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**OCTOBER 16, 2023**

**AGENDA ITEM 8  
INFORMATION ITEM**

**SCHOLARSHARE INVESTMENT BOARD**

*Review and Analysis of Investment Performance for ScholarShare 529*

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***Background***

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

In this item, SIB will review and discuss the “Investment Performance Report” (Exhibit A) for the Plan for second quarter 2023, provided by TIAA-CREF Tuition Financing, Inc., and the “Investment Performance Status Report” (Exhibit B) for second quarter 2023, 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,” or “caution.”

For the second quarter of 2023:

- 11 underlying funds were in the “positive” status,
- Eight (8) underlying funds were in the “acceptable” status, and
- Four (4) underlying funds were in the “caution” status (one of which is on “watch” status).

As outlined in Meketa’s memo (Exhibit C),

- One (1) fund, the T. Rowe Price Institutional Large Cap Growth Fund, remains on “watch” status;
- One (1) fund, the TIAA-CREF Emerging Markets Equity Index Fund, qualifies for “watch” status, however, Meketa is not recommending it be placed on “watch” status due to explanation included in its memo dated March 16, 2022, and presented at the March 23, 2022 Board meeting; and
- One (1) fund, the TIAA-CREF International Equity Index Fund (“Fund”), qualifies for “watch” status in second quarter 2023, however, Meketa is not recommending the Fund be placed on “watch” status due to a spike in tracking error caused by a larger than typical impact adjustment, and recommends the Fund to be reassessed at the next Board meeting when reviewing the Plan’s investment performance for third quarter 2023.

***Presenters***

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

Jordan Jones, Investment Analyst, TIAA-CREF Tuition Financing, Inc.

Kay Ceserani, Managing Principal / Consultant, Meketa Investment Group, Inc.



TIAA-CREF Tuition Financing, Inc.

# Quarterly Investment Performance Report

## 2nd Quarter 2023

**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.



# Market Overview: Q2 2023

## Key Themes

- U.S. equities posted positive returns during the second quarter as the market continued to produce strong returns driven by large cap technology stocks. The Russell 3000 Index gained 8.39% in the second quarter.

## Equities

- Eight out of eleven GIC sectors in the S&P 500 produced positive returns in the second quarter. Technology was the strongest performer, while Utilities declined the most.

## Fixed Income

- The U.S. Federal Reserve raised its target range for the Fed Funds Rate by 25 basis points in May, followed by a pause at its June meeting. Treasury yields rose across the curve during the quarter, while the 2 year-10 year yield curve remained inverted. The Bloomberg U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds declined 0.84% during the second quarter.

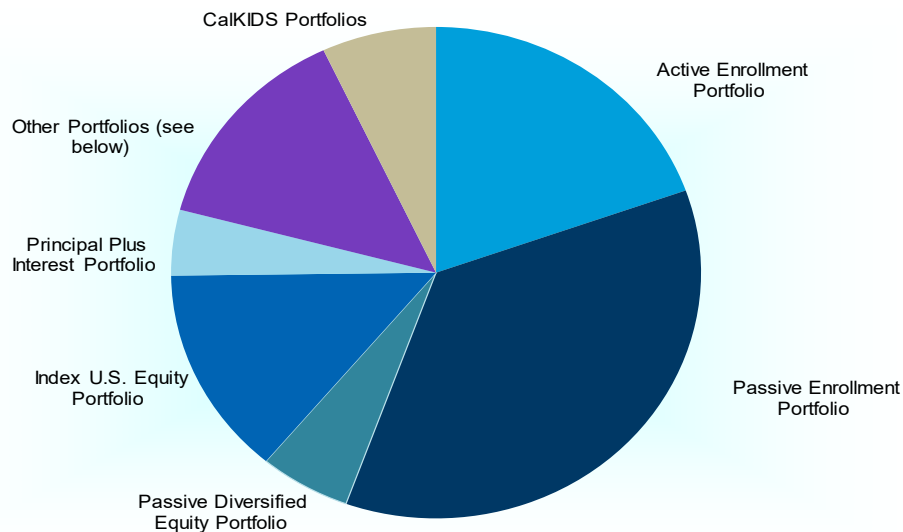
Past performance is not indicative of future results. You can not invest directly in an index. U.S. Equities – Russell 3000 Index; U.S. Growth Stocks – Russell 1000 Growth Index; U.S. Value Stocks – Russell 1000 Value Index; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small-Cap Stocks – Russell 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; 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.  
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Asset Class	3 Month	1 Year	3 Year	5 Year
U.S. Equities	8.39	18.95	13.89	11.39
U.S. Growth Stocks	12.81	27.11	13.73	15.14
U.S. Value Stocks	4.07	11.54	14.30	8.11
U.S. Mid-Cap Stocks	4.76	14.92	12.50	8.46
U.S. Small-Cap Stocks	5.21	12.31	10.82	4.21
Int'l Developed Stocks	2.95	18.77	8.93	4.39
Emerging Markets Stocks	0.90	1.75	2.32	0.93
Real Estate Stocks	1.20	-4.39	6.12	4.78
U.S. Investment Grade Bonds	-0.84	-0.94	-3.96	0.77
Inflation-Linked Bonds	-1.42	-0.91	1.15	2.75
High Yield Bonds	1.25	8.54	2.62	3.37
Commodities	-2.56	-9.61	17.82	4.73
Cash	1.22	3.74	1.32	1.59
<b>Annualized Tuition Inflation Ending as of 2022-2023 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	1.77	1.57	1.85	
National Average Private Nonprofit 4-Year	3.49	2.23	2.57	
Consumer Price Index, June 2023	2.97	5.78	3.90	

\*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 2021 and U.S. Department of Labor: Bureau of Labor Statistics

# Asset Overview by Portfolio as of Q2 2023 - Total Assets: \$13.7 Billion



Portfolio	% of Assets	\$ Millions	Portfolio	% of Assets	\$ Millions
Passive Enrollment Portfolio	35.92%	\$4,912	Passive Diversified Equity Portfolio	5.57%	\$761
Active Enrollment Portfolio	19.56%	\$2,674	Principal Plus Interest Portfolio	4.31%	\$590
Index U.S. Equity Portfolio	13.71%	\$1,874	Other Portfolios (see below)	13.88%	\$1,898

## Other Portfolios

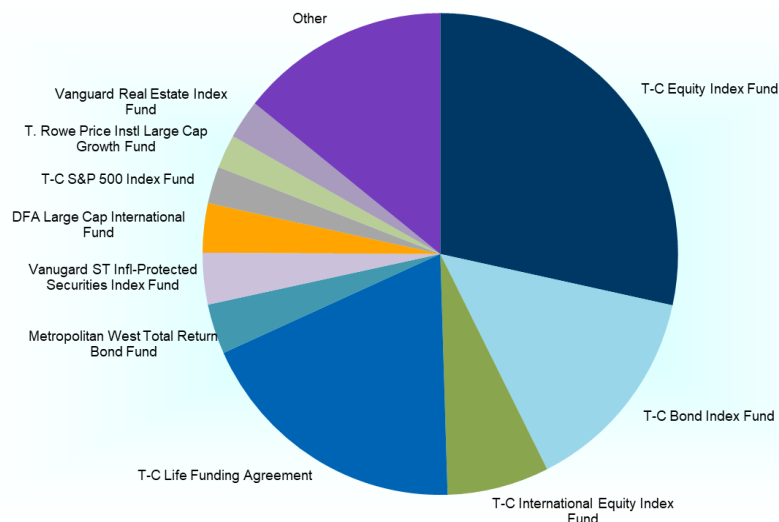
Active Diversified Equity Portfolio	3.20%	\$438	Index Bond Portfolio	0.71%	\$97
Active Growth Portfolio	2.78%	\$380	Active Conservative Portfolio	0.59%	\$81
Passive Growth Portfolio	2.31%	\$316	Active International Equity Portfolio	0.33%	\$45
Social Choice Equity Portfolio	1.96%	\$268	ESG Enrollment Portfolio	0.10%	\$14
Index International Equity Portfolio	1.14%	\$156	ESG Bond Portfolio	0.02%	\$2.9
Passive Conservative Portfolio	0.69%	\$94	ESG International Equity Portfolio	0.02%	\$2.2

## CalKIDS / CSA Portfolios

CalKIDS*	7.06%	\$965	Local CSA Programs	0.03%	\$4.19
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\* CalKIDS AUM invested in ScholarShare are included in the total assets of \$13.7 billion. Does not include CalKIDS AUM held outside of ScholarShare of \$1.07 billion.

# Asset Overview by Underlying Fund as of Q2 2023



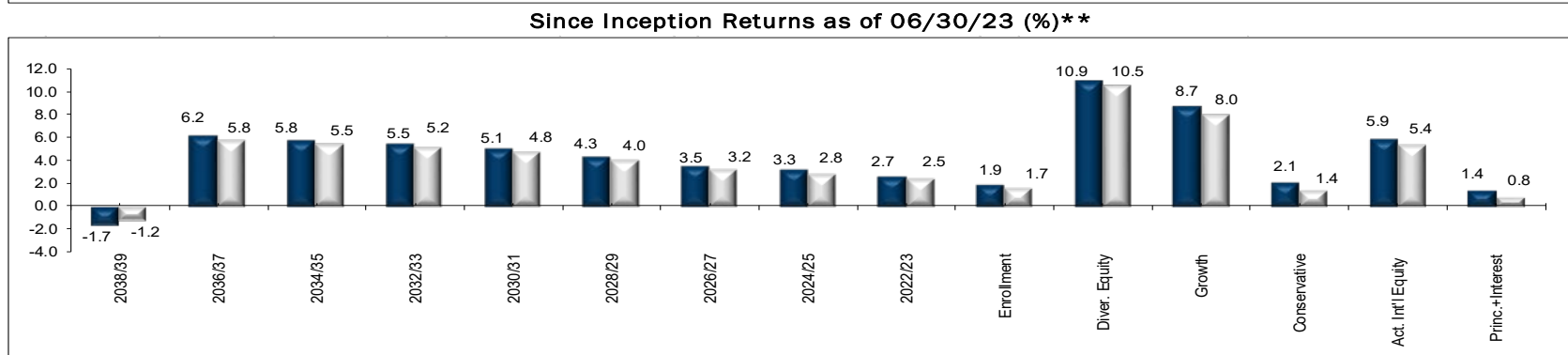
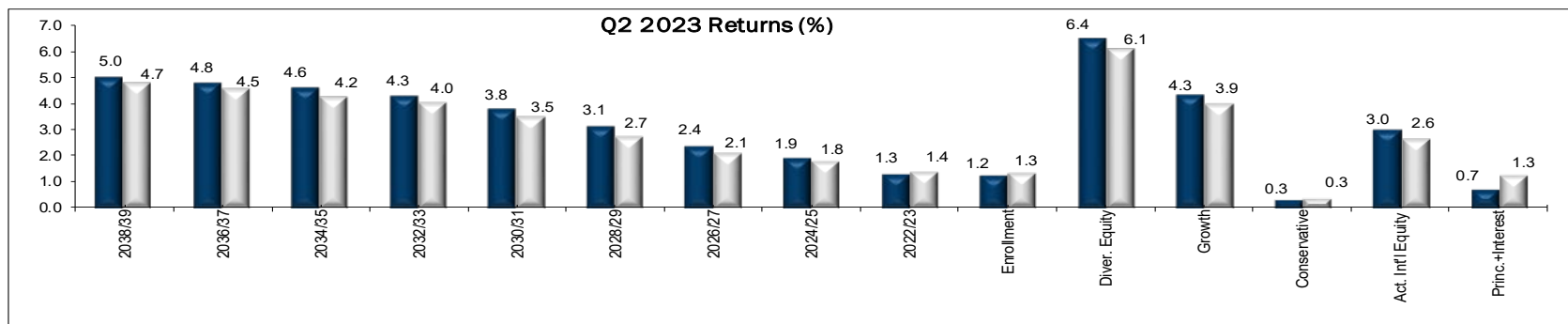
Fund	% of Assets	\$ Millions	Fund	% of Assets	\$ Millions
T-C Equity Index Fund	30.54%	\$4,178	DFA Large Cap International Fund	3.21%	\$439
T-C Life Funding Agreement	17.22%	\$2,355	Vanguard Real Estate Index Fund	2.70%	\$370
T-C Bond Index Fund	13.83%	\$1,891	T-C S&P 500 Index Fund	2.58%	\$353
T-C International Equity Index Fund	7.09%	\$970	T. Rowe Price Instl Large Cap Growth Fund	2.46%	\$336
Vanugard ST Infl-Protected Securities Index Fund	3.30%	\$452	Other	13.89%	\$1,900
Metropolitan West Total Return Bond Fund	3.18%	\$435			

## Other Funds

T. Rowe Price Instl Large Cap Value Fund	2.28%	\$312	T-C Quant Small Cap Equity Fund	0.79%	\$109
PIMCO Income Fund	1.82%	\$248	DFA Emerging Markets Core Equity Portfolio	0.79%	\$108
PIMCO Real Return Fund	1.80%	\$246	Nuveen ESG US Agg Bond ETF	0.06%	\$8
T-C Social Choice Equity Fund	2.00%	\$273	T-C Social Choice Int'l Equity Fund	0.03%	\$3.8
Vanguard High-Yield Corporate Fund	1.67%	\$228	Nuveen ESG HY Corp Bond ETF	0.00%	\$0.5
T-C Emerging Markets Equity Index Fund	1.74%	\$238	Nuveen ESG EM Equity ETF	0.00%	\$0.4
T. Rowe Price Instl Floating Rate Fund	0.92%	\$125			

\* CalKIDS AUM are included in the total assets of \$13.7B

# Active Portfolios vs. Composite Benchmarks



■ Actively Managed Portfolios    ■ Benchmark

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

\*\* Inception for the Multi-Fund and Single-Fund Portfolios was 11/4/11 - 11/10/11. Inception for most Enrollment Year Portfolios was 1/24/20 (inception for 2038-2039 was 6/11/21).

- The U.S. economy gained 209,000 jobs in June and the unemployment rate was 3.6 percent at the end of the quarter.
- Average hourly earnings of all employees on private nonfarm payrolls increased 4.4% year-over-year from last June, seasonally adjusted.
- Sales of new single-family houses in the United States were at a seasonally adjusted annual rate of 763,000 in May.
- The Active Enrollment Year Portfolios generated positive absolute returns in Q2, with more aggressive portfolios posting higher returns than conservative portfolios. Portfolios slightly outperformed their blended benchmarks.
- Nearly all underlying funds produced positive returns in Q2. The T. Rowe Price Large Cap Growth Fund led all funds with a return of 14.36%.
- The T. Rowe Price Large Cap Value Fund underperformed its benchmark by over 60 bps during the quarter.

# Active Portfolios vs. Composite Benchmarks –Return (%)

Investment Portfolios*	3 Month	YTD	Average Annual Total Return			Since Inception	Inception Date
			1 Year	3 Year	5 Year		
<b>Active Enrollment Year Portfolios</b>							
2038/2039 Enrollment Portfolio Active	5.00%	11.03%	12.72%	-	-	-1.67%	06/11/21
Blended Benchmark Returns	4.74%	11.07%	12.70%	-	-	-1.20%	
Difference	0.26%	-0.04%	0.02%	-	-	-0.47%	
2036/2037 Enrollment Portfolio Active	4.77%	10.71%	12.12%	9.42%	-	6.21%	01/24/20
Blended Benchmark Returns	4.52%	10.70%	12.20%	8.92%	-	5.81%	
Difference	0.25%	0.01%	-0.08%	0.50%	-	0.40%	
2034/2035 Enrollment Portfolio Active	4.57%	10.28%	11.60%	9.03%	-	5.76%	01/24/20
Blended Benchmark Returns	4.24%	10.26%	11.56%	8.51%	-	5.46%	
Difference	0.33%	0.02%	0.04%	0.52%	-	0.30%	
2032/2033 Enrollment Portfolio Active	4.26%	9.89%	11.01%	8.48%	-	5.45%	01/24/20
Blended Benchmark Returns	3.98%	9.83%	10.94%	7.95%	-	5.16%	
Difference	0.28%	0.06%	0.07%	0.53%	-	0.29%	
2030/2031 Enrollment Portfolio Active	3.77%	9.02%	9.93%	7.84%	-	5.06%	01/24/20
Blended Benchmark Returns	3.48%	9.03%	9.81%	7.29%	-	4.76%	
Difference	0.29%	-0.01%	0.12%	0.55%	-	0.30%	
2028/2029 Enrollment Portfolio Active	3.12%	7.93%	8.33%	6.83%	-	4.34%	01/24/20
Blended Benchmark Returns	2.71%	7.80%	8.06%	6.20%	-	4.00%	
Difference	0.41%	0.13%	0.27%	0.63%	-	0.34%	
2026/2027 Enrollment Portfolio Active	2.36%	6.53%	6.63%	5.50%	-	3.51%	01/24/20
Blended Benchmark Returns	2.08%	6.52%	6.43%	4.86%	-	3.18%	
Difference	0.28%	0.01%	0.20%	0.64%	-	0.33%	
2024/2025 Enrollment Portfolio Active	1.92%	5.18%	5.18%	4.49%	-	3.27%	01/24/20
Blended Benchmark Returns	1.77%	5.35%	5.45%	3.91%	-	2.82%	
Difference	0.15%	-0.17%	-0.27%	0.58%	-	0.45%	
2022/2023 Enrollment Portfolio Active	1.30%	3.80%	3.89%	3.60%	-	2.65%	01/24/20
Blended Benchmark Returns	1.39%	4.23%	4.54%	3.08%	-	2.46%	
Difference	-0.09%	-0.43%	-0.65%	0.52%	-	0.19%	
Enrollment Year Portfolio Active	1.23%	3.59%	3.69%	2.22%	-	1.93%	01/24/20
Blended Benchmark Returns	1.34%	4.05%	4.39%	1.76%	-	1.66%	
Difference	-0.11%	-0.46%	-0.70%	0.46%	-	0.27%	

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

# Active Portfolios vs. Composite Benchmarks –Return (%)

Investment Portfolios*	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Active Multi-Fund Investment Portfolios</b>							
Active Diversified Equity Portfolio	6.44%	13.16%	15.59%	12.16%	8.25%	10.89%	11/04/11
Blended Benchmark Returns	6.07%	13.25%	15.87%	11.78%	8.58%	10.49%	
Difference	0.37%	-0.09%	-0.28%	0.38%	-0.33%	0.40%	
Active Growth Portfolio	4.32%	9.79%	10.85%	8.13%	6.51%	8.67%	11/04/11
Blended Benchmark Returns	3.95%	9.76%	10.82%	7.61%	6.69%	8.02%	
Difference	0.37%	0.03%	0.03%	0.52%	-0.18%	0.65%	
Active Conservative Portfolio	0.32%	2.09%	1.60%	0.18%	1.72%	2.09%	11/04/11
Blended Benchmark Returns	0.35%	2.47%	2.01%	-0.39%	1.57%	1.37%	
Difference	-0.03%	-0.38%	-0.41%	0.57%	0.15%	0.72%	
Active International Equity Portfolio	2.96%	10.62%	15.07%	9.62%	4.49%	5.89%	11/10/11
Blended Benchmark Returns	2.62%	10.02%	14.27%	8.00%	3.93%	5.38%	
Difference	0.34%	0.60%	0.80%	1.62%	0.56%	0.51%	
<b>Active Single Fund Investment Portfolios</b>							
Principal Plus Interest Portfolio**	0.69%	1.38%	1.91%	1.46%	1.51%	1.39%	11/04/11
Benchmark Returns	1.25%	2.39%	3.75%	1.33%	1.57%	0.06%	
Difference	-0.56%	-1.01%	-1.84%	0.13%	-0.06%	1.33%	

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

\*\*The crediting rate of 2.80% for the TC Life Funding Agreement in the Principal Plus Interest Portfolio is guaranteed through 12/31/23.



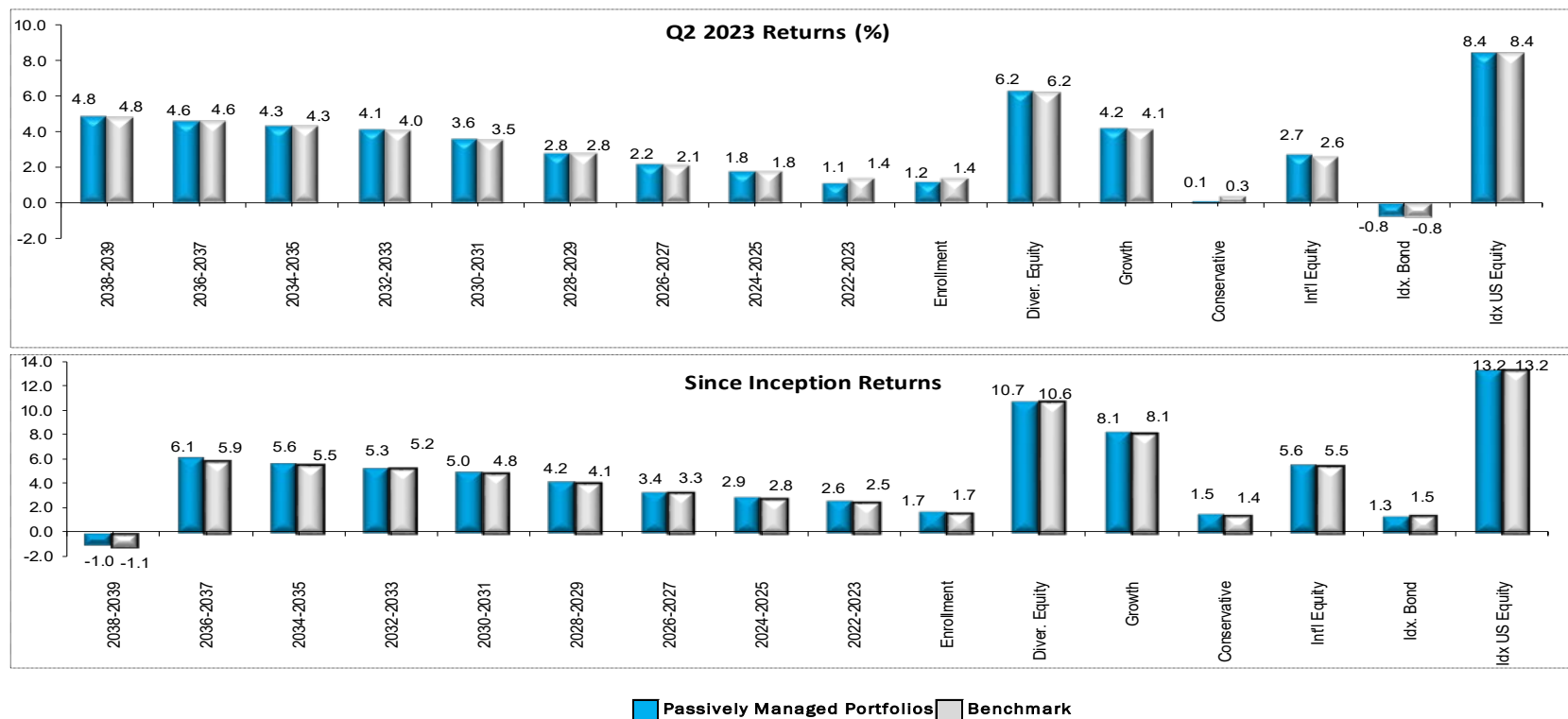
# Active Portfolios: Asset Allocation, Fees, and Performance

Active Enrollment Year Portfolio	Annual Asset Based Fees (bp)*	T. Rowe Price Instl Large Cap Growth Fund	T. Rowe Price Instl Large Cap Value Fund	TIAA-CREF Quant Small Cap Equity Fund	TIAA-CREF S&P 500 Index Fund	DFA Large Cap Int'l Portfolio	DFA Emerging Markets Core Equity I Portfolio	Vanguard Real Estate Index Fund	MetWest Total Return Bond Fund	TIAA-CREF Bond Index Fund	PIMCO Real Return Fund	PIMCO Income Fund	T. Rowe Price Instl Floating Rate Fund	T-C Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>		<b>55</b>	<b>56</b>	<b>42</b>	<b>5</b>	<b>17</b>	<b>40</b>	<b>10</b>	<b>36</b>	<b>7</b>	<b>47</b>	<b>51</b>	<b>57</b>	<b>N/A</b>
<b>2038-2039</b>	<b>39</b>	14.80%	14.80%	5.00%	15.80%	19.20%	4.80%	5.60%	7.00%	3.00%	4.00%	4.00%	2.00%	
<b>2036-2037</b>	<b>39</b>	14.50%	14.50%	4.90%	15.60%	18.80%	4.70%	5.50%	7.50%	3.20%	4.30%	4.30%	2.20%	
<b>2034-2035</b>	<b>39</b>	13.70%	13.70%	4.70%	14.80%	17.80%	4.50%	5.20%	9.10%	3.80%	5.10%	5.10%	2.50%	
<b>2032-2033</b>	<b>40</b>	13.00%	13.00%	4.40%	14.00%	16.90%	4.20%	5.00%	10.30%	4.40%	5.90%	5.90%	3.00%	
<b>2030-2031</b>	<b>40</b>	11.90%	11.90%	4.10%	12.90%	15.60%	3.90%	4.60%	12.30%	5.30%	7.00%	7.00%	3.50%	
<b>2028-2029</b>	<b>41</b>	10.20%	10.20%	3.50%	11.00%	13.30%	3.30%	3.90%	15.60%	6.70%	8.90%	8.90%	4.50%	
<b>2026-2027</b>	<b>40</b>	8.00%	8.00%	2.70%	8.70%	10.40%	2.60%	3.10%	18.30%	7.90%	10.60%	10.60%	5.30%	3.80%
<b>2024-2025</b>	<b>35</b>	5.80%	5.80%	2.00%	6.40%	7.60%	1.90%	2.20%	17.10%	7.30%	9.80%	9.80%	4.90%	19.40%
<b>2022-2023</b>	<b>27</b>	3.90%	3.90%	1.30%	4.30%	5.10%	1.30%	1.50%	13.40%	5.70%	7.60%	7.60%	3.80%	40.60%
<b>Enrollment</b>	<b>24</b>	2.70%	2.70%	1.00%	3.00%	3.60%	0.90%	1.10%	12.25%	5.25%	7.00%	7.00%	3.50%	50.00%

## Active Multi-Fund Investment Portfolios

<b>Active Diversified Equity Portfolio</b>	<b>37</b>	18.40%	18.40%	6.30%	19.90%	24.00%	6.00%	7.00%						
<b>Active Growth Portfolio</b>	<b>40</b>	12.50%	12.50%	4.30%	13.60%	16.30%	4.00%	4.80%	11.20%	4.80%	6.40%	6.40%	3.20%	
<b>Active Conservative Portfolio</b>	<b>25</b>								17.50%	7.50%	10.00%	10.00%	5.00%	50.00%
<b>Active International Equity Portfolio</b>	<b>28</b>					80.00%	20.00%							
<b>Fund's Performance vs Benchmk Q2 2023 (bp)</b>		<b>155</b>	<b>(64)</b>	<b>81</b>	<b>(1)</b>	<b>(3)</b>	<b>203</b>	<b>(5)</b>	<b>(43)</b>	<b>10</b>	<b>3</b>	<b>205</b>	<b>(46)</b>	<b>(56)</b>

# Passive Portfolios vs Composite Benchmarks



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

\*\* Inception for the Multi-Fund and Single-Fund Portfolios was 11/4/11 - 11/8/11. Inception for most Enrollment Year Portfolios was 1/24/20 (inception for 2038-2039 was 6/11/21).

- U.S. equities posted positive returns during the second quarter as the market continued to produce strong returns driven by large cap technology stocks. The Russell 3000 Index gained 8.39% in the second quarter.
- The U.S. Federal Reserve raised its target range for the Fed Funds Rate by 25 basis points in May, followed by a pause at its June meeting. Treasury yields rose across the curve during the quarter, while the 2year-10year yield curve remained inverted. The Bloomberg U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds declined 0.84% during the second quarter
- Based on respective Russell indexes, small cap companies underperformed the broad large cap market. Growth stocks significantly outperformed Value stocks during the quarter.
- Based on MSCI indexes, emerging markets underperformed international developed market stocks. The MSCI EAFE index returned 2.95%, while the MSCI EM Index returned 0.90%.
- The Passive Enrollment Year Portfolios posted positive absolute returns in Q2. More aggressive allocations in the Enrollment Year Portfolios had higher returns than more conservative portfolios.

# Passive Portfolios vs. Composite Benchmarks

Investment Portfolios*	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Passive Enrollment Year Portfolios</b>							
2038/2039 Enrollment Portfolio Passive	4.82%	11.38%	13.05%	-	-	-1.03%	06/11/21
Blended Benchmark Returns	4.81%	11.24%	13.08%	-	-	-1.14%	
Difference	0.01%	0.14%	-0.03%	-	-	0.11%	
2036/2037 Enrollment Portfolio Passive	4.61%	10.96%	12.49%	16.77%	-	6.09%	01/24/20
Blended Benchmark Returns	4.57%	10.85%	12.57%	16.21%	-	5.88%	
Difference	0.04%	0.11%	-0.08%	0.56%	-	0.21%	
2034/2035 Enrollment Portfolio Passive	4.32%	10.43%	11.76%	8.27%	-	5.63%	01/24/20
Blended Benchmark Returns	4.31%	10.40%	11.93%	8.36%	-	5.54%	
Difference	0.01%	0.03%	-0.17%	-0.09%	-	0.09%	
2032/2033 Enrollment Portfolio Passive	4.10%	10.05%	11.17%	7.73%	-	5.30%	01/24/20
Blended Benchmark Returns	4.03%	9.94%	11.27%	7.81%	-	5.24%	
Difference	0.07%	0.11%	-0.10%	-0.08%	-	0.06%	
2030/2031 Enrollment Portfolio Passive	3.59%	9.24%	10.06%	7.07%	-	4.99%	01/24/20
Blended Benchmark Returns	3.53%	9.10%	10.13%	7.16%	-	4.84%	
Difference	0.06%	0.14%	-0.07%	-0.09%	-	0.15%	
2028/2029 Enrollment Portfolio Passive	2.77%	7.97%	8.17%	6.01%	-	4.20%	01/24/20
Blended Benchmark Returns	2.76%	7.81%	8.33%	6.10%	-	4.08%	
Difference	0.01%	0.16%	-0.16%	-0.09%	-	0.12%	
2026/2027 Enrollment Portfolio Passive	2.19%	6.57%	6.36%	4.66%	-	3.35%	01/24/20
Blended Benchmark Returns	2.11%	6.50%	6.66%	4.80%	-	3.27%	
Difference	0.08%	0.07%	-0.30%	-0.14%	-	0.08%	
2024/2025 Enrollment Portfolio Passive	1.75%	5.14%	4.94%	3.70%	-	2.92%	01/24/20
Blended Benchmark Returns	1.79%	5.31%	5.61%	3.76%	-	2.80%	
Difference	-0.04%	-0.17%	-0.67%	-0.06%	-	0.12%	
2022/2023 Enrollment Portfolio Passive	1.11%	3.71%	3.61%	2.95%	-	2.57%	01/24/20
Blended Benchmark Returns	1.40%	4.19%	4.66%	3.08%	-	2.54%	
Difference	-0.29%	-0.48%	-1.05%	-0.13%	-	0.03%	
Enrollment Year Portfolio Passive	1.15%	3.62%	3.52%	1.79%	-	1.71%	01/24/20
Blended Benchmark Returns	1.35%	4.01%	4.49%	1.77%	-	1.69%	
Difference	-0.20%	-0.39%	-0.97%	0.02%	-	0.02%	

\* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees for the quarter.

# Passive Portfolios vs. Composite Benchmarks

Investment Portfolios*	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Passive Multi-Fund Investment Portfolios</b>							
Passive Diversified Equity Portfolio	6.23%	13.65%	16.16%	11.53%	8.81%	10.66%	11/04/11
Blended Benchmark Returns	6.16%	13.51%	16.31%	11.55%	8.70%	10.61%	
Difference	0.07%	0.14%	-0.15%	-0.02%	0.11%	0.05%	
Passive Growth Portfolio	4.19%	10.23%	11.22%	7.40%	6.80%	8.14%	11/04/11
Blended Benchmark Returns	4.14%	10.09%	11.48%	7.51%	6.81%	8.13%	
Difference	0.05%	0.14%	-0.26%	-0.11%	-0.01%	0.01%	
Passive Conservative Portfolio	0.08%	1.88%	1.10%	-0.33%	1.53%	1.52%	11/04/11
Blended Benchmark Returns	0.35%	2.37%	2.06%	-0.34%	1.62%	1.42%	
Difference	-0.27%	-0.49%	-0.96%	0.01%	-0.09%	0.10%	
Index International Equity Portfolio	2.73%	10.64%	15.04%	7.64%	3.88%	5.58%	11/04/11
Blended Benchmark Returns	2.56%	10.32%	15.33%	7.70%	3.78%	5.50%	
Difference	0.17%	0.32%	-0.29%	-0.06%	0.10%	0.08%	
<b>Passive Single Fund Investment Portfolios</b>							
Index Bond Portfolio	-0.77%	2.38%	-0.94%	-4.08%	0.65%	1.30%	11/04/11
Benchmark Returns	-0.84%	2.09%	-0.94%	-3.96%	0.77%	1.49%	
Difference	0.07%	0.29%	0.00%	-0.12%	-0.12%	-0.19%	
Index U.S. Equity Portfolio	8.38%	16.12%	18.90%	13.84%	11.34%	13.17%	11/04/11
Benchmark Returns	8.39%	16.17%	18.95%	13.89%	11.39%	13.22%	
Difference	-0.01%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	

\* 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.

# Passive Portfolios: Asset Allocation, Fees, and Performance

Passive Enrollment Year Portfolios	Annual Asset Based Fees (bp)*	TIAA-CREF Equity Index Fund	TIAA-CREF International Equity Index Fund	TIAA-CREF Emerging Markets Equity Index Fund	Vanguard Real Estate Index Fund	TIAA-CREF Bond Index Fund	Vanguard Shrt-Term Infr-Prot Sec Index Fund	Vanguard High-Yield Corporate Fund	T-C Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>		<b>5</b>	<b>5</b>	<b>19</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>13</b>	<b>N/A</b>
<b>2038-2039</b>	<b>7</b>	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	
<b>2036-2037</b>	<b>7</b>	49.40%	18.80%	4.70%	5.50%	15.10%	4.30%	2.20%	
<b>2034-2035</b>	<b>7</b>	47.00%	17.80%	4.50%	5.20%	17.80%	5.10%	2.60%	
<b>2032-2033</b>	<b>7</b>	44.40%	16.90%	4.20%	4.90%	20.70%	5.90%	3.00%	
<b>2030-2031</b>	<b>7</b>	40.90%	15.60%	3.90%	4.60%	24.50%	7.00%	3.50%	
<b>2028-2029</b>	<b>8</b>	35.00%	13.20%	3.30%	3.90%	31.20%	8.90%	4.50%	
<b>2026-2027</b>	<b>7</b>	27.30%	10.40%	2.60%	3.10%	36.90%	10.60%	5.30%	3.80%
<b>2024-2025</b>	<b>6</b>	20.10%	7.60%	1.90%	2.20%	34.10%	9.80%	4.90%	19.40%
<b>2022-2023</b>	<b>5</b>	13.30%	5.20%	1.30%	1.50%	26.70%	7.60%	3.80%	40.60%
<b>Enrollment</b>	<b>4</b>	9.40%	3.60%	0.90%	1.10%	24.50%	7.00%	3.50%	50.00%

## Passive Multi-Fund Investment Portfolios

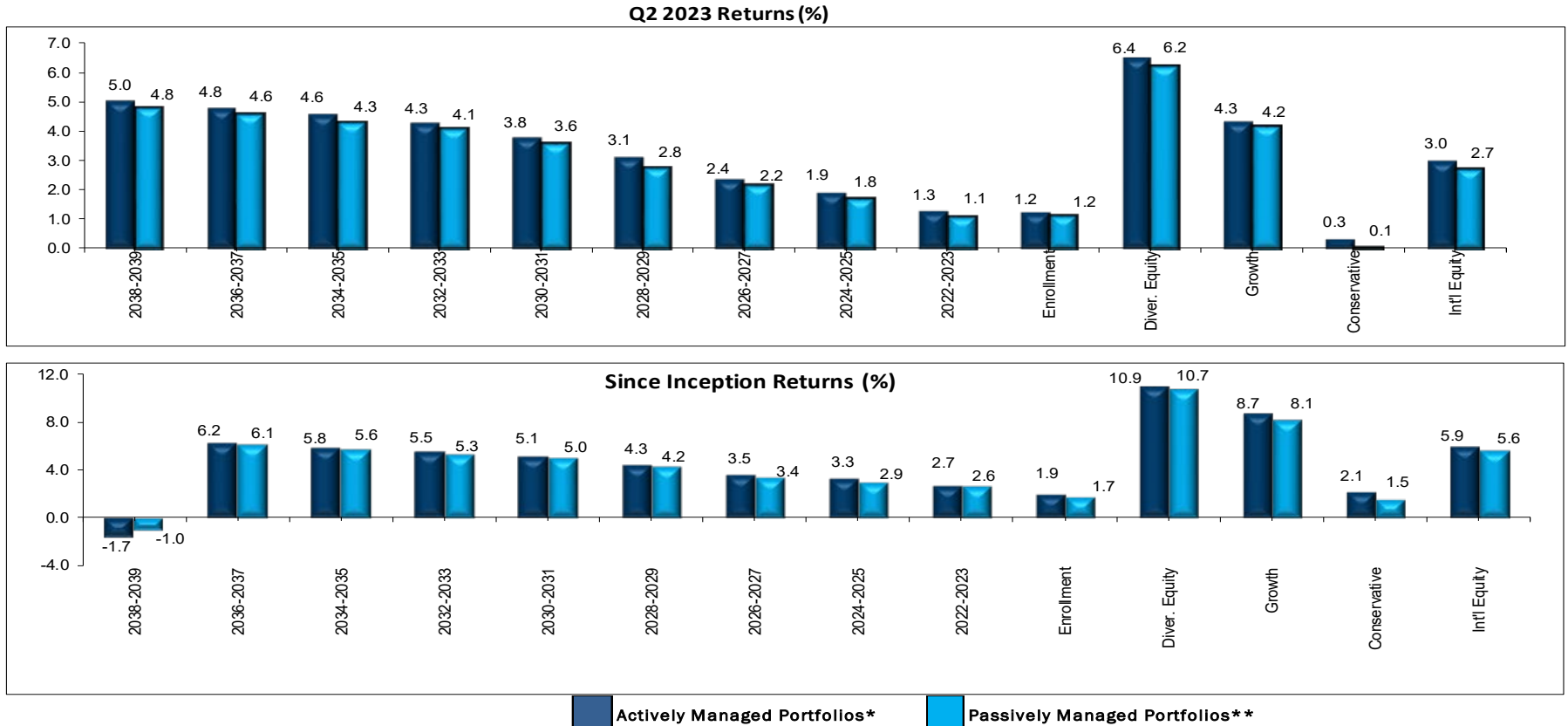
<b>Passive Diversified Equity Portfolio</b>	<b>7</b>	63.00%	24.00%	6.00%	7.00%				
<b>Passive Growth Portfolio</b>	<b>7</b>	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
<b>Passive Conservative Portfolio</b>	<b>5</b>					35.00%	10.00%	5.00%	50.00%
<b>Index International Equity Portfolio</b>	<b>9</b>		80.00%	20.00%					
<b>Fund's Performance vs Benchmk Q2 2023 (bp)</b>		<b>0</b>	<b>23</b>	<b>(2)</b>	<b>(5)</b>	<b>10</b>	<b>(1)</b>	<b>(23)</b>	<b>(56)</b>

Glide Path asset allocations are as reflected in the Plan Description.

Passive Investment Portfolios	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q2 2023 (bp)
<b>Index Bond Portfolio</b>	<b>9</b>	100.00%	TIAA-CREF Bond Index Fund	<b>10</b>
<b>Index U.S. Equity Portfolio</b>	<b>6</b>	100.00%	TIAA-CREF Equity Index Fund	<b>0</b>

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

# Active Portfolios vs Passive Portfolios



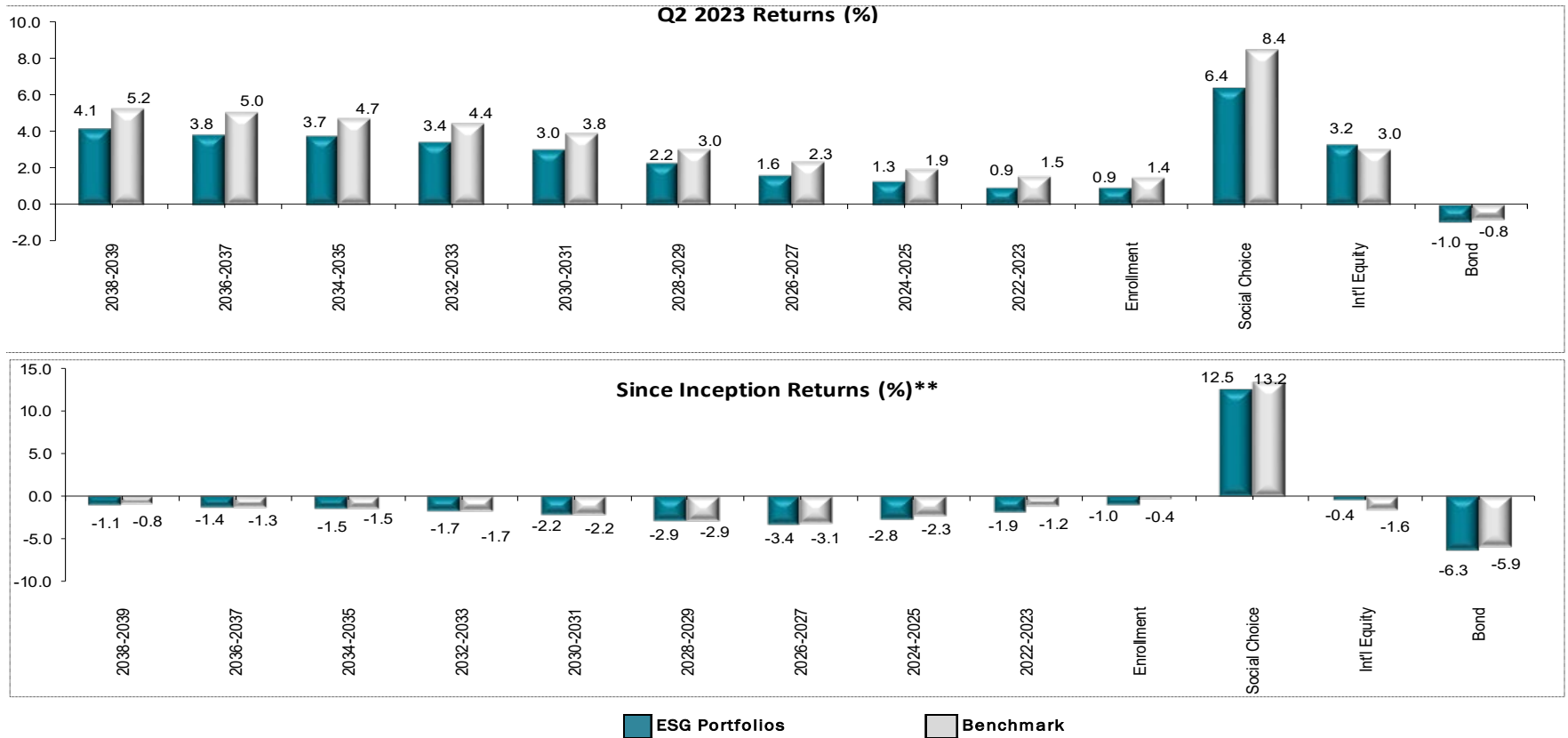
\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps).

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

\*\*\* Inception for the Multi-Fund and Single-Fund Portfolios was 11/4/11 - 11/10/11. Inception for most Enrollment Year Portfolios was 1/24/20 (2038-2039 was incepted 6/11/21).

- In Q2, Passive Portfolios underperformed Active Portfolios.
- The primary reason for outperformance in the Active Portfolios was the T. Rowe Price Large Cap Growth Fund, which receives larger allocations across the earlier stages of the glide path and outperformed its benchmark by 155 basis points during the quarter.
- Since inception, most Active Portfolios have modestly outperformed their Passive counterparts.

# ESG Portfolios vs Composite Benchmarks



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

\*\* Inception for most ESG Portfolios was 2/11/22 (inception for the Social Choice Equity Portfolio was 11/04/11).

- Returns for the ESG Portfolios were lower than those of the benchmarks during Q2, primarily driven by the large allocation to the TIAA-CREF Social Choice Equity Fund, which underperformed its benchmark by 202 basis points during the quarter.
- Since inception on February 11, 2022, returns for the ESG Enrollment Year Investment Portfolios reflect the broad market downturns that investors have experienced during this time.

# ESG Portfolios vs. Composite Benchmarks

Investment Portfolios*	3 Month	YTD	Average Annual Total Return			Since Inception	Inception Date
			1 Year	3 Year	5 Year		
<b>ESG Enrollment Year Portfolios</b>							
2038/2039 Enrollment Portfolio ESG	4.12%	10.06%	13.48%	-	-	-1.09%	02/11/22
Blended Benchmark Returns	5.22%	12.05%	14.71%	-	-	-0.85%	
Difference	-1.10%	-1.99%	-1.23%	-	-	-0.24%	
2036/2037 Enrollment Portfolio ESG	3.81%	9.73%	12.89%	-	-	-1.38%	02/11/22
Blended Benchmark Returns	4.97%	11.63%	13.83%	-	-	-1.30%	
Difference	-1.16%	-1.90%	-0.94%	-	-	-0.08%	
2034/2035 Enrollment Portfolio ESG	3.71%	5.77%	-6.91%	-	-	-1.52%	02/11/22
Blended Benchmark Returns	4.67%	7.18%	-8.58%	-	-	-1.50%	
Difference	-0.96%	-1.41%	1.67%	-	-	-0.02%	
2032/2033 Enrollment Portfolio ESG	3.39%	8.93%	11.42%	-	-	-1.74%	02/11/22
Blended Benchmark Returns	4.39%	10.65%	12.37%	-	-	-1.70%	
Difference	-1.00%	-1.72%	-0.95%	-	-	-0.04%	
2030/2031 Enrollment Portfolio ESG	2.97%	8.14%	10.23%	-	-	-2.18%	02/11/22
Blended Benchmark Returns	3.84%	9.73%	11.06%	-	-	-2.18%	
Difference	-0.87%	-1.59%	-0.83%	-	-	0.00%	
2028/2029 Enrollment Portfolio ESG	2.24%	6.90%	8.23%	-	-	-2.91%	02/11/22
Blended Benchmark Returns	3.00%	8.33%	9.04%	-	-	-2.87%	
Difference	-0.76%	-1.43%	-0.81%	-	-	-0.04%	
2026/2027 Enrollment Portfolio ESG	1.60%	5.65%	6.24%	-	-	-3.35%	02/11/22
Blended Benchmark Returns	2.29%	6.90%	7.14%	-	-	-3.14%	
Difference	-0.69%	-1.25%	-0.90%	-	-	-0.21%	
2024/2025 Enrollment Portfolio ESG	1.26%	4.45%	4.79%	-	-	-2.76%	02/11/22
Blended Benchmark Returns	1.92%	5.60%	5.94%	-	-	-2.33%	
Difference	-0.66%	-1.15%	-1.15%	-	-	-0.43%	
2022/2023 Enrollment Portfolio ESG	0.93%	3.29%	3.51%	-	-	-1.89%	02/11/22
Blended Benchmark Returns	1.48%	4.38%	4.85%	-	-	-1.18%	
Difference	-0.55%	-1.09%	-1.34%	-	-	-0.71%	
Enrollment Year Portfolio ESG	0.92%	3.14%	3.35%	-	-	-1.01%	02/11/22
Blended Benchmark Returns	1.42%	4.19%	4.65%	-	-	-0.38%	
Difference	-0.50%	-1.05%	-1.30%	-	-	-0.63%	
<b>ESG Single Fund Investment Portfolios</b>							
Social Choice Equity Portfolio	6.35%	12.49%	17.91%	13.09%	11.20%	12.48%	11/04/11
Benchmark Returns	8.39%	16.17%	18.95%	13.89%	11.39%	13.22%	
Difference	-2.04%	-3.68%	-1.04%	-0.80%	-0.19%	-0.74%	
ESG International Equity Portfolio	3.22%	12.32%	18.33%	-	-	-0.43%	02/11/22
Benchmark Returns	2.95%	11.67%	18.77%	-	-	-1.56%	
Difference	0.27%	0.65%	-0.44%	-	-	1.13%	
ESG Bond Portfolio	-0.98%	1.44%	-1.72%	-	-	-6.29%	02/11/22
Benchmark Returns	-0.84%	2.09%	-0.94%	-	-	-5.88%	
Difference	-0.14%	-0.65%	-0.78%	-	-	-0.41%	

\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees. The crediting rate of 2.80% for the TC Life Funding Agreement in the ESG Enrollment Year Portfolios is guaranteed through 12/31/23.



# ESG Portfolios: Asset Allocation Fees, and Performance

ESG Enrollment Year Portfolios	Annual Asset Based Fees (bp)*	TIAA-CREF Social Choice Equity Fund	TIAA-CREF Social Choice International Equity Fund	Nuveen ESG Emerging Markets Equity ETF	Nuveen ESG US Aggregate Bond ETF	Nuveen ESG High Yield Corporate Bond ETF	TIAA-CREF Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>		<b>18</b>	<b>37</b>	<b>36</b>	<b>15</b>	<b>30</b>	<b>N/A</b>
<b>2038-2039</b>	<b>28</b>	56.00%	19.20%	4.80%	18.00%	2.00%	
<b>2036-2037</b>	<b>28</b>	55.00%	18.80%	4.70%	19.30%	2.20%	
<b>2034-2035</b>	<b>28</b>	52.20%	17.80%	4.50%	22.90%	2.60%	
<b>2032-2033</b>	<b>28</b>	49.40%	16.90%	4.20%	26.50%	3.00%	
<b>2030-2031</b>	<b>27</b>	45.60%	15.60%	3.90%	31.50%	3.40%	
<b>2028-2029</b>	<b>26</b>	38.90%	13.30%	3.30%	40.10%	4.40%	
<b>2026-2027</b>	<b>25</b>	30.50%	10.40%	2.60%	47.50%	5.20%	3.80%
<b>2024-2025</b>	<b>22</b>	22.30%	7.60%	1.90%	43.90%	4.90%	19.40%
<b>2022-2023</b>	<b>17</b>	14.90%	5.10%	1.30%	34.30%	3.80%	40.60%
<b>Enrollment</b>	<b>15</b>	10.50%	3.60%	0.90%	31.50%	3.50%	50.00%
<b>Fund's Performance vs Benchmk Q2 2023 (bp)</b>		<b>(202)</b>	<b>25</b>	<b>(38)</b>	<b>(1)</b>	<b>(53)</b>	<b>(56)</b>

Glide Path asset allocations are as reflected in the Plan Description.

ESG Single Fund Investment Portfolios	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Fund	Fund's Performance vs Benchmk Q2 2023 (bp)
<b>Social Choice Equity Portfolio</b>	<b>23</b>	100.00%	TIAA-CREF Social Choice Equity Fund	<b>(202)</b>
<b>ESG International Equity Portfolio</b>	<b>42</b>	100.00%	TIAA-CREF Social Choice International Equity Fund	<b>10</b>
<b>ESG Bond Portfolio</b>	<b>21</b>	100.00%	Nuveen ESG US Aggregate Bond ETF	<b>0</b>

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

# Underlying Funds vs. Benchmarks

TIAA-CREF FUNDS	Average Annual Total Return						3-Year Standard Deviation	Fund Incept. Date
	3 Month	YTD	1 Year	3 Year	5 Year	Life		
T-C Bond Index Fund	-0.74%	2.38%	-0.94%	-4.08%	0.65%	2.14%	6.34%	09/14/2009
Bloomberg U.S. Aggregate Bond Index	-0.84%	2.09%	-0.94%	-3.97%	0.77%	2.30%	6.29%	
Difference	<b>0.10%</b>	<b>0.29%</b>	<b>0.00%</b>	<b>-0.11%</b>	<b>-0.12%</b>	<b>-0.16%</b>		
T-C Emerging Markets Equity Index Fund*	0.88%	5.30%	1.19%	1.91%	0.79%	2.31%	19.15%	08/31/2010
MSCI Emerging Markets® Index	0.90%	4.89%	1.75%	2.32%	0.93%	2.61%	18.85%	
Difference	<b>-0.02%</b>	<b>0.41%</b>	<b>-0.56%</b>	<b>-0.41%</b>	<b>-0.14%</b>	<b>-0.30%</b>		
T-C Equity Index Fund	8.39%	16.13%	18.91%	13.87%	11.36%	7.14%	19.55%	07/01/1999
Russell 3000 Index	8.39%	16.17%	18.95%	13.90%	11.39%	7.20%	19.59%	
Difference	<b>0.00%</b>	<b>-0.04%</b>	<b>-0.04%</b>	<b>-0.03%</b>	<b>-0.03%</b>	<b>-0.06%</b>		
T-C International Equity Index Fund*	3.18%	12.04%	18.70%	9.03%	4.62%	7.15%	18.88%	10/01/2002
MSCI EAFE Index	2.95%	11.67%	18.77%	8.94%	4.39%	7.07%	18.16%	
Difference	<b>0.23%</b>	<b>0.37%</b>	<b>-0.07%</b>	<b>0.09%</b>	<b>0.23%</b>	<b>0.08%</b>		
T-C S&P 500 Index Fund	8.73%	16.86%	19.53%	14.56%	12.26%	10.40%	19.22%	10/01/2002
S&P 500 Index	8.74%	16.89%	19.59%	14.61%	12.31%	10.48%	19.23%	
Difference	<b>-0.01%</b>	<b>-0.03%</b>	<b>-0.06%</b>	<b>-0.05%</b>	<b>-0.05%</b>	<b>-0.08%</b>		
T-C Quant Small Cap Equity Fund	6.02%	9.24%	17.23%	16.37%	6.32%	10.20%	22.21%	10/01/2002
Russell 2000 Index	5.21%	8.09%	12.31%	10.83%	4.21%	9.65%	22.84%	
Difference	<b>0.81%</b>	<b>1.15%</b>	<b>4.92%</b>	<b>5.54%</b>	<b>2.11%</b>	<b>0.55%</b>		
T-C Social Choice Equity Fund	6.37%	12.53%	17.97%	13.17%	11.29%	6.94%	19.59%	07/01/1999
Russell 3000 Index	8.39%	16.17%	18.95%	13.90%	11.39%	7.20%	19.59%	
Difference	<b>-2.02%</b>	<b>-3.64%</b>	<b>-0.98%</b>	<b>-0.73%</b>	<b>-0.10%</b>	<b>-0.26%</b>		
T-C Social Choice International Equity Fund*	3.20%	12.33%	18.39%	9.22%	5.31%	5.08%	19.23%	12/04/2015
MSCI EAFE Index	2.95%	11.67%	18.77%	8.94%	4.39%	4.44%	18.16%	
Difference	<b>0.25%</b>	<b>0.66%</b>	<b>-0.38%</b>	<b>0.28%</b>	<b>0.92%</b>	<b>0.64%</b>		
Nuveen ESG Emerging Markets Equity ETF	1.29%	6.48%	1.82%	4.69%	2.52%	3.11%	19.20%	06/06/2017
TIAA ESG Emerging Markets Equity Index	1.67%	6.86%	2.70%	5.58%	3.30%	3.89%	19.27%	
Difference	<b>-0.38%</b>	<b>-0.38%</b>	<b>-0.88%</b>	<b>-0.89%</b>	<b>-0.78%</b>	<b>-0.78%</b>		
Nuveen ESG US Aggregate Bond ETF	-0.85%	2.26%	-1.01%	-4.34%	-	0.22%	6.26%	09/29/2017
Bloomberg MSCI US Aggregate ESG Select Index	-0.84%	2.09%	-0.92%	-3.97%	-	-	6.28%	
Difference	<b>-0.01%</b>	<b>0.17%</b>	<b>-0.09%</b>	<b>-0.37%</b>	<b>-</b>	<b>-</b>		
Nuveen ESG High Yield Corporate Bond ETF	1.30%	4.52%	7.86%	-	-	-	-	09/25/2019
Bloomberg MSCI U.S. HY Very Liquid ESG Select Index	1.83%	4.66%	8.06%	-	-	-	-	
Difference	<b>-0.53%</b>	<b>-0.14%</b>	<b>-0.20%</b>	<b>-</b>	<b>-</b>	<b>-</b>		

# Underlying Funds vs. Benchmarks

## Average Annual Total Return

DFA FUNDS	3 Month	YTD	1 Year	3 Year	5 Year	Life	3-Year Standard Deviation	Fund Incept. Date
DFA Emerging Markets Core Equity Portfolio*	2.93%	8.69%	7.05%	8.15%	3.28%	6.62%	18.50%	04/05/2005
MSCI Emerging Markets® Index	0.90%	4.89%	1.75%	2.32%	0.93%	5.78%	18.85%	
Difference	<b>2.03%</b>	<b>3.80%</b>	<b>5.30%</b>	<b>5.83%</b>	<b>2.35%</b>	<b>0.84%</b>		
DFA Large Cap International Portfolio*	3.00%	11.18%	17.21%	10.00%	4.82%	5.64%	18.65%	07/17/1991
MSCI World Ex US Index	3.03%	11.29%	17.41%	9.31%	4.58%	5.64%	18.10%	
Difference	<b>-0.03%</b>	<b>-0.11%</b>	<b>-0.20%</b>	<b>0.69%</b>	<b>0.24%</b>	<b>0.00%</b>		
<b>METWEST FUNDS</b>								
MetWest Total Return Bond Fund	-1.27%	2.23%	-1.36%	-4.02%	0.89%	2.35%	7.06%	07/01/1999
Bloomberg U.S. Aggregate Bond Index	-0.84%	2.09%	-0.94%	-3.97%	0.77%	1.69%	6.29%	
Difference	<b>-0.43%</b>	<b>0.14%</b>	<b>-0.42%</b>	<b>-0.05%</b>	<b>0.12%</b>	<b>0.66%</b>		
<b>PIMCO FUNDS</b>								
PIMCO Income Fund	1.21%	3.80%	5.34%	1.85%	2.60%	6.66%	6.04%	03/30/2007
Bloomberg U.S. Aggregate Bond Index	-0.84%	2.09%	-0.94%	-3.97%	0.77%	2.92%	6.29%	
Difference	<b>2.05%</b>	<b>1.71%</b>	<b>6.28%</b>	<b>5.82%</b>	<b>1.83%</b>	<b>3.74%</b>		
PIMCO Real Return Fund	-1.39%	1.57%	-1.35%	-0.05%	2.49%	5.13%	7.34%	01/29/1997
Bloomberg U.S. TIPS Index	-1.42%	1.87%	-1.40%	-0.12%	2.49%	-	7.10%	
Difference	<b>0.03%</b>	<b>-0.30%</b>	<b>0.05%</b>	<b>0.07%</b>	<b>0.00%</b>	<b>-</b>		
<b>T. ROWE PRICE FUNDS</b>								
T. Rowe Price Floating Rate Fund	2.74%	5.93%	10.75%	5.55%	3.95%	4.77%	4.77%	01/31/2008
S&P/LSTA Performing Loan Index	3.20%	6.63%	10.97%	6.57%	4.30%	5.06%	5.06%	
Difference	<b>-0.46%</b>	<b>-0.70%</b>	<b>-0.22%</b>	<b>-1.02%</b>	<b>-0.35%</b>	<b>-0.29%</b>		
T. Rowe Price Large Cap Growth Fund	14.36%	30.57%	26.57%	9.53%	11.72%	10.99%	23.21%	10/31/2001
Russell 1000 Growth Index	12.81%	29.02%	27.11%	13.74%	15.14%	9.99%	23.06%	
Difference	<b>1.55%</b>	<b>1.55%</b>	<b>-0.54%</b>	<b>-4.21%</b>	<b>-3.42%</b>	<b>1.00%</b>		
T. Rowe Price Large Cap Value Fund	3.43%	1.85%	7.66%	15.44%	7.83%	8.16%	17.91%	3/31/2000
Russell 1000 Value Index	4.07%	5.12%	11.54%	14.31%	8.11%	7.03%	17.94%	
Difference	<b>-0.64%</b>	<b>-3.27%</b>	<b>-3.88%</b>	<b>1.13%</b>	<b>-0.28%</b>	<b>1.13%</b>		
<b>VANGUARD FUNDS</b>								
Vanugard ST Infl-Protected Securities Index Fund	-0.69%	1.58%	0.14%	2.32%	2.70%	1.44%	3.21%	10/16/2012
Bloomberg US TIPS 0-5 Year Index	-0.68%	1.49%	0.11%	2.34%	2.73%	1.44%	3.23%	
Difference	<b>-0.01%</b>	<b>0.09%</b>	<b>0.03%</b>	<b>-0.02%</b>	<b>-0.03%</b>	<b>0.00%</b>		
Vanguard Real Estate Index Fund	1.63%	3.45%	-3.92%	5.90%	4.41%	7.86%	20.42%	12/2/2003
MSCI US Investable Market Real Estate 25/50 Index	1.68%	3.54%	-3.82%	6.00%	4.48%	-	20.41%	
Difference	<b>-0.05%</b>	<b>-0.09%</b>	<b>-0.10%</b>	<b>-0.10%</b>	<b>-0.07%</b>	<b>-</b>		
Vanguard High-Yield Corporate Fund	1.12%	4.35%	8.50%	2.46%	3.41%	5.82%	8.64%	11/12/2001
Bloomberg US HY Ba/B 2% Issuer Cap TR USD	1.35%	4.83%	8.86%	2.62%	3.71%	6.66%	9.06%	
Bloomberg US Corporate High Yield Index	1.75%	5.38%	9.06%	3.14%	3.36%	-	8.99%	
Difference	<b>-0.23%</b>	<b>-0.48%</b>	<b>-0.36%</b>	<b>-0.16%</b>	<b>-0.30%</b>	<b>-0.84%</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.



TIAA-CREF Tuition Financing, Inc.

# ScholarShare 529 College Savings Plan

October 16, 2023

2Q 2023 Investment Performance  
Status Report

1. Economic and Market Update
2. 529 Industry Data
3. Review of ScholarShare Policy
4. Sensitivity Analyses
5. Summary Points
6. Enrollment Date Fund Performance
7. Appendix

## Takeaways

- The second quarter of 2023 continued the positive trend from the previous quarter as most equities asset classes extended gains. Rising rates resulted most fixed income markets to post negative returns over the quarter, though year-to-date returns remain positive.
- Equities broadly saw positive returns over the quarter. Domestically, Large Cap continued to outperform Small Cap stocks while growth outperformed value for the quarter as the continued surge of mega-cap tech stocks served as a headwind. T Rowe Price Large Cap Growth was the top performing actively managed domestic equity fund for the quarter, returning 14.4%. Foreign equities trailed the US as the strengthening dollar weighed on Non-US Developed markets. Within Emerging Markets, growing concerns around China's economic outlook was a major headwind, though strong earnings and macro outlook in Brazil and AI/IT headwinds in India and Taiwan weighed favorably for the sector. DFA Large Cap International returned 3.0%, whereas the DFA Emerging Markets Core Equity returned 2.9%.
- T Rowe Price Large cap Growth International Equity was the top performing actively managed equity fund for the quarter, returning 14.4%, outpacing its benchmark by 160 bps.
- 3 of 5 actively managed fixed income funds posted positive returns for the quarter, with the T Rowe Price Floating Rate fund returning a Fixed Income sleeve high absolute return of 2.7%, versus benchmark return of 3.2%.
- 7 of the 12 active managers in the ScholarShare plan outperformed or met their benchmark returns.

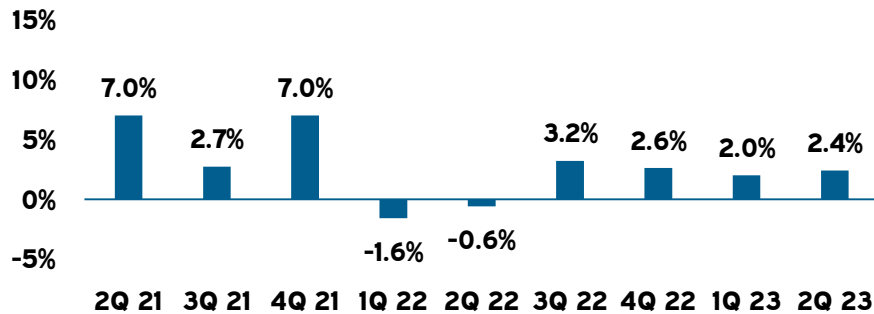
# **Economic and Market Update**

Data as of June 30, 2023



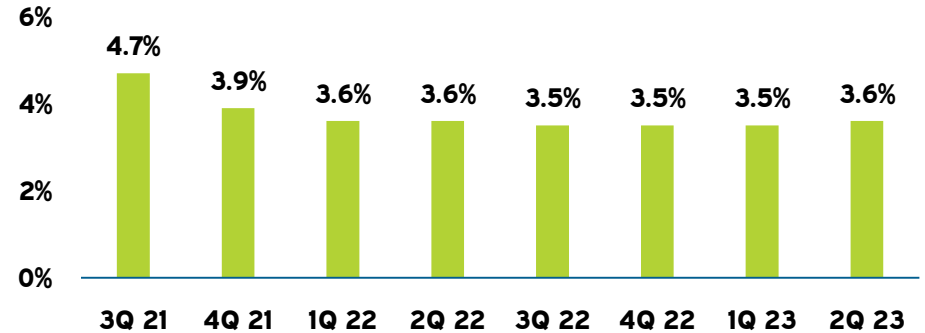
### Economic and Market Update

#### Quarterly Real GDP (Annualized)



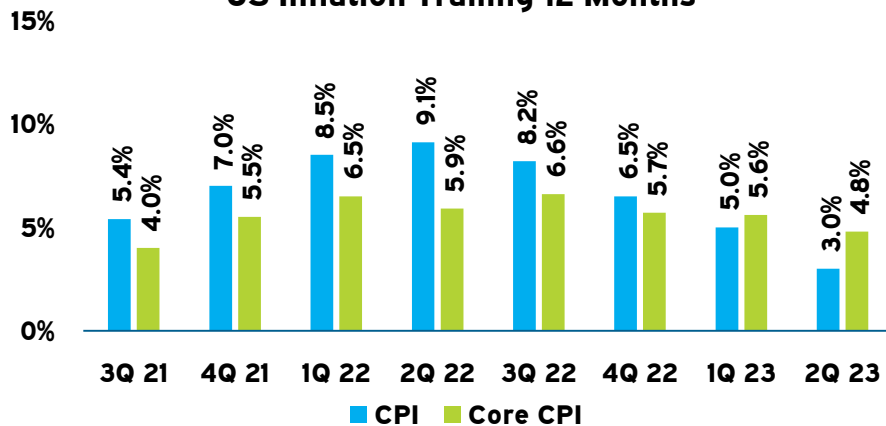
Source: Bureau of Economic Analysis. Data as of Q2 2023 represents the "advance" estimate. The Q2 2023 "second" estimate will be released August 30, 2023.

#### US Unemployment



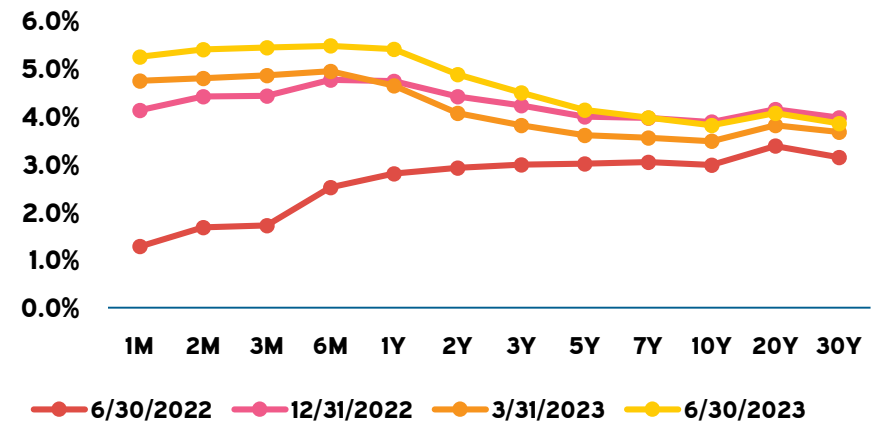
Source: Bureau of Labor Statistics. Data as of June 30, 2023. Seasonally adjusted.

#### US Inflation Trailing 12 Months



Source: Bureau of Labor Statistics. Data is non-seasonally adjusted CPI, which may be volatile in the short-term. Data as of June 30, 2023.

#### US Yield Curve



Source: US Department of the Treasury.

### Index Returns

	QTR (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
<b>Domestic Equity</b>					
S&P 500	8.7	19.6	14.6	12.3	12.9
Russell 3000	8.4	19.0	13.9	11.4	12.3
Russell 1000	8.6	19.4	14.1	11.9	12.6
Russell 1000 Growth	12.8	27.1	13.7	15.1	15.7
Russell 1000 Value	4.1	11.5	14.3	8.1	9.2
Russell MidCap	4.8	14.9	12.5	8.5	10.3
Russell MidCap Growth	6.2	23.1	7.6	9.7	11.5
Russell MidCap Value	3.9	10.5	15.0	6.8	9.0
Russell 2000	5.2	12.3	10.8	4.2	8.3
Russell 2000 Growth	7.1	18.5	6.1	4.2	8.8
Russell 2000 Value	3.2	6.0	15.4	3.5	4.7
<b>Non-US Equity</b>					
MSCI ACWI (ex. US)	2.4	12.7	7.2	3.5	4.7
MSCI EAFE	3.0	18.8	8.9	4.4	5.4
MSCI EAFE Growth	2.8	20.2	6.3	5.4	6.4
MSCI EAFE Value	3.2	17.4	11.3	2.9	4.1
MSCI EAFE (Local Currency)	4.3	17.5	11.7	6.4	7.7
MSCI EAFE Small Cap	0.6	10.2	5.7	1.3	6.2
MSCI Emerging Markets	0.9	1.8	2.3	0.9	3.0
MSCI Emg Mkts (Local Currency)	1.7	3.3	3.9	3.0	5.7
MSCI China	(9.7)	(16.8)	(10.2)	(5.3)	3.0
<b>Fixed Income</b>					
Bloomberg Universal	(0.6)	0.0	(3.4)	1.0	1.8
Bloomberg Aggregate	(0.8)	(0.9)	(4.0)	0.8	1.5
Bloomberg US TIPS	(1.4)	(1.4)	(0.1)	2.5	2.1
Bloomberg High Yield	1.8	9.1	3.1	3.4	4.4
JPM GBI-EM Global Diversified	2.5	11.4	(1.4)	0.3	(0.6)
<b>Other</b>					
FTSE NAREIT Equity	2.6	(0.1)	8.9	4.6	6.4
Bloomberg Commodity Index	(2.6)	(9.6)	17.8	4.7	(1.0)

#### During the Quarter:

- Financial market volatility persisted as investors continued to contend with still-elevated inflation, higher interest rates, a regional banking crisis that has eased from Q1 but remains a risk and an uncertain economic outlook.
- Despite these headwinds most equity markets posted positive returns for the quarter while fixed income markets fell slightly, as rates rose, reflecting expectations for the FOMC to continue tightening policy rates.
- The FOMC raised its federal funds rate target range by 0.25% in May to 5.00% to 5.25% but held the target range steady in June.
- Equities continued their rebound in Q2 from the end of 2022:
  - US equities (+8.7%) outpaced non-US equities (+2.4%).
  - A small subset of the mega-cap companies - The Magnificent Seven (Tesla, Apple, Amazon, Microsoft, Nvidia, Google and Meta) - are driving the US equity market's positive returns.
  - US Large Caps outperformed US Small Caps.
  - Growth meaningfully outpaced Value across all market capitalizations in the US.
  - Within Non-US, Developed Markets again outperformed Emerging Markets.
- Broad fixed income returns were slightly negative.
  - US Treasury yields rose mainly due to higher policy expectations.
- Diversifying asset classes produced mixed results.
  - Commodities were down (2.6%).
  - REITs increased 2.6%.

## Commentary

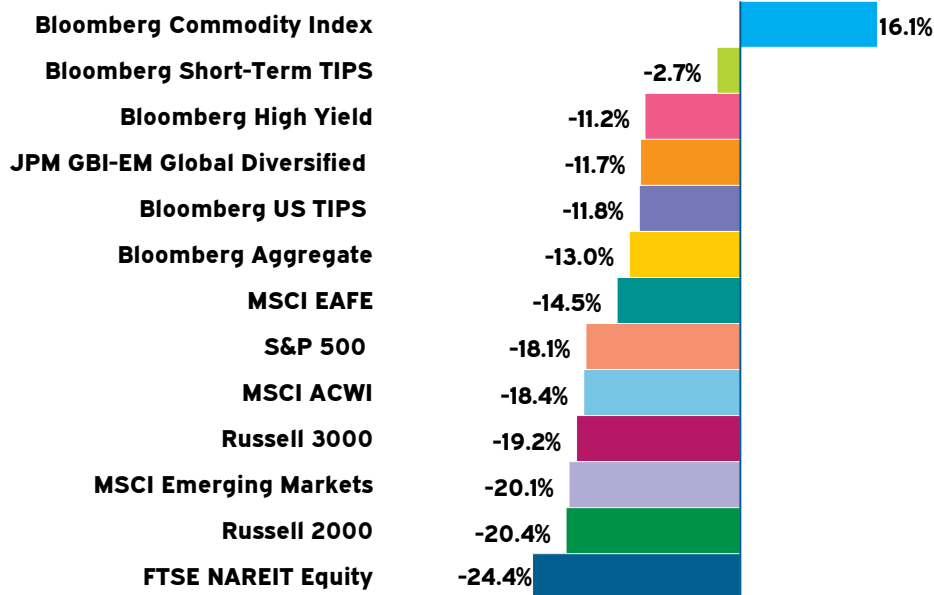
→ Asset returns were positive in June with US and Non-US equities posting gains, while most fixed income sectors sold-off on expectations for further interest rate hikes later this year. Except for commodities, most public market asset classes remain up for the year.

- Although the Fed skipped a rate-hike in June, Fed comments signaled further rate hikes in the 2H 2023; the US economy appears to be resilient supporting domestic demand and low unemployment.
- US equity markets (Russell 3000) rose in June (+6.8%) adding to YTD gains (+16.2%). Some of the largest technology names drove positive results. Growth stocks continued to outpace value stocks, particularly in the large cap space.
- Non-US developed equity markets rose in June (MSCI EAFE 4.6%) falling behind US equities in 2023 (+16.2% versus +11.7%). A strengthening US dollar weighed on returns.
- Emerging market equities rose in June (+3.8%) supported by positive returns in China (+4.0%). They significantly trail developed market equities YTD returning +4.9%, due partly to higher US-China tensions.
- Rates generally rose in June leading to bond markets declining, with the broad US bond market (Bloomberg Aggregate) falling 0.4% for the month. It remains positive (+2.1%) year-to-date, though, on declining inflation and expectations for the Fed to end their rate hikes soon.

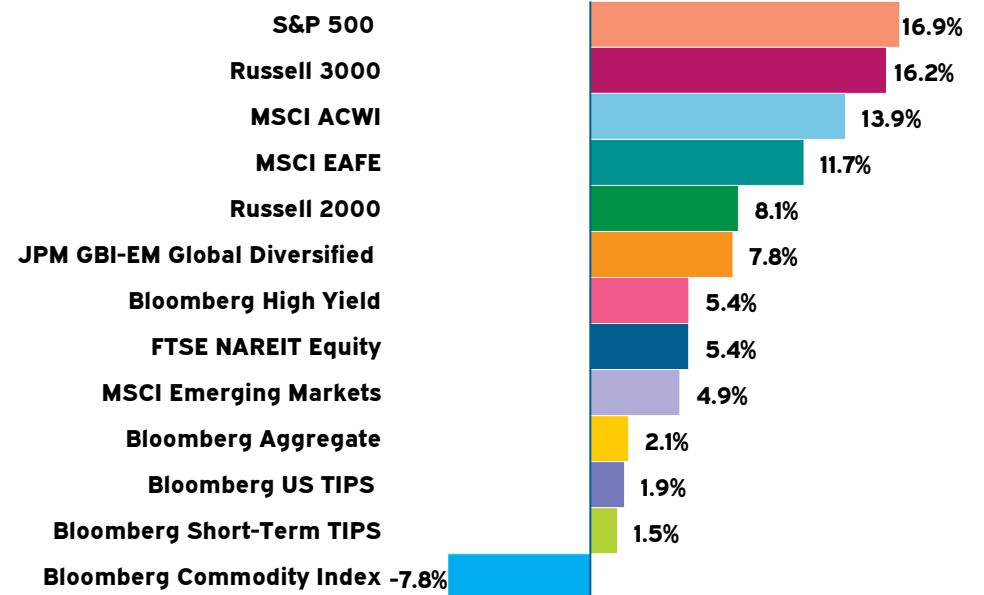
→ This year, the paths of inflation and monetary policy, slowing global growth and the war in Ukraine will all be key.

### Index Returns<sup>1</sup>

#### 2022



#### YTD



→ After a particularly difficult 2022, most public market assets are up thus far in 2023, building on gains from the fourth quarter of last year.

→ Risk sentiment has been supported by expectations that policy tightening could be ending soon, as inflation continues to fall, and growth has slowed.

<sup>1</sup> Source: Bloomberg and FactSet. Data is as of June 30, 2023.

### Domestic Equity Returns<sup>1</sup>

Domestic Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	6.6	8.7	16.9	19.6	14.6	12.3	12.8
Russell 3000	6.8	8.4	16.2	19.0	13.9	11.4	12.3
Russell 1000	6.8	8.6	16.7	19.4	14.1	11.9	12.6
Russell 1000 Growth	6.8	12.8	29.0	27.1	13.7	15.1	15.7
Russell 1000 Value	6.6	4.1	5.1	11.5	14.3	8.1	9.2
Russell MidCap	8.3	4.8	9.0	14.9	12.5	8.4	10.3
Russell MidCap Growth	7.7	6.2	15.9	23.1	7.6	9.7	11.5
Russell MidCap Value	8.7	3.9	5.2	10.5	15.0	6.8	9.0
Russell 2000	8.1	5.2	8.1	12.3	10.8	4.2	8.2
Russell 2000 Growth	8.3	7.1	13.6	18.5	6.1	4.2	8.8
Russell 2000 Value	7.9	3.2	2.5	6.0	15.4	3.5	7.3

#### US Equities: Russell 3000 Index rose 8.4% in the second quarter and 16.2% YTD.

- US stocks rose sharply in the second quarter of 2023. Most of the gains came in the month of June when the Fed kept its target rate unchanged for the first time since early 2022. Investors are expressing optimism that the Fed can tame inflation without widespread disruptions to the equity markets.
- With the exception of energy and utilities, each sector of the Russell 3000 index appreciated during the second quarter. Technology led all sectors and was driven by enthusiasm for growth stocks, particularly those with exposure to artificial intelligence (e.g., NVIDIA).
- Large cap stocks continue to outperform small cap stocks, driven by technology and the underperformance of small cap biotechnology stocks. Growth stocks continue to broadly outperform value stocks.

<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2023.

### Foreign Equity Returns<sup>1</sup>

Foreign Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	4.5	2.4	9.5	12.7	7.2	3.5	4.7
MSCI EAFE	4.6	3.0	11.7	18.8	8.9	4.4	5.4
MSCI EAFE (Local Currency)	3.6	4.3	12.1	17.5	11.7	6.4	7.7
MSCI EAFE Small Cap	2.9	0.6	5.5	10.2	5.7	1.3	6.2
MSCI Emerging Markets	3.8	0.9	4.9	1.8	2.3	0.9	2.9
MSCI Emerging Markets (Local Currency)	3.4	1.7	5.6	3.3	3.9	3.0	5.7
MSCI China	4.0	-9.7	-5.5	-16.8	-10.3	-5.3	3.0

**Foreign Equity: Developed international equities (MSCI EAFE) rose 3.0% in the second quarter bringing the YTD results to +11.7%. Emerging market equities (MSCI EM) rose 0.9% in the quarter, rising 4.9% YTD.**

- Eurozone and Japan markets continued their strength in June, wrapping up a strong second quarter. In Europe, financials and IT led returns whereas energy and communication services lagged. Enthusiasm for AI helped company fundamentals and prices for semiconductor stocks. Headline inflation was down in June, although core inflation was up slightly month over month. Energy and materials were the main drivers for falling UK equities, along with Bank of England rate hikes. Optimism continues to build for Japanese investors, while the Yen remains weak and Bank of Japan remains dovish.
- Emerging markets were laggards as China equities struggled from weak export demands and rising negative sentiments. Brazil, India, and Taiwan are bright spots in EM, the former due to good earnings and macro, the latter from AI and IT strength.

<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2023.

### Fixed Income Returns<sup>1</sup>

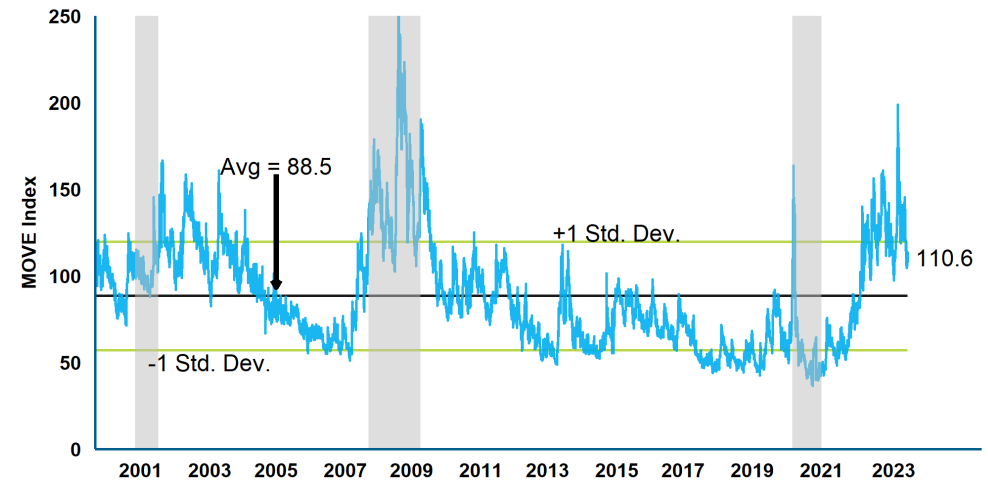
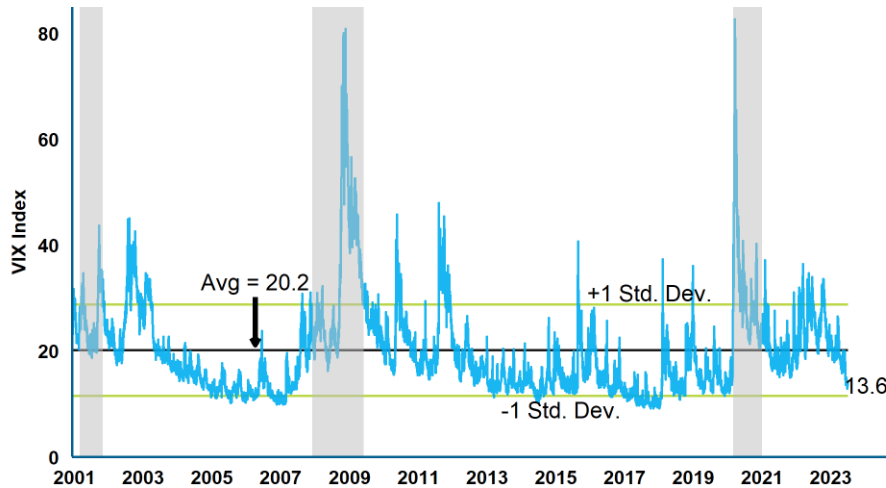
Fixed Income	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-0.2	-0.6	2.3	0.0	-3.4	1.0	1.8	5.2	6.3
Bloomberg Aggregate	-0.4	-0.8	2.1	-0.9	-4.0	0.8	1.5	4.8	6.5
Bloomberg US TIPS	-0.3	-1.4	1.9	-1.4	-0.1	2.5	2.1	4.6	6.8
Bloomberg Short-term TIPS	-0.2	-0.7	1.5	0.1	2.3	2.7	1.7	5.3	2.5
Bloomberg High Yield	1.7	1.7	5.4	9.1	3.1	3.4	4.4	8.5	4.1
JPM GBI-EM Global Diversified (USD)	3.3	2.5	7.8	11.4	-1.4	0.3	-0.6	6.6	5.0

**Fixed Income:** The Bloomberg Universal declined 0.6% in the second quarter as global sovereign debt yields generally rose. Bonds retained a positive start to the year (+2.3% YTD) though as inflation continues to decline.

- US Treasury yields generally rose over the month, with 1-year to 10-year maturity sector rising the most due to higher policy expectations.
- The TIPS index and the short-term TIPS index posted negative returns for the month as inflation concerns continued to ease.
- Continued risk appetite drove high yield bond performance (1.7%) and outperformance versus the broad US bond market (Bloomberg Aggregate). Emerging market bonds (3.3%) also performed well on investor risk sentiment.

<sup>1</sup> Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of June 30, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

### Equity and Fixed Income Volatility<sup>1</sup>

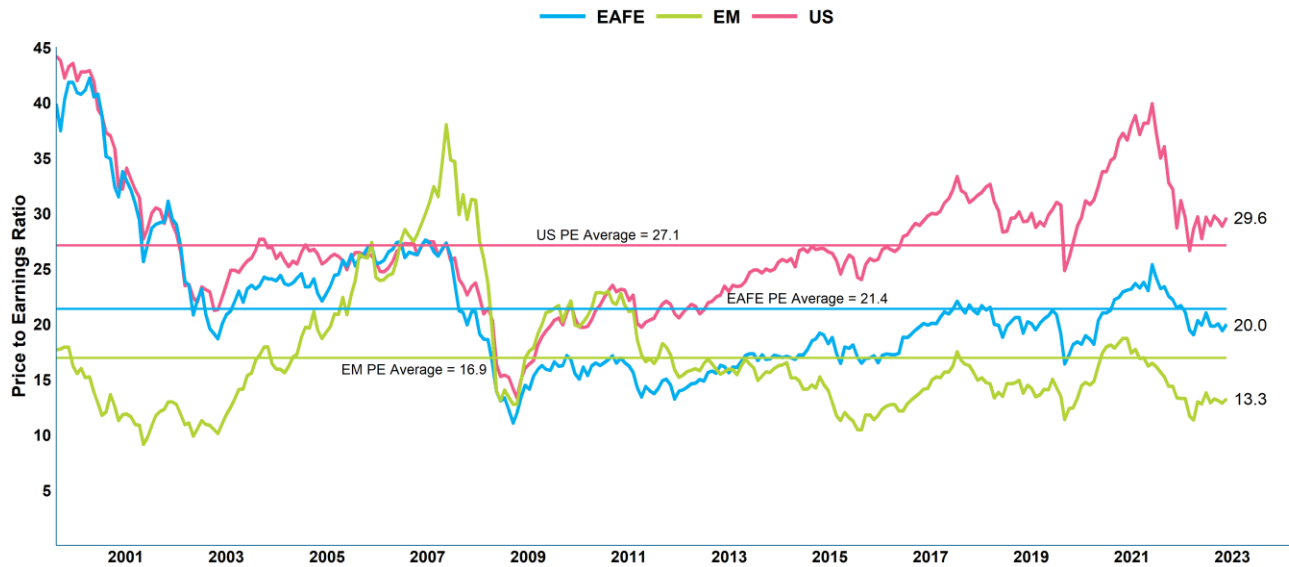


- Volatility in equities (VIX) declined in June and remains low as investors continue to anticipate the end of the Fed's policy tightening.
- In comparison, the bond market remains on edge after last year's historic losses and continued volatility in interest rates this year due to policy uncertainty and issues in the banking sector. The MOVE (fixed income volatility) remains well above (110.6) its long-run average (88.4), but off its recent peak during the heart of the banking crisis.

<sup>1</sup> Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of June 2023. The average line indicated is the average of the VIX and MOVE values between 2000 and June 2023.

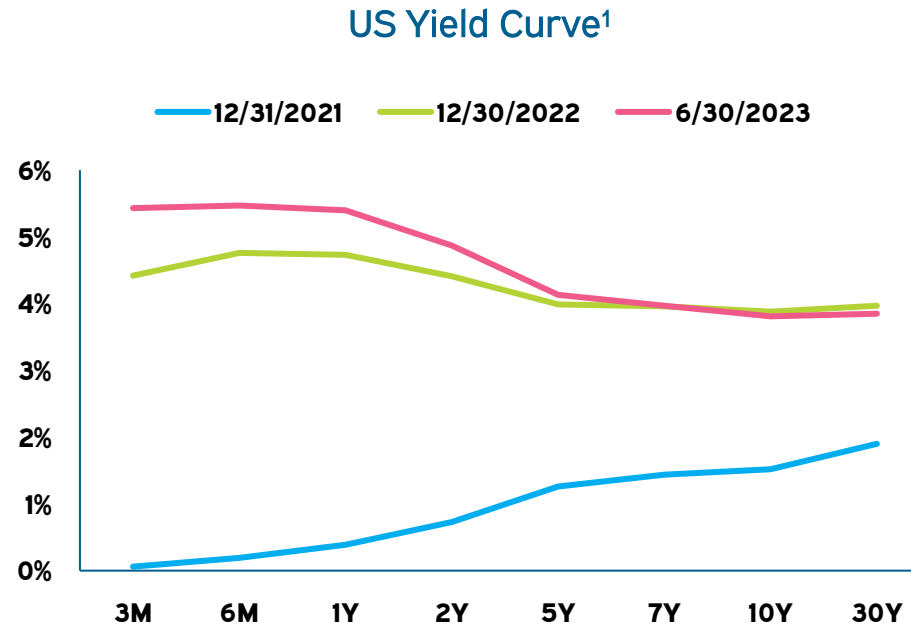


**Equity Cyclically Adjusted P/E Ratios<sup>1</sup>**



- After its dramatic decline last year the US equity price-to-earnings ratio remains above its long-run (21st century) average.
- International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.

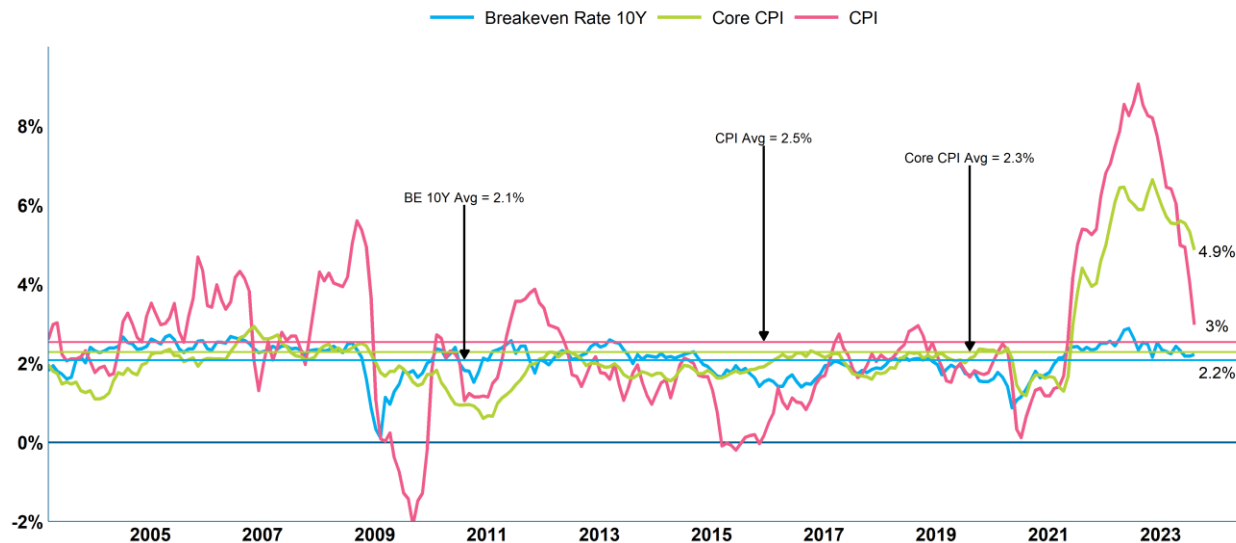
<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of June 2023. The average line is the long-term average of the US, EM, and EAFE PE values from April 2000 to the recent month-end respectively.



- Interest rates have started rising again across the curve given policy maker guidance that policy rates are likely to rise further and potentially stay longer at the terminal rate than market participants expect. The rise in rates was particularly acute at the very front-end (< 1 year). Maturities from two years out also drifted higher as market participants considered the possibility of additional policy rate increases as economic data (mainly inflation and labor markets) remains strong.
- The yield curve remains inverted with the spread between two-year and ten-year Treasuries finishing the month at -1.06%. The more closely watched measure (by the Fed) of the three-month and ten-year Treasuries spread also remained inverted at -1.62%. Inversions in the yield curve have often preceded recessions.

<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2023.

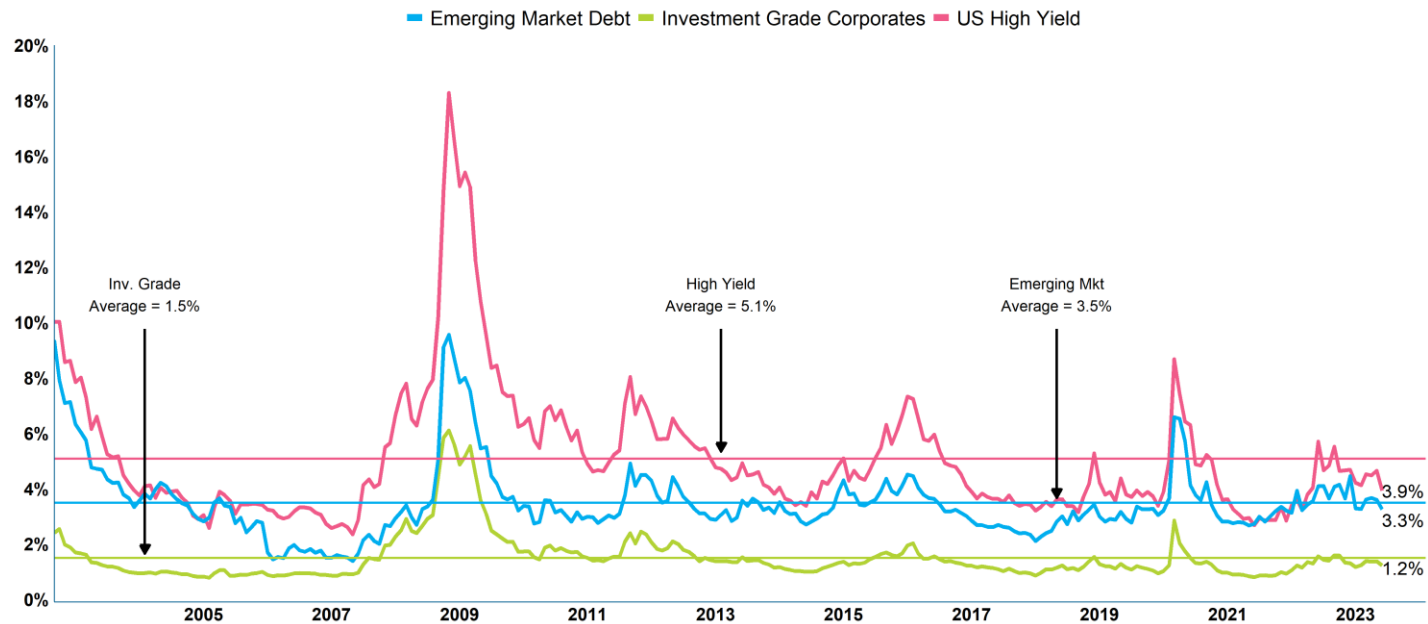
**Ten-Year Breakeven Inflation and CPI<sup>1</sup>**



- Headline inflation continued to decline in June, with the year-over-year reading falling from 4.0% to 3.0% and coming in slightly below estimates. The month-over-month rate of price increases rose slightly (0.2% versus 0.1%), with food prices ticking up slightly (0.1%) and energy prices rose (0.6%).
- Core inflation – excluding food and energy - fell (5.3% to 4.9%), coming in slightly above forecasts. It remains stubbornly high driven by shelter costs.
- Inflation expectations (breakevens) remain well below current inflation as investors continue to expect inflation to track back toward the Fed’s 2% average target.

<sup>1</sup> Source: FRED. Data is as June 30, 2023. The CPI and 10 Year Breakeven average lines denote the average values from January 2003 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

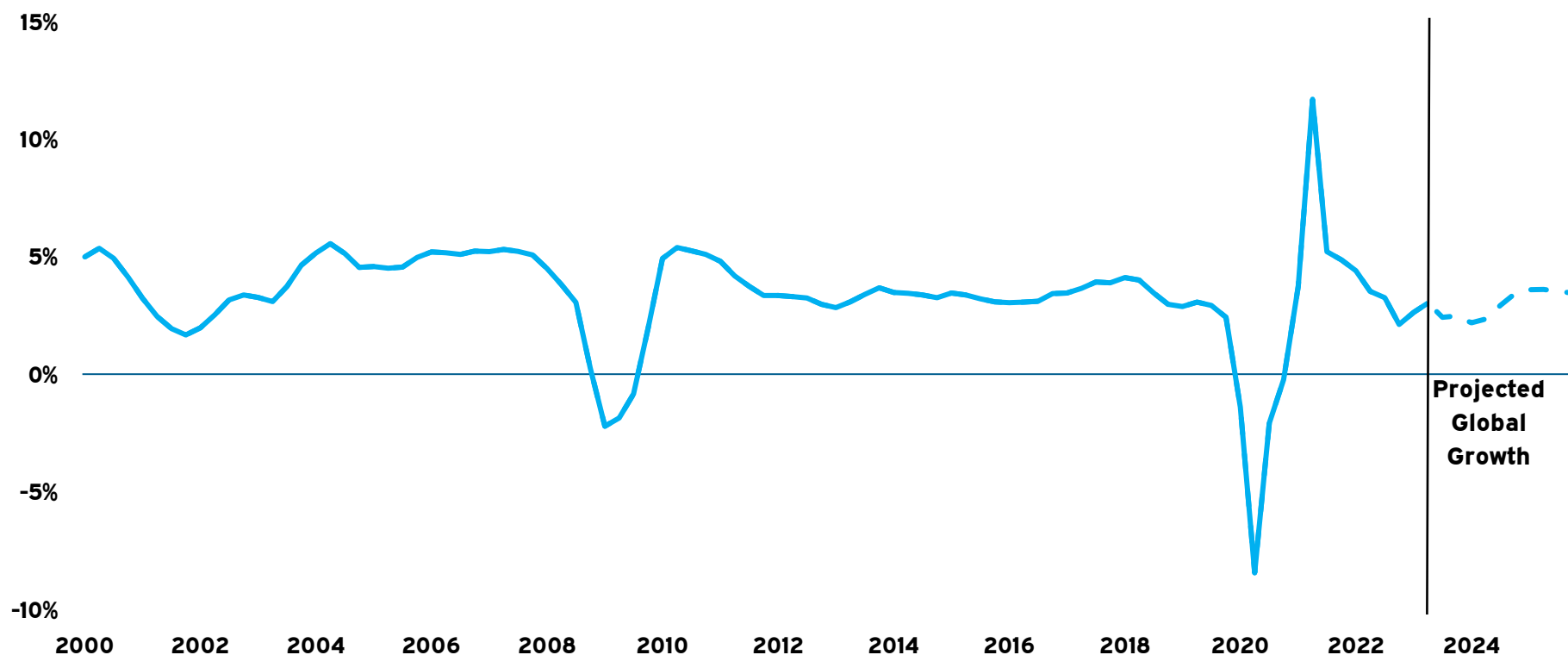
**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- Spreads (the added yield above a comparable maturity Treasury) declined in June as risk appetite remained robust for respective credit exposures.
- High yield spreads remain below their long-term average. Investment grade spreads and emerging market spreads are narrower than high yield spreads and close to their respective long-term averages.

<sup>1</sup> Sources: Bloomberg. Data is as of June 30, 2023. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

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

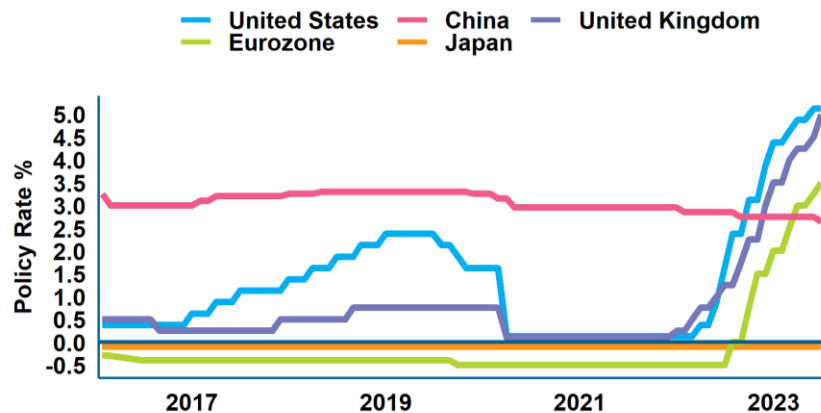


- Global economies are expected to slow this year compared to 2022, with risks of recession as the impacts of policymakers' aggressive tightening to fight inflation flow through economies.
- The delicate balancing act of central banks trying to reduce inflation without dramatically depressing growth will remain key.

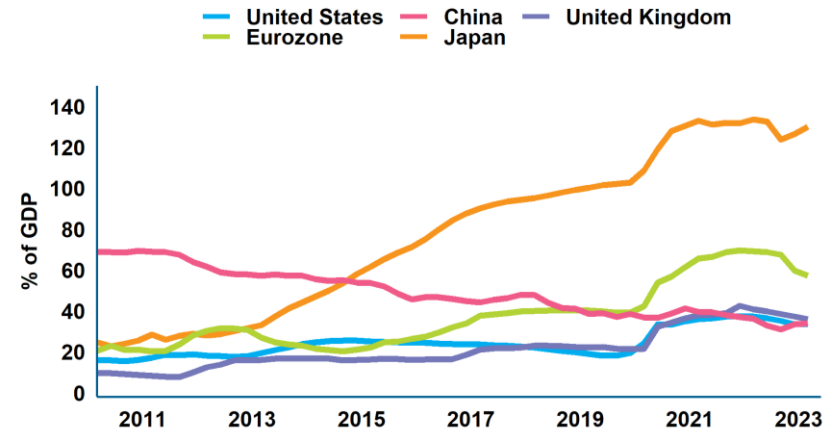
<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated June 2023.

### Central Bank Response<sup>1</sup>

#### Policy Rates



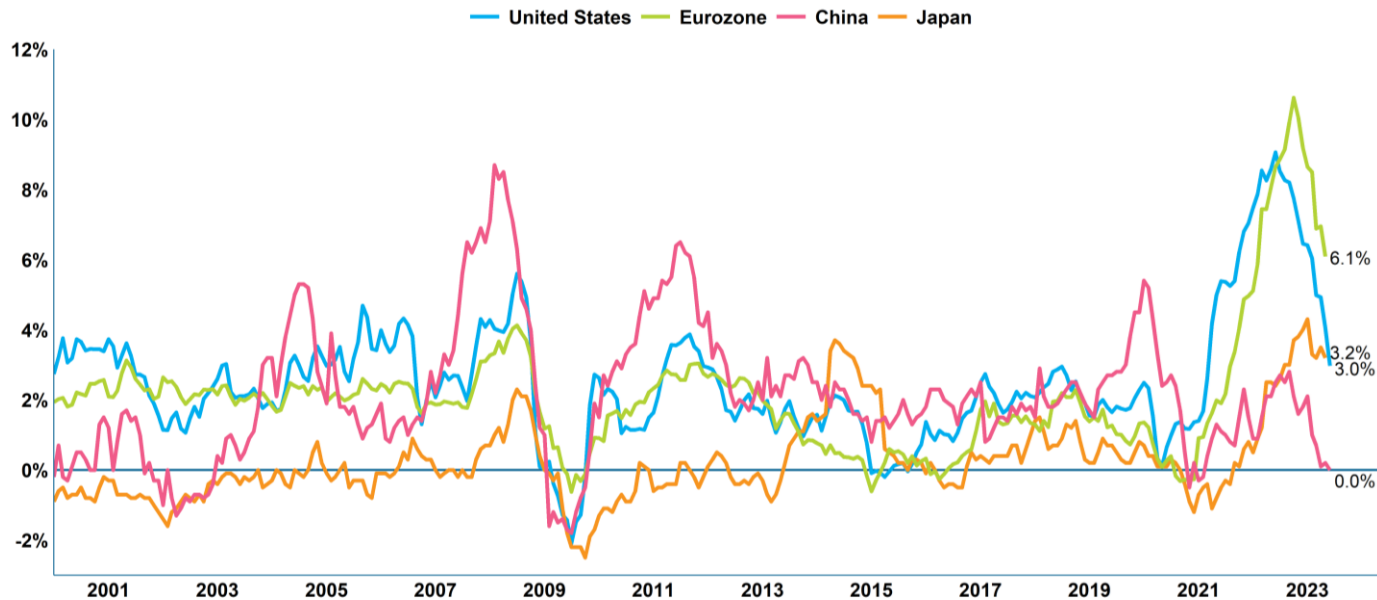
#### Balance Sheet as % of GDP



- In 2022, many central banks aggressively reduced pandemic-era policy support in the face of high inflation, with the US taking the most aggressive approach. Slowing inflation and growth have led to expectations for reductions in policy tightening going forward.
- In May the Fed raised rates another 25 basis points to a range of 5.0% to 5.25%. After month-end, the FOMC paused its tightening campaign but hinted that one or two additional rate hikes could come later this year.
- In China, the central bank has continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Looking ahead, risks remain for a policy error as central banks attempt to balance multiple goals, bringing down inflation, maintaining financial stability, and supporting growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of June 30, 2023. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of March 31, 2023.

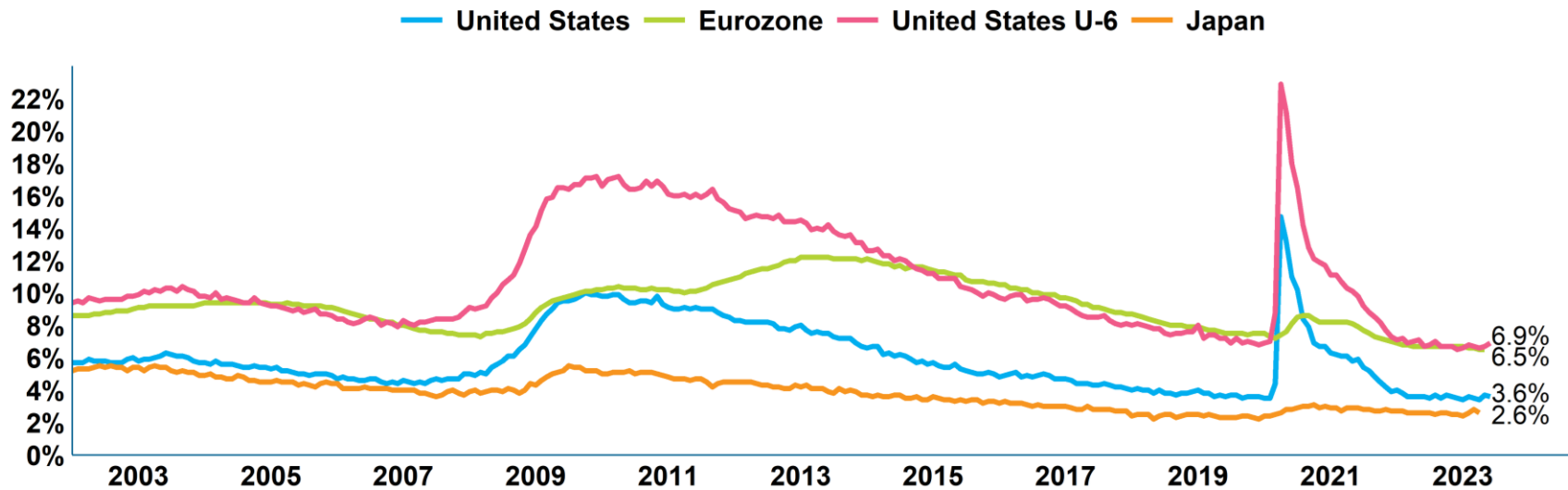
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- Inflation pressures continued to decline globally due to the easing of supply chain issues from the pandemic, declining energy prices, and tighter monetary policy.
- In the US, inflation fell to 3.0% at month-end, while eurozone inflation also fell (6.1% from 7.0%) a level well off its peak. Despite 2023’s significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation remains lower in China and Japan. In China, inflation levels were only slightly above 0% at month-end as the reopening of their economy has led to an uneven economic recovery.

<sup>1</sup> United States and Eurozone CPI - Source: FRED. Japan and China CPI – Source: Bloomberg. Data is as June 30, 2023. The most recent Japanese inflation data is as of May 2023.

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

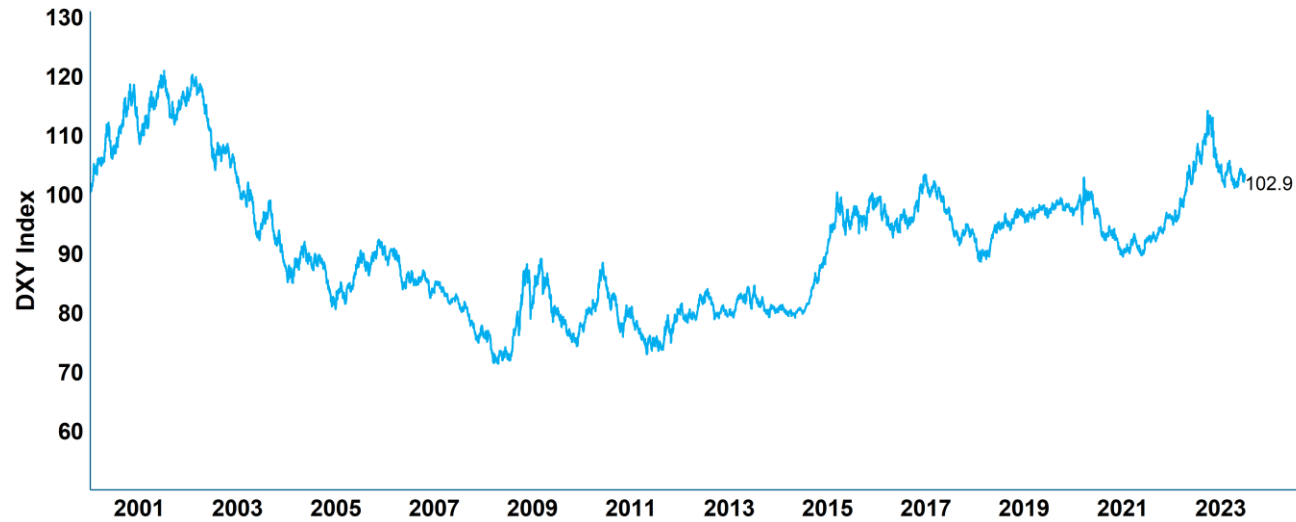


- Despite slowing growth and high inflation, the US labor market still shows signs of resiliency. Unemployment in the US, which experienced the steepest rise, recently returned to pre-pandemic levels. Broader measures of unemployment (U-6) remain higher at 6.9% but also declined dramatically from their peak.
- The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, leading to higher unemployment.
- Unemployment in Europe has also declined but remains higher than the US, while levels in Japan have been flat through the pandemic given less layoffs.

<sup>1</sup> Eurozone Unemployment - Source: Bloomberg. United States, United States U-6, and Japan Unemployment – Source: FRED. Data is as June 30, 2023, for the US. The most recent data for Eurozone and Japanese unemployment is as of May 2023.



US Dollar versus Broad Currencies<sup>1</sup>



- The dollar finished 2022 much higher than it started, due to the increased pace of policy tightening, stronger relative growth, and safe-haven flows.
- Late last year and into this year, the dollar declined, as weaker economic data and lower inflation led to investors anticipating the end of Fed tightening. In June, we did see a slight decline in the dollar though.
- This year, the track of inflation across economies and the corresponding monetary policies will be key drivers of currency moves.

<sup>1</sup> Source: Bloomberg. Data as of June 30, 2023.

## Summary

### Key Trends:

- The impacts of still relatively high inflation will remain key, with bond market volatility likely to stay high.
- Recent issues related to the banking sector seem to have subsided for now but are a reminder that there is a delicate balance for central banks to continue to fight inflation but also to try to maintain financial stability.
- Global monetary policies could diverge in 2023. The risk of policy errors remains elevated as central banks try to reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecast to tip into recession. Inflation, monetary policy, and the war will all be key.
- In the US, consumers could feel pressure as certain components of inflation remain high (e.g., shelter), borrowing cost are elevated, and the job market may weaken.
- The key for US equities going forward will be whether earnings can remain resilient if growth continues to slow.
- Equity valuations remain lower in both emerging and developed markets, but risks remain, including potential continued strength in the US dollar, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector.

## 529 Industry Data

#### Tuition Inflation

- Twelve-month CPI declined in June to 3.0% coming in slightly below what economists had expected.
  - Elevated inflation could impact participants ability to save.
- College tuition inflation also ticked down in June from 2.3% to 2.1%
- While Tuition inflation remains below CPI the gap between the two has narrowed considerably.

#### Account & Asset Growth

- As of June 30, 2023, total college savings assets were \$426 billion, up from \$408 billion at the end of March 31, 2023.
- Direct plans' accounts and assets continue to out pace Advisor plans.
- Account growth is below the 10-year average for both Direct and Advisor.
  - Direct plan's account growth continued to decline from its peaked in 3Q 2021 at 8.7%
  - Advisor plans account growth increased over the quarter nearing its 10-year average

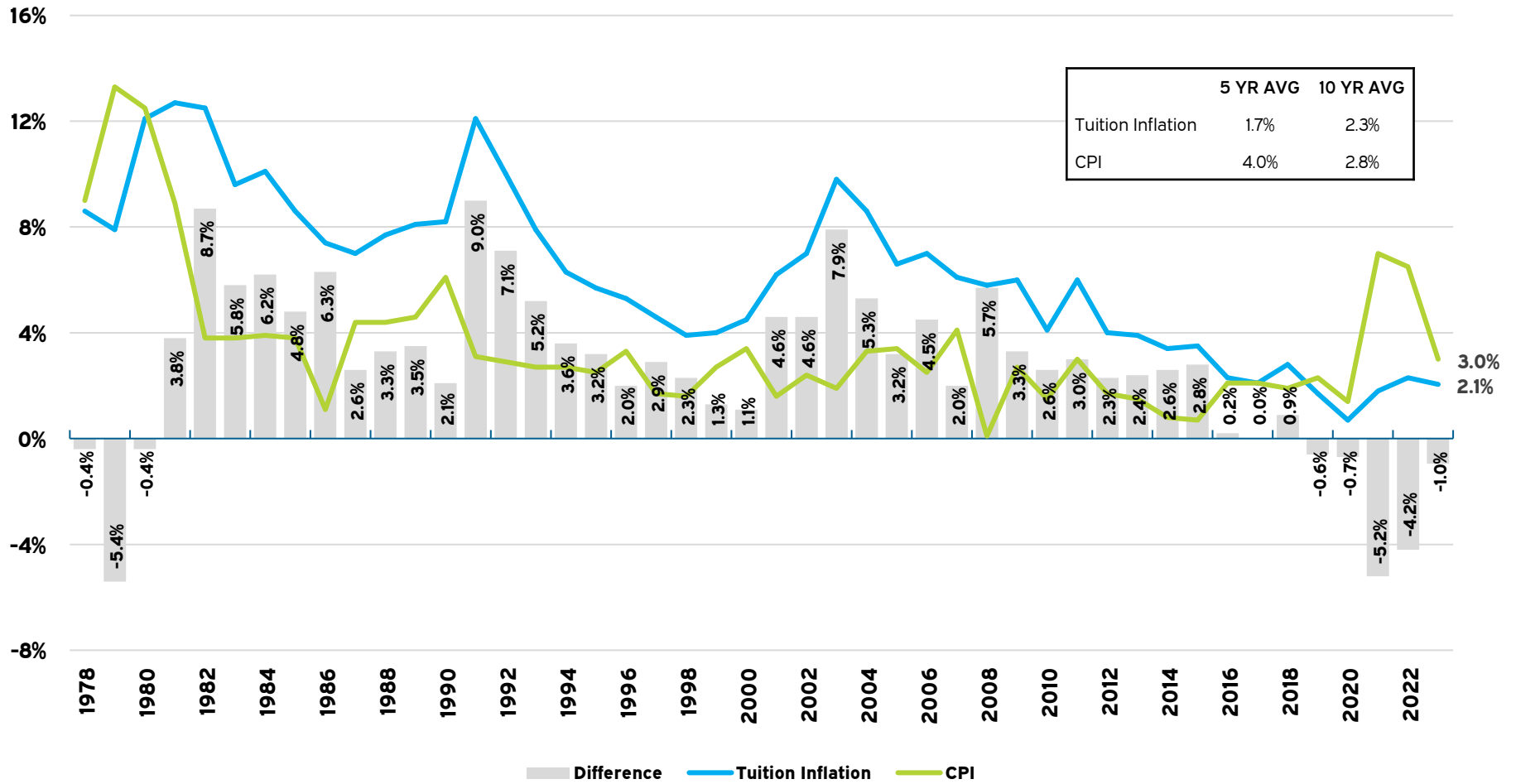
#### Median Portfolio Results

- Both age-based and YOE portfolios produced positive results over all measured trailing periods.
- Direct Age-based portfolios matched or outperformed their Advisor counterparts in almost all peer groups and time periods measured.
- Direct YOE portfolios matched or outperformed their Advisor counterparts, in almost all peer groups and time periods measured.
- Most Direct portfolios experienced less risk than their Advisor counterparts.

#### 529 Industry Trends

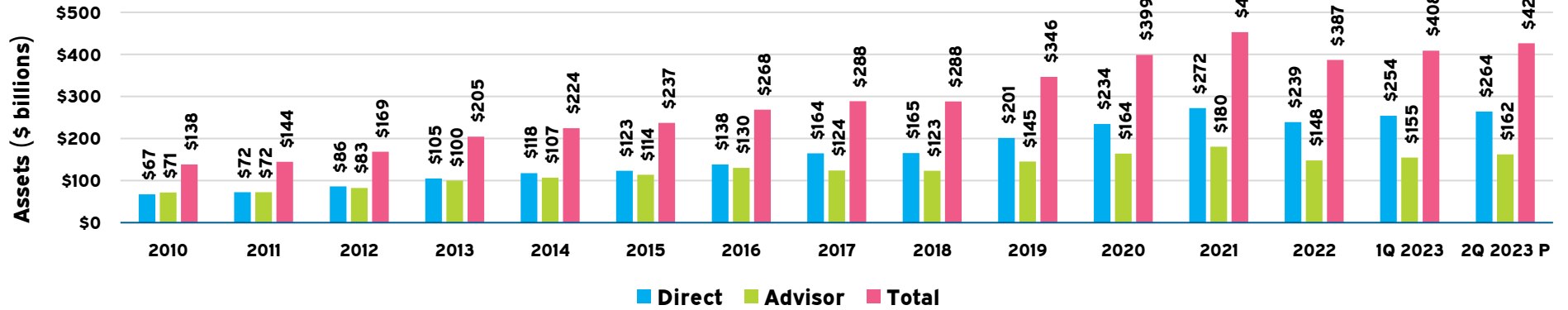
- Sustainability options gain momentum in 2022 with 8 states launching portfolios and 3 states expanding their offerings.
- 27 States include a sustainability option, representing 34 plans (14 Advisor and 20 Direct), and most options are equity strategies.
- 23 plans offer a single option.
- CA and NE offer a suite of age-/enrollment-based options.

**Year-Over-Year (1978 – June 2023)**  
**College Tuition Inflation v. the Consumer Price Index,**  
**US Bureau of Labor Statistics**

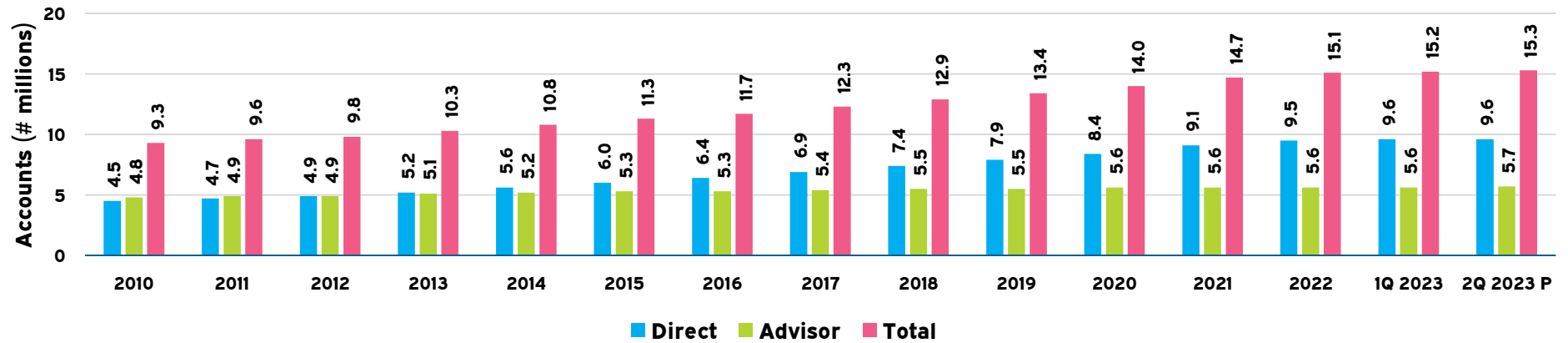


### Size of Market: Assets and Accounts

#### Industry Total Assets Under Management by Plan Type



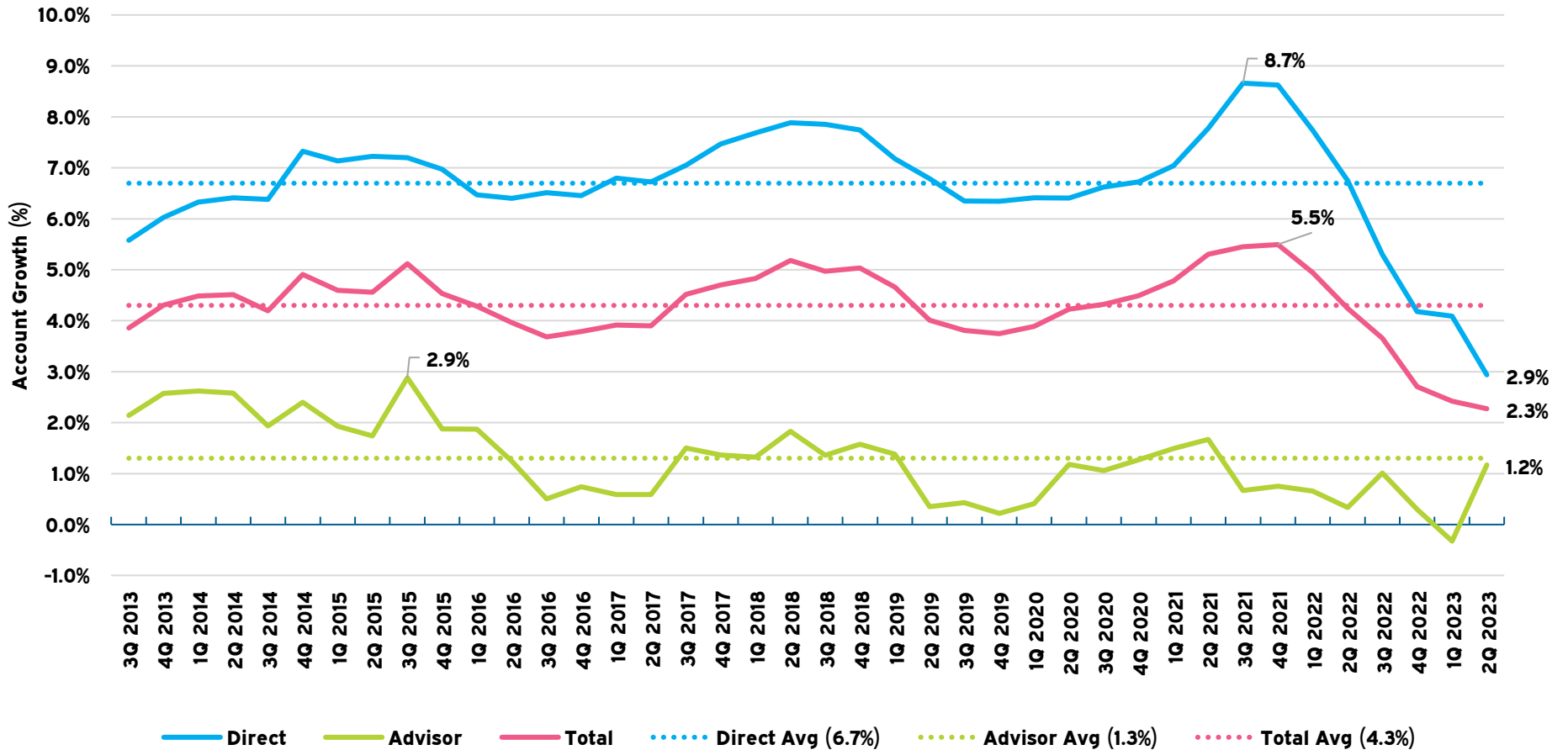
#### Industry Total Accounts By Plan Type



Source: ISS Market Intelligence as of June 30, 2023. (June 30, 2023, data is preliminary)

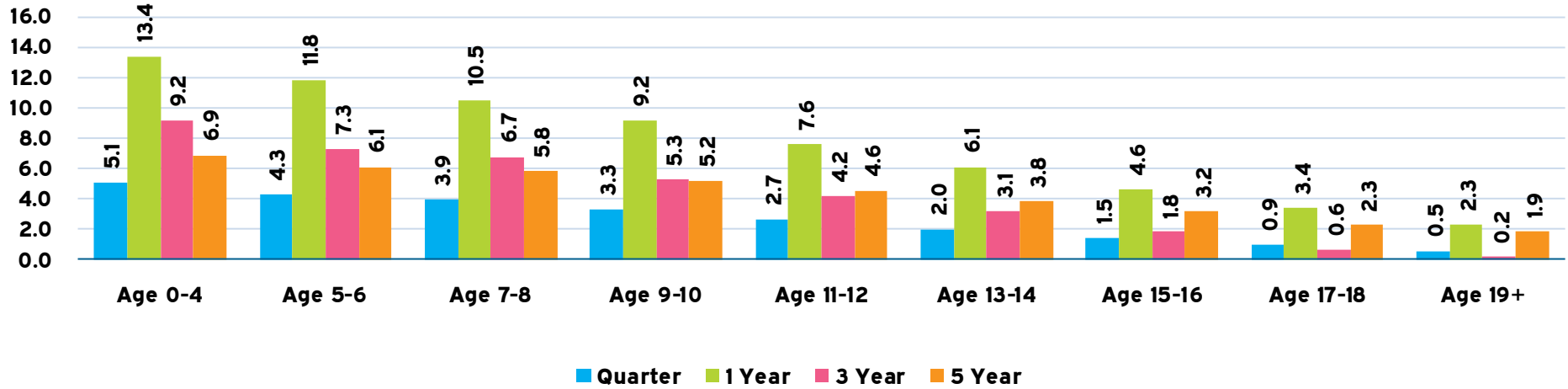
Size of Market: Account Growth

Rolling 1-Year Account Growth by Plan Type (%)

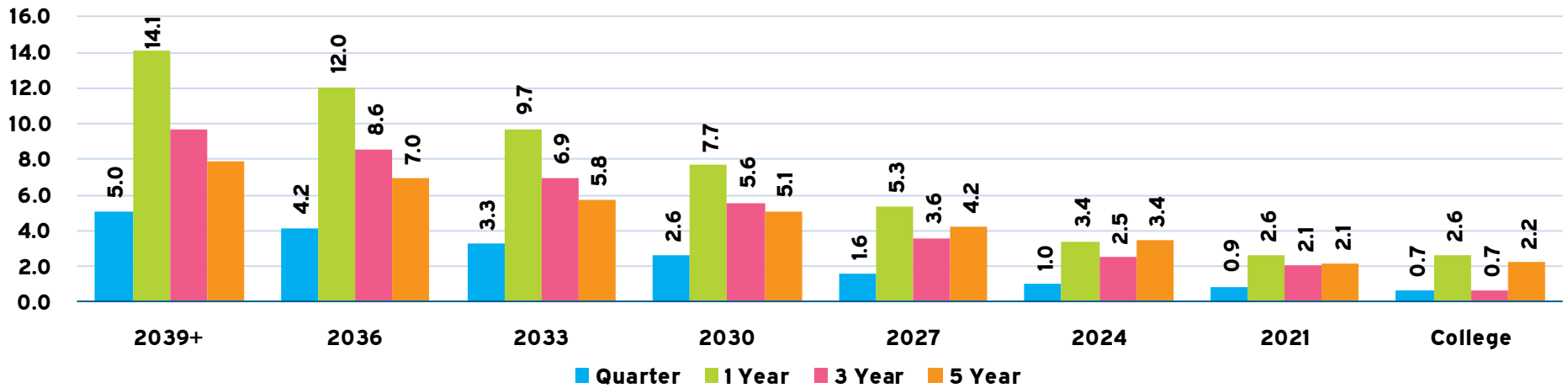


Source: ISS Market Intelligence as of June 30, 2023. (June 30, 2023, data preliminary)

#### Age-Based Portfolios (%)



#### Enrollment-Based Portfolios (%)

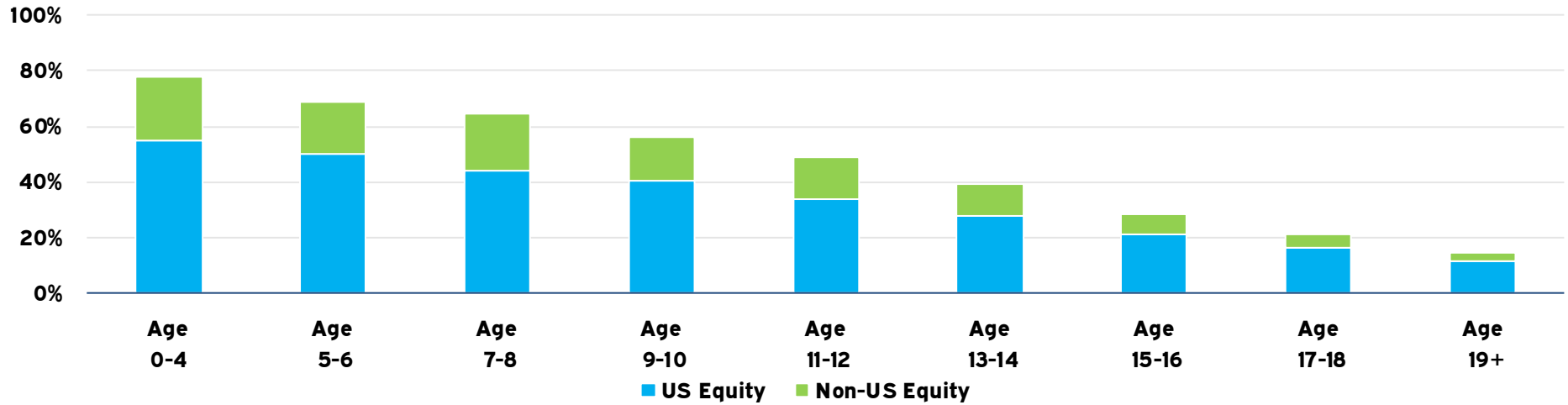


Source: Morningstar Direct. Returns are net of fees. Advisor Plan returns reflect A Shares excluding the effects of sales charges.

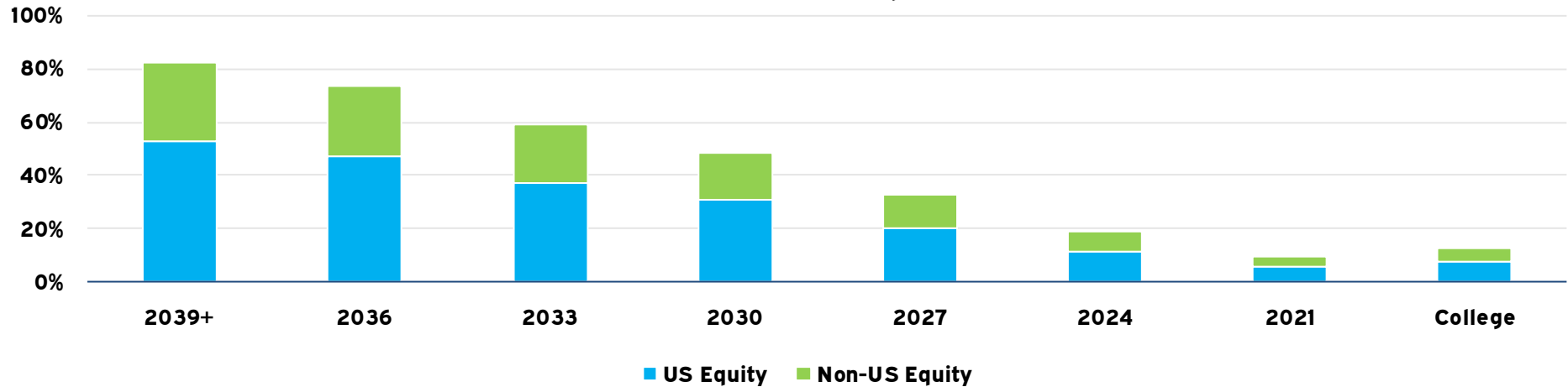


### Average Equity Allocations

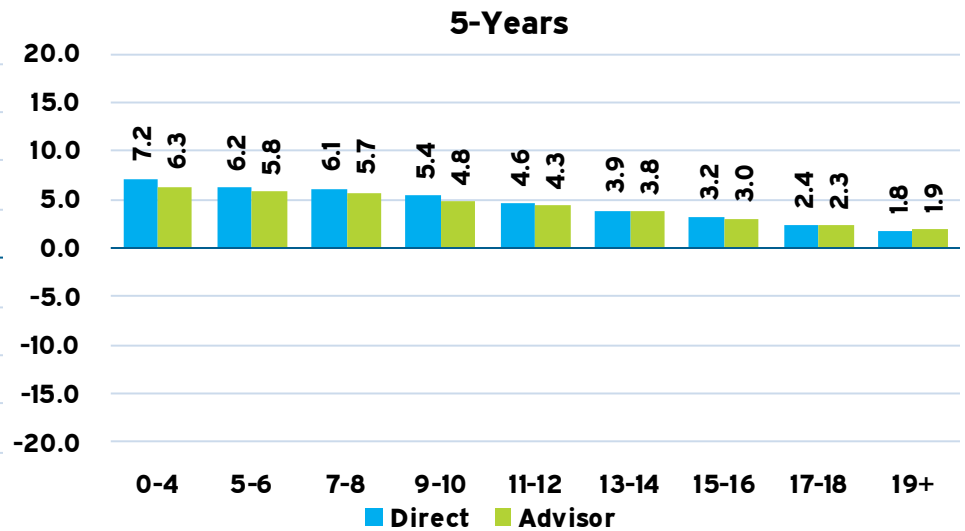
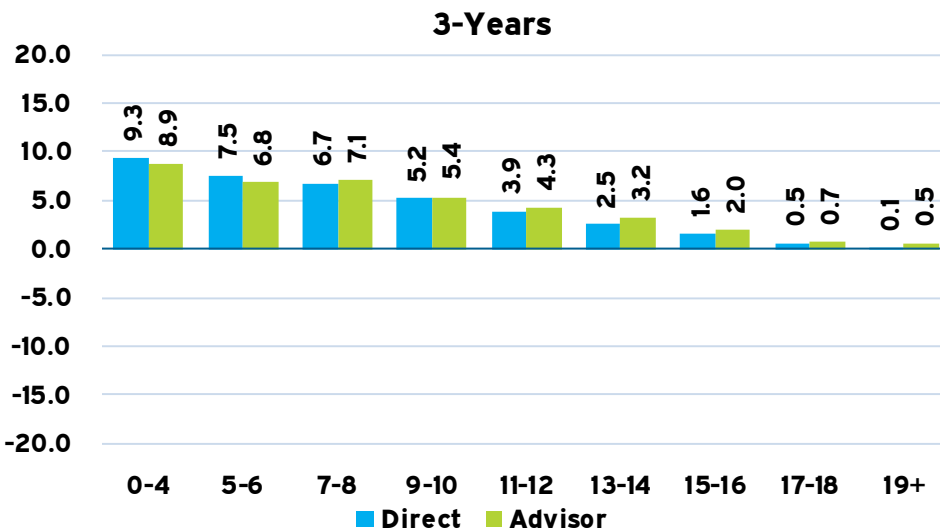
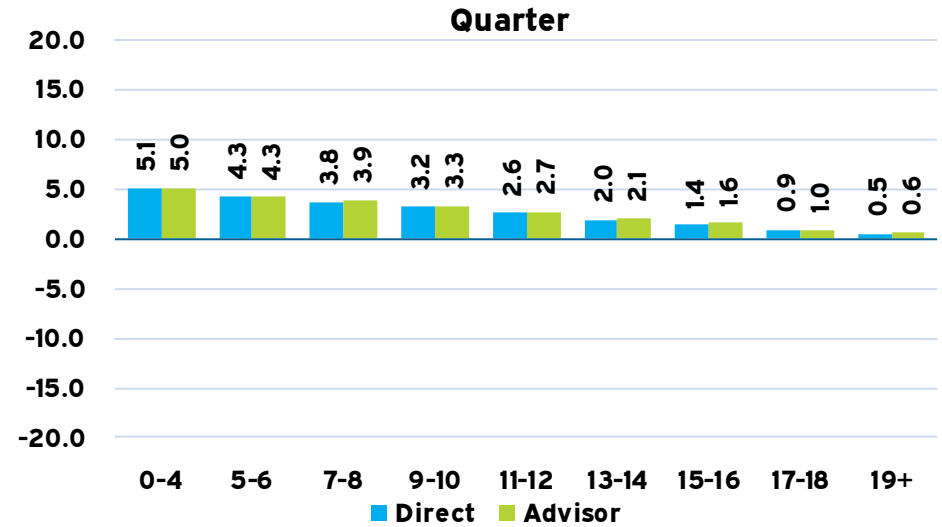
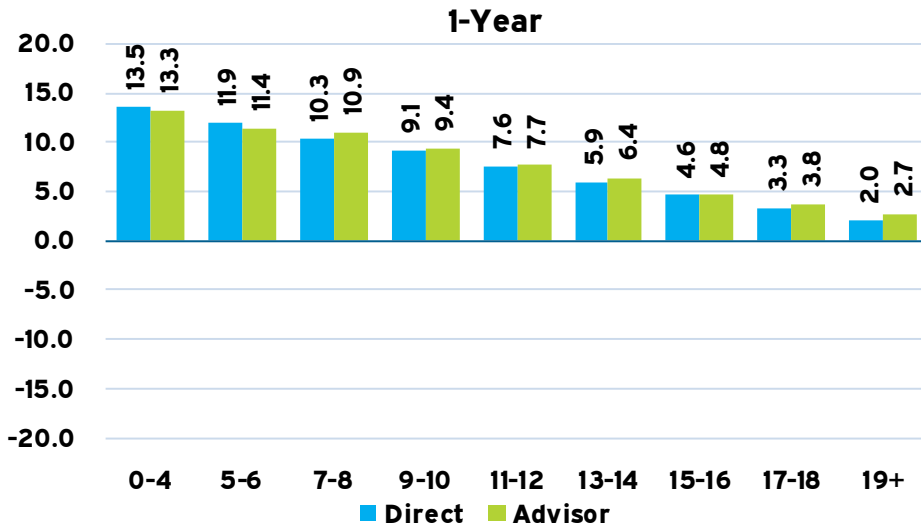
#### Age-Based Options



#### Enrollment-Based Options

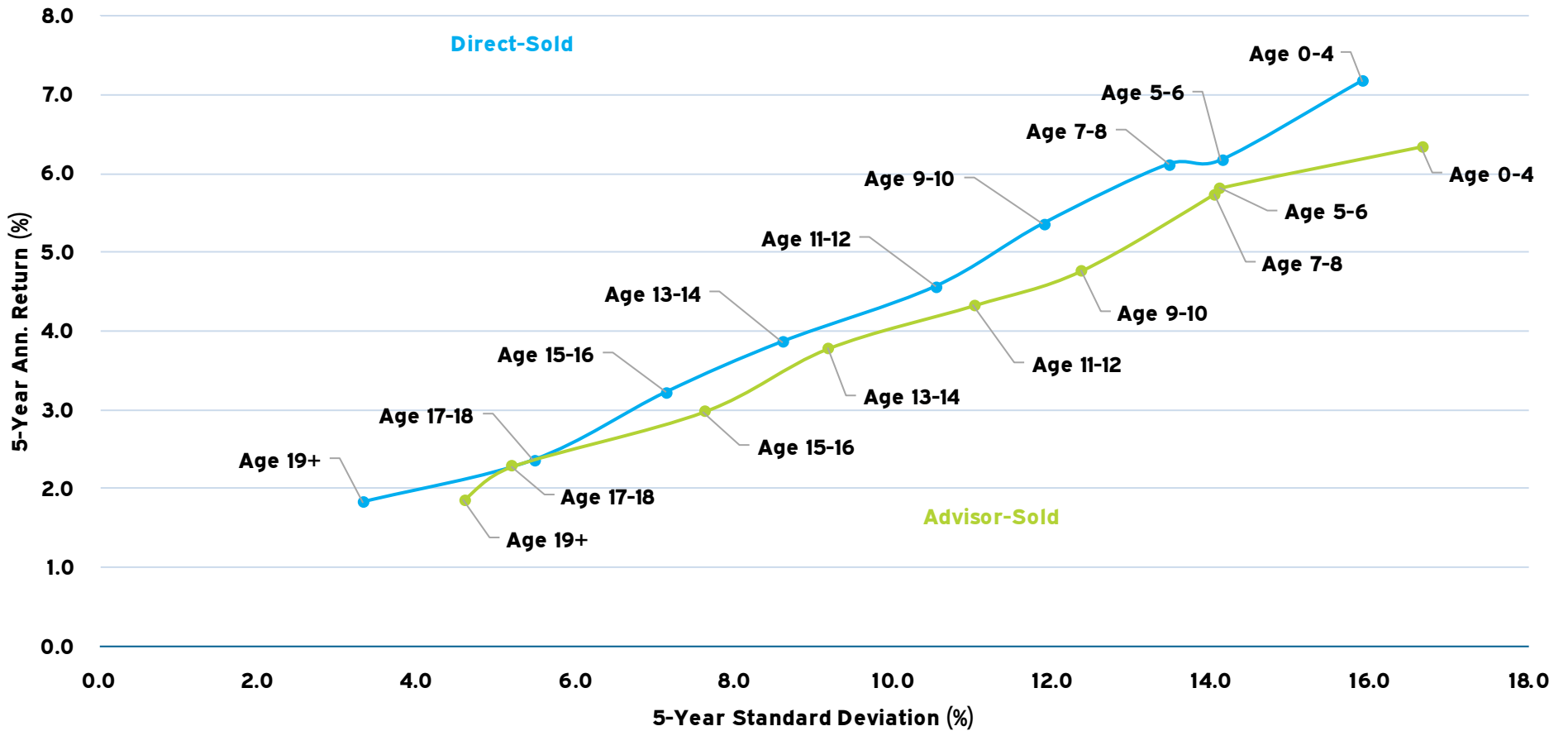


Source: Morningstar Direct.



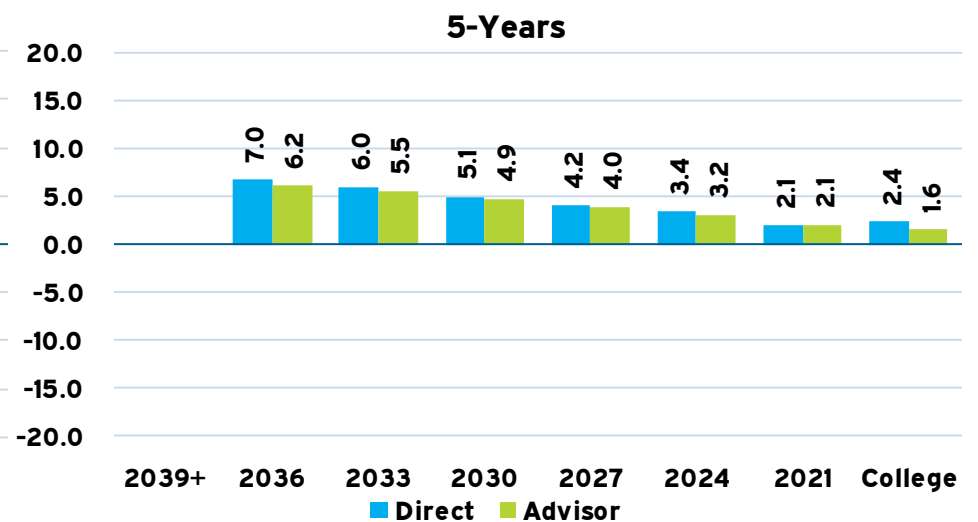
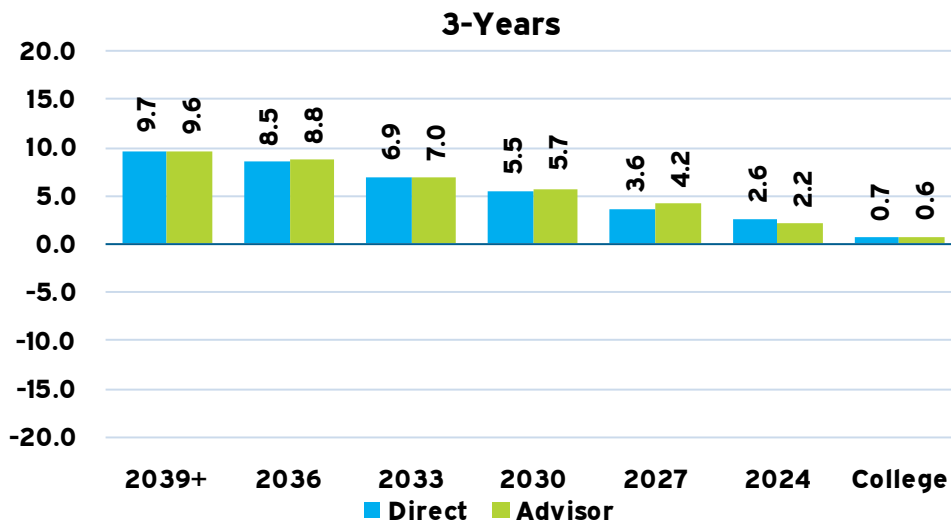
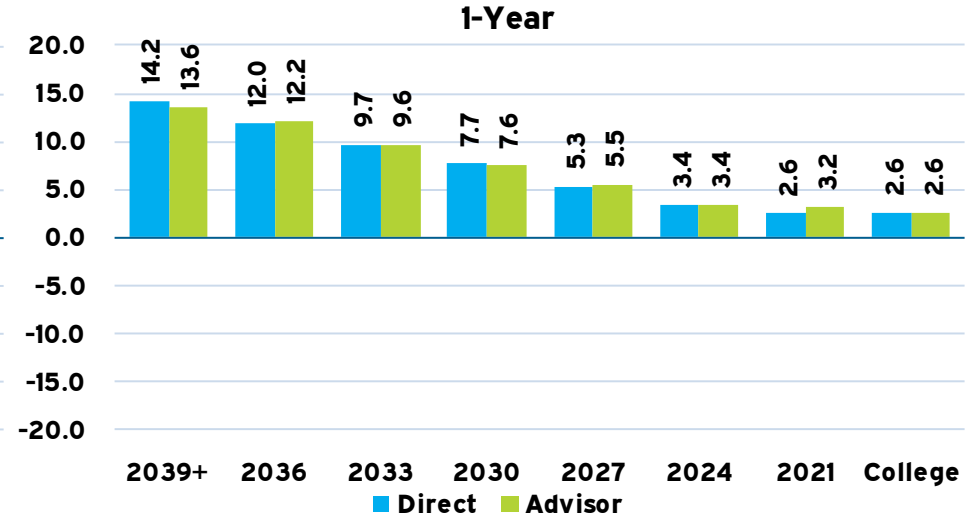
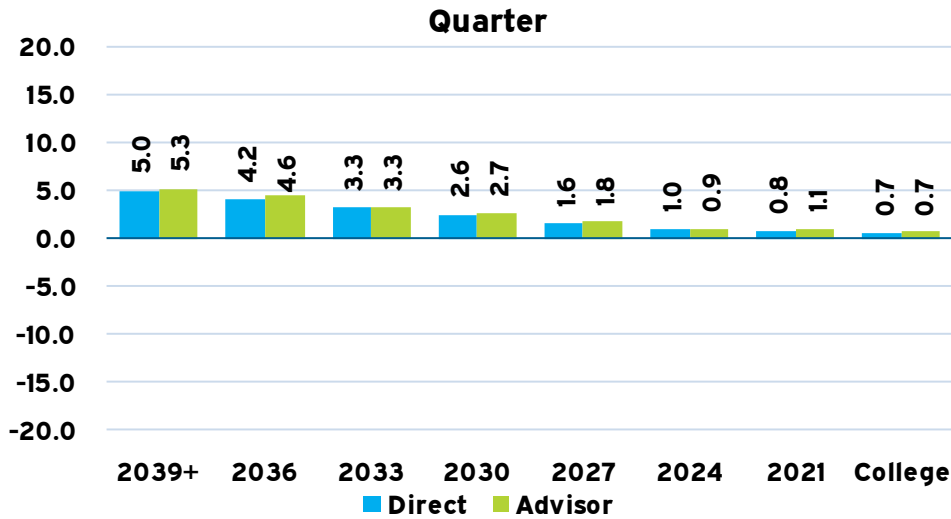
Source: Morningstar Direct. Returns are net of fees. Advisor Plan returns reflect A Shares excluding the effects of sales charges.

**Median Age-Based Risk vs Return  
(5 Years ending June 30, 2023)**



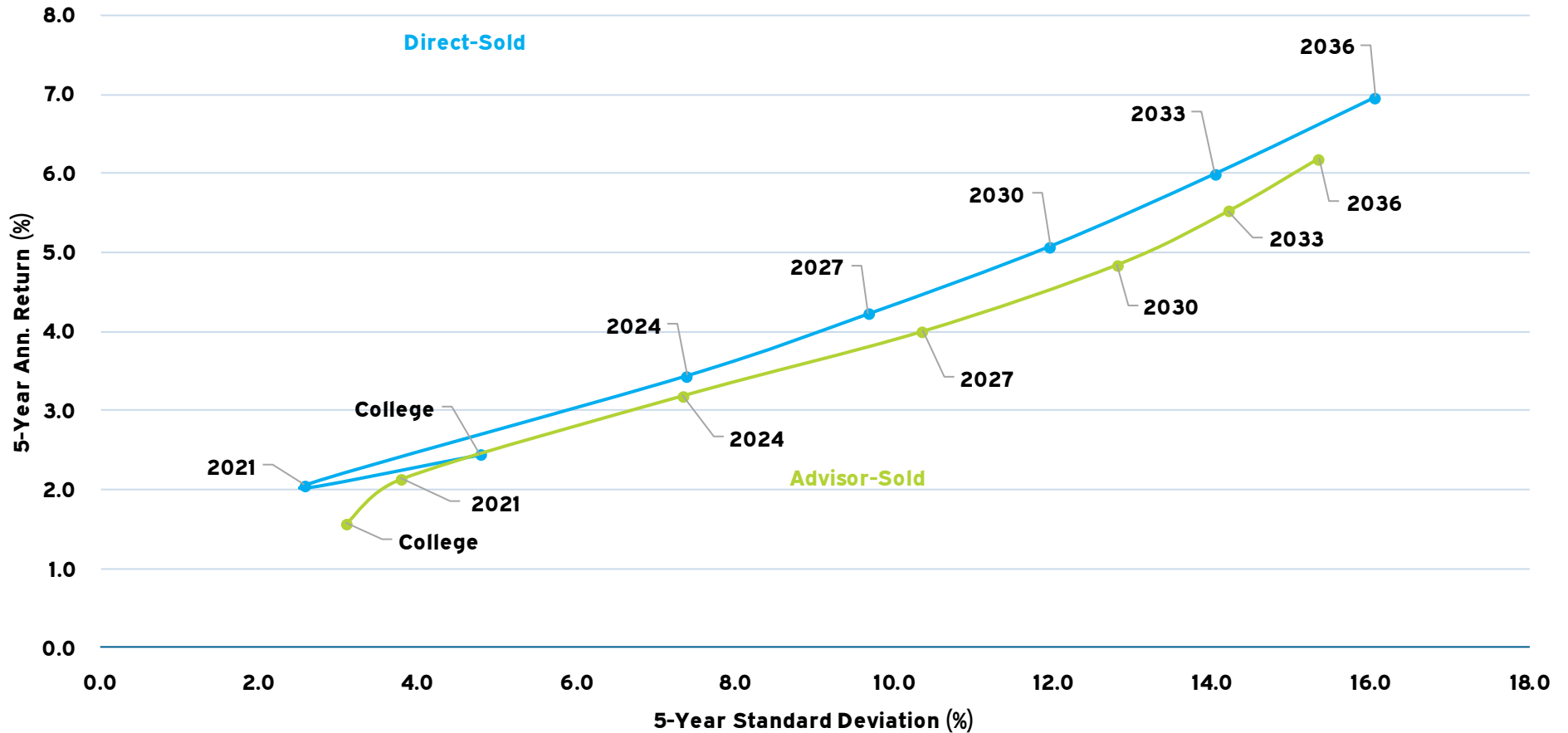
Source: Morningstar Direct. Returns are net of fees. Advisor Plan returns reflect A Shares excluding the effects of sales charges.

### Enrollment-Based Portfolios



Source: Morningstar Direct. Returns are net of fees. Advisor Plan returns reflect A Shares excluding the effects of sales charges.

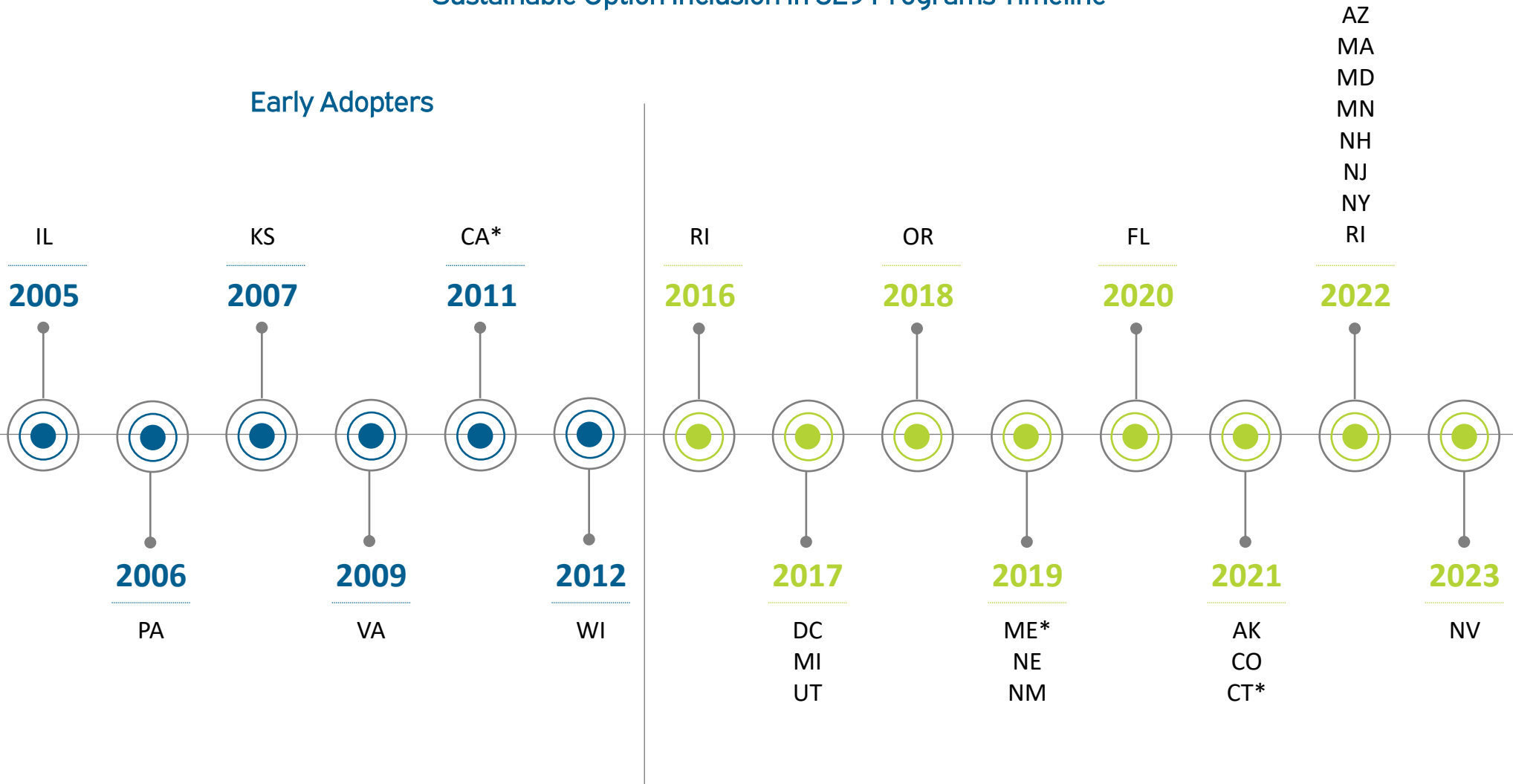
**Median Enrollment-Based Risk vs Return  
(5 Years ending June 30, 2023)**



Source: Morningstar Direct. Returns are net of fees. Advisor Plan returns reflect A Shares excluding the effects of sales charges.

#### Sustainable Option Inclusion in 529 Programs Timeline

##### Early Adopters



\*Expanded number of offerings in 2022.  
Inclusion date reflects inception date of offering with current Program Manager.

Sustainability Options – Building Momentum

529 Plans Offering Sustainable Investment Options

State	Channel	529 Plan	ESG Portfolio	Total Asset Based Fee	Underlying Fund Ticker	Investment Manager
AK	Direct	T. Rowe Price College Savings Plan	T. Rowe Price Global Impact Equity (5/21)	0.87	TGBLX	T. Rowe Price
	Direct	Alaska 529 (formerly University of AK)	T. Rowe Price Global Impact Equity (5/21)	0.87	TGBLX	T. Rowe Price
AZ	Advisor	AZ Goldman Sachs 529 Plan	GS Future Planet Equity (6/22)	1.05	GSFP	Goldman Sachs
CA	Direct	ScholarShare 529	10 ESG YOE Portfolios (2/22)	0.15-0.29	Multiple	TIAA-CREF/Nuveen
			Social Choice Investment Portfolio (11/11)	0.24	TISCX	TIAA-CREF
			ESG Bond Portfolio (2/22)	0.21	NUBD	Nuveen
			ESG Intl Equity Portfolio (2/22)	0.46	TSONX	TIAA-CREF
CO	Advisor	Scholars Choice	Nuveen ESG Large Cap US Equity Portfolio (7/21)	0.70	NULC	Nuveen
			Nuveen ESG International Dev Eq Portfolio (7/21)	0.80	NUDM	
			Nuveen ESG US Aggregate Bond Portfolio (7/21)	0.65	NUBD	
CT	Direct	Connecticut Higher Education Trust	US Sustainability Index (2/21)	0.20	FITLX	Fidelity
	Advisor	CT CHET Advisor	Sustainable Mlt Ast Portfolio (7/22)	0.54	FYMRX	
DC	Direct	DC College Savings Plan	US Sustainability Index (2/21)	0.87	FYMRX	Fidelity
			Sustainable Mlt Ast Portfolio (7/22)	0.87	FYMRX	Fidelity
DC	Direct	DC College Savings Plan	Non-US Socially Responsible Equity Portfolio (3/17)	0.50	DFSPX	DFA
			US Socially Responsible Equity Portfolio (3/17)	0.56	DFSIX	
FL	Direct	FL 529 Savings Plan	Customized Portfolios: Social Index Portfolio (12/20)	0.14	VFTAX	Vanguard
IL	Advisor	Bright Directions Ad-Guided 529 College Savings	Calvert Equity 529 Portfolio (11/05)	1.08	CEYIX	Calvert
KS	Advisor	Learning Quest Advisor	Sustainable Equity Portfolio (4/07)	0.97	AFDIX	American Century
ME	Direct	NextGen 529 - Client Direct Series	iShares MSCI USA ESG Select Portfolio (10/19)	0.41	SUSA	iShares
			iShares ESG Aware MSCI EAFE (10/22)	0.36	ESGD	
			iShares ESG Aware MSCI EM (10/22)	0.41	ESGE	
			iShares ESG Aware US Agg Bond (10/22)	0.26	EAGG	
	Advisor	NextGen 529 - Client Select Series	iShares MSCI USA ESG Select Portfolio (10/19)	0.74	SUSA	iShares
			iShares ESG Aware MSCI EAFE (10/22)	0.69	ESGD	
			iShares ESG Aware MSCI EM (10/22)	0.74	ESGE	
			iShares ESG Aware US Agg Bond (10/22)	0.59	EAGG	

Source: ISS Market Intelligence, Plan disclosure documents, and Morningstar.

Note: A share class fees shown for Advisor plans.

**Sustainability Options – Building Momentum**
**529 Plans Offering Sustainable Investment Options**

State	Channel	529 Plan	ESG Portfolio	Total Asset Based Fee	Underlying Fund Ticker	Investment Manager
MA	Direct	U. Fund College Investing Plan	Sustainable Multi-Asset Portfolio (7/22)	0.54	FYMRX	Fidelity
MD	Direct	MD Sen Ed J. Kasemeyer Clg Inv Plan	Social Index Equity Portfolio (3/22)	0.34	VFTAX	Vanguard
MI	Advisor	MI 529 Advisor Plan	TIAA Social Choice Equity (9/17)	0.80	TISCX	TIAA-CREF
			TIAA Core Impact Bond Portfolio (10/17)	0.98	TSBIX	
MN	Direct	Minnesota College Savings Plan	Social Choice Equity Allocation (6/21)	0.2825	TISCX	TIAA-CREF
NE	Advisor	Bloomwell 529 Education Savings Plan	9 Age-Based Socially Aware Track (11/19)	0.24 – 0.31	Multiple	iShares, Vanguard, Nuveen, VanEck, Goldman Sachs
			5 Socially Aware Portfolios (11/19)	0.21 – 0.31	Multiple	
NH	Direct	UNIQUE College Investing Plan	Sustainable Multi-Asset Portfolio (7/22)	0.54	FYMRX	Fidelity
	Advisor	Fidelity Advisor 529 Plan	Sustainable Multi-Asset Portfolio (7/22)	0.87	FYMRX	
NJ	Direct	NJBest 529 College Savings Plan	ClearBridge Sustainability Leaders (6/22)	0.85	MABJX	ClearBridge
			Martin Currie Intl Sustainable Equity (6/22)	0.85	LUIX	Martin Currie
	Advisor	Franklin Templeton 529 College Saving	ClearBridge Sustainability Leaders (6/22)	1.25	MABJX	ClearBridge
			Martin Currie Intl Sustainable Equity (6/22)	1.25	LUIX	Martin Currie
NM	Direct	The Education Plan	Social Choice Portfolio (12/19)	0.28	TISCX	TIAA-CREF
NV	Advisor	Future Path 529 Plan	JP Morgan 529 US Sust Leaders (6/23)	0.83	JIGX	JP Morgan
NY	Direct	New York's 529 Program (Direct)	Social Index (9/22)	0.12	VFTNX	Vanguard
	Advisor	New York's 529 Program (Advisor)	JP Morgan 529 US Sust Leaders (12/22)	0.84	JIGX	JP Morgan
OR	Direct	Oregon College Savings Plan	Social Choice Balanced (9/18)	0.447	Multiple	TIAA-CREF, DFA
PA	Direct	Pennsylvania 529 Investment Plan	Social Index Portfolio (11/06)	0.305	VFTAX	Vanguard
RI	Direct	CollegeBound Saver (Direct)	Invesco Global Responsible Equity Portfolio (7/16)	0.19	VSQAX	Invesco
	Advisor	CollegeBound 529 (Advisor)	Invesco MSCI World SRI Index Portfolio (7/16)	0.61	VSQAX	Invesco
TX	Advisor	Lonestar 529 Plan	Socially Responsible Portfolio (3/22)	0.73	VFTAX	Vanguard
UT	Direct	my529	Customized Portfolios: FTSE Social Index (7/17)	0.12	VFTNX	Vanguard
			Customized Portfolios: US Sustainability Core 1 (7/17)	0.17	DFSIX	DFA
VA	Direct	Invest529	ESG Core Equity (10/09)	0.56	PRILX	Parnassus Investments
WI	Direct	Edvest	Social Choice Portfolio (10/12)	0.24	TISCX	TIAA-CREF

Source: ISS Market Intelligence, Plan disclosure documents, and Morningstar.

Note: A share class fees shown for Advisor plans.



Sustainability Options – Building Momentum

Program	# of Sustainable Options	Global Equity	US Equity	Intl Equity	Fixed Income	Multi-Asset	Static	Age-Based
AK	1	TGBLX	--	--	--	--	--	--
AZ	1	GSFP	--	--	--	--	--	--
CA	13	--	TISCX	TSONX	NUBD	--	--	10
CO	3	--	NULC	NUDM	NUBD	--	--	--
CT	2	--	FITLX	--	--	FYMRX	--	--
DC	2	--	DFSIX	DFSPX	--	--	--	--
FL, MD, PA, TX	1	--	VFTAX	--	--	--	--	--
IL	1	--	CEYIX	--	--	--	--	--
KS	1	--	AFDIX	--	--	--	--	--
ME	4	--	SUSA	ESGD, ESGE	EAGG	--	--	--
MA, NH	1	--	--	--	--	FYMRX	--	--
MI	2	--	TISCX	--	TSBIX	--	--	--
MN, NM, WI	1	--	TISCX	--	--	--	--	--
NE	14	--	--	--	--	--	5	9
NJ	2	--	MABJX	LUISX	--	--	--	--
NV	1	--	JIGX	--	--	--	--	--
NY	1	--	VFTNX, JIGX	--	--	--	--	--
OR	1	--	--	--	--	1	--	--
RI	1	VSQAX	--	--	--	--	--	--
UT	2	--	VFTNX, DFSIX	--	--	--	--	--
VA	1	--	PRILX	--	--	--	--	--

## **Review of ScholarShare Policy**

**Active Funds**

Fund	Asset Class	Benchmark
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 Quant Small Cap Equity	Domestic Equity	Russell 2000 TR USD
TIAA-CREF Social Choice Equity	Domestic Equity	Russell 3000 TR USD
DFA Large Cap International	International Equity	MSCI World ex US NR USD
TIAA-CREF Social Choice International Equity	International Equity	MSCI EAFE
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
Vanguard High-Yield Corp Adm	High Yield	Bloomberg US Corporate High Yield TR
T. Rowe Price Institutional Floating Rate	High Yield	S&P/LSTA Performing Loan TR

**Passive Funds**

Fund	Asset Class	Benchmark
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
Nuveen ESG Emerging Markets Equity ETF	International Equity	TIAA ESG Emerging Markets Index
Vanguard Short Term Infl-Protected Securities	Fixed Income	BBg US TIPS 0-5 Years
TIAA-CREF Bond Index	Fixed Income	BBg BarCap US Agg Bond TR USD
Nuveen ESG US Aggregate Bond Index	Fixed Income	BBg MSCI US Agg ESG Select
Nuveen ESG High Yield Corporate Bond ETF	High Yield	BBg MSCI US High Yield Very Liquid ESG Select
Vanguard Real Estate Index	Real Estate	MSCI US IMI Real Estate 25/50 GR USD

**T-C Life Funding Agreements**

T-C Life Funding Agreements <sup>1</sup>	---	---
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<sup>1</sup> 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.

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 <sup>5</sup> (> 60 months)	Morningstar Sustainability Rating
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	--
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	Above Average

Passively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term <sup>5</sup> (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

<sup>1</sup> Return discounts from a benchmark return based on 2/3rds of the typical tracking error estimates of the specified type of fund manager.

<sup>2</sup> Annualized return is the average annual return of either the manager or its benchmark.

<sup>3</sup> VRR – Value Relative Ratio – is calculated as: Manager Cumulative Return / Benchmark Cumulative Return.

<sup>4</sup> Tracking error is a measure of the volatility of the average annual difference between the manager's return and the benchmark's return.

<sup>5</sup> Long-term analysis is presented for informational value to provide context but is not a factor used to determine an Underlying Investment's status.

Performance Criteria for Placing a Fund on Watch (Continued)

T-C Life Funding Agreements<sup>1</sup>  
(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

ESG 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 (rolling 60-month periods)
International Equity <sup>2</sup>	Tracking Error > 1.00% for 6 consecutive months	Tracking Error > 0.75% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.50% for 6 consecutive months
Fixed Income	Tracking Error > 0.70% for 6 consecutive months	Tracking Error > 0.60% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.50% for 6 consecutive months
High Yield	Tracking Error > 0.75% for 6 consecutive months	Tracking Error > 0.65% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.55% for 6 consecutive months

<sup>1</sup> 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.

<sup>2</sup> Nuveen utilizes "fair market value" adjustment procedures for the Nuveen ESG Emerging Markets Equity ETF (the ETF). This adjustment increases or decreases the ETF's actual closing price to compensate for pricing differences between international markets. This procedure can create an artificially high tracking error. Monitoring of the ETF takes this into account and corrects for it where data is available.

### Investment Status Schedule

Performance Category <sup>1</sup>	Actively Managed Portfolios	Passively Managed Portfolios
Positive	→ Performance exceeds the benchmark.	→ Performance exceeds the benchmark (first 1-12 month period), or → Tracking error is within the allowable range <sup>1</sup> (short, medium, and long time periods).
Acceptable	→ Performance meets or is under the benchmark and is within the allowable range.	→ Performance does not exceed the benchmark but is within the allowable range (first 1-12 month period only).
Caution	→ Performance is below allowable range but either: i) for less than six consecutive months, or ii) the Board has not taken (or decided not to take) a formal action to place the asset class or individual fund portfolio on Watch even though performance has been below allowable range for six months or longer.	→ Tracking error falls outside of the allowable range but either i) for less than six consecutive months, or ii) the Board has not voted to place the asset class or stand alone fund on Watch
Watch <sup>2</sup>	→ 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.	→ 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.

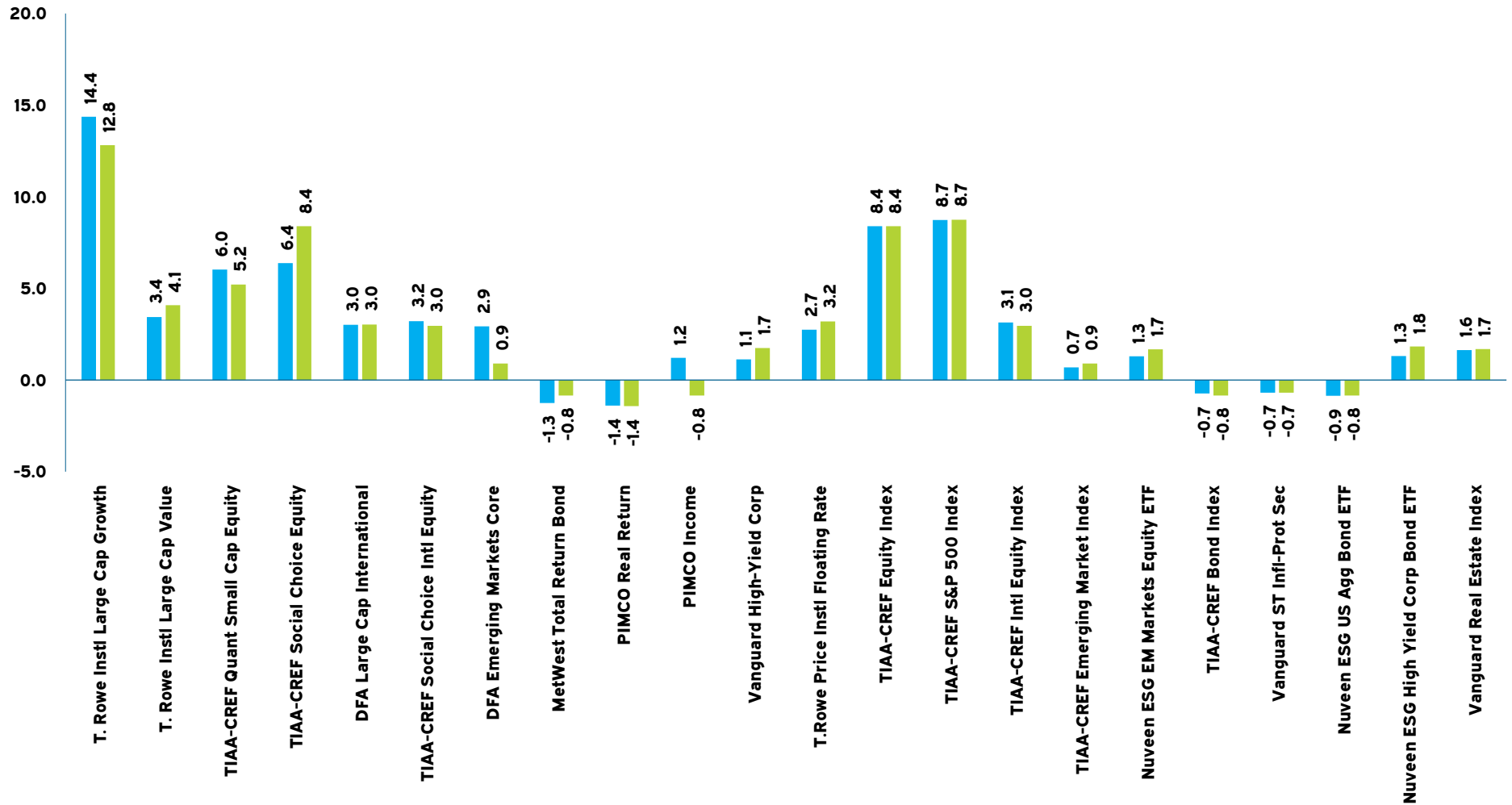
<sup>1</sup> Ranges are shown in the Investment Performance Criteria Schedules.

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

Summary of Fund Performance 6/30/2023

Quarter

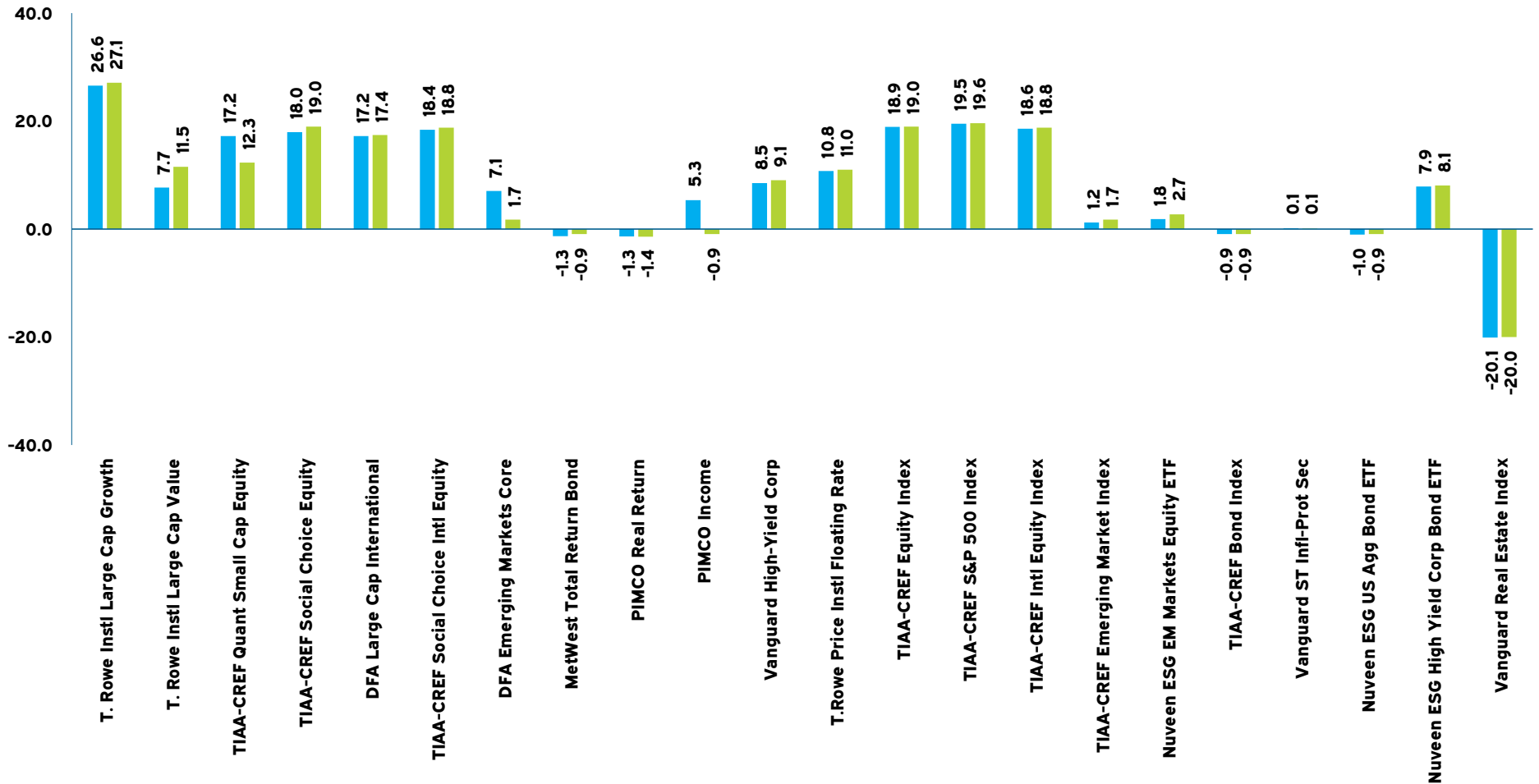
Fund Index



Summary of Fund Performance 6/30/2023

1 Year

Fund Index





Summary of Fund Assets as of 6/30/2023

	Assets (\$MM)	% of Total
<b>Active Funds</b>		
T. Rowe Price Instl Large Cap Growth Fund	336	2.44%
T. Rowe Price Instl Large Cap Value Fund	312	2.27%
TIAA-CREF Quant Small-Cap Equity Fund	109	0.79%
TIAA-CREF Social Choice Equity Fund	273	1.98%
DFA Large Cap International	439	3.18%
TIAA-CREF Social Choice International Equity Fund <sup>1</sup>	4	0.03%
DFA Emerging Markets Core Equity Fund	108	0.78%
Metropolitan West Total Return Bond	435	3.15%
PIMCO Real Return	246	1.79%
PIMCO Income	248	1.80%
Vanguard High-Yield Corporate Adm <sup>1</sup>	228	1.66%
T. Rowe Price Instl Floating Rate Fund	125	0.91%
<b>Active Funds Total</b>	<b>2,864</b>	<b>20.78%</b>
<b>Passive Funds</b>		
TIAA-CREF Equity Index Fund	4,178	30.31%
TIAA-CREF S&P 500 Index Fund	353	2.56%
TIAA-CREF International Equity Index Fund	970	7.04%
TIAA-CREF Emerging Markets Equity Index Fund	238	1.73%
Nuveen ESG EM Market Equity <sup>1</sup>	0	0.00%
TIAA-CREF Bond Index Fund	1,891	13.72%
Nuveen ESG US Agg Bond <sup>1</sup>	8	0.06%
Nuveen ESG High Yield <sup>1</sup>	1	0.00%
Vanguard Shrt-Term Infl-Prot Sec Idx Ins <sup>1</sup>	452	3.28%
Vanguard REIT Index I <sup>1</sup>	370	2.68%
<b>Passive Funds Total</b>	<b>8,460</b>	<b>61.38%</b>
<b>TIAA-CREF Life Funding Agreements</b>		
T-C Life Funding Agreements	2,460	17.85%
<b>TOTAL<sup>2</sup></b>	<b>13,784</b>	<b>100.00%</b>

<sup>1</sup> Funds added to the program as of 2/11/2022.

<sup>2</sup> CalKIDS AUM are included in the total.

### Summary of Fund Performance Status

Program	Total Funds	Positive	Acceptable	Caution	Watch <sup>1</sup>
Number of Funds	23	11	8	4	1
% of Funds	100%	48%	35%	17%	4%
% of Program Assets	100%	34%	55%	9%	2%
Fund Status ↑	3	2	1	—	—
Fund Status ↓	3	—	2	1	—
Domestic Equity Funds	6	1	4	1	1
Intl Equity Funds	6	3	1	2	—
Fixed Income Funds	7	4	3	—	—
High Yield Funds	2	1	—	1	—
Real Estate	1	1	—	—	—
Funding Agreement	1	1	—	—	—

<sup>1</sup> Includes only funds placed on Watch. Number has not been adjusted to remove funds no longer qualifying for Watch.

- Eighty-three percent of the Program’s funds have either a Positive or Acceptable performance status.
- Three funds improved over the quarter:
  - Vanguard Short-Term Infl-Port Sec Index (Positive)
  - Nuveen ESG US Aggregate Bond (Positive)
  - Metropolitan West Total Return Bond (Acceptable)
- Three funds declined over the quarter:
  - T. Rowe Price Instl Large Cap Value (Acceptable)
  - TIAA-CREF Social Choice Equity (Acceptable)
  - Nuveen ESG High Yield (Caution)
- T. Rowe Price Instl Large Cap Growth fund continues to qualify for “Watch” status.
- The TIAA-CREF Emerging Markets Index and International Equity Index funds qualify for watch, but we recommend keeping them off watch as detailed in the watch memo.

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	Caution	Yes	Caution	Yes
T. Rowe Price Instl Large Cap Value	Positive	No	Acceptable	No
TIAA-CREF Quant Small Cap Equity	Positive	No	Positive	No
TIAA-CREF Social Choice Equity	Positive	No	Acceptable	No
DFA Large Cap International	Positive	No	Positive	No
TIAA-CREF Social Choice Intl Equity <sup>1</sup>	Positive	No	Positive	No
DFA Emerging Markets Core Equity	Positive	No	Positive	No
Metropolitan West Total Return Bond	Caution	No	Acceptable	No
PIMCO Real Return	Positive	No	Positive	No
PIMCO Income	Positive	No	Positive	No
Vanguard High-Yield Corp Adm	Positive	No	Positive	No
T. Rowe Price Instl Floating Rate	Acceptable	No	Acceptable	No
<b>Passive Funds</b>				
TIAA-CREF Equity Index	Acceptable	No	Acceptable	No
TIAA-CREF S&P 500 Index	Acceptable	No	Acceptable	No
TIAA-CREF International Equity Index <sup>1</sup>	Caution	No	Caution	No
TIAA-CREF Emerging Markets Index <sup>1</sup>	Caution	No	Caution	No
Nuveen ESG EM Market Equity	Acceptable	No	Acceptable	No
Vanguard ST Infl-Prot Sec Idx	Acceptable	No	Positive	No
TIAA-CREF Bond Index	Acceptable	No	Acceptable	No
Nuveen ESG US Agg Bond	Acceptable	No	Positive	No
Nuveen ESG High Yield	Acceptable	No	Caution	No
Vanguard REIT Index	Positive	No	Positive	No
<b>T-C Life Funding Agreements</b>				
T-C Life Funding Agreements	Positive	No	Positive	No

→ 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.

<sup>1</sup> The TIAA-CREF International Equity Index, Emerging Markets Index, and Social Choice International Equity funds’ returns have been adjusted to include Fair Value impact for the purpose of monitoring.

Portfolio Management Overview

Fund.	Ticker		Current PM Team	Recent PM Departures <sup>1</sup>	
T.Rowe Price Large Cap Growth	TRLGX	01/01/2017-	Taymour R. Tamaddon		
T.Rowe Price Large Cap Value	TILCX	03/31/2000- 02/25/2010- 10/01/2021-	John D. Linehan Mark S. Finn Gabriel Solomon	01/01/2015 – 05/01/2022	Heather K. McPherson
TIAA-CREF Quant Small Cap Equity	TISEX	03/01/2016- 03/01/2019-	Pei Chen Max Kozlov	10/23/2006- 10/1/2020	Adam Cao
TIAA-CREF Social Choice Equity	TISCX	12/31/2005- 05/30/2014- 05/01/2022-	Philip James Campagna Lei Liao Darren Tran		
DFA Large Cap International	DFALX	02/28/2010- 07/21/2015- 02/28/2020- 02/28/2020-	Jed S. Fogdall Bhanu P. Singh Joel P. Schneider Arun C. Keswani	02/28/2010-02/28/2019 07/21/2015-02/28/2020	Joseph H. Chi Mary T. Phillips
TIAA-CREF Social Choice Intl Equity	TSO NX	08/07/2015 – 08/07/2015 – 05/01/2022 -	Lei Liao Philip James Campagna Darren Tran		
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
Nuveen ESG EM Market Equity	NUEM	06/06/2017 – 06/06/2017 –	Lei Liao Philip James Campagna		

<sup>1</sup> Recent is defined as having occurred in the last three years.

Source: MorningStar

Portfolio Management Overview

Fund.	Ticker	Current PM Team		Recent PM Departures <sup>1</sup>	
Metropolitan West Total Return Bond	MWTIX	03/31/1997- 03/31/1997- 12/31/2004-	Stephen M. Kane Laird R. Landman Bryan T. Whalen	03/31/1997-12/31/2021	Tad Rivelle
PIMCO Real Return	PRRIX	01/09/2019- 12/11/2019-	Stephen A. Rodosky Daniel He	01/02/2015-01/09/2019 12/31/2007-12/11/2019	Jeramie Banet Mihir P. Worah
PIMCO Income	PIMIX	03/30/2007- 03/15/2013- 07/30/2018-	Daniel J. Ivascyn Alfred T. Murata Joshua Anderson		
Vanguard High-Yield Corp Adm	VWEAX	08/29/2022 – 08/29/2022 -	Elizabeth H. Shortsleeve Michael Chang	02/14/2008 – 07/31/2023	Michael L. Hong
Nuveen ESG High Yield	NUHY	09/29/2017 – 11/30/2021 – 11/30/2021 –	Lijun (Kevin) Chen James Tsang Rui (Vivian) Liu	09/25/2019 – 11/30/2021	Yong (Mark) Zheng
T.Rowe Price Floating Rate	RPIFX	05/01/2009-	Paul M. Massaro		
Nuveen ESG US Agg Bond	NUBD	09/29/2017 – 11/30/2021 – 11/30/2021 –	Lijun (Kevin) Chen James Tsang Rui (Vivian) Liu	06/26/2018 – 11/30/2021	Yong (Mark) Zheng
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		

<sup>1</sup> Recent is defined as having occurred in the last three years.

Source: MorningStar

Portfolio Management Overview (continued)

Fund	Ticker	Current PM Team	Recent PM Departures <sup>1</sup>
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	
Vanguard REIT Index	VGSLX	05/13/1996 – 05/25/2016 – Gerard C. O’Reilly Walter Nejman	
Vanguard ST Infl-Prot Sec Index	VTSPX	10/12/2012 - Joshua C. Barrickman	
TIAA-CREF Bond Index	TBIIX	12/31/2009- 08/24/2011- Lijun (Kevin) Chen James Tsang	

Observations:

→ Michael L. Hong departed from the Vanguard High-Yield Corporate Bond team in July 2023.

<sup>1</sup> Recent is defined as having occurred in the last three years.  
Source: MorningStar

# Sensitivity Analyses

**Asset Allocation & Performance | As of June 30, 2023**

Trailing Net Performance						
	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Active</b>						
TRowe Price Large Cap Growth I	14.4 (13)	30.6 (25)	26.6 (28)	9.5 (55)	11.7 (49)	15.5 (10)
<i>Russell 1000 Growth Index</i>	12.8 (36)	29.0 (32)	27.1 (24)	13.7 (8)	15.1 (7)	15.7 (8)
<i>Large Growth Median</i>	11.8	26.1	23.3	9.8	11.7	13.3
TRowe Price Large Cap Value I	3.4 (58)	1.8 (78)	7.7 (80)	15.4 (37)	7.8 (59)	9.4 (37)
<i>Russell 1000 Value Index</i>	4.1 (40)	5.1 (33)	11.5 (42)	14.3 (55)	8.1 (51)	9.2 (45)
<i>Large Value Median</i>	3.7	3.9	10.8	14.6	8.1	9.1
TIAA-CREF Quant Small Cap Equity I	6.0 (22)	9.2 (41)	17.2 (19)	16.4 (27)	6.3 (35)	9.7 (25)
<i>Russell 2000 Index</i>	5.2 (33)	8.1 (52)	12.3 (58)	10.8 (64)	4.2 (74)	8.3 (60)
<i>Small Cap Median</i>	4.4	8.2	13.0	13.1	5.4	8.6
TIAA-CREF Social Choice Equity I	6.4 (74)	12.5 (68)	18.0 (55)	13.2 (63)	11.3 (43)	--
<i>Russell 3000 Index</i>	8.4 (39)	16.2 (37)	19.0 (40)	13.9 (46)	11.4 (39)	12.3 (27)
<i>Large Blend Median</i>	7.9	14.9	18.3	13.7	11.0	11.6
DFA Large Cap International I	3.0 (45)	11.2 (50)	17.2 (39)	10.0 (14)	4.8 (24)	5.6 (25)
<i>MSCI World ex U.S. (Net)</i>	3.0 (44)	11.3 (48)	17.4 (37)	9.3 (21)	4.6 (30)	5.4 (37)
<i>Foreign Large Blend Median</i>	2.9	11.2	16.1	8.0	3.9	5.1
TIAA-CREF Social Choice Intl Equity	3.2 (34)	12.3 (28)	18.4 (24)	--	--	--
<i>MSCI EAFE (Net)</i>	3.0 (48)	11.7 (41)	18.8 (18)	8.9 (31)	4.4 (35)	5.4 (36)
<i>Foreign Large Blend Median</i>	2.9	11.2	16.1	8.0	3.9	5.1
DFA Emerging Markets Core Equity I	2.9 (32)	8.7 (30)	7.1 (36)	8.1 (11)	3.3 (20)	4.1 (23)
<i>MSCI Emerging Markets (Net)</i>	0.9 (74)	4.9 (81)	1.7 (74)	2.3 (46)	0.9 (54)	3.0 (50)
<i>Diversified Emerging Mkts Median</i>	1.9	7.1	4.8	2.1	1.1	2.9
Metropolitan West Total Return Bond I	-1.3 (88)	2.3 (62)	-1.3 (73)	-4.1 (84)	0.8 (53)	--
<i>Blmbg. U.S. Aggregate Index</i>	-0.8 (65)	2.1 (71)	-0.9 (66)	-4.0 (81)	0.8 (57)	1.5 (65)
<i>Intermediate Core-Plus Bond Median</i>	-0.7	2.5	-0.4	-3.3	0.9	1.7
PIMCO Real Return	-1.4 (39)	1.6 (50)	-1.3 (49)	-0.1 (48)	2.5 (26)	2.1 (13)
<i>Blmbg. U.S. TIPS</i>	-1.4 (43)	1.9 (31)	-1.4 (52)	-0.1 (49)	2.5 (26)	2.1 (13)
<i>Inflation-Protected Bond Median</i>	-1.5	1.6	-1.4	-0.2	2.2	1.7



### Asset Allocation & Performance | As of June 30, 2023

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
PIMCO Income I	1.2 (20)	3.8 (25)	5.3 (22)	1.9 (17)	2.6 (16)	4.2 (1)
<i>Blmbg. U.S. Aggregate Index</i>	-0.8 (99)	2.1 (83)	-0.9 (95)	-4.0 (100)	0.8 (87)	1.5 (94)
<i>Multisector Bond Median</i>	0.6	3.2	4.0	0.7	2.0	2.8
Vanguard High-Yield Corp Adm	1.1 (71)	4.3 (71)	8.5 (42)	--	--	--
<i>Blmbg. U.S. Corp: High Yield Index</i>	1.7 (26)	5.4 (19)	9.1 (26)	3.1 (44)	3.4 (23)	4.4 (12)
<i>High Yield Bond Median</i>	1.4	4.8	8.3	2.9	2.7	3.6
TRowe Price Floating Rate I	2.7 (58)	5.9 (42)	10.8 (18)	5.5 (28)	3.9 (5)	3.9 (3)
<i>Morningstar LSTA US Performing Loans</i>	3.2 (17)	6.6 (14)	11.0 (13)	6.6 (5)	4.3 (1)	4.3 (1)
<i>Bank Loan Median</i>	2.9	5.8	9.6	4.9	2.8	3.2
<b>Passive</b>						
TIAA-CREF Equity Index I	8.4 (39)	16.1 (37)	18.9 (41)	13.9 (47)	11.4 (40)	12.3 (28)
<i>Russell 3000 Index</i>	8.4 (39)	16.2 (37)	19.0 (40)	13.9 (46)	11.4 (39)	12.3 (27)
<i>Large Blend Median</i>	7.9	14.9	18.3	13.7	11.0	11.6
TIAA-CREF S&P 500 Index I	8.7 (24)	16.9 (22)	19.5 (28)	14.5 (25)	12.3 (16)	12.8 (12)
<i>S&amp;P 500 Index</i>	8.7 (23)	16.9 (20)	19.6 (26)	14.6 (23)	12.3 (14)	12.9 (9)
<i>Large Blend Median</i>	7.9	14.9	18.3	13.7	11.0	11.6
TIAA-CREF International Equity Index	3.1 (37)	11.4 (45)	18.6 (21)	9.2 (25)	4.6 (30)	5.6 (27)
<i>MSCI EAFE (Net)</i>	3.0 (48)	11.7 (41)	18.8 (18)	8.9 (31)	4.4 (35)	5.4 (36)
<i>Foreign Large Blend Median</i>	2.9	11.2	16.1	8.0	3.9	5.1
TIAA-CREF Emerging Markets Equity Index	0.7 (77)	4.8 (82)	1.2 (79)	1.9 (52)	0.7 (62)	2.8 (54)
<i>MSCI Emerging Markets (Net)</i>	0.9 (74)	4.9 (81)	1.7 (74)	2.3 (46)	0.9 (54)	3.0 (50)
<i>Diversified Emerging Mkts Median</i>	1.9	7.1	4.8	2.1	1.1	2.9
Nuveen ESG Emerging Markets Equity ETF	1.3 (63)	6.5 (59)	1.8 (74)	--	--	--
<i>TIAA ESG Emerging Markets Index</i>	1.7 (54)	6.9 (54)	2.7 (68)	5.6 (22)	3.3 (20)	4.2 (22)
<i>Diversified Emerging Mkts Median</i>	1.9	7.1	4.8	2.1	1.1	2.9

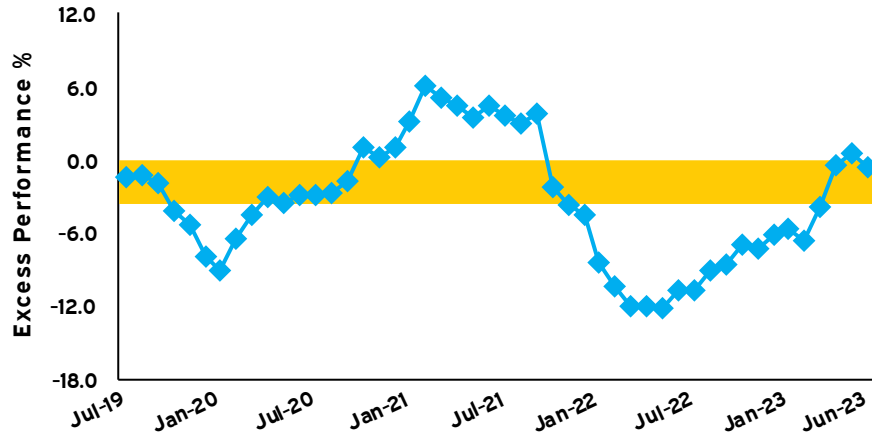
**Asset Allocation & Performance | As of June 30, 2023**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
TIAA-CREF Bond Index I	-0.7 (31)	2.4 (33)	-0.9 (46)	-4.1 (69)	0.7 (52)	1.4 (55)
<i>Bloomberg U.S. Aggregate Index</i>	<i>-0.8 (49)</i>	<i>2.1 (60)</i>	<i>-0.9 (46)</i>	<i>-4.0 (57)</i>	<i>0.8 (40)</i>	<i>1.5 (39)</i>
<i>Intermediate Core Bond Median</i>	<i>-0.9</i>	<i>2.2</i>	<i>-1.0</i>	<i>-3.8</i>	<i>0.7</i>	<i>1.4</i>
Vanguard Short Term Infl-Prot Securities	-0.7 (7)	1.6 (49)	0.1 (17)	--	--	--
<i>BBG U.S. TIPS 0-5 Years</i>	<i>-0.7 (7)</i>	<i>1.5 (57)</i>	<i>0.1 (18)</i>	<i>2.3 (10)</i>	<i>2.7 (12)</i>	<i>--</i>
<i>Inflation-Protected Bond Median</i>	<i>-1.5</i>	<i>1.6</i>	<i>-1.4</i>	<i>-0.2</i>	<i>2.2</i>	<i>1.7</i>
Nuveen ESG US Aggregate Bond ETF	-0.9 (50)	2.3 (43)	-1.0 (52)	--	--	--
<i>BBG MSCI US Agg ESG Select</i>	<i>-0.8 (49)</i>	<i>2.1 (60)</i>	<i>-0.9 (46)</i>	<i>-4.0 (57)</i>	<i>0.8 (35)</i>	<i>--</i>
<i>Intermediate Core Bond Median</i>	<i>-0.9</i>	<i>2.2</i>	<i>-1.0</i>	<i>-3.8</i>	<i>0.7</i>	<i>1.4</i>
Nuveen ESG High Yield Corp Bond ETF	1.3 (55)	4.5 (63)	7.9 (63)	--	--	--
<i>BBG MSCI US High Yield Very Liquid ESG Select</i>	<i>1.8 (22)</i>	<i>4.7 (55)</i>	<i>8.1 (58)</i>	<i>1.5 (90)</i>	<i>--</i>	<i>--</i>
<i>High Yield Bond Median</i>	<i>1.4</i>	<i>4.8</i>	<i>8.3</i>	<i>2.9</i>	<i>2.7</i>	<i>3.6</i>
Vanguard Real Estate Index	1.6 (56)	3.5 (72)	-3.9 (63)	--	--	--
<i>MSCI US IMI Real Estate 25/50 GR USD</i>	<i>1.7 (53)</i>	<i>3.5 (68)</i>	<i>-3.8 (60)</i>	<i>6.0 (68)</i>	<i>4.5 (50)</i>	<i>5.6 (71)</i>
<i>Real Estate Median</i>	<i>1.8</i>	<i>4.3</i>	<i>-3.1</i>	<i>6.9</i>	<i>4.5</i>	<i>6.2</i>

## Sensitivity Analyses: Active Funds

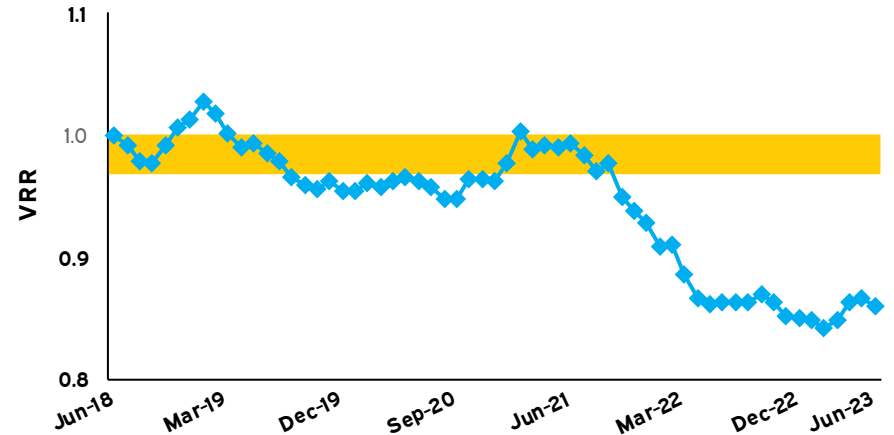
### TRowe Price Large Cap Growth I | As of June 30, 2023

#### Short Term - Rolling 12-Month Excess Return



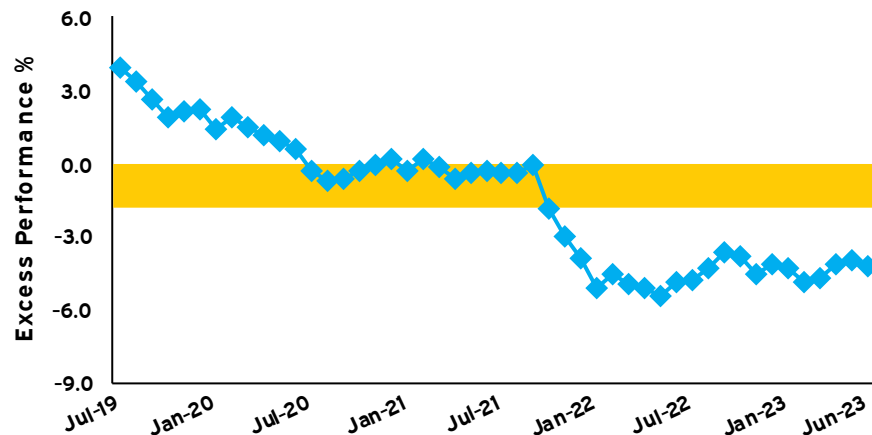
Results fall in the positive range.  
Probationary Threshold - 3.50%

#### Long Term - VRR



Results fall in the caution range.  
Probationary Threshold <0.97

#### Medium Term - Rolling 36-Month Excess Return



Results fall in the caution range.  
Probationary Threshold - 1.75%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TRowe Price Large Cap Growth I	14.4 (13)	26.6 (28)	9.5 (55)	11.7 (49)	15.9 (7)	12/1/2011
Russell 1000 Growth Index	12.8 (36)	27.1 (24)	13.7 (8)	15.1 (7)	15.9 (7)	
Large Growth Median	11.8	23.3	9.8	11.7	13.8	

#### Monitoring Status

Caution, On Watch

### TRowe Price Large Cap Growth I | As of June 30, 2023

#### Objective

The investment seeks to provide long-term capital appreciation through investments in common stocks of growth companies.

The fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in the securities of large-cap companies. The advisor defines a large-cap company as one whose market capitalization is larger than the median market capitalization of companies in the Russell 1000® Growth Index, a widely used benchmark of the largest U.S. growth stocks. The fund is non-diversified.

#### Account Information

Account Name	TRowe Price Large Cap Growth I
Account Structure	Mutual Fund
Inception Date	11/20/2011
Asset Class	US Equity
Benchmark	Russell 1000 Growth Index
Universe	Large Growth

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TRowe Price Large Cap Growth I	14.4 (13)	30.6 (25)	26.6 (28)	9.5 (55)	11.7 (49)
Russell 1000 Growth Index	12.8 (36)	29.0 (32)	27.1 (24)	13.7 (8)	15.1 (7)
Large Growth Median	11.8	26.1	23.3	9.8	11.7

	2022	2021	2020	2019	2018
TRowe Price Large Cap Growth I	-35.2 (77)	23.2 (40)	39.6 (34)	28.5 (84)	4.3 (8)
Russell 1000 Growth Index	-29.1 (37)	27.6 (16)	38.5 (37)	36.4 (20)	-1.5 (50)
Large Growth Median	-30.9	22.0	35.2	32.8	-1.6

#### Portfolio Characteristics vs Russell 1000 Growth Index

	Portfolio	Index
# of Holdings	56	444
Wtd. Avg. Mkt. Cap	980.3	1,040.5
Median Mkt. Cap	62.6	16.7
P/E Ratio	38.8	35.1
Yield	0.5	0.8
EPS Growth - 5 Yrs.	19.2	19.7
Price/Book ratio	7.3	11.2
Beta	1.0	1.0

#### Risk Statistics

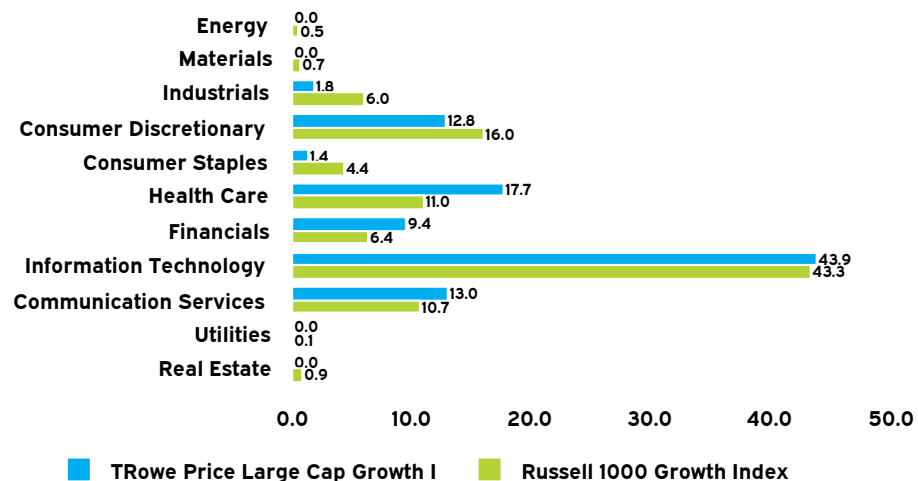
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	21.3	20.8
Tracking Error	4.2	3.8
Up Capture	88.9	90.7
Down Capture	97.4	97.4
Consistency	36.1	38.3
Alpha	-3.4	-2.7
Sharpe Ratio	0.5	0.6

### TRowe Price Large Cap Growth I | As of June 30, 2023

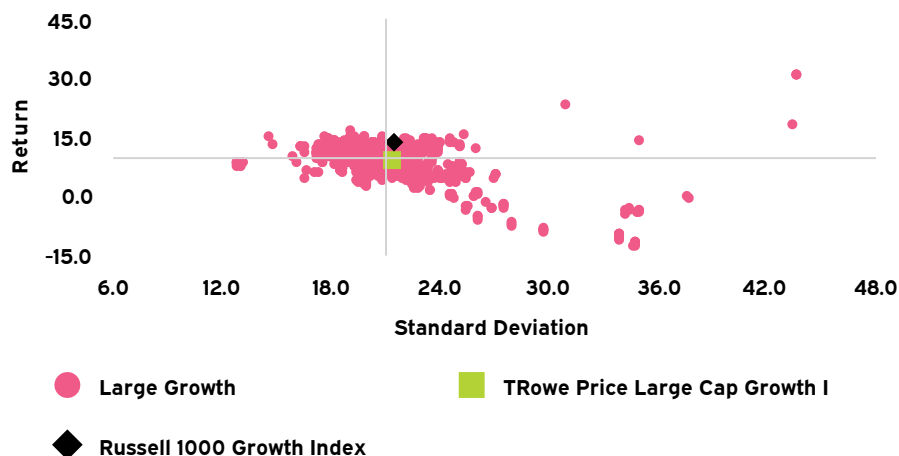
#### Top Holdings

Microsoft Corp	13.8
Apple Inc	9.3
Amazon.com Inc	6.6
Alphabet Inc	6.5
NVIDIA Corporation	5.4
Unitedhealth Group Inc	3.8
Intuit Inc.	3.3
Fiserv Inc.	3.2
Mastercard Inc	2.8
The Cigna Group	2.7
<b>% of Portfolio</b>	<b>57.4</b>

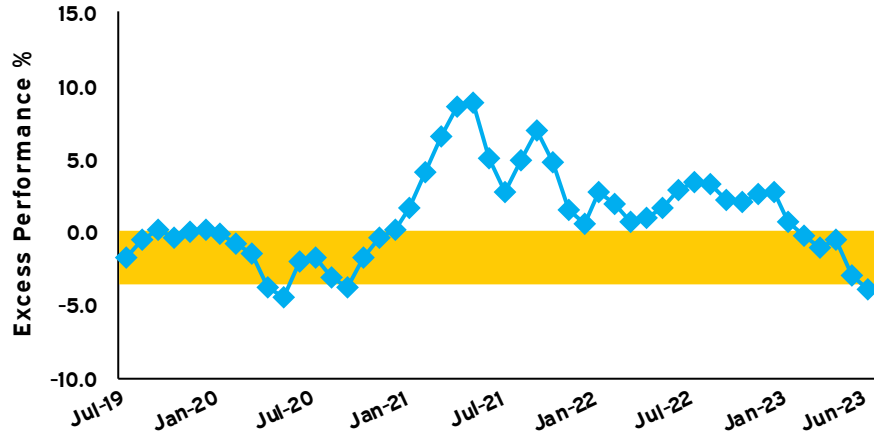
#### Sector Weights (%)



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023

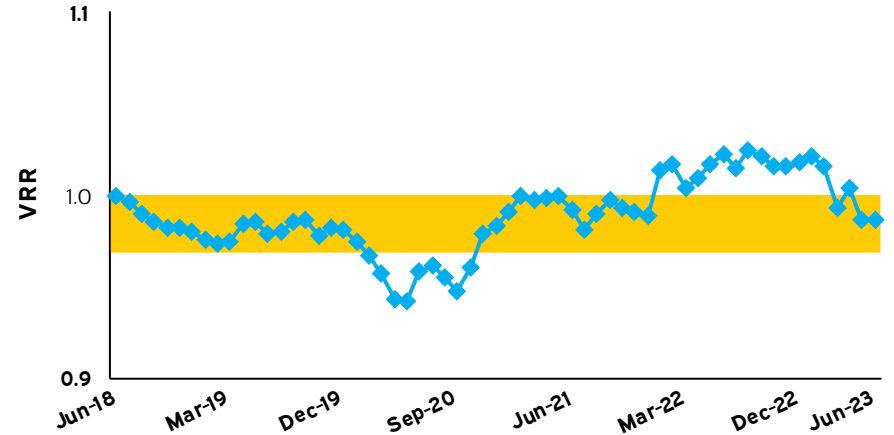


#### Short Term - Rolling 12-Month Excess Return



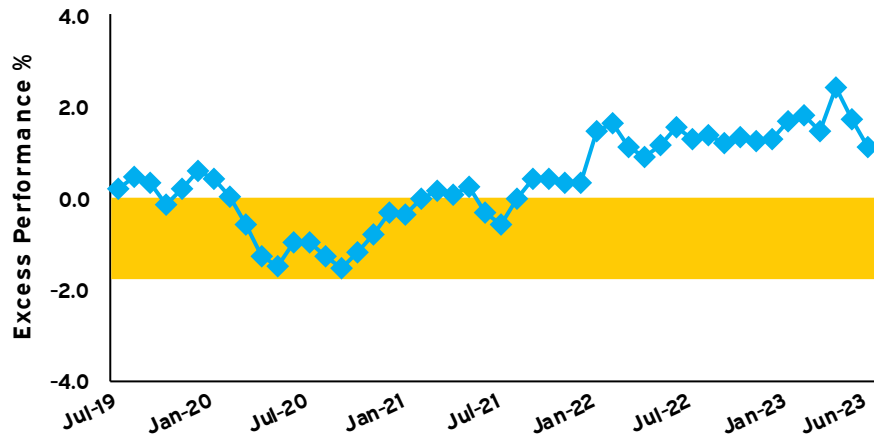
Results fall in the acceptable range.  
Probationary Threshold - 3.50%

#### Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term - Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold - 1.75%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TRowe Price Large Cap Value I	3.4 (58)	7.7 (80)	15.4 (37)	7.8 (59)	11.3 (23)	12/1/2011
Russell 1000 Value Index	4.1 (40)	11.5 (42)	14.3 (55)	8.1 (51)	11.0 (33)	
Large Value Median	3.7	10.8	14.6	8.1	10.6	

#### Monitoring Status

Acceptable

### TRowe Price Large Cap Value I | As of June 30, 2023

#### Objective

The investment seeks long-term capital appreciation; income is a secondary objective.

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. The manager defines a large-cap company as having a market capitalization that, at the time of purchase, is either (i) larger than the current median market capitalization of companies in the Russell 1000® Value Index or (ii) larger than the three year average median market capitalization of companies in the index as of December 31 of the three preceding years.

#### Account Information

Account Name	TRowe Price Large Cap Value I
Account Structure	Mutual Fund
Inception Date	11/20/2011
Asset Class	US Equity
Benchmark	Russell 1000 Value Index
Universe	Large Value

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TRowe Price Large Cap Value I	3.4 (58)	1.8 (78)	7.7 (80)	15.4 (37)	7.8 (59)
Russell 1000 Value Index	4.1 (40)	5.1 (33)	11.5 (42)	14.3 (55)	8.1 (51)
Large Value Median	3.7	3.9	10.8	14.6	8.1

	2022	2021	2020	2019	2018
TRowe Price Large Cap Value I	-4.8 (42)	25.8 (55)	3.0 (47)	26.7 (35)	-9.3 (59)
Russell 1000 Value Index	-7.5 (69)	25.2 (62)	2.8 (50)	26.5 (37)	-8.3 (42)
Large Value Median	-5.5	26.1	2.7	25.5	-8.8

#### Portfolio Characteristics vs Russell 1000 Value Index

	Portfolio	Index
# of Holdings	73	844
Wtd. Avg. Mkt. Cap	154.9	138.0
Median Mkt. Cap	76.6	11.6
P/E Ratio	15.3	16.2
Yield	3.0	2.4
EPS Growth - 5 Yrs.	11.9	13.0
Price/Book ratio	2.4	2.5
Beta	1.0	1.0

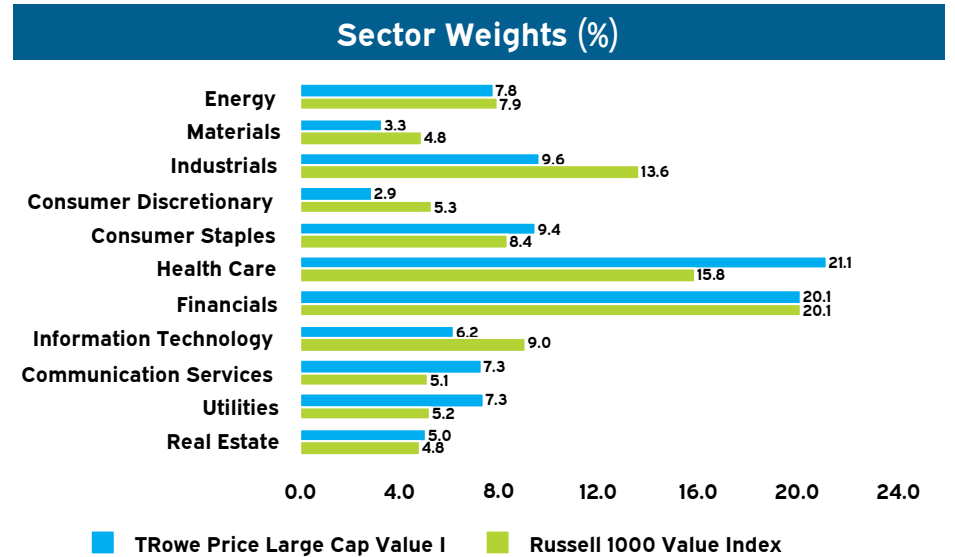
#### Risk Statistics

	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.7	19.3
Tracking Error	3.3	3.0
Up Capture	102.1	98.8
Down Capture	97.8	99.1
Consistency	58.3	48.3
Alpha	0.9	-0.2
Sharpe Ratio	0.8	0.4

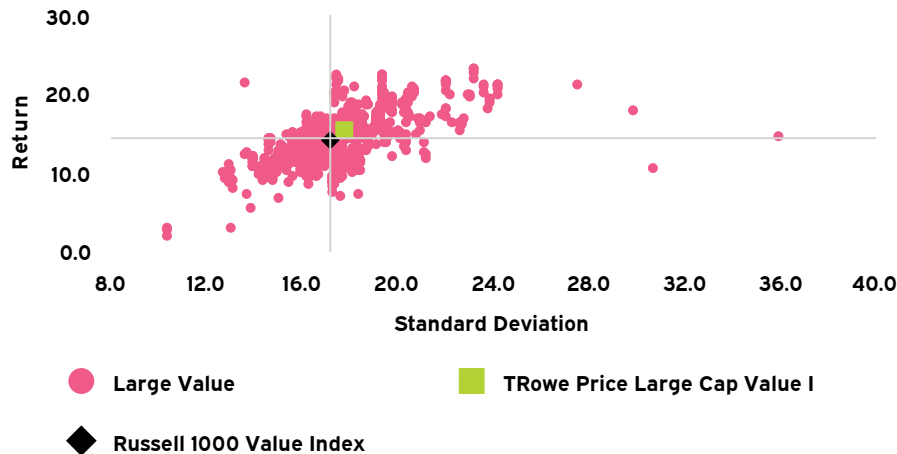


### TRowe Price Large Cap Value I | As of June 30, 2023

Top Holdings	
Johnson & Johnson	3.4
Southern Co (The)	3.3
Wells Fargo & Co	3.1
Fiserv Inc.	3.0
TotalEnergies SE	3.0
AvalonBay Communities Inc.	2.7
Philip Morris International Inc	2.5
Walmart Inc	2.4
QUALCOMM Inc.	2.4
Chubb Ltd	2.4
<b>% of Portfolio</b>	<b>28.2</b>

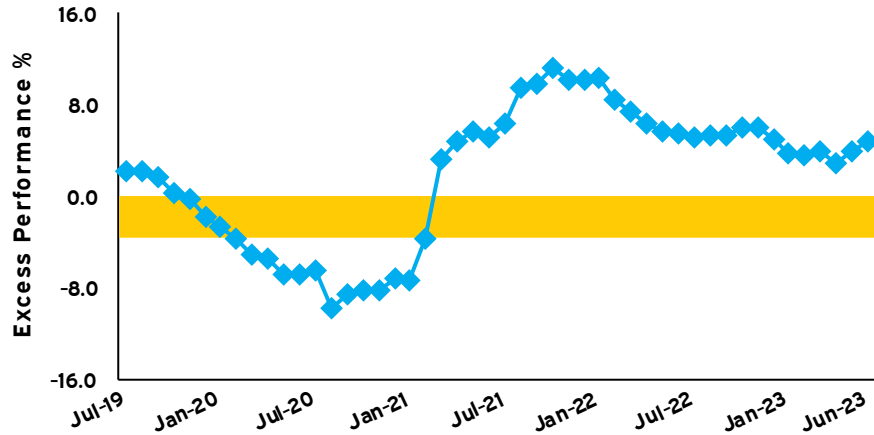


### Return vs. Standard Deviation 3 Years Ending June 30, 2023



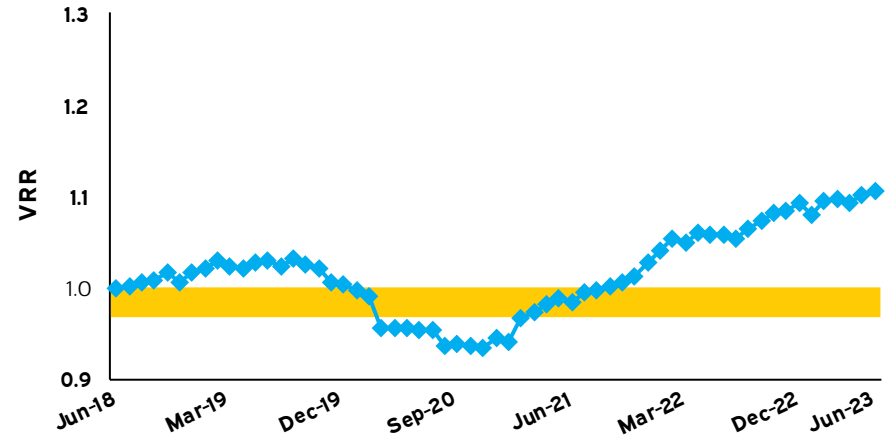
### TIAA-CREF Quant Small Cap Equity I | As of June 30, 2023

Short Term - Rolling 12-Month Excess Return



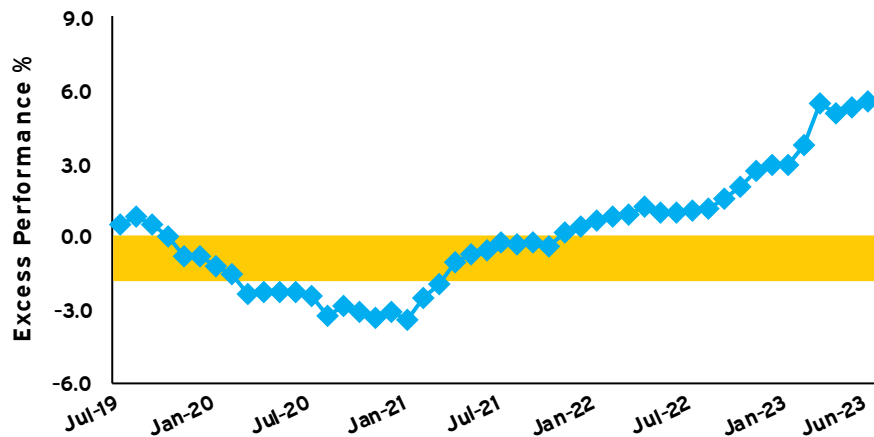
Results fall in the positive range.  
Probationary Threshold - 3.50%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

Medium Term - Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold - 1.75%

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Quant Small Cap Equity I	6.0 (22)	17.2 (19)	16.4 (27)	6.3 (35)	11.1 (28)	12/1/2011
Russell 2000 Index	5.2 (33)	12.3 (58)	10.8 (64)	4.2 (74)	9.9 (57)	
Small Cap Median	4.4	13.0	13.1	5.4	10.2	

### Monitoring Status

Positive

### Objective

The investment seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of smaller domestic companies. Under normal circumstances, the fund invests at least 80% of its assets in small-cap equity securities. A "small-cap" equity security is a security within the capitalization range of the companies included in the fund's benchmark index, the Russell 2000® Index, at the time of purchase. It invests primarily in equity securities of smaller domestic companies across a wide range of sectors, growth rates and valuations.

### Account Information

Account Name TIAA-CREF Quant Small Cap Equity I  
 Account Structure Mutual Fund  
 Inception Date 11/20/2011  
 Asset Class US Equity  
 Benchmark Russell 2000 Index  
 Universe Small Cap

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Quant Small Cap Equity I	6.0 (22)	9.2 (41)	17.2 (19)	16.4 (27)	6.3 (35)
Russell 2000 Index	5.2 (33)	8.1 (52)	12.3 (58)	10.8 (64)	4.2 (74)
Small Cap Median	4.4	8.2	13.0	13.1	5.4

	2022	2021	2020	2019	2018
TIAA-CREF Quant Small Cap Equity I	-15.4 (38)	25.1 (41)	12.8 (54)	23.9 (57)	-12.0 (53)
Russell 2000 Index	-20.4 (62)	14.8 (71)	20.0 (39)	25.5 (43)	-11.0 (46)
Small Cap Median	-17.5	22.2	14.4	24.7	-11.7

### TIAA-CREF Quant Small Cap Equity I | As of June 30, 2023

### Portfolio Characteristics vs Russell 2000 Index

	Portfolio	Index
# of Holdings	399	2,002
Wtd. Avg. Mkt. Cap	3.5	2.8
Median Mkt. Cap	1.9	0.9
P/E Ratio	11.3	12.0
Yield	1.4	1.6
EPS Growth - 5 Yrs.	19.8	17.3
Price/Book ratio	2.6	2.5
Beta	1.0	1.0

### Risk Statistics

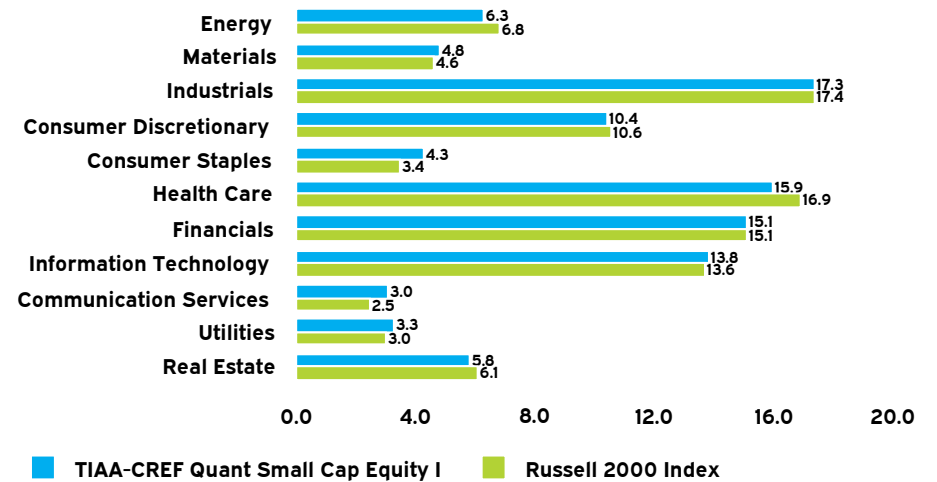
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	21.1	24.0
Tracking Error	2.9	3.0
Up Capture	105.6	102.0
Down Capture	87.8	95.1
Consistency	72.2	60.0
Alpha	5.3	2.1
Sharpe Ratio	0.8	0.3

### TIAA-CREF Quant Small Cap Equity I | As of June 30, 2023

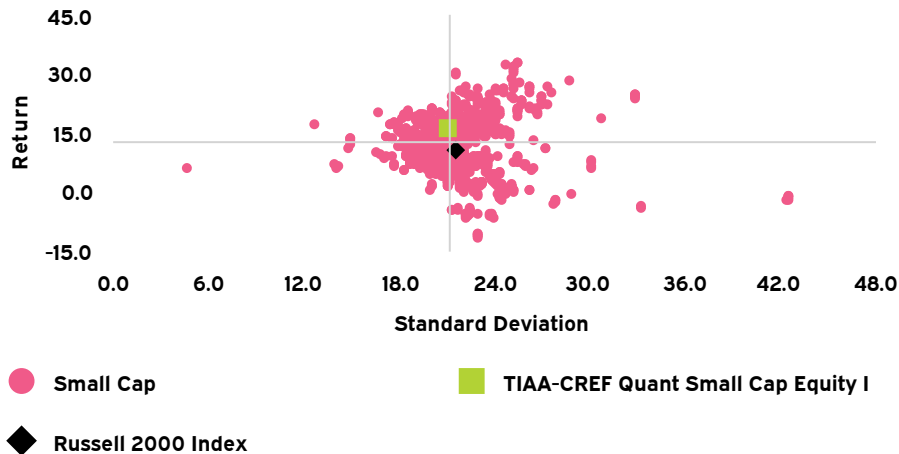
#### Top Holdings

Super Micro Computer Inc	1.4
e.l.f. Beauty Inc	1.1
Comfort Systems USA Inc.	1.0
Atkore Inc	0.9
ShockWave Medical Inc	0.9
ImmunoGen Inc	0.8
Sanmina Corp	0.8
Rambus Inc	0.7
Texas Roadhouse Inc	0.7
Saia Inc	0.7
<b>% of Portfolio</b>	<b>9.0</b>

#### Sector Weights (%)

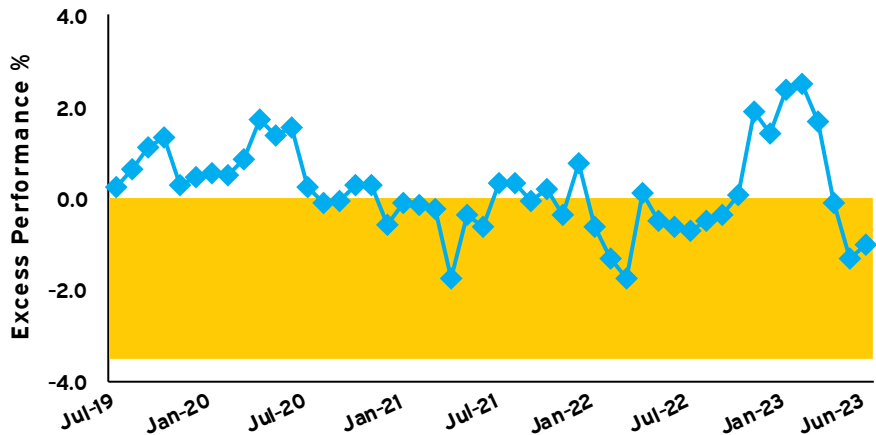


#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



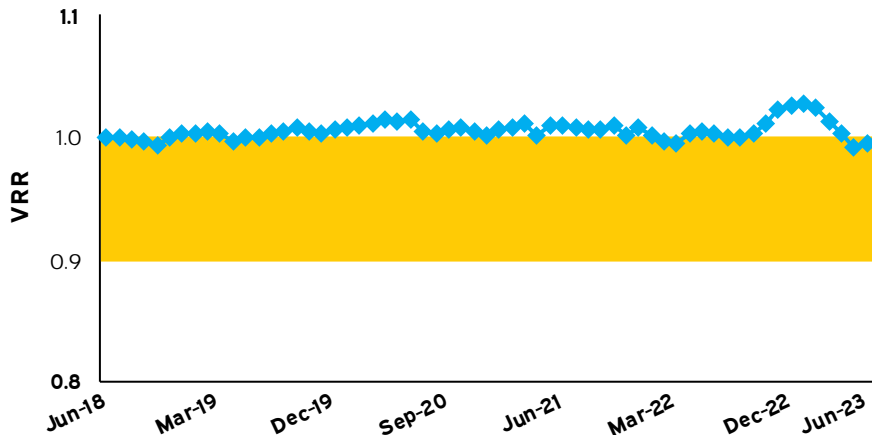
### TIAA-CREF Social Choice Equity I | As of June 30, 2023

Short Term - Rolling 12-Month Excess Return



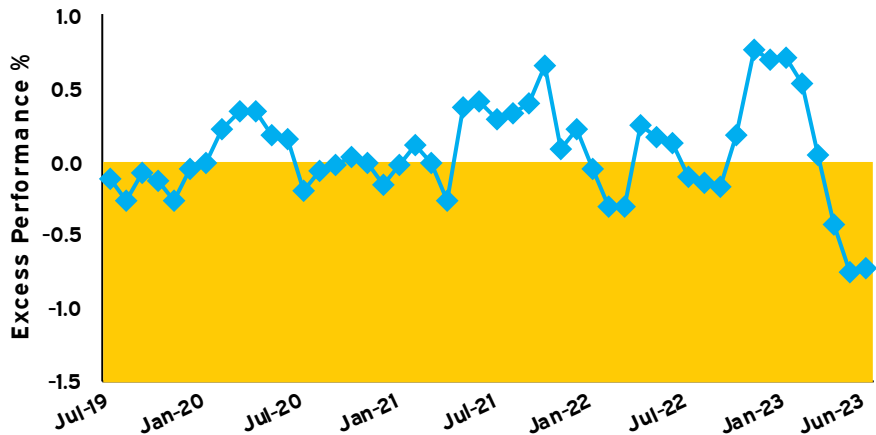
Results fall in the acceptable range.  
Probationary Threshold - 5.00%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.90

Medium Term - Rolling 36-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold - 2.50%

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Social Choice Equity I	6.4 (74)	18.0 (55)	13.2 (63)	11.3 (43)	12.4 (30)	1/1/2016
Russell 3000 Index	8.4 (39)	19.0 (40)	13.9 (46)	11.4 (39)	12.5 (26)	
Large Blend Median	7.9	18.3	13.7	11.0	11.7	

### Monitoring Status

Acceptable

### TIAA-CREF Social Choice Equity I | As of June 30, 2023

#### Objective

The investment seeks a favorable long-term total return that reflects the investment performance of the overall U.S. stock market while giving special consideration to certain ESG criteria.

Under normal circumstances, the fund invests at least 80% of its assets in equity securities. The Advisor attempts to achieve the return of the U.S. stock market as represented by its benchmark, the Russell 3000® Index, while taking into consideration certain ESG criteria.

#### Account Information

Account Name	TIAA-CREF Social Choice Equity I
Account Structure	Mutual Fund
Inception Date	12/04/2015
Asset Class	US Equity
Benchmark	Russell 3000 Index
Universe	Large Blend

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Social Choice Equity I	6.4 (74)	12.5 (68)	18.0 (55)	13.2 (63)	11.3 (43)
Russell 3000 Index	8.4 (39)	16.2 (37)	19.0 (40)	13.9 (46)	11.4 (39)
Large Blend Median	7.9	14.9	18.3	13.7	11.0
	2022	2021	2020	2019	2018
TIAA-CREF Social Choice Equity I	-17.8 (48)	26.5 (52)	20.3 (24)	31.5 (23)	-5.5 (49)
Russell 3000 Index	-19.2 (71)	25.7 (62)	20.9 (19)	31.0 (34)	-5.2 (43)
Large Blend Median	-18.1	26.7	17.1	29.9	-5.6

#### Portfolio Characteristics vs Russell 3000 Index

	Portfolio	Index
# of Holdings	525	3,010
Wtd. Avg. Mkt. Cap	307.0	580.2
Median Mkt. Cap	5.7	2.0
P/E Ratio	21.2	22.0
Yield	1.7	1.5
EPS Growth - 5 Yrs.	15.6	16.6
Price/Book ratio	4.2	4.2
Beta	1.0	1.0

#### Risk Statistics

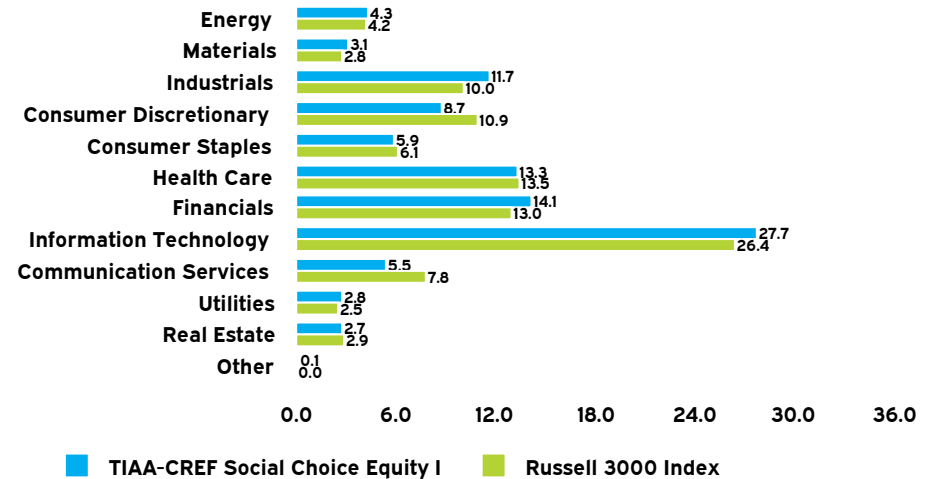
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	18.2	19.1
Tracking Error	2.0	1.7
Up Capture	98.0	99.0
Down Capture	99.8	98.9
Consistency	50.0	53.3
Alpha	-0.6	0.0
Sharpe Ratio	0.7	0.6

### TIAA-CREF Social Choice Equity I | As of June 30, 2023

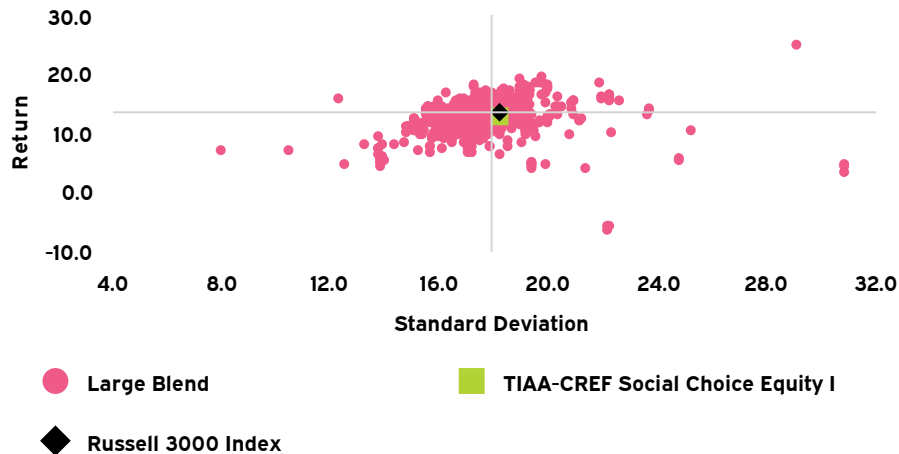
#### Top Holdings

Microsoft Corp	6.4
NVIDIA Corporation	3.0
Tesla Inc	2.0
Eli Lilly and Co	1.5
Procter & Gamble Co (The)	1.3
Mastercard Inc	1.3
Home Depot Inc. (The)	1.2
Merck & Co Inc	1.1
Adobe Inc	1.1
PepsiCo Inc	1.0
<b>% of Portfolio</b>	<b>19.9</b>

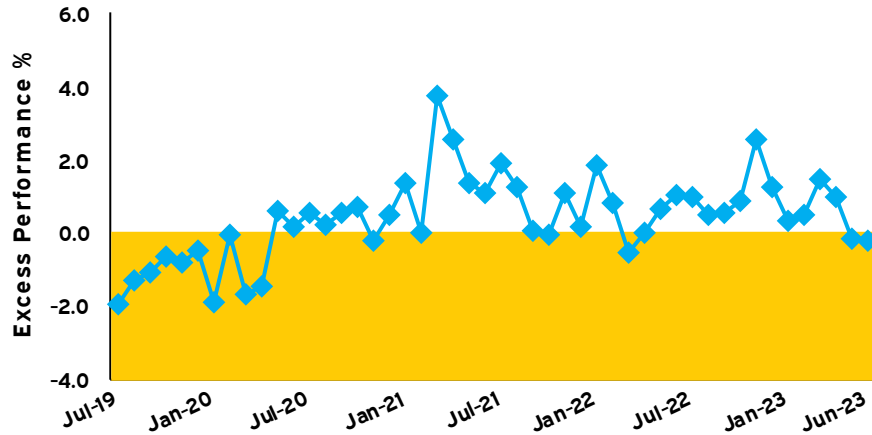
#### Sector Weights (%)



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023

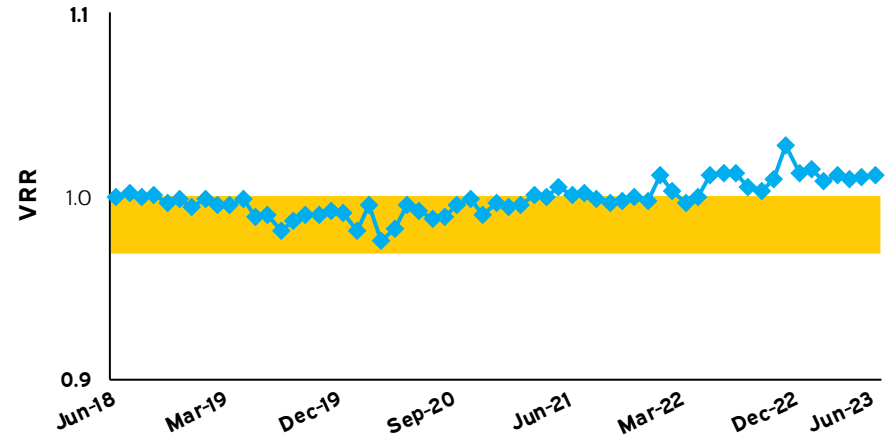


#### Short Term - Rolling 12-Month Excess Return



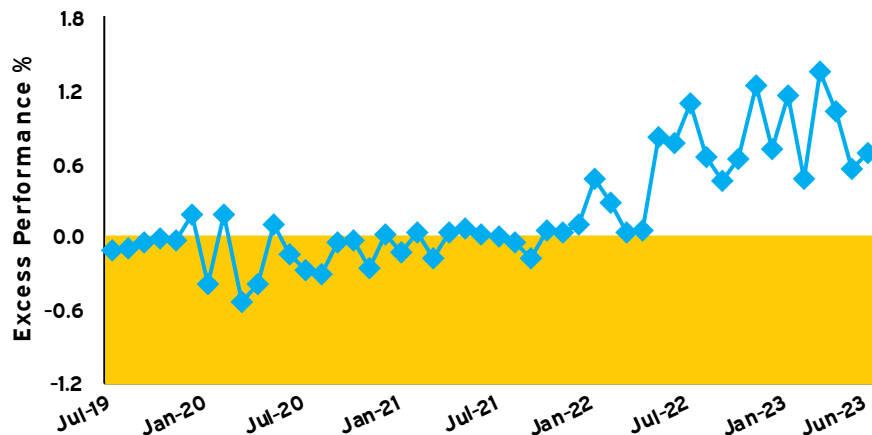
Results fall in the positive range.  
Probationary Threshold - 4.50%

#### Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term - Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold - 2.00%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
DFA Large Cap International I	3.0 (45)	17.2 (39)	10.0 (14)	4.8 (24)	6.4 (34)	12/1/2011
MSCI World ex U.S. (Net)	3.0 (44)	17.4 (37)	9.3 (21)	4.6 (30)	6.2 (41)	
Foreign Large Blend Median	2.9	16.1	8.0	3.9	6.0	

#### Monitoring Status

Positive



### DFA Large Cap International I | As of June 30, 2023

#### Objective

The investment seeks long-term capital appreciation. The Portfolio will invest at least 80% of its net assets in securities of large cap companies in the particular markets in which the Portfolio invests. The Advisor determines the minimum market capitalization of a large company with respect to each country or region in which the Portfolio invests. It also may purchase or sell futures contracts and options on futures contracts for foreign or U.S. equity securities and indices, to increase or decrease equity market exposure based on actual or expected cash inflows to or outflows from the Portfolio.

#### Account Information

Account Name DFA Large Cap International I  
 Account Structure Mutual Fund  
 Inception Date 11/20/2011  
 Asset Class International Equity  
 Benchmark MSCI World ex U.S. (Net)  
 Universe Foreign Large Blend

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
DFA Large Cap International I	3.0 (45)	11.2 (50)	17.2 (39)	10.0 (14)	4.8 (24)
MSCI World ex U.S. (Net)	3.0 (44)	11.3 (48)	17.4 (37)	9.3 (21)	4.6 (30)
Foreign Large Blend Median	2.9	11.2	16.1	8.0	3.9

	2022	2021	2020	2019	2018
DFA Large Cap International I	-13.0 (16)	12.8 (16)	8.1 (63)	22.0 (50)	-14.1 (35)
MSCI World ex U.S. (Net)	-14.3 (28)	12.6 (18)	7.6 (70)	22.5 (45)	-14.1 (34)
Foreign Large Blend Median	-15.8	10.3	9.5	22.0	-15.1

#### Portfolio Characteristics vs MSCI World ex U.S. (Net)

	Portfolio	Index
# of Holdings	1,278	885
Wtd. Avg. Mkt. Cap	115.6	82.5
Median Mkt. Cap	8.8	12.9
P/E Ratio	11.4	13.8
Yield	2.6	3.3
EPS Growth - 5 Yrs.	9.6	9.2
Price/Book ratio	2.3	2.4
Beta	1.0	1.0

#### Risk Statistics

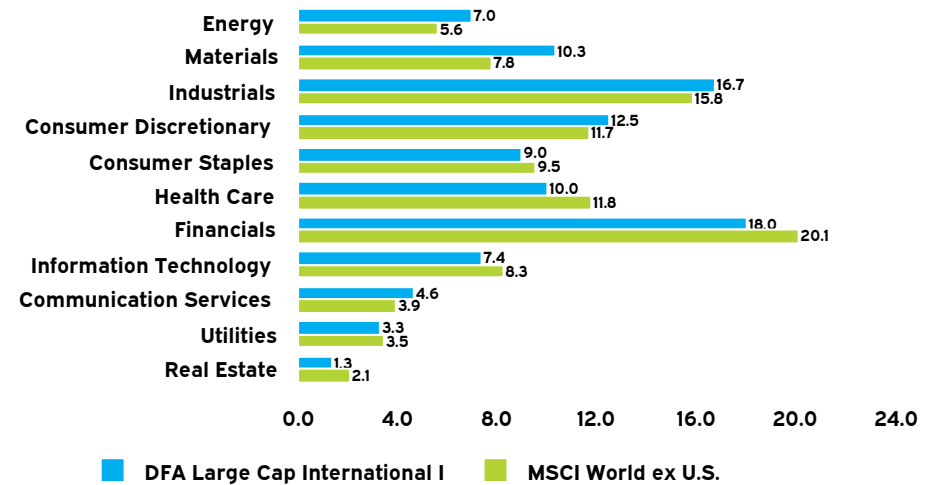
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	18.2	18.5
Tracking Error	2.3	2.3
Up Capture	104.3	105.0
Down Capture	103.0	104.7
Consistency	58.3	56.7
Alpha	0.6	0.2
Sharpe Ratio	0.5	0.3

### DFA Large Cap International I | As of June 30, 2023

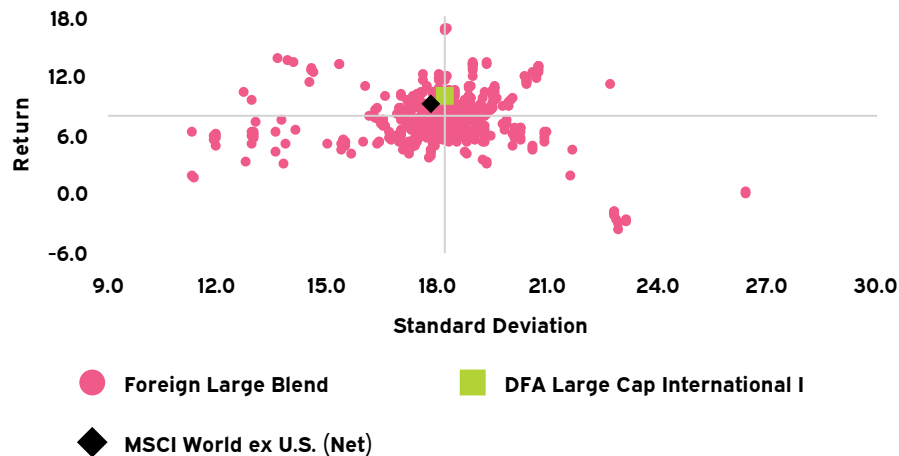
#### Top Holdings

Nestle SA, Cham Und Vevey	1.5
LVMH Moet Hennessy Louis Vuitton SE	1.4
Novo Nordisk A/S	1.4
Shell Plc	1.3
Roche Holding AG	1.1
ASML Holding NV	1.1
TotalEnergies SE	1.0
Royal Bank of Canada	0.7
Toyota Motor Corp	0.7
Sony Group Corporation	0.6
<b>% of Portfolio</b>	<b>10.8</b>

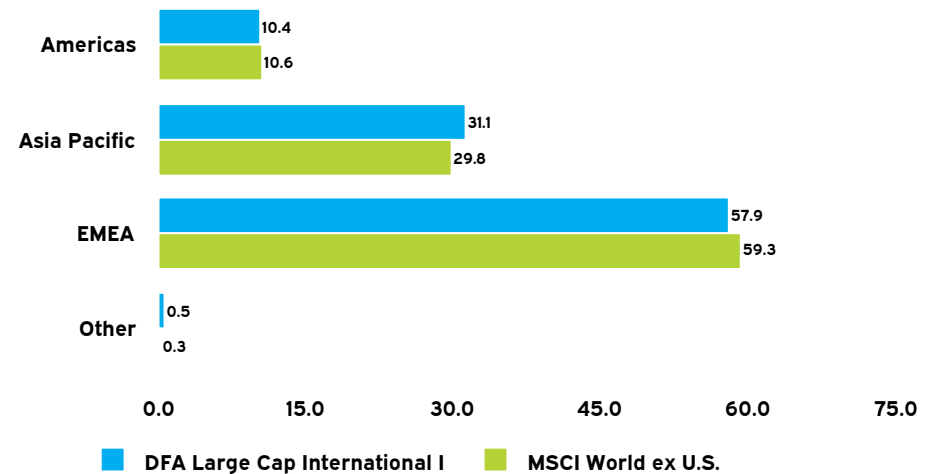
#### Sector Weights (%)



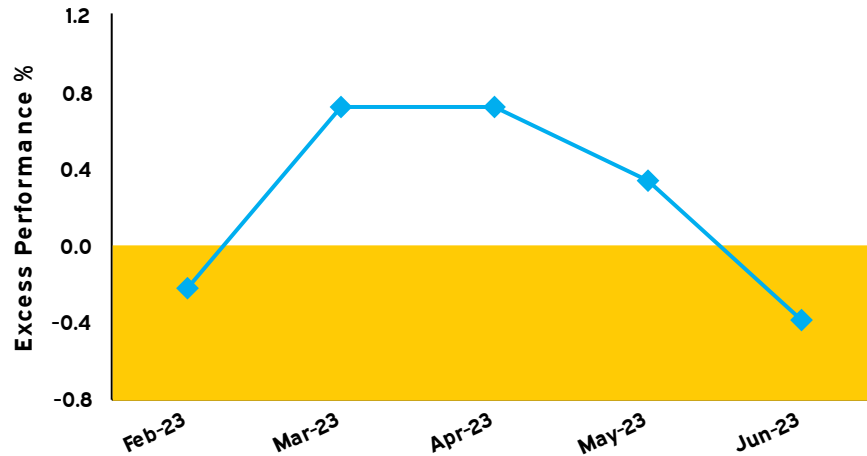
#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



#### Region



#### Short Term - Rolling 12-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -5.00%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
TIAA-CREF Social Choice Intl Equity	3.2 (34)	12.3 (28)	18.4 (24)	2.1 (19)	3/1/2022
MSCI EAFE (Net)	3.0 (48)	11.7 (41)	18.8 (18)	1.6 (27)	
Foreign Large Blend Median	2.9	11.2	16.1	0.1	

#### Monitoring Status

Positive

### TIAA-CREF Social Choice Intl Equity | As of June 30, 2023

#### Objective

The investment seeks a favorable long-term total return that reflects the investment performance of the overall foreign equity markets 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 of foreign issuers. The advisor attempts to achieve the return of the foreign equity markets, as represented by its benchmark index, the MSCI EAFE® (Europe, Australasia, Far East) Index (the "MSCI EAFE Index"), while taking into consideration certain ESG criteria.

#### Account Information

Account Name TIAA-CREF Social Choice Intl Equity  
 Account Structure Mutual Fund  
 Inception Date 02/11/2022  
 Asset Class International Equity  
 Benchmark MSCI EAFE (Net)  
 Universe Foreign Large Blend

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Social Choice Intl Equity	3.2 (34)	12.3 (28)	18.4 (24)	-	-
MSCI EAFE (Net)	3.0 (48)	11.7 (41)	18.8 (18)	8.9 (31)	4.4 (35)
Foreign Large Blend Median	2.9	11.2	16.1	8.0	3.9

	2022	2021	2020	2019	2018
TIAA-CREF Social Choice Intl Equity	-	-	-	-	-
MSCI EAFE (Net)	-14.5 (31)	11.3 (36)	7.8 (67)	22.0 (51)	-13.8 (27)
Foreign Large Blend Median	-15.8	10.3	9.5	22.0	-15.1

#### Portfolio Characteristics vs MSCI EAFE (Net)

	Portfolio	Index
# of Holdings	348	798
Wtd. Avg. Mkt. Cap	127.0	86.1
Median Mkt. Cap	14.2	12.5
P/E Ratio	10.1	13.8
Yield	2.3	3.3
EPS Growth - 5 Yrs.	8.3	9.0
Price/Book ratio	2.7	2.5
Beta	-	1.0

#### Risk Statistics

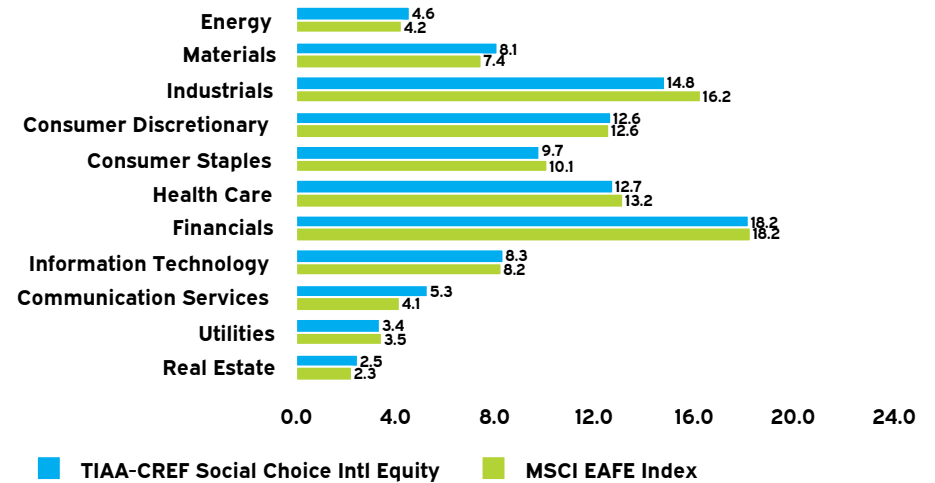
	1 Yr (%)
Standard Deviation	22.0
Tracking Error	3.6
Up Capture	105.5
Down Capture	109.9
Consistency	58.3
Alpha	-2.1
Sharpe Ratio	0.7

### TIAA-CREF Social Choice Intl Equity | As of June 30, 2023

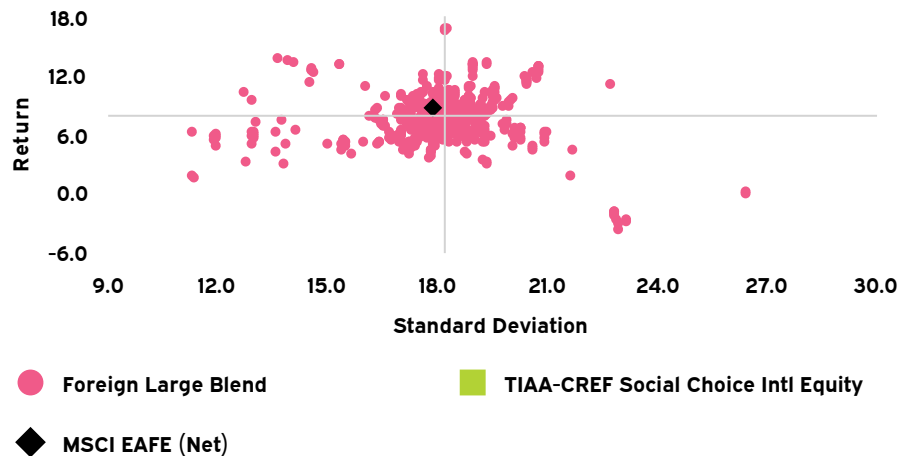
#### Top Holdings

Nestle SA, Cham Und Vevey	2.4
ASML Holding NV	2.2
Novo Nordisk A/S	2.0
Astrazeneca PLC	1.7
Shell Plc	1.6
Novartis AG	1.6
Toyota Motor Corp	1.4
HSBC Holdings PLC	1.3
SAP SE	1.2
TotalEnergies SE	1.2
<b>% of Portfolio</b>	<b>16.6</b>

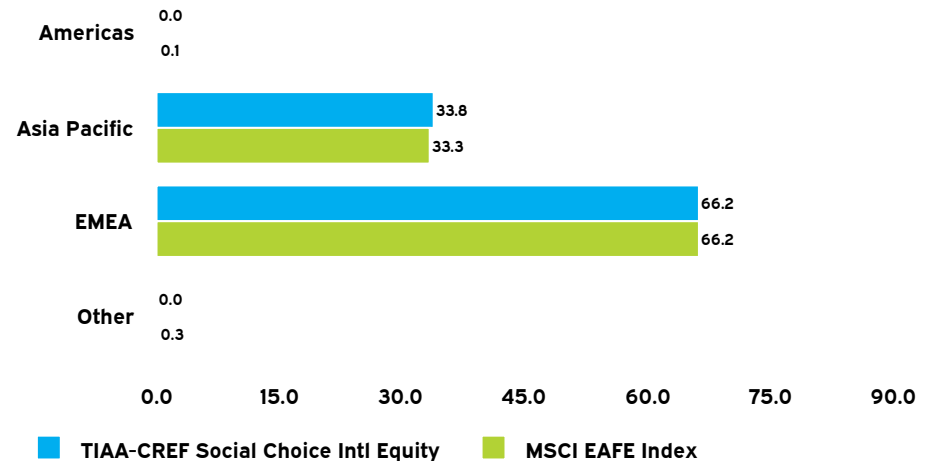
#### Sector Weights (%)



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023

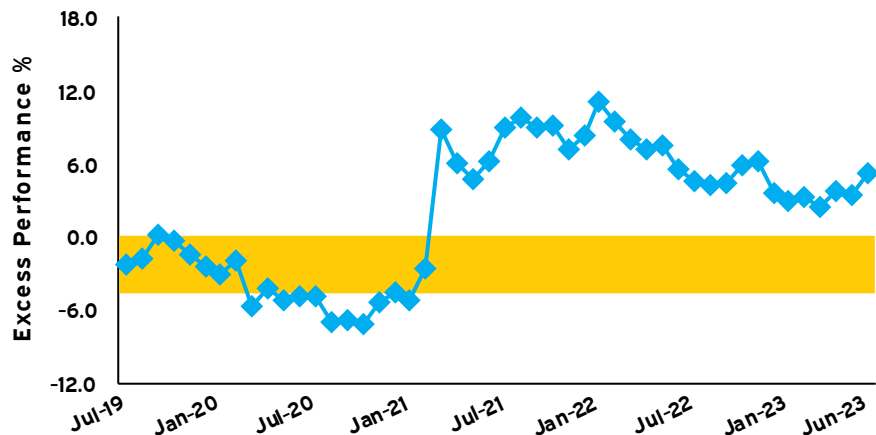


#### Region



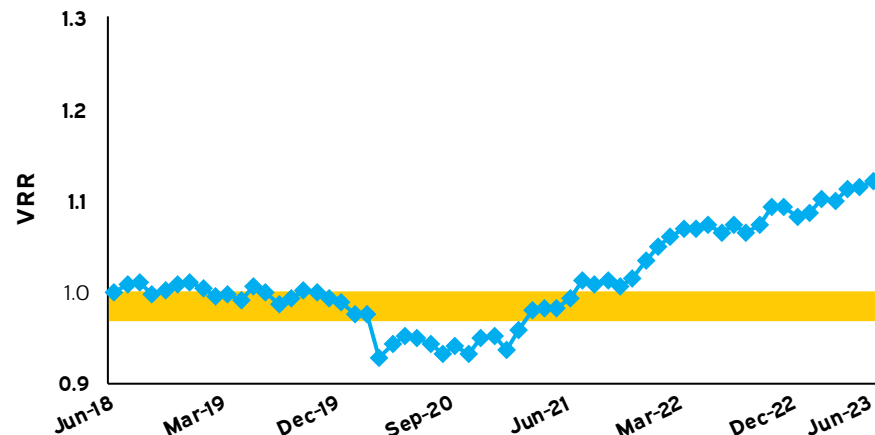
### DFA Emerging Markets Core Equity I | As of June 30, 2023

#### Short Term - Rolling 12-Month Excess Return



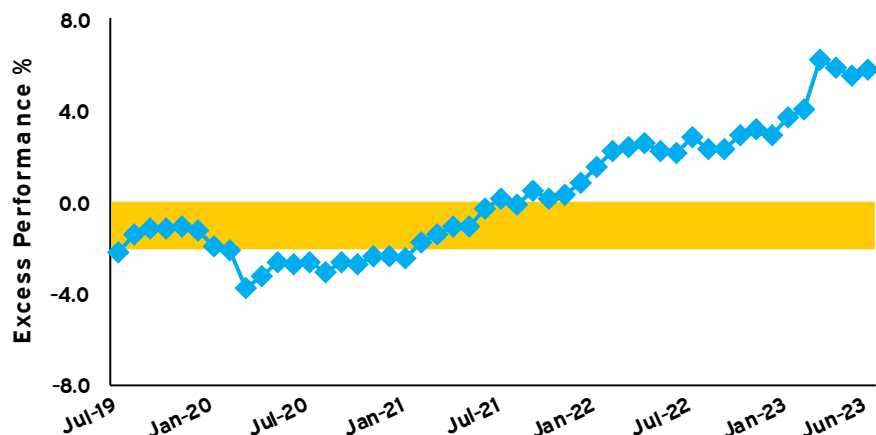
Results fall in the positive range.  
Probationary Threshold - 4.50%

#### Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term - Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold - 2.00%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
DFA Emerging Markets Core Equity I	2.9 (32)	7.1 (36)	8.1 (11)	3.3 (20)	4.0 (26)	12/1/2011
MSCI Emerging Markets (Net)	0.9 (74)	1.7 (74)	2.3 (46)	0.9 (54)	3.0 (52)	
Diversified Emerging Mkts Median	1.9	4.8	2.1	1.1	3.0	

#### Monitoring Status

Positive

DFA Emerging Markets Core Equity I | As of June 30, 2023

**Objective**

The investment seeks long-term capital appreciation. The Portfolio purchases a broad and diverse group of securities associated with emerging markets, which may include frontier markets (emerging market countries in an earlier stage of development), authorized for investment by the Advisor's Investment Committee ("Approved Markets"). It may gain exposure to companies in Approved Markets by purchasing equity securities in the form of depositary receipts, which may be listed or traded outside the issuer's domicile country.

**Account Information**

Account Name DFA Emerging Markets Core Equity I  
 Account Structure Mutual Fund  
 Inception Date 05/01/2005  
 Asset Class International Equity  
 Benchmark MSCI Emerging Markets (Net)  
 Universe Diversified Emerging Mkts

**Portfolio Performance Summary**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
DFA Emerging Markets Core Equity I	2.9 (32)	8.7 (30)	7.1 (36)	8.1 (11)	3.3 (20)
MSCI Emerging Markets (Net)	0.9 (74)	4.9 (81)	1.7 (74)	2.3 (46)	0.9 (54)
Diversified Emerging Mkts Median	1.9	7.1	4.8	2.1	1.1

	2022	2021	2020	2019	2018
DFA Emerging Markets Core Equity I	-16.4 (15)	5.8 (17)	13.9 (71)	16.0 (80)	-15.2 (38)
MSCI Emerging Markets (Net)	-20.1 (31)	-2.5 (58)	18.3 (47)	18.4 (65)	-14.6 (29)
Diversified Emerging Mkts Median	-22.5	-1.5	17.8	20.5	-16.5

**Portfolio Characteristics vs MSCI Emerging Markets (Net)**

	Portfolio	Index
# of Holdings	6,653	1,423
Wtd. Avg. Mkt. Cap	55.1	101.9
Median Mkt. Cap	0.7	6.4
P/E Ratio	13.9	11.6
Yield	4.6	3.3
EPS Growth - 5 Yrs.	17.2	15.1
Price/Book ratio	3.3	2.4
Beta	1.0	1.0

**Risk Statistics**

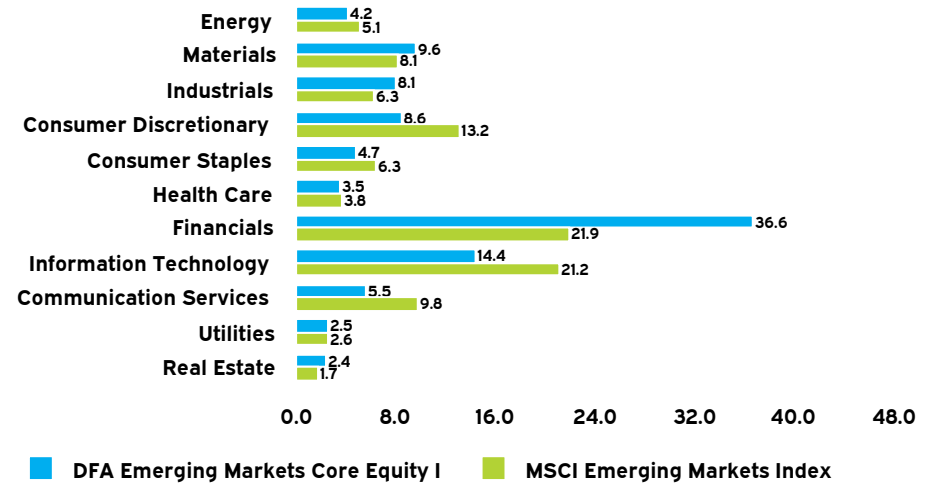
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.2	19.3
Tracking Error	3.5	3.9
Up Capture	103.5	103.2
Down Capture	78.1	93.1
Consistency	63.9	58.3
Alpha	5.8	2.4
Sharpe Ratio	0.5	0.2

### DFA Emerging Markets Core Equity I | As of June 30, 2023

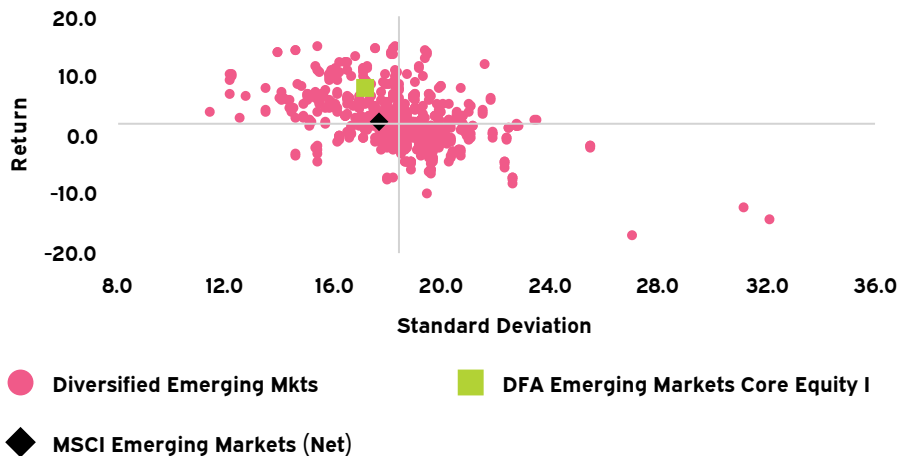
#### Top Holdings

Banco Itau Chile	23.3
Taiwan Semiconductor Manufacturing Co Ltd	2.5
Tencent Holdings LTD	2.2
Taiwan Semiconductor Manufacturing Co Ltd	1.2
China Construction Bank Corp	0.8
SK Hynix Inc	0.6
Alibaba Group Holding Ltd	0.6
Vale SA	0.5
Ping An Insurance Group	0.5
Reliance Industries Ltd	0.5
<b>% of Portfolio</b>	<b>32.7</b>

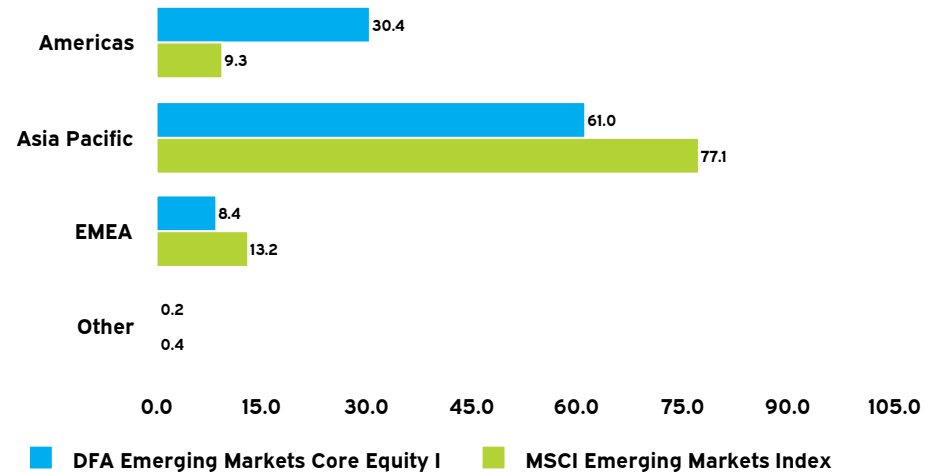
#### Sector Weights (%)



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



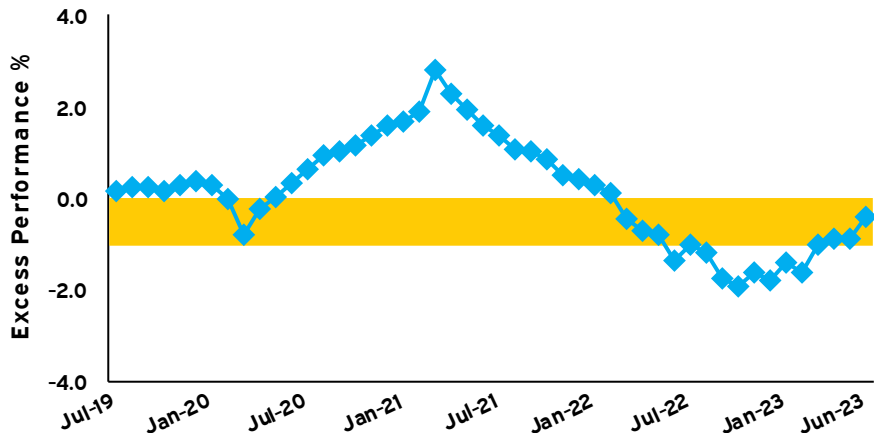
#### Region





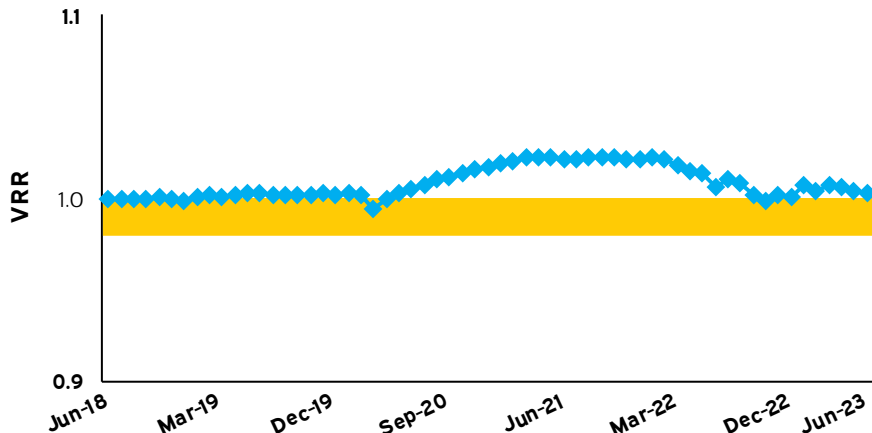
### Metropolitan West Total Return Bond I | As of June 30, 2023

Short Term - Rolling 12-Month Excess Return



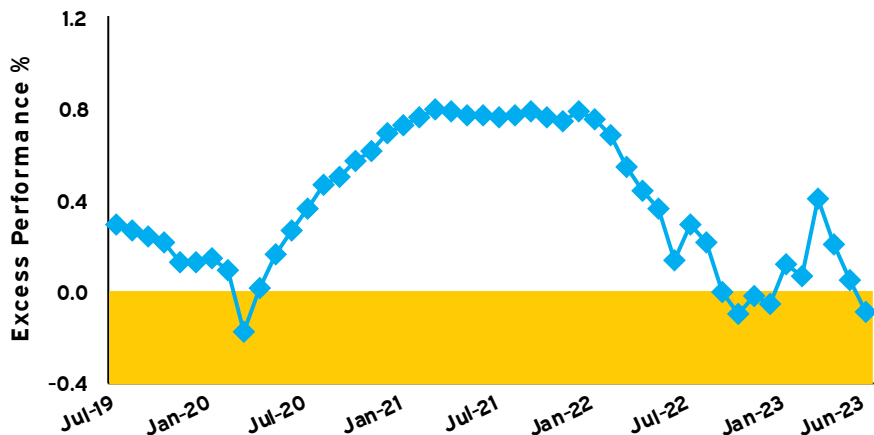
Results fall acceptable in the range.  
Probationary Threshold - 1.00%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.98

Medium Term - Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.50%

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
Metropolitan West Total Return Bond I	-1.3 (88)	-1.3 (73)	-4.1 (84)	0.8 (53)	1.1 (65)	11/1/2015
Blmbg. U.S. Aggregate Index	-0.8 (65)	-0.9 (66)	-4.0 (81)	0.8 (57)	1.0 (68)	
Intermediate Core-Plus Bond Median	-0.7	-0.4	-3.3	0.9	1.2	

### Monitoring Status

Acceptable

### Objective

The investment seeks to maximize long-term total return. The fund pursues its objective by investing, under normal circumstances, at least 80% of its net assets in investment grade fixed income securities or unrated securities determined by the Adviser to be of comparable quality. Up to 20% of the fund's net assets may be invested in securities rated below investment grade or unrated securities determined by the Adviser to be of comparable quality. The fund also invests at least 80% of its net assets, plus any borrowings for investment purposes in fixed income securities it regards as bonds.

### Account Information

Account Name	Metropolitan West Total Return Bond I
Account Structure	Mutual Fund
Inception Date	10/07/2015
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Universe	Intermediate Core-Plus Bond

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Metropolitan West Total Return Bond I	-1.3 (88)	2.3 (62)	-1.3 (73)	-4.1 (84)	0.8 (53)
Blmbg. U.S. Aggregate Index	-0.8 (65)	2.1 (71)	-0.9 (66)	-4.0 (81)	0.8 (57)
Intermediate Core-Plus Bond Median	-0.7	2.5	-0.4	-3.3	0.9

	2022	2021	2020	2019	2018
Metropolitan West Total Return Bond I	-14.8 (77)	-1.1 (66)	9.1 (30)	9.1 (56)	0.2 (18)
Blmbg. U.S. Aggregate Index	-13.0 (27)	-1.5 (83)	7.5 (70)	8.7 (68)	0.0 (20)
Intermediate Core-Plus Bond Median	-13.9	-0.8	8.4	9.3	-0.8

### Metropolitan West Total Return Bond I | As of June 30, 2023

#### Portfolio Characteristics vs Benchmark

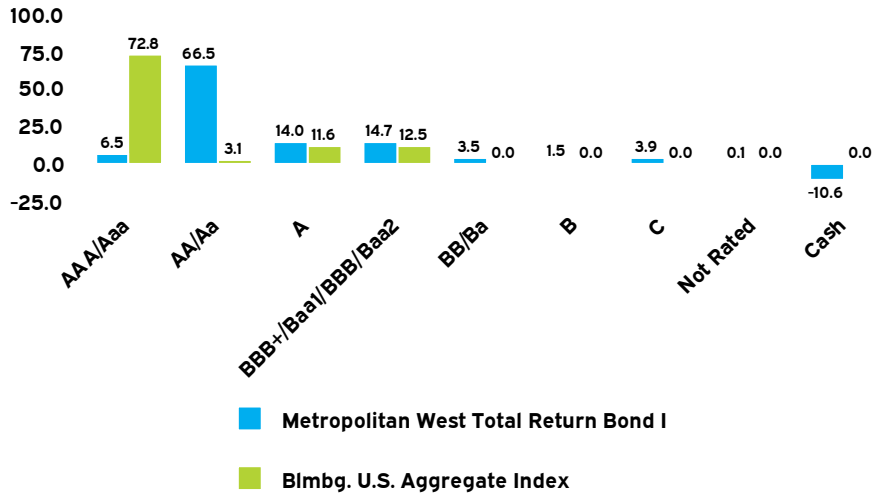
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	-	4.8
Average Duration	7.1	6.3
Average Quality	AA	AA
Weighted Average Maturity	-	13.1

#### Risk Statistics

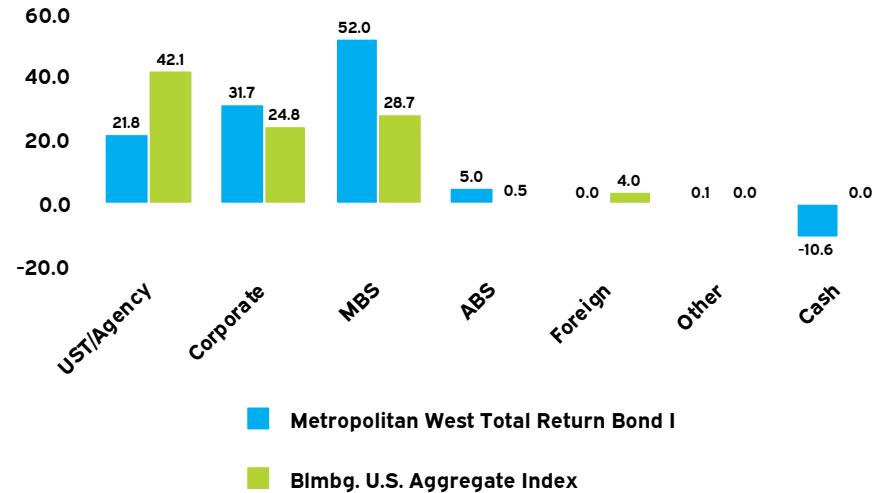
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	6.8	6.0
Tracking Error	0.9	0.9
Up Capture	110.5	108.2
Down Capture	107.0	107.9
Consistency	50.0	55.0
Alpha	0.4	0.0
Sharpe Ratio	-0.8	-0.1

### Metropolitan West Total Return Bond I | As of June 30, 2023

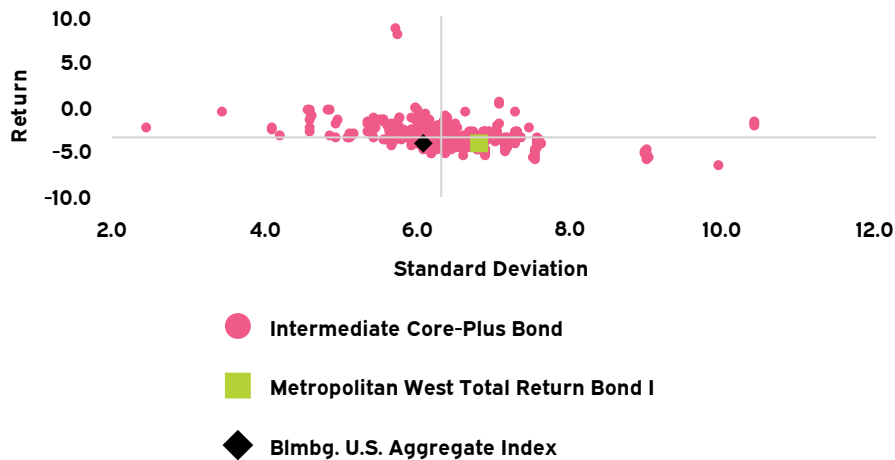
#### Credit Quality



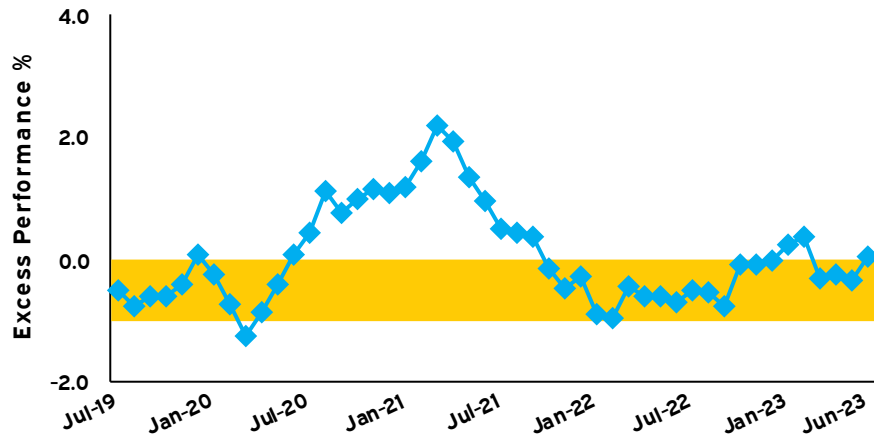
#### Sector Allocation



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023

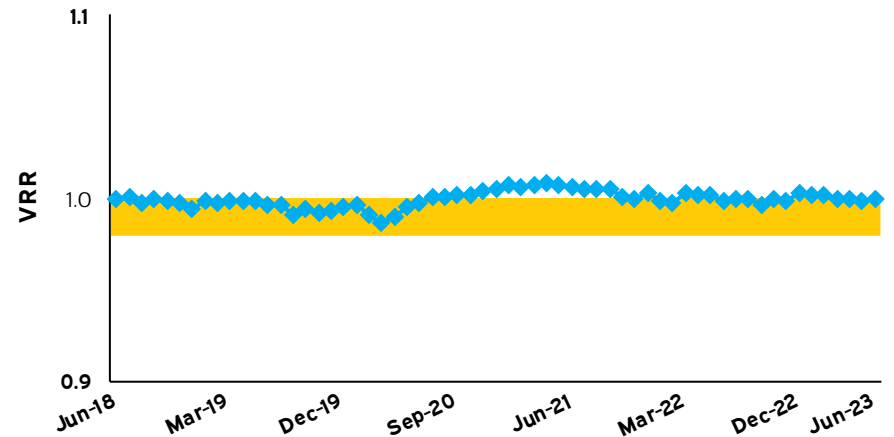


#### Short Term - Rolling 12-Month Excess Return



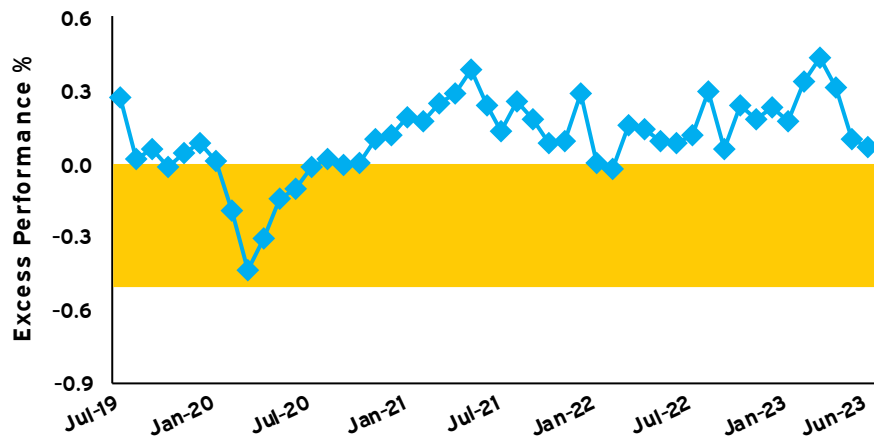
Results fall in the positive range.  
Probationary Threshold - 1.00%

#### Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.98

#### Medium Term - Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.50%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
PIMCO Real Return	-1.4 (39)	-1.3 (49)	-0.1 (48)	2.5 (26)	1.9 (11)	12/1/2011
Blmbg. U.S. TIPS	-1.4 (43)	-1.4 (52)	-0.1 (49)	2.5 (26)	1.7 (17)	
Inflation-Protected Bond Median	-1.5	-1.4	-0.2	2.2	1.4	

#### Monitoring Status

Positive

### Strategy Description

The investment seeks maximum real return, consistent with preservation of capital and prudent investment management. The fund normally 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, which may be represented by forwards or derivatives such as options, futures contracts or swap agreements.

### Account Information

Account Name	PIMCO Real Return
Inception Date	11/20/2011
Account Structure	Mutual Fund
Asset Class	US Real Return
Benchmark	Blmbg. U.S. TIPS
Peer Group	Inflation-Protected Bond

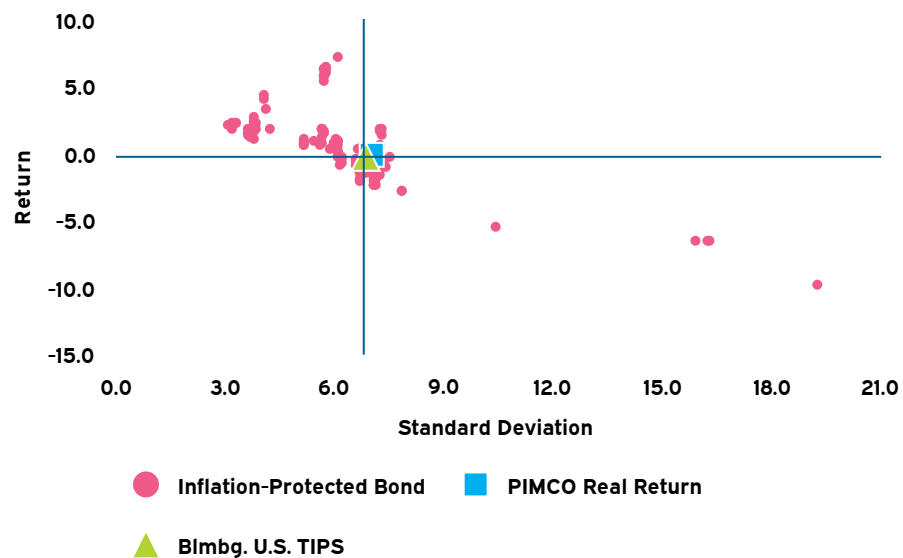
### Performance Summary

	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
PIMCO Real Return	-0.19 (22)	1.57 (50)	-1.35 (49)	-0.05 (48)	2.49 (26)	2.07 (13)
Blmbg. U.S. TIPS	-0.34	1.87	-1.40	-0.12	2.49	2.08
Inflation-Protected Bond Median	-0.42	1.56	-1.38	-0.15	2.23	1.68

	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)
PIMCO Real Return	-11.86 (56)	5.67 (34)	12.09 (14)	8.52 (16)	-1.97 (66)
Blmbg. U.S. TIPS	-11.85 (55)	5.96 (24)	10.99 (27)	8.43 (17)	-1.26 (37)
Inflation-Protected Bond Median	-11.67	5.27	9.74	7.51	-1.54

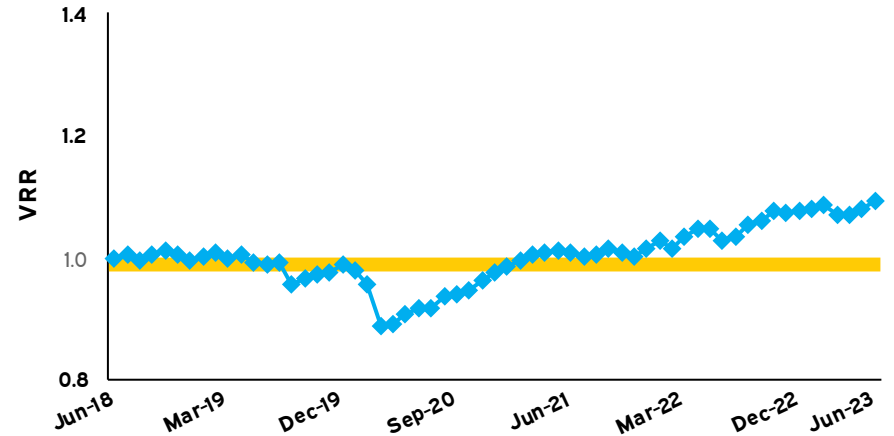
### PIMCO Real Return | As of June 30, 2023

#### 3-Year Return vs Standard Deviation



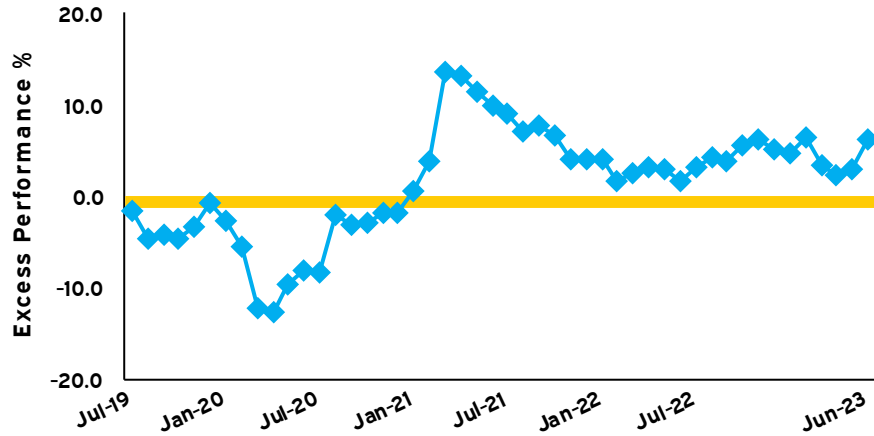
PIMCO Income I | As of June 30, 2023

Long Term - VRR



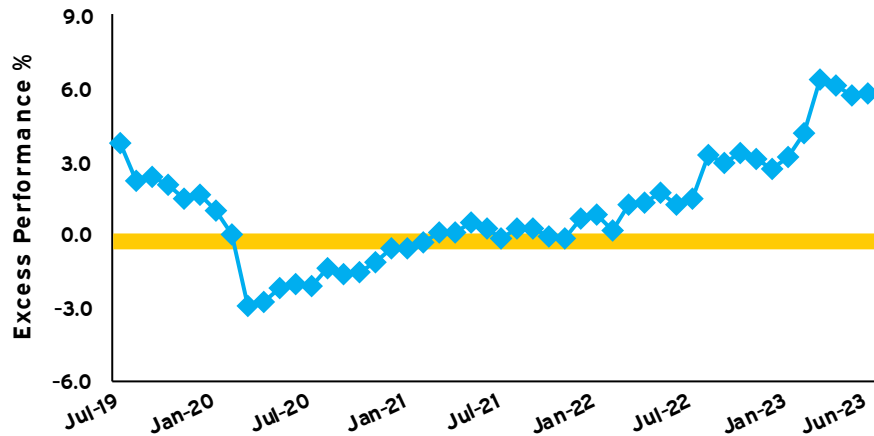
Results fall in the positive range.  
Probationary Threshold <0.98

Short Term - Rolling 12-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -1.00%

Medium Term - Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.50%

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
PIMCO Income I	1.2 (20)	5.3 (22)	1.9 (17)	2.6 (16)	5.7 (1)	12/1/2011
Blmbg. U.S. Aggregate Index	-0.8 (99)	-0.9 (95)	-4.0 (100)	0.8 (87)	1.5 (100)	
Multisector Bond Median	0.6	4.0	0.7	2.0	3.4	

### Monitoring Status

Positive

#### Strategy Description

The investment seeks to maximize current income; long-term capital appreciation is a secondary objective. The fund invests at least 65% of its total assets in a multi-sector portfolio of Fixed Income Instruments of varying maturities, which may be represented by forwards or derivatives such as options, futures contracts or swap agreements. It may invest up to 50% of its total assets in high yield securities rated below investment grade by Moody's, S&P or Fitch, or if unrated, as determined by PIMCO.

#### Account Information

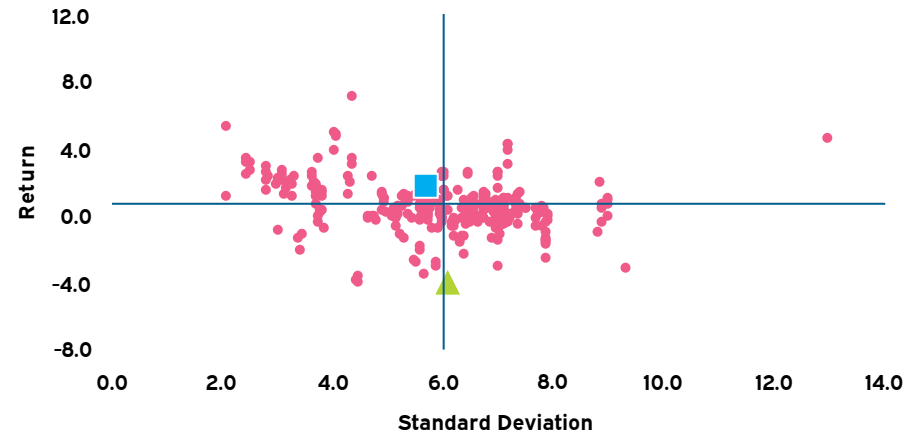
Account Name	PIMCO Income I
Inception Date	11/20/2011
Account Structure	Mutual Fund
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	Multisector Bond

#### Performance Summary

	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
PIMCO Income I	1.01 (25)	3.80 (25)	5.35 (22)	1.85 (17)	2.60 (16)	4.24 (1)
<i>Blmbg. U.S. Aggregate Index</i>	-0.36	2.09	-0.94	-3.97	0.77	1.52
<i>Multisector Bond Median</i>	0.64	3.24	3.99	0.69	1.97	2.75

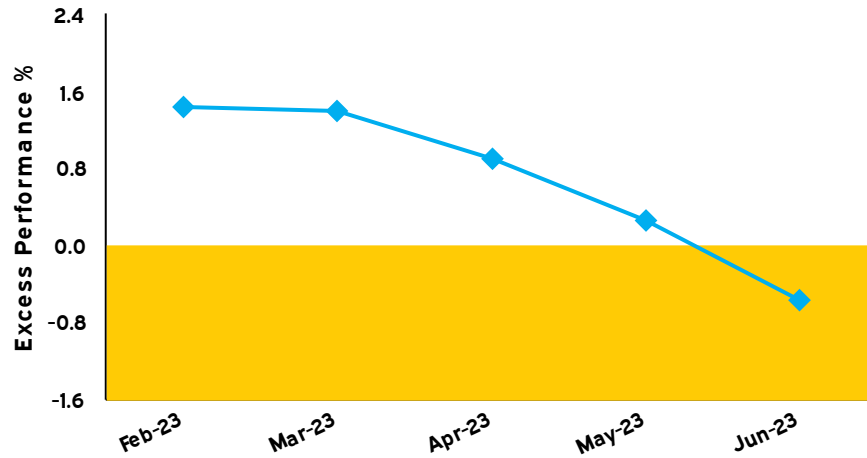
	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)
PIMCO Real Return	-11.86 (56)	5.67 (34)	12.09 (14)	8.52 (16)	-1.97 (66)
<i>Blmbg. U.S. TIPS</i>	-11.85 (55)	5.96 (24)	10.99 (27)	8.43 (17)	-1.26 (37)
<i>Inflation-Protected Bond Median</i>	-11.67	5.27	9.74	7.51	-1.54

#### 3-Year Return vs Standard Deviation



- Multisector Bond
- PIMCO Income I
- ▲ Blmbg. U.S. Aggregate Index

#### Short Term - Rolling 12-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -6.50%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Vanguard High-Yield Corp Adm	1.1 (71)	4.3 (71)	8.5 (42)	-1.1 (25)	3/1/2022
Blmbg. U.S. Corp: High Yield Index	1.7 (26)	5.4 (19)	9.1 (26)	-2.1 (48)	
High Yield Bond Median	1.4	4.8	8.3	-2.2	

#### Monitoring Status

Positive



### Vanguard High-Yield Corp Adm | As of June 30, 2023

#### Objective

The investment seeks to provide a high level of current income. The fund invests primarily in a diversified group of high-yielding, higher-risk corporate bonds—commonly known as "junk bonds"—with medium- and lower-range credit-quality ratings. It invests at least 80% of its assets in corporate bonds that are rated below Baa by Moody's Investors Service, Inc. (Moody's); have an equivalent rating by any other independent bond-rating agency; or, if unrated, are determined to be of comparable quality by the fund's advisor. The fund's high-yield bonds and loans mostly have short- and intermediate-term maturities.

#### Account Information

Account Name	Vanguard High-Yield Corp Adm
Account Structure	Mutual Fund
Inception Date	02/11/2022
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Corp: High Yield Index
Universe	High Yield Bond

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Vanguard High-Yield Corp Adm	1.1 (71)	4.3 (71)	8.5 (42)	-	-
Blmbg. U.S. Corp: High Yield Index	1.7 (26)	5.4 (19)	9.1 (26)	3.1 (44)	3.4 (23)
High Yield Bond Median	1.4	4.8	8.3	2.9	2.7

	2022	2021	2020	2019	2018
Vanguard High-Yield Corp Adm	-	-	-	-	-
Blmbg. U.S. Corp: High Yield Index	-11.2 (61)	5.3 (40)	7.1 (18)	14.3 (35)	-2.1 (27)
High Yield Bond Median	-10.7	4.8	5.2	13.5	-2.9

#### Portfolio Characteristics vs Benchmark

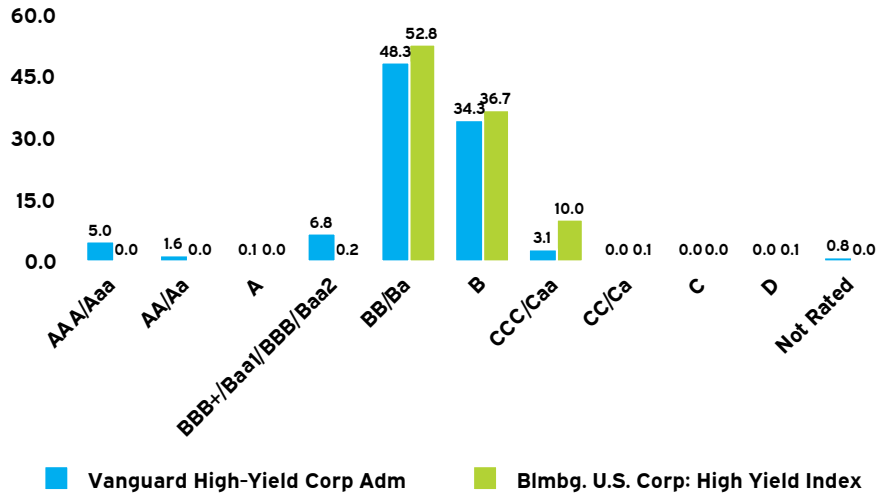
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	7.1	8.5
Average Duration	3.7	4.1
Average Quality	BB	B
Weighted Average Maturity	4.9	5.1

#### Risk Statistics

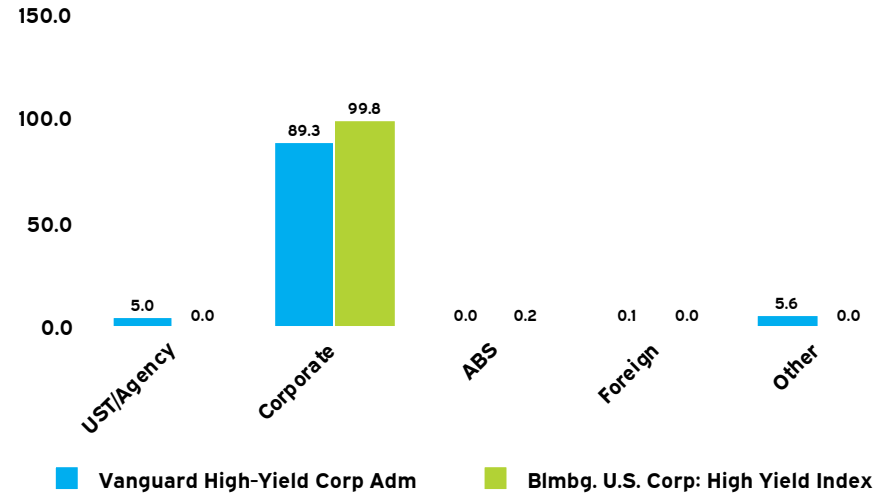
	1 Yr (%)
Standard Deviation	9.6
Tracking Error	1.3
Up Capture	101.3
Down Capture	107.9
Consistency	58.3
Alpha	-0.8
Sharpe Ratio	0.5

### Vanguard High-Yield Corp Adm | As of June 30, 2023

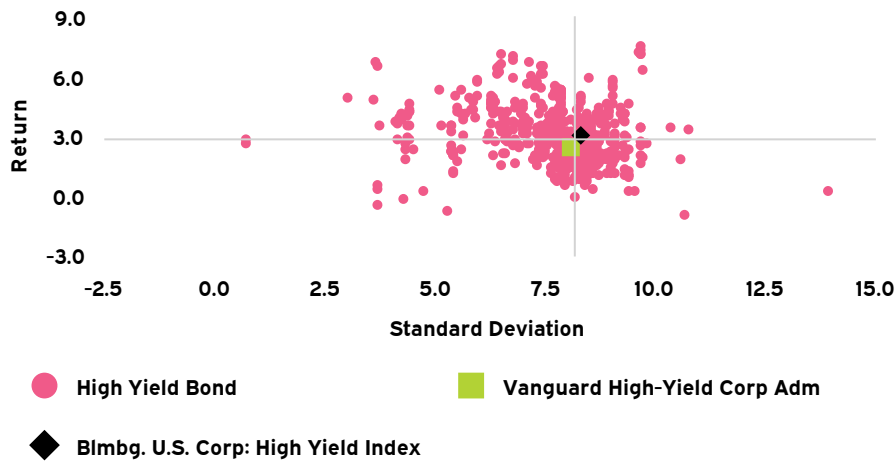
#### Credit Quality



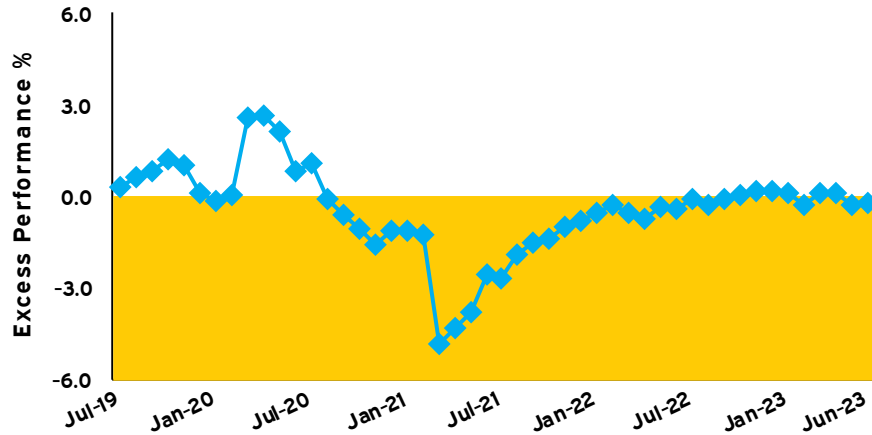
#### Sector Allocation



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023

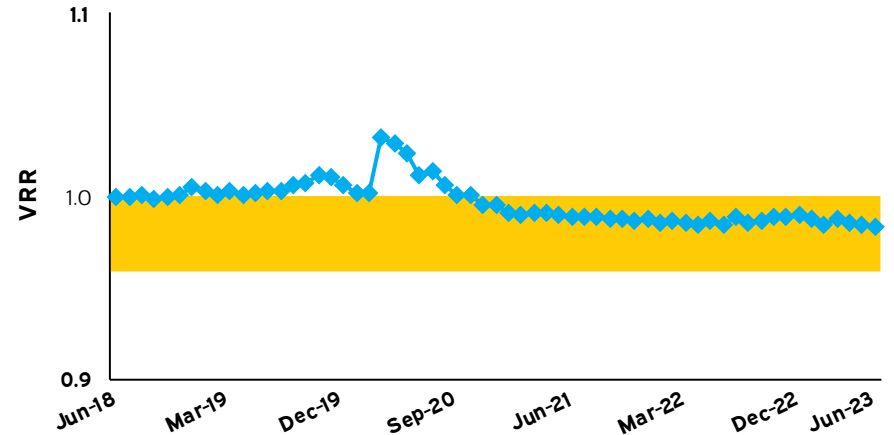


#### Short Term - Rolling 12-Month Excess Return



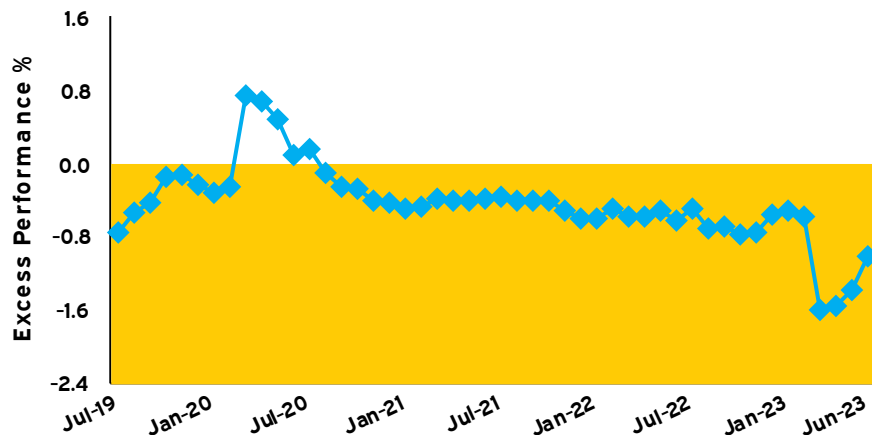
Results fall in the positive range.  
Probationary Threshold -6.50%

#### Long Term - VRR



Results fall in the acceptable range.  
Probationary Threshold <0.96

#### Medium Term - Rolling 36-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -3.25%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TRowe Price Floating Rate I	2.7 (58)	10.8 (18)	5.5 (28)	3.9 (5)	4.4 (10)	12/1/2011
Morningstar LSTA US Performing Loans	3.2 (17)	11.0 (13)	6.6 (5)	4.3 (1)	4.8 (1)	
Bank Loan Median	2.9	9.6	4.9	2.8	3.7	

#### Monitoring Status

Acceptable

#### Objective

The investment seeks high current income and, secondarily, capital appreciation. The fund invests at least 80% of its net assets (including any borrowings for investment purposes) in floating rate loans and floating rate debt securities. Floating rate loans represent amounts borrowed by companies or other entities from banks and other lenders. The fund may also invest up to 20% of its total assets in non-U.S. dollar-denominated investments.

#### Account Information

Account Name	TRowe Price Floating Rate I
Account Structure	Mutual Fund
Inception Date	11/20/2011
Asset Class	US Fixed Income
Benchmark	Morningstar LSTA US Performing Loans
Universe	Bank Loan

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TRowe Price Floating Rate I	2.7 (58)	5.9 (42)	10.8 (18)	5.5 (28)	3.9 (5)
Morningstar LSTA US Performing Loans	3.2 (17)	6.6 (14)	11.0 (13)	6.6 (5)	4.3 (1)
Bank Loan Median	2.9	5.8	9.6	4.9	2.8

	2022	2021	2020	2019	2018
TRowe Price Floating Rate I	-0.6 (9)	4.7 (39)	2.4 (25)	8.8 (17)	0.4 (18)
Morningstar LSTA US Performing Loans	-0.8 (12)	5.4 (19)	3.5 (6)	8.7 (20)	0.6 (10)
Bank Loan Median	-2.4	4.4	1.5	7.7	-0.3

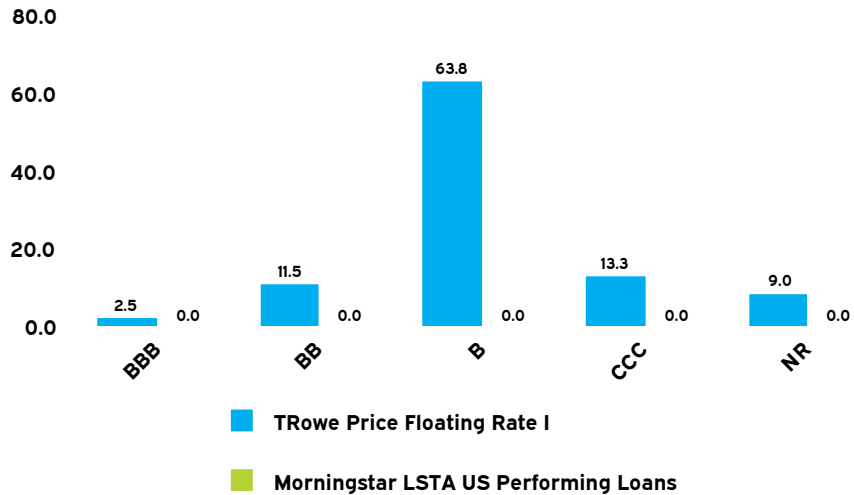
#### Portfolio Characteristics vs Benchmark

	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	-	-
Average Duration	0.6	-
Average Quality	B	-
Weighted Average Maturity	1,574.2	-

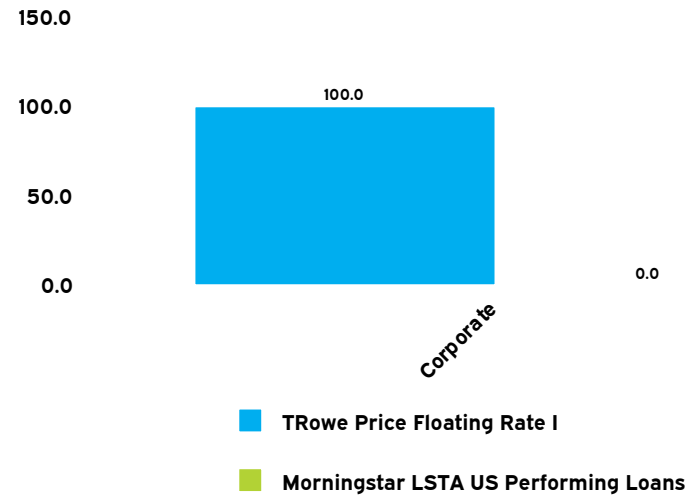
#### Risk Statistics

	3 Yrs (%)	5 Yrs (%)
Standard Deviation	3.9	6.4
Tracking Error	0.8	1.6
Up Capture	88.1	86.4
Down Capture	95.7	83.0
Consistency	38.9	41.7
Alpha	-0.6	0.3
Sharpe Ratio	1.1	0.4

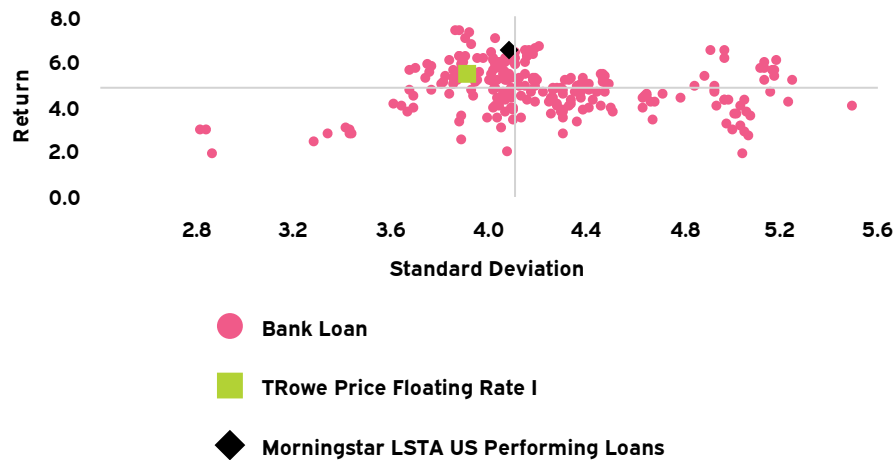
#### Credit Quality



#### Sector Allocation

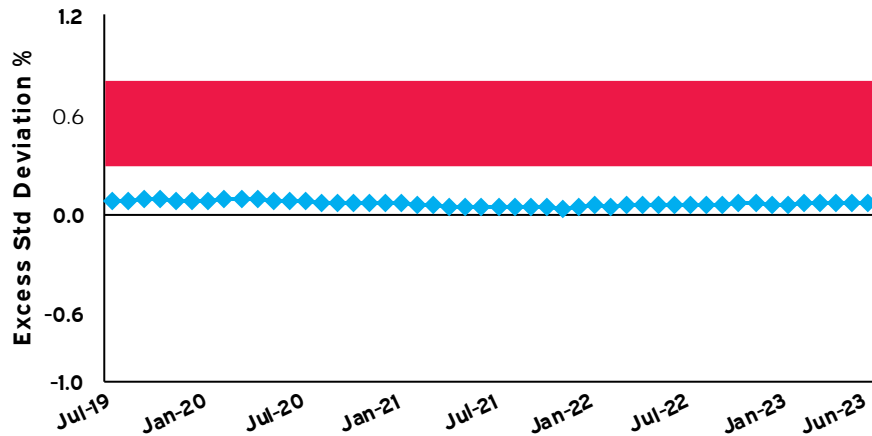


#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



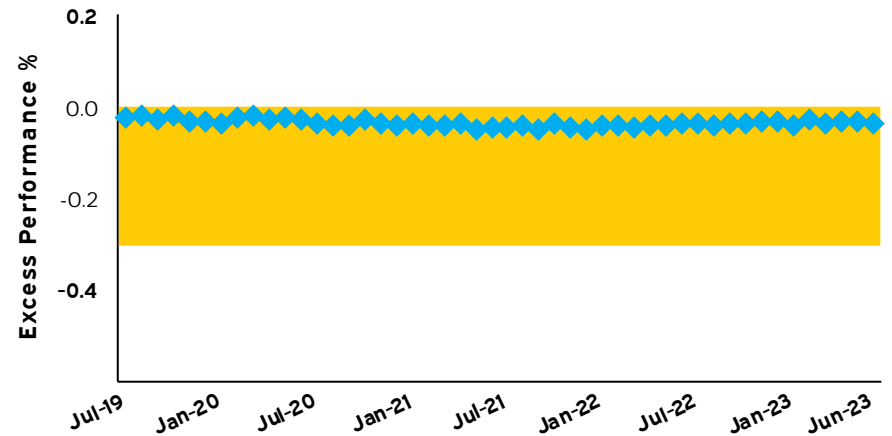
## Sensitivity Analyses: Passive Funds

#### Short Term - Rolling 12-Month Tracking Error



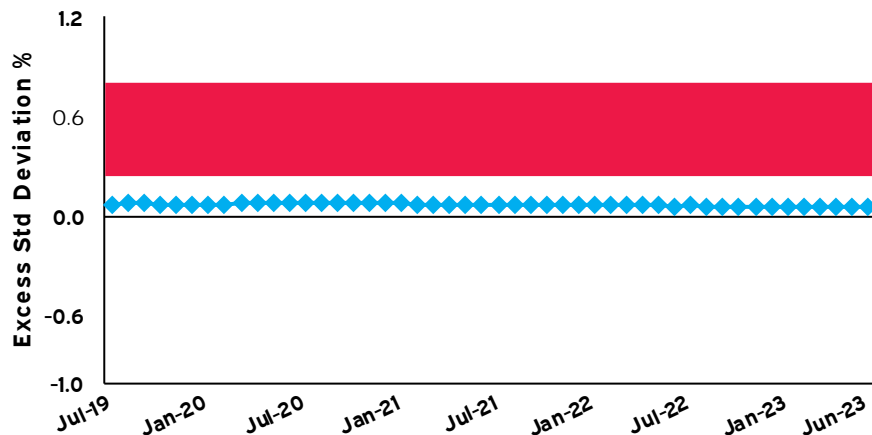
Results fall in the positive range.  
Probationary Threshold 0.30%

#### Long Term - Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.30%

#### Medium Term - Rolling 36-Month Tracking Error



Results fall in the positive range.  
Probationary Threshold 0.25%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Equity Index I	8.4 (39)	18.9 (41)	13.9 (47)	11.4 (40)	13.4 (27)	12/1/2011
Russell 3000 Index	8.4 (39)	19.0 (40)	13.9 (46)	11.4 (39)	13.4 (26)	
Large Blend Median	7.9	18.3	13.7	11.0	12.7	

#### Monitoring Status

Acceptable

#### Objective

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

Under normal circumstances, the fund invests at least 80% of its assets in equity securities of its benchmark index, the Russell 3000® Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of its benchmark index.

#### Account Information

Account Name	TIAA-CREF Equity Index I
Account Structure	Mutual Fund
Inception Date	11/20/2011
Asset Class	US Equity
Benchmark	Russell 3000 Index
Universe	Large Blend

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Equity Index I	8.4 (39)	16.1 (37)	18.9 (41)	13.9 (47)	11.4 (40)
Russell 3000 Index	8.4 (39)	16.2 (37)	19.0 (40)	13.9 (46)	11.4 (39)
Large Blend Median	7.9	14.9	18.3	13.7	11.0

	2022	2021	2020	2019	2018
TIAA-CREF Equity Index I	-19.2 (70)	25.6 (63)	20.8 (20)	30.9 (38)	-5.2 (43)
Russell 3000 Index	-19.2 (71)	25.7 (62)	20.9 (19)	31.0 (34)	-5.2 (43)
Large Blend Median	-18.1	26.7	17.1	29.9	-5.6

#### Portfolio Characteristics vs Russell 3000 Index

	Portfolio	Index
# of Holdings	2,745	3,010
Wtd. Avg. Mkt. Cap	584.8	580.2
Median Mkt. Cap	2.4	2.0
P/E Ratio	21.8	22.0
Yield	1.5	1.5
EPS Growth - 5 Yrs.	16.7	16.6
Price/Book ratio	4.2	4.2
Beta	1.0	1.0

#### Risk Statistics

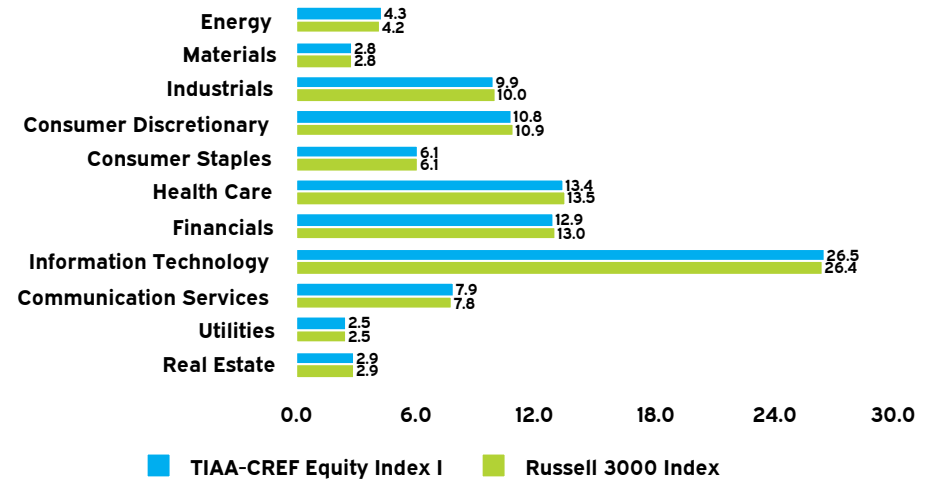
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception
Standard Deviation	2.9	3.3	19.8	18.2	19.2	15.2	14.6
Tracking Error	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Up Capture	100.0	99.6	99.7	99.8	99.7	99.8	99.8
Down Capture	-	98.8	99.7	99.7	99.7	99.8	99.8
Consistency	33.3	33.3	41.7	44.4	41.7	45.0	44.6
Alpha	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sharpe Ratio	0.8	0.7	0.8	0.7	0.6	0.8	0.9



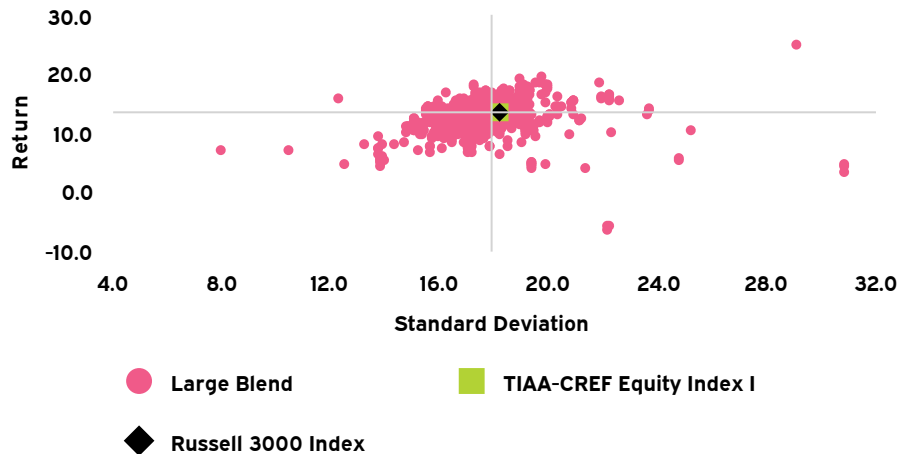
#### Top Holdings

Apple Inc	6.7
Microsoft Corp	5.9
Amazon.com Inc	2.7
NVIDIA Corporation	2.3
Alphabet Inc	1.7
Tesla Inc	1.6
Meta Platforms Inc	1.5
Alphabet Inc	1.5
Berkshire Hathaway Inc	1.4
Unitedhealth Group Inc	1.0
<b>% of Portfolio</b>	<b>26.3</b>

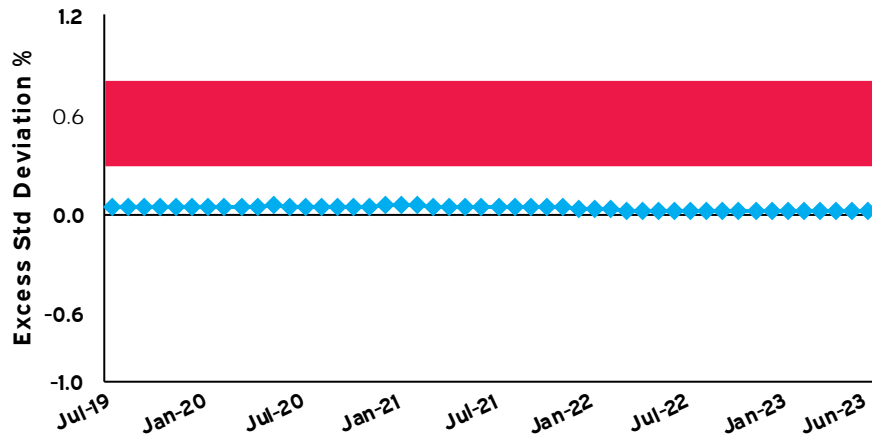
#### Sector Weights (%)



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023

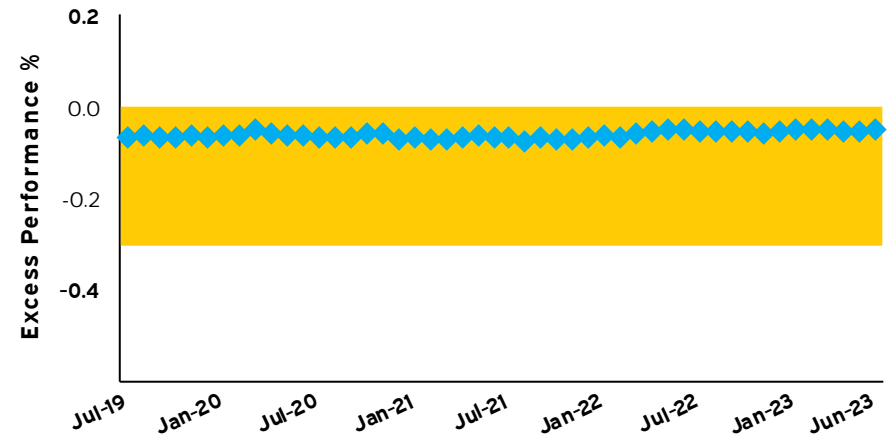


#### Short Term - Rolling 12-Month Tracking Error



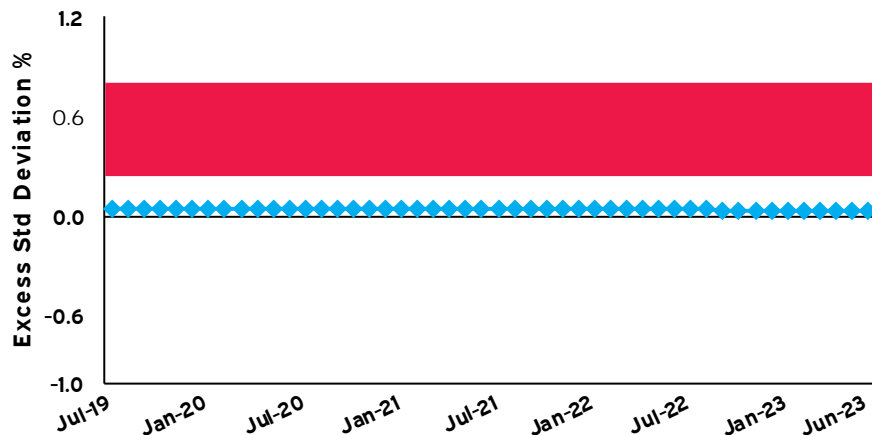
Results fall in the positive range.  
Probationary Threshold 0.30%

#### Long Term - Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.30%

#### Medium Term - Rolling 36-Month Tracking Error



Results fall in the positive range.  
Probationary Threshold 0.25%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF S&P 500 Index I	8.7 (24)	19.5 (28)	14.5 (25)	12.3 (16)	13.7 (12)	12/1/2011
S&P 500 Index	8.7 (23)	19.6 (26)	14.6 (23)	12.3 (14)	13.8 (10)	
Large Blend Median	7.9	18.3	13.7	11.0	12.7	

#### Monitoring Status

Acceptable

#### Objective

The investment 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.

The fund invests at least 80% of its assets in securities of its benchmark index, the S&P 500® Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of the fund's benchmark index.

#### Account Information

Account Name	TIAA-CREF S&P 500 Index I
Account Structure	Mutual Fund
Inception Date	11/20/2011
Asset Class	US Equity
Benchmark	S&P 500 Index
Universe	Large Blend

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF S&P 500 Index I	8.7 (24)	16.9 (22)	19.5 (28)	14.5 (25)	12.3 (16)
S&P 500 Index	8.7 (23)	16.9 (20)	19.6 (26)	14.6 (23)	12.3 (14)
Large Blend Median	7.9	14.9	18.3	13.7	11.0

	2022	2021	2020	2019	2018
TIAA-CREF S&P 500 Index I	-18.1 (51)	28.6 (23)	18.3 (38)	31.4 (25)	-4.5 (26)
S&P 500 Index	-18.1 (51)	28.7 (21)	18.4 (36)	31.5 (23)	-4.4 (24)
Large Blend Median	-18.1	26.7	17.1	29.9	-5.6

#### Portfolio Characteristics vs S&P 500 Index

	Portfolio	Index
# of Holdings	502	503
Wtd. Avg. Mkt. Cap	675.8	674.1
Median Mkt. Cap	30.8	31.0
P/E Ratio	23.5	23.6
Yield	1.6	1.6
EPS Growth - 5 Yrs.	16.8	16.8
Price/Book ratio	4.5	4.5
Beta	1.0	1.0

#### Risk Statistics

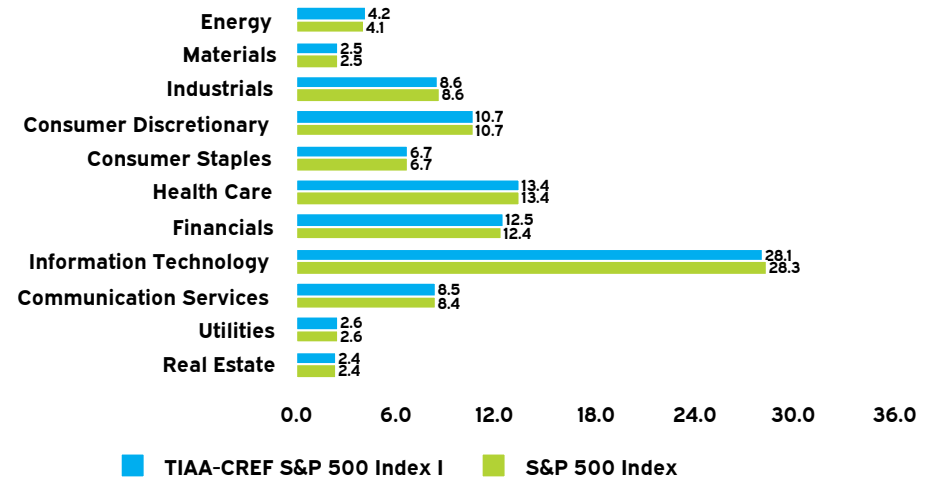
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.9	18.6
Tracking Error	0.0	0.0
Up Capture	99.8	99.8
Down Capture	100.0	100.0
Consistency	33.3	38.3
Alpha	0.0	0.0
Sharpe Ratio	0.8	0.6

TIAA-CREF S&P 500 Index I | As of June 30, 2023

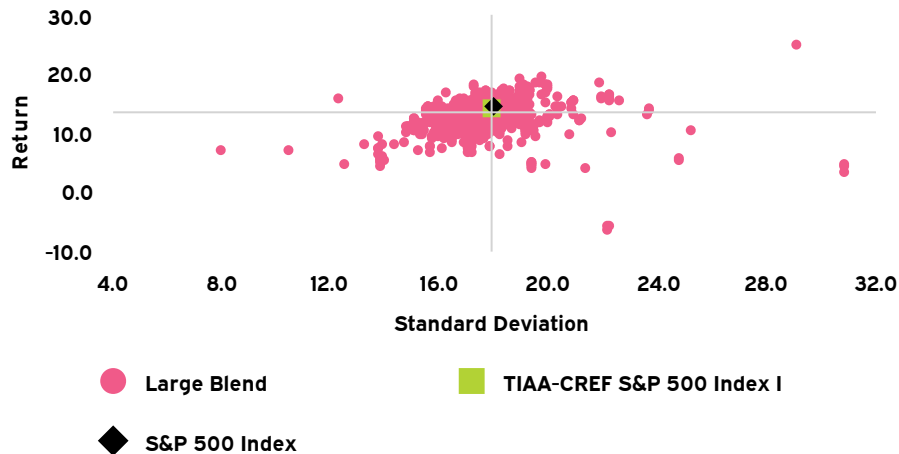
### Top Holdings

Apple Inc	7.8
Microsoft Corp	6.8
Amazon.com Inc	3.1
NVIDIA Corporation	2.8
Alphabet Inc	1.9
Tesla Inc	1.9
Meta Platforms Inc	1.7
Alphabet Inc	1.7
Berkshire Hathaway Inc	1.7
Unitedhealth Group Inc	1.2
<b>% of Portfolio</b>	<b>30.6</b>

### Sector Weights (%)

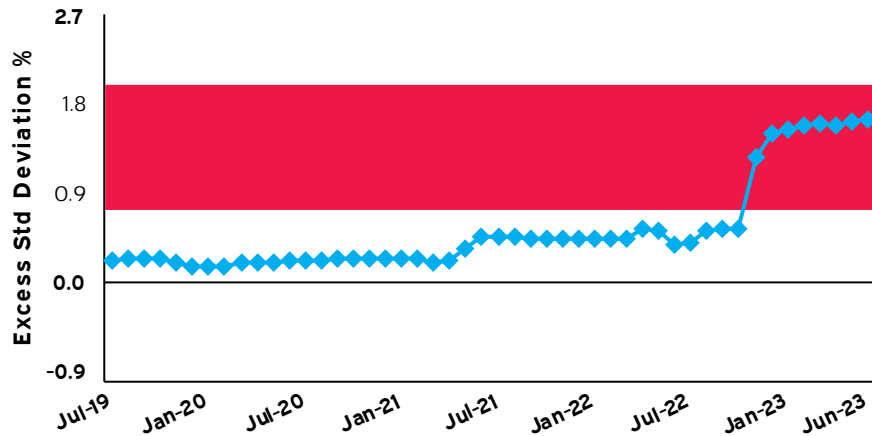


### Return vs. Standard Deviation 3 Years Ending June 30, 2023



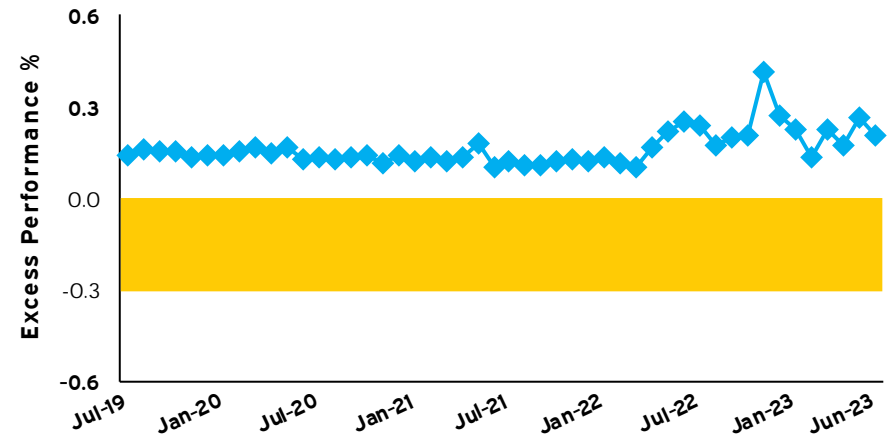
### TIAA-CREF International Equity Index | As of June 30, 2023

Short Term - Rolling 12-Month Tracking Error



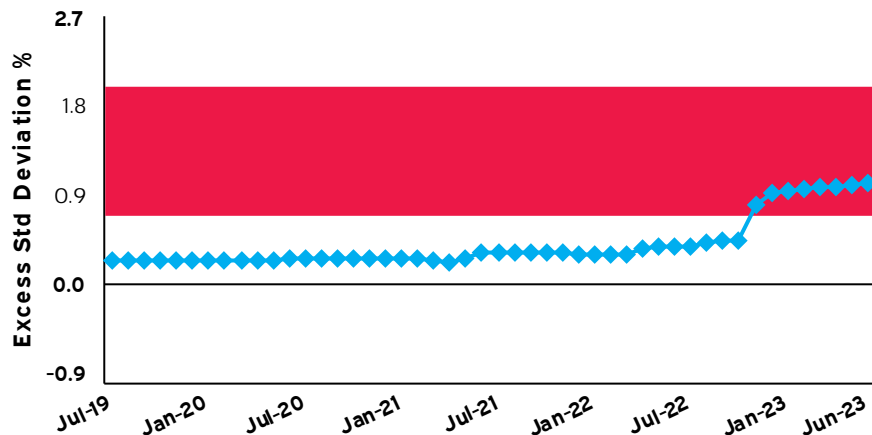
Results fall in the caution range.  
Probationary Threshold 0.75%

Long Term - Rolling 60-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.30%

Medium Term - Rolling 36-Month Tracking Error



Results fall in the caution range.  
Probationary Threshold 0.70%

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF International Equity Index	3.1 (37)	18.6 (21)	9.2 (25)	4.6 (30)	6.6 (25)	12/1/2011
MSCI EAFE (Net)	3.0 (48)	18.8 (18)	8.9 (31)	4.4 (35)	6.4 (33)	
Foreign Large Blend Median	2.9	16.1	8.0	3.9	6.0	

### Monitoring Status

Caution

### Objective

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of foreign equity investments based on a market index.

Under normal circumstances, the fund invests at least 80% of its assets in securities of its benchmark index, the MSCI EAFE Index. It buys most, but not necessarily all, of the stocks included in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of the fund's benchmark index.

### Account Information

Account Name	TIAA-CREF International Equity Index
Account Structure	Mutual Fund
Inception Date	11/20/2011
Asset Class	International Equity
Benchmark	MSCI EAFE (Net)
Universe	Foreign Large Blend

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF International Equity Index	3.1 (37)	11.4 (45)	18.6 (21)	9.2 (25)	4.6 (30)
MSCI EAFE (Net)	3.0 (48)	11.7 (41)	18.8 (18)	8.9 (31)	4.4 (35)
Foreign Large Blend Median	2.9	11.2	16.1	8.0	3.9

	2022	2021	2020	2019	2018
TIAA-CREF International Equity Index	-13.8 (21)	11.4 (33)	8.0 (65)	22.1 (49)	-13.7 (25)
MSCI EAFE (Net)	-14.5 (31)	11.3 (36)	7.8 (67)	22.0 (51)	-13.8 (27)
Foreign Large Blend Median	-15.8	10.3	9.5	22.0	-15.1

### TIAA-CREF International Equity Index | As of June 30, 2023

#### Portfolio Characteristics vs MSCI EAFE (Net)

	Portfolio	Index
# of Holdings	791	798
Wtd. Avg. Mkt. Cap	141.1	86.1
Median Mkt. Cap	13.3	12.5
P/E Ratio	10.7	13.8
Yield	2.2	3.3
EPS Growth - 5 Yrs.	8.6	9.0
Price/Book ratio	2.7	2.5
Beta	1.0	1.0

#### Risk Statistics

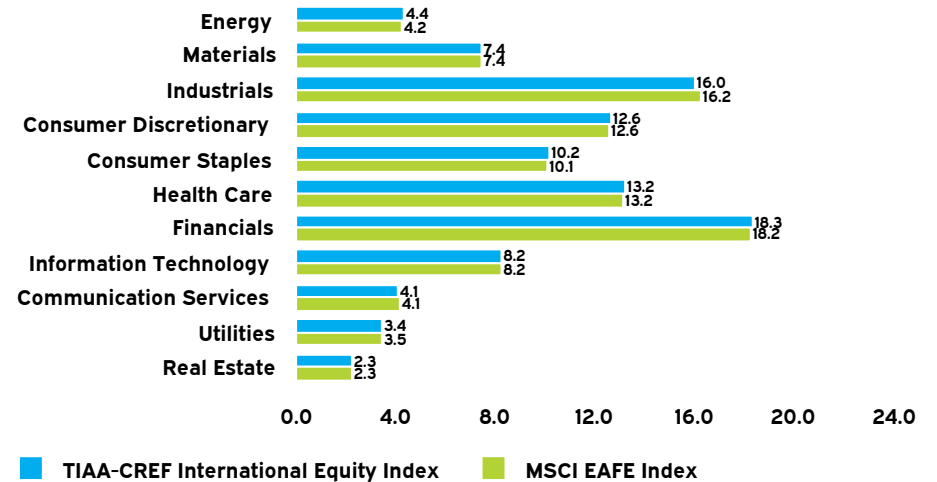
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	18.0	17.7
Tracking Error	1.0	0.8
Up Capture	100.6	100.3
Down Capture	99.6	99.5
Consistency	47.2	51.7
Alpha	0.2	0.2
Sharpe Ratio	0.5	0.3

### TIAA-CREF International Equity Index | As of June 30, 2023

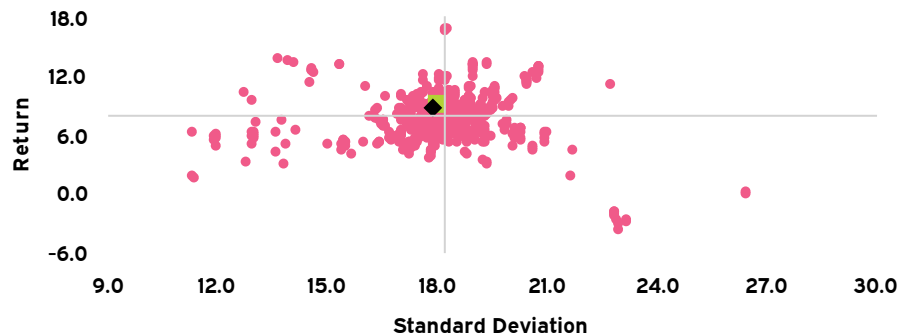
#### Top Holdings

Nestle SA, Cham Und Vevey	2.1
ASML Holding NV	1.9
Novo Nordisk A/S	1.7
LVMH Moet Hennessy Louis Vuitton SE	1.7
Astrazeneca PLC	1.4
Roche Holding AG	1.4
Shell Plc	1.4
Novartis AG	1.3
Toyota Motor Corp	1.1
BHP Group Ltd	1.0
<b>% of Portfolio</b>	<b>15.0</b>

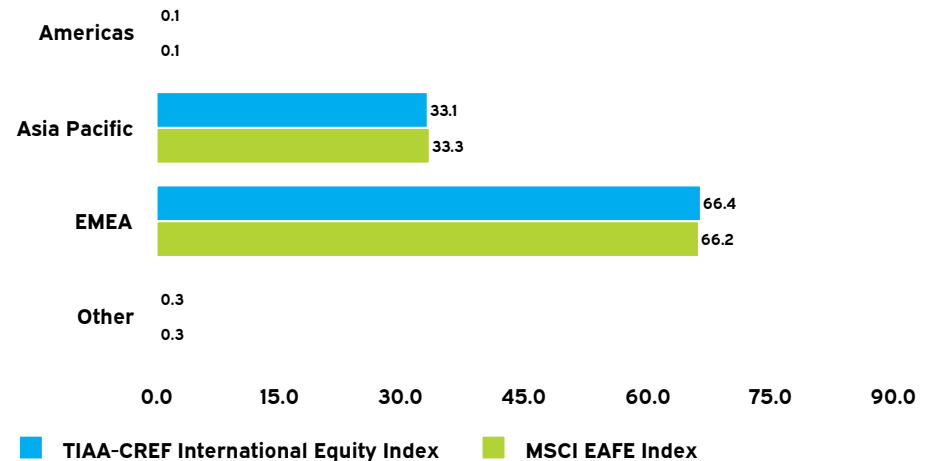
#### Sector Weights (%)



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023

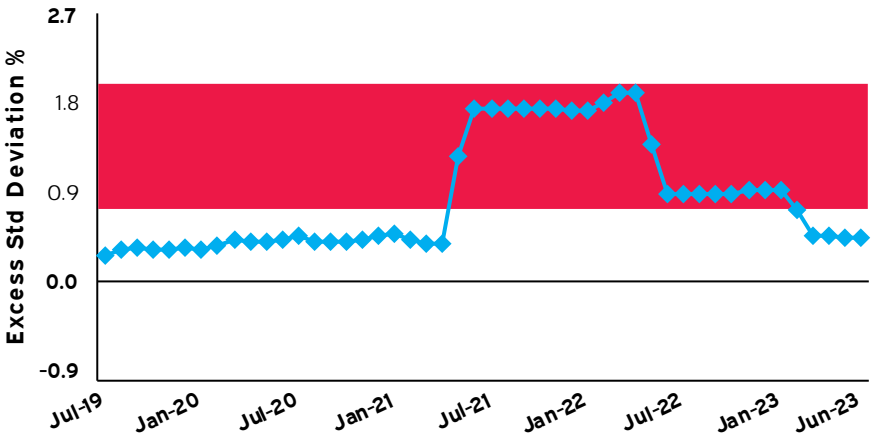


#### Region



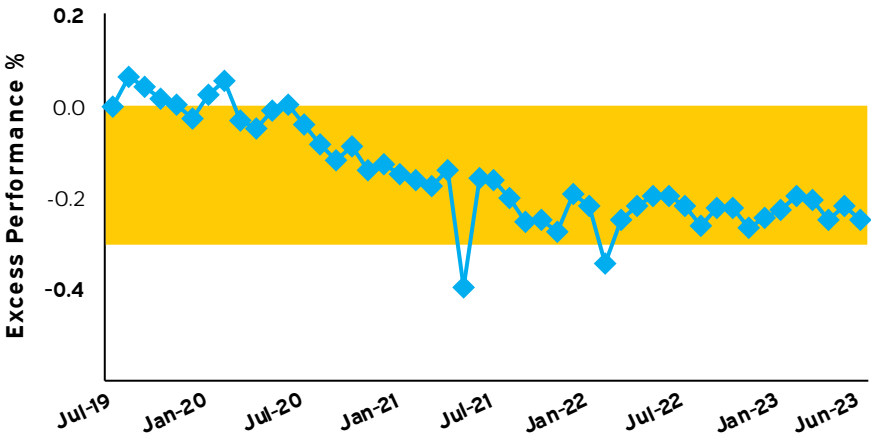
### TIAA-CREF Emerging Markets Equity Index | As of June 30, 2023

Short Term - Rolling 12-Month Tracking Error



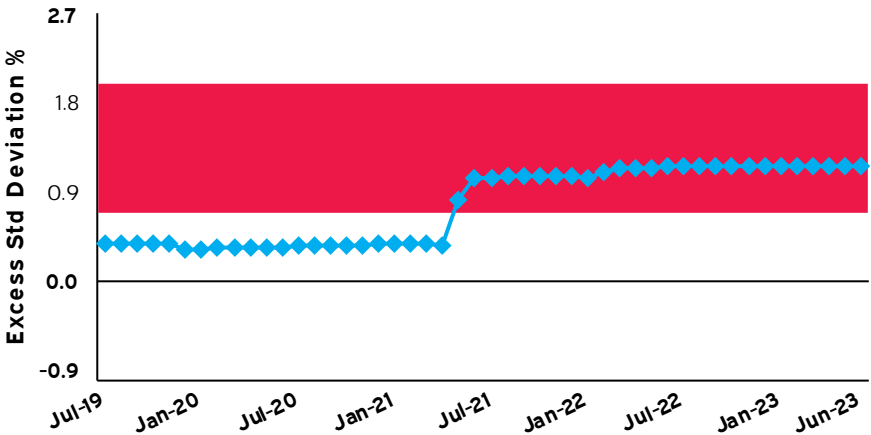
Results fall in the positive range.  
Probationary Threshold 0.75%

Long Term - Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.30%

Medium Term - Rolling 36-Month Tracking Error



Results fall in the caution range.  
Probationary Threshold 0.70%

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Emerging Markets Equity Index	0.7 (77)	1.2 (79)	1.9 (52)	0.7 (62)	1.2 (63)	2/1/2011
MSCI Emerging Markets (Net)	0.9 (74)	1.7 (74)	2.3 (46)	0.9 (54)	1.5 (55)	
Diversified Emerging Mkts Median	1.9	4.8	2.1	1.1	1.6	

### Monitoring Status

Caution



### TIAA-CREF Emerging Markets Equity Index | As of June 30, 2023

#### Objective

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of emerging market equity investments based on a market index.

Under normal circumstances, the fund invests at least 80% of its assets in equity securities that comprise its benchmark index, the MSCI Emerging Markets® Index ("MSCI EM Index"), or in instruments with economic characteristics similar to all or a portion of the MSCI EM Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment attributes of the fund's benchmark index.

#### Account Information

Account Name TIAA-CREF Emerging Markets Equity Index  
 Account Structure Mutual Fund  
 Inception Date 08/31/2010  
 Asset Class International Equity  
 Benchmark MSCI Emerging Markets (Net)  
 Universe Diversified Emerging Mkts

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Emerging Markets Equity Index	0.7 (77)	4.8 (82)	1.2 (79)	1.9 (52)	0.7 (62)
MSCI Emerging Markets (Net)	0.9 (74)	4.9 (81)	1.7 (74)	2.3 (46)	0.9 (54)
Diversified Emerging Mkts Median	1.9	7.1	4.8	2.1	1.1

	2022	2021	2020	2019	2018
TIAA-CREF Emerging Markets Equity Index	-20.3 (32)	-2.9 (61)	17.9 (50)	18.5 (65)	-14.8 (34)
MSCI Emerging Markets (Net)	-20.1 (31)	-2.5 (58)	18.3 (47)	18.4 (65)	-14.6 (29)
Diversified Emerging Mkts Median	-22.5	-1.5	17.8	20.5	-16.5

#### Portfolio Characteristics vs MSCI Emerging Markets (Net)

	Portfolio	Index
# of Holdings	1,364	1,423
Wtd. Avg. Mkt. Cap	112.9	101.9
Median Mkt. Cap	6.1	6.4
P/E Ratio	11.4	11.6
Yield	3.3	3.3
EPS Growth - 5 Yrs.	15.7	15.1
Price/Book ratio	2.5	2.4
Beta	1.0	1.0

#### Risk Statistics

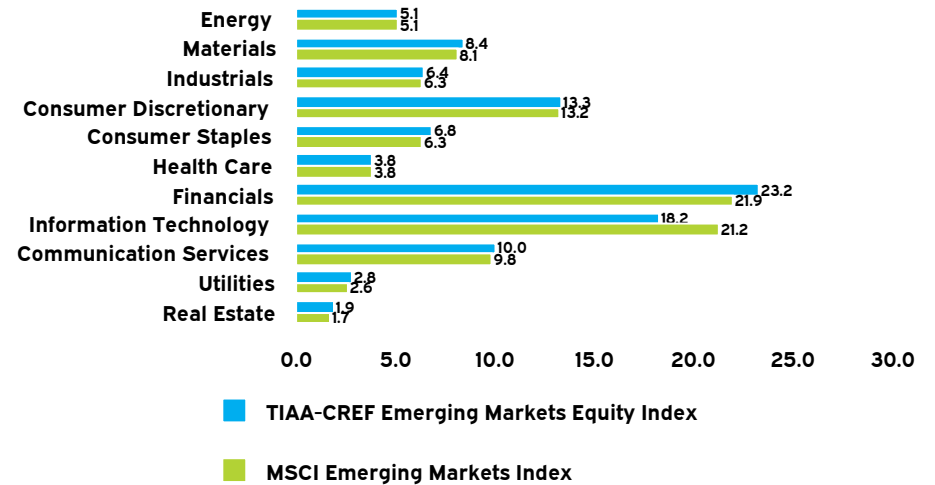
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.4	18.6
Tracking Error	1.2	0.9
Up Capture	98.1	98.9
Down Capture	99.9	99.9
Consistency	38.9	43.3
Alpha	-0.4	-0.2
Sharpe Ratio	0.1	0.0

### TIAA-CREF Emerging Markets Equity Index | As of June 30, 2023

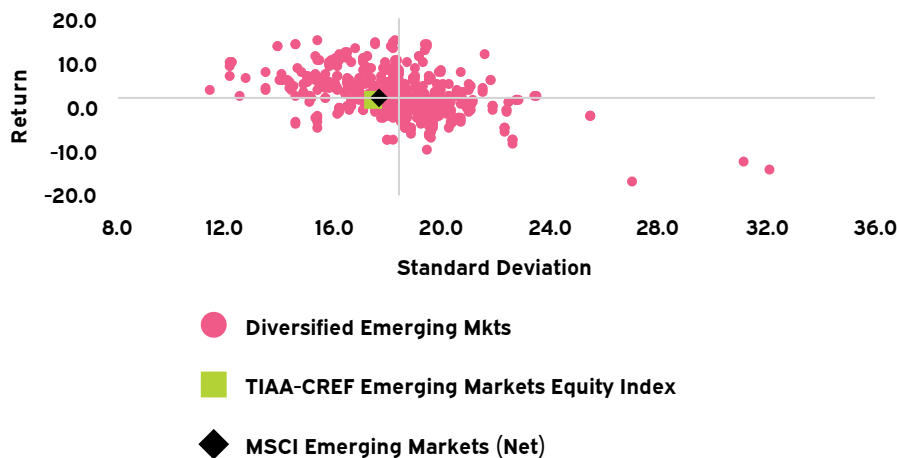
#### Top Holdings

Taiwan Semiconductor Manufacturing Co Ltd	7.3
Tencent Holdings LTD	4.3
Alibaba Group Holding Ltd	2.5
Reliance Industries Ltd	1.5
Meituan	1.2
China Construction Bank Corp	1.0
Icici Bank Ltd	1.0
Housing Development Finance Corp Ltd	0.9
Infosys Ltd	0.9
Vale SA	0.8
<b>% of Portfolio</b>	<b>21.4</b>

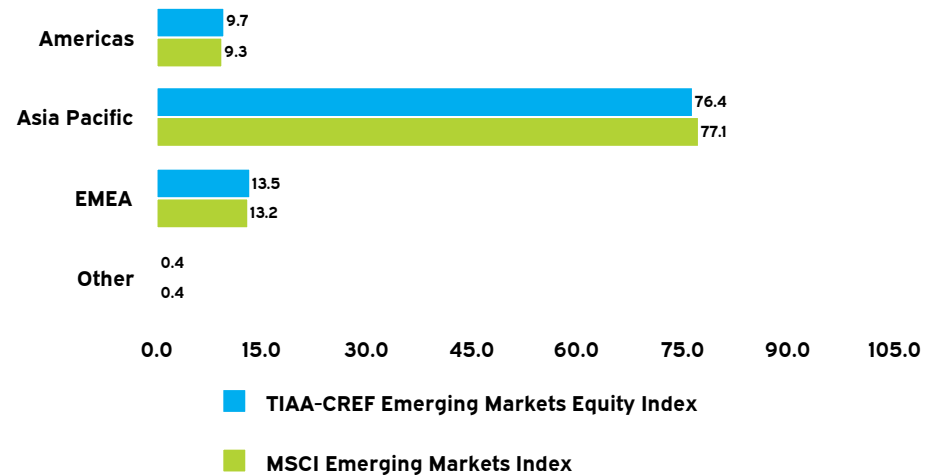
#### Sector Weights (%)



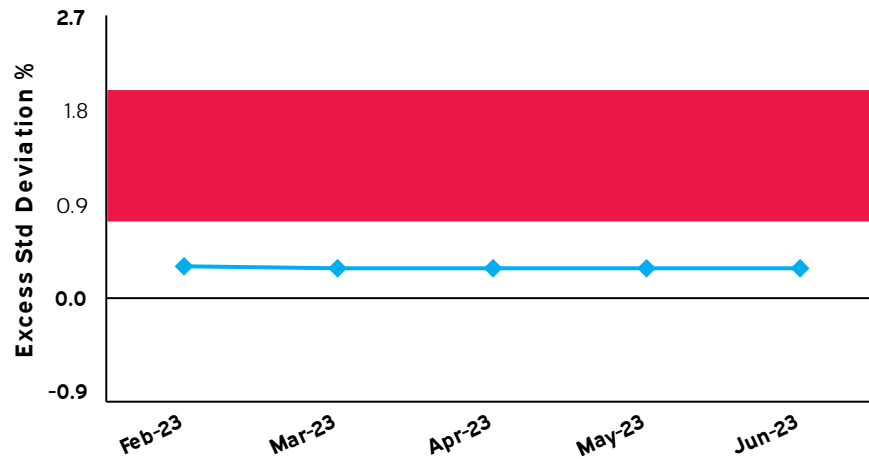
#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



#### Region



#### Short Term - Rolling 12-Month Tracking Error



Results fall in the positive range.  
 Probationary Threshold 0.75%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Nuveen ESG Emerging Markets Equity ETF	1.3 (63)	6.5 (59)	1.8 (74)	-7.8 (52)	3/1/2022
TIAA ESG Emerging Markets Index	1.7 (54)	6.9 (54)	2.7 (68)	-7.2 (45)	
Diversified Emerging Mkts Median	1.9	7.1	4.8	-7.7	

#### Monitoring Status

Positive

### Nuveen ESG Emerging Markets Equity ETF | As of June 30, 2023

#### Objective

The investment seeks to track the investment results, before fees and expenses, of the TIAA ESG Emerging Markets Equity Index (the "index"). In seeking to track the investment results of the index, the advisor attempts to replicate the index by investing all, or substantially all, of its assets in the securities represented in the index in approximately the same proportions as the index. The index identifies equity securities from the base index that satisfy certain ESG criteria, based on ESG performance data collected by MSCI ESG Research, Inc.

#### Account Information

Account Name Nuveen ESG Emerging Markets Equity ETF  
 Account Structure Mutual Fund  
 Inception Date 02/11/2022  
 Asset Class International Equity  
 Benchmark TIAA ESG Emerging Markets Index  
 Universe Diversified Emerging Mkts

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Nuveen ESG Emerging Markets Equity ETF	1.3 (63)	6.5 (59)	1.8 (74)	-	-
TIAA ESG Emerging Markets Index	1.7 (54)	6.9 (54)	2.7 (68)	5.6 (22)	3.3 (20)
Diversified Emerging Mkts Median	1.9	7.1	4.8	2.1	1.1

	2022	2021	2020	2019	2018
Nuveen ESG Emerging Markets Equity ETF	-	-	-	-	-
TIAA ESG Emerging Markets Index	-18.7 (23)	-0.4 (45)	25.8 (23)	16.7 (78)	-16.1 (46)
Diversified Emerging Mkts Median	-22.5	-1.5	17.8	20.5	-16.5

#### Portfolio Characteristics vs TIAA ESG Emerging Markets Index

	Portfolio	Index
# of Holdings	244	1,423
Wtd. Avg. Mkt. Cap	73.1	101.9
Median Mkt. Cap	10.3	6.4
P/E Ratio	12.7	11.6
Yield	2.8	3.3
EPS Growth - 5 Yrs.	12.7	15.1
Price/Book ratio	2.5	2.4
Beta	1.0	1.0

#### Risk Statistics

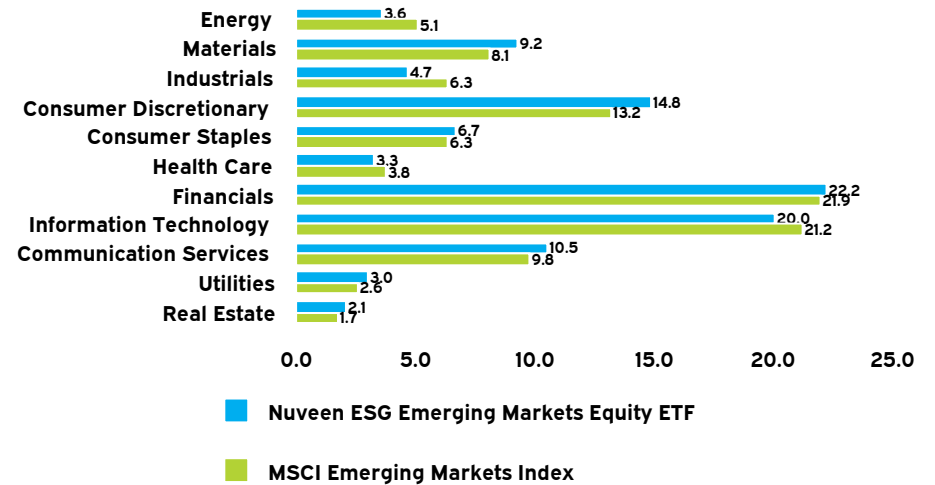
	1 Yr (%)
Standard Deviation	22.5
Tracking Error	0.3
Up Capture	98.4
Down Capture	101.5
Consistency	16.7
Alpha	-0.9
Sharpe Ratio	0.0

### Nuveen ESG Emerging Markets Equity ETF | As of June 30, 2023

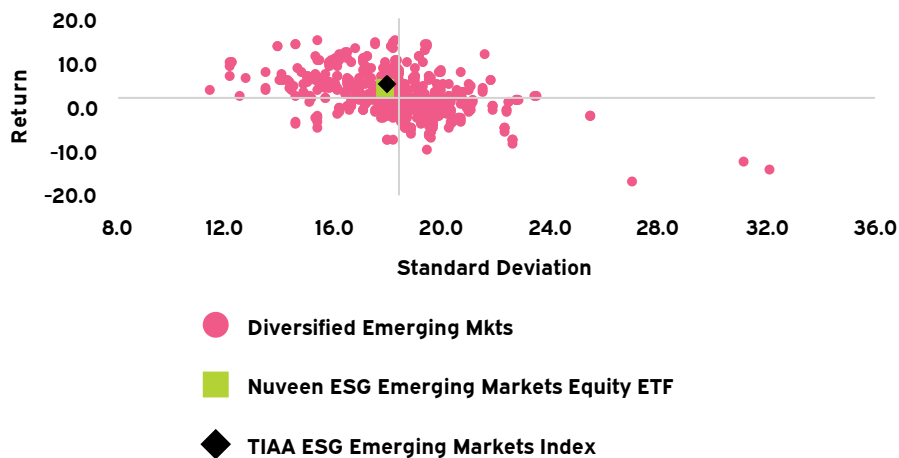
#### Top Holdings

Taiwan Semiconductor Manufacturing Co Ltd	8.2
Alibaba Group Holding Ltd	3.5
China Construction Bank Corp	2.0
Baidu Inc	1.9
SK Hynix Inc	1.7
Delta Electronics Inc	1.7
Saudi Basic Industries Corp	1.5
Ping An Insurance Group	1.5
Lg Electronics Inc	1.3
Industrial and Commercial Bank of China Limited	1.3
<b>% of Portfolio</b>	<b>24.6</b>

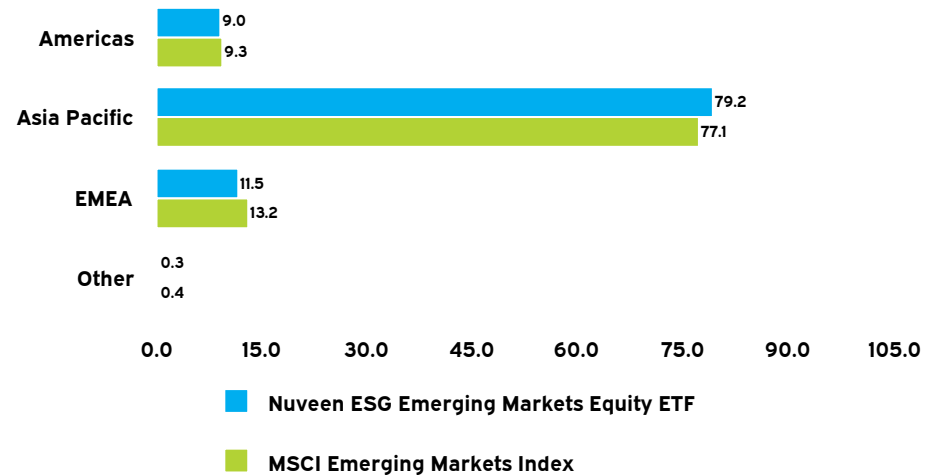
#### Sector Weights (%)



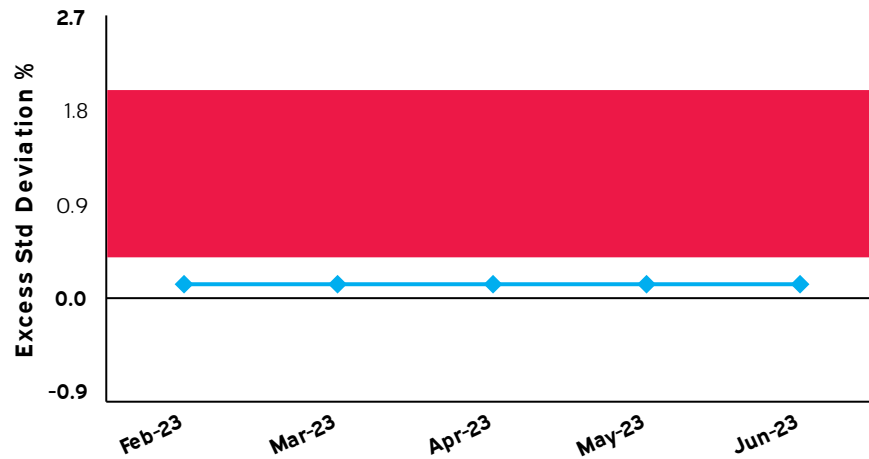
#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



#### Region



#### Short Term - Rolling 12-Month Tracking Error



Results fall in the positive range.  
 Probationary Threshold 0.40%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Vanguard Short Term Infl-Prot Securities	-0.7 (7)	1.6 (49)	0.1 (17)	-1.3 (3)	3/1/2022
BBg U.S. TIPS 0-5 Years	-0.7 (7)	1.5 (57)	0.1 (18)	-1.3 (3)	
Inflation-Protected Bond Median	-1.5	1.6	-1.4	-6.9	

#### Monitoring Status

Positive

### Vanguard Short Term Infl-Prot Securities | As of June 30, 2023

#### Objective

The investment seeks to track the performance of the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) 0-5 Year Index.

The index is a market-capitalization-weighted index that includes all inflation-protected public obligations issued by the U.S. Treasury with remaining maturities of less than 5 years. The manager attempts to replicate the target index by investing all, or substantially all, of its assets in the securities that make up the index, holding each security in approximately the same proportion as its weighting in the index.

#### Account Information

Account Name	Vanguard Short Term Infl-Prot Securities
Account Structure	Mutual Fund
Inception Date	02/11/2022
Asset Class	US Fixed Income
Benchmark	BBg U.S. TIPS 0-5 Years
Universe	Inflation-Protected Bond

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Vanguard Short Term Infl-Prot Securities	-0.7 (7)	1.6 (49)	0.1 (17)	-	-
BBg U.S. TIPS 0-5 Years	-0.7 (7)	1.5 (57)	0.1 (18)	2.3 (10)	2.7 (12)
Inflation-Protected Bond Median	-1.5	1.6	-1.4	-0.2	2.2

	2022	2021	2020	2019	2018
Vanguard Short Term Infl-Prot Securities	-	-	-	-	-
BBg U.S. TIPS 0-5 Years	-2.7 (1)	5.3 (48)	5.1 (93)	4.8 (90)	0.6 (2)
Inflation-Protected Bond Median	-11.7	5.3	9.7	7.5	-1.5

#### Portfolio Characteristics vs Benchmark

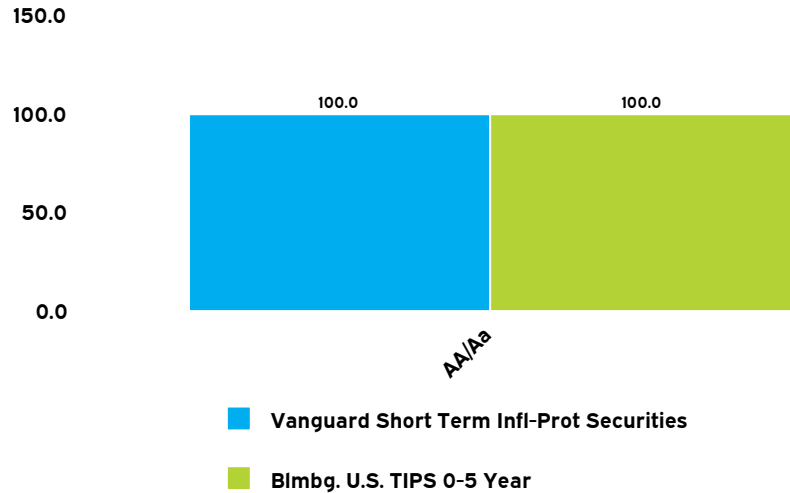
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	4.6	4.8
Average Duration	2.5	2.5
Average Quality	AA	AA
Weighted Average Maturity	2.6	2.6

#### Risk Statistics

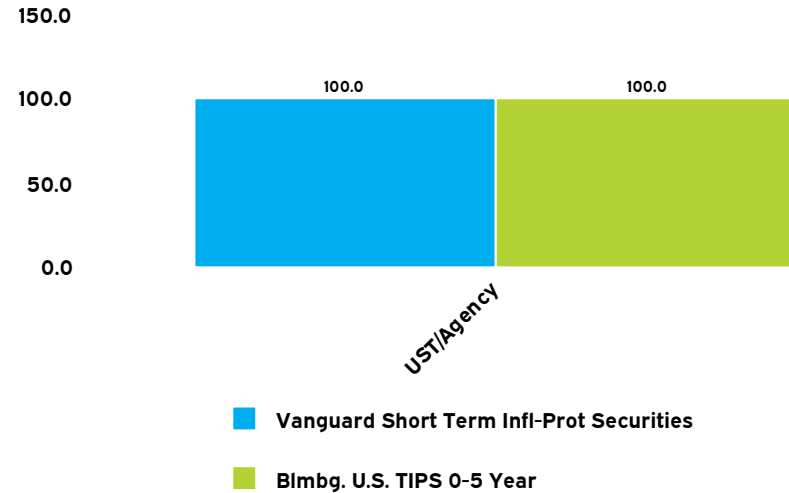
	1 Yr (%)
Standard Deviation	4.5
Tracking Error	0.1
Up Capture	100.5
Down Capture	99.8
Consistency	58.3
Alpha	0.0
Sharpe Ratio	-0.7

### Vanguard Short Term Infi-Prot Securities | As of June 30, 2023

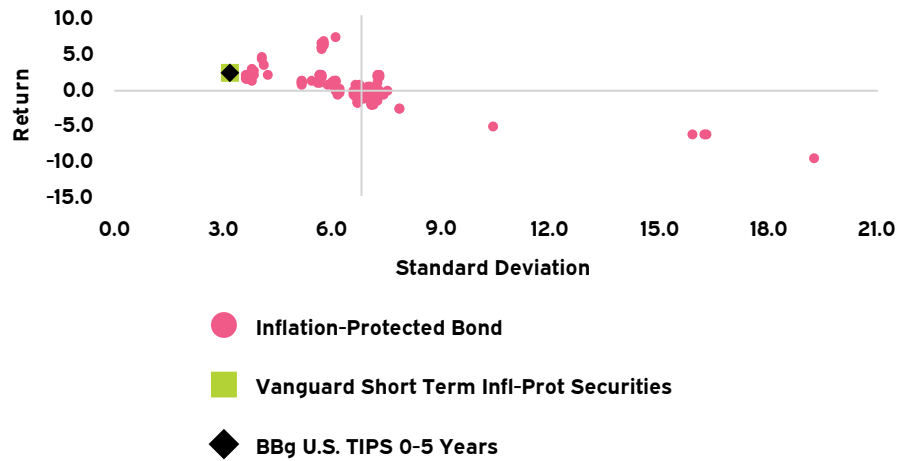
#### Credit Quality



#### Sector Allocation

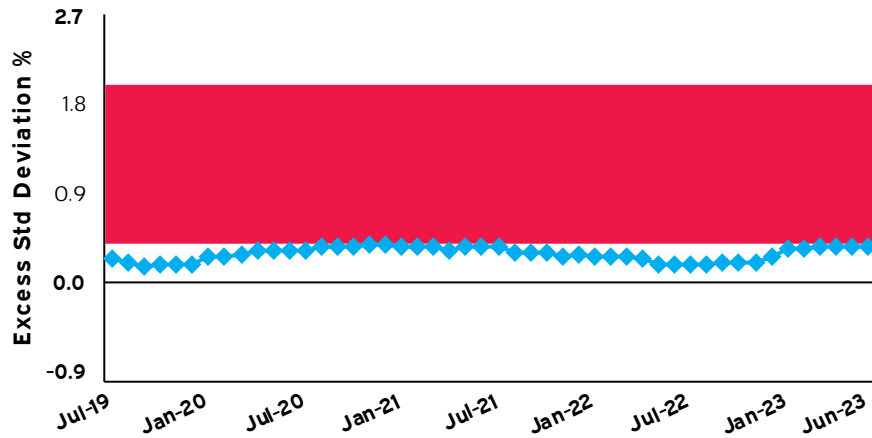


#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



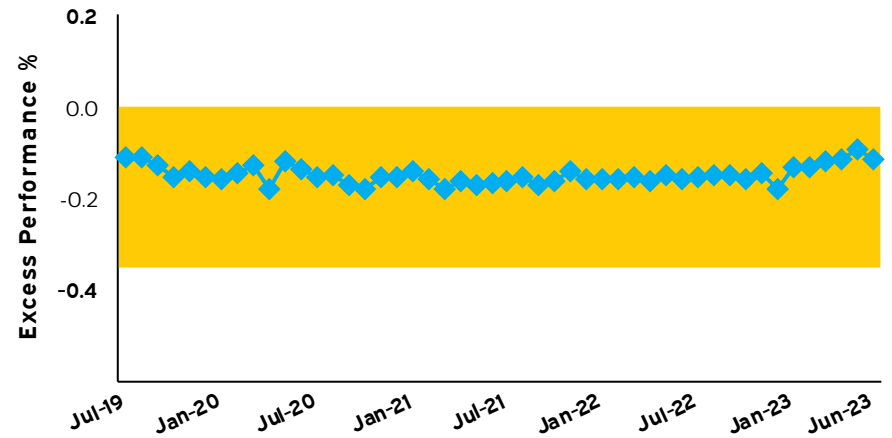


#### Short Term - Rolling 12-Month Tracking Error



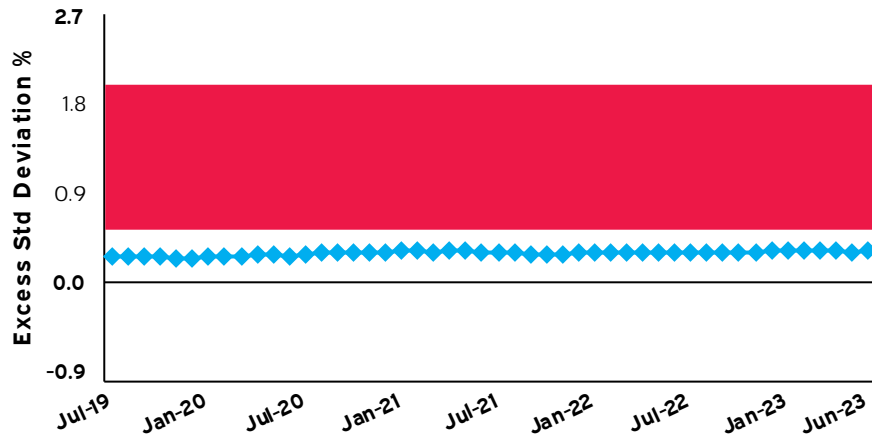
Results fall in the positive range.  
Probationary Threshold 0.40%

#### Long Term - Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.30%

#### Medium Term - Rolling 36-Month Tracking Error



Results fall in the positive range.  
Probationary Threshold 0.70%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Bond Index I	-0.7 (31)	-0.9 (46)	-4.1 (69)	0.7 (52)	1.4 (64)	12/1/2011
Bloomberg U.S. Aggregate Index	-0.8 (49)	-0.9 (46)	-4.0 (57)	0.8 (40)	1.5 (52)	
Intermediate Core Bond Median	-0.9	-1.0	-3.8	0.7	1.6	

#### Monitoring Status

Acceptable

#### Objective

The investment seeks total return that corresponds with the total return of the Bloomberg Barclays U.S. Aggregate Bond Index. The fund invests at least 80% of its assets in bonds within its benchmark and portfolio tracking index, the Bloomberg U.S. Aggregate Bond Index. The securities purchased by the fund will mainly be high-quality instruments rated in the top four credit categories by Moody's or S&P or deemed to be of the same quality by the advisors using its own credit quality analysis.

#### Account Information

Account Name	TIAA-CREF Bond Index I
Account Structure	Mutual Fund
Inception Date	11/20/2011
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Universe	Intermediate Core Bond

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Bond Index I	-0.7 (31)	2.4 (33)	-0.9 (46)	-4.1 (69)	0.7 (52)
Blmbg. U.S. Aggregate Index	-0.8 (49)	2.1 (60)	-0.9 (46)	-4.0 (57)	0.8 (40)
Intermediate Core Bond Median	-0.9	2.2	-1.0	-3.8	0.7

	2022	2021	2020	2019	2018
TIAA-CREF Bond Index I	-13.2 (40)	-1.8 (65)	7.5 (61)	8.4 (53)	0.0 (30)
Blmbg. U.S. Aggregate Index	-13.0 (29)	-1.5 (48)	7.5 (59)	8.7 (36)	0.0 (28)
Intermediate Core Bond Median	-13.4	-1.6	7.8	8.5	-0.4

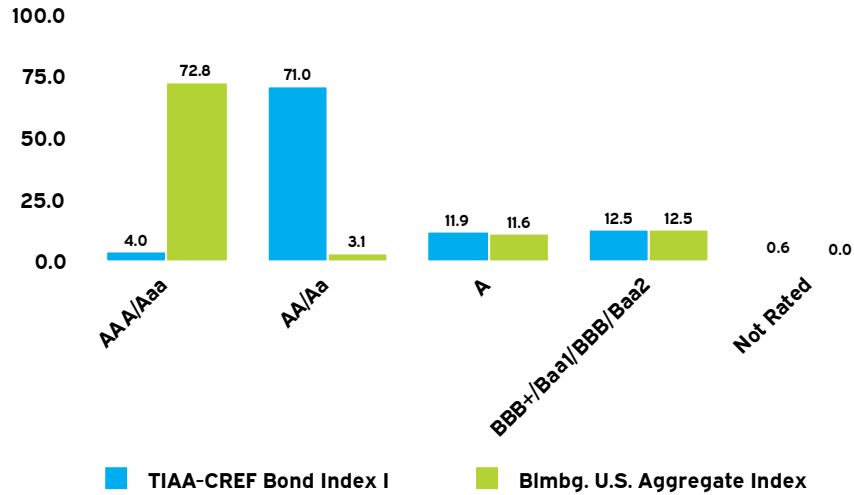
#### Portfolio Characteristics vs Benchmark

	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	4.8	4.8
Average Duration	6.3	6.3
Average Quality	AA	AA
Weighted Average Maturity	8.9	13.1

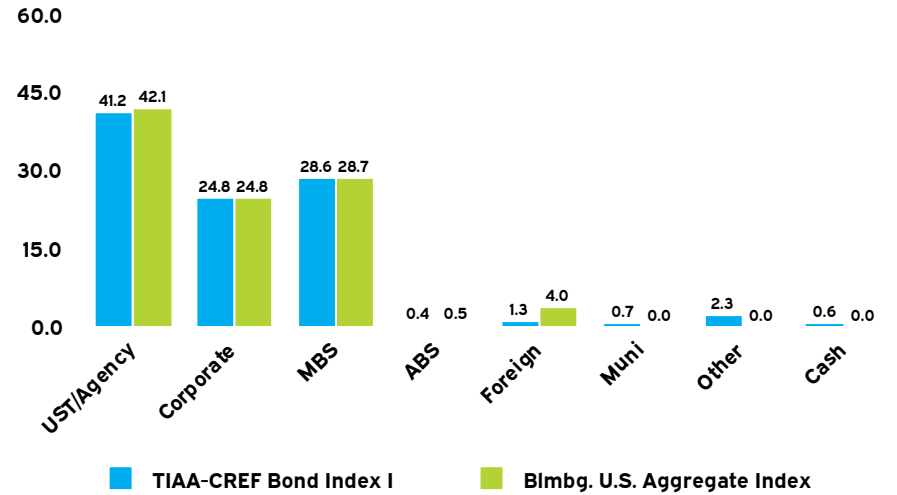
#### Risk Statistics

	3 Yrs (%)	5 Yrs (%)
Standard Deviation	6.2	5.5
Tracking Error	0.3	0.3
Up Capture	101.1	99.9
Down Capture	101.8	101.5
Consistency	41.7	40.0
Alpha	-0.1	-0.1
Sharpe Ratio	-0.9	-0.1

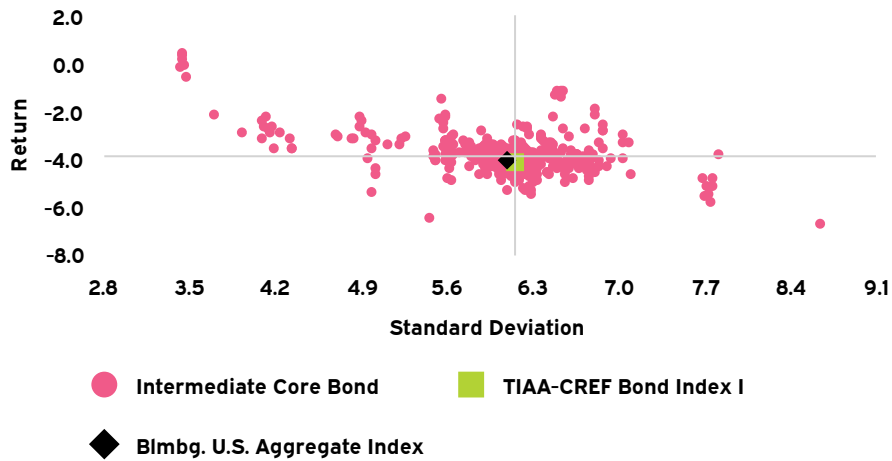
#### Credit Quality



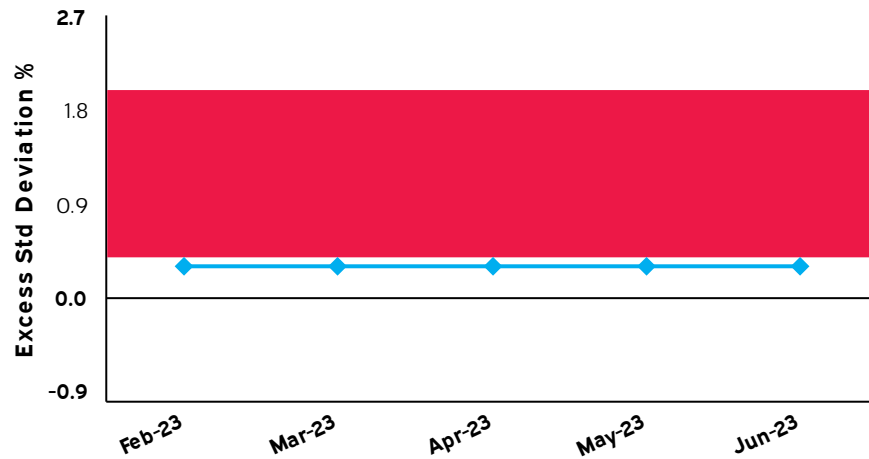
#### Sector Allocation



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



#### Short Term - Rolling 12-Month Tracking Error



Results fall in the positive range.  
 Probationary Threshold 0.40%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Nuveen ESG US Aggregate Bond ETF	-0.9 (50)	2.3 (43)	-1.0 (52)	-6.3 (35)	3/1/2022
BBg MSCI US Agg ESG Select	-0.8 (49)	2.1 (60)	-0.9 (46)	-6.2 (32)	
Intermediate Core Bond Median	-0.9	2.2	-1.0	-6.5	

#### Monitoring Status

Positive

### Nuveen ESG US Aggregate Bond ETF | As of June 30, 2023

#### Objective

The investment seeks to track the investment results, before fees and expenses, of the Bloomberg MSCI U.S. Aggregate ESG Select Index (the "index").

Under normal market conditions, the fund invests at least 80% of the sum of its net assets and the amount of any borrowings for investment purposes in component securities of the index. The index utilizes certain environmental, social, and governance ("ESG") criteria to select from the securities included in the Bloomberg U.S. Aggregate Bond Index (the "base index"), which is designed to broadly capture the U.S. investment grade, taxable fixed income market.

#### Account Information

Account Name	Nuveen ESG US Aggregate Bond ETF
Account Structure	Mutual Fund
Inception Date	02/11/2022
Asset Class	US Fixed Income
Benchmark	BBg MSCI US Agg ESG Select
Universe	Intermediate Core Bond

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Nuveen ESG US Aggregate Bond ETF	-0.9 (50)	2.3 (43)	-1.0 (52)	-	-
BBg MSCI US Agg ESG Select	-0.8 (49)	2.1 (60)	-0.9 (46)	-4.0 (57)	0.8 (35)
Intermediate Core Bond Median	-0.9	2.2	-1.0	-3.8	0.7

	2022	2021	2020	2019	2018
Nuveen ESG US Aggregate Bond ETF	-	-	-	-	-
BBg MSCI US Agg ESG Select	-13.0 (30)	-1.5 (47)	7.7 (55)	8.7 (34)	0.1 (22)
Intermediate Core Bond Median	-13.4	-1.6	7.8	8.5	-0.4

#### Portfolio Characteristics vs Benchmark

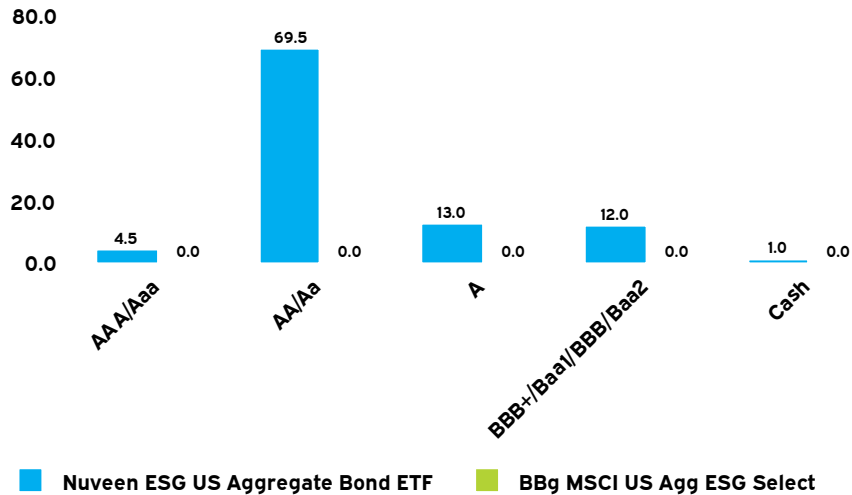
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	4.8	4.8
Average Duration	6.2	6.3
Average Quality	AA	AA
Weighted Average Maturity	8.6	13.1

#### Risk Statistics

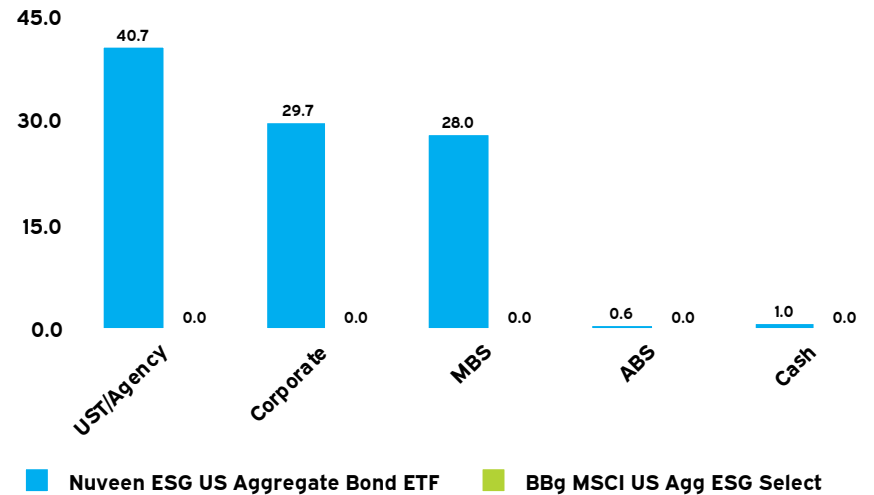
	1 Yr (%)
Standard Deviation	8.4
Tracking Error	0.3
Up Capture	99.8
Down Capture	100.6
Consistency	41.7
Alpha	-0.1
Sharpe Ratio	-0.5

### Nuveen ESG US Aggregate Bond ETF | As of June 30, 2023

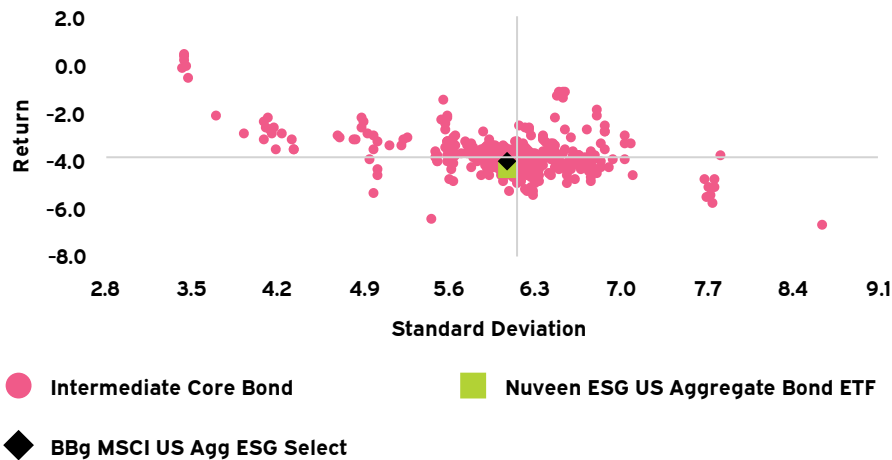
#### Credit Quality



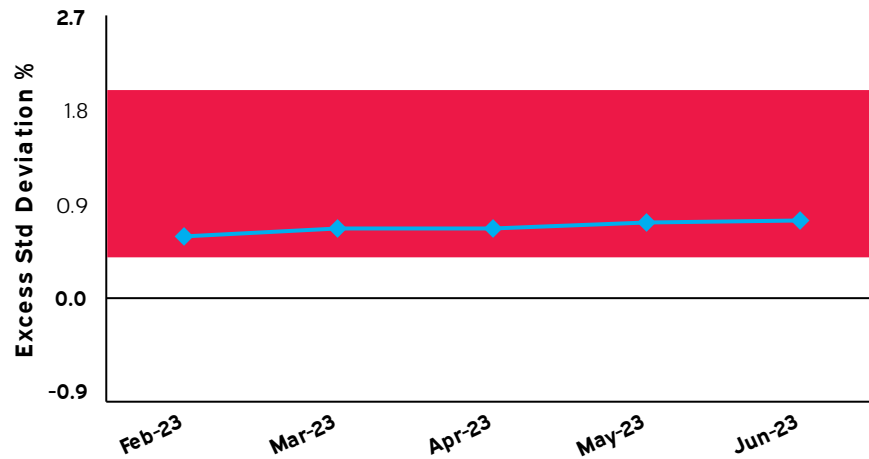
#### Sector Allocation



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



#### Short Term - Rolling 12-Month Tracking Error



Results fall in the caution range.  
 Probationary Threshold 0.40%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Nuveen ESG High Yield Corp Bond ETF	1.3 (55)	4.5 (63)	7.9 (63)	-3.5 (81)	3/1/2022
BBg MSCI US High Yield Very Liquid ESG Select	1.8 (22)	4.7 (55)	8.1 (58)	-3.4 (79)	
High Yield Bond Median	1.4	4.8	8.3	-2.2	

#### Monitoring Status

Caution

### Objective

The investment seeks to track the investment results, before fees and expenses, of the Bloomberg MSCI U.S. High Yield Very Liquid ESG Select Index. The index utilizes certain environmental, social, and governance (“ESG”) criteria to select from the securities included in the Bloomberg U.S. High Yield Very Liquid Index (the “Base Index”), which is designed to broadly capture the U.S. dollar-denominated, high yield, fixed-rate corporate bond market. Under normal market conditions, it invests at least 80% of the sum of its net assets and the amount of any borrowings for investment purposes in component securities of the index.

### Account Information

Account Name	Nuveen ESG High Yield Corp Bond ETF
Account Structure	Mutual Fund
Inception Date	02/11/2022
Asset Class	US Fixed Income
Benchmark	BBg MSCI US High Yield Very Liquid ESG Select
Universe	High Yield Bond

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Nuveen ESG High Yield Corp Bond ETF	1.3 (55)	4.5 (63)	7.9 (63)	-	-
BBg MSCI US High Yield Very Liquid ESG Select	1.8 (22)	4.7 (55)	8.1 (58)	1.5 (90)	-
High Yield Bond Median	1.4	4.8	8.3	2.9	2.7

	2022	2021	2020	2019	2018
Nuveen ESG High Yield Corp Bond ETF	-12.1 (83)	2.8 (92)	4.0 (73)	-	-
BBg MSCI US High Yield Very Liquid ESG Select	-12.1 (82)	3.6 (80)	4.0 (73)	-	-
High Yield Bond Median	-10.7	4.8	5.2	13.5	-2.9

### Nuveen ESG High Yield Corp Bond ETF | As of June 30, 2023

#### Portfolio Characteristics vs Benchmark

	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	8.2	8.5
Average Duration	3.6	4.1
Average Quality	B	B
Weighted Average Maturity	5.2	5.1

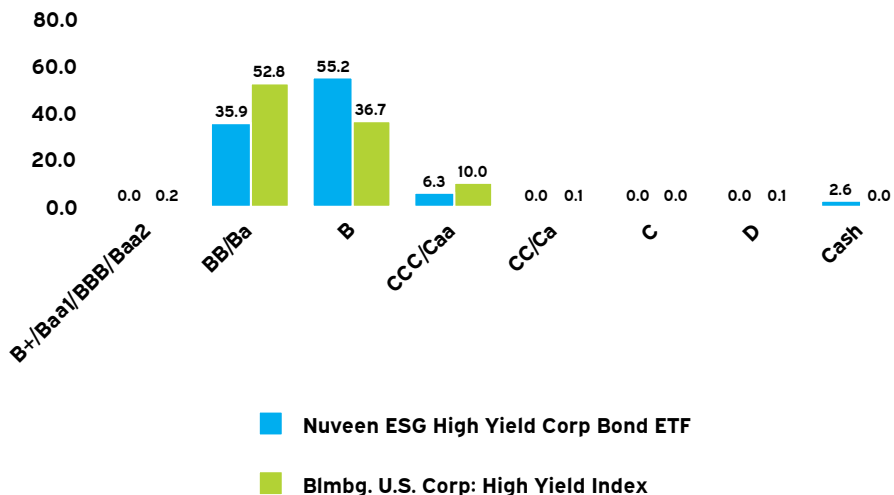
#### Risk Statistics

	1 Yr (%)
Standard Deviation	10.4
Tracking Error	0.8
Up Capture	103.0
Down Capture	106.8
Consistency	50.0
Alpha	-0.4
Sharpe Ratio	0.4

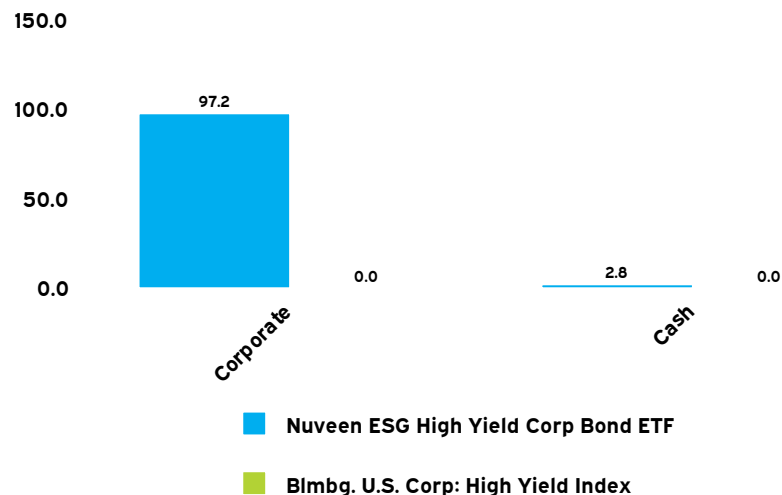


### Nuveen ESG High Yield Corp Bond ETF | As of June 30, 2023

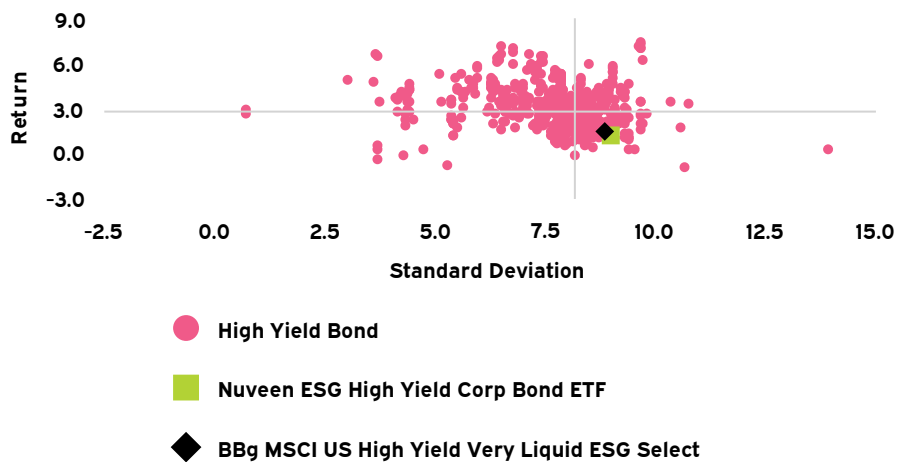
#### Credit Quality



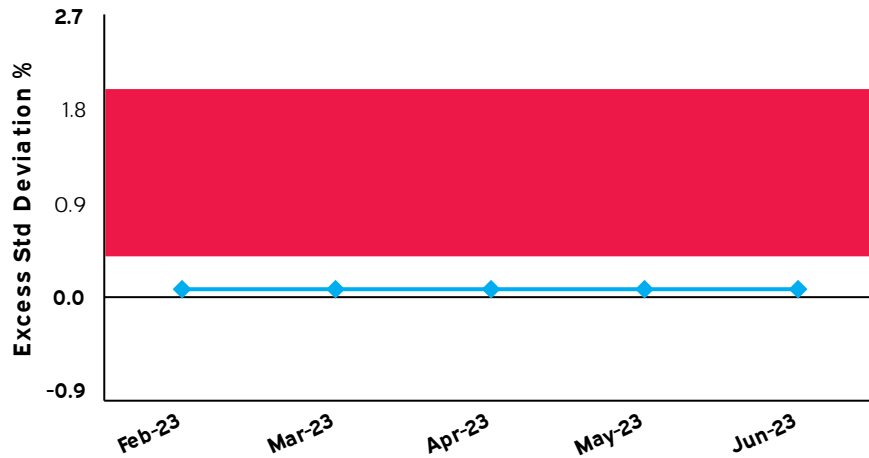
#### Sector Allocation



#### Return vs. Standard Deviation 3 Years Ending June 30, 2023



#### Short Term - Rolling 12-Month Tracking Error



Results fall in the positive range.  
 Probationary Threshold 0.40%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Vanguard Real Estate Index	1.6 (56)	3.5 (72)	-3.9 (63)	-10.4 (61)	3/1/2022
MSCI US IMI Real Estate 25/50 GR USD	1.7 (53)	3.5 (68)	-3.8 (60)	-10.3 (57)	
Real Estate Median	1.8	4.3	-3.1	-10.1	

#### Monitoring Status

Positive

#### Objective

This fund invests in real estate investment trusts—companies that purchase office buildings, hotels, and other real estate property. REITs have often performed differently than stocks and bonds, so this fund may offer some diversification to a portfolio already made up of stocks and bonds. The fund may distribute dividend income higher than other funds, but it is not without risk. One of the fund’s primary risks is its narrow scope, since it invests solely within the real estate industry and may be more volatile than more broadly diversified stock funds.

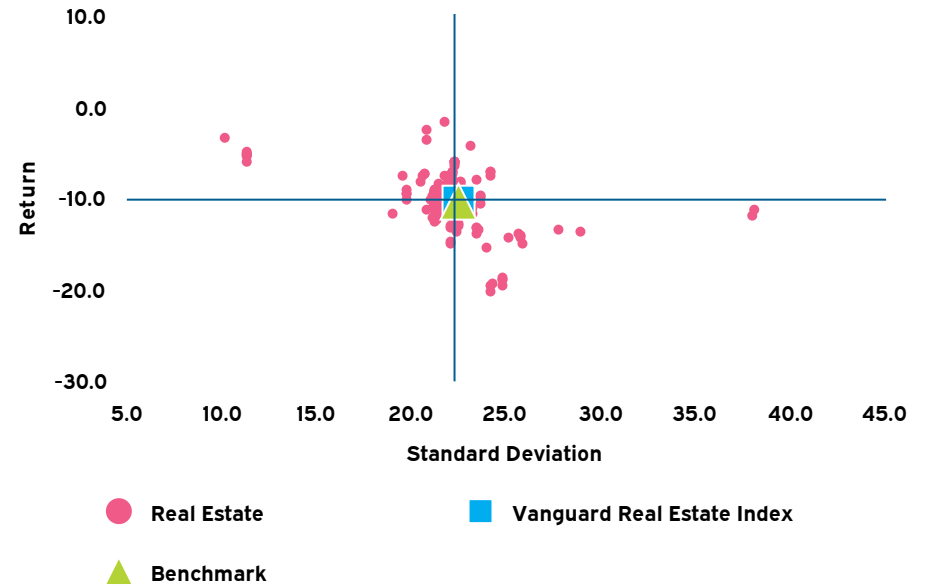
#### Account Information

Account Name Vanguard Real Estate Index  
 Inception Date 02/11/2022  
 Account Structure Mutual Fund  
 Asset Class US Private Real Estate  
 Benchmark MSCI US IMI Real Estate 25/50 GR USD  
 Peer Group Real Estate

#### Performance Summary

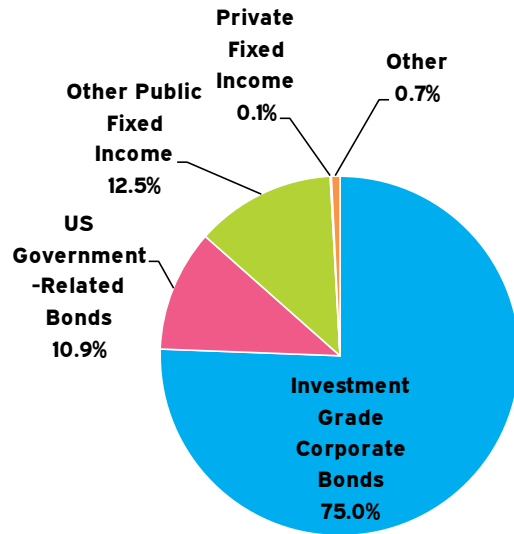
	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Vanguard Real Estate Index	5.57 (18)	3.45 (72)	-3.92 (63)	--	--	--
MSCI US IMI Real Estate 25/50 GR USD	5.59	3.54	-3.82	6.00	4.48	5.61
Real Estate Median	5.05	4.34	-3.10	6.95	4.47	6.16

#### S.I. Return vs Standard Deviation



## **Sensitivity Analyses: T-C Life Funding Agreements**

#### T-C Life Funding Agreement



<b>Monitoring Status</b>
<b>Positive</b>

	Criteria	Status as of 6/30/23
Financial Strength	Moody's = Aa2 Standard & Poor's = AA A.M. Best = A+ Fitch = AA-	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA
Mortgage Portfolio*	100% in Good Standing	100% in Good Standing*
Bond Portfolio*	At least 90% Investment Grade	99.15% in Investment Grade
Account Diversification*	Portfolio is diversified across asset classes and types	Portfolio is diversified across asset classes and types (see chart above)

\*Portfolio did not contain any commercial mortgages.  
Source: TIAA-CREF

## Summary Points

Summary Points

	Criteria Utilized for Performance Watch Status			
	On Watch	Short-term	Medium-term	Long-term
T. Rowe Price Instl Large Cap Growth	Yes	Yes	Yes	Yes
T. Rowe Price Instl Large Cap Value	No	---	---	---
TIAA-CREF Quant Small Cap Equity	No	---	---	---
TIAA-CREF Social Choice Equity	No	---	---	---
DFA Large Cap International	No	---	---	---
DFA Emerging Markets Core Equity	No	---	---	---
Metropolitan West Total Return Bond	No	---	---	---
PIMCO Real Return	No	---	---	---
PIMCO Income	No	---	---	---
T. Rowe Price Instl Floating Rate	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
<b>Total</b>	<b>1 of 16</b>	<b>1 of 15 eligible funds</b>	<b>1 of 15 eligible funds</b>	<b>1 of 15 eligible funds</b>

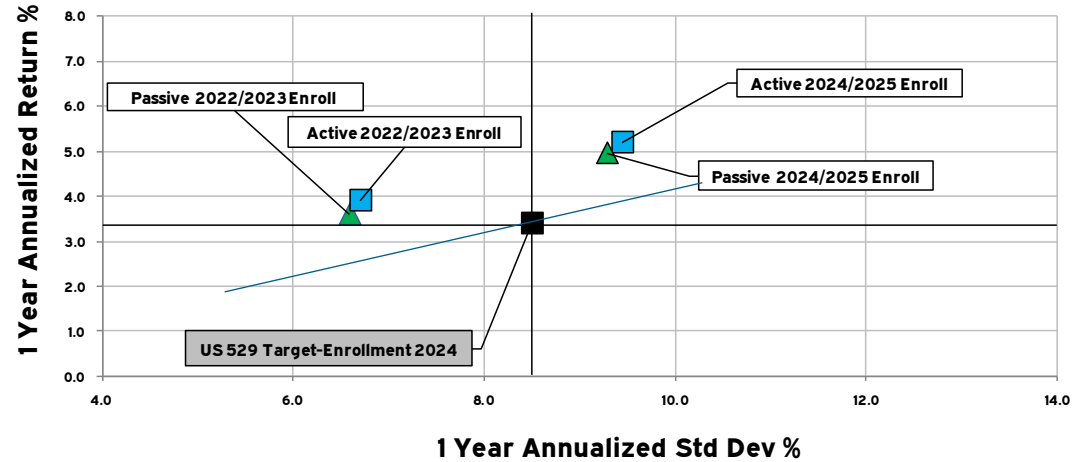
- Performance-based watch status criteria is on a *relative* basis.
  - Absolute results may still be negative.
- Criteria set up to evaluate managers over differing time periods.
- Long-term analysis is presented for informational value to provide context but is not a factor used to determine an Underlying Investment's status.

## **Enrollment Date Fund Performance**

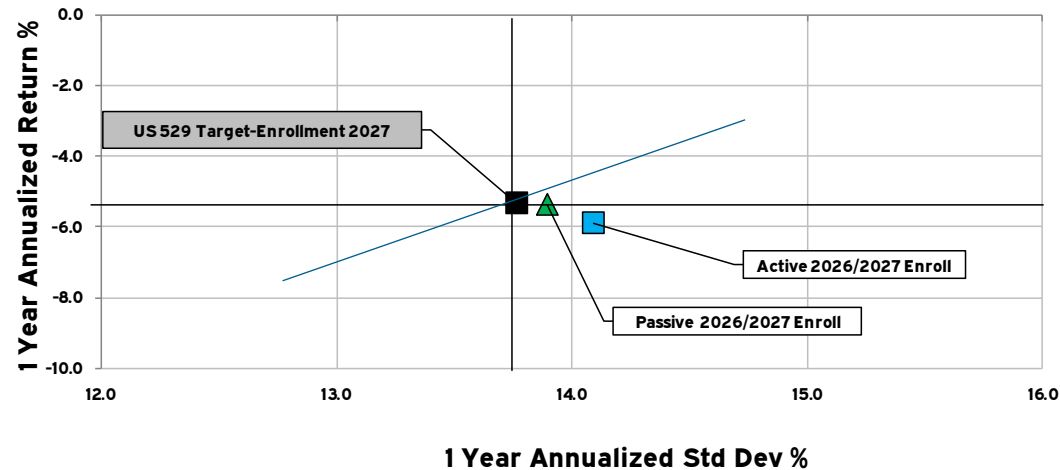


**Enrollment Date Portfolios Performance**

**Morningstar Target Date 2024: 1 Year Risk/Return as of 3/31/2023**

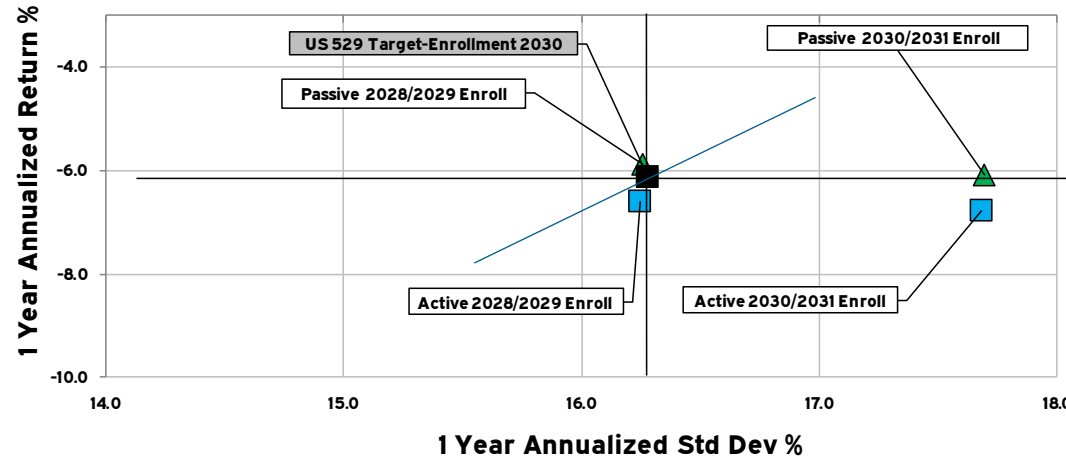


**Morningstar Target Date 2027: 1 Year Risk/Return as of 3/31/2023**

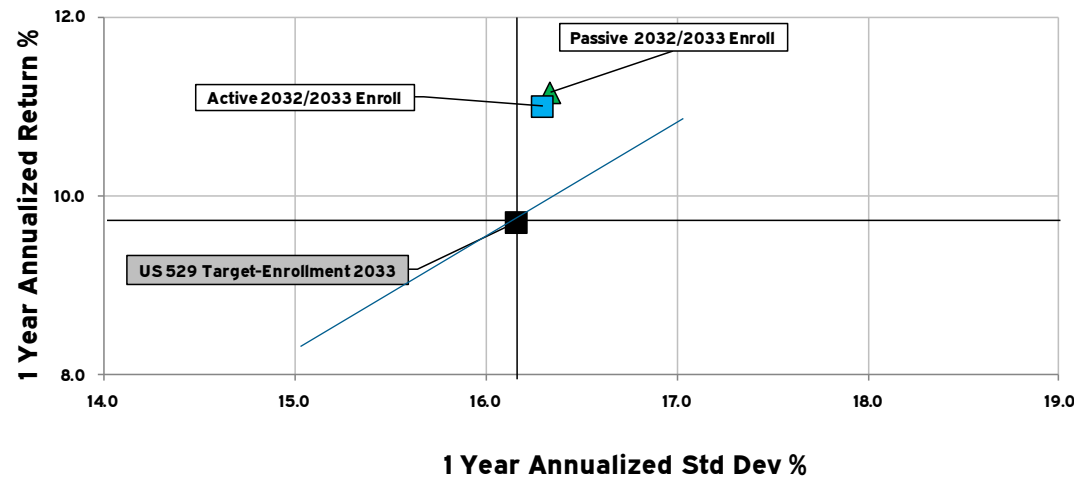


**Enrollment Date Portfolios Performance**

Morningstar Target Date 2030: 1 Year Risk/Return as of 3/31/2023

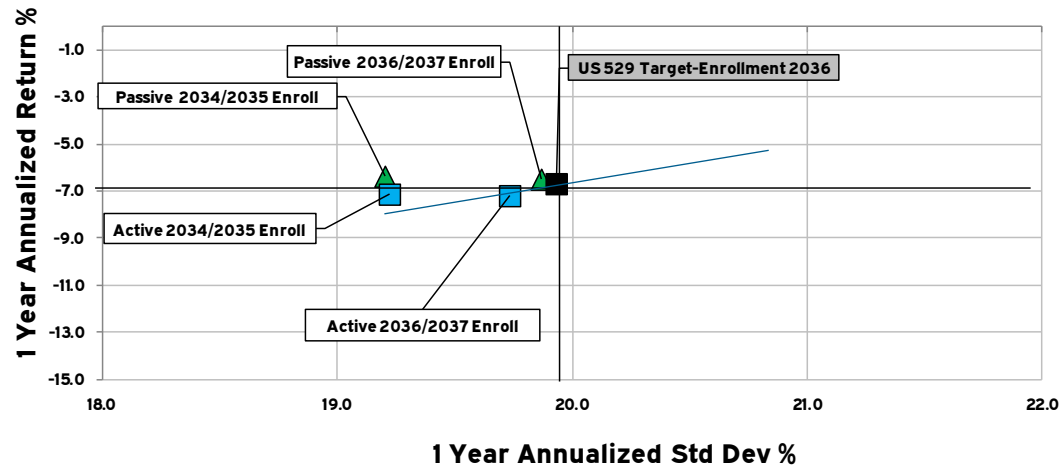


Morningstar Target Date 2033: 1 Year Risk/Return as of 3/31/2023

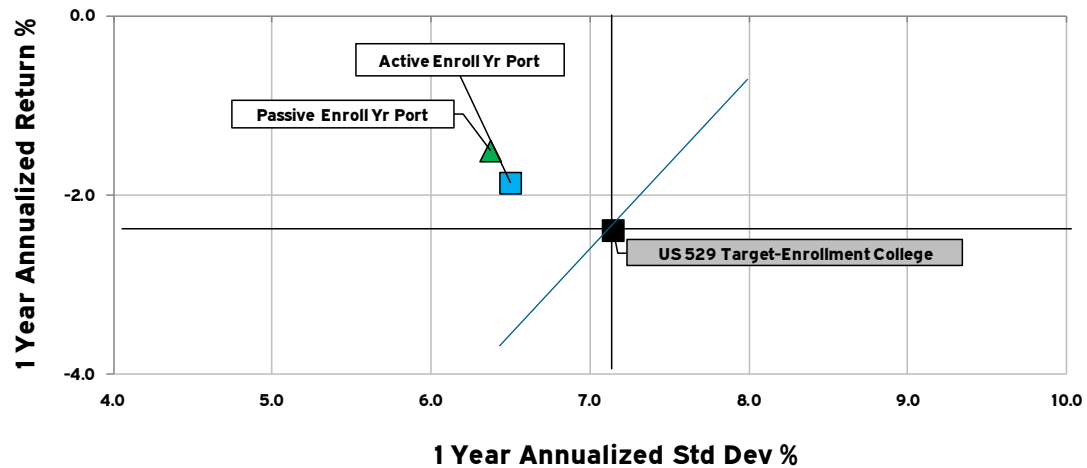


**Enrollment Date Portfolios Performance**

Morningstar Target Date 2036: 1 Year Risk/Return as of 3/31/2023

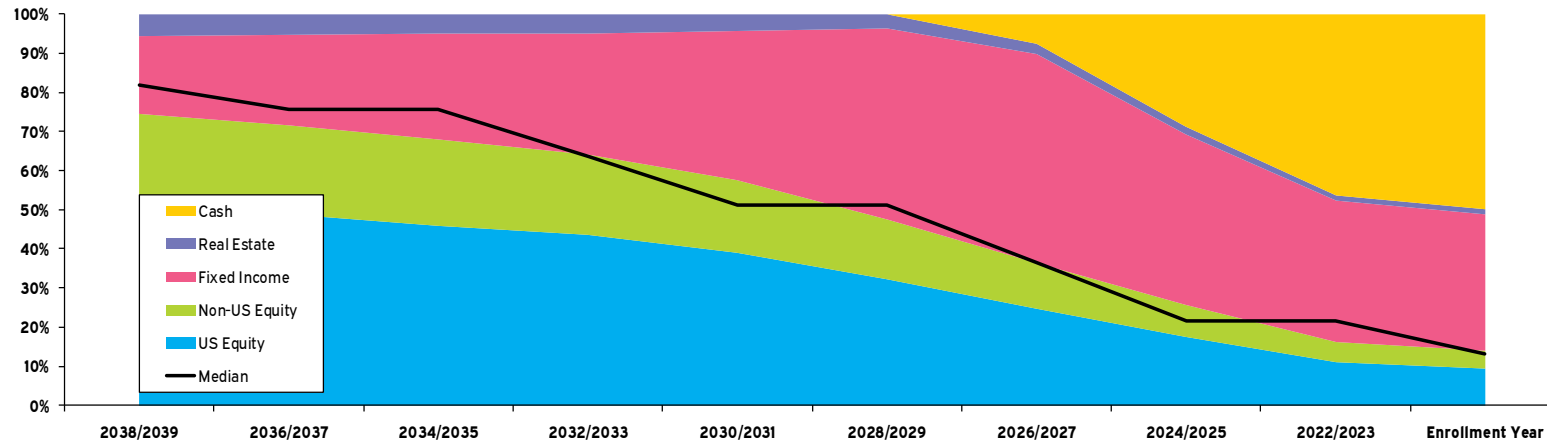


Morningstar Target Date 2039: 1 Year Risk/Return as of 3/31/2023

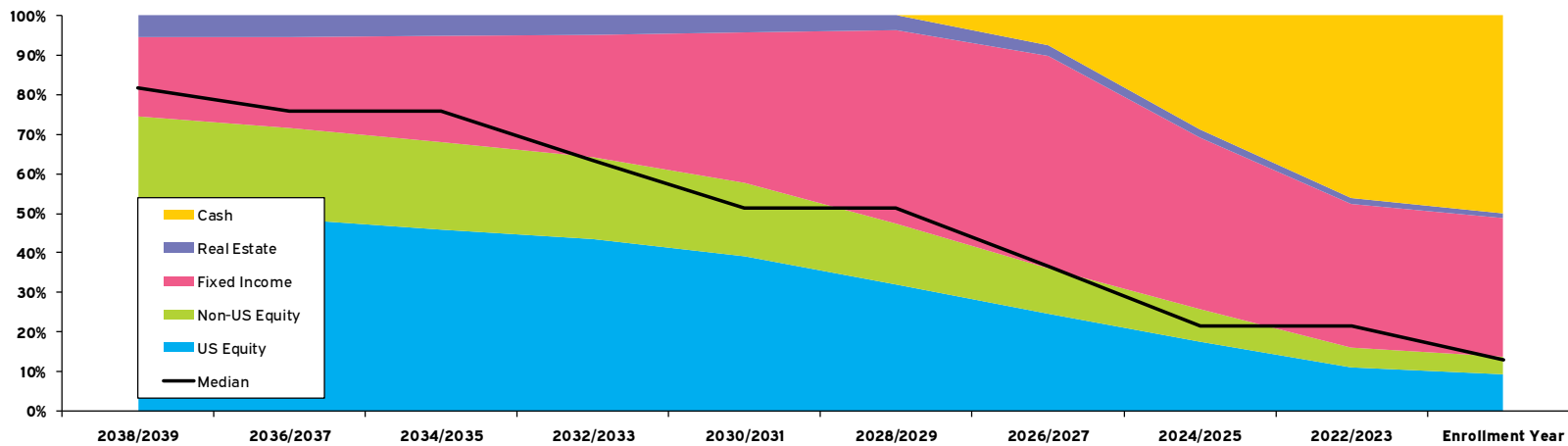


### ScholarShare Enrollment Date Glidepath

#### Active Enrollment Date Portfolio

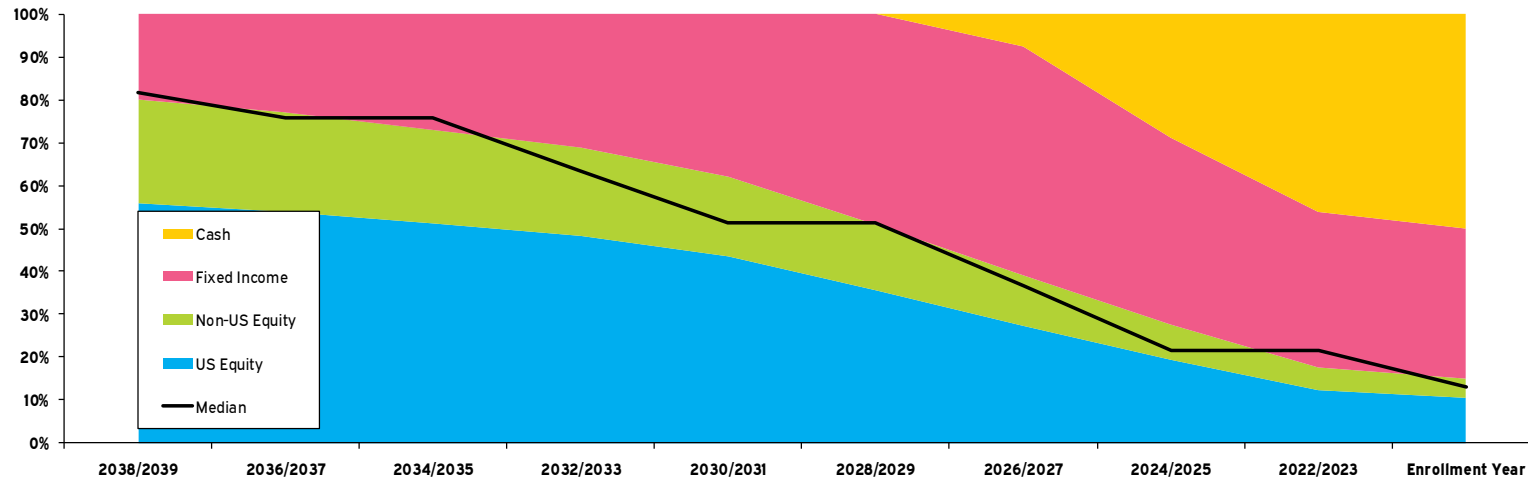


#### Passive Enrollment Date Portfolio



**ScholarShare Enrollment Date Glidepath**

**ESG Enrollment Date Portfolio**



# Appendix

## Glossary

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

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

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

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

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

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## MEMORANDUM

**TO:** ScholarShare Investment Board (SIB)  
**FROM:** Eric White, CFA; Kay Ceserani; Inwoo Hwang;  
Meketa Investment Group  
**DATE:** October 16, 2023  
**RE:** Review of Underlying Funds Qualifying for “Watch” Status

### Summary

Meketa Investment Group (“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 April 1, 2023, through June 30, 2023.

At the end of the period, **two funds continue to qualify for watch (TIAA-CREF Emerging Markets Equity Index, T. Rowe Large Cap Growth)** however we continue to recommend SIB forgo watch status for the TIAA-CREF Emerging Markets Equity Index as the spike in tracking error was caused by a technical market anomaly discussed at the March 23, 2022, meeting. The T. Rowe Price Large Cap Growth fund was placed on Watch at the June 22, 2022, meeting. Meketa recommends the fund remain on Watch and be closely monitored over coming quarters. One new fund qualifies for watch (TIAA-CREF International Equity Index), similar to the TIAA-CREF Emerging Markets Equity Index, Meketa recommends that the TIAA-CREF International Equity Index be kept off “Watch” status for this quarter, as we have seen most Passive International funds’ tracking errors tick upwards. We will report any material findings to SIB.

### Qualifying for Watch

1. TIAA-CREF Emerging Markets Equity Index
2. T. Rowe Large Cap Growth
3. TIAA-CREF International Equity Index

### Performance of Funds on Watch Status As of 6/30/2023

Funds on Watch Status	Board Action Date	Watch Status Start Date	No. Months Since Watch Began	Excess Perf. Recent Quarter	Excess Perf. Since Watch Began	Plan Assets (\$mil)	% of Plan Assets
T. Rowe Large Cap Growth	6/22/2022	4/1/2022	15	+1.6	-3.8	335.9	2.6%

## Discussion

### T. Rowe Large Cap Growth

#### Investment Role in Program

The T. Rowe Large Cap Growth Fund is one of two actively managed US Large Cap Funds in the program. The fund holds a \$335.9M of fund assets.

The T. Rowe Large Cap Growth Fund seeks long-term capital appreciation by investing in common stock of large cap growth companies.

#### History and Organizational Structure

T. Rowe Price serves as the manager and advisor of the fund. Headquartered in Maryland, T. Rowe Price has over \$1 trillion in assets under management.

#### Investment Team

Taymour Tamaddon has served as the fund manager since 2017 and has been with the firm for since 2004. He earned an MBA from Dartmouth College and is also a CFA charter holder.

#### Investment Philosophy and Approach

The fund uses a growth style of investing. The fund invests utilizes a bottom-up investment approach on companies that fall in the large-cap U.S. investment universe, defined as companies in the Russel 1000 Growth Index. The team seeks companies with an above-average rate of earnings and cash flow growth, as well as lucrative strategic positioning to drive future earnings growth. The fund is non-diversified as the fund may invest a larger percentage of assets in a smaller number of securities than a diversified fund. The fund looks for companies with one of more of the following characteristics:

- Above average growth rate: seek companies with superior growth in earnings and cash flow.
- Operations in "fertile fields": seeks companies with ability to sustain earnings momentum even in economic slowdowns by operating in industries or services where earnings and dividends can outpace inflation and the overall economy.
- Durability of earnings growth: seeks companies that operate in a lucrative niche in the economy that enables the company to expand even during slow growth periods.

#### Performance

The fund qualified for "Watch" based on medium and long-term monitoring criteria. The fund outpaced the benchmark in the most recent quarter, as underweight exposure to Consumer staples, stock selection in Health care, and overweight exposure as well as stock selection in Communication Services contributed to the relative outperformance. As a result of the strong recovery over the period, the fund no longer qualifies based on short-term monitoring criteria. Additionally, the fund's outperformance over the quarter resulted in a top quintile peer ranking over the period, though the fund continues to trail the index across trailing 1-, 3-, and 5-year returns.

### Trailing Performance Results, Net of Fees Ending June 30, 2023

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (11/20/2011)
T. Rowe Price Large Cap Growth Fund	14.4	26.6	9.5	11.7	15.9
<i>Russell 1000 Growth</i>	12.8	27.1	13.7	15.1	15.9
Difference	1.6	-0.5	-4.2	-3.4	0.0
Percentile Rank*	13	28	55	49	7

\*Morningstar Large-Cap Growth Universe. 1 = Best, 100 = Worst.

The fund has outperformed the benchmark in two of the last five calendar years, though it underperformed in the most recent calendar year. Stock selection and general overweight allocations in Communication Services and Consumer Discretionary sectors detracted from performance in 2022.

### Calendar Year Performance Results, Net of Fees Ending December 31, 2022

Fund	2018	2019	2020	2021	2022
T. Rowe Price Large Cap Growth Fund	4.3	28.5	39.6	23.2	-35.2
<i>Russell 1000 Growth</i>	-1.5	36.4	38.5	27.6	-29.1
Difference	5.8	-7.9	1.1	-4.4	-6.1
Percentile Rank*	9	88	32	45	76

\*Morningstar Large-Cap Growth Universe. 1 = Best, 100 = Worst.

Over time, the large cap growth segment of the US stock market has proven itself to be an area where active investment managers have particularly struggled. Illustrating this fact is the top quartile performance of the Russell 1000 Growth index over longer trailing time periods. In fact, as of the end of 2022, the index ranked in the 14<sup>th</sup> percentile over the trailing 10-year period, indicating it has outperformed over 85% of the funds with similar capital market exposure. This compares to other asset classes where the index tends to produce near-median results. The exceptional peer performance of the index can be attributed to multiple factors with the dominant factors being the high concentration in the index top holdings.

The Russell 1000 Growth index is highly concentrated in its top holdings. In fact, just the top 10 holdings constitute approximately 45% of the index, while the top 5 holdings comprise roughly 35%. Of those, two stocks, Apple and Microsoft, each account for more than 10% of the index. This high concentration results in the price movement of 5 or 10 stocks dominating the performance of the index. As a result, a manager's weighting to those 5 to 10 stocks largely defines their relative performance to the index. As such, their view on just 10 or so holdings often overwhelms their view on the other 490 or so stocks in the index. Compounding this is the fact that, in practice, it is difficult for an active manager to express

positive conviction in the top 5 stocks of the index given their enormous weight and the fact that the manager would have to hold them at an even larger weight.

As such, it is likely that the T. Rowe Large Cap Growth fund will exhibit volatile relative performance over time. We would expect that this volatility should be materially positive in some periods and materially negative in others. Prior to recent materially negative relative performance, the Fund had a sizeable relative outperformance over a considerable period of time. Over time, this Fund has demonstrated strong absolute and peer results though with periods of dramatic underperformance relative to the benchmark. Overall, Meketa has a favorable opinion of the fund and views it as one of the better options in its peer universe.

### Recommendation

Despite the strong recovery over the most recent quarter, the fund's longer dated returns continue to trail its benchmark. As a result, Meketa recommends that the T. Rowe Large Cap Growth fund remain on "Watch" status to be closely monitored over future periods.

## TIAA-CREF International Markets Equity Index Fund

### Investment Role in Program

The TIAA-CREF International Markets Equity Index fund is the only passively managed International Developed fund in the program. The fund holds \$825.9M of fund assets.

The TIAA-CREF International Markets Equity Index fund seeks long-term capital appreciation by investing in a portfolio of foreign equity investments based primarily on its benchmark index, the MSCI EAFE Index.

### History and Organizational Structure

Teachers Advisors, LLC, was founded in 1993 and is a SEC registered investment adviser (RIA). Teachers Advisors provides investment advisory services for TIAA Investments, a division of Nuveen, LLC. Nuveen, LLC is a wholly owned subsidiary of Teachers Insurance and Annuity Association of America.

### Investment Team

Jim Campagna, Lei Liao and Darren Tran serve as the fund's portfolio managers. Mr. Campagna joined the firm in 2005 and served as the fund's co-portfolio manager since 2010. Mr. Liao joined the firm in 2012 and has served as the fund's co-portfolio manager since 2014. Mr. Tran joined the firm in 2005 and has served as the fund's co-portfolio manager since 2019. Mr. Campagna is the Head of Equity Index Strategies for Nuveen and holds the CFA Designation. Mr. Liao obtained an M.B.A. from the Ross Business School at the University of Michigan and holds the CFA Designation. Mr. Tran graduated from the NYU Tandon School of Engineering with an M.S. in Financial Engineering and holds the CFA Designation.

### Investment Philosophy and Approach

Under normal circumstances, the fund invests at least 80% of its assets in equity securities that comprise the MSCI EAFE Index or assets with economic characteristics similar to all or a portion of the index. The fund buys most, but not necessarily all of the stocks in its benchmark index and will attempt to closely match the overall investment attributes of its benchmark index. The fund is designed to track various foreign equity markets as a whole or a segment of these markets.

### Performance

The fund qualified for "Watch" based on the short-term and medium-term monitoring criteria, as the fund's tracking error vs. its benchmark has fallen outside of the allowable range for 8 consecutive months. The fund has slightly trailed its benchmark across trailing 1-year and since addition to the ScholarShare program.

### Trailing Performance Results, Net of Fees

Ending June 30, 2023

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (12/17/2018)
TIAA-CREF International Equity Index	3.1	18.6	9.2	4.6	6.7
MSCI EAFE	3.0	18.8	8.9	4.4	7.1
<b>Difference</b>	<b>0.0</b>	<b>(0.2)</b>	<b>0.3</b>	<b>0.2</b>	<b>(0.4)</b>
Percentile Rank*	37	21	25	30	34

\*Morningstar Foreign Large Blend Universe. 1 = Best, 100 = Worst.

Due to the fund’s passively managed investment strategy, the fund intends to closely track the performance of its benchmark’s performance with minimal outperformance/underperformance, with exception to the most recent calendar year.

### Calendar Year Performance Results, Net of Fees

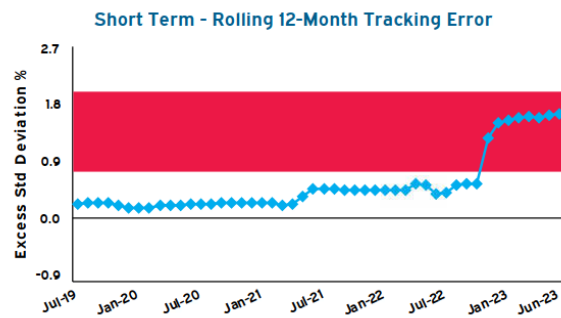
Ending December 31, 2022

Fund	2018	2019	2020	2021	2022
TIAA-CREF International Equity Index	-13.7	22.1	8.0	11.4	-13.8
MSCI EAFE	-13.8	22.0	7.8	11.3	-14.5
<b>Difference</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.7</b>
Percentile Rank*	25	51	65	33	21

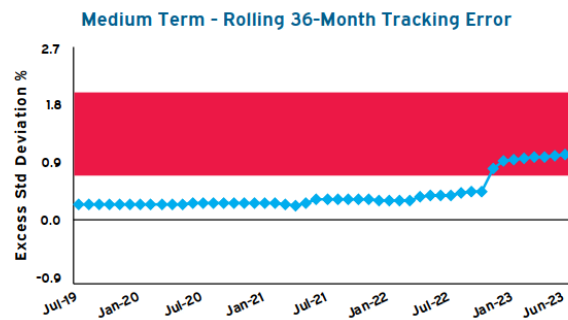
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### Recommendation

The fund’s tracking error spiked recently and has now been higher than the criteria for eight consecutive months, a length sufficient to qualify for watch under the short-term & medium-term monitoring criteria. The fund’s tracking error spiked in the fourth quarter of 2022.



Results fall in the caution range.  
Probationary Threshold 0.75%



Results fall in the caution range.  
Probationary Threshold 0.70%

After our review, it appears the spike is being caused by a larger than typical discrepancy between the fund return and index return in November 2022 and December 2022. In particular, there was a larger than typical F/X impact adjustment according to the equity reports provided quarterly by TIAA-CREF. We reached out to the Portfolio Management team at TIAA-CREF to confirm there were no changes in the management of the fund. Since December 2022 the tracking error has moderated to previous levels, though given the inherent sensitivity in the tracking error calculations, we anticipate that tracking error will remain elevated as the spikes in the periods mentioned above remain in the measured rolling time periods. As such, while the fund qualifies for "Watch", Meketa does not recommend placing them on "Watch" status, given the root cause for them qualifying is operational versus a fundamental flaw with the funds' investment processes.

EDW/KRC/IH/mp



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