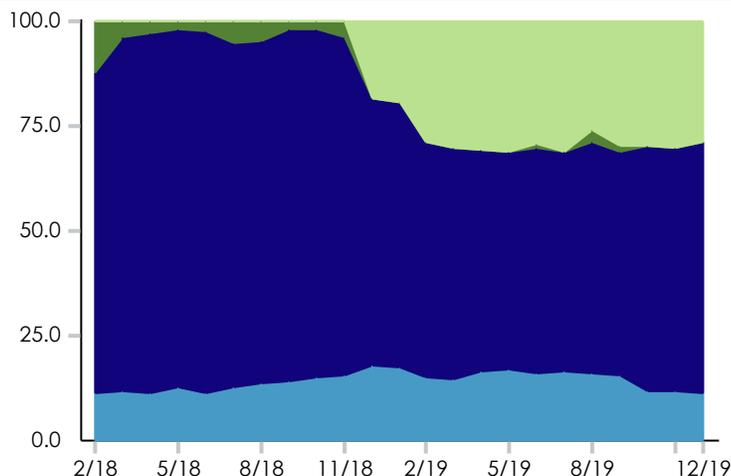
The Fund seeks a long-term rate of return that outpaces inflation primarily through investment in inflation-indexed bonds. The Fund invests primarily in U.S. Treasury Inflation-Indexed Securities ("TIIS"). The Fund can also invest in other inflation-indexed bonds issued or guaranteed by the U.S. Government.

Style Map (3 Years)



- Style History
- Dec-2019
- Average Style Exposure

Style History (3 Years)

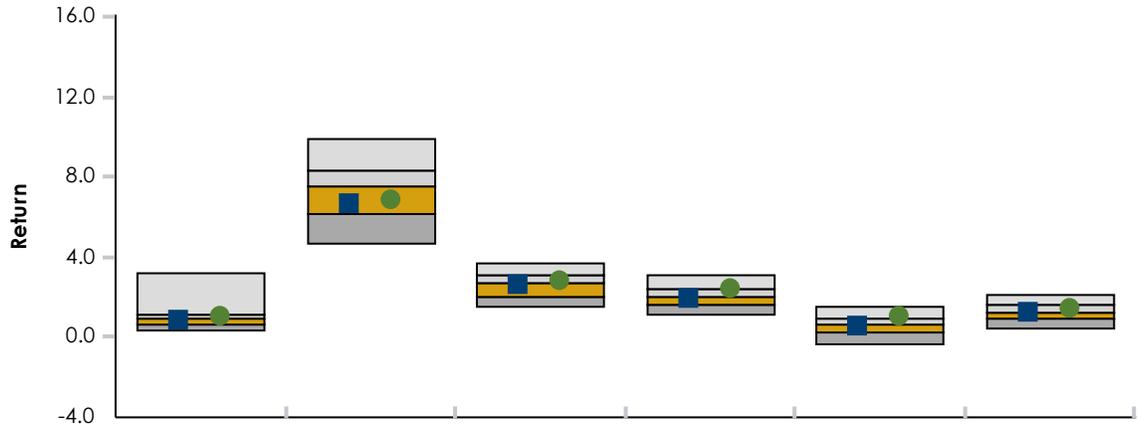


- BC US Tstry 10+ yr
- BC US Tstry 1-3 yr
- BC US HY Long
- BC US HY 0-5 yr

## Historical Statistics (3 Years)

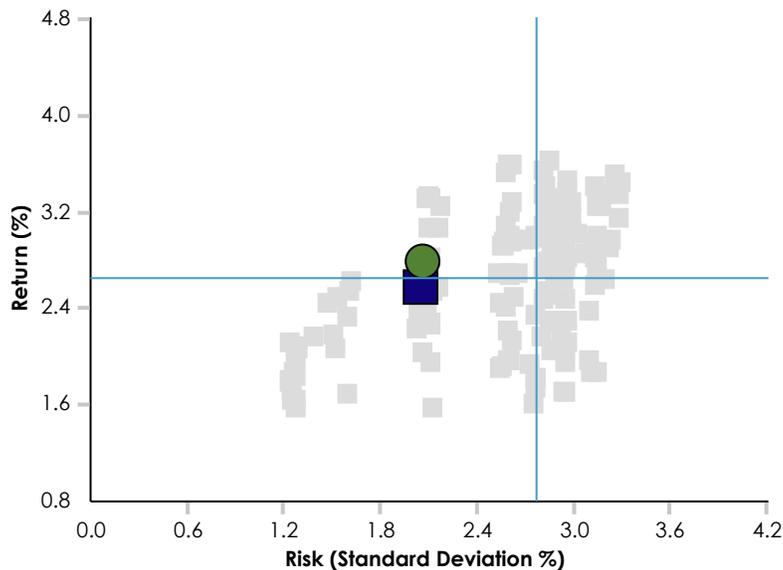
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Inflation Link Bond I	2.6	2.1	0.5	-0.2	1.0	1.0	0.3	-0.7	94.4	97.6
Blmbg. Barc. U.S. TIPS 1-10 Year	2.8	2.1	0.6	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. TIPS (MF) Median	2.7	2.8	0.4	-0.4	1.2	0.9	1.1	-0.1	108.7	126.5

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Inflation Link Bond I	0.8 (62)	6.6 (67)	2.6 (54)	1.9 (56)	0.5 (54)	1.3 (48)
● Blmbg. Barc. U.S. TIPS 1-10 Year	1.0 (47)	6.9 (62)	2.8 (44)	2.4 (26)	1.0 (24)	1.4 (41)
Median	1.0	7.5	2.7	2.1	0.6	1.2

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Inflation Link Bond I	2.6	2.1
● Blmbg. Barc. U.S. TIPS 1-10 Year	2.8	2.1
— Median	2.7	2.8

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	25	94.4
Down Markets	11	97.6
<b>Batting Average</b>		
Up Markets	25	44.0
Down Markets	11	72.7
Overall	36	52.8

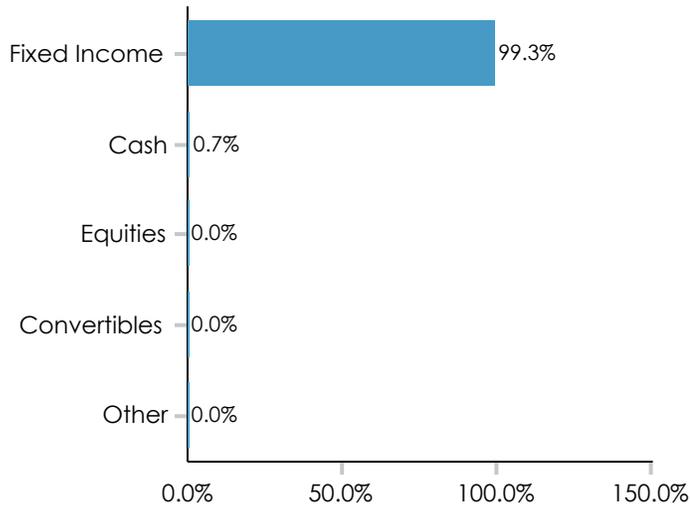
Portfolio Characteristics (As of 9/30/2019)

Avg. Coupon	0.88 %
Nominal Maturity	5.34 Years
Effective Maturity	N/A
Duration	5.06 Years
SEC 30 Day Yield	0.6
Avg. Credit Quality	AAA

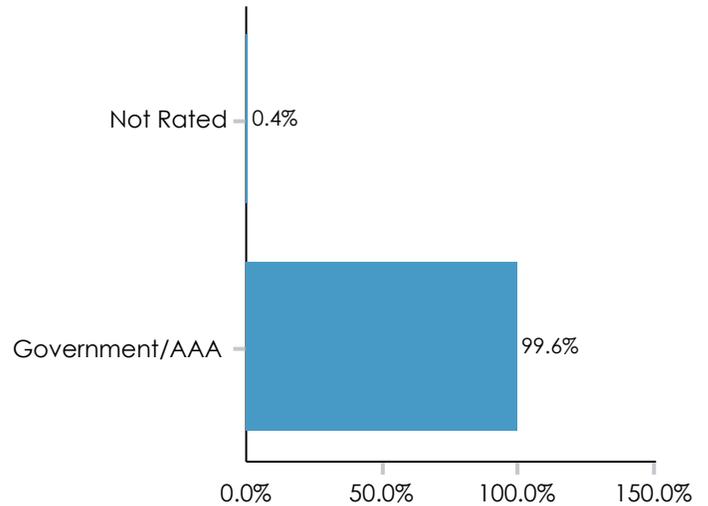
Top 10 Holdings (As of 9/30/2019)

Treasury Notes/Bonds	97.2 %
Government Agency Securities	1.2 %
GNMA and Other Mtg Backed	0.8 %
US\$ Denominated Fgn. Gvt.	0.1 %

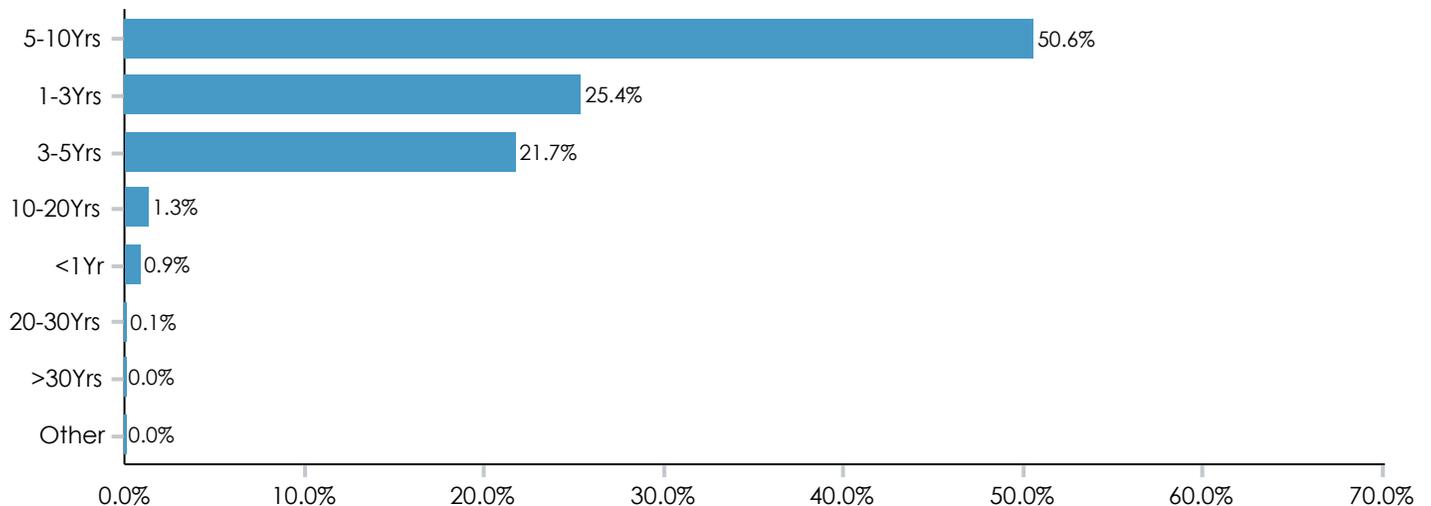
Asset Allocation (As of 9/30/2019)



Quality Allocation (As of 9/30/2019)

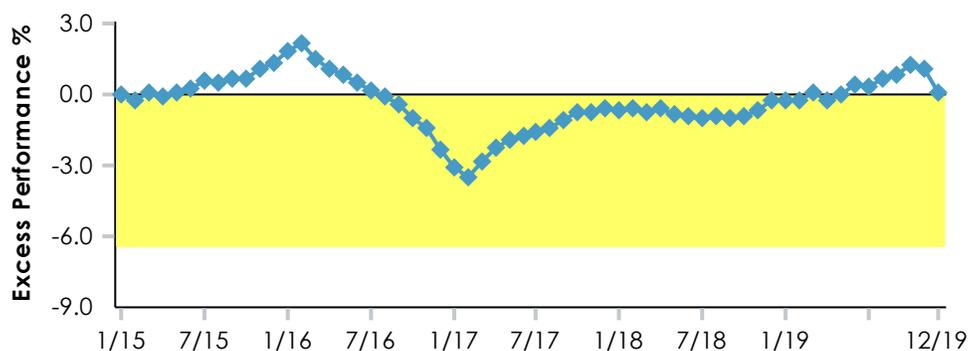


Maturity Distribution (As of 9/30/2019)



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

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

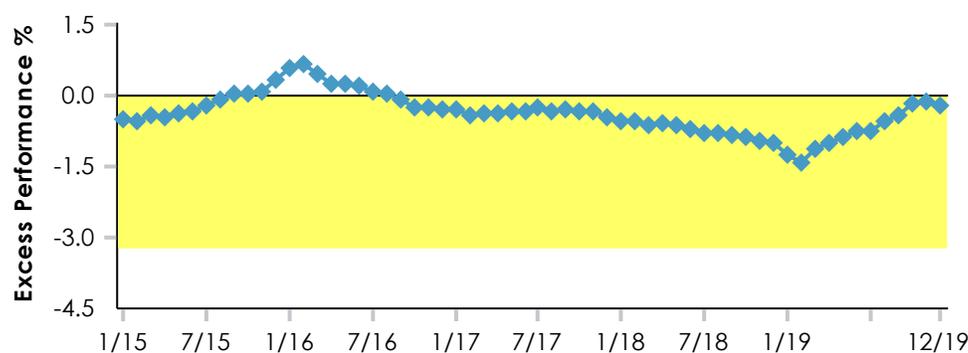


### Short-Term Performance

Positive

Probationary Performance -6.50%

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

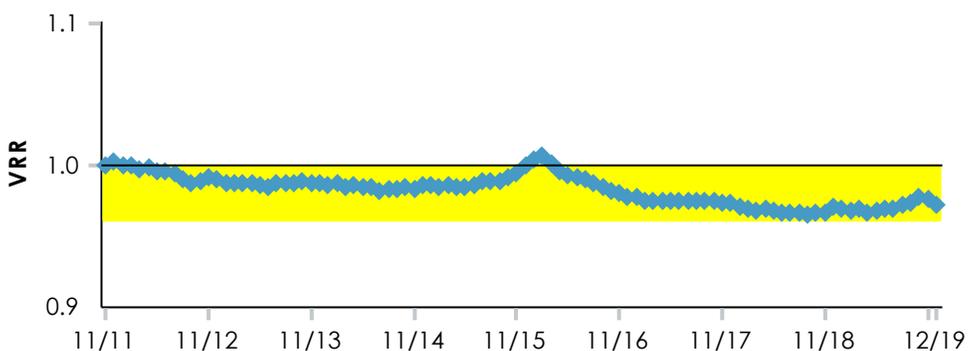


### Medium-Term Performance

Acceptable

Probationary Performance -3.25%

## Long-term (December 1, 2011 To December 31, 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	1.7 (23)	8.8 (15)	4.3 (10)	4.4 (10)	4.7 (19)
S&P/LSTA Performing Loans Index	1.9 (13)	8.7 (17)	4.5 (5)	4.7 (2)	5.1 (6)
IM U.S. Bank Loans (MF) Median	1.5	7.6	3.5	3.7	4.1

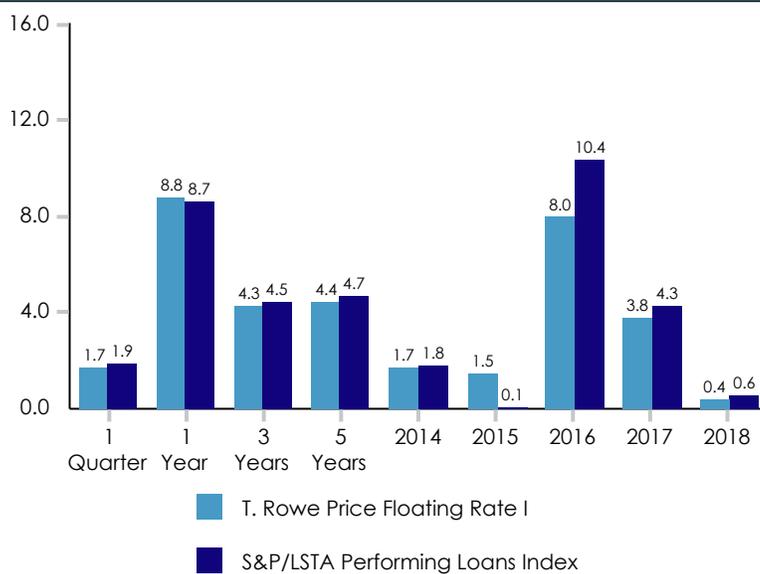
Monitoring Status

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 : \$3,123 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.6%  
 Net Expense : 0.6%  
 Turnover : 59%

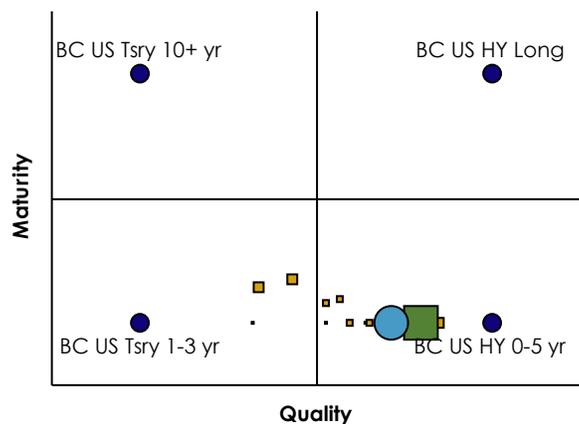
## Comparative Performance



## Fund Investment Policy

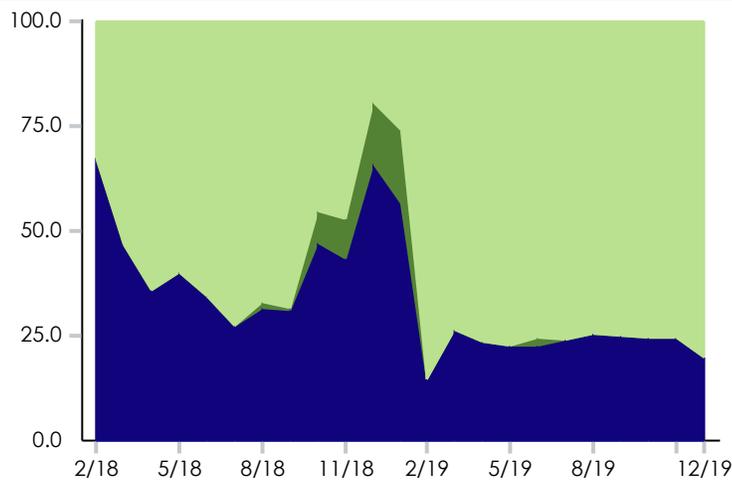
The Fund seeks high current income and, secondarily, capital appreciation. The Fund seeks to normally invest at least 80% of net assets in floating rate loans and debt securities.

## Style Map (3 Years)



- Style History
- Dec-2019
- Average Style Exposure

## Style History (3 Years)

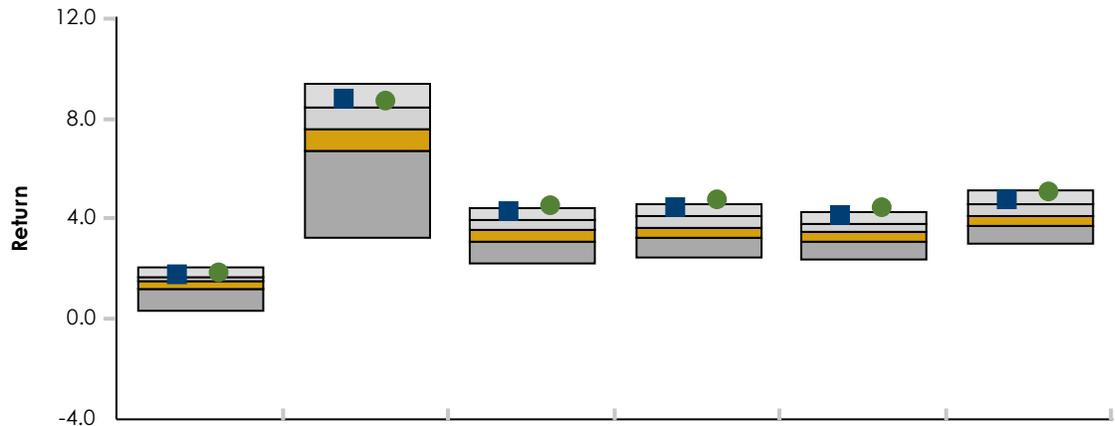


- BC US Tstry 10+ yr
- BC US Tstry 1-3 yr
- BC US HY Long
- BC US HY 0-5 yr

## Historical Statistics (3 Years)

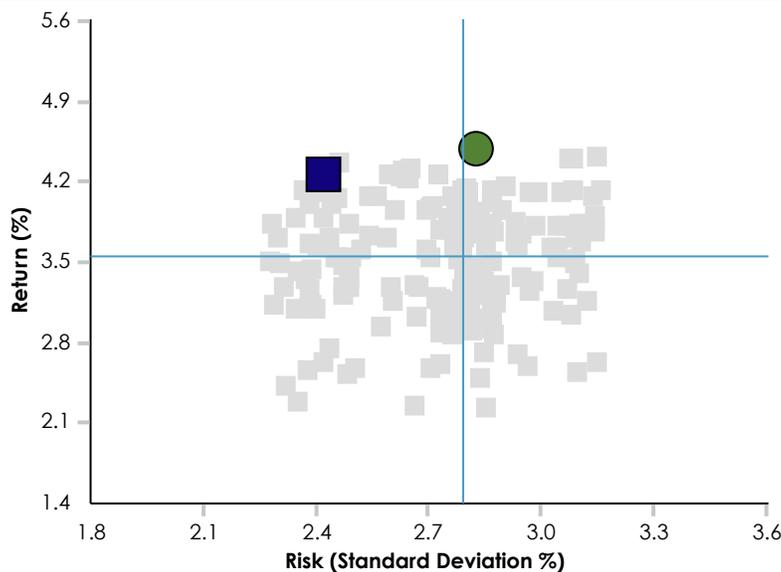
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
T. Rowe Price Floating Rate I	4.3	2.4	1.0	0.5	0.8	1.0	0.6	-0.4	88.2	70.1
S&P/LSTA Performing Loans Index	4.5	2.8	1.0	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Bank Loans (MF) Median	3.5	2.8	0.7	-0.7	1.0	1.0	0.6	-1.4	88.0	112.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ T. Rowe Price Floating Rate I	1.7 (23)	8.8 (15)	4.3 (10)	4.4 (10)	4.1 (10)	4.7 (19)
● S&P/LSTA Performing Loans Index	1.9 (13)	8.7 (17)	4.5 (5)	4.7 (2)	4.4 (3)	5.1 (6)
Median	1.5	7.6	3.5	3.7	3.5	4.1

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ T. Rowe Price Floating Rate I	4.3	2.4
● S&P/LSTA Performing Loans Index	4.5	2.8
— Median	3.5	2.8

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	27	88.2
Down Markets	9	70.1
<b>Batting Average</b>		
Up Markets	27	29.6
Down Markets	9	77.8
Overall	36	41.7

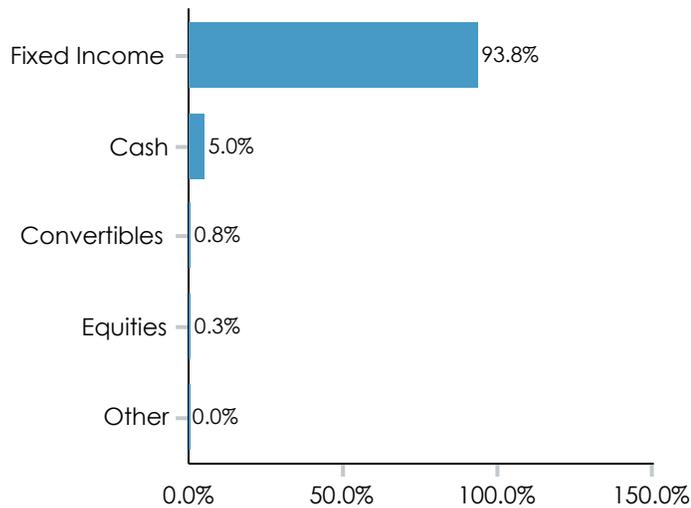
## Portfolio Characteristics (As of 9/30/2019)

Avg. Coupon	5.72 %
Nominal Maturity	N/A
Effective Maturity	5.22 Years
Duration	0.34 Years
SEC 30 Day Yield	5.5
Avg. Credit Quality	BB

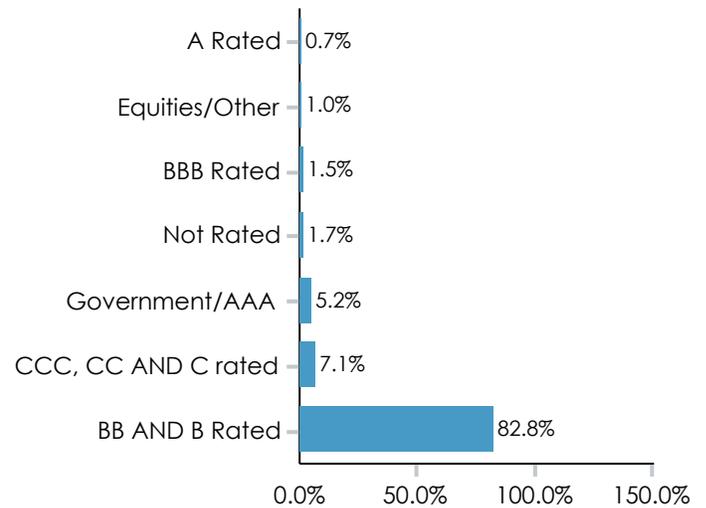
## Top 10 Holdings (As of 9/30/2019)

Corporate Notes/Bonds	87.4 %
US\$ Denominated Fgn. Gvt.	6.2 %
Convertible Securities	0.8 %
Common Stock	0.3 %
Asset Backed Securities	0.2 %

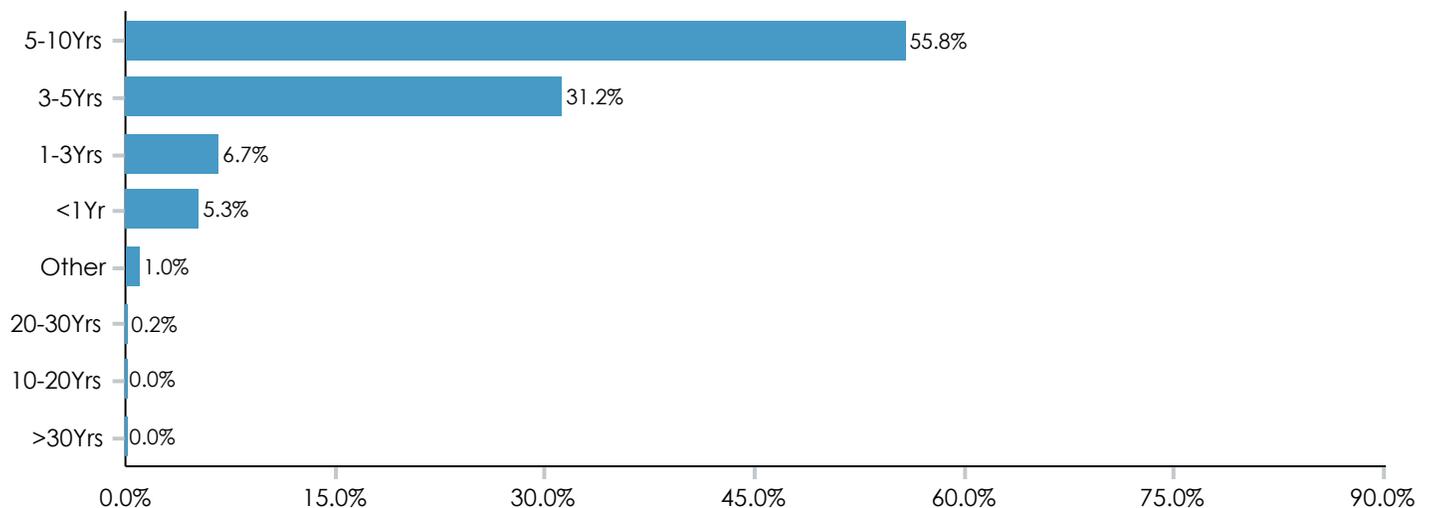
## Asset Allocation (As of 9/30/2019)



## Quality Allocation (As of 9/30/2019)

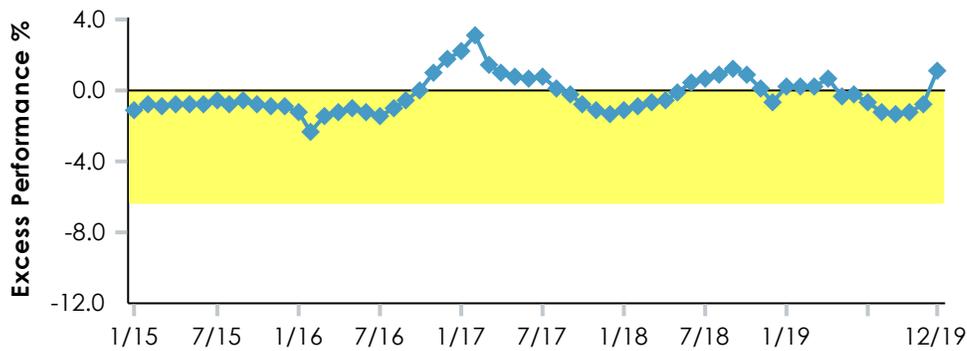


## Maturity Distribution (As of 9/30/2019)



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

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

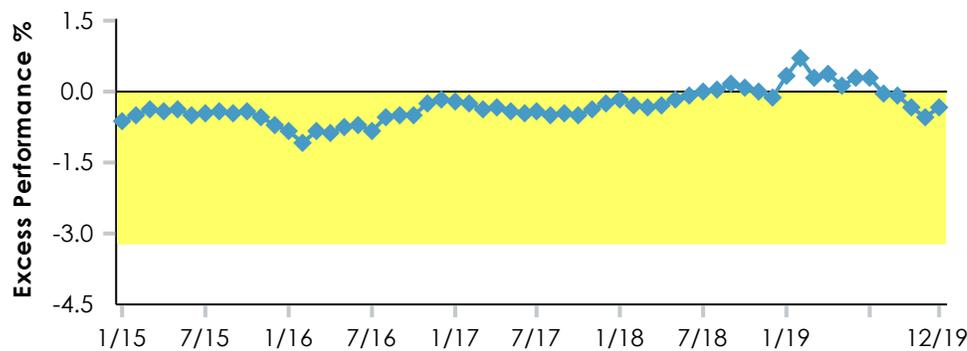


### Short-Term Performance

Positive

Probationary Performance -6.50%

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

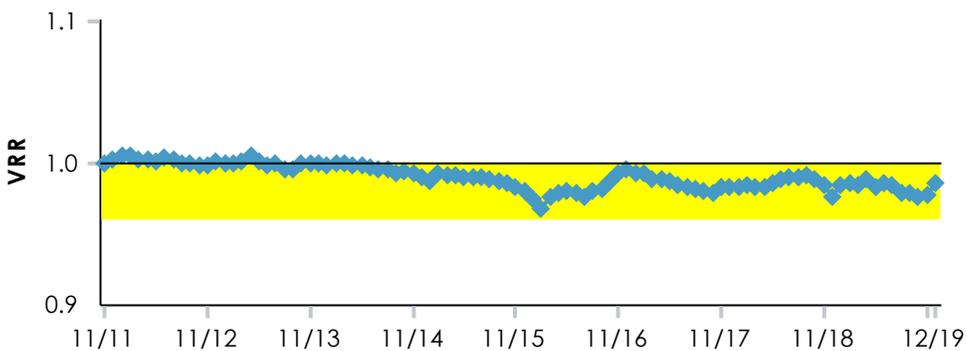


### Medium-Term Performance

Acceptable

Probationary Performance -3.25%

## Long-term (December 1, 2011 To December 31, 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	3.3 (8)	16.2 (6)	6.1 (18)	6.0 (10)	6.9 (20)
ICE BofAML High Yield BB-B Constrained Index	2.6 (42)	15.1 (17)	6.4 (10)	6.1 (9)	7.1 (16)
IM U.S. High Yield Bonds (MF) Median	2.5	13.5	5.5	4.9	6.3

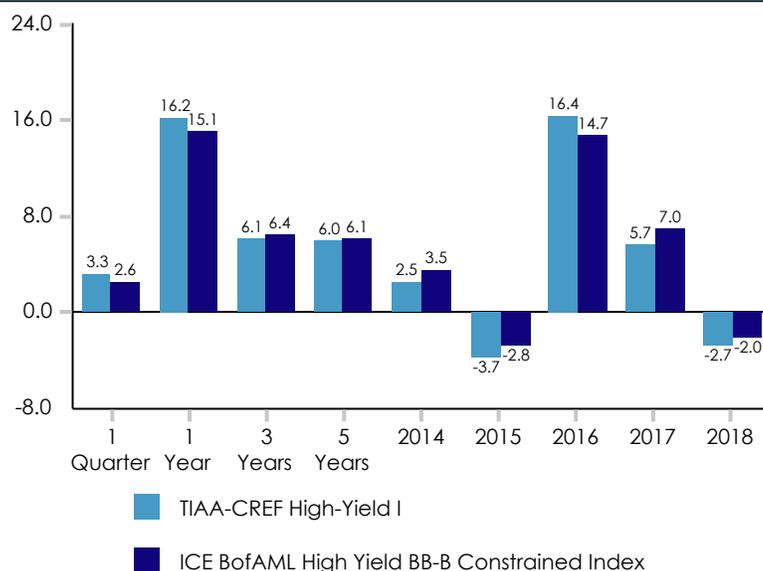
Monitoring Status

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 : \$2,862 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.4%  
 Net Expense : 0.4%  
 Turnover : 45%

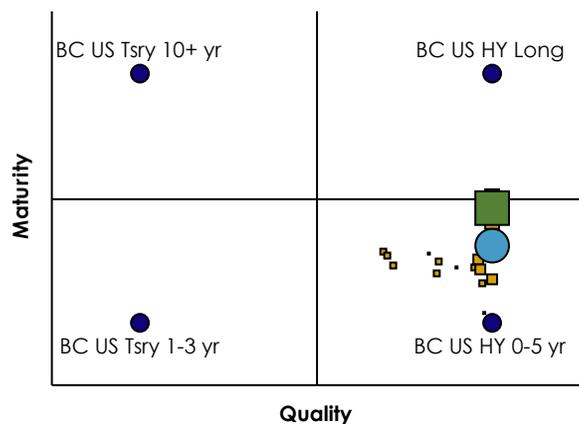
Comparative Performance



Fund Investment Policy

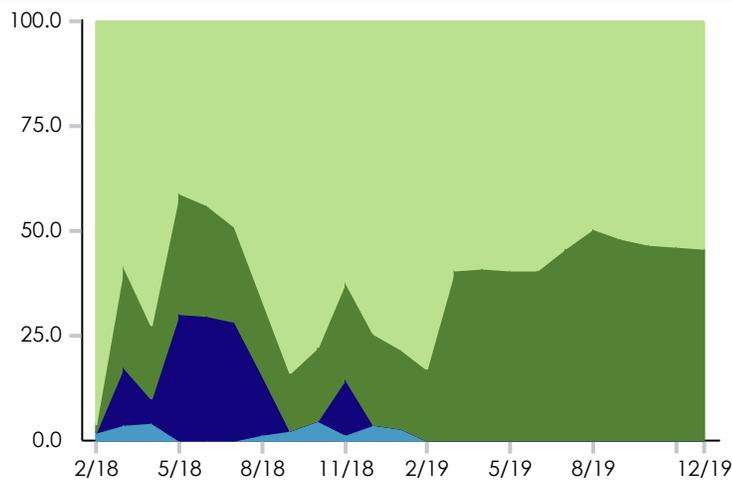
The Fund seeks high current income and, when consistent with its primary objective, capital appreciation. The Fund achieves this objective by investing at least 80% of its assets in debt and other fixed-income securities rated lower than investment grade or other high-yielding debt securities.

Style Map (3 Years)



- Style History
- Dec-2019
- Average Style Exposure

Style History (3 Years)

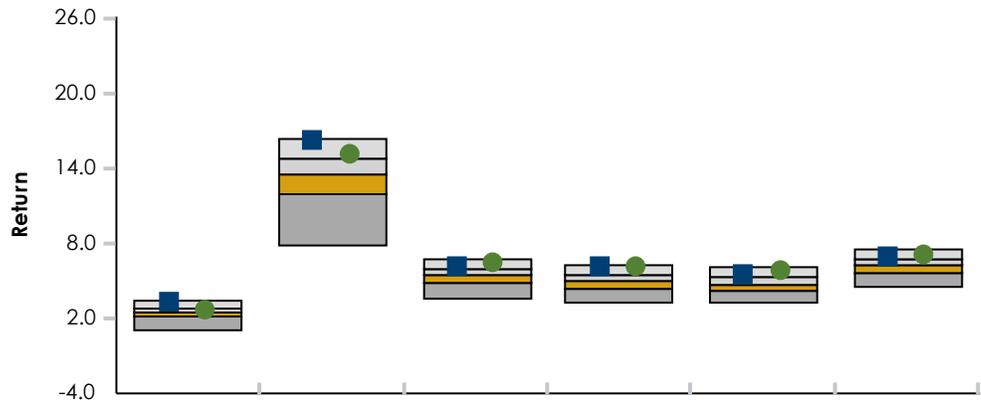


- BC US Tstry 10+ yr
- BC US Tstry 1-3 yr
- BC US HY Long
- BC US HY 0-5 yr

## Historical Statistics (3 Years)

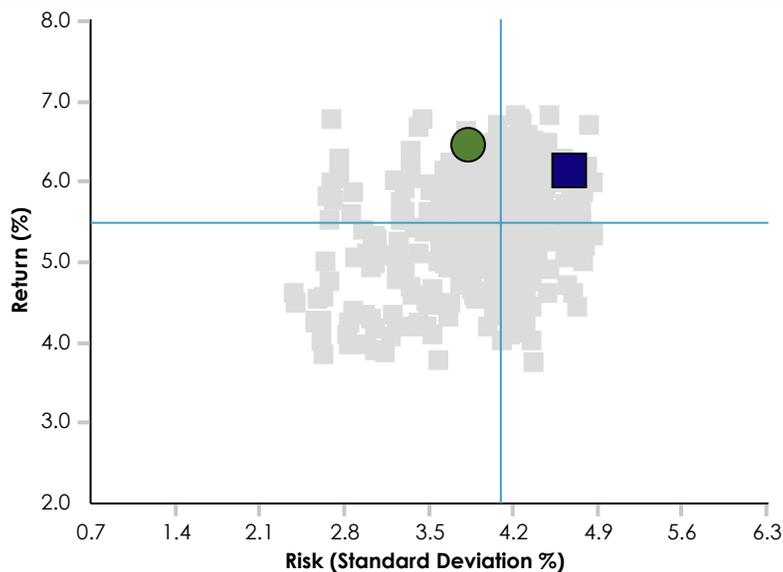
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF High-Yield I	6.1	4.7	0.9	-1.5	1.2	1.0	1.2	-0.2	103.9	126.0
ICE BofAML High Yield BB-B Constrained Index	6.4	3.8	1.2	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. High Yield Bonds (MF) Median	5.5	4.1	0.9	-0.9	1.0	0.9	1.2	-0.8	93.6	116.0

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF High-Yield I	3.3 (8)	16.2 (6)	6.1 (18)	6.0 (10)	5.5 (16)	6.9 (20)
● ICE BofAML High Yield BB-B Constrained Index	2.6 (42)	15.1 (17)	6.4 (10)	6.1 (9)	5.8 (11)	7.1 (16)
Median	2.5	13.5	5.5	4.9	4.7	6.3

## Peer Group Scattergram (3 Years)



## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	27	103.9
Down Markets	9	126.0
<b>Batting Average</b>		
Up Markets	27	51.9
Down Markets	9	33.3
Overall	36	47.2

	Return	Standard Deviation
■ TIAA-CREF High-Yield I	6.1	4.7
● ICE BofAML High Yield BB-B Constrained Index	6.4	3.8
— Median	5.5	4.1

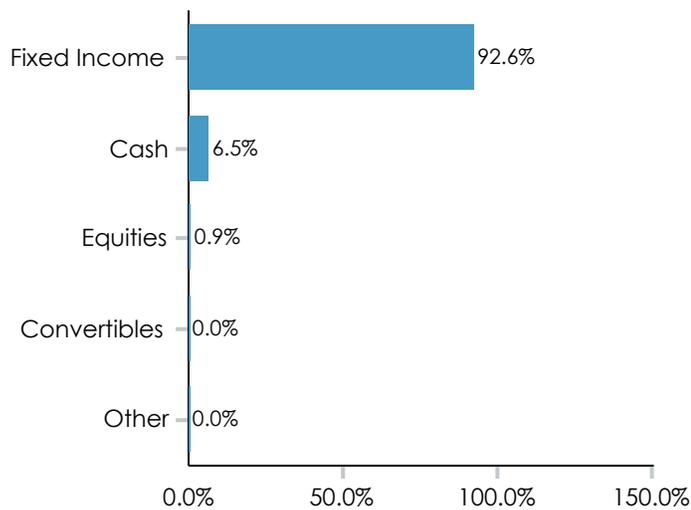
## Portfolio Characteristics (As of 9/30/2019)

Avg. Coupon	5.83 %
Nominal Maturity	6.39 Years
Effective Maturity	N/A
Duration	2.97 Years
SEC 30 Day Yield	6.4
Avg. Credit Quality	A

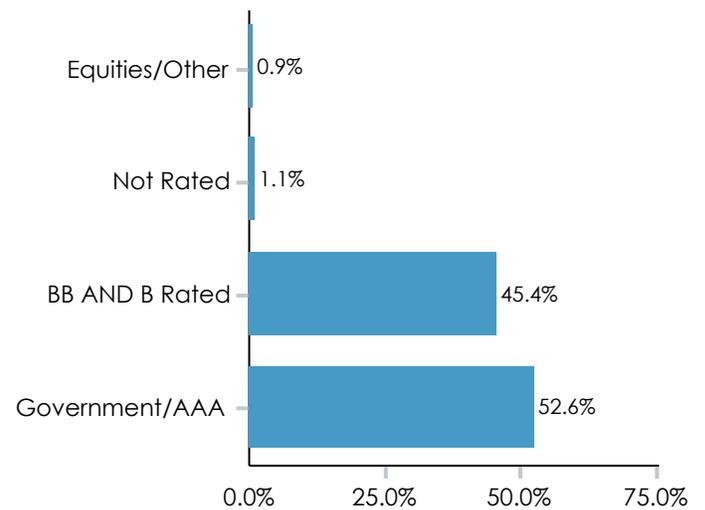
## Top 10 Holdings (As of 9/30/2019)

Corporate Notes/Bonds	81.7 %
US\$ Denominated Fgn. Gvt.	10.9 %
Common Stock	0.9 %

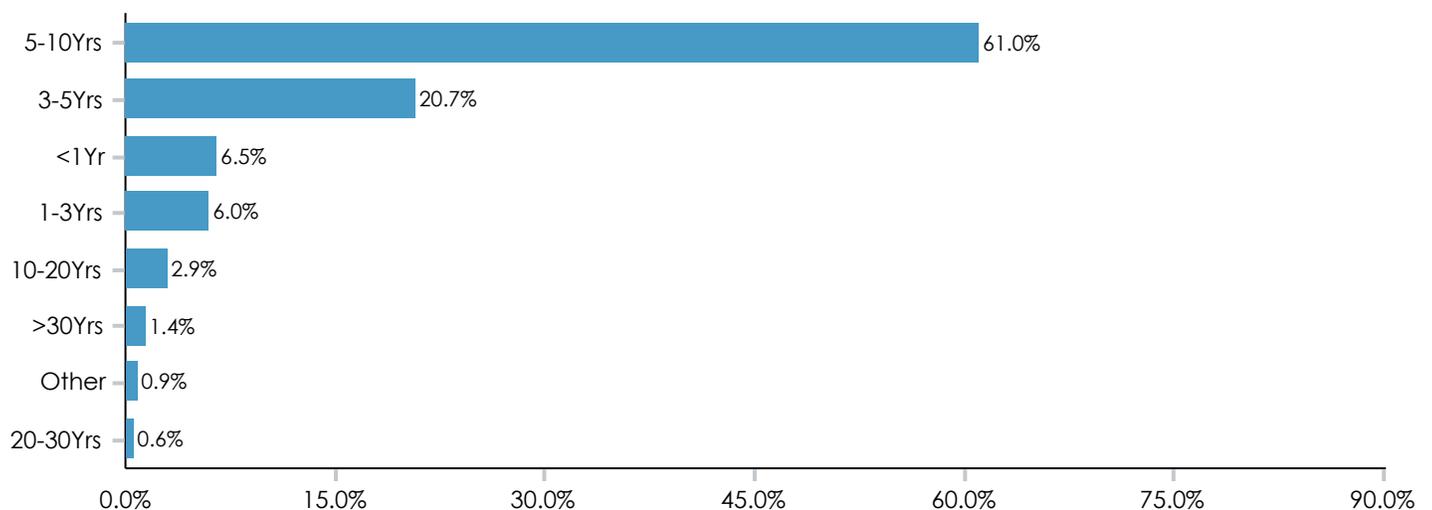
## Asset Allocation (As of 9/30/2019)



## Quality Allocation (As of 9/30/2019)



## Maturity Distribution (As of 9/30/2019)

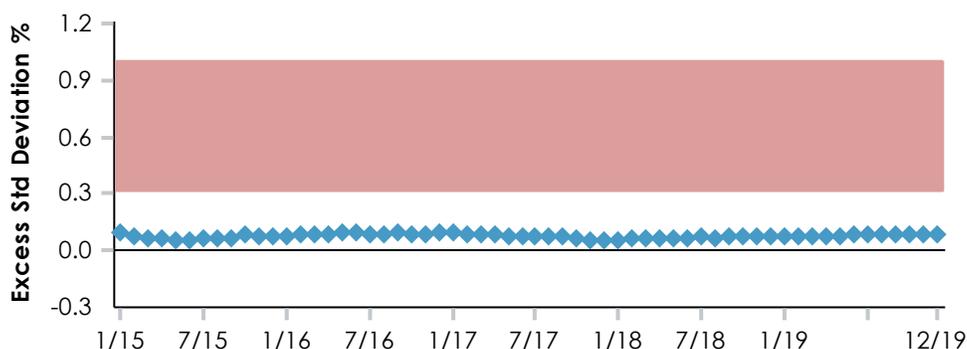


## PASSIVE FUNDS

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

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

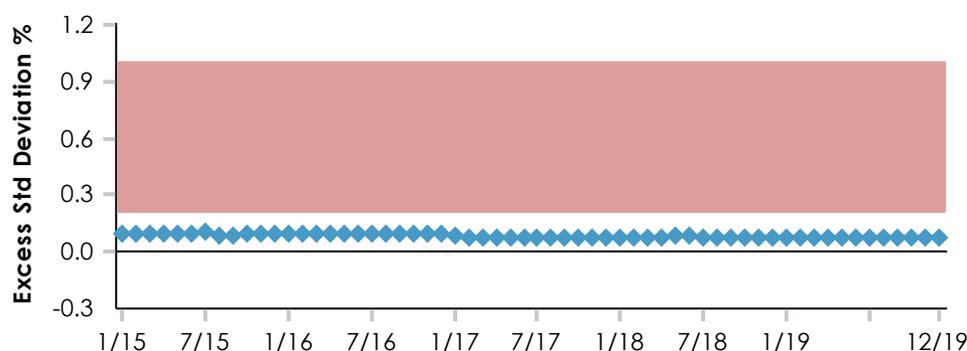


### Short-Term Performance

Positive

Probationary Performance 0.30%

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

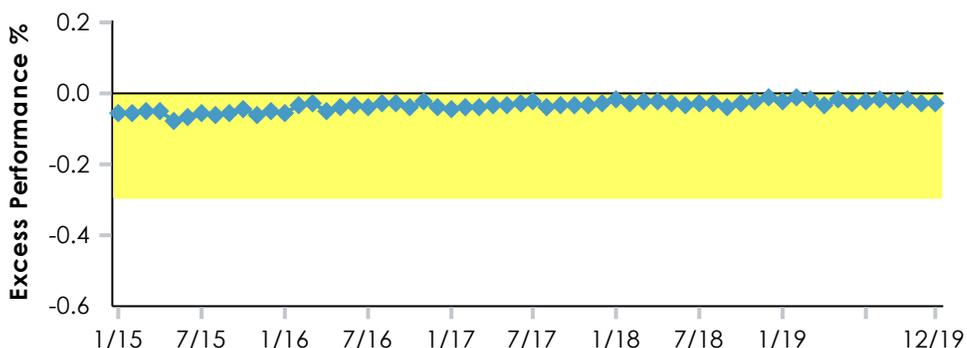


### Medium-Term Performance

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	9.1 (27)	30.9 (26)	14.5 (20)	11.2 (8)	14.6 (12)
Russell 3000 Index	9.1 (27)	31.0 (23)	14.6 (18)	11.2 (8)	14.6 (11)
IM U.S. Multi-Cap Core Equity (MF) Median	8.1	28.2	12.7	9.3	13.0

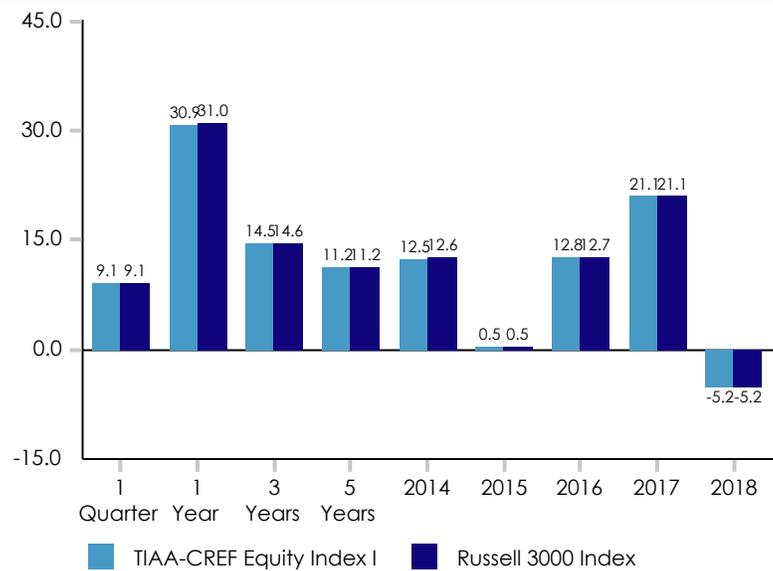
Monitoring Status

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 : \$9,642 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 5%

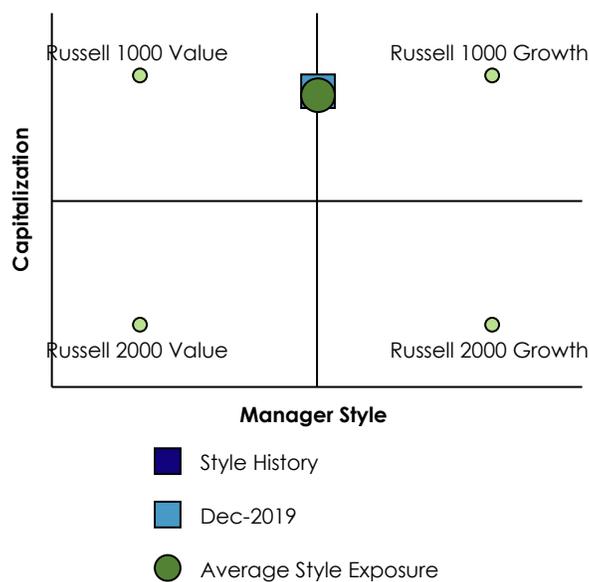
## Comparative Performance



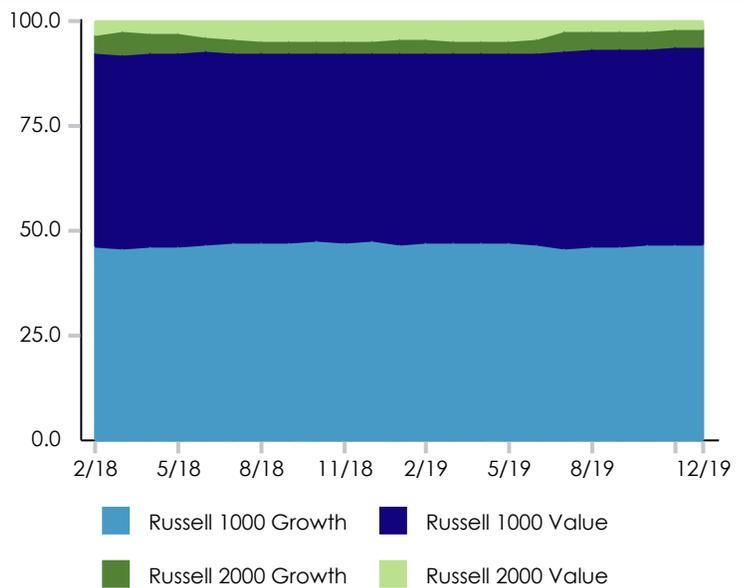
## Fund Investment Policy

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)



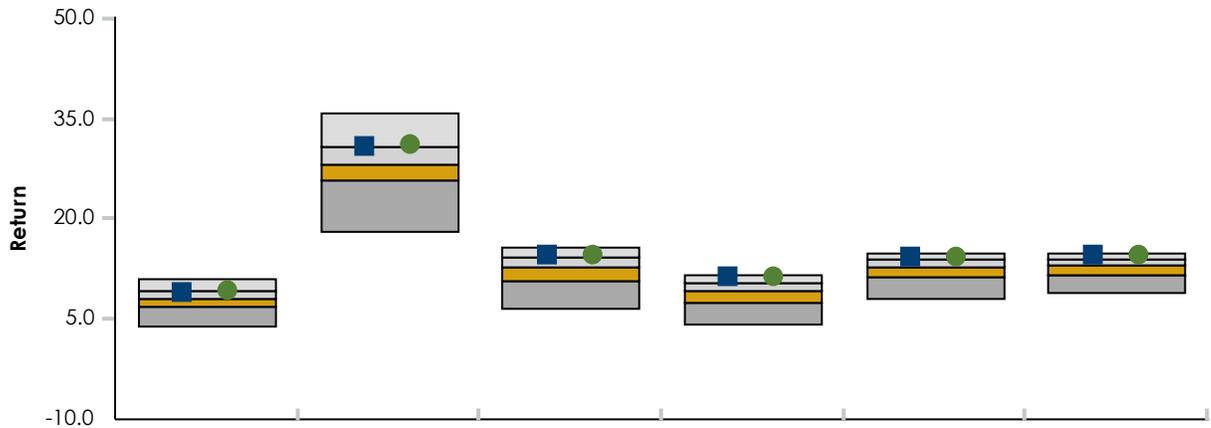
## Style History (3 Years)



## Historical Statistics (3 Years)

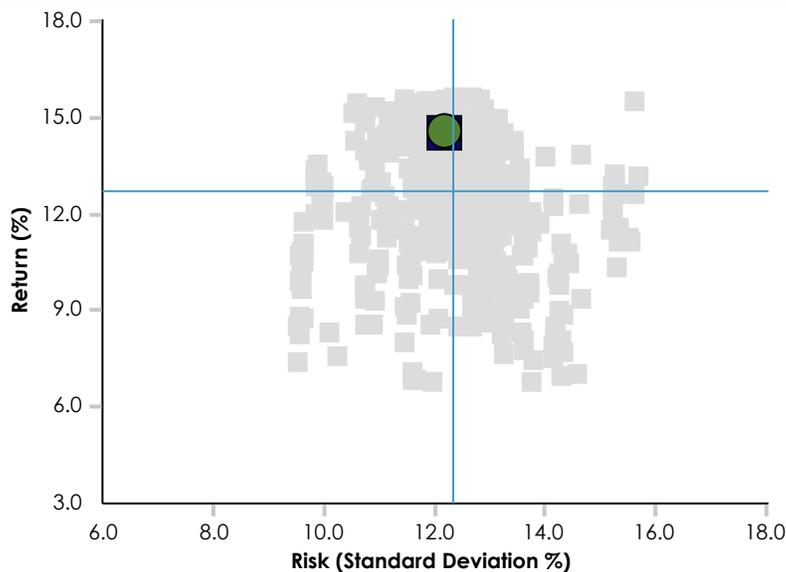
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Equity Index I	14.5	12.2	1.0	0.0	1.0	1.0	0.1	-0.6	99.8	99.9
Russell 3000 Index	14.6	12.2	1.0	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Multi-Cap Core Equity (MF) Median	12.7	12.3	0.9	-1.4	1.0	0.9	3.2	-0.6	94.0	99.8

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Equity Index I	9.1 (27)	30.9 (26)	14.5 (20)	11.2 (8)	14.3 (12)	14.6 (12)
● Russell 3000 Index	9.1 (27)	31.0 (23)	14.6 (18)	11.2 (8)	14.4 (11)	14.6 (11)
Median	8.1	28.2	12.7	9.3	12.8	13.0

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Equity Index I	14.5	12.2
● Russell 3000 Index	14.6	12.2
— Median	12.7	12.3

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	30	99.8
Down Markets	6	99.9
<b>Batting Average</b>		
Up Markets	30	33.3
Down Markets	6	50.0
Overall	36	36.1

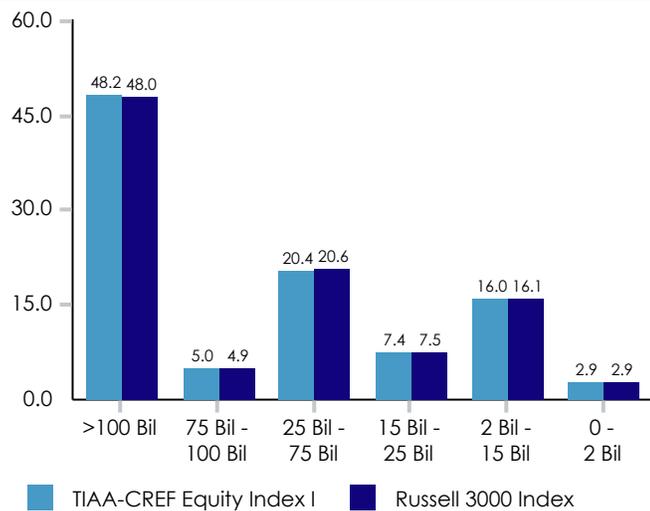
## Portfolio Characteristics (As of 10/31/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	247,553	245,925
Median Mkt. Cap (\$M)	2,099	1,775
Price/Earnings ratio	22.6	22.6
Price/Book ratio	3.5	3.5
5 Yr. EPS Growth Rate (%)	14.2	14.2
Current Yield (%)	1.8	1.8
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	2,752	2,992

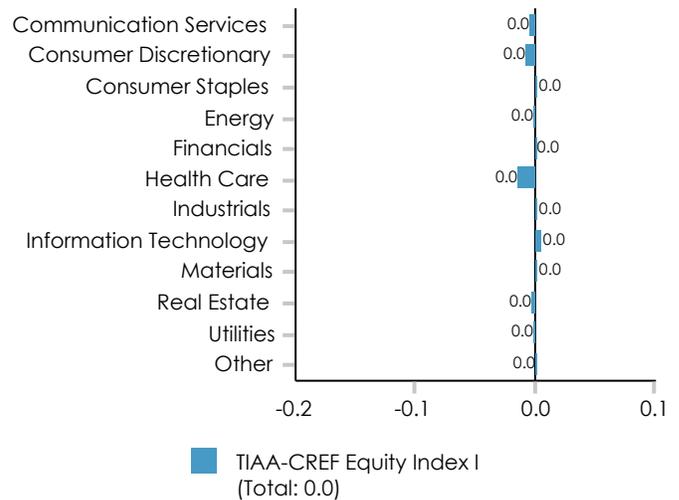
## Top 10 Holdings (As of 10/31/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Apple Inc	4.2	4.1	31.5
Microsoft Corp	3.8	3.8	13.8
Amazon.com Inc	2.4	2.4	6.4
Facebook Inc	1.5	1.5	15.3
Berkshire Hathaway Inc	1.4	1.4	8.9
JPMorgan Chase & Co	1.4	1.4	19.4
Alphabet Inc	1.3	1.3	9.7
Alphabet Inc	1.3	1.3	9.7
Johnson & Johnson	1.2	1.2	13.5
Visa Inc	1.0	1.0	9.4
% of Portfolio	19.5	19.4	

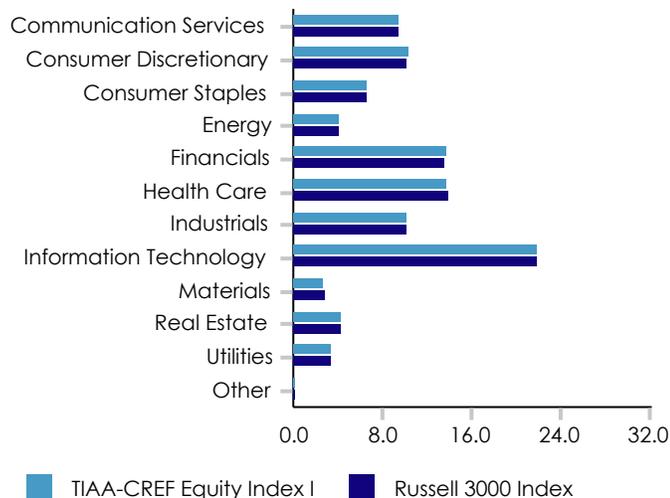
## Market Cap Distribution (As of 10/31/2019)



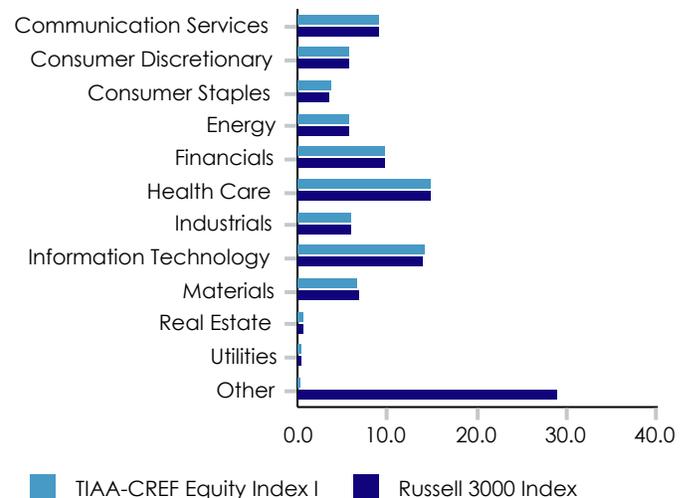
## Sector Attribution (1 Quarter as of 10/31/2019)



## Sector Allocation (1 Quarter as of 10/31/2019)

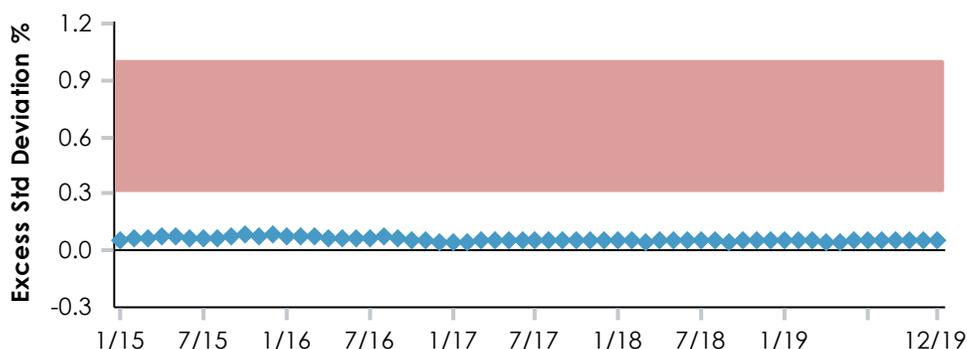


## Sector Performance (1 Quarter as of 10/31/2019)



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

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

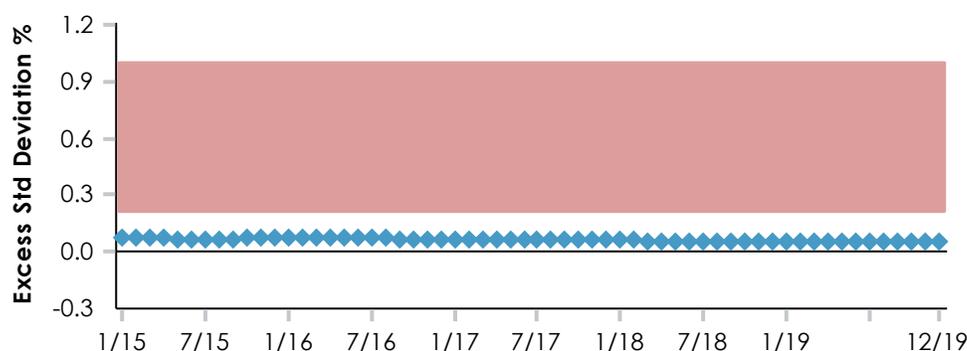


### Short-Term Performance

Positive

Probationary Performance 0.30%

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

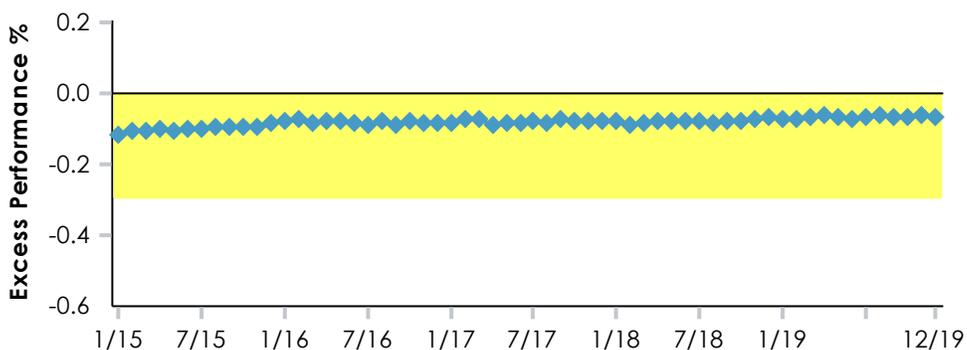


### Medium-Term Performance

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	9.1 (8)	31.4 (15)	15.2 (15)	11.6 (13)	14.8 (13)
S&P 500 Index	9.1 (5)	31.5 (4)	15.3 (3)	11.7 (3)	14.9 (3)
IM S&P 500 Index (MF) Median	9.0	31.1	14.9	11.3	14.4

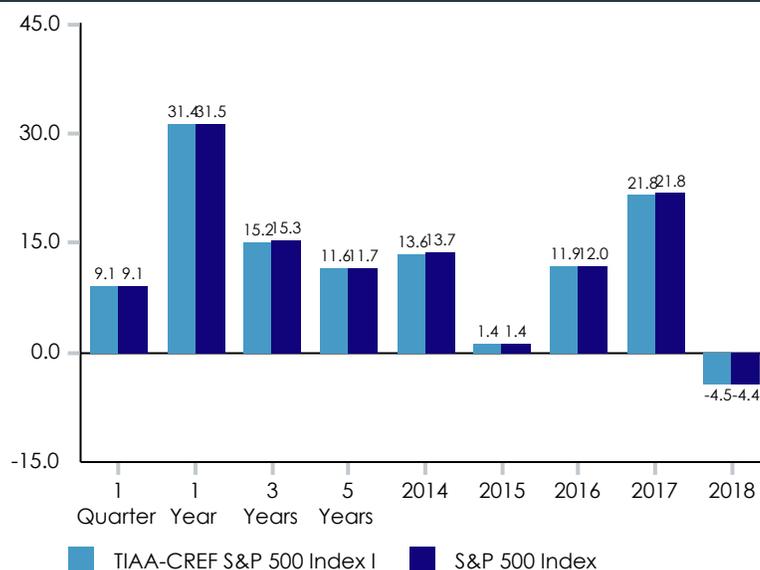
**Monitoring Status**

**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 : \$4,408 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 8%

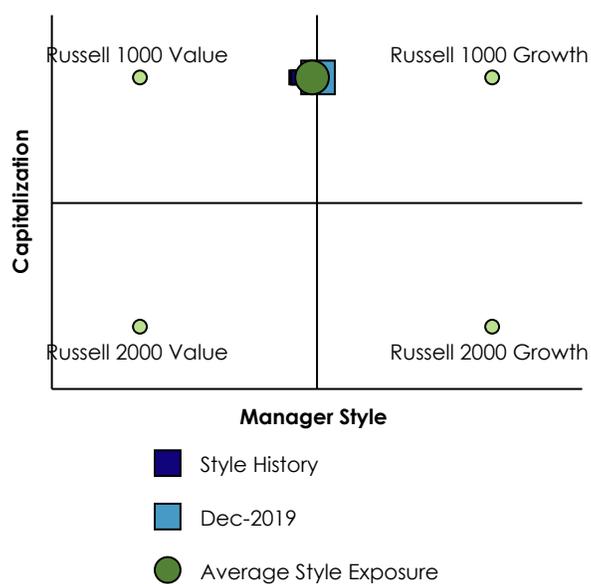
Comparative Performance



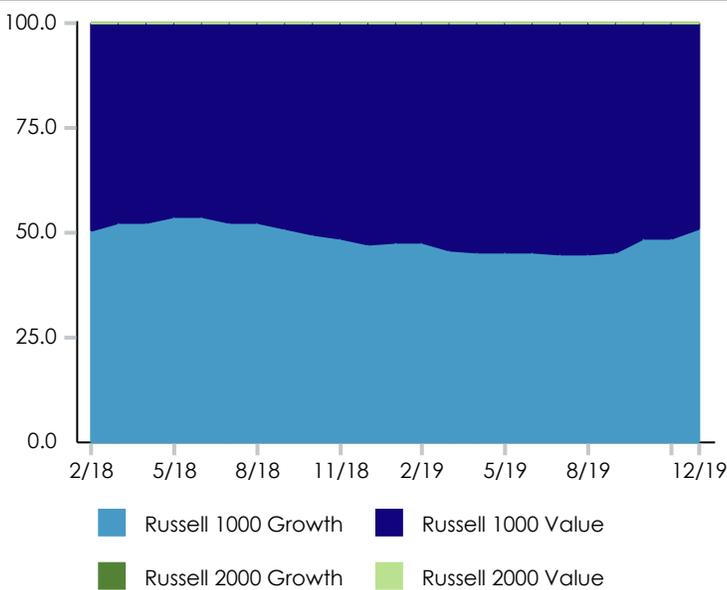
Fund Investment Policy

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)



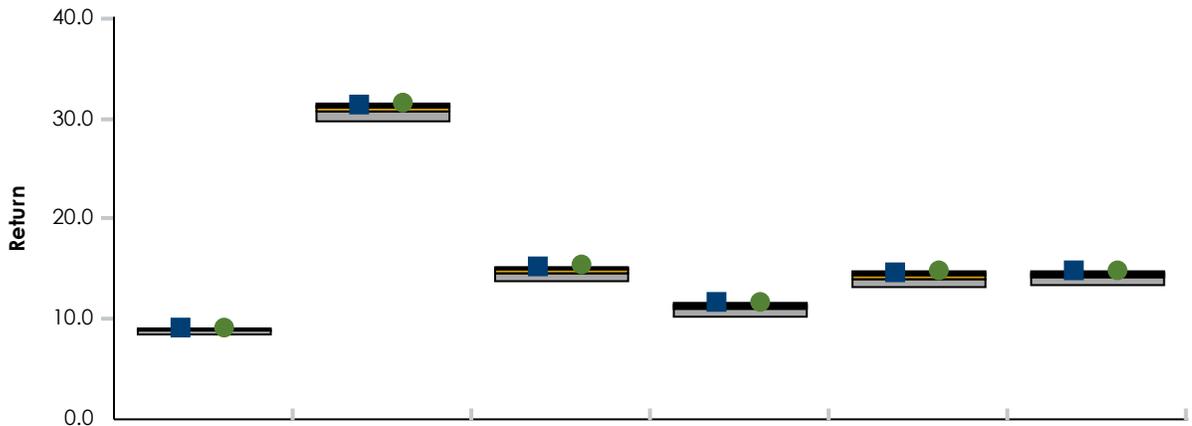
Style History (3 Years)



Historical Statistics (3 Years)

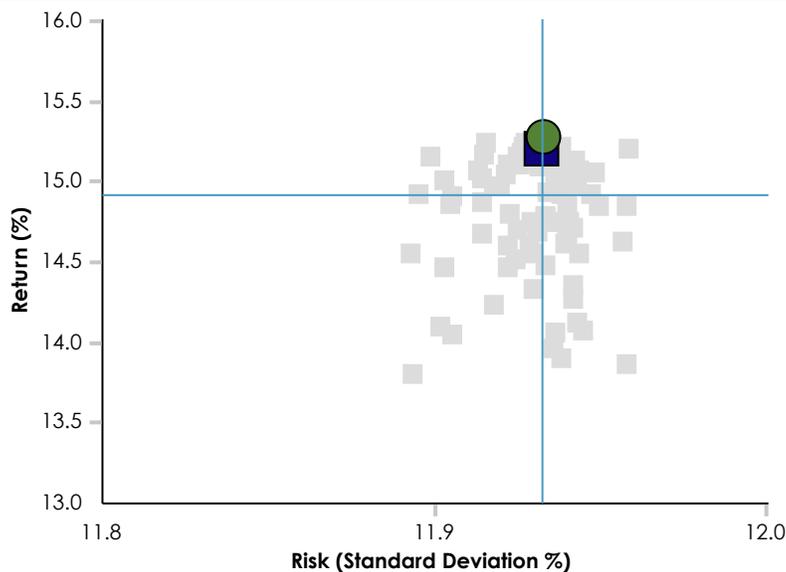
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF S&P 500 Index I	15.2	11.9	1.1	-0.1	1.0	1.0	0.1	-1.1	99.8	100.0
S&P 500 Index	15.3	11.9	1.1	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM S&P 500 Index (MF) Median	14.9	11.9	1.1	-0.3	1.0	1.0	0.1	-5.2	98.9	100.6

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF S&P 500 Index I	9.1 (8)	31.4 (15)	15.2 (15)	11.6 (13)	14.7 (13)	14.8 (13)
● S&P 500 Index	9.1 (5)	31.5 (4)	15.3 (3)	11.7 (3)	14.7 (3)	14.9 (3)
Median	9.0	31.1	14.9	11.3	14.3	14.4

Peer Group Scattergram (3 Years)



Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	30	99.8
Down Markets	6	100.0
<b>Batting Average</b>		
Up Markets	30	33.3
Down Markets	6	33.3
Overall	36	33.3

	Return	Standard Deviation
■ TIAA-CREF S&P 500 Index I	15.2	11.9
● S&P 500 Index	15.3	11.9
— Median	14.9	11.9

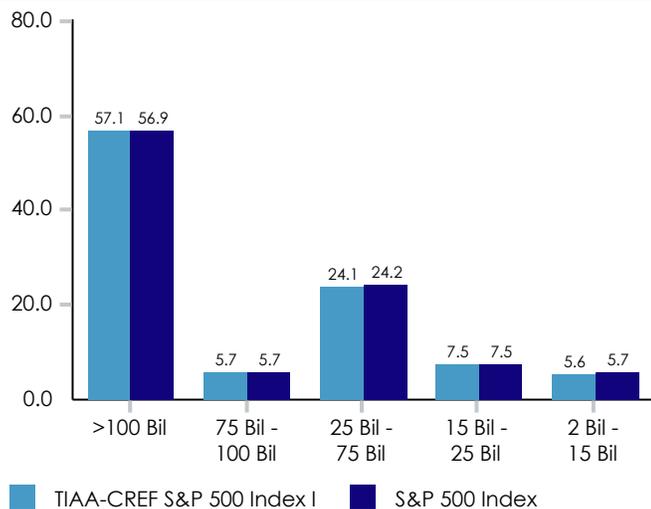
Portfolio Characteristics (As of 11/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	289,063	287,781
Median Mkt. Cap (\$M)	24,036	23,997
Price/Earnings ratio	22.9	22.9
Price/Book ratio	3.7	3.7
5 Yr. EPS Growth Rate (%)	14.3	14.3
Current Yield (%)	1.9	1.9
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	505	505

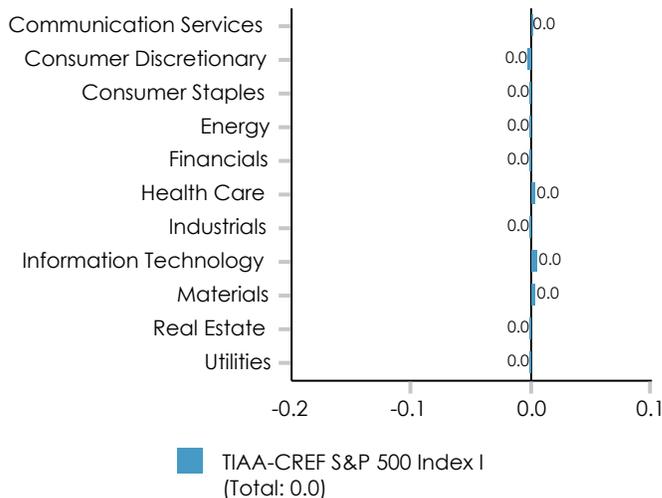
Top 10 Holdings (As of 11/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Apple Inc	4.7	4.6	31.5
Microsoft Corp	4.5	4.5	13.8
Amazon.com Inc	2.9	2.9	6.4
Facebook Inc	1.8	1.8	15.3
JPMorgan Chase & Co	1.7	1.6	19.4
Berkshire Hathaway Inc	1.7	1.7	8.9
Alphabet Inc	1.5	1.5	9.7
Alphabet Inc	1.5	1.5	9.7
Johnson & Johnson	1.4	1.4	13.5
Visa Inc	1.2	1.2	9.4
% of Portfolio	22.9	22.7	

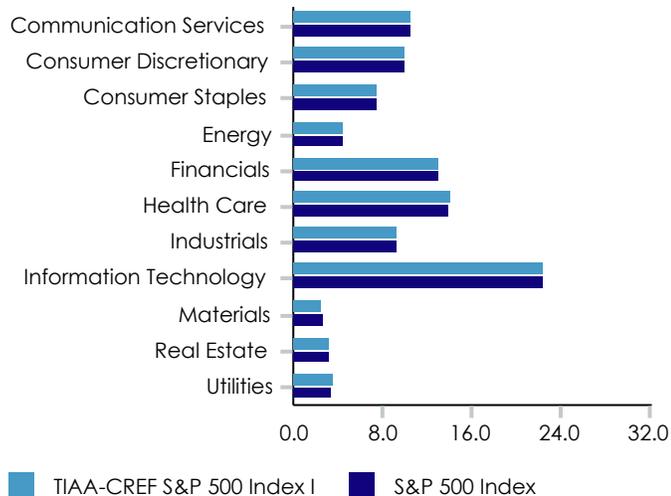
Market Cap Distribution (As of 11/30/2019)



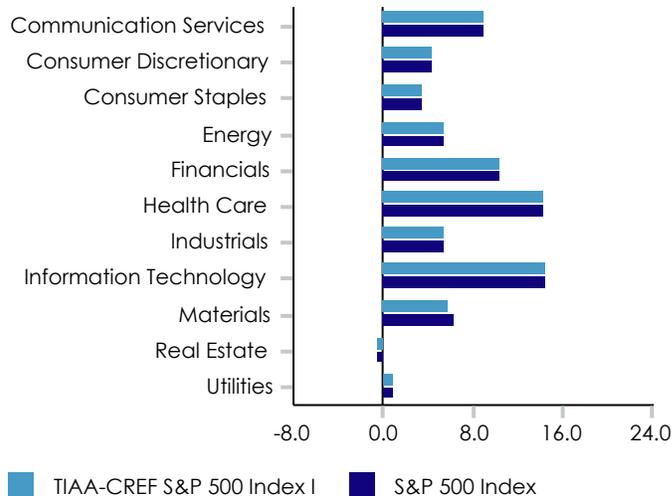
Sector Attribution (1 Quarter as of 11/30/2019)



Sector Allocation (1 Quarter as of 11/30/2019)

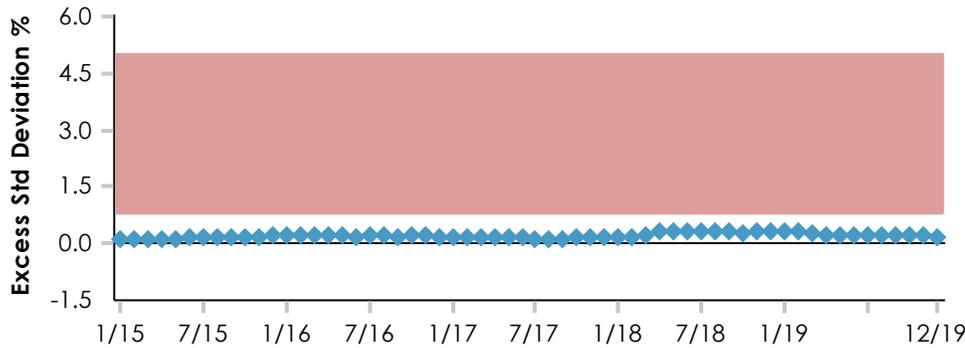


Sector Performance (1 Quarter as of 11/30/2019)



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

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

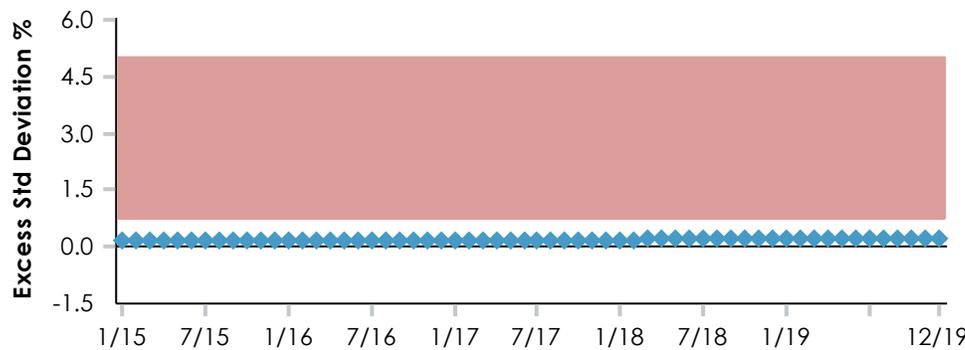


### Short-Term Performance

Positive

Probationary Performance 0.75%

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

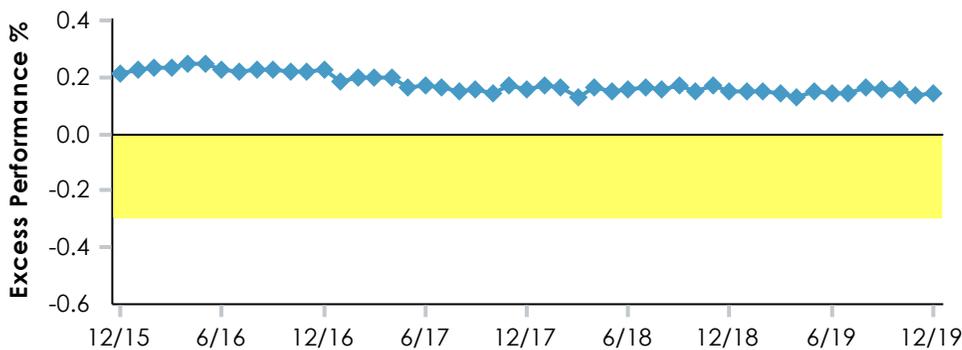


### Medium-Term Performance

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 International Equity Index I (actual)	8.0 (61)	22.1 (28)	9.7 (27)	5.8 (28)	7.6 (21)
MSCI EAFE (Net) Index	8.2 (57)	22.0 (30)	9.6 (31)	5.7 (34)	7.5 (28)
IM International Multi-Cap Core Equity (MF) Median	8.4	21.2	8.9	5.2	6.7

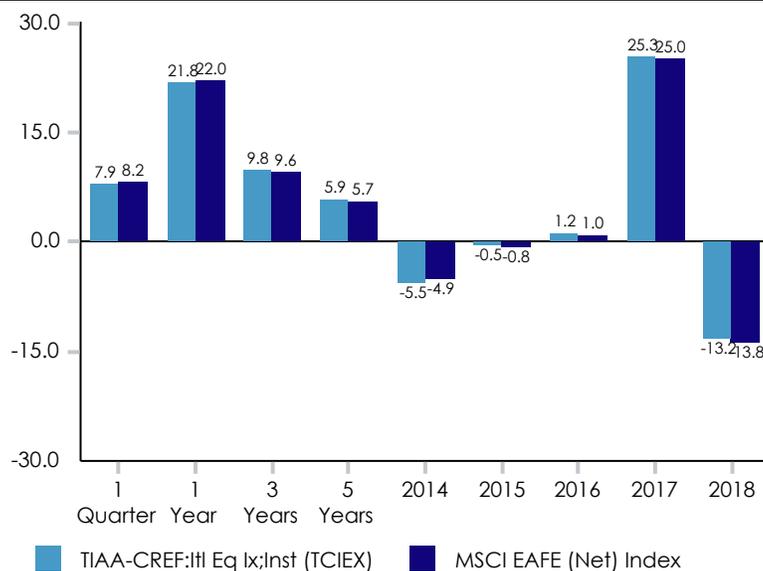
Monitoring Status

Positive

Mutual Fund Info

Product Name : TIAA-CREF:Itl Eq Ix;Inst (TCIEX)  
 Fund Family : TIAA-CREF  
 Ticker : TCIEX  
 Peer Group : IM International Multi-Cap Core Equity (MF)  
 Benchmark : MSCI EAFE IMI  
 Fund Inception : 10/01/2002  
 Portfolio Manager : Campagna/Liao/Tran  
 Total Assets : \$8,281 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 4%

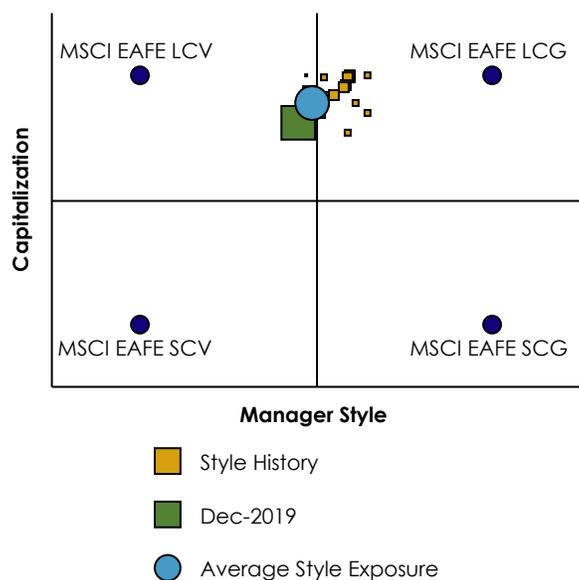
Comparative Performance



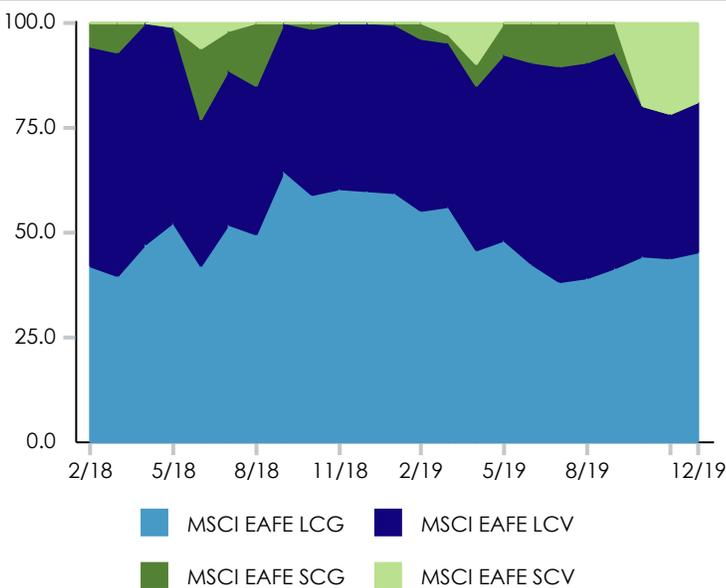
Fund Investment Policy

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)



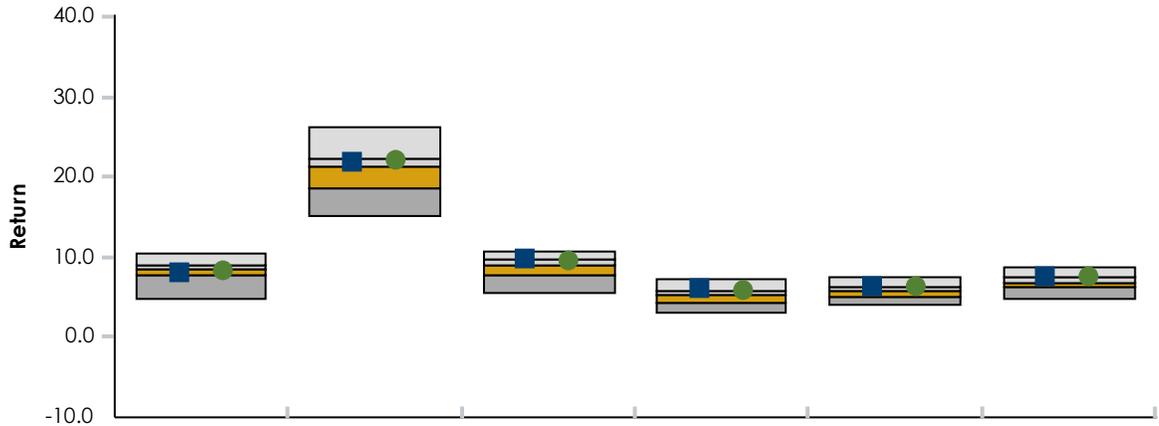
Style History (3 Years)



Historical Statistics (3 Years)

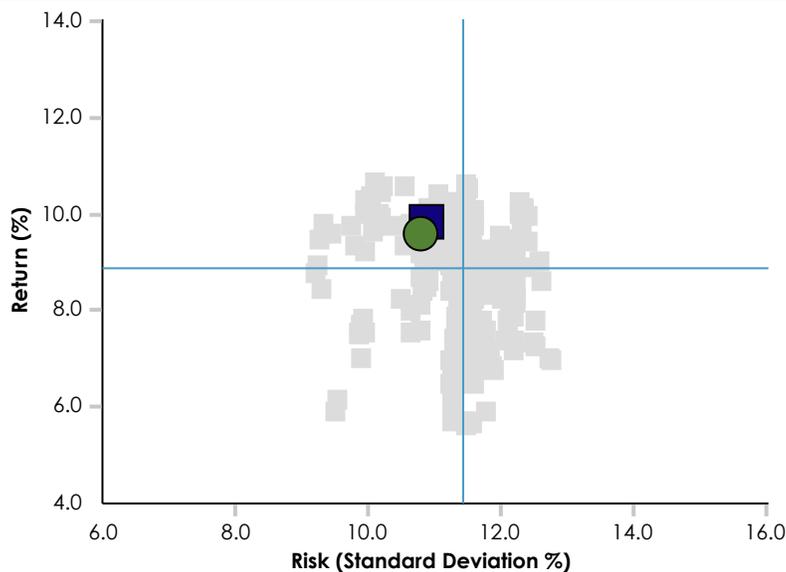
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF:Itl Eq Ix;Inst (TCIEX)	9.8	10.9	0.8	0.2	1.0	1.0	1.3	0.2	99.6	97.1
MSCI EAFE (Net) Index	9.6	10.8	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM International Multi-Cap Core Equity (MF) Median	8.9	11.4	0.6	-0.9	1.0	1.0	2.7	-0.2	98.2	100.6

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF:Itl Eq Ix;Inst (TCIEX)	7.9 (65)	21.8 (35)	9.8 (21)	5.9 (22)	6.3 (25)	7.4 (28)
● MSCI EAFE (Net) Index	8.2 (57)	22.0 (30)	9.6 (31)	5.7 (34)	6.3 (24)	7.5 (28)
Median	8.4	21.2	8.9	5.2	5.7	6.7

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF:Itl Eq Ix;Inst (TCIEX)	9.8	10.9
● MSCI EAFE (Net) Index	9.6	10.8
— Median	8.9	11.4

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	23	99.6
Down Markets	13	97.1
<b>Batting Average</b>		
Up Markets	23	47.8
Down Markets	13	53.8
Overall	36	50.0

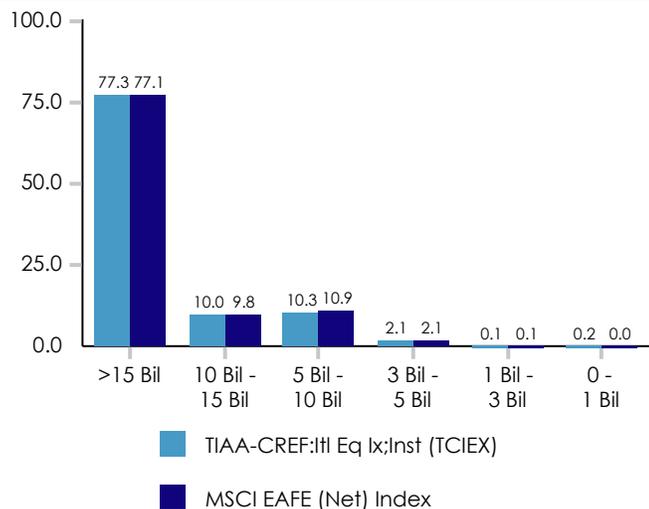
Portfolio Characteristics (As of 11/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	70,833	66,590
Median Mkt. Cap (\$M)	11,346	11,162
Price/Earnings ratio	17.1	17.2
Price/Book ratio	2.3	2.3
5 Yr. EPS Growth Rate (%)	5.9	6.0
Current Yield (%)	3.1	3.4
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	921	918

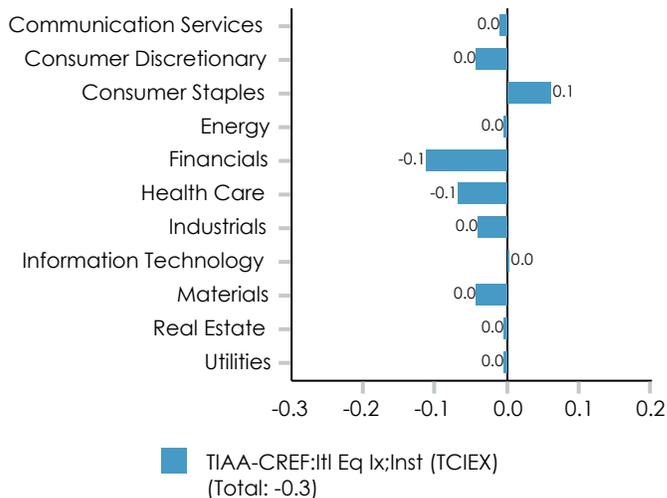
Top 10 Holdings (As of 11/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quarterly Return (%)
Nestle SA	2.2	2.2	-0.3
Roche Holding AG	1.6	1.5	11.4
Novartis AG	1.4	1.4	9.4
Toyota Motor Corp	1.1	1.1	6.3
HSBC Holdings PLC	1.1	1.1	3.4
Total SA Oil & Gas	0.9	0.9	5.7
Astrazeneca PLC	0.9	0.9	12.8
SAP AG	0.9	0.9	14.8
Louis Vuitton Moet Hennessy	0.9	0.9	17.5
BP PLC	0.9	0.9	0.0
<b>% of Portfolio</b>	<b>11.9</b>	<b>11.8</b>	

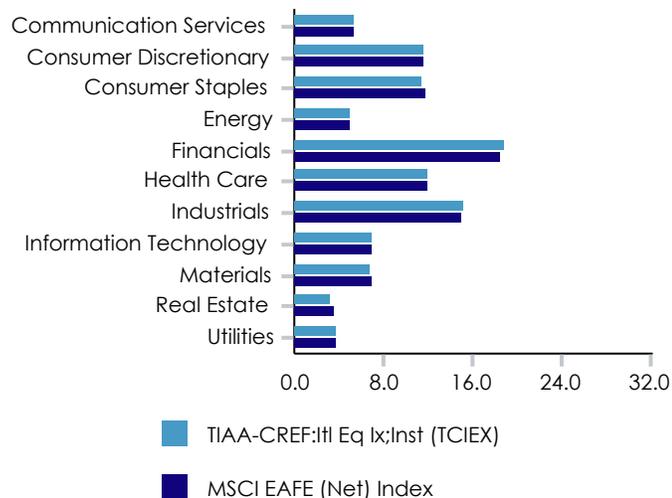
Market Cap Distribution (As of 11/30/2019)



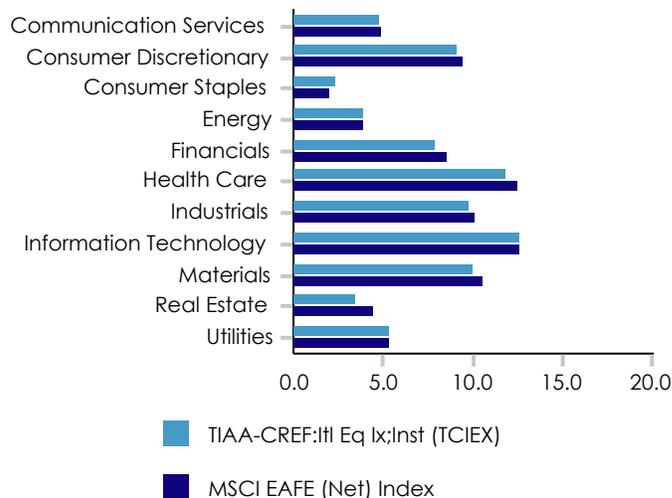
Sector Attribution (1 Quarter as of 11/30/2019)



Sector Allocation (1 Quarter as of 11/30/2019)

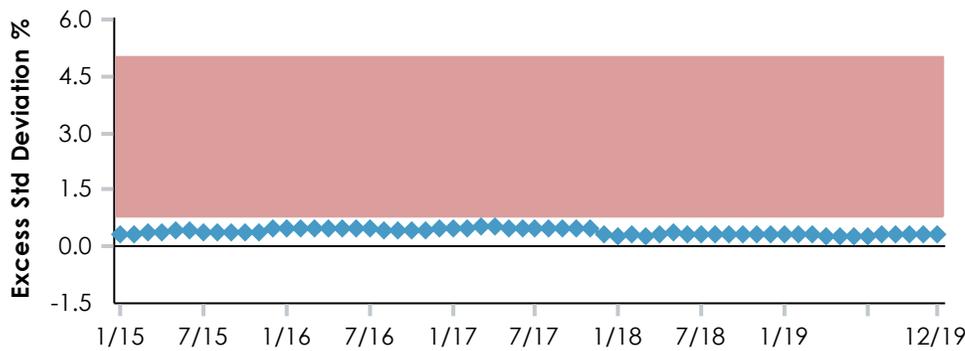


Sector Performance (1 Quarter as of 11/30/2019)



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

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

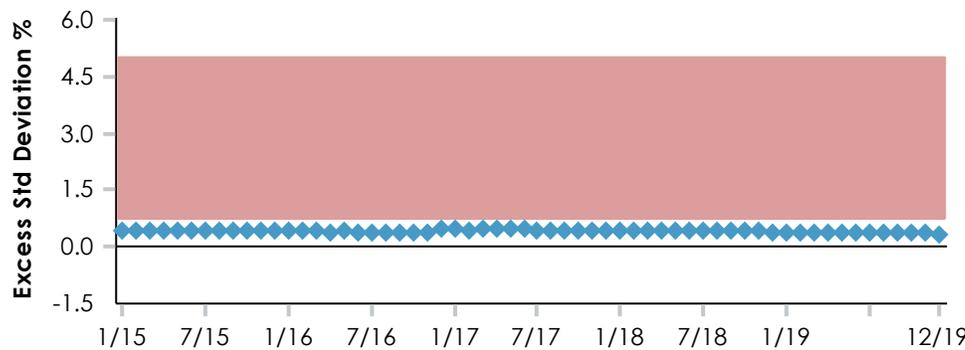


### Short-Term Performance

Positive

Probationary Performance 0.75%

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

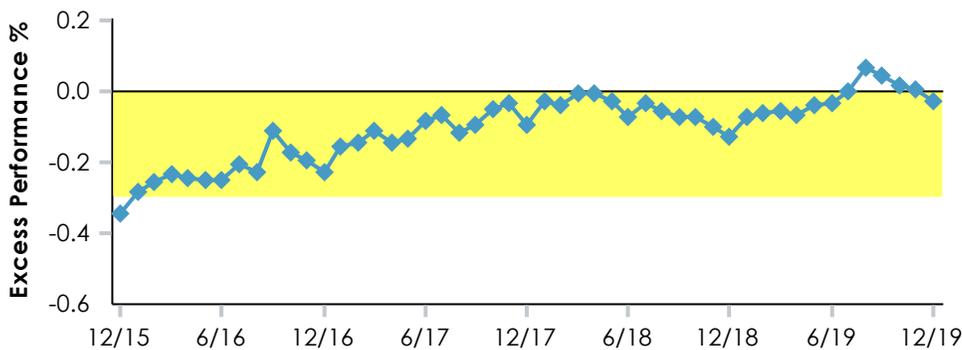


### Medium-Term Performance

Positive

Probationary Performance 0.70%

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



### Long-Term Performance

Positive

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)	11.7 (36)	18.5 (61)	11.5 (39)	5.6 (41)	4.6 (48)
MSCI Emerging Markets (Net)	11.8 (31)	18.4 (61)	11.6 (39)	5.6 (40)	4.8 (43)
IM Emerging Markets Equity (MF) Median	11.0	20.1	10.6	5.1	4.5

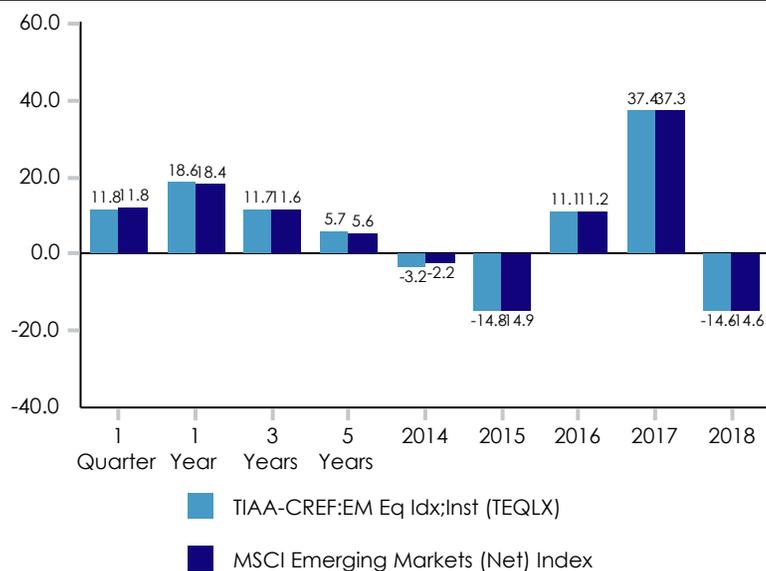
Monitoring Status

Positive

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 : \$877 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.2%  
 Net Expense : 0.2%  
 Turnover : 27%

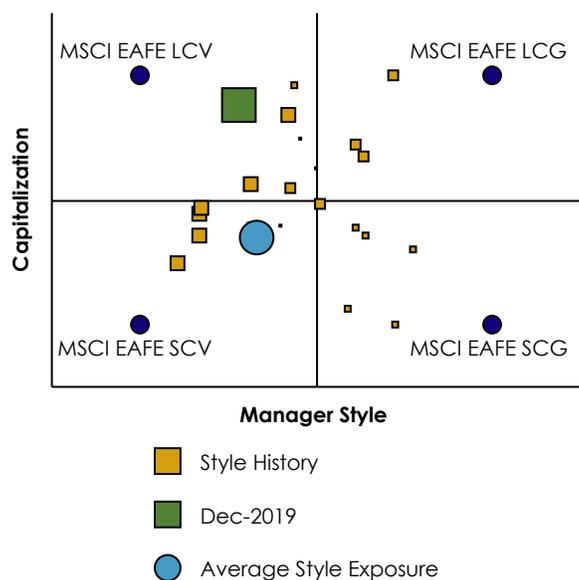
Comparative Performance



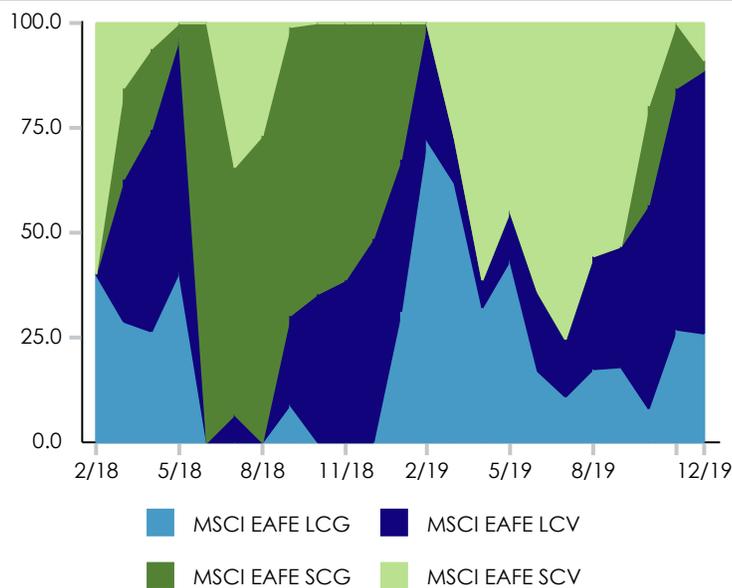
Fund Investment Policy

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)



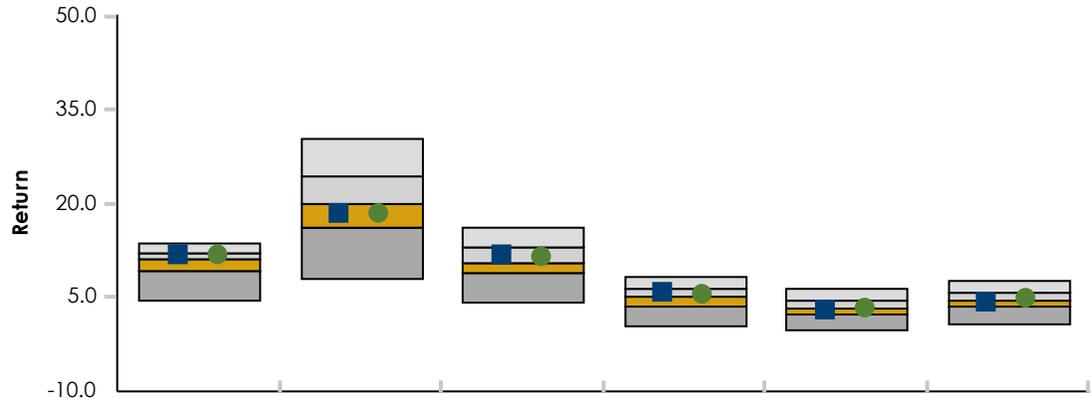
Style History (3 Years)



Historical Statistics (3 Years)

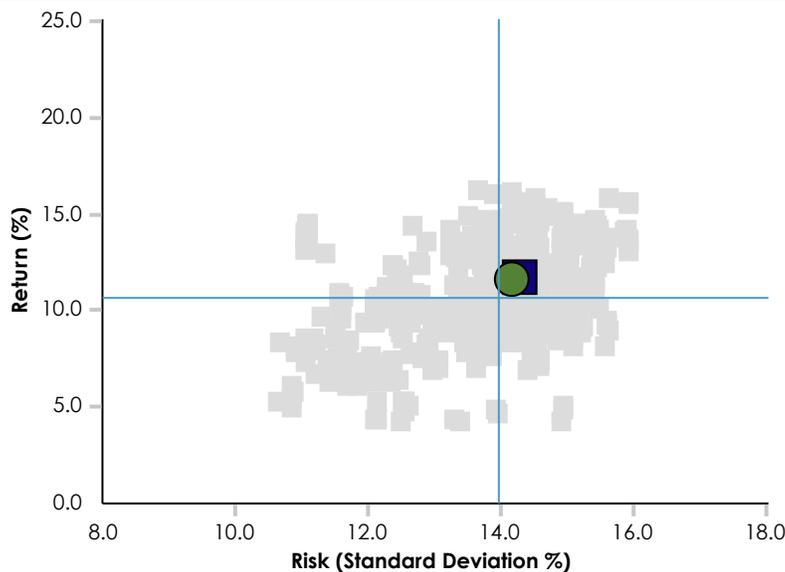
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF:EM Eq Idx;Inst (TEQLX)	11.7	14.3	0.7	0.1	1.0	1.0	1.4	0.1	100.9	101.0
MSCI Emerging Markets (Net) Index	11.6	14.2	0.7	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM Emerging Markets Equity (MF) Median	10.6	14.0	0.7	0.3	0.9	0.9	4.3	-0.2	95.5	94.8

Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF:EM Eq Idx;Inst (TEQLX)	11.8 (33)	18.6 (60)	11.7 (38)	5.7 (38)	3.0 (54)	4.4 (54)
● MSCI Emerging Markets (Net) Index	11.8 (31)	18.4 (61)	11.6 (39)	5.6 (40)	3.3 (48)	4.8 (43)
Median	11.0	20.1	10.6	5.1	3.2	4.5

Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF:EM Eq Idx;Inst (TEQLX)	11.7	14.3
● MSCI Emerging Markets (Net) Index	11.6	14.2
— Median	10.6	14.0

Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	22	100.9
Down Markets	14	101.0
<b>Batting Average</b>		
Up Markets	22	54.5
Down Markets	14	42.9
Overall	36	50.0

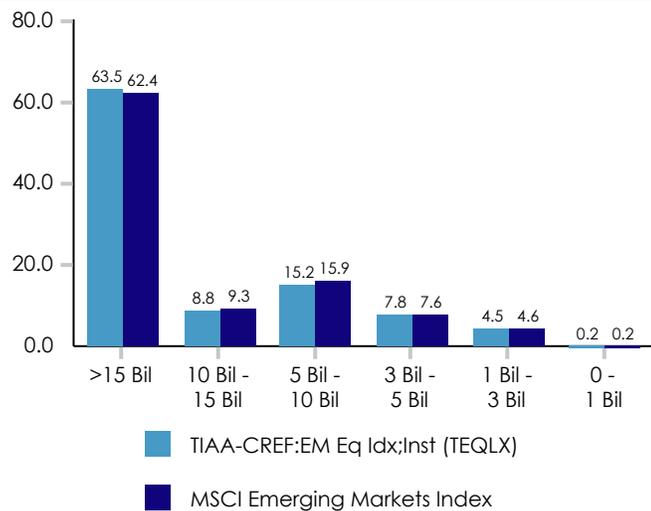
Portfolio Characteristics (As of 11/30/2019)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	103,148	104,152
Median Mkt. Cap (\$M)	5,608	5,792
Price/Earnings ratio	14.6	14.3
Price/Book ratio	2.5	2.5
5 Yr. EPS Growth Rate (%)	12.0	13.0
Current Yield (%)	2.7	2.8
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	1,380	1,404

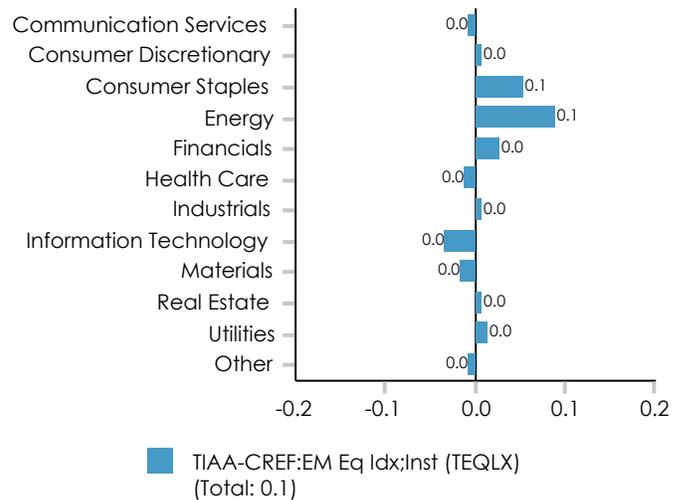
Top 10 Holdings (As of 11/30/2019)

	Portfolio Weight (%)	Benchmark Weight (%)	Quality Rating
Alibaba Group Holding Ltd	5.7	5.8	2
Tencent Holdings LTD	4.4	4.4	1
Taiwan Semiconductor	4.3	4.4	2
Samsung Electronics Co Ltd	3.6	3.7	1
Vanguard FTSE Emerging Markets ETF	2.6	0.0	1
China Construction Bank Corp	1.3	1.3	1
Naspers Ltd	1.1	1.2	
Ping An Insurance Group	1.0	1.1	
Reliance Industries Ltd	1.0	1.0	1
HDFC	0.9	0.9	2
% of Portfolio	25.9	23.8	

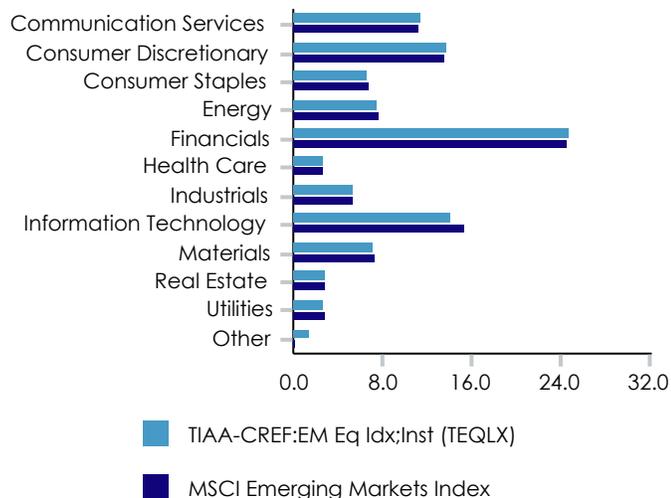
Market Cap Distribution (As of 11/30/2019)



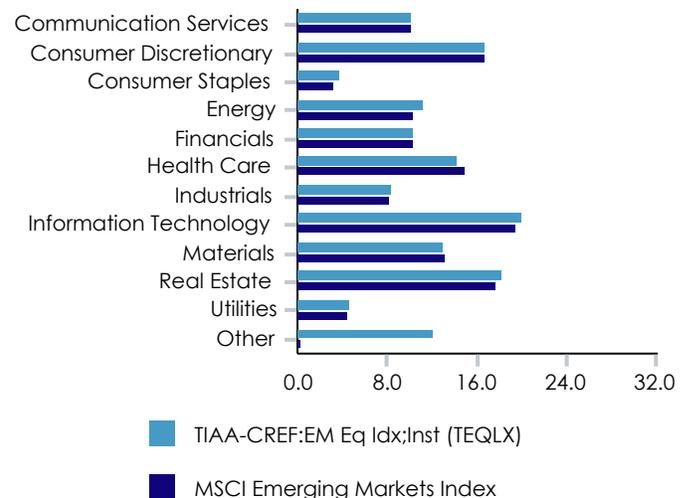
Sector Attribution (1 Quarter as of 11/30/2019)



Sector Allocation (1 Quarter as of 11/30/2019)

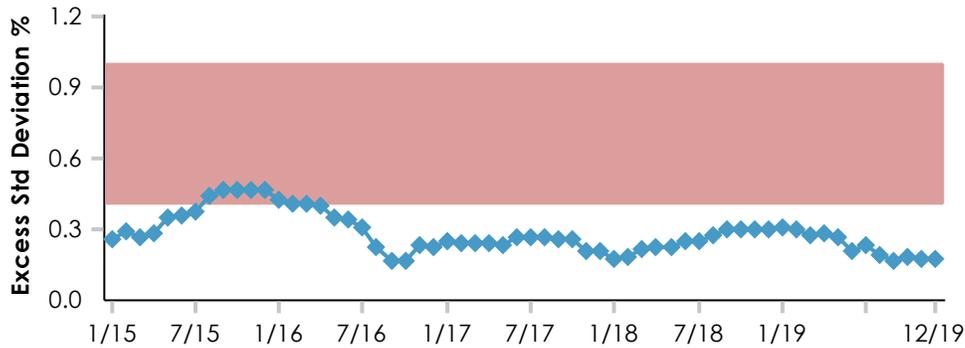


Sector Performance (1 Quarter as of 11/30/2019)



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

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

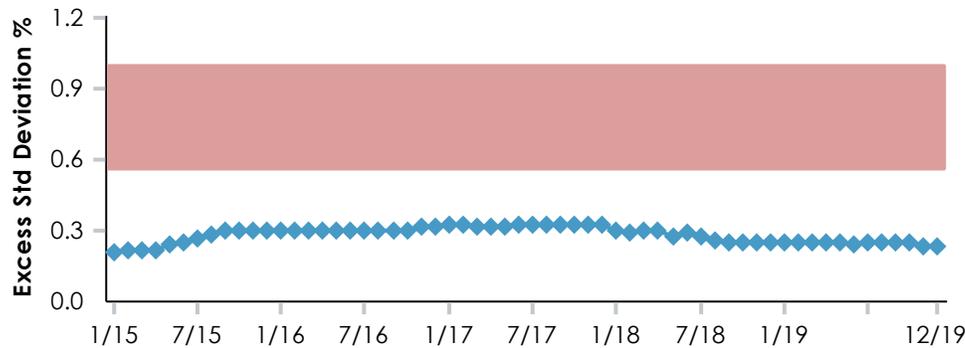


### Short-Term Performance

Positive

Probationary Performance 0.40%

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

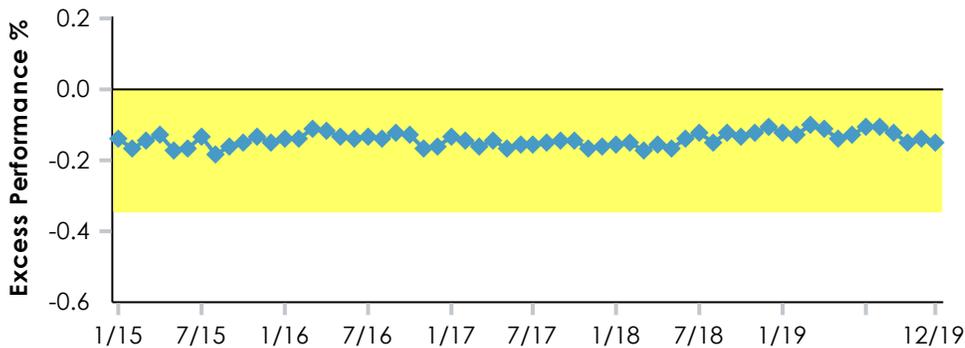


### Medium-Term Performance

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	0.0 (74)	8.4 (68)	3.9 (52)	2.9 (50)	2.8 (68)
BBg BC U.S. Aggregate Index	0.2 (51)	8.7 (52)	4.0 (39)	3.0 (36)	3.0 (55)
IM U.S. Broad Market Core Fixed Income (MF) Median	0.2	8.8	3.9	2.9	3.1

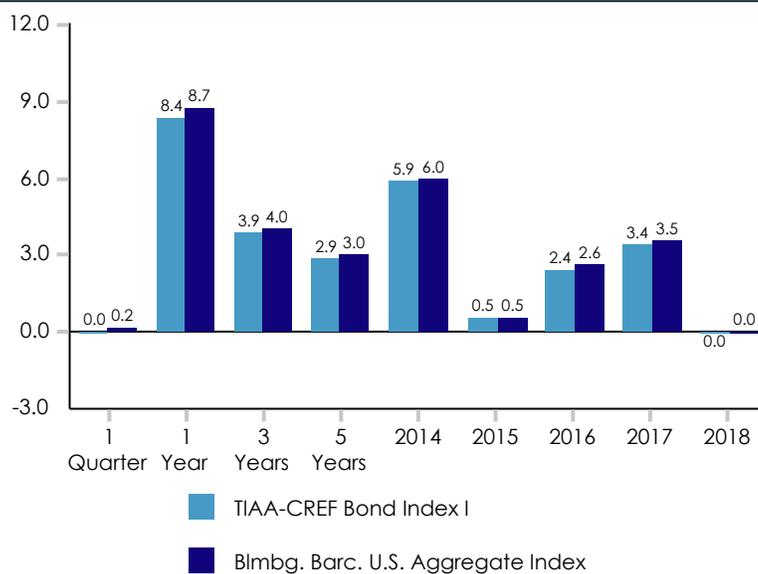
Monitoring Status

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 : \$10,676 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.1%  
 Net Expense : 0.1%  
 Turnover : 20%

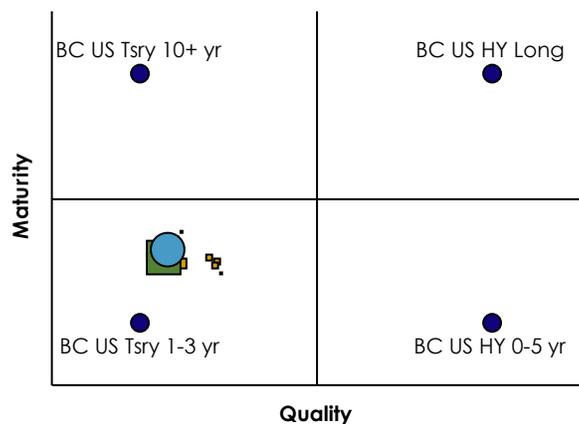
Comparative Performance



Fund Investment Policy

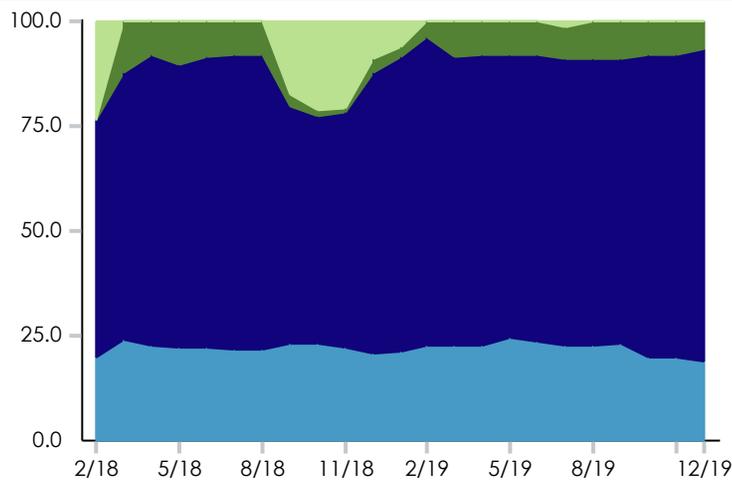
The Fund seeks a favorable long term total return. The Fund invests at least 80% of its assets bonds within its benchmark and portfolio tracking index, the Barclay's Capital U.S. Aggregate Bond Index.

Style Map (3 Years)



- Style History
- Dec-2019
- Average Style Exposure

Style History (3 Years)

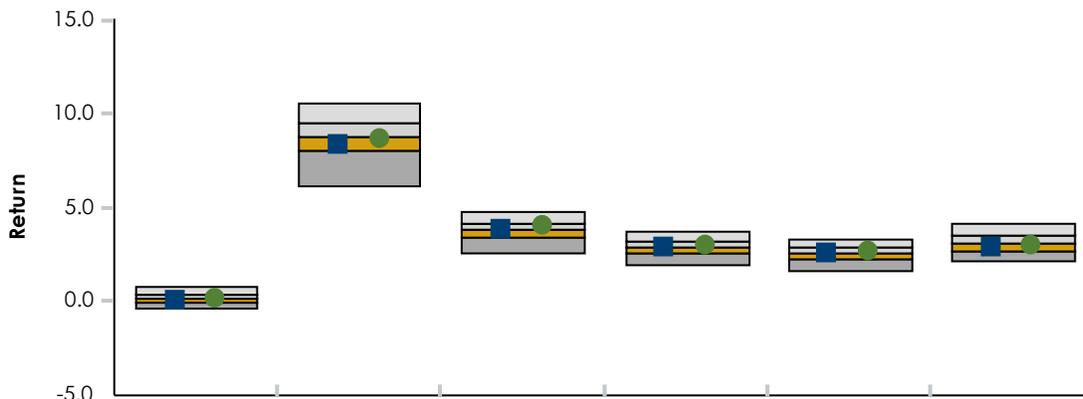


- BC US Tsry 10+ yr
- BC US Tsry 1-3 yr
- BC US HY Long
- BC US HY 0-5 yr

## Historical Statistics (3 Years)

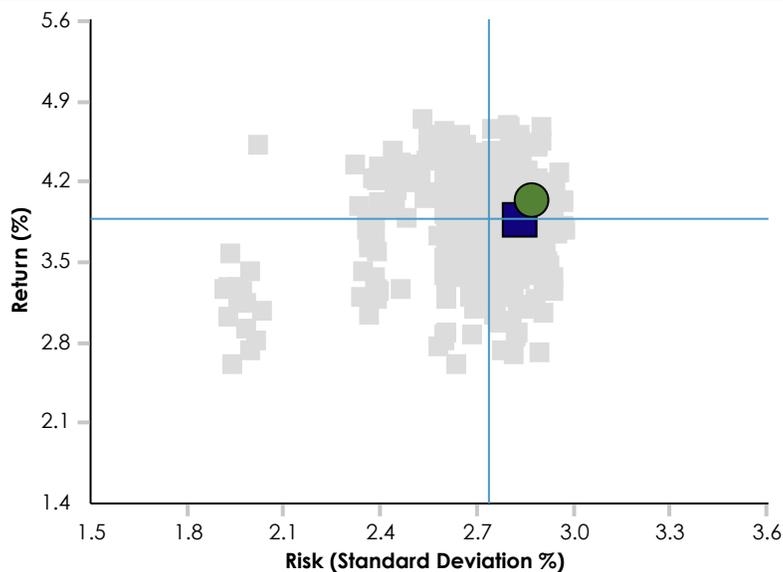
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	R-Squared	Tracking Error	Information Ratio	Up Market Capture	Down Market Capture
TIAA-CREF Bond Index I	3.9	2.8	0.8	-0.1	1.0	1.0	0.2	-0.7	96.2	96.4
Blmbg. Barc. U.S. Aggregate Index	4.0	2.9	0.8	0.0	1.0	1.0	0.0	N/A	100.0	100.0
IM U.S. Broad Market Core Fixed Income (MF) Median	3.9	2.7	0.8	0.1	0.9	1.0	0.6	-0.3	95.0	92.9

## Peer Group Analysis



	1 Quarter	1 Year	3 Years	5 Years	7 Years	Since Inception Dec-2011
■ TIAA-CREF Bond Index I	0.0 (74)	8.4 (68)	3.9 (52)	2.9 (50)	2.5 (52)	2.8 (68)
● Blmbg. Barc. U.S. Aggregate Index	0.2 (51)	8.7 (52)	4.0 (39)	3.0 (36)	2.7 (38)	3.0 (55)
Median	0.2	8.8	3.9	2.9	2.6	3.1

## Peer Group Scattergram (3 Years)



	Return	Standard Deviation
■ TIAA-CREF Bond Index I	3.9	2.8
● Blmbg. Barc. U.S. Aggregate Index	4.0	2.9
— Median	3.9	2.7

## Performance Statistics (3 Years)

	Months	%
<b>Market Capture</b>		
Up Markets	22	96.2
Down Markets	14	96.4
<b>Batting Average</b>		
Up Markets	22	27.3
Down Markets	14	50.0
Overall	36	36.1

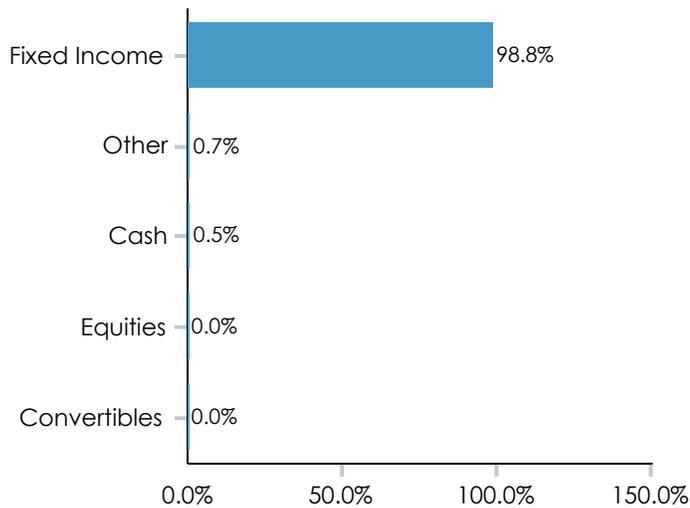
Portfolio Characteristics (As of 9/30/2019)

Avg. Coupon	3.18 %
Nominal Maturity	7.89 Years
Effective Maturity	N/A
Duration	5.72 Years
SEC 30 Day Yield	2.8
Avg. Credit Quality	AA

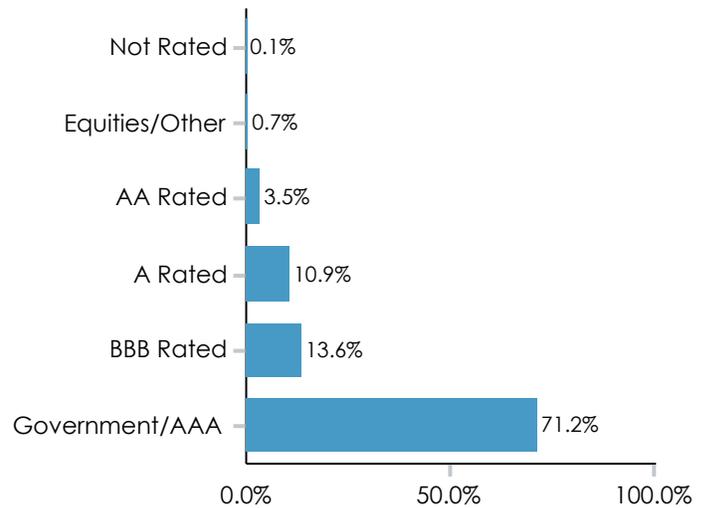
Top 10 Holdings (As of 9/30/2019)

Treasury Notes/Bonds	39.7 %
GNMA and Other Mtg Backed	27.9 %
Corporate Notes/Bonds	20.8 %
US\$ Denominated Fgn. Gvt.	8.3 %
Government Agency Securities	1.3 %
Asset Backed Securities	0.8 %

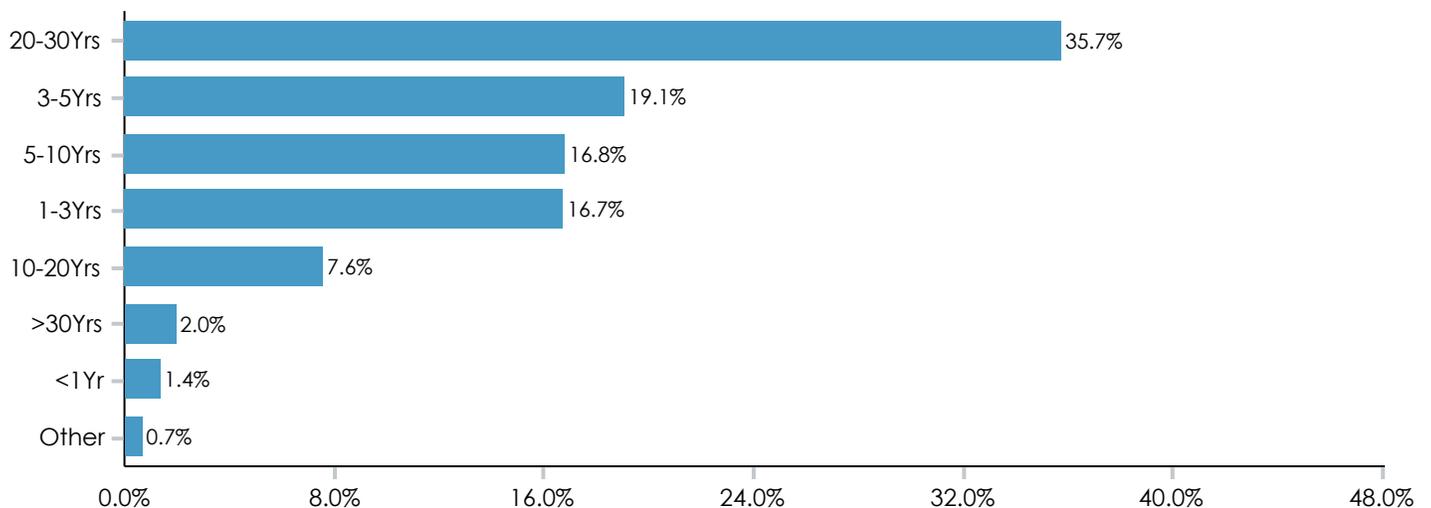
Asset Allocation (As of 9/30/2019)



Quality Allocation (As of 9/30/2019)



Maturity Distribution (As of 9/30/2019)



## T-C LIFE FUNDING AGREEMENTS

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# T-C LIFE FUNDING AGREEMENTS

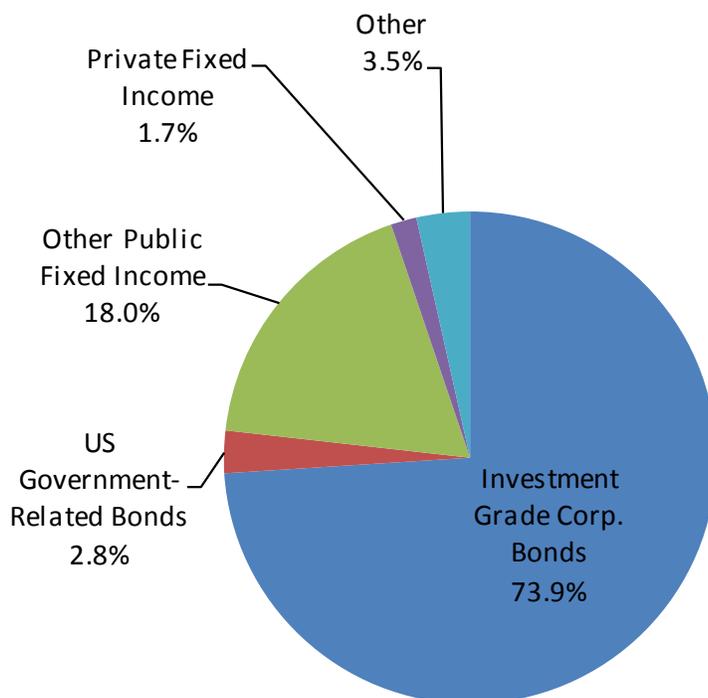
(based on non-investment performance criteria)

Criteria	Status as of 12/31/2019	Status as of 9/30/2019	Status as of 6/30/2019	Status as of 12/31/2018
<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*			
<b>Bond Portfolio</b>	99.7% in Investment Grade (at least 90%)	99.6% in Investment Grade (at least 90%)	99.4% in Investment Grade (at least 90%)	99.4% 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 4

## 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

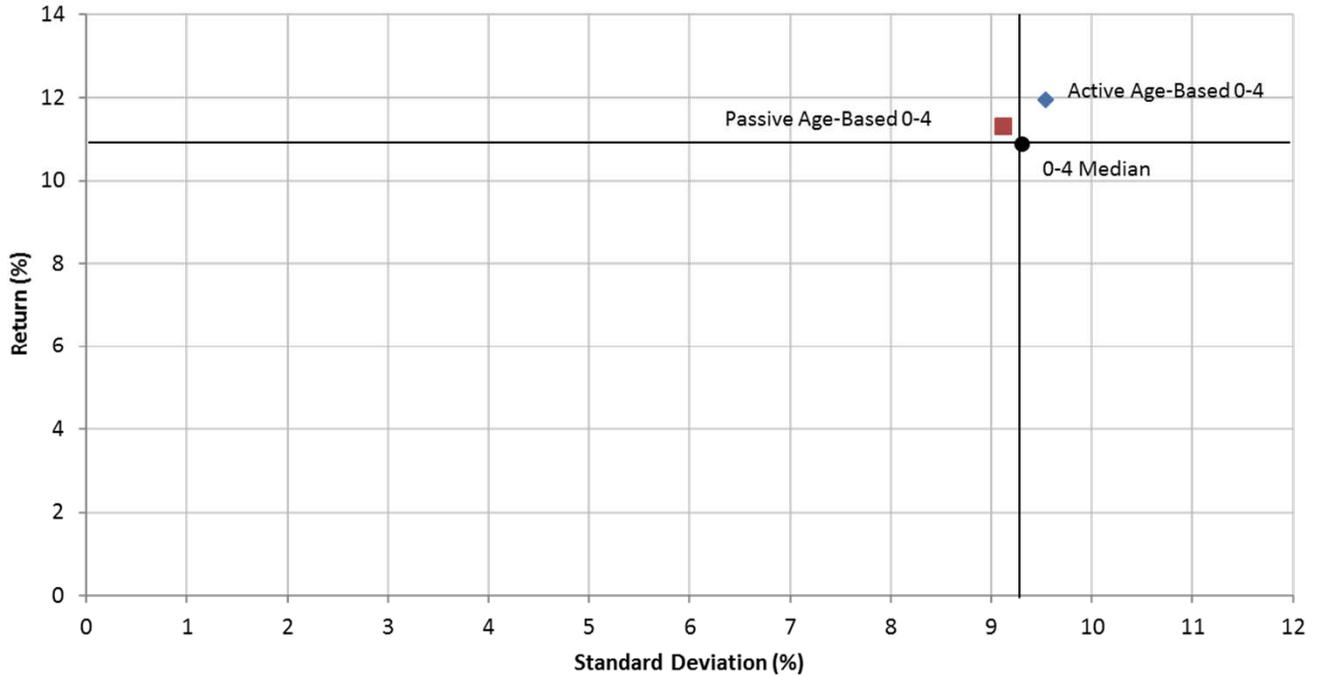
**SECTION 5**

**AGE-BASED FUND ANALYSIS**

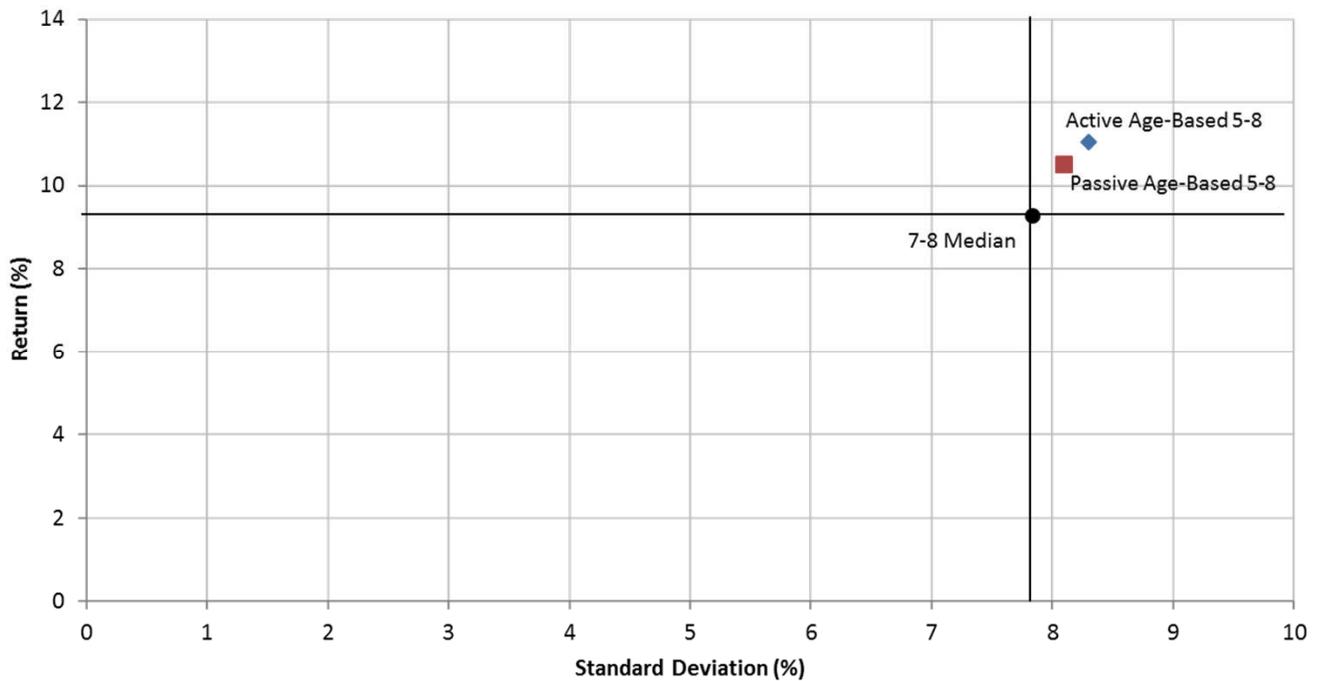
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# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 0-4 : 3-YEAR (as of 12/31/2019)



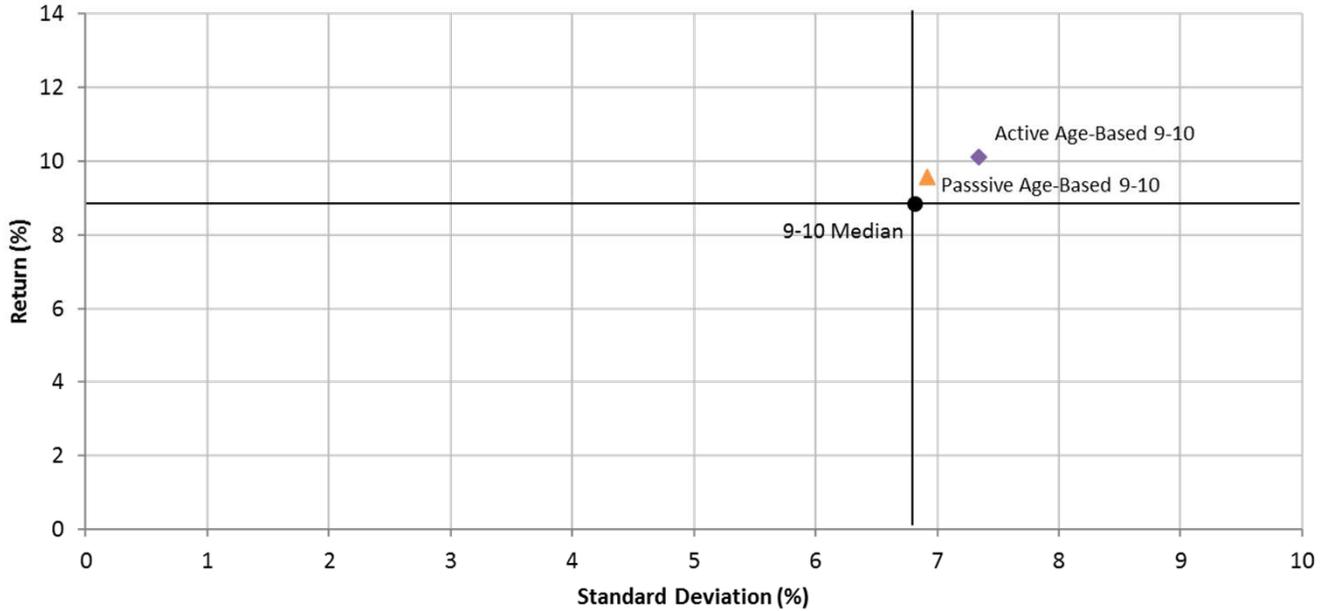
## AGE 7-8 : 3-YEAR (as of 12/31/2019)



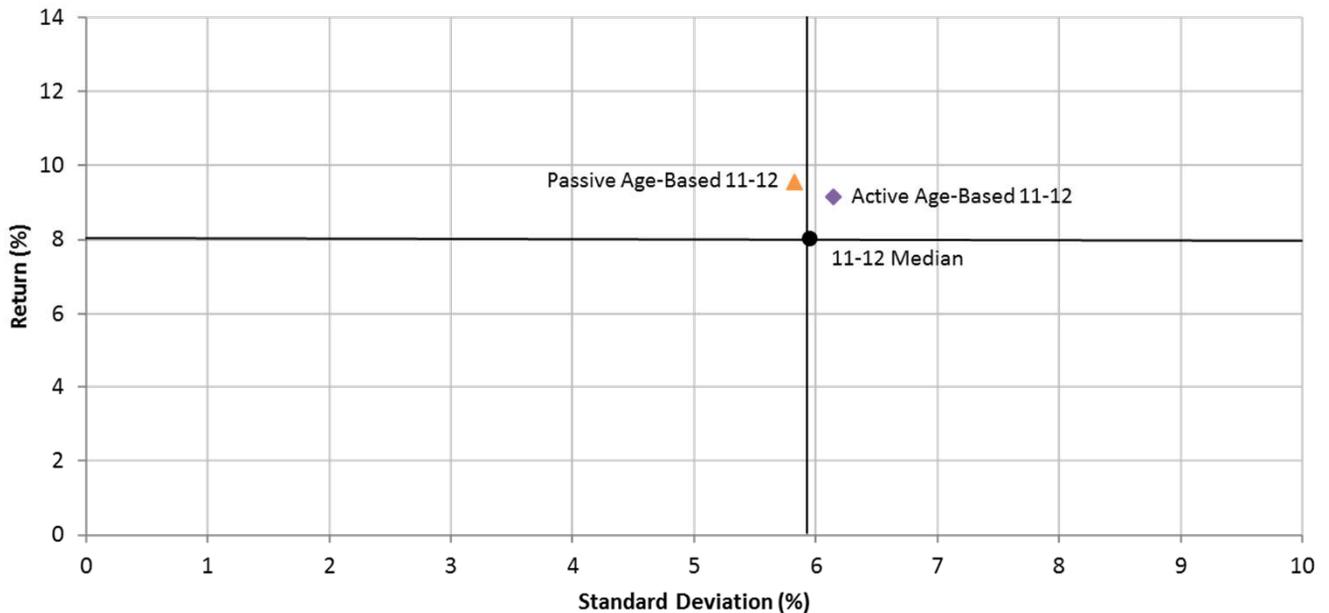
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 9-10 : 3-YEAR (as of 12/31/2019)



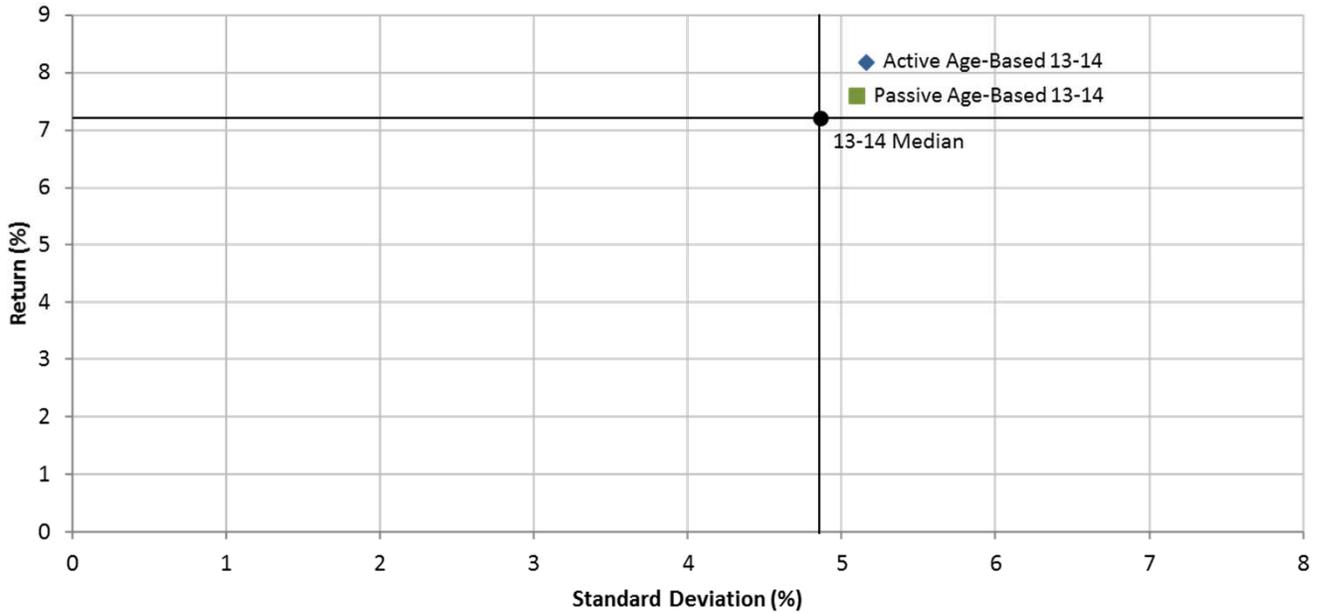
## AGE 11-12 : 3-YEAR (as of 12/31/2019)



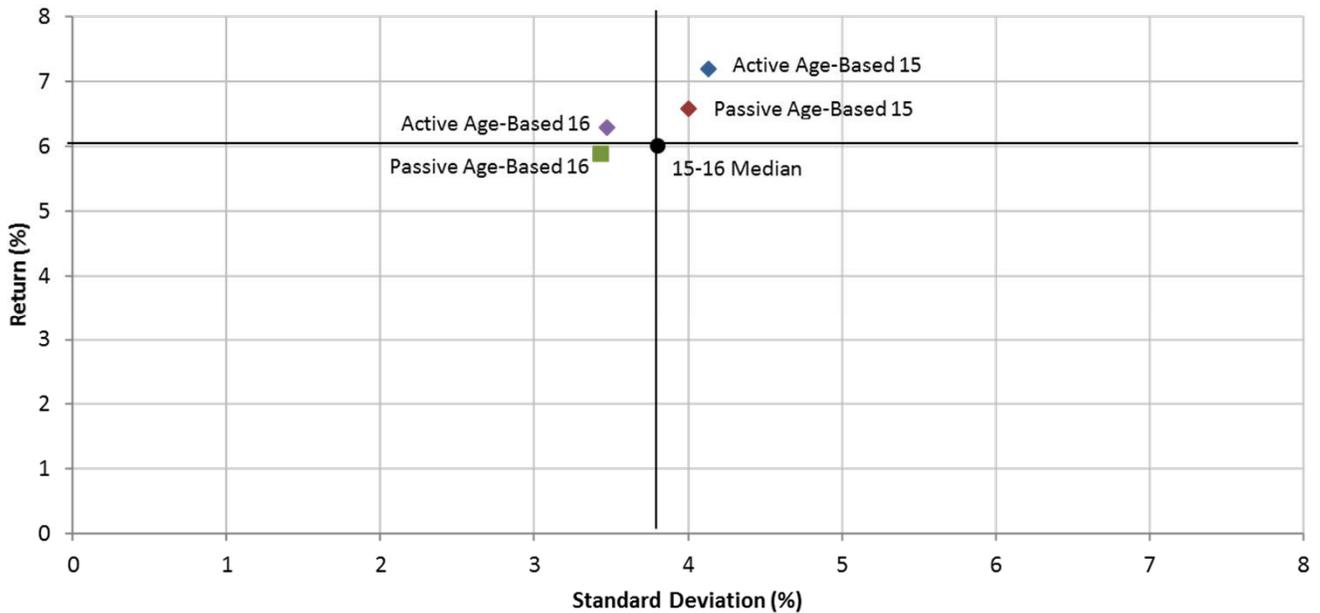
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 13-14 : 3-YEAR (as of 12/31/2019)



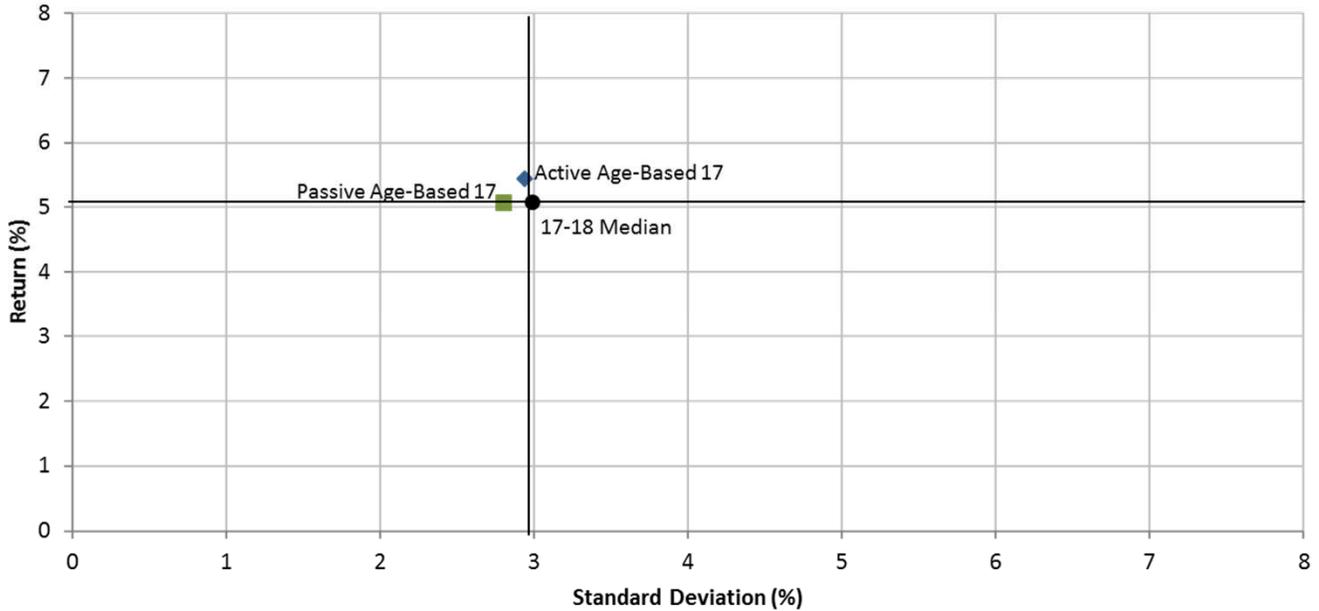
## AGE 15-16 : 3-YEAR (as of 12/31/2019)



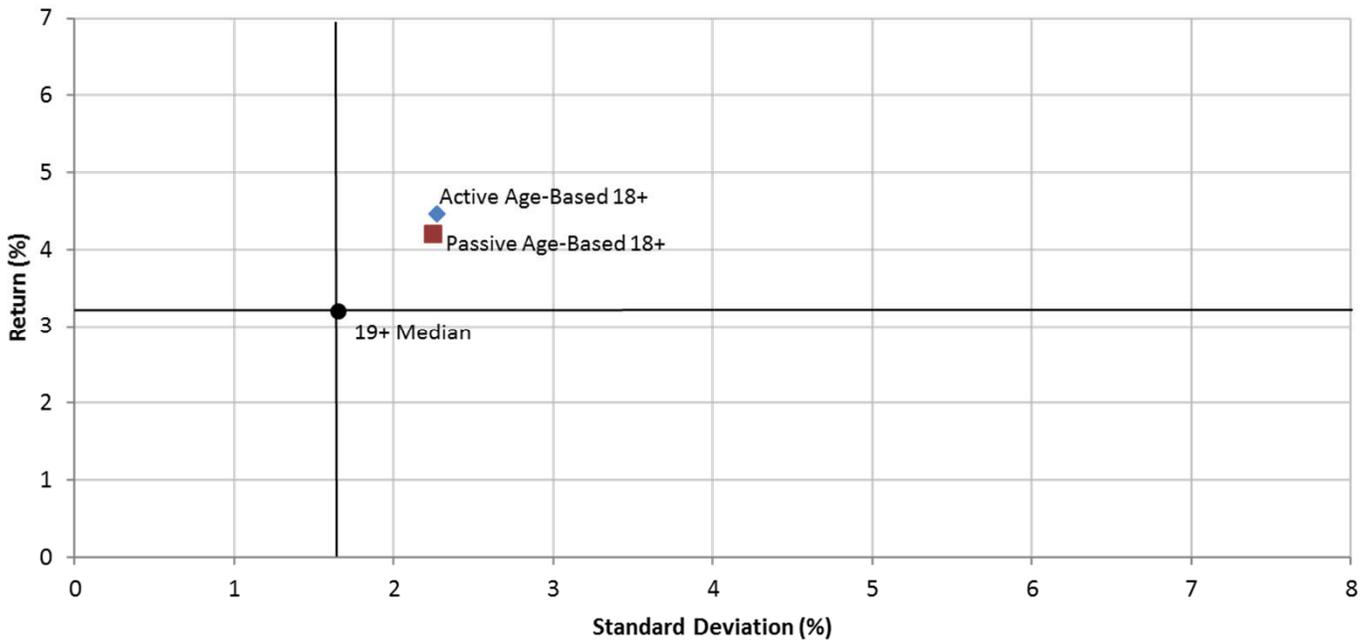
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

## AGE 17-18 : 3-YEAR (as of 12/31/2019)



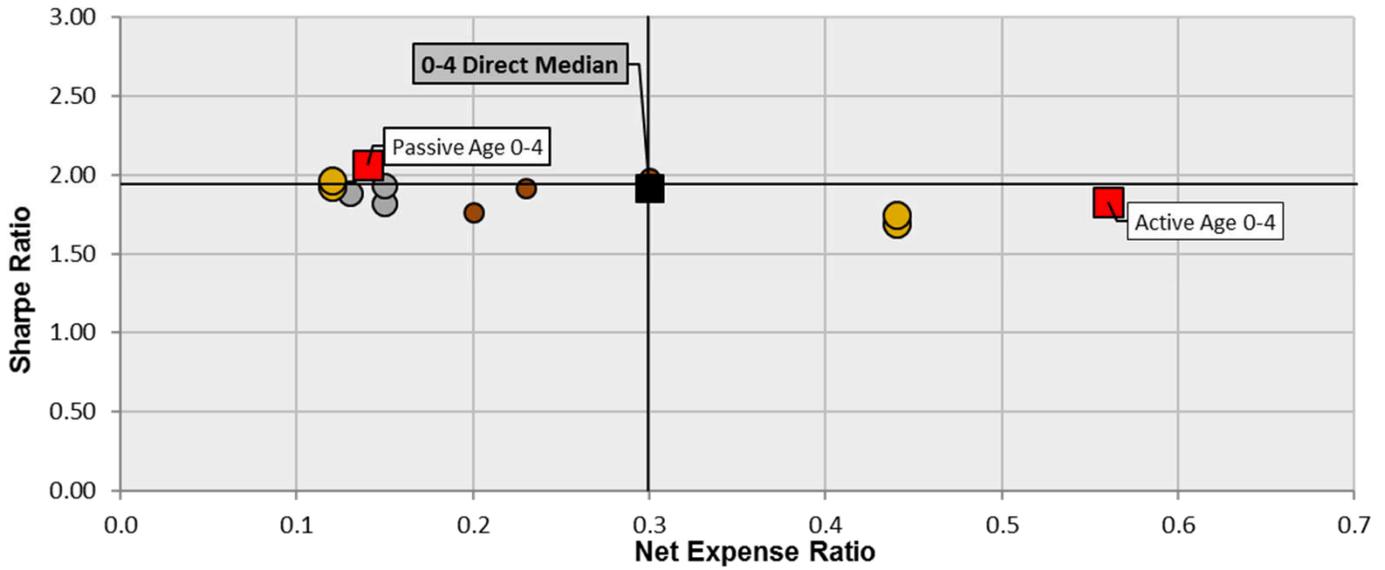
## AGE 19+ : 3-YEAR (as of 12/31/2019)



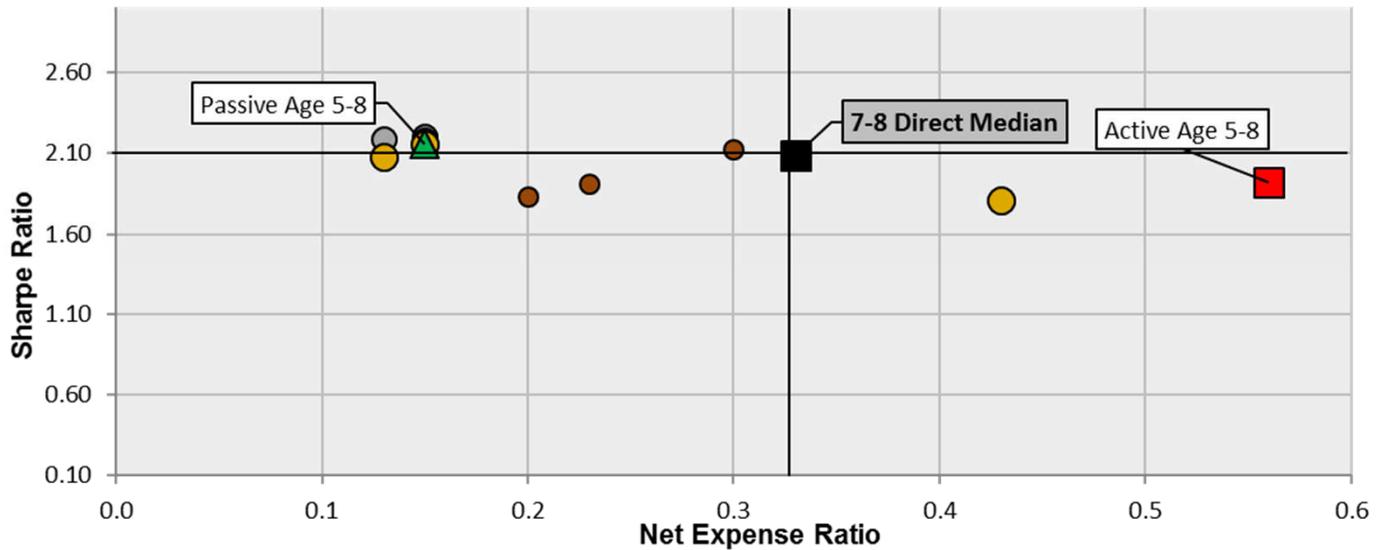
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND –SHARPE/FEE

## AGE 0-4 : 1-YEAR (as of 12/31/2019)



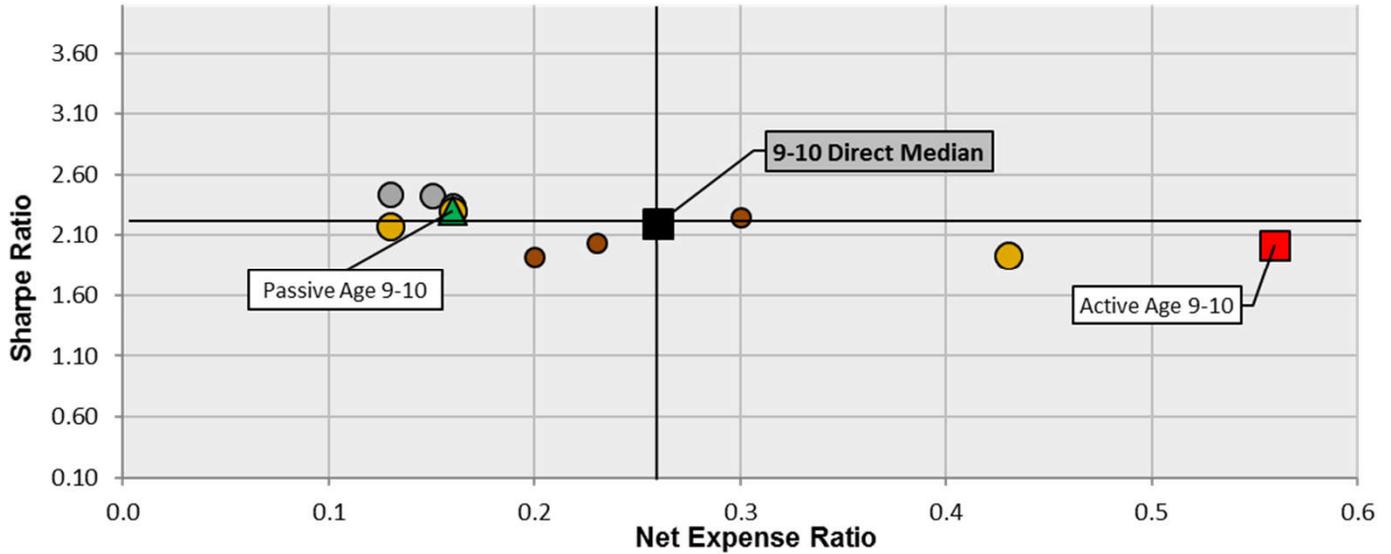
## AGE 7-8 : 1-YEAR (as of 12/31/2019)



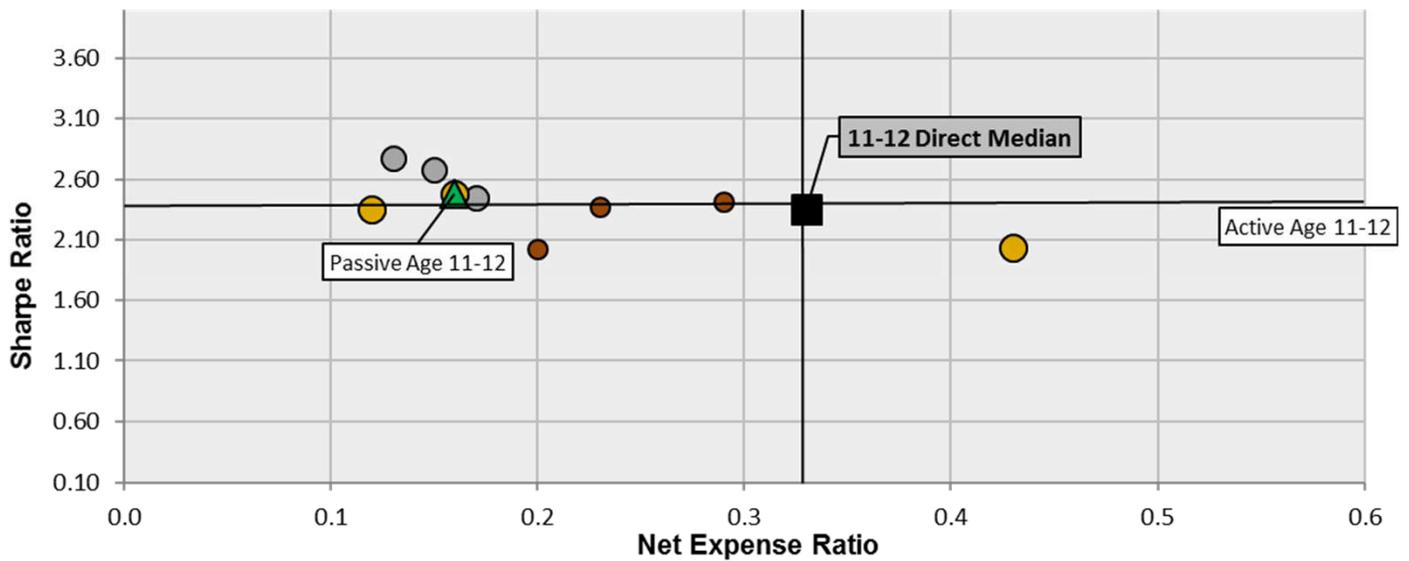
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND –SHARPE/FEE

AGE 9-10 : 1-YEAR (as of 12/31/2019)



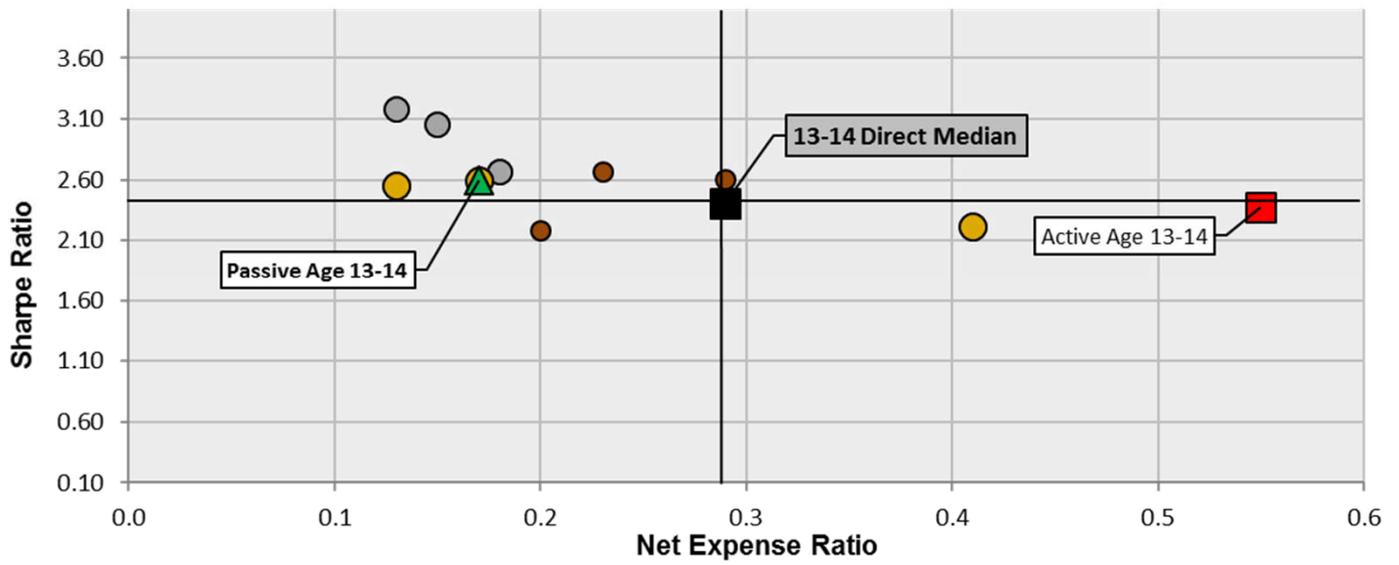
AGE 11-12 : 1-YEAR (as of 12/31/2019)



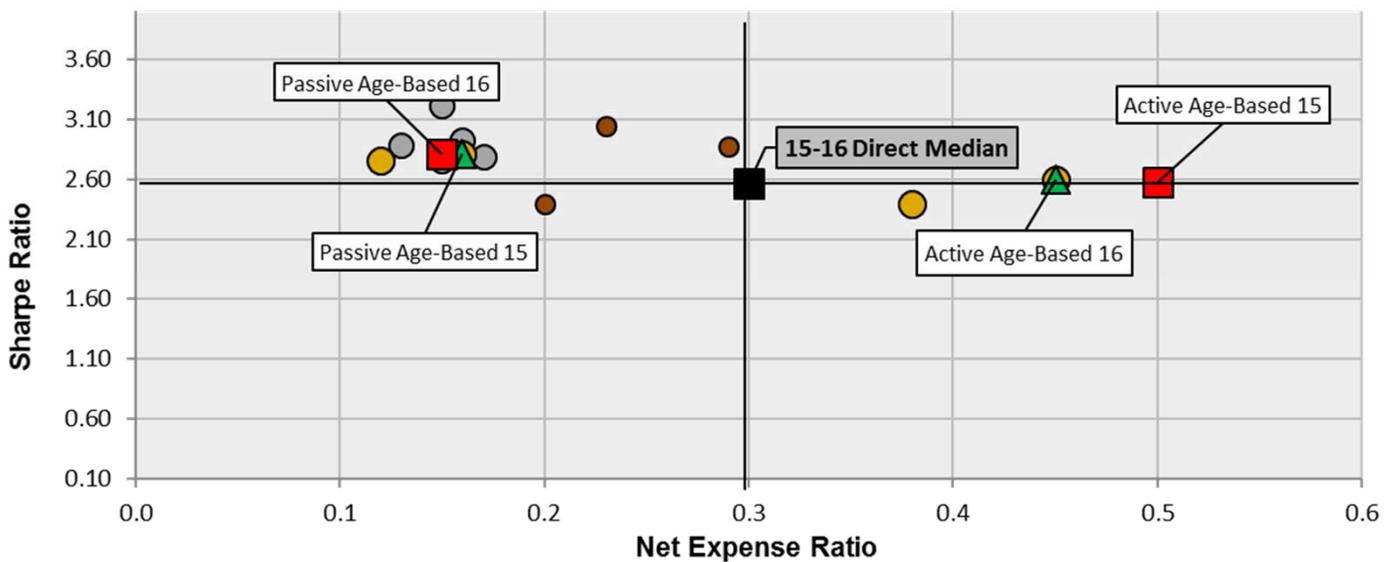
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND –SHARPE/FEE

AGE 13-14 : 1-YEAR (as of 12/31/2019)



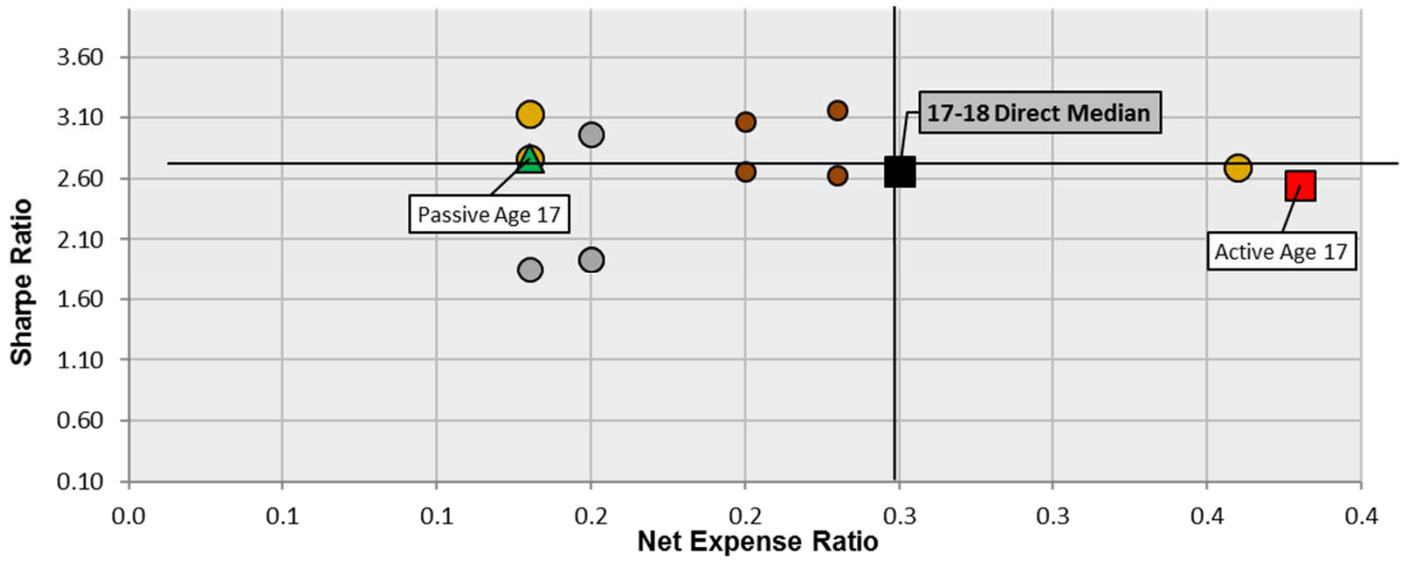
AGE 15-16 : 1-YEAR (as of 12/31/2019)



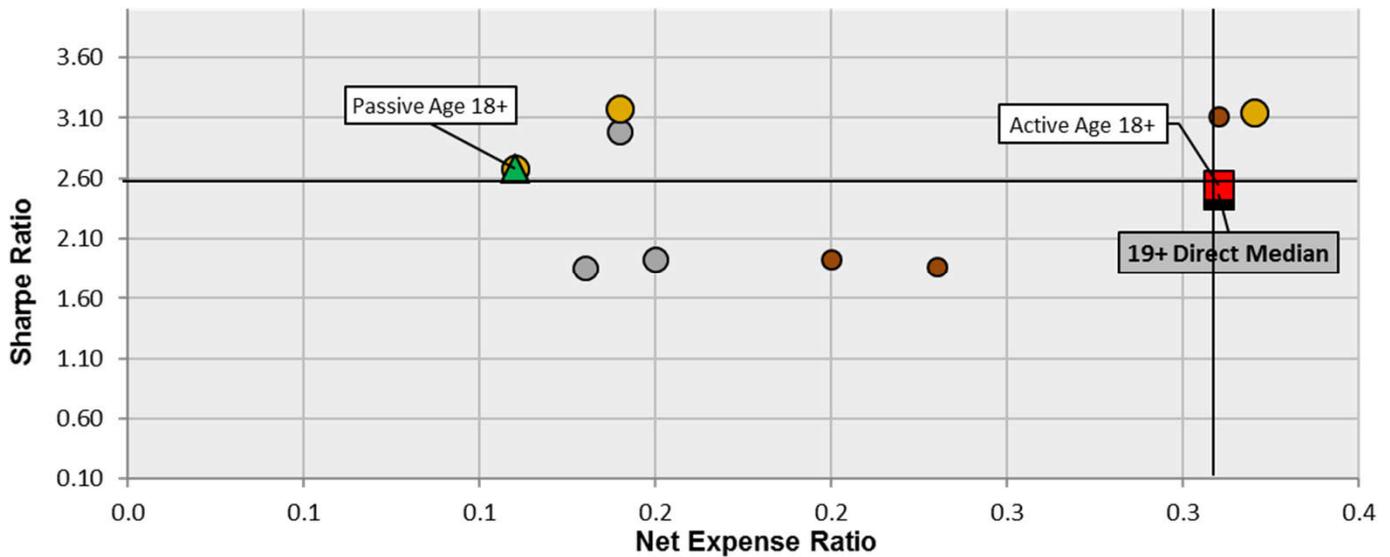
Source: Morningstar

# SCHOLARSHARE AGE-BASED FUND –SHARPE/FEE

AGE 17-18 : 1-YEAR (as of 12/31/2019)



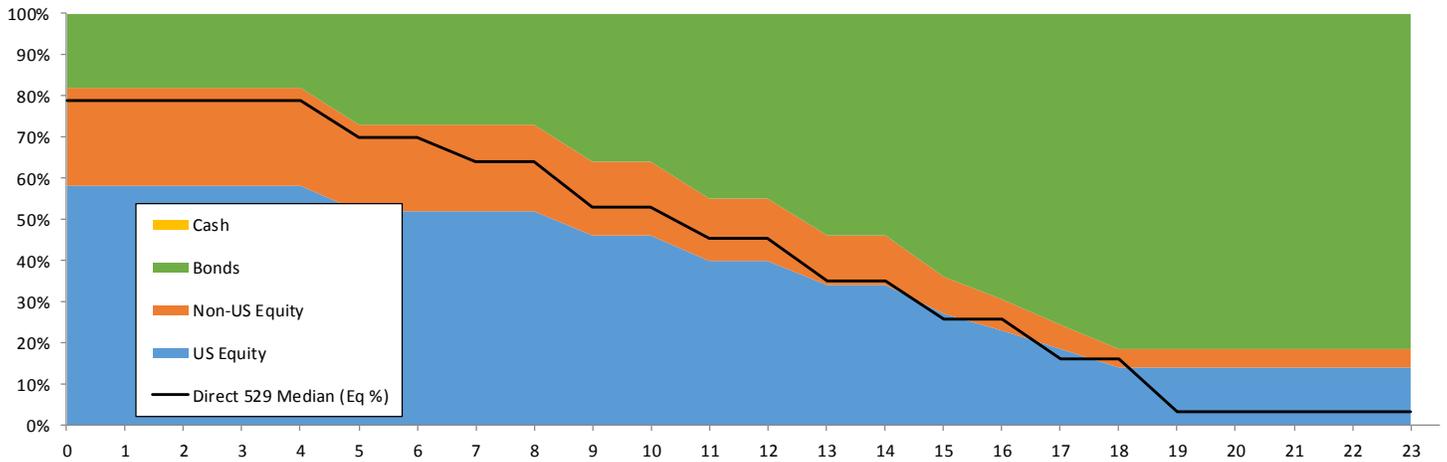
AGE 19+ : 1-YEAR (as of 12/31/2019)



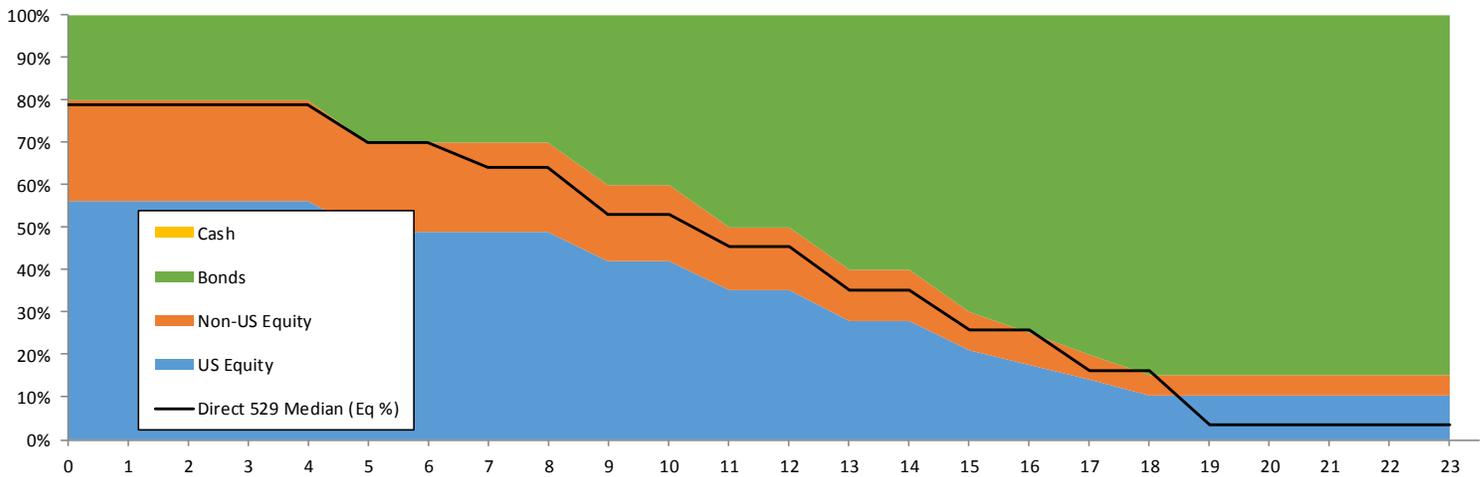
Source: Morningstar

# SCHOLARSHARE AGE-BASED GLIDEPATH

## ACTIVE AGE-BASED PORTFOLIO



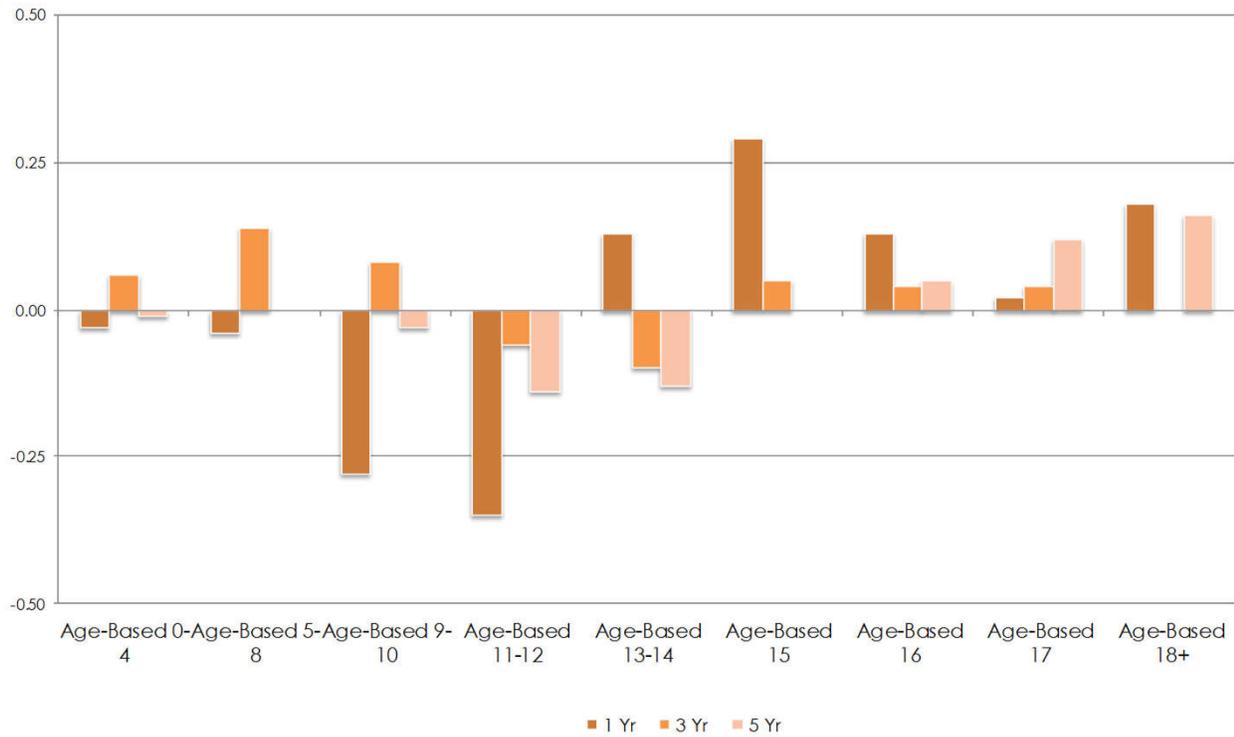
## PASSIVE AGE-BASED PORTFOLIO



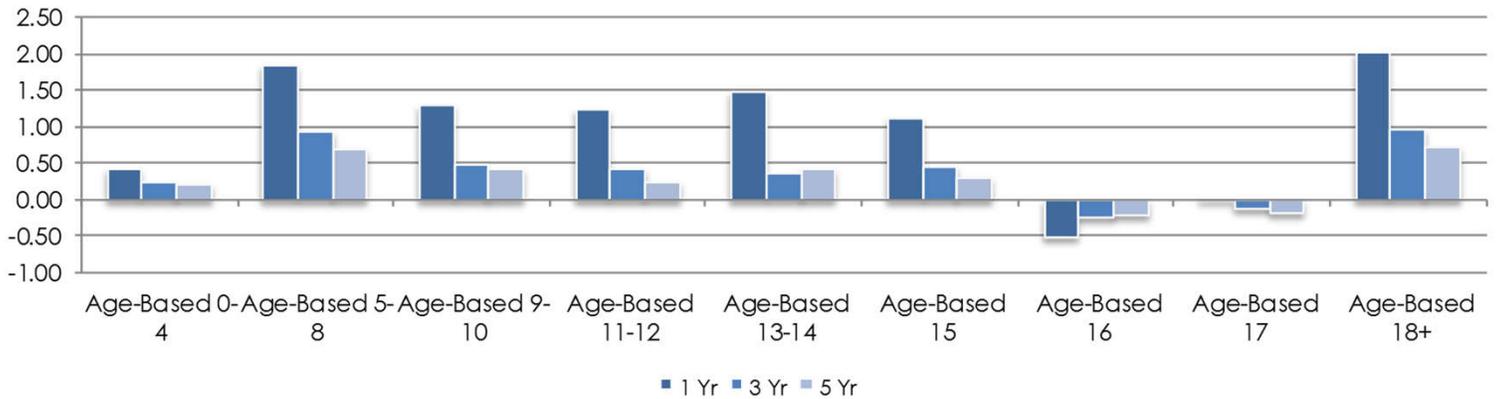
# SCHOLARSHARE AGE-BASED ATTRIBUTION

## ACTIVE AGE-BASED PORTFOLIO

Contribution to Return From Selection



Contribution to Return From Allocation



SECTION 6

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

**TO:** ScholarShare Investment Board (SIB)  
**FROM:** Eric White, Kay Ceserani, Meketa Investment Group (Meketa)  
**DATE:** March 19, 2020  
**RE:** Review of Underlying Funds Qualifying for “Watch” Status & Proposed Amendments to the Monitoring Procedures and Criteria

### Summary

Meketa 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 October 1, 2019, through December 31, 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 December 2019 SIB meeting, the SIB elected to keep the TIAA-CREF Social Choice Equity fund on “Watch” status and directed Meketa to bring options and a recommendation regarding the fund’s “Watch” status. **Meketa recommends that the SIB consider the three proposed options. Of the options Meketa recommends the SIB select option #1; to amend the investment performance criteria for the fund in order to account for the fund’s ESG focus and investment process.** This fund is discussed in more detail on the following pages.

### Performance of Funds on Watch Status As of 12/31/2019

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	30	(0.1%)

## Background

New Funds Qualifying for “Watch” Status: Meketa has conducted a review of the underlying funds in the ScholarShare College Savings Plan (see also the 4Q 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 December 31, 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 US 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 arm at MSCI, Inc.<sup>1</sup>, one of the two largest socially responsible investing research firms in the world. The MSCI team does most of the detailed Socially Responsible Investing (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

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<sup>1</sup> MSCI Inc. (formerly Morgan Stanley Capital International and MSCI Barra), is an American finance *company* headquartered in New York City. Their line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research.

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<sup>2</sup> 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 generated mixed results against its prospectus benchmark, the Russell 3000 Index, across the various time periods reported. The fund performed in line with its benchmark over the most recent quarter while it outperformed over the 1-year period. Over the trailing 3-year period, the fund performed in line with its benchmark while slightly trailing over the 5-year period and Since Addition to the program. 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.

### Trailing Performance Results, Net of Fees Ending December 31, 2019

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (12/2011)
TIAA-CREF Social Choice Equity	9.0	31.5	14.5	10.7	13.7
<i>Russell 3000 Index</i>	<i>9.1</i>	<i>31.0</i>	<i>14.6</i>	<i>11.2</i>	<i>14.6</i>
<b>Difference</b>	<b>(0.1)</b>	<b>0.5</b>	<b>(0.1)</b>	<b>(0.5)</b>	<b>(0.9)</b>
Percentile Rank*	40	29	40	37	46

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

<sup>2</sup> MSCI's analytic group that provides investment analytics and trading solutions.

The fund's results placed above the Large Cap Core peer median across all time periods measured and short-term results earned a the fund "Positive" status under the short-term criteria.

The fund earned a Morningstar Sustainability Rating of 'Above Average'. The above average sustainability markings are a sign that the fund has done a good job of adhering to ESG standards. The fund's Sustainability Score ranked in the top 25% of its category. The TIAA-CREF Social Choice Equity fund outperformed its custom peer group over all time periods measured.

Annualized Risk-Adjusted Performance				
	1-year	3-year	5-year	Since 12/2011
<b>TIAA-CREF Social Choice Equity</b>				
Return	31.5%	14.5%	10.7%	13.7%
Peer Group Percentile Rank*	28	36	30	44
<b>Custom Peer Group Median*</b>				
Return	29.4%	13.6%	10.0%	13.6%
<b>Russell 3000 Index</b>				
Return	31.0%	14.6%	11.2%	14.6%

\*87 funds as of 01/14/2020

Since being added to the Program in late 2011, on a calendar year basis, the fund has produced mixed results versus its benchmark over 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 three most recent calendar years (2017, 2018, and 2019), the fund performed roughly in-line with the benchmark and the peer group.

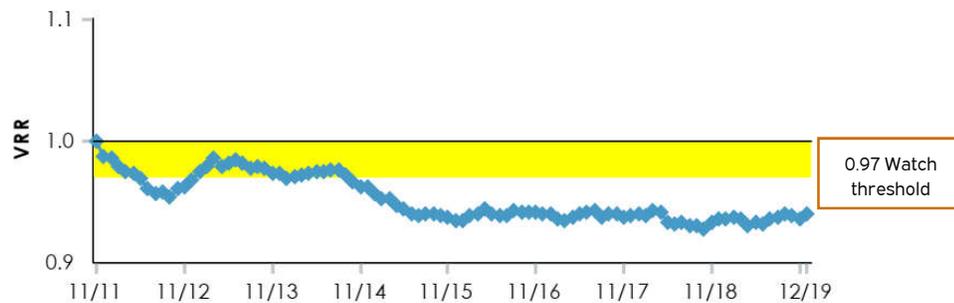
### Calendar Year Performance Results, Net of Fees Ending December 31, 2019

Fund	2013	2014	2015	2016	2017	2018	2019
TIAA-CREF Social Choice Equity	34.3	11.2	-2.4	13.5	20.9	(5.5)	31.5
Russell 3000 Index	33.6	12.6	0.5	12.7	21.1	(5.2)	31.0
<b>Difference</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>	<b>0.5</b>
Percentile Rank*	20	53	75	16	50	49	29

\*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 – 12/31/2019)



### Recommendation

Upon reviewing the performance of the TIAA-CREF Social Choice Equity fund, Meketa 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 ESG-focused investment philosophy.

At the December 2019 SIB meeting, Meketa presented three options for the SIB to consider relating to the TIAA-CREF Social Choice Equity fund's "Watch" status. The SIB elected to maintain the fund on "Watch" status and to discuss the different options and directed Meketa to bring the options back at the March 2020 SIB meeting with a recommendation for selection one of the three options.

Meketa suggests three options for the Board's consideration:

1. Alter the monitoring criteria for the fund so that criteria more closely align with the objectives of the fund. The Criteria currently used to monitor the fund focuses on relative performance and is silent on ESG considerations. As such, there is a mismatch between the fund's investment objectives and the criteria used to evaluate it. By changing the monitoring criteria to ones that align with the investment strategy the evaluation of the fund would become more straightforward and useful.
2. Remove the fund from the Program and replace with a similar ESG related fund. Given the fund's strong performance and low fees within the ESG peer universe, Meketa believes there is a low probability of selecting a superior ESG-oriented fund. As such, this option is not Meketa's preferred solution.

3. Remove the fund from Watch Status and note the qualification that an appropriate benchmark is not yet available. The fund would continue to be monitored closely and a footnote would be added stating that the fund remains below the long-term Watch criteria, but that the Board has elected to remove the fund from the formal Watch list.

Meketa recommends the SIB adopt option #1 as we believe it better aligns the evaluation of the fund with the objectives of the fund. We believe the recommendation is justified because the current Watch criteria are designed to monitor the performance of traditional active managers whereas the fund is designed to achieve a specific capital market exposure (to securities with strong ESG characteristics) and not to necessarily outperform a capitalization weighted benchmark. We recommend the monitoring criteria move from sole focus on relative return to a two part evaluation process incorporating an ESG evaluation as well as a relaxed relative return evaluation.

Meketa recommends the following criteria be used to monitor the fund. Please see attached Monitoring Procedures and Criteria :

1. The fund must earn a Morningstar Sustainability Rating of 'Above Average' or be placed on "Watch" status.
2. Meet the following relative return criteria:

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (> 60 months)
Social Choice	Fund return < bench return -5.0% for 6 consecutive months	Fund return < bench return -2.50% for 6 consecutive months	VRR < 0.9 for 6 consecutive months

**Meketa recommends that the SIB adopt proposed option #1 and modify the investment performance criteria to those listed above. The proposed criteria should better reflect the fund's investment strategy and role within the Plan.**

### Disclaimer:

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

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CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

# **Golden State ScholarShare College Savings Trust**

## **Monitoring Procedures and Criteria**

Effective as of ~~January 27, 2020~~March 19, 2020  
(Adopted by the ScholarShare Investment Board on ~~December 19, 2019~~March 19, 2020)

# Golden State ScholarShare College Savings Trust Monitoring Procedures and Criteria

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## I. BACKGROUND

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In 1996, Congress passed legislation establishing Internal Revenue Code Section 529 plans (college savings or 529 plans) to provide a tax-advantaged means to invest assets for higher educational purposes. California's program, the Golden State ScholarShare College Savings Trust (ScholarShare or Trust) was created in 1999 as a vehicle for California families<sup>1</sup> to save for college. Under federal law, participants in 529 plans cannot directly control investments, instead investments are held in state trusts.

As the administrator of the Trust, the ScholarShare Investment Board (SIB or the Board) directs investment and has a fiduciary responsibility for the assets invested by ScholarShare Participants. SIB's fiduciary duties require that it:

- set appropriate investment policies and procedures,
- monitor investment performance and investment related qualitative factors, such as changes in the Program Manager's investment strategy or key investment personnel, and
- take corrective actions, if necessary.

Specifically, these monitoring procedures enable SIB to monitor performance and help it achieve consistent long-term investment success for ScholarShare Participants. In addition, it provides SIB with a road map for action if it is not satisfied with specific aspects of a fund's activities and/or investment performance.

### **ScholarShare 529 Plan Investment Structure**

ScholarShare offers a Plan sold directly to the public. Participants in the Plan choose from passive investment portfolios and active investment portfolios.

The portfolios in the Plan were designed by SIB to give families a selection of investment choices based on their educational savings needs and risk tolerance. Investment portfolios are comprised of one or more federally registered mutual funds with the exception of the funding agreements with TIAA-CREF Life Insurance Company (T-C Life). The funding agreements with T-C Life (Funding Agreements) are used as a part of the Plan's active and passive enrollment date and conservative portfolios, and Principal Plus Interest Portfolio. All of the portfolios, their investment objectives, their mutual fund make up, and a list of mutual funds and their corresponding benchmarks, are outlined in the ScholarShare Investment Policy separate document.

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<sup>1</sup> All United States citizens may open accounts, not just those who reside in California

## II. MONITORING PROCEDURES

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The SIB's monitoring procedures are designed to provide qualitative and quantitative information to the Board on investment performance to aid it in making the best decisions on behalf of Trust participants. Specifically, the procedures outline what will be monitored, how it will be monitored, and when it will be monitored; what is acceptable and unacceptable performance; and how underperformance may be addressed.

There are two major groups of monitoring activities: Ongoing Monitoring and Periodic Monitoring.

### **Ongoing Monitoring Activities**

Ongoing monitoring activities include measurement and assessment of investment performance and related investment activities. The differences in the structures for individual fund portfolios and multi-fund portfolios require different monitoring procedures as outlined below. Both SIB's Program Manager and independent Investment Consultant will provide monitoring reports.

#### ***Portfolio Construction***

- *Individual Fund Portfolios Investment Performance*  
Performance of each individual fund portfolio (each portfolio is made up of a single fund) is monitored relative to its benchmarks for a specific time period. Monitoring criteria can be found in Section V., the Investment Performance Criteria Schedules.
- *Multi-Fund Portfolios (Enrollment Date, Static, etc.) Investment Performance*  
Performance monitoring of portfolios in the Plan containing multiple funds will occur at the underlying fund level. Each underlying fund will have its performance compared to its primary prospectus benchmark. Specific monitoring criteria for each underlying fund can be found in Section V., the Investment Performance Criteria Schedules.

#### ***Quarterly Investment Performance Review by Program Manager***

As part of the ongoing reporting process, the Program Manager will report calendar quarter and trailing annualized performance of the funds to the SIB staff (Staff) and the Investment Consultant on a quarterly basis. The Program Manager will also provide to the Staff quarterly performance reports for each portfolio used by the Trust and each fund against its respective benchmark. In addition, the Program Manager is responsible for providing: i) an explanation of investment activities that caused under- or outperformance each quarter, ii) any major changes in investment related to personnel, organization and/or investment approach/strategy, and iii) any other reporting as required by law.

#### ***Quarterly Investment Performance Evaluation by Independent Investment Consultant***

Using monthly data provided by Morningstar, the Investment Consultant will provide a quarterly report for the Board comparing each underlying fund with its respective benchmark according to the investment performance criteria found in the Section V., the Investment Performance Criteria Schedules.<sup>2</sup> The quarterly monitoring report compares each underlying fund to a benchmark (see ScholarShare Investment Policy for funds and their benchmarks). Performance for each underlying fund is then categorized as Positive, Acceptable, Caution, or Watch using the criteria listed in the Investment Status Schedule.

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<sup>2</sup> Performance numbers are net of underlying mutual fund fees (not net of the SIB Administrative Fee or Program Manager Fee).

### ***Quarterly Monitoring of the T-C Life Funding Agreements (Active and Passive Enrollment Date and Conservative Portfolios and the Principal Plus Interest Portfolio)***

In addition to the quarterly investment performance evaluation, the Investment Consultant will include a summary of the health of the T-C Life General Account (General Account). Monitoring of the T-C Life Funding Agreements is based on the financial strength of the General Account, and not investment performance results relative to a stated benchmark. The Investment Consultant will gather information provided by T-C Life of the characteristics of the General Account in order to assess the firm's claims-paying abilities. Analysis of the information provided by T-C Life is subject to its availability, and may be lagged by one quarter. This review is based on the following:

- General Account Financial Strength Rating by the four rating agencies: Moody's Investors Service, Standard & Poor's, A.M. Best, and Fitch.
- Status of the Mortgage Portfolio: In Good Standing, In Good Standing with Restructured Terms, 90 days Overdue, or Foreclosure in Process.
- Bond Portfolio Grade: Investment Grade, Medium Grade, and High Yield.
- Account Diversification: Diversified across asset classes.

The Investment Consultant will monitor changes to any of the categories listed above. Should these changes be deemed significant, the Investment Consultant will provide the SIB with a memo detailing its findings and applying an investment status of Positive, Acceptable, Caution, or Watch.

### **Periodic Monitoring Activities**

As part of its ongoing fiduciary responsibilities, the SIB and Investment Consultant should regularly (annually or more often if needed) review several qualitative aspects of the Program Manager's practices.

Key factors include, but are not limited to a review of:

- Fund investment guidelines to ensure they are consistent with the SIB's mandate for the fund.
- Fund investment strategy and style, especially the buy/sell disciplines.
- Portfolio activity, specifically the turnover rate, number of holdings, and execution costs.
- Risk profile relative to the fund's benchmark.
- Organizational structure.
- Stability of fund personnel and organization.
- Contractual obligations to the SIB.
- Multi-fund portfolios against an appropriate custom asset-weighted benchmark.
- Efficacy of active versus passive management in the enrollment date portfolios.

### III. INVESTMENT STATUS

The quarterly investment reports provided by the Investment Consultant will rate all underlying funds as Positive, Acceptable, Caution or Watch (see Investment Status Schedule). These ratings will serve to summarize performance for each fund.

#### Investment Status Schedule

Performance Category	Active Funds	Passive Funds
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>3</sup> (short, medium and long time periods)</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>▪ Performance meets or is under the benchmark and is within the allowable range</li> </ul>	<ul style="list-style-type: none"> <li>▪ Performance does not exceed the benchmark but is within the allowable range (first 1-12 month period only)</li> </ul>
Caution	<ul style="list-style-type: none"> <li>▪ Performance is below allowable range but either:               <ul style="list-style-type: none"> <li>i) for less than six consecutive months<sup>4</sup>,</li> <li>or</li> <li>ii) the Board has not taken (or decided not to take) a formal action to place the underlying fund on Watch even though performance has been below allowable range for six months or longer.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Tracking error falls outside of the allowable range but either               <ul style="list-style-type: none"> <li>i) for less than six consecutive months,</li> <li>or</li> <li>ii) the Board has not voted to place the underlying fund on Watch</li> </ul> </li> </ul>
Watch <sup>4</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 underlying 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 underlying fund on Watch.</li> </ul>

*Note: This chart addresses investment performance only. It is conceivable that the Investment Consultant, Staff and the Board may need to take into consideration qualitative factors (either positive or negative) when determining the status of a fund. Monitoring criteria and ranges shall be reviewed on an ad hoc basis to confirm their appropriateness based on prevailing market dynamics and conditions.*

If an underlying fund meets the criteria in the Investment Status Schedule for Caution, SIB may choose to place the underlying fund on Watch if performance does not improve. At a subsequent SIB meeting, the Investment Consultant and Staff will apprise the Board as to whether quantitative (see Section V., the Investment Performance Criteria Schedules) and/or qualitative conditions (as determined by the

<sup>3</sup> Ranges are shown in the Investment Performance Criteria Schedules

<sup>4</sup> The amount of time generally required before an underlying fund is put on Watch

Investment Consultant which may include changes in investment strategy, changes in key personnel, changes in risk/capital market exposure or other risks identified by the Investment Consultant) warrant further action. If conditions are not improving, the Investment Consultant will provide a memo explaining the causes of underperformance and will make a recommendation whether or not to put the underlying fund on Watch.

### **Watch Status**

Once the Board receives the report and recommendation, it may decide to take no action or it may vote to place the underlying fund on Watch. In making this decision, the Board may use quantitative or qualitative information or a combination of both. Once on Watch, the underlying fund will receive heightened monitoring. Specifically, the Program Manager will provide a quarterly report explaining causes of underperformance or improvement. Additionally, the Investment Consultant and Staff will monitor the underlying fund carefully and provide additional reports as necessary. This heightened level of monitoring continues quarter-by-quarter until the Board releases the underlying fund from Watch or takes other corrective actions.

Generally, once an underlying fund is placed on Watch, it should be able to exhibit improvement within a time frame of 12 to 18 months. However, extenuating circumstances may require the Board to take action sooner (or later) than 12 to 18 months. Regardless, an underlying fund will remain on Watch until the Board votes to release it or take further action.

### **Improvement Occurs – Release from Watch**

If an underlying fund shows indications of improvement in one or more of the factors that caused it to be placed on Watch, it may be released from Watch. Examples of improvements warranting a change in status are:

- Improved investment performance.
- Investment style and/or risk characteristics return to, and remain at, levels originally agreed upon.
- Other factors such as organizational structure stabilizes, personnel adjustments, compliance requirements, etc. are met/satisfied.

The Investment Consultant and Staff will provide regular reports to the Board on any underlying fund on Watch. These reports will highlight the original reasons for placing the underlying fund on Watch and discuss how these issues have been addressed. If improvement occurs in an appropriate amount of time (generally 12 to 18 months) the Investment Consultant may make a recommendation to the Board to release the underlying fund from Watch, and the Board may vote to approve this recommendation or not.

### **TIAA-CREF Life Insurance Company Funding Agreements**

Applying an investment status to the T-C Life Funding Agreements is based on different criteria than those applied to underlying funds. Given that the monitoring of the T-C Life Funding Agreements is based on non-performance related issues, different criteria must apply to measure improvement during Watch. If Caution or Watch applies, the Investment Consultant will provide regular updates to the Staff until such time that improvement is noted (typically a 12 to 18 month period) in the characteristics that caused the T-C Life Funding Agreements to be placed on Caution or Watch.

## **IV. CORRECTIVE MEASURES**

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### **Improvement Does Not Occur – Corrective Measures**

If an underlying fund is not released from Watch within an appropriate period (generally 12 to 18 months), corrective action may be necessary. Differences in structural make up between the individual fund portfolios and the multi-fund portfolios means that corrective action will take different forms as explained below.

#### ***Individual and Multi-Fund Portfolios***

If the quantitative and/or qualitative performance of an individual fund or multi-fund portfolio does not improve, the Investment Consultant will conduct an analysis and provide the Board with options and a recommendation for action. Options include:

- Giving the fund more time,
- Closing it to new investment, or
- Replacing it (replacement specifics are outlined below).

For individual fund portfolios, the Board should take into consideration that Trust participants (and their advisors) have specifically chosen the individual fund (it is not just a part of the portfolio's asset allocation) and may want to give it ample time to improve or close it to new investment before considering replacing it. If the Board decides that funds must be replaced, either in an individual fund or multi-fund portfolio, the process is outlined below.

#### ***T-C Life Funding Agreements***

If no improvement is seen in the characteristics of the T-C Life Funding Agreements related to those characteristics that caused Caution or Watch status, the Investment Consultant may recommend that the SIB replace the T-C Life Funding Agreements with other options. While it is recognized that replacing the T-C Life Funding Agreements may be difficult, the Investment Consultant and Staff will work to provide a solution that is feasible given the nature of the underlying funding agreement.

### **Fund Replacement**

The SIB may replace funds on Watch as part of its fiduciary responsibility to monitor and take corrective action if required. The Investment Consultant will provide a memo on whether fund replacement should be considered and if so which funds may be suitable replacements<sup>5</sup>. The "Standard Timeframe" below shall be followed for funds currently on Watch, except when immediate action is necessary as provided under "Expedited Timeframe" below.

#### ***Standard Timeframe - Funds Currently on Watch***

If fund replacement is necessary for funds currently on Watch, SIB may consider funds that are offered by the Program Manager or an affiliated entity that are appropriate substitutes for the current fund(s). The Investment Consultant may also recommend that the SIB consider having:

- the Program Manager subcontract with an affiliated or non-affiliated entity to provide fund management services, subject to SIB approval; or
- the issuance of a Request For Proposals for fund management services by a third-party provider not affiliated with the Program Manager.

The Program Manager will work collaboratively with the Investment Consultant to provide the Board with one or more recommended replacement funds, which may include funds offered by the Program Manager or funds offered by an alternative fund manager. The Investment Consultant will also provide the Board with a memo expressing its opinion of the Program Manager's recommendation.

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<sup>5</sup> As stated above, SIB may want to act cautiously when considering whether or not to replace a fund that is the only fund in an individual fund portfolio since participants (and their advisors) have specifically chosen it.

For individual fund portfolios, if the Board determines that a fund warrants replacement, the Board should consider closing the individual fund portfolio to new investments and notify participants (and their advisors) of the planned action prior to implementation. Sufficient time (two to four months) between announcement and implementation should exist in order to allow participants sufficient time to assess the planned change and determine whether to participate in the change or move the assets to a substitute investment. This process enables the Board to exercise its fiduciary duties and still allow participants (and advisors) the ability to move their assets where they deem most appropriate.

For multi-fund portfolios, if the Board determines that a fund warrants replacement, it should work with the Program Manager on a case-by-case basis to consider removal of the fund from the portfolio's fund allocation. A new investment in a multi-fund portfolio must have more competitive performance characteristics than the fund that is being replaced while also maintaining (or enhancing) the integrity and expected results of the asset allocation processes used to construct the portfolio.

All of the above actions require Board approval.

Any new investments shall be closely monitored for an appropriate period of time as determined by the Investment Consultant and may be recommended for placement on Watch for further monitoring.

***Expedited Timeframe - Funds Currently on Watch Requiring Immediate Action***

In the event of unusual or precarious market movements or unforeseen circumstances (such as wholesale change in fund management, rapid deterioration in performance or portfolio composition, material unforeseen factors, etc.) where immediate fund replacement or corrective action may be necessary, as determined by the Investment Consultant, the Board may replace a fund or take corrective action. To expedite the process, SIB should first consider funds that are offered by the Program Manager or an affiliated entity that are appropriate substitutes for the current fund(s). If an appropriate substitute cannot be found from the Program Manager's or affiliated entity's existing fund offerings, then the Investment Consultant may recommend that the SIB consider having:

- the Program Manager subcontract with an affiliated or non-affiliated entity to provide fund management services, subject to SIB approval; or
- the issuance of a Request For Proposals for fund management services by a third-party provider not affiliated with the Program Manager.

If the Board determines that a fund must be removed, the Board should work with the Program Manager to consider removal of the fund from the portfolio's fund allocation. A new investment in a portfolio must maintain or enhance the integrity and expected results of the asset allocation processes used to construct the portfolio while removing the idiosyncratic risk of the fund being replaced.

All of the above actions require Board approval and the Board may delegate by formal action its authority to the Executive Director of SIB or the Chair of SIB, who may authorize a designee to act in his stead.

Any new investments shall be closely monitored for an appropriate period of time as determined by the Investment Consultant and may be recommended for placement on Watch for further monitoring.

As part of the review process, a full screening of the fund universe should be conducted by the Program Manager, in collaboration with the Investment Consultant, in which the Program Manager will provide the Board with one or more recommended alternative funds, which may include funds managed by an alternative fund manager in addition to funds offered by the Program Manager. The Investment Consultant will also provide the Board with a memo expressing its opinion of the Program Manager's recommendation. The Board may elect to remain invested in the Program Manager fund or move the assets to one of the alternative funds.

**Overall Assessment of Program Manager's Investment Services**

The SIB may determine that the Program Manager's overall investment services are unsatisfactory due to either quantitative reasons (sustained poor performance at the asset class and/or fund level) or qualitative reasons (See Definitions of Important Terms). General guidelines regarding the Program Manager's overall investment performance are outlined in Section 6 of the existing contract between SIB and the Program Manager (Agreement No. SIB 15-10).

## V. INVESTMENT PERFORMANCE CRITERIA SCHEDULES

**Table 1a: Actively Managed Funds**  
(Based on net-of-fee asset class performance)

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

<sup>1st</sup> 1-12 month performance criteria is not annualized; all other criteria is on an annualized basis.

Annualized return is the average annual return of either the fund or its benchmark.

VRR – Value Relative Ratio – is calculated as: fund cumulative return / benchmark cumulative return.

<u>Fund</u>	<u>Asset Class</u>	<u>Benchmark</u>
T. Rowe Price Instl LC Growth	Domestic Equity	Russell 1000 Growth TR USD
T. Rowe Price Instl LC Value	Domestic Equity	Russell 1000 Value TR USD
TIAA-CREF Small Cap Equity	Domestic Equity	Russell 2000 TR USD
<del>TIAA-CREF Social Choice Equity</del>	<del>Domestic Equity</del>	<del>Russell 3000 TR USD</del>
TIAA-CREF Real Estate Sec	Domestic Equity	FTSE NAREIT All Equity REITs TR
DFA Large Cap International	International Equity	MSCI World Ex US NR USD
DFA Emerg Mkts Core Equity	International Equity	MSCI EM NR USD
PIMCO Real Return	Fixed Income	BarCap US Trsy US TIPS TR USD
PIMCO Income Instl	Fixed Income	BarCap US Agg Bond TR USD
MetWest Total Return	Fixed Income	BC US Agg Bond TR USD
TIAA-CREF Inflation-Linked Bond	Fixed Income	BarCap US TIPS 1-10 Year TR USD
T. Rowe Price Instl Floating Rate	High Yield	S&P/LSTA Performing Loan TR
TIAA-CREF High Yield	High Yield	BofAML US HY C Pay BB-B Constd TR USD

**Table 1b: Passively Managed Funds**  
(Based on net-of-fee asset class performance)

<b>Asset Class</b>	<b>Short-Term (rolling 12-month periods)</b>	<b>Medium-term (rolling 36-month periods)</b>	<b>Long-term (rolling 60-month periods)</b>
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

<sup>1st</sup> 1-12 month performance criteria is not annualized; all other criteria is on an annualized basis.  
Annualized return is the average annual return of either the fund or its benchmark.  
VRR – Value Relative Ratio – is calculated as: fund cumulative return / benchmark cumulative return.

\* TIAA-CREF utilizes “fair market value” adjustment procedures for the TIAA-CREF International Equity Index Fund and TIAA-CREF Emerging Markets Equity Index Fund (the Funds). This adjustment increases or decreases the Funds’ actual closing price to compensate for pricing differences between international markets. This procedure can create an artificially high tracking error. Monitoring of the Funds takes this into account and corrects for it where data is available. TIAA-CREF has chosen to implement certain socially responsible investment policies including divesting from companies with major operations in the Sudan. Divesting from companies within the tracking index will create some degree of tracking error. If such divestitures cause tracking error to exceed the monitoring criteria, it is TIAA-CREF’s responsibility to notify SIB and the investment consultant and to quantify the extent to which the divestitures added to tracking error.

<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 Intl Equity Index	International Equity	MSCI EAFE NR USD
TIAA-CREF Emerg Mkts Eq Index	International Equity	MSCI EM NR USD
TIAA-CREF Bond Index	Fixed Income	BarCap US Agg Bond TR USD

**Table 1c: T-C Life Funding Agreements**  
(Based on non-investment performance criteria)

<b>Fund Name</b>	<b>Financial Strength</b>	<b>Mortgage Portfolio</b>	<b>Bond Portfolio</b>	<b>Account Diversification</b>
T-C Life Funding Agreement	Moody’s = Aa2 Standard & Poor’s = AA A.M. Best = A+ Fitch = AA	100% in Good Standing	At least 90% Investment Grade	Portfolio is diversified across asset classes and types

**Monitor:** T-C Life Funding Agreements

**Table 1d: Social Choice Fund**  
 (Based on net-of-fee asset class performance)

<u>Asset Class</u>	<u>Short-Term (rolling 12-month periods)</u>	<u>Medium-term (rolling 36-month periods)</u>	<u>Long-term (&gt; 60 months)</u>	<u>Morningstar Sustainability Rating</u>
Social Choice	Fund return < bench return -5.0% for 6 consecutive months	Fund return < bench return -2.5% for 6 consecutive months	VRR < 0.90 for 6 consecutive months	Above Average

1<sup>st</sup> 1-12 month performance criteria is not annualized; all other criteria is on an annualized basis.

Annualized return is the average annual return of either the fund or its benchmark.

VRR – Value Relative Ratio – is calculated as: fund cumulative return / benchmark cumulative return.

<u>Fund</u>	<u>Asset Class</u>	<u>Benchmark</u>
TIAA-CREF Social Choice Equity	Domestic Equity	Russell 3000 TR USD

## VI. DEFINITIONS OF IMPORTANT TERMS

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### A

**Active Management** – a money-management approach based on informed, independent investment judgment that seeks to add incremental value to that of a benchmark.

**American Depositary Receipt (ADR)** - A negotiable certificate issued by a U.S. bank representing a specific number of shares of a foreign stock traded on a U.S. stock exchange.

**Annualized Performance** – a measure that converts total cumulative performance into an annual average return. Industry practice is to compute the average annual return by compounding monthly return and then computing the geometric mean return.

**Asset Allocation** – the process of dividing investments among different kinds of assets, such as stocks, bonds, real estate, and cash, to optimize the risk/reward tradeoff based on an institution's specific situation and goals.

**Asset Class** – a type of investment, such as stocks, bonds, real estate, or cash, specifically:

- **Domestic Equity** - Ownership interests in U.S.-based corporations in the form of common stock or preferred stock. Domestic equity may include some limited exposure to real estate (REITs) and international stocks (ADRs) as listed on major U.S. stock market exchanges.
- **International Equity** - Ownership interests in non U.S.-based corporations in the form of common stock or preferred stock. International equity may include some limited exposure to global stocks (those involving more than one country, including the U.S.), emerging markets stocks, or other investment offerings as listed on major non-U.S. stock market exchanges.
- **Fixed Income** - Medium and long-term debt obligations of government, government sponsored entities, corporations, and/or other assets that pay a fixed dollar amount. Fixed income may include some limited exposure to structured and synthetic investments such as options and swaps.
- **High Yield** - A fixed income instrument that pays (yields) a higher rate of income (interest) than otherwise equivalent debt due to an increase in risk (such as a higher level of credit/default risk on a corporate bond). Generally, high yield bonds are considered to be those rated 'BB' or lower by one or more of the major rating agencies. High yield investments also include Leveraged Loans which pay a floating rate of interest and are senior to bonds in the capital structure.
- **Short Term** - A fixed income instrument that will expire within a relatively short time frame (often considered to be one year or less). Short Term bonds are highly conservative investments that can be liquidated quickly.

## B

**Barclay's Capital Intermediate Government/Credit Index** – a market value weighted performance benchmark for government and corporate fixed-rate debt issues with maturities between one and ten years.

**Barclay's Capital U.S. Aggregate Bond Index** – an unmanaged index generally representative of the U.S. investment grade fixed income universe. The index includes treasury securities, government agency bonds, mortgage-backed bonds, corporate bonds, and a small amount of foreign bonds traded in U.S.

**Barclay's Capital U.S. TIPS Index** – an unmanaged index generally representative of the U.S. inflation-indexed fixed-income universe.

**Barclay's Capital U.S. TIPS 1-10 Year Index** – an unmanaged index consisting of U.S. Treasury inflation-indexed bonds with maturities between 1 and 10 years.

**Barclay's Capital U.S. Treasuries 5-10 Year Index** – an unmanaged index consisting of U.S. Treasury bonds with maturities between 5 and 10 years.

**Benchmark** – a standard used for comparison. For example, the S&P 500 is a widely used benchmark thought to be representative of the domestic stock market as a whole.

**Benchmark Annualized Return** – the conversion of a benchmark's (e.g. S&P 500) cumulative gain or loss activity into an average annual return.

In the case of a contract, an agreement with the contracting entity can include agreements with a third-party to provide services. All of the terms under the signed contract typically apply to all the services provided by the multiple parties or service provider.

**BofAML US HY C Pay BB-B Index** – is an unmanaged index comprised of publicly placed, non-convertible, coupon bearing domestic debt. Issues in the index are less than investment grade as rated by Standard & Poor's Ratings Group or Moody's Investors Service, Inc., and must not be in default. The index focused on higher rated high yield securities. The index is limited to constituents possessing either a BB or B rating.

**Buy/Sell Disciplines** – describes under what conditions, and how frequently, a security is to be bought and sold.

## C

**Composite** – a combination or group of select securities.

## D

**Direct Plan** – a plan sold through which participants can invest without paying a "load," or sales fee. This type of plan, which you can buy directly from the program manager without the assistance of a broker, is generally less expensive because it waives or does not charge sales fees that may apply to advisor-sold plans.

**Diversified Approach** – a portfolio strategy designed to reduce exposure to risk by combining a variety of investments, such as stocks, bonds, and real estate, which are unlikely to all move in the same direction.

**Domestic Equity** – see Asset class for description.

**Dow Jones Wilshire 5000 Index** – a market capitalization-weighted index composed of approximately 5,000 publicly-traded companies that is designed to track performance of the U.S. stock markets.

## E

**Execution Costs** – the costs associated with completing a buy or sell of an asset or investment.

**Externally Managed Mutual Funds** – a portfolio of investments managed by a third party, outside of the Trust, for a stated fee.

## F

**FID Strategic Income Composite (Blended Benchmark)** – consists of 40% Merrill Lynch US High Yield Constrained Index, 15% Citigroup Non-US G7 Index, 30% Barclay's Capital U.S. Government Bond Index, and 15% J.P. Morgan EMBI Global Index.

**Fiduciary Responsibility** – a legal authority and ethical duty to make decisions regarding financial matters on behalf of another party

**Fixed Income** – see Asset class for description.

**FTSE NAREIT All Equity REITs Index** – is a free float adjusted market capitalization weighted index that includes all tax qualified REITs listed in the NYSE, AMEX, and NASDAQ National Market.

**Fund (or Mutual Fund)** – an investment portfolio that is managed by an external professional investment management firm. A mutual fund is typically highly diversified (after taking into account the investment firm’s unique philosophy and approach) and includes investments on behalf of many share or unit holders. Mutual funds are “regulated investment companies” registered with the Securities and Exchange Commission.

**Fund Annualized return** – the conversion of a fund’s cumulative gain or loss activity into an average annual return.

**Fund Review** – a review of a mutual fund’s performance describing how the fund may be failing to meet specific criteria. This document is typically produced when a fund is placed on watch status.

## H

**High Yield** – see Asset class for description.

## I

**Investment Approach/Strategy** – the method employed by the mutual fund to achieve its stated added value quantitative.

**Investment Guidelines** – a list of requirements and criteria agreed upon by the fund and its client to achieve the portfolio’s investment quantitatives. Such guidelines can include items such as (i) the types of asset to be employed, (ii) the maximum amount of exposure to any one security, (iii) maximum or minimum percentages of each type of asset, etc.

**Investment Manager or Investment Management Firm** – an organization responsible for investing assets on behalf of clients.

**Investment Options** – see Section I., Background for description.

**Investment Performance** – the gain or loss of a mutual fund, typically described in percentage terms.

**Investment Performance Criteria** – pre-determined expectations set for the fund, which are used to evaluate whether the fund is meeting its investment performance quantitative.

**Investment Risk** – the volatility of an investment’s performance, with emphasis on the measurable possibility of an investment losing, or not gaining value.

**Investment Style** – a philosophy or approach of investing typically held by a broad group of investors (i.e., growth investors, value investors, etc.).

**International Equity** – see Asset class for description

## M

**Management Fees** – the fee charged by a fund’s investment advisor for managing the fund.

**Merrill Lynch U.S. High Yield Master II Index** – an unmanaged index comprised of publicly placed, non-convertible, coupon bearing domestic debt. Issues in the index are less than investment grade as rated by Standard & Poor’s Ratings Group or Moody’s Investors Service, Inc., and must not be in default. Issues have a term to maturity of at least one year.

**MSCI All Country World (ACWI) xUS Index** – an equity performance measurement by Morgan Stanley Capital International of developed markets (Europe, Australia, Far East) and emerging markets excluding the U.S.

**MSCI Emerging Markets (EM) Index** – is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. The index consists of the following 21 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

**MSCI USA IMI ESG Index** – formerly the FTSE KLD US All Cap Sustainability Index. This benchmark, developed by Morgan Stanley Capital International (MSCI), holds companies with the highest environmental, social and governance (ESG) criteria in each sector of the U.S. equity market.

**Multi-fund Options** – investment options comprised of more than one individual fund.

## O

**Ongoing Monitoring** – continual (quarterly) evaluation of the qualitative and investment performance aspects of a funds' management and practices to determine their ability to continue to add value and meet pre-established criteria.

**Options** – a privilege sold by one party to another that offers the buyer the right, but not the obligation, to buy (call) or sell (put) a security at an agreed-upon price during a certain period of time or on a specific date.

**Organizational Structure** – a description of a fund's business-related characteristics such as personnel and team structure as well as its decision-making hierarchy.

**Outperformance** – when the result of activities of an investment over a given period of time exceeds expectations (i.e. the result of a growth-oriented fund is better than an assigned benchmark such as the Russell 3000 Growth Index).

## P

**Participants** – individuals electing to take part in the Trust's investment program by contributing assets to the investment options provided by the Trust.

**Passive Management** – a money-management approach that seeks to match the return and risk characteristics of a market or benchmark.

**Periodic Monitoring** – regular (annually, semi-annually) evaluation of the qualitative aspects of a fund's management and practices to determine if they meet pre-established criteria.

**Portfolios** – a stand alone (individual) investment or a collection of multiple investments. In most cases, these investments are mutual funds but may be separate accounts, such as the Social Choice portfolio. One or more portfolios may also represent an asset class. The term 'Portfolio' is also used to describe various participant options..

**Program Manager Fee** – the fee charged by the program administrator.

## Q

**Qualitative Considerations** – factors taken into account when assessing the Program Manager's overall performance in providing investment management services.

**Quantitative Considerations** – factors taken into account when assessing the Program Manager's overall investment performance.

**Quarterly** – a three-month period within one year (typically ending on 3/31, 6/30, 9/30, 12/31).

**Quarterly Performance** – the result of investment activities within a three-month period.

## R

**Rolling Periods** – specific time periods that are selected to include a finite amount of days, months, quarters, or years in which as the next unit (i.e. day) is entered, the earliest one from the past set is dropped retaining the finite number.

**Russell 1000 Index** – measures the performance of the 1,000 largest companies in the Russell 3000 Index.

**Russell 2000 Index** – measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

**Russell 3000 Index** – measures the performance of the 3,000 largest U.S. companies based on total market capitalization, which as of June 2011 reconstitution represented approximately 98% of the investable U.S. equity market.

**Russell 3000 Growth Index** – measures the performance of those Russell 3000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 3000 Value Index** – measures the performance of those Russell 3000 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell Mid Cap Index** – measures the performance of the smallest 800 companies in the Russell 1000 Index.

**Russell Mid Value Index** – measures the performance of those Russell Mid Cap companies with lower price-to-book ratios and lower forecasted growth rates.

## S

**S&P 500 Index** – a performance measurement of the stocks of 500 high quality companies as judged by the Standard & Poor's corporation. This index is widely used and thought to be representative of the entire U.S. stock market.

**S&P/LSTA Performing Loan Index** – an index designed to reflect the largest loan facilities in the leveraged loan market. It mirrors the market-value-weighted performance of the 100 largest institutional leveraged loans based upon actual market weightings, spreads and interest payments.

**S&P Mid Cap 400 Index** – a market capitalization-weighted index composed of 400 stocks, including reinvestment of dividends that is generally considered representative of mid-sized U.S. companies.

**Short term** – see Asset class for description.

**Stand Alone Fund** – an individual mutual fund that represents an entire offering as part of the program's investment options.

**Status Report** – a quarterly evaluation of a fund's performance while designated as being on Watch. This report reviews the reason for the fund being on Watch, for how long, and if the fund is addressing the issues pertaining to Watch.

**Structured Security** – a debt security with one or more special features, such as making payments based on an underlying index.

**Style** – a behavior of portfolio returns caused by an investment manager's investment philosophy and portfolio construction processes.

**Synthetic Security** – a security that is artificially created involving two or more instruments that has the same risk-reward profile as a strategy involving only one instrument.

**Swaps** – the exchange of one security for another to change the maturity (bonds), quality of issues (stocks or bonds), or because investment quantitatives have changed.

## T

**T-C Life Funding Agreements** – TIAA-CREF Life Insurance Company (T-C Life) investment portfolio which supports the various guaranteed fixed annuities. The General Account primarily invests in corporate and government bonds, structured finance instruments (such as mortgage-backed securities) and real estate.

**Three-Month T-Bill** – the 3-month T-Bill is an index that is typically constructed using a single issue U.S. Treasury purchased at the beginning of the month and held for a full month. Each month the index is rebalanced and the issue selected is the outstanding Treasury Bill that matures closest to, but not beyond, 3 months from the rebalancing date.

**Tracking Error** – the amount by which the performance of the portfolio typically differs (either plus or minus) from that of the benchmark.

## U

**Underlying Funds** – a set (two or more) of mutual funds that together comprise an offering as part of the program's investment options.

**Underperformance** – when the result of activities of an investment over a given period of time falls short of expectations (e.g. the result of a typical equity portfolio is lower than an assigned benchmark).

## V

**Value Relative Ratio** – a measure of a mutual fund's effectiveness by comparing a fund's return data to the specified benchmark. Calculated as "Fund Cumulative Return/Benchmark Cumulative Return."

## W

**Watch** – a condition assigned to a fund indicating that the fund's investment performance or other qualitative factors do not meet pre-determined criteria. This status allows time for the fund to take corrective action before being terminated.