
MARCH 23, 2023

**AGENDA ITEM 8
INFORMATION ITEM**

SCHOLARSHARE INVESTMENT BOARD

Review and Analysis of Investment Performance for ScholarShare 529

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 fourth quarter 2022, provided by TIAA-CREF Tuition Financing, Inc., and the “Investment Performance Status Report” (Exhibit B) for fourth quarter 2022, 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 fourth quarter of 2022:

- 12 underlying funds were in the “positive” status,
- Eight (8) underlying funds were in the “acceptable” status, and
- Three (3) 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 (“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
- No new funds qualify for “watch” status.

Presenters

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

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

Eric White, Principal, Meketa Investment Group



Quarterly Investment Performance Report

4th Quarter 2022

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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. 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: Q4 2022

Key Themes

- U.S. equities posted positive returns during the fourth quarter as the market reacted favorably to decreasing levels of inflation and the prospect of the Fed slowing interest rate hikes. The Russell 3000 Index gained 7.18% in the fourth quarter.

Equities

- Ten out of eleven GIC sectors in the S&P 500 produced positive returns in the fourth quarter. Consumer Discretionary (-9.09%) was the only sector that declined during the quarter, while Energy (22.86%) was the strongest performer.

Fixed Income

- The U.S. Federal Reserve raised interest rates by 50 basis points in December, continuing its effort to tame inflation. Short-term treasury yields moved higher while long-term yields remained relatively flat across the curve, which increased the inversion for the 2year-10year treasury yield spread. The Bloomberg U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds returned 1.87% during the fourth quarter.

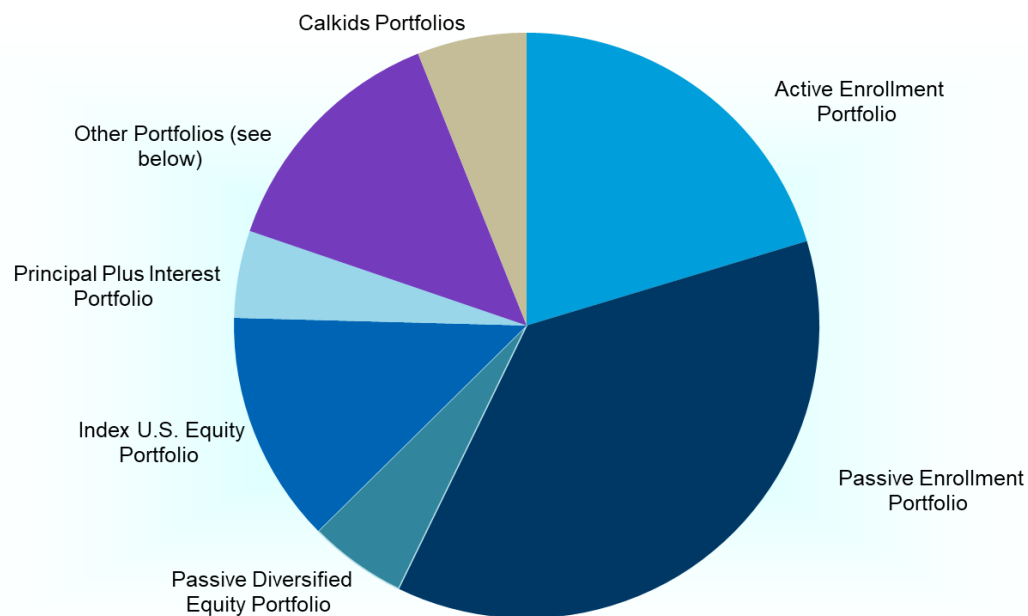
Past performance is not indicative of future results. You can not invest directly in an index. U.S. Equities – Russell 3000 Index; U.S. Growth Stocks – Russell 1000 Growth Index; U.S. Value Stocks – Russell 1000 Value Index; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small-Cap Stocks – Russell 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	7.18	-19.21	7.07	8.79
U.S. Growth Stocks	2.20	-29.14	7.79	10.96
U.S. Value Stocks	12.42	-7.54	5.96	6.67
U.S. Mid-Cap Stocks	9.18	-17.32	5.88	7.10
U.S. Small-Cap Stocks	6.23	-20.44	3.10	4.13
Int'l Developed Stocks	17.34	-14.45	0.87	1.54
Emerging Markets Stocks	9.70	-20.09	-2.69	-1.40
Real Estate Stocks	4.14	-24.95	0.20	4.43
U.S. Investment Grade Bonds	1.87	-13.01	-2.71	0.02
Inflation-Linked Bonds	1.64	-7.34	2.01	2.50
High Yield Bonds	4.31	-10.59	-0.20	2.31
Commodities	2.22	16.09	12.65	6.44
Cash	0.90	1.51	0.74	1.28
Annualized Tuition Inflation Ending as of 2022-2023 Academic Year* (%)				
Educational Institution	1 Year	3 Year	5 Year	
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, December 2022	6.45	4.92	3.78	

*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 Q4 2022 - Total Assets: \$12.3 Billion



Portfolio	% of Assets	\$ Millions	Portfolio	% of Assets	\$ Millions
Passive Enrollment Portfolio	36.87%	\$4,534	Passive Diversified Equity Portfolio	5.40%	\$664
Active Enrollment Portfolio	20.35%	\$2,502	Principal Plus Interest Portfolio	4.82%	\$592
Index U.S. Equity Portfolio	12.80%	\$1,574	Other Portfolios (see below)	13.71%	\$1,687

Other Portfolios

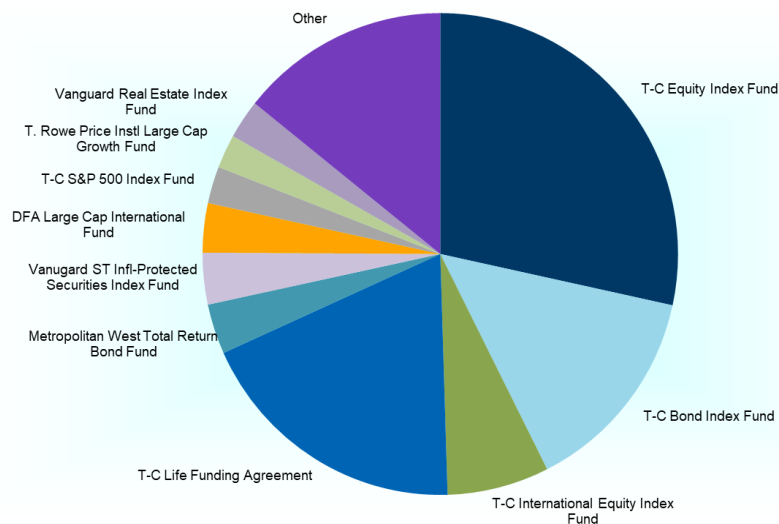
Active Diversified Equity Portfolio	3.10%	\$381	Index Bond Portfolio	0.67%	\$82
Active Growth Portfolio	2.77%	\$340	Active Conservative Portfolio	0.63%	\$78
Passive Growth Portfolio	2.29%	\$281	Active International Equity Portfolio	0.31%	\$38
Social Choice Equity Portfolio	1.97%	\$243	ESG Enrollment Portfolio	0.06%	\$8
Index International Equity Portfolio	1.13%	\$139	ESG Bond Portfolio	0.02%	\$1.9
Passive Conservative Portfolio	0.76%	\$94	ESG International Equity Portfolio	0.01%	\$1.0

CalKIDS Portfolios

CalKIDS - Scholarshare	6.05%	\$744
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* CalKIDS AUM are included in the total assets of 12.3B

Asset Overview by Underlying Fund as of Q4 2022



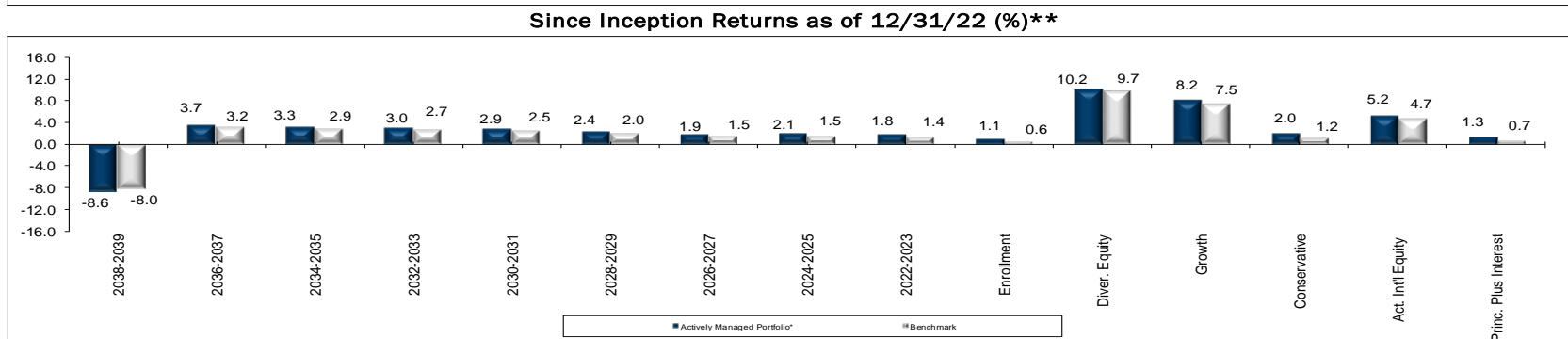
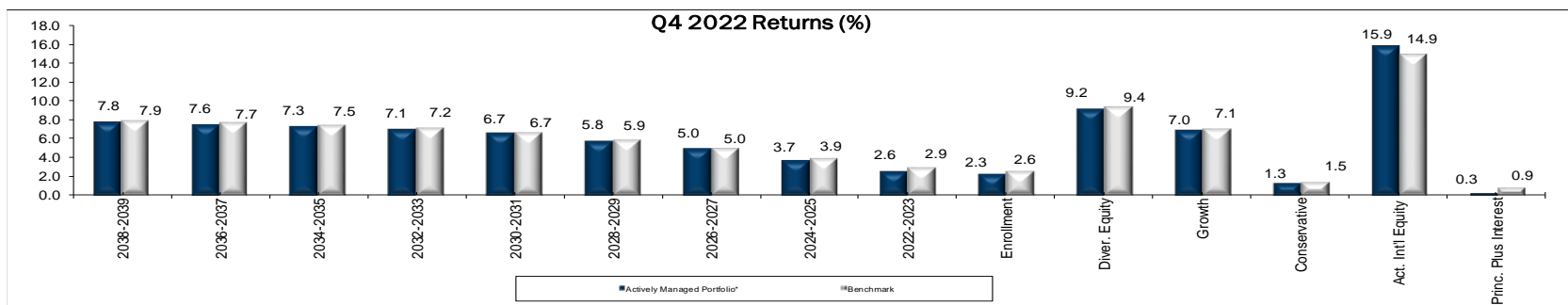
Fund	% of Assets	\$ Millions	Fund	% of Assets	\$ Millions
T-C Equity Index Fund	28.42%	\$3,497	DFA Large Cap International Fund	3.31%	\$407
T-C Life Funding Agreement	18.75%	\$2,308	Vanguard Real Estate Index Fund	2.62%	\$322
T-C Bond Index Fund	14.16%	\$1,742	T-C S&P 500 Index Fund	2.48%	\$305
T-C International Equity Index Fund	6.93%	\$853	T. Rowe Price Instl Large Cap Growth Fund	2.26%	\$278
Vanugard ST Infl-Protected Securities Index Fund	3.47%	\$426	Other	14.25%	\$1,753
Metropolitan West Total Return Bond Fund	3.36%	\$413			

Other Funds

T. Rowe Price Instl Large Cap Value Fund	2.33%	\$287	T-C Quant Small Cap Equity Fund	0.80%	\$98
PIMCO Income Fund	1.92%	\$237	DFA Emerging Markets Core Equity Portfolio	0.81%	\$100
PIMCO Real Return Fund	1.92%	\$236	Nuveen ESG US Agg Bond ETF	0.04%	\$4
T-C Social Choice Equity Fund	1.99%	\$245	T-C Social Choice Int'l Equity Fund	0.02%	\$1.9
Vanguard High-Yield Corporate Fund	1.72%	\$212	Nuveen ESG HY Corp Bond ETF	0.00%	\$0.3
T-C Emerging Markets Equity Index Fund	1.72%	\$212	Nuveen ESG EM Equity ETF	0.00%	\$0.2
T. Rowe Price Instl Floating Rate Fund	0.97%	\$119			

* CalKIDS AUM are included in the total assets of \$12.3B

Active Portfolios vs. Composite Benchmarks



* 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 223,000 jobs in December and the unemployment rate fell to 3.5 percent. Health care, leisure and hospitality business services continued to add jobs. Despite the slowdown in housing market, construction jobs continue to increase.
- Real average hourly earnings of all employees on private nonfarm payrolls increased 4.6% year-over-year from last December, seasonally adjusted.
- Sales of new single-family houses in the United States were at a seasonally adjusted annual rate of 640,000 in November.
- The Active Enrollment Year Portfolios generated positive absolute returns in Q4, with more aggressive portfolios posting higher returns than conservative ones. Portfolios performed in line with their blended benchmarks.
- Nearly all underlying funds produced positive returns in Q4. The DFA Large Cap International Fund led all funds with a return of 17.21%.

Active Portfolios vs. Composite Benchmarks –Return (%)

Investment Portfolios*	3 Month	YTD	Average Annual Total Return				Inception Date
			1 Year	3 Year	5 Year	Since Inception	
Active Enrollment Year Portfolios							
2038/2039 Enrollment Portfolio Active	7.81%	-16.59%	-16.59%	-	-	-8.58%	06/11/21
Blended Benchmark Returns	7.93%	-16.72%	-16.72%	-	-	-8.00%	
Difference	-0.12%	0.13%	0.13%	-	-	-0.58%	
2036/2037 Enrollment Portfolio Active	7.55%	-16.65%	-16.65%	-	-	3.65%	01/24/20
Blended Benchmark Returns	7.74%	-16.66%	-16.66%	-	-	3.18%	
Difference	-0.19%	0.01%	0.01%	-	-	0.47%	
2034/2035 Enrollment Portfolio Active	7.32%	-16.36%	-16.36%	-	-	3.27%	01/24/20
Blended Benchmark Returns	7.45%	-16.38%	-16.38%	-	-	2.93%	
Difference	-0.13%	0.02%	0.02%	-	-	0.34%	
2032/2033 Enrollment Portfolio Active	7.06%	-16.06%	-16.06%	-	-	3.04%	01/24/20
Blended Benchmark Returns	7.16%	-16.10%	-16.10%	-	-	2.73%	
Difference	-0.10%	0.04%	0.04%	-	-	0.31%	
2030/2031 Enrollment Portfolio Active	6.67%	-15.67%	-15.67%	-	-	2.88%	01/24/20
Blended Benchmark Returns	6.69%	-15.77%	-15.77%	-	-	2.52%	
Difference	-0.02%	0.10%	0.10%	-	-	0.36%	
2028/2029 Enrollment Portfolio Active	5.82%	-15.12%	-15.12%	-	-	2.40%	01/24/20
Blended Benchmark Returns	5.92%	-15.17%	-15.17%	-	-	2.05%	
Difference	-0.10%	0.05%	0.05%	-	-	0.35%	
2026/2027 Enrollment Portfolio Active	4.97%	-13.85%	-13.85%	-	-	1.91%	01/24/20
Blended Benchmark Returns	4.97%	-13.89%	-13.89%	-	-	1.52%	
Difference	0.00%	0.04%	0.04%	-	-	0.39%	
2024/2025 Enrollment Portfolio Active	3.71%	-11.20%	-11.20%	-	-	2.07%	01/24/20
Blended Benchmark Returns	3.94%	-11.14%	-11.14%	-	-	1.49%	
Difference	-0.23%	-0.06%	-0.06%	-	-	0.58%	
2022/2023 Enrollment Portfolio Active	2.63%	-7.95%	-7.95%	-	-	1.81%	01/24/20
Blended Benchmark Returns	2.93%	-7.80%	-7.80%	-	-	1.45%	
Difference	-0.30%	-0.15%	-0.15%	-	-	0.36%	
Enrollment Year Portfolio Active	2.28%	-6.19%	-6.19%	-	-	1.05%	01/24/20
Blended Benchmark Returns	2.57%	-6.10%	-6.10%	-	-	0.57%	
Difference	-0.29%	-0.09%	-0.09%	-	-	0.48%	

* 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	
Active Multi-Fund Investment Portfolios							
Active Diversified Equity Portfolio	9.22%	-18.08%	-18.08%	4.76%	6.16%	10.18%	11/04/11
Blended Benchmark Returns	9.38%	-18.15%	-18.15%	4.56%	6.14%	9.75%	
Difference	-0.16%	0.07%	0.07%	0.20%	0.02%	0.43%	
Active Growth Portfolio	6.95%	-15.88%	-15.88%	3.40%	4.90%	8.16%	11/04/11
Blended Benchmark Returns	7.05%	-15.91%	-15.91%	3.13%	4.83%	7.48%	
Difference	-0.10%	0.03%	0.03%	0.27%	0.07%	0.68%	
Active Conservative Portfolio	1.30%	-5.25%	-5.25%	0.27%	1.28%	1.99%	11/04/11
Blended Benchmark Returns	1.45%	-5.17%	-5.17%	-0.29%	1.06%	1.21%	
Difference	-0.15%	-0.08%	-0.08%	0.56%	0.22%	0.78%	
Active International Equity Portfolio	15.87%	-13.68%	-13.68%	1.66%	1.65%	5.21%	11/10/11
Blended Benchmark Returns	14.94%	-15.36%	-15.36%	0.59%	1.24%	4.73%	
Difference	0.93%	1.68%	1.68%	1.07%	0.41%	0.48%	
Active Single Fund Investment Portfolios							
Principal Plus Interest Portfolio**	0.26%	1.05%	1.05%	1.27%	1.38%	1.33%	11/04/11
Benchmark Returns	0.87%	1.50%	1.50%	0.71%	1.25%	0.06%	
Difference	-0.61%	-0.45%	-0.45%	0.56%	0.13%	1.27%	

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

**The crediting rate of 1.00% for the TC Life Funding Agreement in the Principal Plus Interest Portfolio is guaranteed through 12/31/22.

Active Portfolios: Asset Allocation, Fees, and Performance

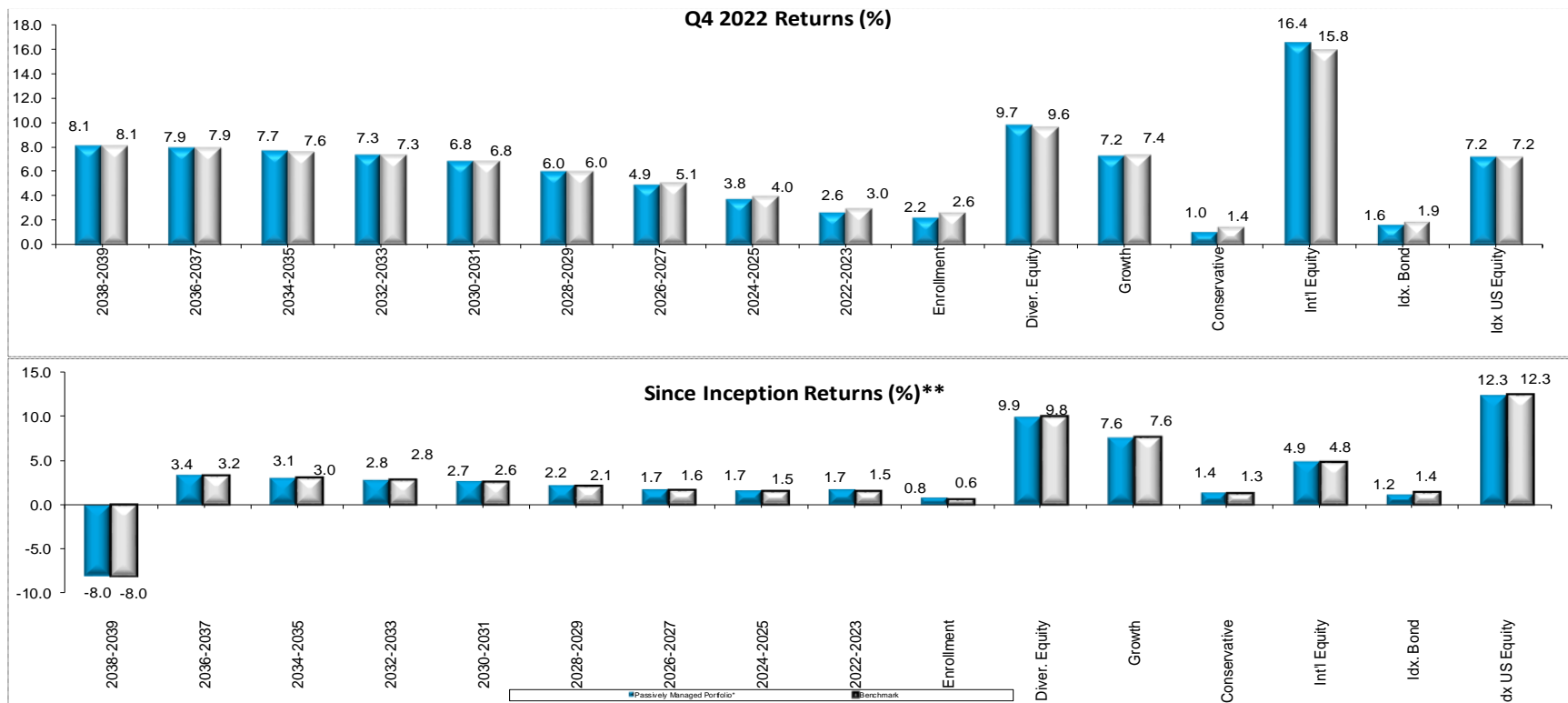
Active Enrollment Year Portfolio	Annual Asset Based Fees (bp)*	T. Rowe Price Instl Large Cap Growth Fund	T. Rowe Price Instl Large Cap Value Fund	TIAA-CREF Quant Small Cap Equity Fund	TIAA-CREF S&P 500 Index Fund	DFA Large Cap Int'l Portfolio	DFA Emerging Markets Core Equity I Portfolio	Vanguard Real 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
Underlying Fund Expenses (bp)		55	55	41	5	18	39	10	36	8	47	51	57	N/A
2038-2039	39	14.80%	14.80%	5.00%	15.80%	19.20%	4.80%	5.60%	7.00%	3.00%	4.00%	4.00%	2.00%	
2036-2037	39	14.50%	14.50%	4.90%	15.60%	18.80%	4.70%	5.50%	7.50%	3.20%	4.30%	4.30%	2.20%	
2034-2035	39	13.70%	13.70%	4.70%	14.80%	17.80%	4.50%	5.20%	9.10%	3.80%	5.10%	5.10%	2.50%	
2032-2033	40	13.00%	13.00%	4.40%	14.00%	16.90%	4.20%	5.00%	10.30%	4.40%	5.90%	5.90%	3.00%	
2030-2031	40	11.90%	11.90%	4.10%	12.90%	15.60%	3.90%	4.60%	12.30%	5.30%	7.00%	7.00%	3.50%	
2028-2029	41	10.20%	10.20%	3.50%	11.00%	13.30%	3.30%	3.90%	15.60%	6.70%	8.90%	8.90%	4.50%	
2026-2027	40	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%
2024-2025	35	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%
2022-2023	28	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%
Enrollment	24	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

Active Diversified Equity Portfolio	37	18.40%	18.40%	6.30%	19.90%	24.00%	6.00%	7.00%						
Active Growth Portfolio	40	12.50%	12.50%	4.30%	13.60%	16.30%	4.00%	4.80%	11.20%	4.80%	6.40%	6.40%	3.20%	
Active Conservative Portfolio	26								17.50%	7.50%	10.00%	10.00%	5.00%	50.00%
Active International Equity Portfolio	28					80.00%	20.00%							
Fund's Performance vs Benchmk Q4 2022 (bp)		(238)	(30)	194	(2)	103	82	(86)	(6)	(28)	65	154	16	(61)

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

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 fourth quarter as the market reacted favorably to decreasing levels of inflation and the prospect of the Fed slowing interest rate hikes. The Russell 3000 Index gained 7.18% in the fourth quarter.
- Short-term treasury yields moved higher while long-term yields remained relatively flat across the curve, which increased the inversion for the 2year-10year treasury yield spread. The Bloomberg U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds returned 1.87% during the fourth quarter.
- Based on MSCI indexes, emerging markets underperformed international developed market stocks. The MSCI EAFE index returned 17.34%, while the MSCI EM Index returned 9.70%.
- Based on respective Russell indexes, large cap companies outperformed small cap companies. Growth stocks (2.20%) underperformed Value stocks (12.42%).
- The Passive Enrollment Year Portfolios posted positive absolute returns in Q4. 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					Since Inception	Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year		
Passive Enrollment Year Portfolios							
2038/2039 Enrollment Portfolio Passive	8.12%	-16.68%	-16.68%	-	-	-7.97%	06/11/21
Blended Benchmark Returns	8.11%	-16.87%	-16.87%	-	-	-8.02%	
Difference	0.01%	0.19%	0.19%	-	-	0.05%	
2036/2037 Enrollment Portfolio Passive	7.92%	-16.68%	-16.68%	-	-	3.43%	01/24/20
Blended Benchmark Returns	7.92%	-16.79%	-16.79%	-	-	3.22%	
Difference	0.00%	0.11%	0.11%	-	-	0.21%	
2034/2035 Enrollment Portfolio Passive	7.68%	-16.37%	-16.37%	-	-	3.08%	01/24/20
Blended Benchmark Returns	7.62%	-16.48%	-16.48%	-	-	2.98%	
Difference	0.06%	0.11%	0.11%	-	-	0.10%	
2032/2033 Enrollment Portfolio Passive	7.32%	-16.09%	-16.09%	-	-	2.82%	01/24/20
Blended Benchmark Returns	7.32%	-16.17%	-16.17%	-	-	2.78%	
Difference	0.00%	0.08%	0.08%	-	-	0.04%	
2030/2031 Enrollment Portfolio Passive	6.81%	-15.73%	-15.73%	-	-	2.72%	01/24/20
Blended Benchmark Returns	6.83%	-15.80%	-15.80%	-	-	2.58%	
Difference	-0.02%	0.07%	0.07%	-	-	0.14%	
2028/2029 Enrollment Portfolio Passive	5.96%	-15.12%	-15.12%	-	-	2.23%	01/24/20
Blended Benchmark Returns	6.03%	-15.12%	-15.12%	-	-	2.14%	
Difference	-0.07%	0.00%	0.00%	-	-	0.09%	
2026/2027 Enrollment Portfolio Passive	4.89%	-13.78%	-13.78%	-	-	1.71%	01/24/20
Blended Benchmark Returns	5.06%	-13.76%	-13.76%	-	-	1.63%	
Difference	-0.17%	-0.02%	-0.02%	-	-	0.08%	
2024/2025 Enrollment Portfolio Passive	3.75%	-11.17%	-11.17%	-	-	1.68%	01/24/20
Blended Benchmark Returns	3.99%	-11.02%	-11.02%	-	-	1.48%	
Difference	-0.24%	-0.15%	-0.15%	-	-	0.20%	
2022/2023 Enrollment Portfolio Passive	2.63%	-7.88%	-7.88%	-	-	1.74%	01/24/20
Blended Benchmark Returns	2.97%	-7.69%	-7.69%	-	-	1.54%	
Difference	-0.34%	-0.19%	-0.19%	-	-	0.20%	
Enrollment Year Portfolio Passive	2.20%	-6.15%	-6.15%	-	-	0.78%	01/24/20
Blended Benchmark Returns	2.60%	-5.96%	-5.96%	-	-	0.61%	
Difference	-0.40%	-0.19%	-0.19%	-	-	0.17%	

* 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	
Passive Multi-Fund Investment Portfolios							
Passive Diversified Equity Portfolio	9.73%	-18.47%	-18.47%	4.73%	6.31%	9.89%	11/04/11
Blended Benchmark Returns	9.61%	-18.45%	-18.45%	4.59%	6.21%	9.85%	
Difference	0.12%	-0.02%	-0.02%	0.14%	0.10%	0.04%	
Passive Growth Portfolio	7.22%	-16.12%	-16.12%	3.16%	4.85%	7.57%	11/04/11
Blended Benchmark Returns	7.36%	-16.07%	-16.07%	3.13%	4.88%	7.57%	
Difference	-0.14%	-0.05%	-0.05%	0.03%	-0.03%	0.00%	
Passive Conservative Portfolio	1.04%	-5.11%	-5.11%	-0.06%	1.09%	1.42%	11/04/11
Blended Benchmark Returns	1.45%	-4.90%	-4.90%	-0.25%	1.11%	1.27%	
Difference	-0.41%	-0.21%	-0.21%	0.19%	-0.02%	0.15%	
Index International Equity Portfolio	16.43%	-15.37%	-15.37%	0.32%	1.16%	4.88%	11/04/11
Blended Benchmark Returns	15.85%	-15.50%	-15.50%	0.27%	1.04%	4.82%	
Difference	0.58%	0.13%	0.13%	0.05%	0.12%	0.06%	
Passive Single Fund Investment Portfolios							
Index Bond Portfolio	1.61%	-13.22%	-13.22%	-2.90%	-0.18%	1.15%	11/04/11
Benchmark Returns	1.87%	-13.01%	-13.01%	-2.71%	0.02%	1.37%	
Difference	-0.26%	-0.21%	-0.21%	-0.19%	-0.20%	-0.22%	
Index U.S. Equity Portfolio	7.15%	-19.18%	-19.18%	7.04%	8.74%	12.28%	11/04/11
Benchmark Returns	7.18%	-19.21%	-19.21%	7.07%	8.79%	12.33%	
Difference	-0.03%	0.03%	0.03%	-0.03%	-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 Infl-Prot Sec Index Fund	Vanguard High-Yield Corporate Fund	T-C Life Funding Agreement
Underlying Fund Expenses (bp)		5	5	18	10	7	4	13	N/A
2038-2039	7	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	
2036-2037	7	49.40%	18.80%	4.70%	5.50%	15.10%	4.30%	2.20%	
2034-2035	7	47.00%	17.80%	4.50%	5.20%	17.80%	5.10%	2.60%	
2032-2033	7	44.40%	16.90%	4.20%	4.90%	20.70%	5.90%	3.00%	
2030-2031	7	40.90%	15.60%	3.90%	4.60%	24.50%	7.00%	3.50%	
2028-2029	8	35.00%	13.20%	3.30%	3.90%	31.20%	8.90%	4.50%	
2026-2027	7	27.30%	10.40%	2.60%	3.10%	36.90%	10.60%	5.30%	3.80%
2024-2025	6	20.10%	7.60%	1.90%	2.20%	34.10%	9.80%	4.90%	19.40%
2022-2023	5	13.30%	5.20%	1.30%	1.50%	26.70%	7.60%	3.80%	40.60%
Enrollment	4	9.40%	3.60%	0.90%	1.10%	24.50%	7.00%	3.50%	50.00%

Passive Multi-Fund Investment Portfolios

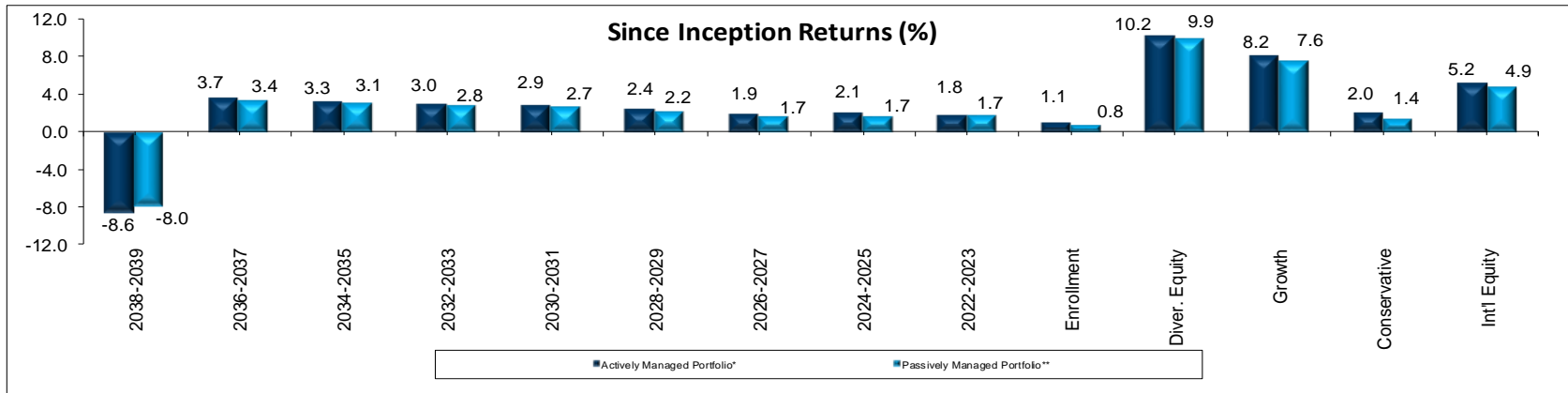
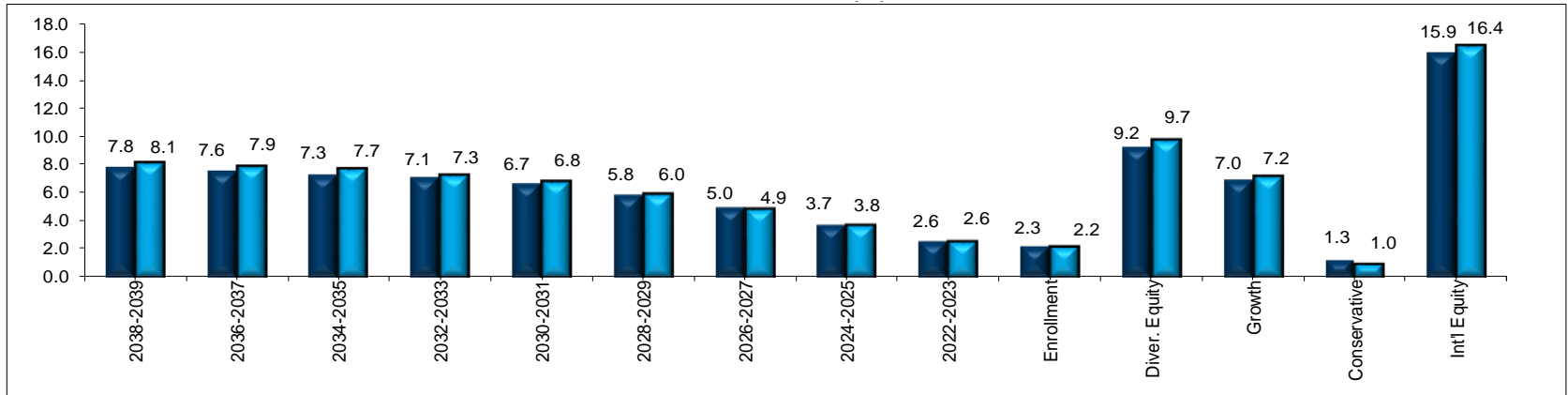
Passive Diversified Equity Portfolio	7	63.00%	24.00%	6.00%	7.00%				
Passive Growth Portfolio	7	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
Passive Conservative Portfolio	5					35.00%	10.00%	5.00%	50.00%
Index International Equity Portfolio	9		80.00%	20.00%					
Fund's Performance vs Benchmk Q4 2022 (bp)		(2)	78	4	(86)	(28)	(2)	32	(61)

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 Q4 2022 (bp)
Index Bond Portfolio	9	100.00%	TIAA-CREF Bond Index Fund	(28)
Index U.S. Equity Portfolio	6	100.00%	TIAA-CREF Equity Index Fund	(2)

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

Active Portfolios vs Passive Portfolios



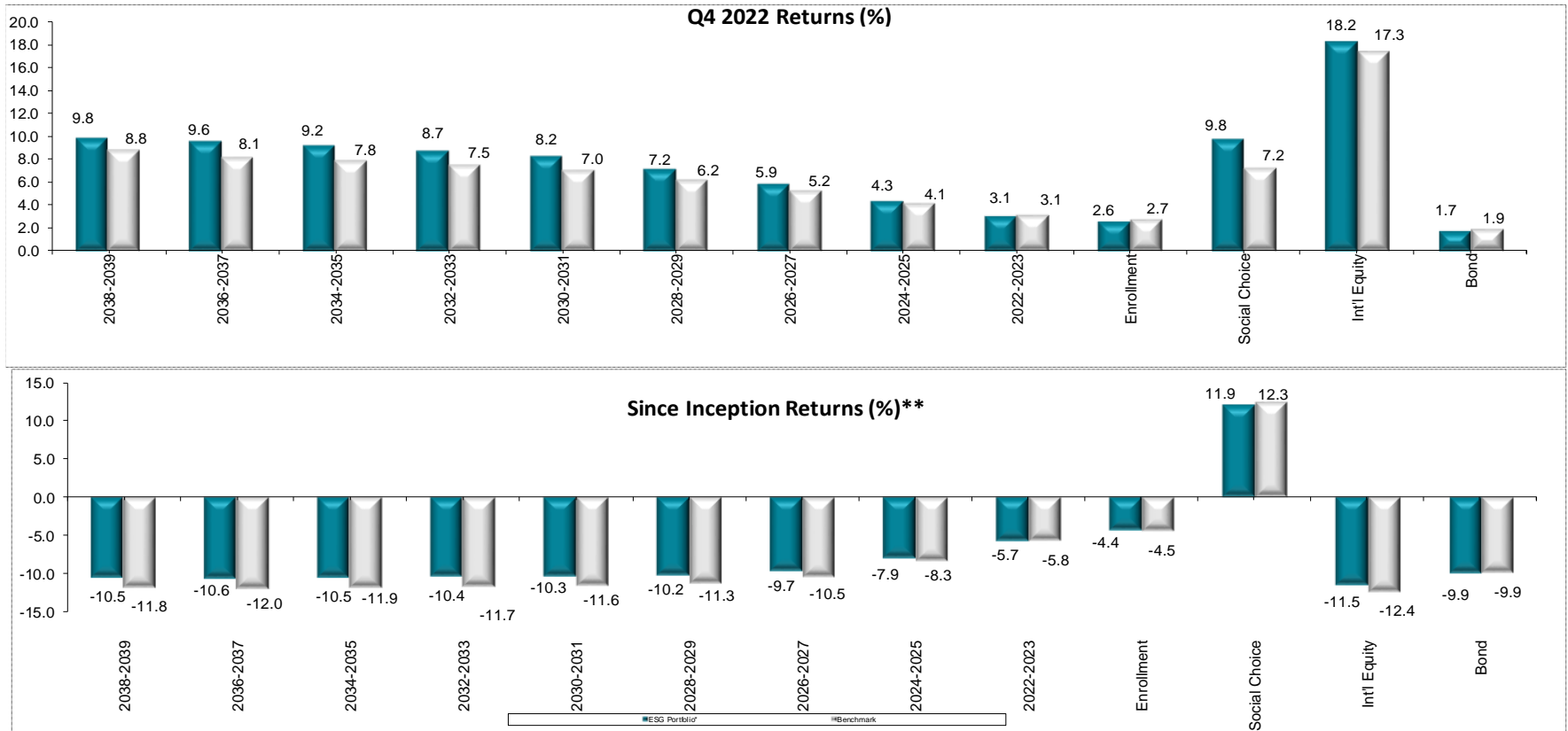
* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps).

** 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 inceptioned 6/11/21).

- In Q4, Passive Portfolios outperformed Active Portfolios.
- The primary reason for underperformance in the Active Portfolios was the T. Rowe Price Large Cap Growth Fund, which receives larger allocations across the portfolios and underperformed its benchmark by 238 basis points during the quarter.
- Since inception, most Active Portfolios modestly outperformed their Passive counterparts for portfolios with longer history.

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 higher than those of the Passive Portfolios during Q4, primarily driven by the large allocation to the TIAA-CREF Social Choice Equity Fund, which outperformed its benchmark by 258 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	1 Year	3 Year	5 Year	Since Inception	Inception Date
ESG Enrollment Year Portfolios							
2038/2039 Enrollment Portfolio ESG	9.82%	-	-	-	-	-10.50%	02/11/22
Blended Benchmark Returns	8.82%	-	-	-	-	-11.80%	
Difference	1.00%	-	-	-	-	1.30%	
2036/2037 Enrollment Portfolio ESG	9.56%	-	-	-	-	-10.60%	02/11/22
Blended Benchmark Returns	8.13%	-	-	-	-	-12.02%	
Difference	1.43%	-	-	-	-	1.42%	
2034/2035 Enrollment Portfolio ESG	9.15%	-	-	-	-	-10.50%	02/11/22
Blended Benchmark Returns	7.83%	-	-	-	-	-11.88%	
Difference	1.32%	-	-	-	-	1.38%	
2032/2033 Enrollment Portfolio ESG	8.74%	-	-	-	-	-10.40%	02/11/22
Blended Benchmark Returns	7.53%	-	-	-	-	-11.74%	
Difference	1.21%	-	-	-	-	1.34%	
2030/2031 Enrollment Portfolio ESG	8.20%	-	-	-	-	-10.30%	02/11/22
Blended Benchmark Returns	7.04%	-	-	-	-	-11.60%	
Difference	1.16%	-	-	-	-	1.30%	
2028/2029 Enrollment Portfolio ESG	7.16%	-	-	-	-	-10.20%	02/11/22
Blended Benchmark Returns	6.23%	-	-	-	-	-11.33%	
Difference	0.93%	-	-	-	-	1.13%	
2026/2027 Enrollment Portfolio ESG	5.86%	-	-	-	-	-9.70%	02/11/22
Blended Benchmark Returns	5.25%	-	-	-	-	-10.49%	
Difference	0.61%	-	-	-	-	0.79%	
2024/2025 Enrollment Portfolio ESG	4.30%	-	-	-	-	-7.90%	02/11/22
Blended Benchmark Returns	4.15%	-	-	-	-	-8.33%	
Difference	0.15%	-	-	-	-	0.43%	
2022/2023 Enrollment Portfolio ESG	3.06%	-	-	-	-	-5.70%	02/11/22
Blended Benchmark Returns	3.09%	-	-	-	-	-5.75%	
Difference	-0.03%	-	-	-	-	0.05%	
Enrollment Year Portfolio ESG	2.58%	-	-	-	-	-4.40%	02/11/22
Blended Benchmark Returns	2.70%	-	-	-	-	-4.52%	
Difference	-0.12%	-	-	-	-	0.12%	
ESG Single Fund Investment Portfolios							
Social Choice Equity Portfolio	9.75%	-17.80%	-17.80%	7.71%	9.15%	11.88%	11/04/11
Benchmark Returns	7.18%	-19.21%	-19.21%	7.07%	8.79%	12.33%	
Difference	2.57%	1.41%	1.41%	0.64%	0.36%	-0.45%	
ESG International Equity Portfolio	18.16%	-	-	-	-	-11.50%	02/11/22
Benchmark Returns	17.34%	-	-	-	-	-12.37%	
Difference	0.82%	-	-	-	-	0.87%	
ESG Bond Portfolio	1.69%	-	-	-	-	-9.90%	02/11/22
Benchmark Returns	1.87%	-	-	-	-	-9.90%	
Difference	-0.18%	-	-	-	-	0.00%	

* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees.
The crediting rate of 1.00% for the TC Life Funding Agreement in the ESG Enrollment Year Portfolios is guaranteed through 12/31/22.

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
Underlying Fund Expenses (bp)		17	36	35	15	30	N/A
2038-2039	27	56.00%	19.20%	4.80%	18.00%	2.00%	
2036-2037	27	55.00%	18.80%	4.70%	19.30%	2.20%	
2034-2035	27	52.20%	17.80%	4.50%	22.90%	2.60%	
2032-2033	27	49.40%	16.90%	4.20%	26.50%	3.00%	
2030-2031	26	45.60%	15.60%	3.90%	31.50%	3.40%	
2028-2029	26	38.90%	13.30%	3.30%	40.10%	4.40%	
2026-2027	25	30.50%	10.40%	2.60%	47.50%	5.20%	3.80%
2024-2025	21	22.30%	7.60%	1.90%	43.90%	4.90%	19.40%
2022-2023	17	14.90%	5.10%	1.30%	34.30%	3.80%	40.60%
Enrollment	15	10.50%	3.60%	0.90%	31.50%	3.50%	50.00%
Fund's Performance vs Benchmk Q4 2022 (bp)		258	90	(28)	(36)	(20)	(61)

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 Q4 2022 (bp)
Social Choice Equity Portfolio	23	100.00%	TIAA-CREF Social Choice Equity Fund	258
ESG International Equity Portfolio	42	100.00%	TIAA-CREF Social Choice International Equity Fund	(28)
ESG Bond Portfolio	21	100.00%	Nuveen ESG US Aggregate Bond ETF	(2)

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

Underlying Funds vs. Benchmarks

Average Annual Total Return

TIAA-CREF FUNDS	3 Month	YTD	1 Year	3 Year	5 Year	Life
T-C Bond Index Fund	1.59%	-13.24%	-13.24%	-2.89%	-0.16%	2.04%
Bloomberg U.S. Aggregate Bond Index	1.87%	-13.01%	-13.01%	-2.71%	0.02%	2.23%
Difference	-0.28%	-0.23%	-0.23%	-0.18%	-0.18%	-0.19%
T-C Emerging Markets Equity Index Fund*	9.74%	-20.22%	-20.22%	-3.09%	-1.62%	1.98%
MSCI Emerging Markets® Index	9.70%	-20.09%	-20.09%	-2.69%	-1.40%	2.32%
Difference	0.04%	-0.13%	-0.13%	-0.40%	-0.22%	-0.34%
T-C Equity Index Fund	7.16%	-19.17%	-19.17%	7.05%	8.76%	6.62%
Russell 3000 Index	7.18%	-19.21%	-19.21%	7.06%	8.79%	6.68%
Difference	-0.02%	0.04%	0.04%	-0.01%	-0.03%	-0.06%
T-C International Equity Index Fund*	18.12%	-14.20%	-14.20%	1.08%	1.76%	6.73%
MSCI EAFE Index	17.34%	-14.45%	-14.45%	0.87%	1.54%	6.67%
Difference	0.78%	0.25%	0.25%	0.21%	0.22%	0.06%
T-C S&P 500 Index Fund	7.54%	-18.12%	-18.12%	7.62%	9.37%	9.82%
S&P 500 Index	7.56%	-18.11%	-18.11%	7.66%	9.43%	9.90%
Difference	-0.02%	-0.01%	-0.01%	-0.04%	-0.06%	-0.08%
T-C Quant Small Cap Equity Fund	8.17%	-15.44%	-15.44%	6.06%	5.40%	9.98%
Russell 2000 Index	6.23%	-20.44%	-20.44%	3.10%	4.13%	9.48%
Difference	1.94%	5.00%	5.00%	2.96%	1.27%	0.50%
T-C Social Choice Equity Fund	9.76%	-17.77%	-17.77%	7.76%	9.23%	6.55%
Russell 3000 Index	7.18%	-19.21%	-19.21%	7.06%	8.79%	6.68%
Difference	2.58%	1.44%	1.44%	0.70%	0.44%	-0.13%
T-C Social Choice International Equity Fund*	18.24%	-14.78%	-14.78%	1.58%	2.24%	3.79%
MSCI EAFE Index	17.34%	-14.45%	-14.45%	0.87%	1.54%	3.20%
Difference	0.90%	-0.33%	-0.33%	0.71%	0.70%	0.59%
Nuveen ESG Emerging Markets Equity ETF	9.71%	-19.25%	-19.25%	-0.20%	-0.80%	2.23%
TIAA ESG Emerging Markets Equity Index	9.99%	-18.74%	-18.74%	0.61%	-0.05%	3.01%
Difference	-0.28%	-0.51%	-0.51%	-0.81%	-0.75%	-0.78%
Nuveen ESG US Aggregate Bond ETF	1.53%	-13.18%	-13.18%	-2.99%	-	-0.19%
Bloomberg MSCI US Aggregate ESG Select Index	1.89%	-13.03%	-13.03%	-2.66%	-	-
Difference	-0.36%	-0.15%	-0.15%	-0.33%	-	-
Nuveen ESG High Yield Corporate Bond ETF	4.48%	-12.15%	-12.15%	-	-	-
Bloomberg MSCI U.S. HY Very Liquid ESG Select Index	4.68%	-12.07%	-12.07%	-	-	-
Difference	-0.20%	-0.08%	-0.08%	-	-	-

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*	10.52%	-16.40%	-16.40%	0.25%	-0.19%	6.31%	21.85%	04/05/2005
MSCI Emerging Markets® Index	9.70%	-20.09%	-20.09%	-2.69%	-1.40%	5.66%	20.55%	
Difference	0.82%	3.69%	3.69%	2.94%	1.21%	0.65%		
DFA Large Cap International Portfolio*	17.21%	-13.03%	-13.03%	1.99%	2.14%	5.37%	21.11%	07/17/1991
MSCI World Ex US Index	16.18%	-14.29%	-14.29%	1.27%	1.79%	5.37%	20.35%	
Difference	1.03%	1.26%	1.26%	0.72%	0.35%	0.00%		
METWEST FUNDS								
MetWest Total Return Bond Fund	1.81%	-14.69%	-14.69%	-2.70%	0.18%	2.25%	6.46%	07/01/1999
Bloomberg U.S. Aggregate Bond Index	1.87%	-13.01%	-13.01%	-2.71%	0.02%	1.58%	5.85%	
Difference	-0.06%	-1.68%	-1.68%	0.01%	0.16%	0.67%		
PIMCO FUNDS								
PIMCO Income Fund	3.41%	-7.81%	-7.81%	0.03%	1.69%	6.62%	7.35%	03/30/2007
Bloomberg U.S. Aggregate Bond Index	1.87%	-13.01%	-13.01%	-2.71%	0.02%	2.87%	5.85%	
Difference	1.54%	5.20%	5.20%	2.74%	1.67%	3.75%		
PIMCO Real Return Fund	2.69%	-11.86%	-11.86%	1.44%	2.12%	5.17%	7.33%	01/29/1997
Bloomberg U.S. TIPS Index	2.04%	-11.85%	-11.85%	1.21%	2.11%	-	7.01%	
Difference	0.65%	-0.01%	-0.01%	0.23%	0.01%	-		
T. ROWE PRICE FUNDS								
T. Rowe Price Floating Rate Fund	3.00%	-0.60%	-0.60%	2.13%	3.07%	4.53%	7.81%	01/31/2008
S&P/LSTA Performing Loan Index	2.84%	-0.61%	-0.61%	2.74%	3.47%	4.79%	9.29%	
Difference	0.16%	0.01%	0.01%	-0.61%	-0.40%	-0.26%		
T. Rowe Price Large Cap Growth Fund	-0.18%	-35.18%	-35.18%	3.67%	8.36%	9.87%	23.72%	10/31/2001
Russell 1000 Growth Index	2.20%	-29.14%	-29.14%	7.78%	10.96%	8.91%	23.80%	
Difference	-2.38%	-6.04%	-6.04%	-4.11%	-2.60%	0.96%		
T. Rowe Price Large Cap Value Fund	12.12%	-4.76%	-4.76%	7.27%	7.23%	8.26%	21.85%	3/31/2000
Russell 1000 Value Index	12.42%	-7.54%	-7.54%	5.96%	6.67%	6.95%	21.55%	
Difference	-0.30%	2.78%	2.78%	1.31%	0.56%	1.31%		
VANGUARD FUNDS								
Vanguard ST Infl-Protected Securities Index Fund	1.27%	-2.80%	-2.80%	2.43%	2.53%	1.36%	3.21%	10/16/2012
Bloomberg US TIPS 0-5 Year Index	1.29%	-2.74%	-2.74%	2.49%	2.57%	1.37%	3.25%	
Difference	-0.02%	-0.06%	-0.06%	-0.06%	-0.04%	-0.01%		
Vanguard Real Estate Index Fund	4.36%	-26.17%	-26.17%	-0.39%	3.71%	7.88%	22.86%	12/2/2003
MSCI US Investable Market Real Estate 25/50 Index	5.22%	-24.51%	-24.51%	-0.06%	-	-	23.65%	
Difference	-0.86%	-1.66%	-1.66%	-0.33%	-	-		
Vanguard High-Yield Corporate Fund	4.88%	-8.97%	-8.97%	-0.15%	2.31%	5.74%	10.27%	11/12/2001
Bloomberg US HY Ba/B 2% Issuer Cap TR USD	4.56%	-10.57%	-10.57%	0.25%	2.63%	6.58%	10.79%	
Bloomberg US Corporate High Yield Index	4.17%	-11.19%	-11.19%	0.05%	2.31%	-	11.13%	
Difference	0.32%	1.60%	1.60%	-0.40%	-0.32%	-0.84%		

* 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

March 23, 2023

4Q 2022 Investment Performance
Status Report

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

Takeaways

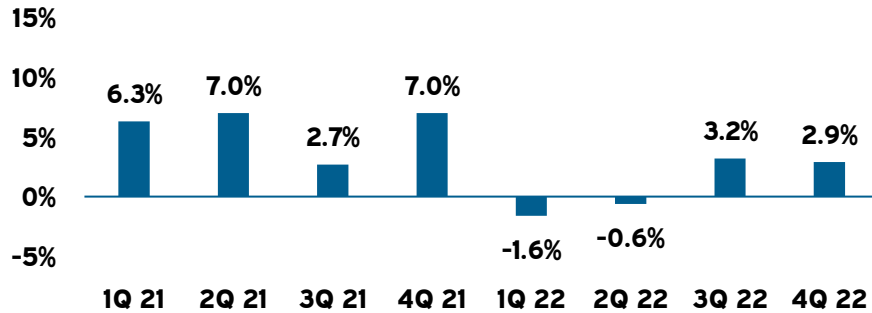
- The fourth quarter of 2022 saw most markets post positive returns, capping off an otherwise challenging year. The rally during the quarter was partially due to signs of cooling inflation and expectations that future Fed rate hikes would be less aggressive. Despite the strong returns for the quarter, 2023 was a challenging year for both stocks and bonds, with bonds returns being one of the worst on record for a calendar year.
- Equities broadly saw positive returns over the quarter. Domestically, Large Cap outperformed Small Cap stocks while value outperformed growth for the quarter. T Rowe Price Large Cap Value was the top performing actively managed domestic equity fund for the quarter, returning 12.1%. Foreign equities outpaced the US as falling dollar served as a major tailwind in Non-US Developed markets, whereas China's reopening policies worked in favor of emerging markets. DFA Large Cap International returned 17.2%, whereas the DFA Emerging Markets Core Equity returned 10.5%.
- DFA Large Cap International Equity was the top performing actively managed equity fund for the quarter, returning 17.2%, outpacing its benchmark by 1.0%
- All actively managed fixed income funds posted positive returns for the quarter, with the Vanguard High-Yield Corporate fund returning a Fixed Income sleeve high absolute return of 4.9%, versus benchmark return of 4.2%.
- 9 of the 12 active managers in the ScholarShare plan outperformed or met their benchmark returns

Economic and Market Update

Data as of December 31, 2022

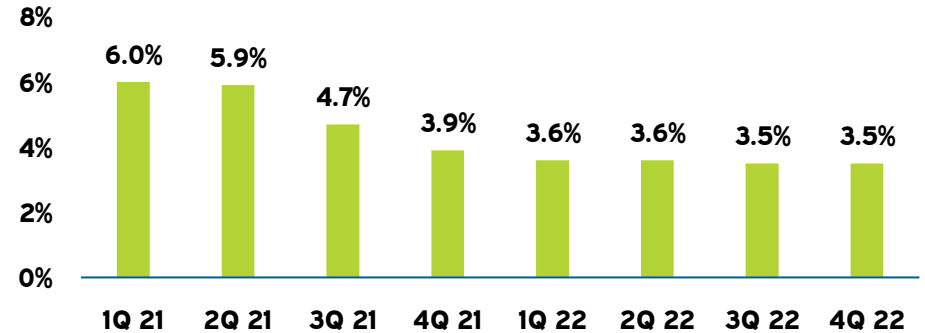
Economic and Market Update

Quarterly Real GDP (Annualized)



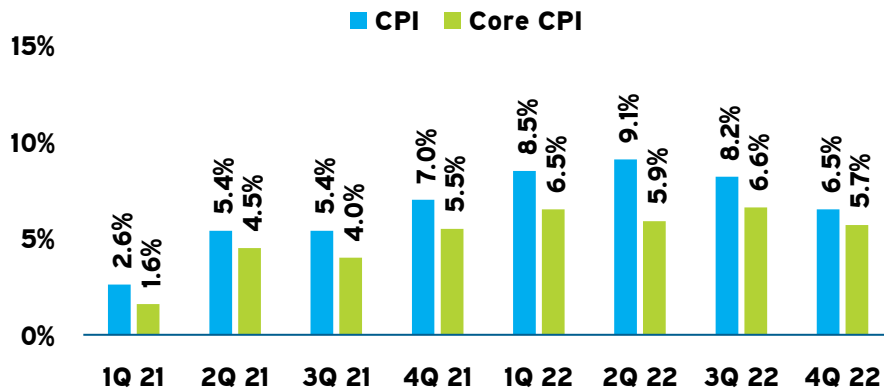
Source: Bureau of Economic Analysis. Data as of Q4 2022 representing the "advance" estimate. The "second" estimate will be released February 23, 2023.

US Unemployment



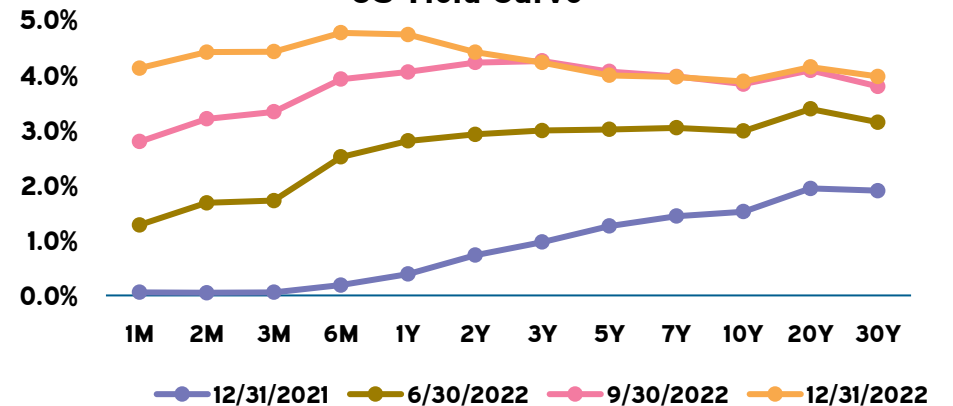
Source: Bureau of Labor Statistics. Data as of December 31, 2022. Seasonally adjusted.

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 December 31, 2022. January 2023 CPI is scheduled to be released on February 14, 2023.

US Yield Curve



Source: US Department of the Treasury.

Index Returns

	QTR (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Domestic Equity						
S&P 500	7.6	(18.1)	(18.1)	7.7	9.4	12.6
Russell 3000	7.2	(19.2)	(19.2)	7.1	8.8	12.1
Russell 1000	7.2	(19.1)	(19.1)	7.4	9.1	12.4
Russell 1000 Growth	2.2	(29.1)	(29.1)	7.8	11.0	14.1
Russell 1000 Value	12.4	(7.5)	(7.5)	6.0	6.7	10.3
Russell MidCap	9.2	(17.3)	(17.3)	5.9	7.1	11.0
Russell MidCap Growth	6.9	(26.7)	(26.7)	3.9	7.6	11.4
Russell MidCap Value	10.5	(12.0)	(12.0)	5.8	5.7	10.1
Russell 2000	6.2	(20.4)	(20.4)	3.1	4.1	9.0
Russell 2000 Growth	4.1	(26.4)	(26.4)	0.7	3.5	9.2
Russell 2000 Value	8.4	(14.5)	(14.5)	4.7	4.1	8.5
Non-US Equity						
MSCI ACWI (ex. US)	14.3	(16.0)	(16.0)	0.1	0.9	3.8
MSCI EAFE	17.3	(14.5)	(14.5)	0.9	1.5	4.7
MSCI EAFE Growth	15.1	(23.0)	(23.0)	0.5	2.5	5.6
MSCI EAFE Value	19.6	(5.6)	(5.6)	0.7	0.2	3.5
MSCI EAFE (Local Currency)	8.7	(7.0)	(7.0)	3.6	3.8	7.6
MSCI EAFE Small Cap	8.2	(18.0)	(18.0)	5.1	1.1	3.2
MSCI Emerging Markets	9.7	(20.1)	(20.1)	(2.7)	(1.4)	1.4
MSCI Emg Mkts (Local Currency)	6.6	(15.5)	(15.5)	0.1	1.3	4.6
MSCI China	13.5	(21.9)	(21.9)	(7.5)	(4.5)	2.4
Fixed Income						
Bloomberg Universal	2.2	(13.0)	(13.0)	(2.5)	0.2	1.3
Bloomberg Aggregate	1.9	(13.0)	(13.0)	(2.7)	0.0	1.1
Bloomberg US TIPS	2.0	(11.9)	(11.9)	1.2	2.1	1.1
Bloomberg High Yield	4.2	(11.2)	(11.2)	0.1	2.3	4.0
JPM GBI-EM Global Diversified	8.5	(11.7)	(11.7)	(6.1)	(2.5)	(2.0)
Other						
FTSE NAREIT Equity	5.2	(24.4)	(24.4)	(0.1)	3.7	6.5
Bloomberg Commodity Index	2.2	16.1	16.1	12.7	6.4	(1.3)

During the Quarter:

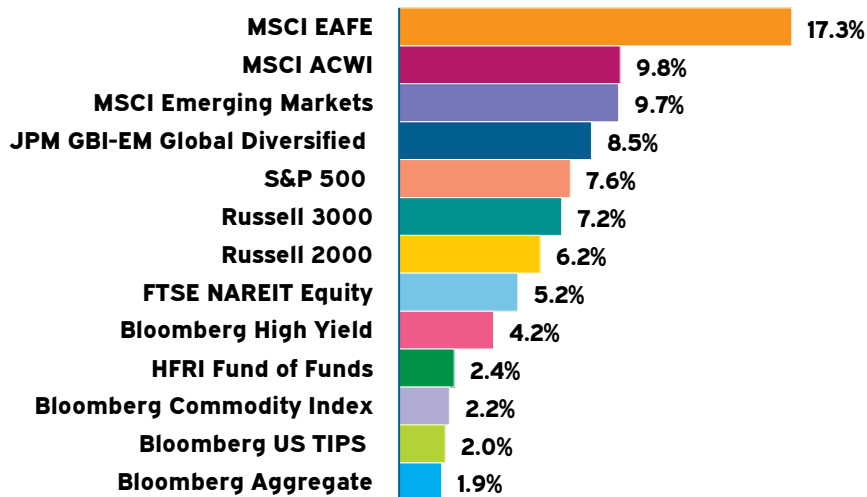
- Markets were positive during the fourth quarter as investors considered the possibility that interest rates have peaked and inflation may be slowing. However, high inflation, rising rates, a strong U.S. dollar, China's strict COVID-19 policies and the war in Ukraine continued to weigh on longer term results.
- US and Non-US equity rebounded during the quarter:
 - Non-US equities (+14.3%) significantly outpaced US equities (+7.6%).
 - US Large Caps outperformed US Small Caps.
 - Value meaningfully outpaced Growth in the US and abroad.
 - Within Non-US, Developed Markets again outperformed Emerging Markets.
- Broad fixed income returns were slightly positive.
 - The FOMC raised rates by 75 bps for a fourth consecutive time in November, but only increased rates by 50 bps in December, as expected. Inflation has come down marginally but is still sticky.
- Diversifying asset classes produced positive results.
 - Commodities were up 2.2%.
 - REITs increased 5.2%.

Commentary

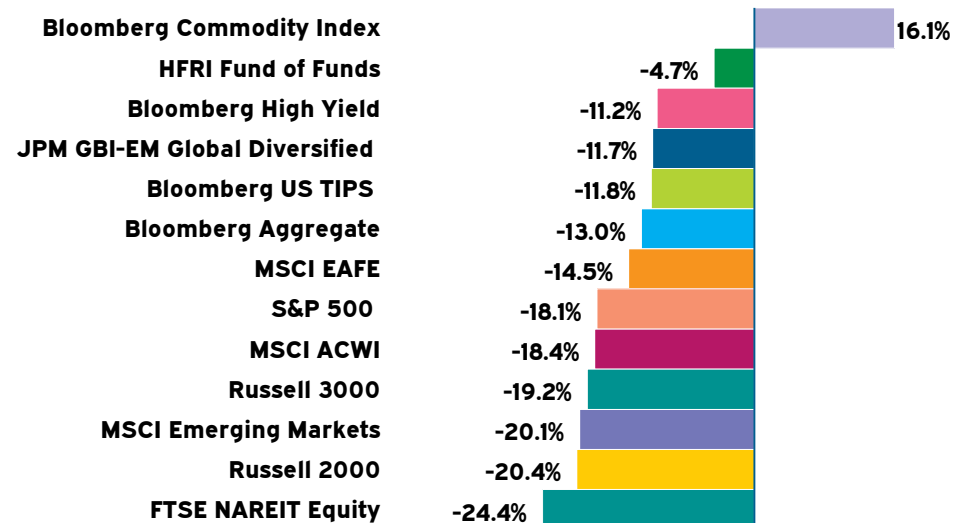
- Ending a very tough year, most asset classes posted gains in the fourth quarter on signs that policy tightening would slow given cooling inflation.
- Chairman Powell's testimony in November reiterated previous messaging on persistent and high inflation and the need for an extended period of monetary tightening weighing on assets in December. Markets remained focused though on signs that inflation is falling and that the size of future Fed rate hikes could be lower.
 - US equity markets sold off (-5.9%) in December but returned 7.2% in the fourth quarter as investors balanced the Fed's caution with improving inflation data.
 - In developed equity markets outside the US, sentiment deteriorated somewhat in December, but they posted a strong fourth quarter return of 17.3% driven by a falling US dollar and results in Europe where inflation started to slow.
 - Emerging market equities declined in December too (-1.4%) but less than the US and also had a strong fourth quarter (+9.7%). A weaker US dollar, declining inflation globally, and signs of China reopening its economy all contributed to the results.
 - Bonds experienced one of the worst years on record given inflation levels and the rapid rise in interest rates. Optimism over declining inflation and a slower pace of policy tightening benefited bonds overall in the fourth quarter though.
- Looking to 2023, the path of inflation and monetary policy, slowing growth globally, China reopening its economy, and the war in Ukraine will all be key.

Index Returns¹

Fourth Quarter



2022



→ After broad declines in Q3 driven by expectations for further policy tightening, most major asset classes were up in the fourth quarter on hopes of inflation and policy tightening peaking.

→ Outside of commodities, all other public market asset classes declined in 2022. It was the first time since the 1960s that both stocks and bonds declined together in a calendar year.

¹ Source: Bloomberg and FactSet. Data is as of December 31, 2022.

Domestic Equity Returns¹

Domestic Equity	December (%)	Q4 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-5.8	7.6	-18.1	7.7	9.4	12.6
Russell 3000	-5.9	7.2	-19.2	7.1	8.8	12.1
Russell 1000	-5.8	7.2	-19.1	7.3	9.1	12.4
Russell 1000 Growth	-7.7	2.2	-29.1	7.8	11.0	14.1
Russell 1000 Value	-4.0	12.4	-7.5	6.0	6.7	10.3
Russell MidCap	-5.4	9.2	-17.3	5.9	7.1	11.0
Russell MidCap Growth	-6.0	6.9	-26.7	3.9	7.6	11.4
Russell MidCap Value	-5.1	10.5	-12.0	5.8	5.7	10.1
Russell 2000	-6.5	6.2	-20.4	3.1	4.1	9.0
Russell 2000 Growth	-6.4	4.1	-26.4	0.6	3.5	9.2
Russell 2000 Value	-6.6	8.4	-14.5	4.7	4.1	8.5

US Equities: Russell 3000 Index declined 5.9% for December but gained 7.2% for the quarter. Historic inflation and rapidly rising interest rates led to significant declines (-19.2%) for the full year.

- US stocks fell broadly in December on the Federal Reserve signaling its continued resolve to raise rates but gained overall for the quarter on hopes that interest rates could be peaking soon given slowing inflation.
- All sectors declined during December, led by consumer discretionary and technology with defensive sectors declining less. For the quarter though, most sectors were up led by energy and industrials.
- In a continuation on the overall trend in 2022 value stocks outperformed growth stocks in the fourth quarter given higher interest rates and slowing growth.

¹ Source: Bloomberg. Data is as of December 31, 2022.

Foreign Equity Returns¹

Foreign Equity	December (%)	Q4 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-0.7	14.3	-16.0	0.1	0.9	3.8
MSCI EAFE	0.1	17.3	-14.5	0.9	1.5	4.7
MSCI EAFE (Local Currency)	-3.0	8.7	-7.0	3.6	3.8	7.6
MSCI EAFE Small Cap	1.1	15.8	-21.4	-0.9	0.0	6.2
MSCI Emerging Markets	-1.4	9.7	-20.1	-2.7	-1.4	1.4
MSCI Emerging Markets (Local Currency)	-2.0	6.6	-15.5	0.1	1.3	4.6
MSCI China	5.2	13.5	-21.9	-7.5	-4.5	2.4

Developed international equities (MSCI EAFE) rose 0.1% in December and an impressive 17.3% in the fourth quarter. Emerging markets (MSCI EM) fell -1.4% in December but gained 9.7% for the quarter. Inflation and rising rates also weighed on international equities last year, as well as a strong US dollar for most of the year.

- International developed market equities, specifically Europe, held up better relative to the rest of the world in December with the MSCI EAFE up 0.1%. In the fourth quarter, they returned a significant 17.3% due in part to the recent weakness in the US dollar (they returned only 8.7% in local terms) leading to lower declines for the year.
- In December emerging markets outperformed the US but trailed developed market equities as China’s rally was not enough to offset weakness elsewhere (e.g., India -5.5%). For the quarter, a weakening US dollar and China reopening led to strong results (+9.7%), but emerging markets remained the weakest for 2022 due to China.
- Like the US, value outpaced growth globally in 2022.

¹ Source: Bloomberg. Data is as of December 31, 2022.

Fixed Income Returns¹

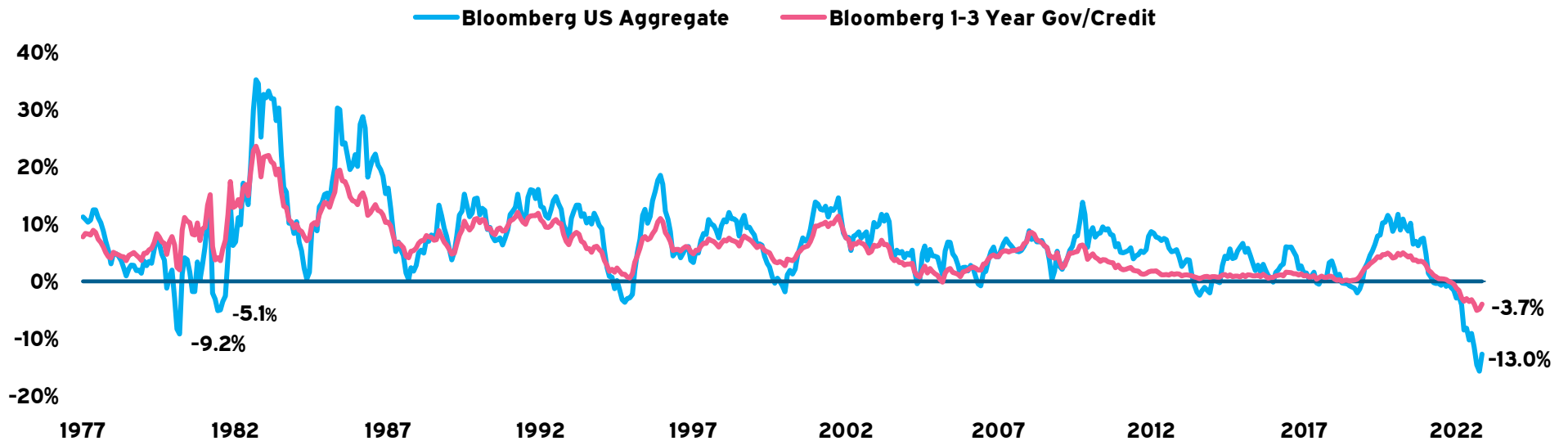
Fixed Income	December (%)	Q4 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-0.3	2.2	-13.0	-2.5	0.2	1.3	5.1	6.2
Bloomberg Aggregate	-0.5	1.9	-13.0	-2.7	0.0	1.1	4.7	6.4
Bloomberg US TIPS	-1.0	2.0	-11.8	1.2	2.1	1.1	4.4	6.7
Bloomberg High Yield	-0.6	4.2	-11.2	0.0	2.3	4.0	9.0	4.4
JPM GBI-EM Global Diversified (USD)	2.2	8.5	-11.7	-6.1	-2.5	-2.0	5.8	4.9

Fixed Income: The Bloomberg Universal fell -0.3% in December but rose 2.2% for the fourth quarter. Last year was one of the worst on record, with the broad bond market declining 13%.

- The Federal Reserve reconfirming its commitment to tighten policy in the face of high inflation weighed on US fixed income in December. For the quarter though the broad US bond market (Bloomberg Aggregate) was up 1.9% on hopes that inflation would continue to decline and corresponding expectations for the slowing of policy rate hikes.
- TIPS produced similar results to the broad US bond market for the quarter but outperformed for the year given their inflation adjustment.
- Riskier bonds outperformed for the quarter due to improving risk sentiment with emerging market bonds performing particularly well.

¹ Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of December 31, 2022. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

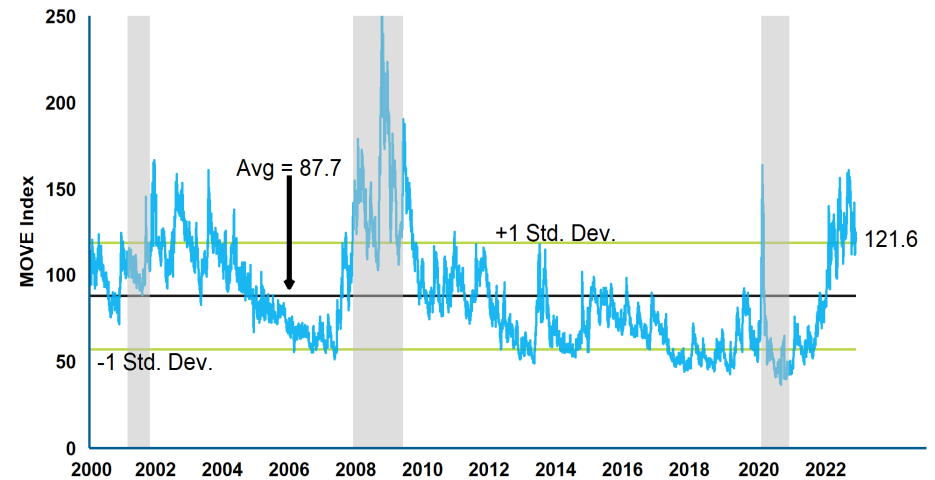
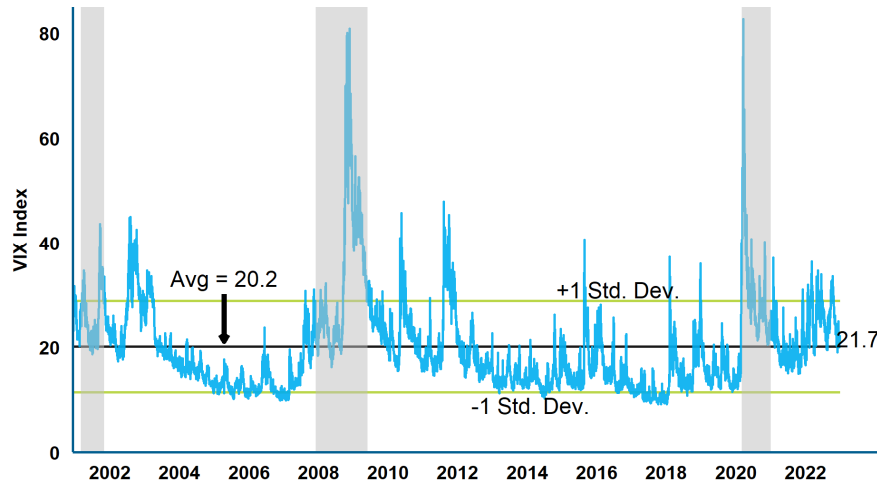
**Fixed Income
Rolling One-year Returns¹**



- Last year was one of the worst return periods for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- The broad bond market (Bloomberg US Aggregate) declined 13% in 2022 making it one of the worst periods on record.
- Short-term bond declines were far smaller (-3.7%) last year, but also were one of the worst on record.

¹ Source: Bloomberg. Data is as of December 31, 2022.

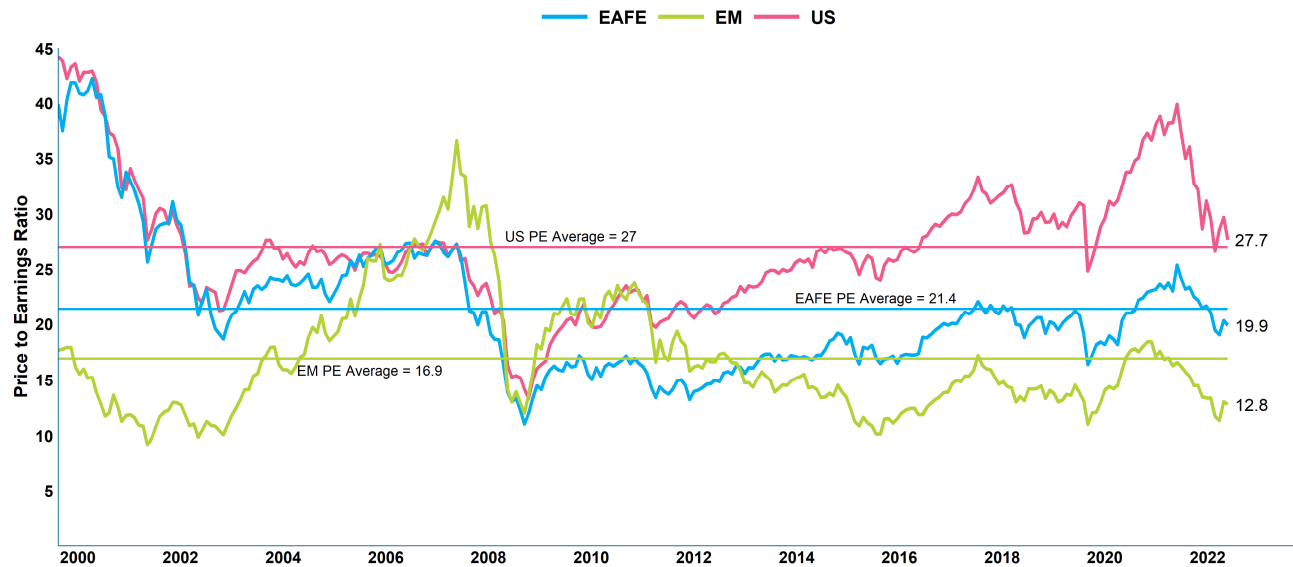
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) finished the year down from its highs and near its long run average as investors anticipated the potential end of Fed rate hikes this year.
- Fixed income (MOVE) remained elevated and well above its long-run average at year-end due to the uncertain path of US interest rates as the Federal Reserve continues its hawkish stance on inflation.

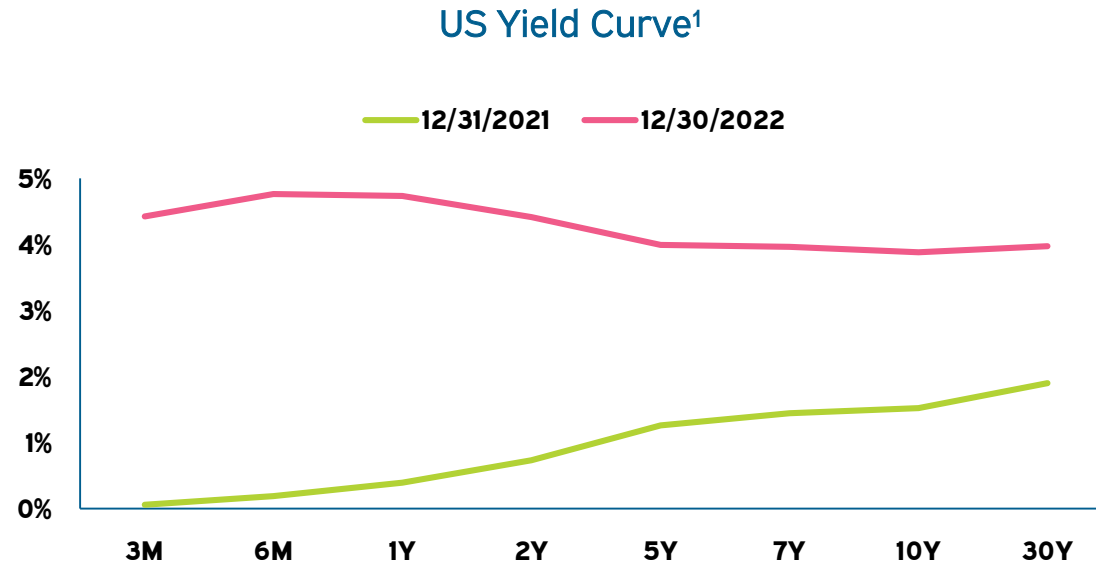
¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of December 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

Equity Cyclically Adjusted P/E Ratios¹



- After December’s sell-off, US equity price-to-earnings ratio finished the year near its long-term (21st century) average.
- International developed market valuations rose but remain below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- Price declines have been the main driver of recent multiple compression as earnings have remained resilient. Concerns remain over whether earnings strength will continue in the face of slowing growth.

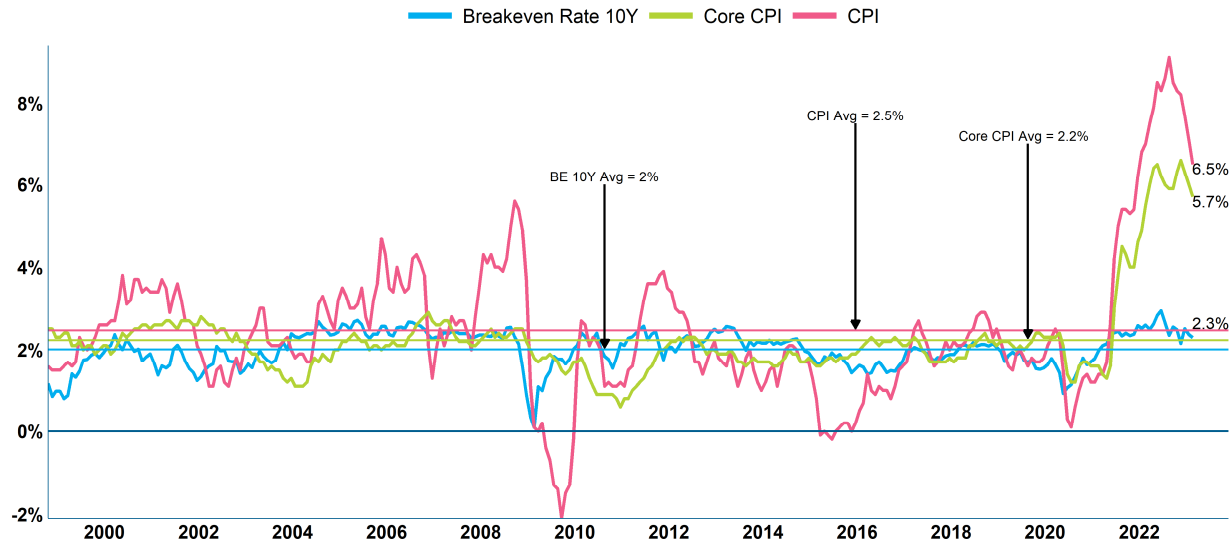
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of December 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.



- In December, policy-sensitive interest rates at the front-end of the curve continued to rise with the two-year Treasury yield increasing from 4.3% to 4.4%. Longer dated ten-year Treasury yields also increased (3.6% to 3.9%). For the year, the yield curve rose dramatically across maturities and moved from steep to inverted.
- The Fed remains strongly committed to fighting inflation, as it increased rates another 50 basis points to a range of 4.0% to 4.5% at its December meeting. This brought the total number of increases for 2022 to seven.
- The yield spread between two-year and ten-year Treasuries narrowed somewhat to -0.54% after finishing November at -0.70%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also remained inverted. Historically, inversions in the yield curve have often preceded recessions.

¹ Source: Bloomberg. Data is as of December 31, 2022.

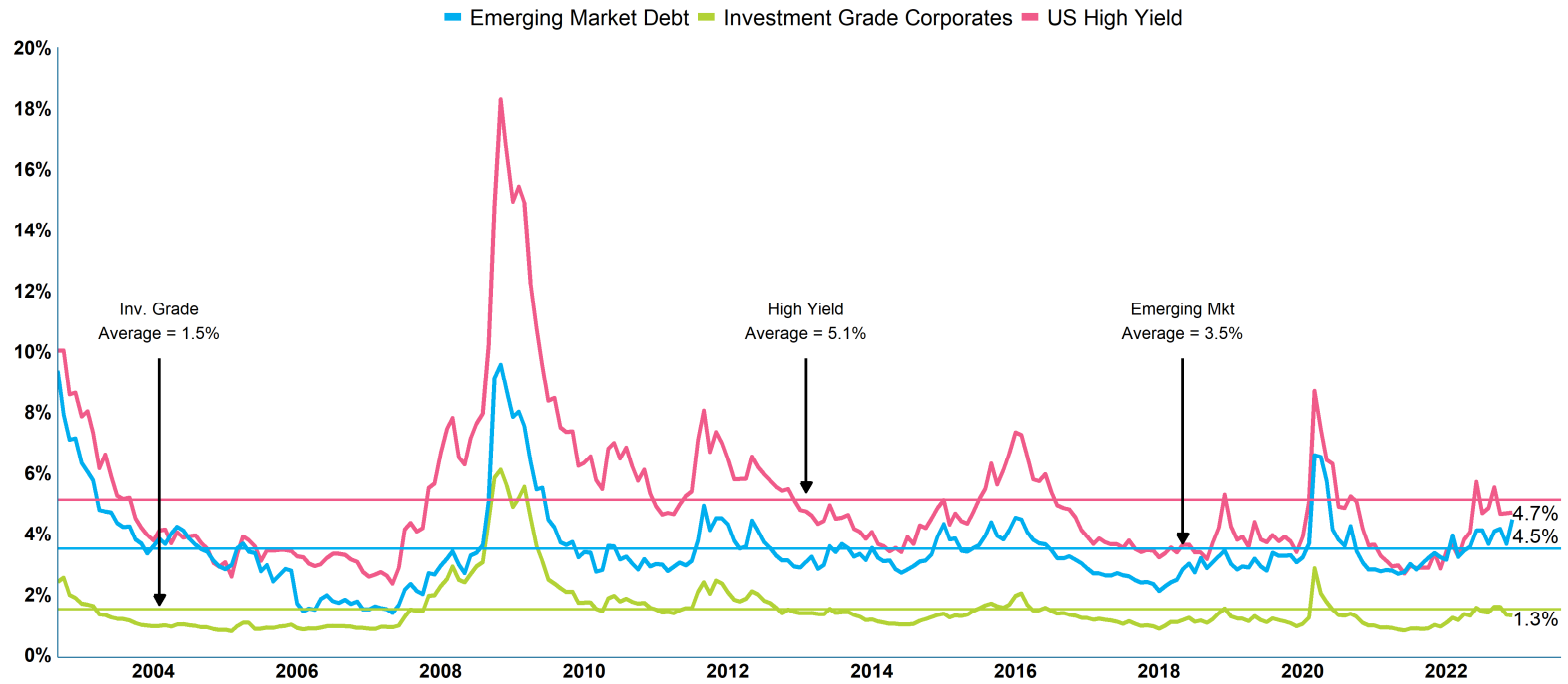
Ten-Year Breakeven Inflation and CPI¹



- In December inflation continued to decline (6.5% versus 7.1%) matching expectations and providing support for the Fed to slow the pace of policy tightening. Energy prices fell again for the month but remain up 7.3% from a year prior, while food prices fell slightly, and stickier service prices continued to increase.
- Core inflation – excluding food and energy – also continued to decline in December (5.7% versus 6.0%) and matched estimates.
- Inflation expectations (breakevens) declined slightly for the month (2.3% versus 2.4%) and remain well below current inflation levels as investors anticipate a significant moderation in inflation.

¹ Source: Bloomberg. Data is as of December 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.

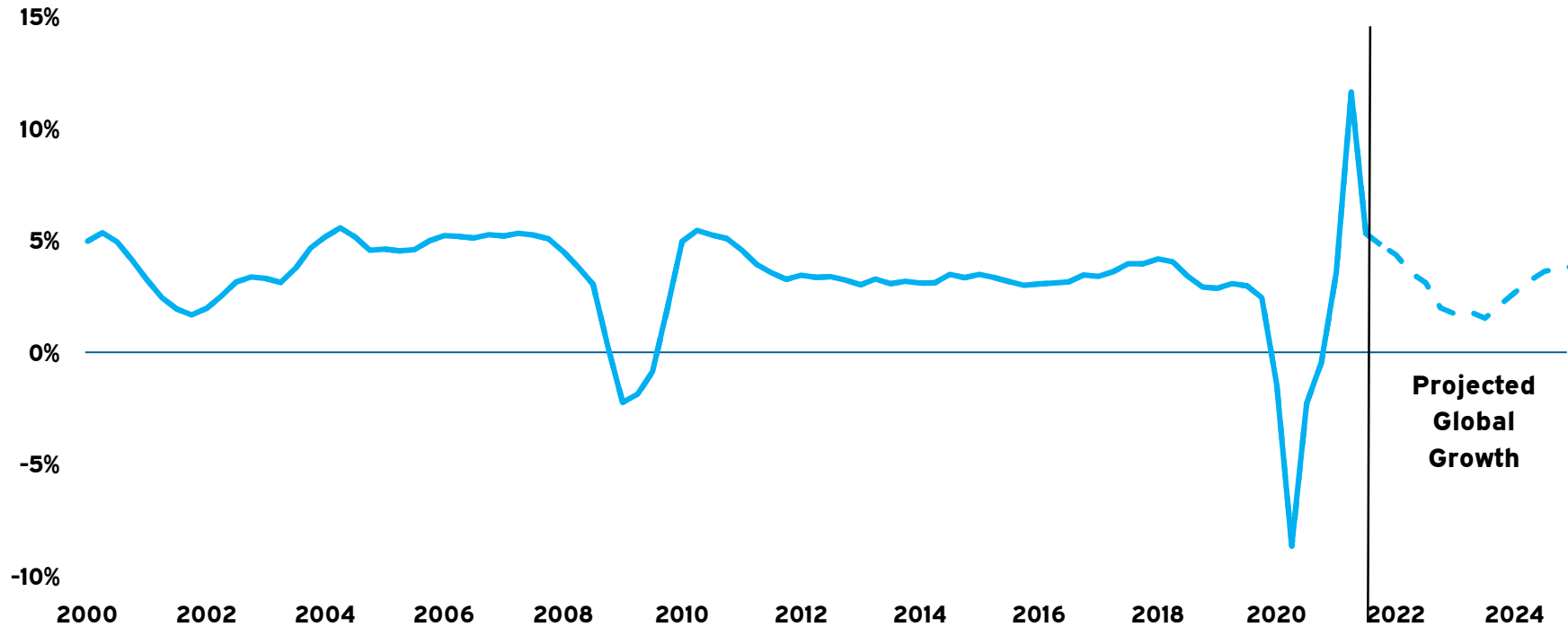
Credit Spreads vs. US Treasury Bonds¹



- High yield spreads (the added yield above a comparable maturity Treasury) finished December at 4.7% (the same as the end of November) remaining below their long-run average.
- Investment grade spreads also held steady at 1.3% as attractive yields and strong balance sheets continued to attract investors, while emerging market spreads rose (4.5% versus 3.6%) due to concerns regarding slower growth and lower commodity prices.

¹ Sources: Bloomberg. Data is as of December 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

Global Real Gross Domestic Product (GDP) Growth¹

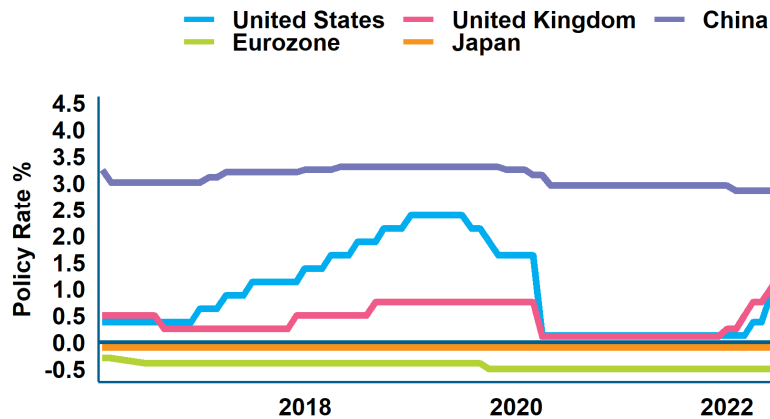


- Global economies are expected to slow in 2023 compared to 2022, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

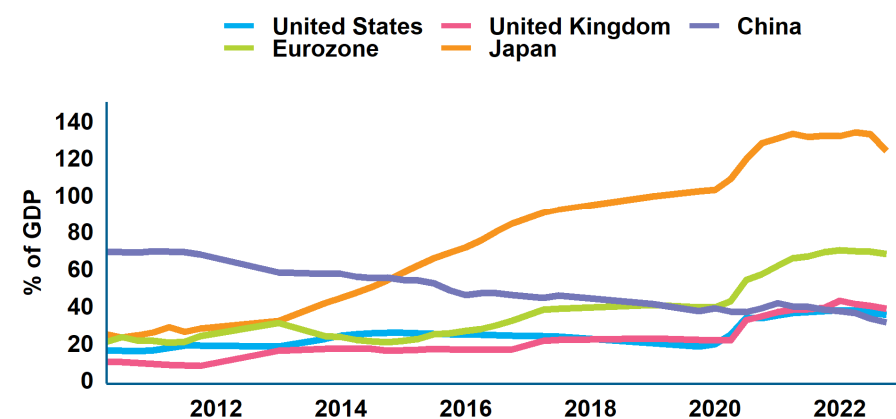
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated December 2022.

Central Bank Response¹

Policy Rates



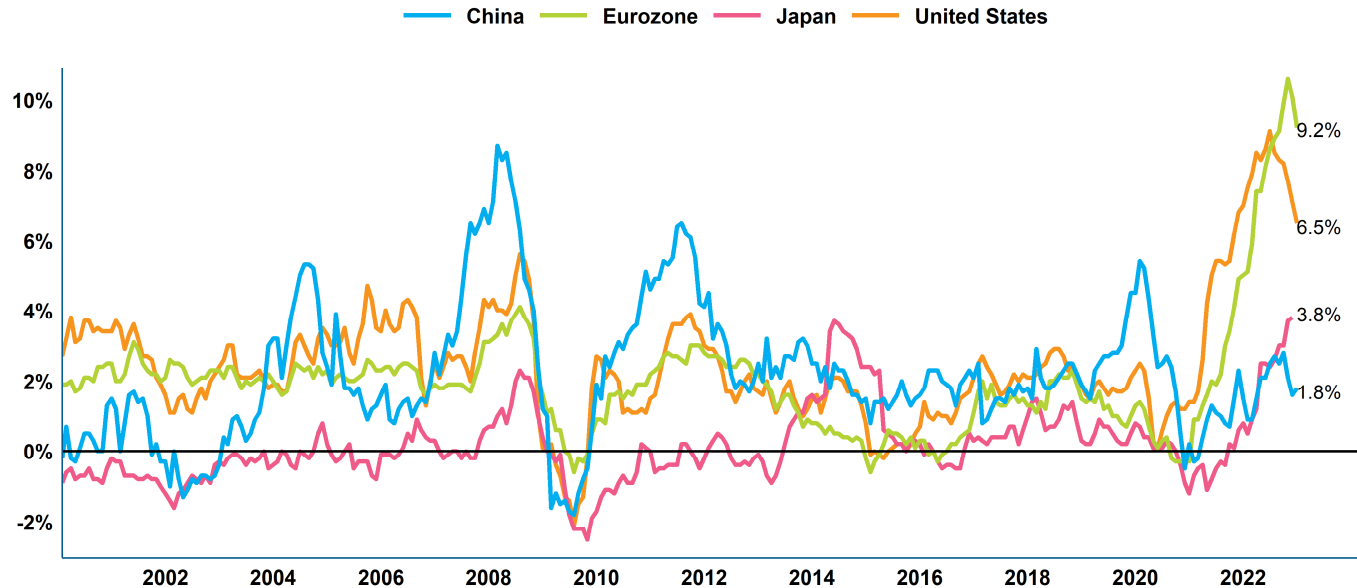
Balance Sheet as % of GDP



- In 2022 many central banks aggressively reduced pandemic-era policy support in the face of high inflation with the US taking a more aggressive approach.
- In December, the Bank of Japan relaxed its target yield for the 10-year bond which may mark an incremental step toward policy normalization after eight years of quantitative easing.
- The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- The risk remains for a policy error, particularly overtightening, as record inflation and aggressive tightening to date could heavily weigh on global growth. The Federal Reserve's policy rate path could diverge from others this year given their strong early start to tightening.

¹ Source: Bloomberg. Policy rate data is as of December 31, 2022. 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 December 31, 2022.

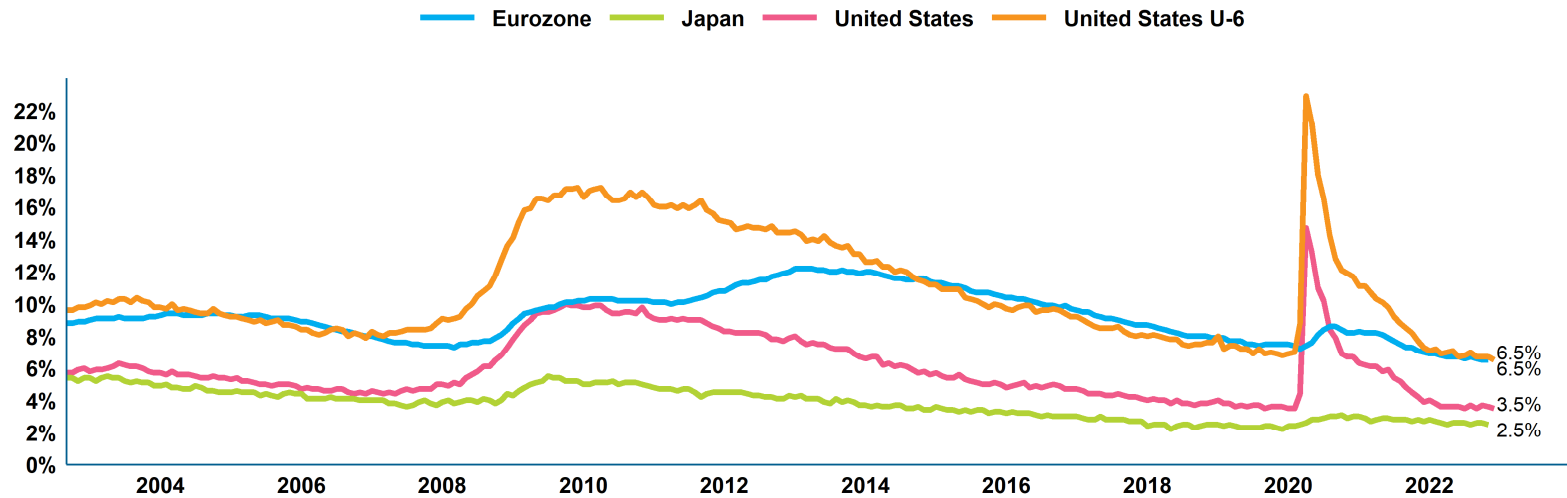
Inflation (CPI Trailing Twelve Months)¹



- Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- Inflation pressures are slowly declining in the US, but they remain elevated, while in Europe they have reached historic levels due to skyrocketing energy prices and a weak euro.
- Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

¹ Source: Bloomberg. Data is as of December 2022. The most recent Japanese inflation data is as of November 2022.

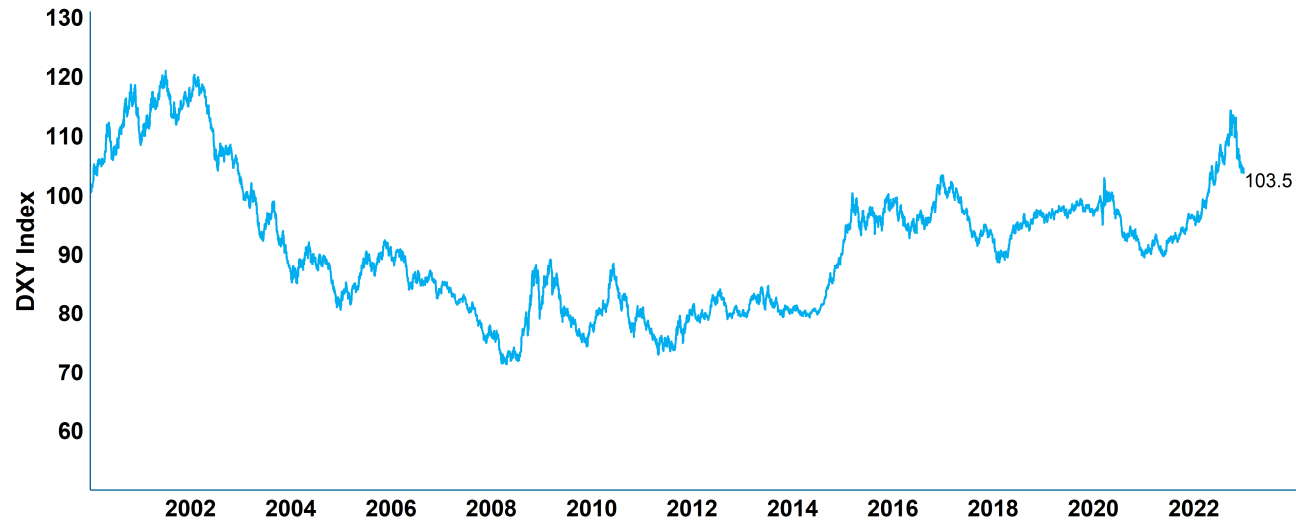
Unemployment¹



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- Despite slowing growth and high inflation, the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year.
- The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to higher unemployment.

¹ Source: Bloomberg. Data is as December 31, 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of November 30, 2022.

US Dollar versus Broad Currencies¹



- Overall, the US dollar continued to weaken from its recent peak in December as declining inflation supported the case for the Federal Reserve to slow its tightening.
- The dollar finished the year much higher than it started though due to the increased pace of policy tightening, stronger relative growth, and safe-haven flows.
- As we look to 2023, the track of inflation across economies and the corresponding monetary policy will likely be key drivers of currency moves.

¹ Source: Bloomberg. Data as of December 31, 2022.

Summary

Key Trends:

- The impacts of record high inflation will remain key, with market volatility likely to stay high.
- Monetary policy could diverge in 2023 with the Fed pausing and others continuing to tighten. The risk of policy errors in both directions remains.
- Growth will continue to slow globally next year, with many economies likely falling into recessions. Inflation, monetary policy, and the war will all be key.
- In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices could weigh on consumer spending.
- Valuations have significantly declined in the US to around long-term averages, largely driven by price declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but risks remain, including potential continued strength in the US dollar, higher inflation particularly weighing on Europe, and China's rushed exit from COVID-19 restrictions and on-going weakness in the real estate sector.

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 ¹	---	---
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¹ 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 ⁵ (> 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 ⁵ (rolling 60-month periods)
Domestic Equity	Tracking Error > 0.30% for 6 consecutive months	Tracking Error> 0.25% for 6 consecutive months	Fd annlzd return < bench annlzd return - 0.30% for 6 consecutive months
International Equity	Tracking Error > 0.75% for 6 consecutive months	Tracking Error> 0.70% for 6 consecutive months	Fd annlzd return < bench annlzd return - 0.30% for 6 consecutive months
Fixed Income	Tracking Error > 0.40% for 6 consecutive months	Tracking Error> 0.55% for 6 consecutive months	Fd annlzd return < bench annlzd return - 0.35% for 6 consecutive months

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

² Annualized return is the average annual return of either the manager or its benchmark.

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

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

⁵ 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 Agreements¹
(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 ²	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

¹ 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.

² 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.

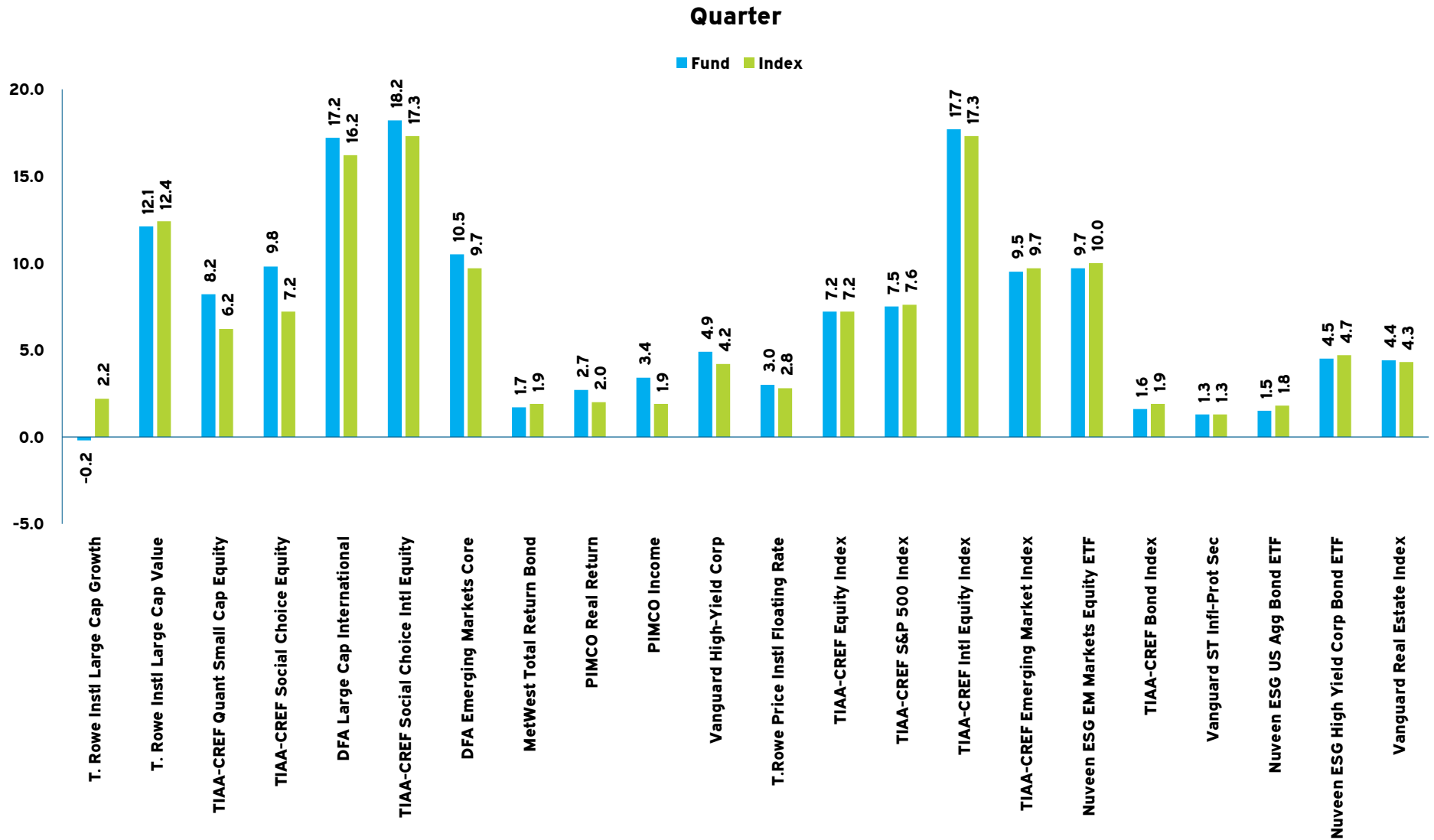
Investment Status Schedule

Performance Category ¹	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 ¹ (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 ²	→ 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.

¹ Ranges are shown in the Investment Performance Criteria Schedules.

² The amount of time generally required before an investment is put on watch.

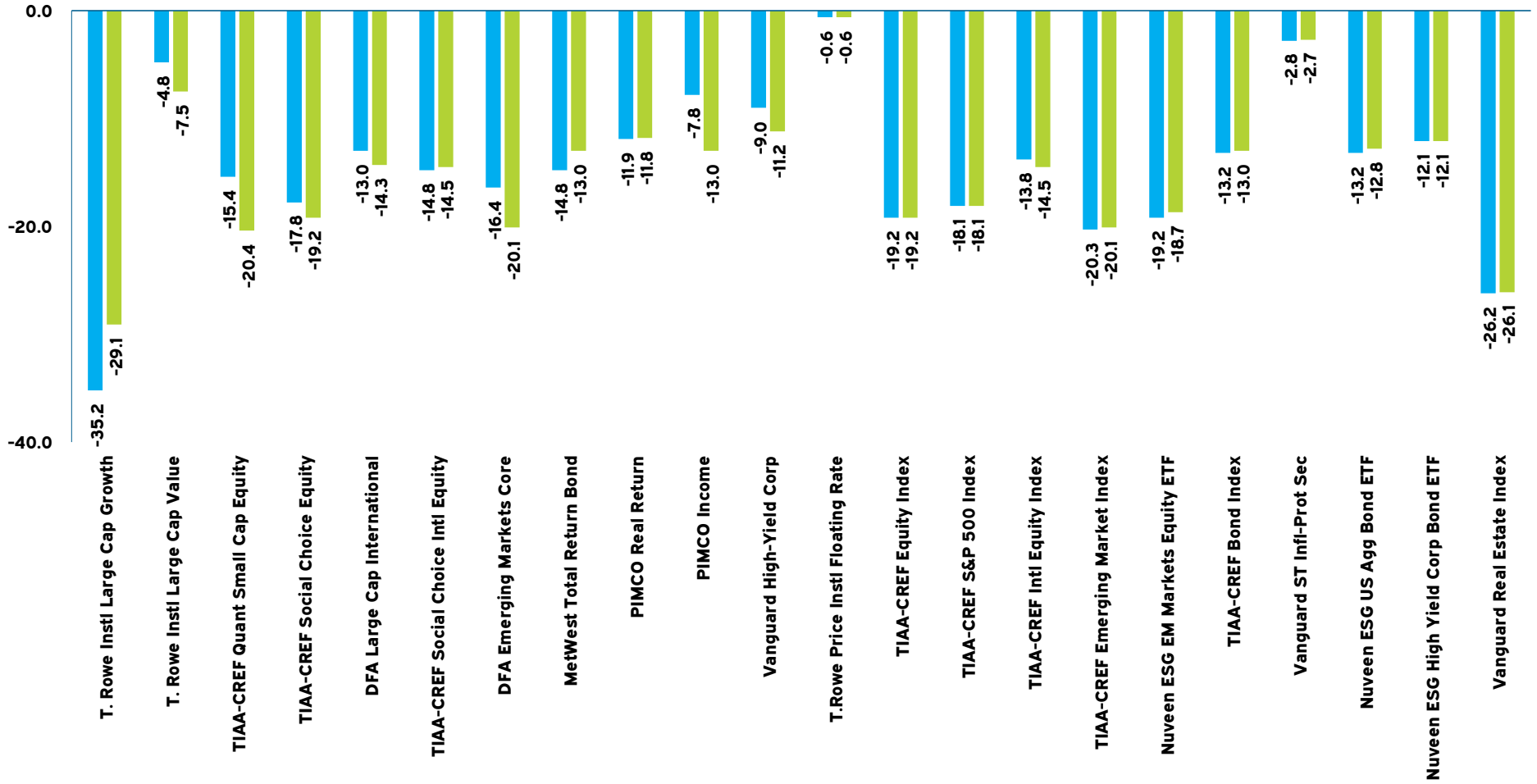
Summary of Fund Performance 12/31/2022



Summary of Fund Performance 12/31/2022

1 Year

Fund Index



Summary of Fund Performance Status

Program	Total Funds	Positive	Acceptable	Caution	Watch ²
Number of Funds ¹	23	12	8	3	1
% of Funds	100%	52%	35%	13%	4%
% of Program Assets	100%	49%	44%	7%	2%
Fund Status ↑	3	3	—	—	—
Fund Status ↓	1	—	—	1	—
Domestic Equity Funds	6	3	2	1	1
Intl Equity Funds	6	4	1	1	—
Fixed Income Funds	7	1	5	1	—
High Yield Funds	2	2	—	—	—
Real Estate	1	1	—	—	—
Funding Agreement	1	1	—	—	—

¹ Total number of funds does not include funds added to the program in 2/11/2022. New to program funds' performance statuses are based on excess performance since addition to portfolio

² Includes funds on Watch and new funds qualifying for Watch status. Number has not been adjusted to remove funds no longer qualifying for Watch.

- Eighty-seven percent of the Program's funds have either a Positive or Acceptable performance status.
- Three funds improved to Positive status over the quarter:
 - TIAA-CREF Social Choice Equity
 - TIAA-CREF Social Choice International Equity
 - Vanguard REIT Index
- One fund declined to Caution status over the quarter:
 - Metropolitan West Total Return Bond
- The T. Rowe Price Instl Large Cap Growth fund continues to qualify for "Watch" status.
- The TIAA-CREF Emerging Markets Index qualifies for watch, but we recommend keeping it off watch for reasons detailed in the watch memo.

Summary of Fund Performance Status

Fundsz	Prior Quarter		Current Quarter	
	Status	On Watch	Status	On Watch
Active Funds				
T. Rowe Price Instl Large Cap Growth	Caution	Yes	Caution	Yes
T. Rowe Price Instl Large Cap Value	Positive	No	Positive	No
TIAA-CREF Quant Small Cap Equity	Positive	No	Positive	No
TIAA-CREF Social Choice Equity	Acceptable	No	Positive	No
DFA Large Cap International	Positive	No	Positive	No
TIAA-CREF Social Choice Intl Equity ^{1,2}	Acceptable	N/A	Positive	N/A
DFA Emerging Markets Core Equity	Positive	No	Positive	No
Metropolitan West Total Return Bond	Acceptable	No	Caution	No
PIMCO Real Return	Acceptable	No	Acceptable	No
PIMCO Income	Positive	No	Positive	No
Vanguard High-Yield Corp Adm ²	Positive	N/A	Positive	N/A
T. Rowe Price Instl Floating Rate	Acceptable	No	Acceptable	No
Passive Funds				
TIAA-CREF Equity Index	Acceptable	No	Acceptable	No
TIAA-CREF S&P 500 Index	Acceptable	No	Acceptable	No
TIAA-CREF International Equity Index ¹	Positive	No	Positive	No
TIAA-CREF Emerging Markets Index ¹	Caution	No	Caution	No
Nuveen ESG EM Market Equity ^{1,2}	Acceptable	N/A	Acceptable	N/A
Vanguard ST Infl-Prot Sec Idx ²	Acceptable	N/A	Acceptable	N/A
TIAA-CREF Bond Index	Acceptable	No	Acceptable	No
Nuveen ESG US Agg Bond ²	Acceptable	N/A	Acceptable	N/A
Nuveen ESG High Yield ²	Positive	N/A	Positive	N/A
Vanguard REIT Index ²	Acceptable	N/A	Positive	N/A
T-C Life Funding Agreements				
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.

¹ 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.

² Funds added to the program as of 2/11/2022. New to program funds’ performance statuses are based on excess performance since addition to portfolio

Summary of Fund Assets as of 12/31/2022

	Assets (\$MM)	% of Total
Active Funds		
T. Rowe Price Instl Large Cap Growth Fund	278	2.08%
T. Rowe Price Instl Large Cap Value Fund	287	2.15%
TIAA-CREF Quant Small-Cap Equity Fund	98	0.73%
TIAA-CREF Social Choice Equity Fund	245	1.84%
DFA Large Cap International	407	3.04%
TIAA-CREF Social Choice International Equity Fund ¹	2	0.01%
DFA Emerging Markets Core Equity Fund	100	0.75%
Metropolitan West Total Return Bond	413	3.09%
PIMCO Real Return	236	1.77%
PIMCO Income	237	1.77%
Vanguard High-Yield Corporate Adm ¹	212	1.59%
T. Rowe Price Instl Floating Rate Fund	119	0.89%
Active Funds Total	2,635	19.71%
Passive Funds		
TIAA-CREF Equity Index Fund	3,497	26.16%
TIAA-CREF S&P 500 Index Fund	305	2.28%
TIAA-CREF International Equity Index Fund	853	6.38%
TIAA-CREF Emerging Markets Equity Index Fund	212	1.59%
Nuveen ESG EM Market Equity ¹	0	0.00%
TIAA-CREF Bond Index Fund	1,742	13.03%
Nuveen ESG US Agg Bond ¹	4	0.03%
Nuveen ESG High Yield ¹	0	0.00%
Vanguard Shrt-Term Infl-Prot Sec Idx Ins ¹	426	3.19%
Vanguard REIT Index I ¹	322	2.41%
Passive Funds Total	7,363	55.07%
TIAA-CREF Life Funding Agreements		
T-C Life Funding Agreements	3,372	25.22%
TOTAL²	13,370	100.00%

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

² CalKIDS AUM are included in the total.

Portfolio Management Overview

Fund.	Ticker		Current PM Team	Recent PM Departures ¹	
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		

¹ Recent is defined as having occurred in the last three years.

Source: MorningStar

Portfolio Management Overview

Fund.	Ticker	Current PM Team		Recent PM Departures ¹	
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	02/14/2008 -	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		

¹ 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 ¹
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:

→ There were no significant portfolio manager changes over the quarter.

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

Sensitivity Analyses

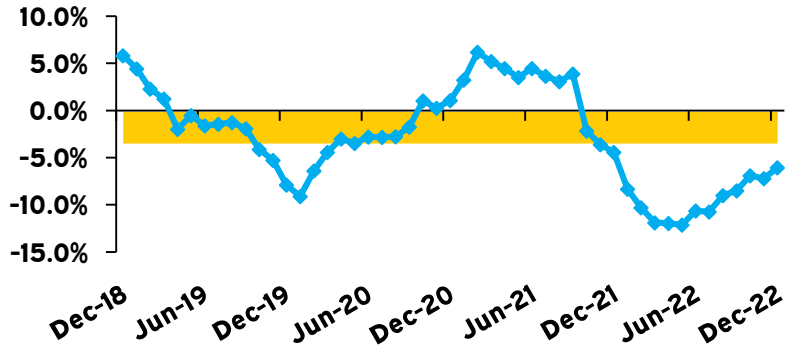
	QTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Active Funds										
TRowe Price Large Cap Growth I	-0.2	81	-35.2	76	3.7	68	8.4	56	13.9	12
<i>Russell 1000 Growth</i>	2.2	64	-29.1	43	7.8	16	11.0	15	14.1	9
<i>Large Growth MStar MF Median</i>	3.2		-30.4		5.3		8.6		12.0	
TRowe Price Large Cap Value I	12.1	69	-4.8	45	7.3	54	7.2	56	10.9	35
<i>Russell 1000 Value</i>	12.4	64	-7.5	71	6.0	79	6.7	72	10.3	61
<i>Large Value MStar MF Median</i>	13.1		-5.3		7.5		7.5		10.5	
TIAA-CREF Quant Small Cap Equity I	8.2	50	-15.4	39	6.1	37	5.4	51	10.4	32
<i>Russell 2000</i>	6.2	67	-20.4	61	3.1	72	4.1	74	9.0	67
<i>Small Cap MStar MF Median</i>	8.2		-17.8		5.1		5.4		9.6	
TIAA-CREF Social Choice Equity I	9.8	26	-17.8	45	7.8	32	9.2	36	--	--
<i>Russell 3000</i>	7.2	70	-19.2	74	7.1	60	8.8	53	12.1	41
<i>Large Blend MStar MF Median</i>	7.7		-18.2		7.3		8.9		12.0	
DFA Large Cap International I	17.2	39	-13.0	16	2.0	20	2.1	20	4.8	31
<i>MSCI World ex USA</i>	16.2	60	-14.3	29	1.3	35	1.8	28	4.6	38
<i>Foreign Large Blend MStar MF Median</i>	16.7		-15.8		0.7		1.2		4.4	
TIAA-CREF Social Choice Intl Equity	18.2	17	--	--	--	--	--	--	--	--
<i>MSCI EAFE</i>	17.3	34	-14.5	31	0.9	45	1.5	41	4.7	36
<i>Foreign Large Blend MStar MF Median</i>	16.7		-15.8		0.7		1.2		4.4	
DFA Emerging Markets Core Equity I	10.5	43	-16.4	19	0.2	24	-0.2	28	2.2	34
<i>MSCI Emerging Markets</i>	9.7	59	-20.1	36	-2.7	49	-1.4	47	1.4	55
<i>Diversified Emerging Mkts MStar MF Median</i>	10.1		-22.4		-3.0		-1.5		1.6	
Metropolitan West Total Return Bond I	1.7	54	-14.8	84	-2.8	76	0.1	67	--	--
<i>Bloomberg US Aggregate TR</i>	1.9	42	-13.0	37	-2.7	74	0.0	71	1.1	88
<i>Intermediate Core Plus Bond MStar MF Median</i>	1.8		-13.5		-2.3		0.3		1.4	

	QTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
PIMCO Real Return	2.7	13	-11.9	58	1.4	49	2.1	44	1.0	39
<i>Bloomberg US TIPS TR</i>	2.0	43	-11.8	56	1.2	57	2.1	44	1.1	31
<i>Inflation-Protected Bond MStar MF Median</i>	2.0		-11.5		1.4		2.1		0.9	
PIMCO Income I	3.4	32	-7.8	26	0.0	31	1.7	30	4.0	1
<i>Bloomberg US Aggregate TR</i>	1.9	77	-13.0	91	-2.7	92	0.0	94	1.1	99
<i>Multisector Bond MStar MF Median</i>	2.8		-9.7		-0.6		1.4		2.5	
Vanguard High-Yield Corp Adm	4.9	12	--	--	--	--	--	--	--	--
<i>Bloomberg US Corporate High Yield TR</i>	4.2	41	-11.2	65	0.0	44	2.3	33	4.0	24
<i>High Yield Bond MStar MF Median</i>	4.1		-10.7		-0.1		1.9		3.5	
TRowe Price Floating Rate I	3.0	25	-0.6	19	2.1	16	3.1	7	3.5	11
<i>Morningstar LSTA US Performing Loans Index</i>	2.8	39	-0.6	19	2.7	1	3.5	2	3.9	1
<i>Bank Loan MStar MF Median</i>	2.6		-1.7		1.4		2.4		3.1	
Passive Funds										
TIAA-CREF Equity Index I	7.2	72	-19.2	73	7.1	60	8.8	55	12.1	44
<i>Russell 3000</i>	7.2	70	-19.2	74	7.1	60	8.8	53	12.1	41
<i>Large Blend MStar MF Median</i>	7.7		-18.2		7.3		8.9		12.0	
TIAA-CREF S&P 500 Index I	7.5	55	-18.1	48	7.6	38	9.4	28	12.5	20
<i>S&P 500</i>	7.6	53	-18.1	48	7.7	35	9.4	26	12.6	17
<i>Large Blend MStar MF Median</i>	7.7		-18.2		7.3		8.9		12.0	
Vanguard Real Estate Index	4.4	28	--	--	--	--	--	--	--	--
<i>MSCI US IMI Real Estate 25/50 GR USD</i>	4.3	30	-26.1	46	-0.3	69	3.7	60	5.8	80
<i>Real Estate MStar MF Median</i>	3.9		-26.2		0.4		4.0		6.4	
TIAA-CREF International Equity Index	17.7	28	-13.8	21	1.2	36	1.8	27	4.9	27
<i>MSCI EAFE</i>	17.3	34	-14.5	31	0.9	45	1.5	41	4.7	36
<i>Foreign Large Blend MStar MF Median</i>	16.7		-15.8		0.7		1.2		4.4	

	QTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
TIAA-CREF Emerging Markets Equity Index	9.5	61	-20.3	37	-3.0	51	-1.6	53	1.3	61
<i>MSCI Emerging Markets</i>	9.7	59	-20.1	36	-2.7	49	-1.4	47	1.4	55
<i>Diversified Emerging Mkts MStar MF Median</i>	10.1		-22.4		-3.0		-1.5		1.6	
Nuveen ESG Emerging Markets Equity ETF	9.7	59	--	--	--	--	--	--	--	--
<i>TIAA ESG Emerging Markets Index</i>	10.0	53	-18.7	30	0.6	22	-0.1	26	2.6	26
<i>Diversified Emerging Mkts MStar MF Median</i>	10.1		-22.4		-3.0		-1.5		1.6	
TIAA-CREF Bond Index I	1.6	61	-13.2	47	-2.9	73	-0.2	74	0.9	78
<i>Bloomberg US Aggregate TR</i>	1.9	31	-13.0	32	-2.7	56	0.0	50	1.1	54
<i>Intermediate Core Bond MStar MF Median</i>	1.7		-13.3		-2.6		0.0		1.1	
Vanguard Short Term Infl-Prot Securities	1.3	76	--	--	--	--	--	--	--	--
<i>BBg U.S. TIPS 0-5 Years</i>	1.3	74	-2.7	1	2.5	7	2.6	10	1.4	12
<i>Inflation-Protected Bond MStar MF Median</i>	2.0		-11.5		1.4		2.1		0.9	
Nuveen ESG US Aggregate Bond ETF	1.5	67	--	--	--	--	--	--	--	--
<i>BBg MSCI US Agg ESG Select</i>	1.8	34	-12.8	27	-2.7	54	0.1	44	--	--
<i>Intermediate Core Bond MStar MF Median</i>	1.7		-13.3		-2.6		0.0		1.1	
Nuveen ESG High Yield Corp Bond ETF	4.5	23	--	--	--	--	--	--	--	--
<i>BBg MSCI US High Yield Very Liquid ESG Select</i>	4.7	18	-12.1	88	-1.8	98	--	--	--	--
<i>High Yield Bond MStar MF Median</i>	4.1		-10.7		-0.1		1.9		3.5	

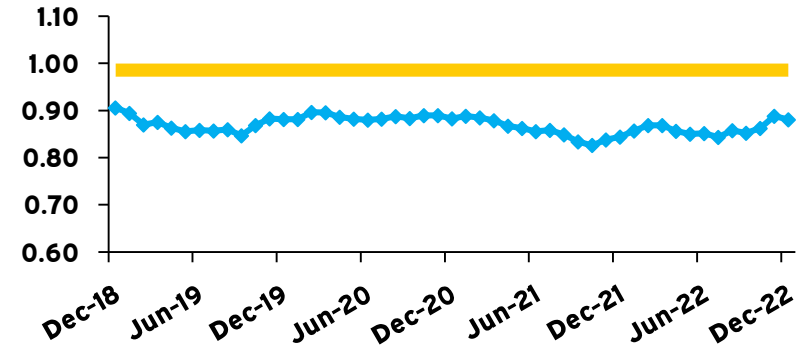
Sensitivity Analyses: Active Funds

Short Term – Rolling 12-Month Excess Return



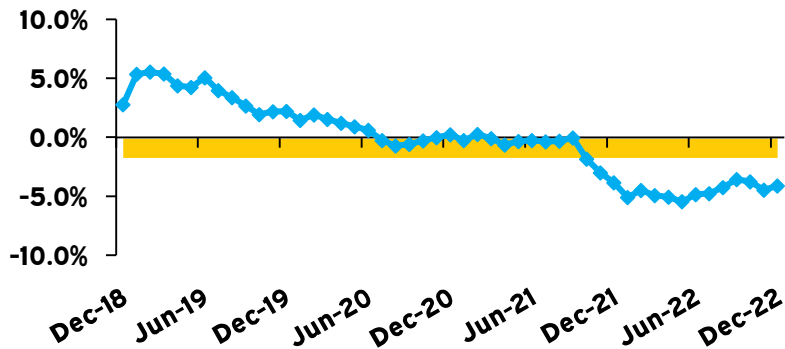
Results fall in the caution range.
Probationary Threshold -3.50%

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%

Benchmark: Russell 1000 Growth

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TRowe Price Large Cap Growth I	-0.2	-35.2	3.7	8.4	13.6	11/20/2011
Russell 1000 Growth	2.2	-29.1	7.8	11.0	13.9	

Monitoring Status

Caution, On Watch

TRowe Price Large Cap Growth I | As of December 31, 2022

Description:

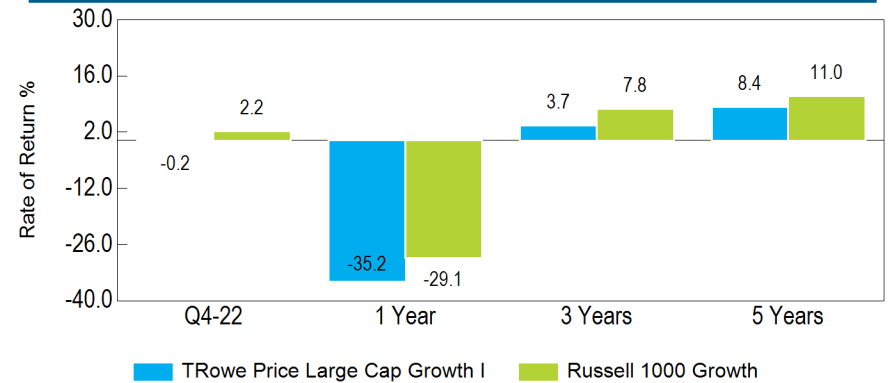
The investment seeks to provide long-term capital appreciation through investments in common stocks of growth companies.

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.

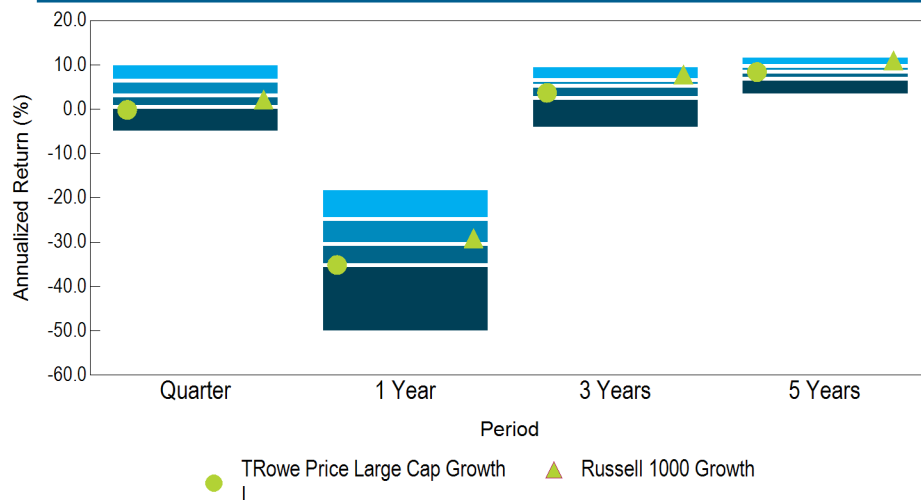
Portfolio Fund Information as of December 31, 2022

Ticker	TRLGX
Morningstar Category	Large Growth
Average Market Cap (\$mm)	230,554.60
Net Assets (\$mm)	14,112.13
% Assets in Top 10 Holdings	52.88
Total Number of Holdings	56
Manager Name	Taymour R. Tamaddon
Manager Tenure	6
Expense Ratio	0.55%
Closed to New Investors	No

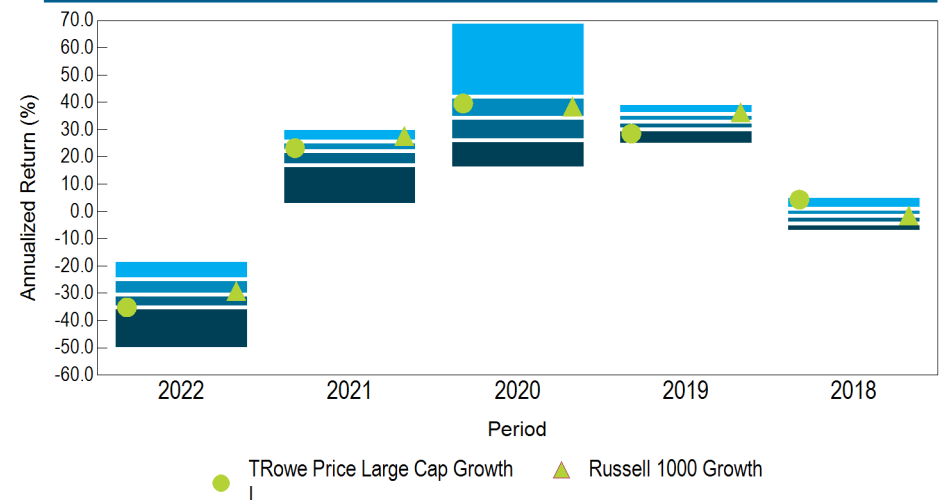
Return Summary



Large Growth MStar MF Return Comparison

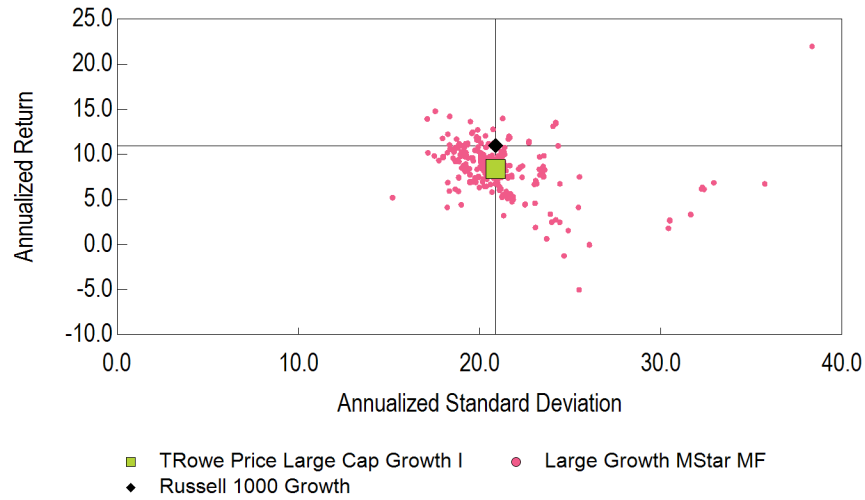


Large Growth MStar MF Return Comparison

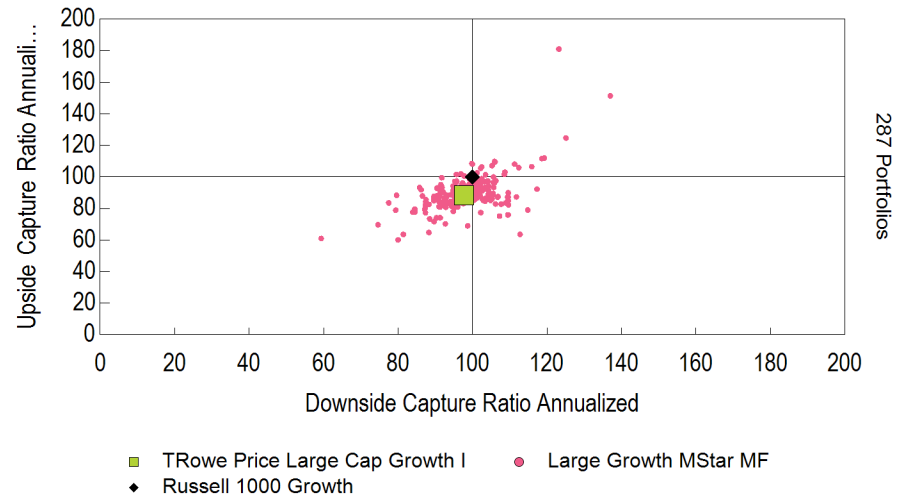


TRowe Price Large Cap Growth I | As of December 31, 2022

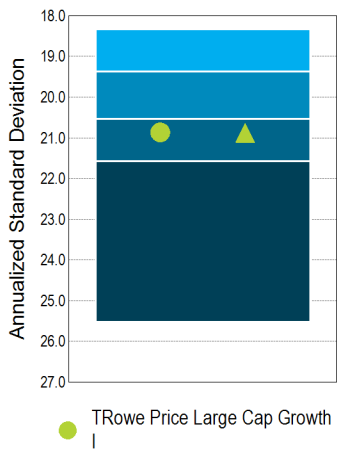
Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



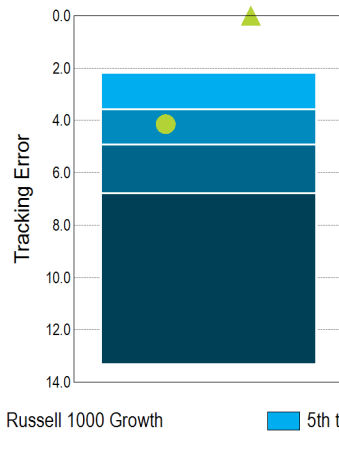
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



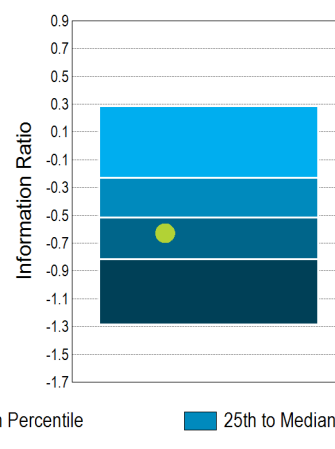
Annualized Standard Deviation



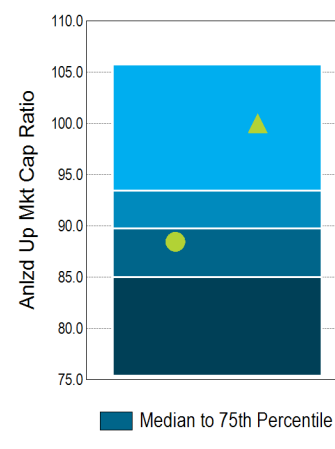
Tracking Error



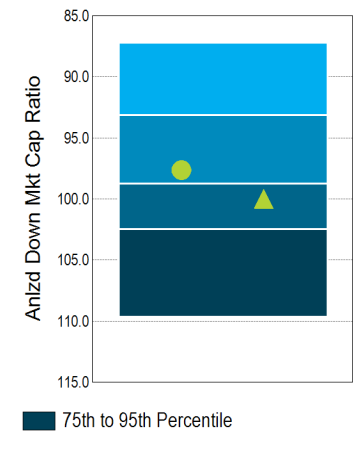
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



TRowe Price Large Cap Growth I | As of December 31, 2022

Fund Characteristics as of December 31, 2022

Sharpe Ratio (3 Year)	0.13
Average Market Cap (\$mm)	230,554.60
Price/Earnings	23.29
Price/Book	4.89
Price/Sales	2.55
Price/Cash Flow	15.92
Dividend Yield	0.88
Number of Equity Holdings	54
R-Squared (3 Year)	0.97
Alpha (3 Year)	-0.31%

Sector Allocation as of December 31, 2022

BASIC MATERIALS	0.68%
COMMUNICATION SERVICES	11.32%
CONSUMER CYCLICAL	14.21%
CONSUMER DEFENSIVE	2.76%
ENERGY	0.00%
FINANCIAL SERVICES	5.47%
HEALTHCARE	21.58%
INDUSTRIALS	2.85%
REAL ESTATE	0.00%
TECHNOLOGY	41.14%
UTILITIES	0.00%

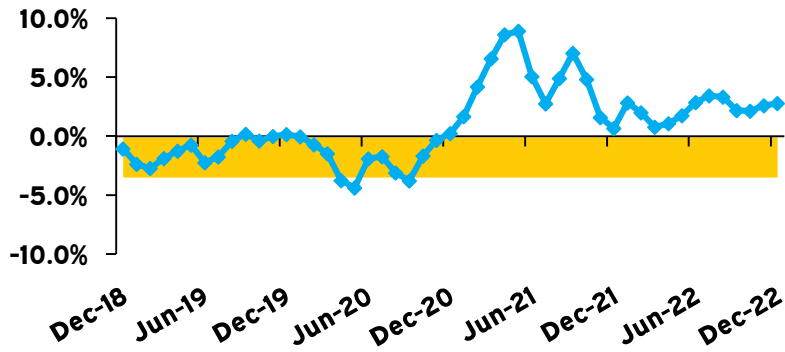
Top Holdings as of December 31, 2022

MICROSOFT CORP	11.89%
APPLE INC	7.05%
ALPHABET INC CLASS A	6.91%
AMAZON.COM INC	6.07%
UNITEDHEALTH GROUP INC	5.00%
CIGNA CORP	3.95%
INTUIT INC	3.55%
FISERV INC	3.18%
MASTERCARD INC CLASS A	2.78%
VISA INC CLASS A	2.50%

Top Countries as of December 31, 2022

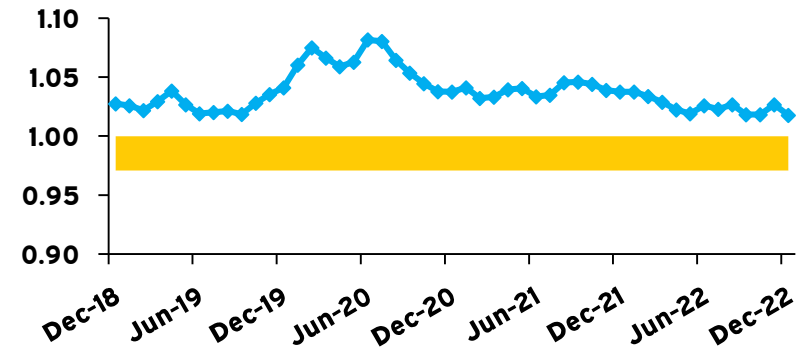
United States	96.82%
Netherlands	2.15%
Japan	0.53%
South Korea	0.51%

Short Term – Rolling 12-Month Excess Return



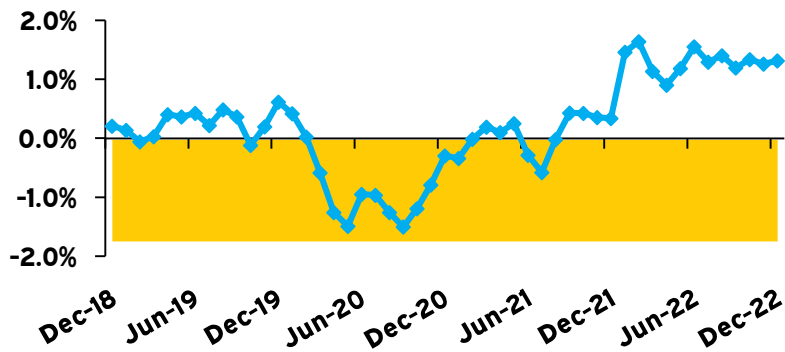
Results fall in the positive range.
Probationary Threshold -3.50%

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%

Benchmark: Russell 1000 Value

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TRowe Price Large Cap Value I	12.1	-4.8	7.3	7.2	11.5	11/20/2011
Russell 1000 Value	12.4	-7.5	6.0	6.7	10.9	

Monitoring Status

Positive

TRowe Price Large Cap Value I | As of December 31, 2022

Description:

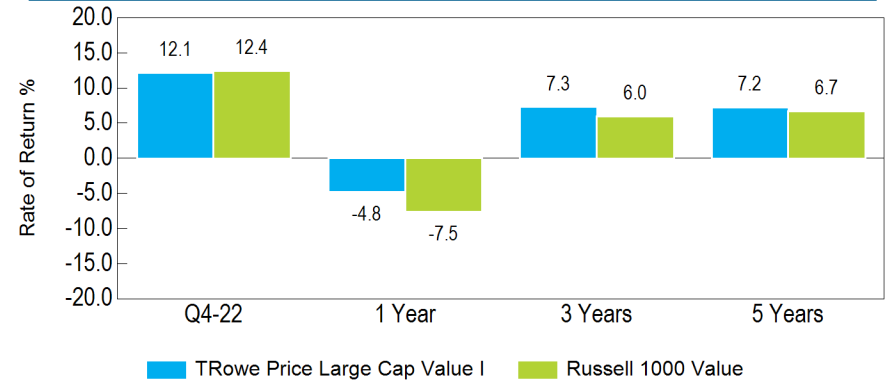
The investment seeks long-term capital appreciation; income is a secondary objective.

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.

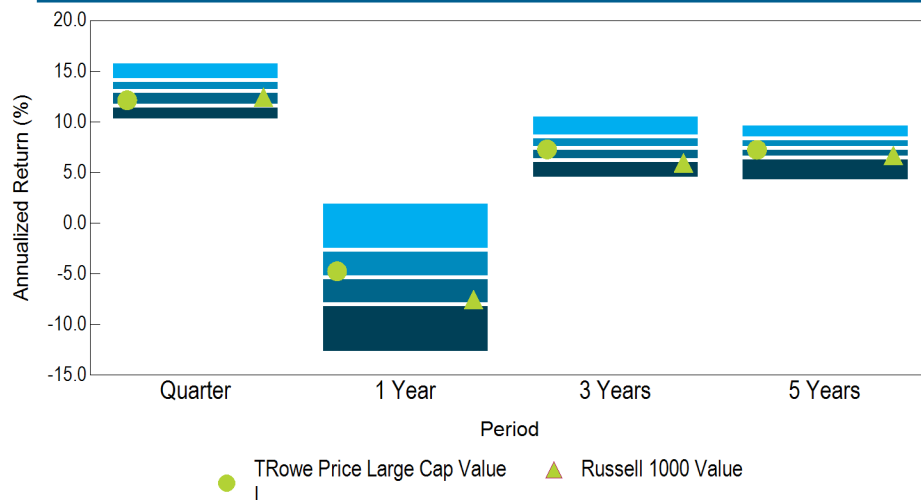
Portfolio Fund Information as of December 31, 2022

Ticker	TILCX
Morningstar Category	Large Value
Average Market Cap (\$mm)	72,819.18
Net Assets (\$mm)	3,266.93
% Assets in Top 10 Holdings	26.13
Total Number of Holdings	77
Manager Name	John D. Linehan
Manager Tenure	23
Expense Ratio	0.55%
Closed to New Investors	No

Return Summary



Large Value MStar MF Return Comparison

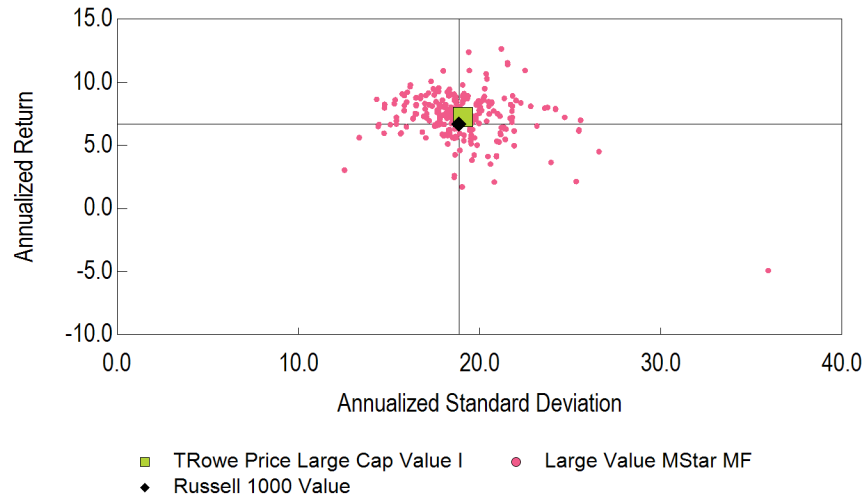


Large Value MStar MF Return Comparison

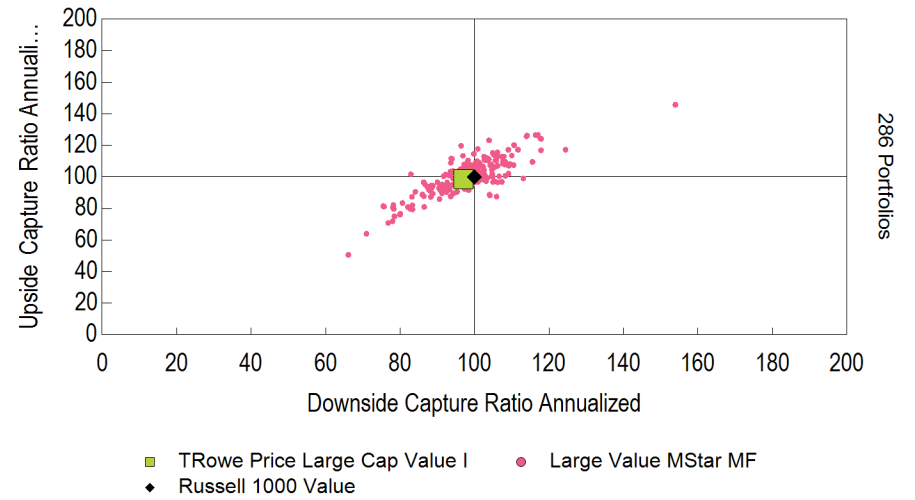


TRowe Price Large Cap Value I | As of December 31, 2022

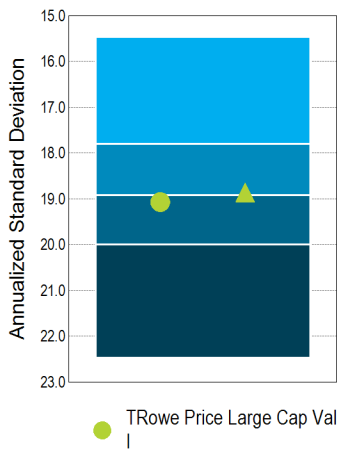
Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



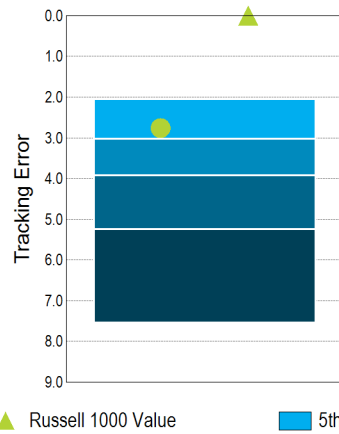
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



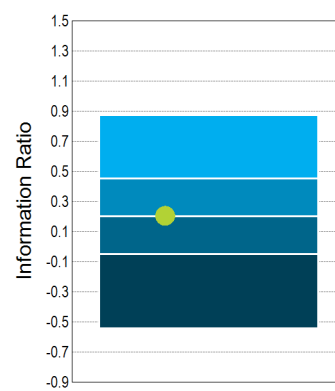
Annualized Standard Deviation



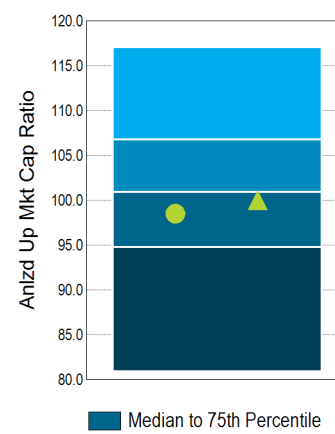
Tracking Error



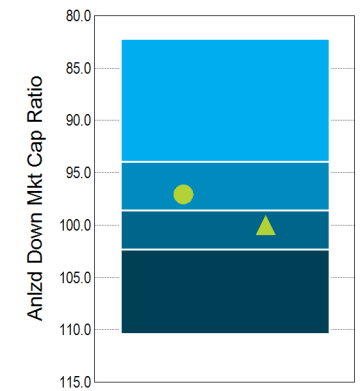
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



Fund Characteristics as of December 31, 2022

Sharpe Ratio (3 Year)	0.30
Average Market Cap (\$mm)	72,819.18
Price/Earnings	12.50
Price/Book	2.03
Price/Sales	1.30
Price/Cash Flow	7.99
Dividend Yield	2.86
Number of Equity Holdings	74
R-Squared (3 Year)	0.98
Alpha (3 Year)	0.11%

Sector Allocation as of December 31, 2022

BASIC MATERIALS	2.86%
COMMUNICATION SERVICES	5.52%
CONSUMER CYCLICAL	4.79%
CONSUMER DEFENSIVE	9.11%
ENERGY	8.39%
FINANCIAL SERVICES	17.55%
HEALTHCARE	20.93%
INDUSTRIALS	9.91%
REAL ESTATE	4.86%
TECHNOLOGY	8.04%
UTILITIES	8.04%

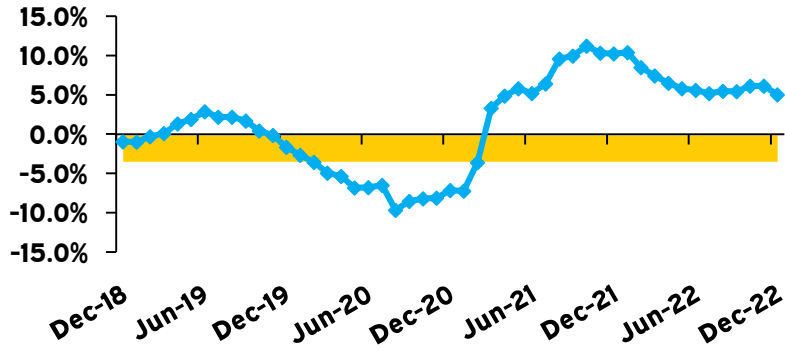
Top Holdings as of December 31, 2022

SOUTHERN CO	3.18%
TOTALENERGIES SE ADR	3.12%
JOHNSON & JOHNSON	3.02%
WELLS FARGO & CO	2.91%
CHUBB LTD	2.57%
PHILIP MORRIS INTERNATIONAL INC	2.32%
FISERV INC	2.30%
WALMART INC	2.27%
AVALONBAY COMMUNITIES INC	2.23%
BECTON, DICKINSON AND CO	2.21%

Top Countries as of December 31, 2022

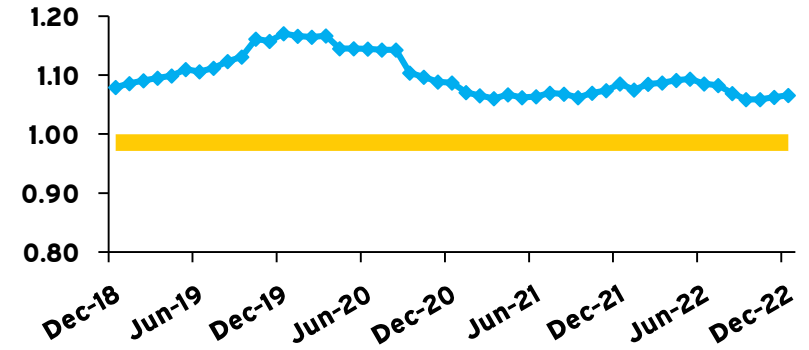
United States	90.43%
France	3.20%
Switzerland	2.64%
Canada	2.19%
Germany	1.54%

Short Term – Rolling 12-Month Excess Return



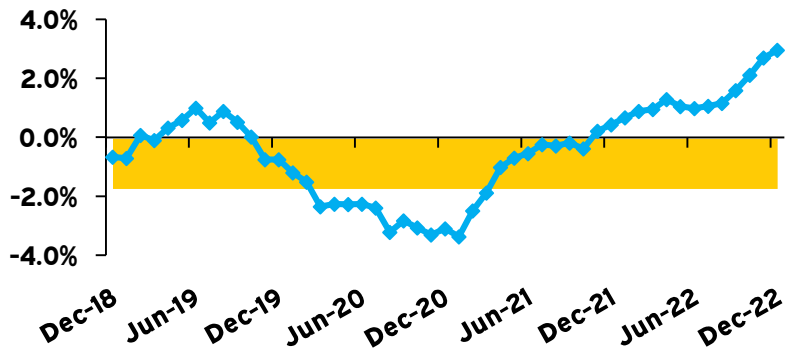
Results fall in the positive range.
Probationary Threshold -3.50%

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%

Benchmark: Russell 2000

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Quant Small Cap Equity I	8.2	-15.4	6.1	5.4	10.6	11/20/2011
Russell 2000	6.2	-20.4	3.1	4.1	9.5	

Monitoring Status

Positive

TIAA-CREF Quant Small Cap Equity I | As of December 31, 2022

Description:

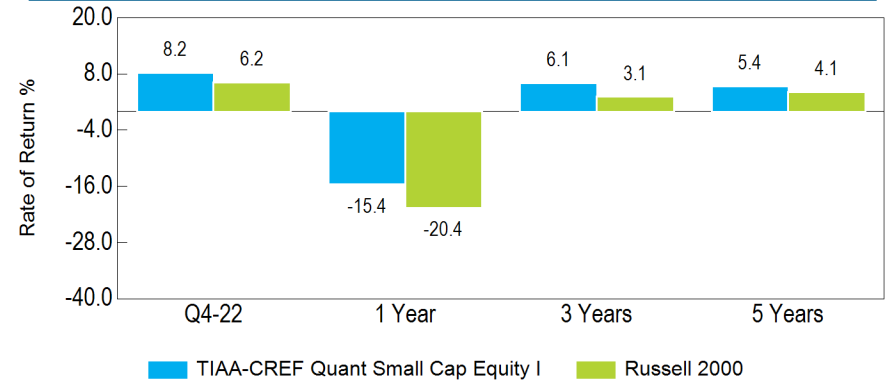
The investment seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of smaller domestic companies.

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.

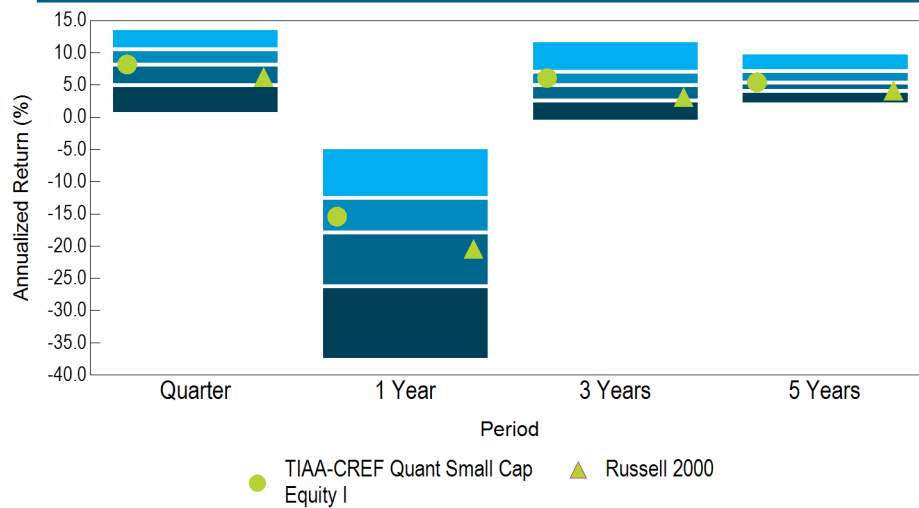
Portfolio Fund Information as of November 30, 2022

Ticker	TISEX
Morningstar Category	Small Blend
Average Market Cap (\$mm)	2,415.84
Net Assets (\$mm)	1,583.94
% Assets in Top 10 Holdings	6.96
Total Number of Holdings	420
Manager Name	Pei Chen
Manager Tenure	7
Expense Ratio	0.41%
Closed to New Investors	No

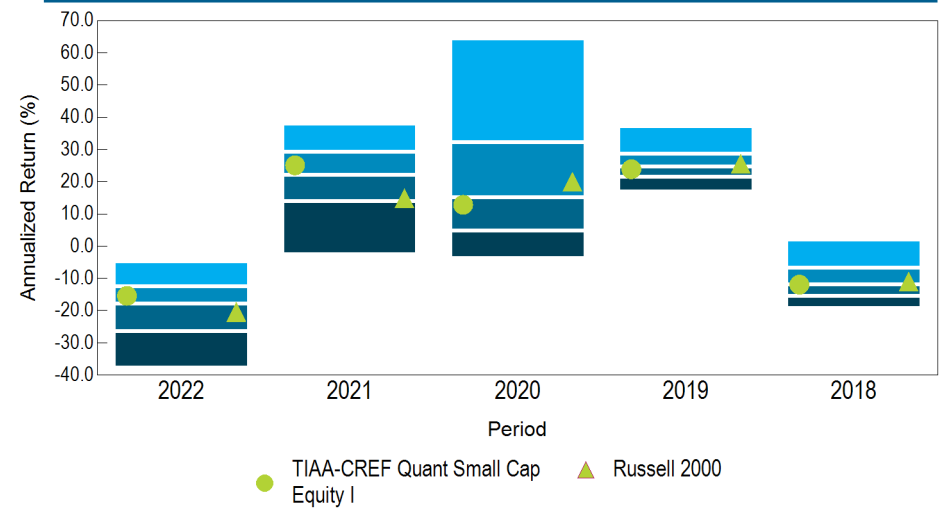
Return Summary



Small Cap MStar MF Return Comparison

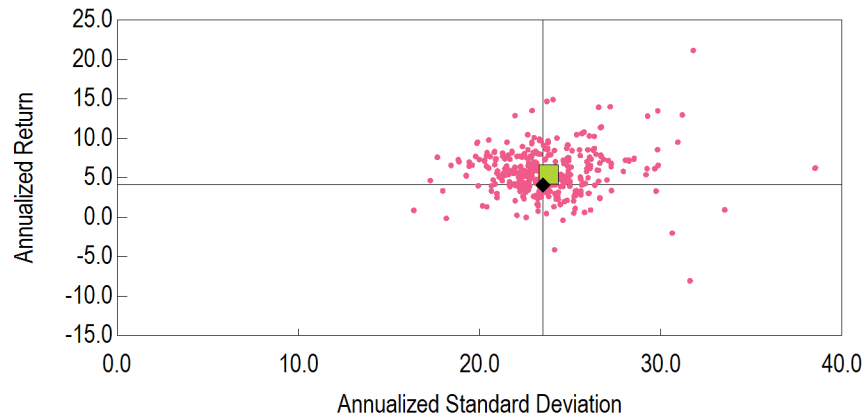


Small Cap MStar MF Return Comparison



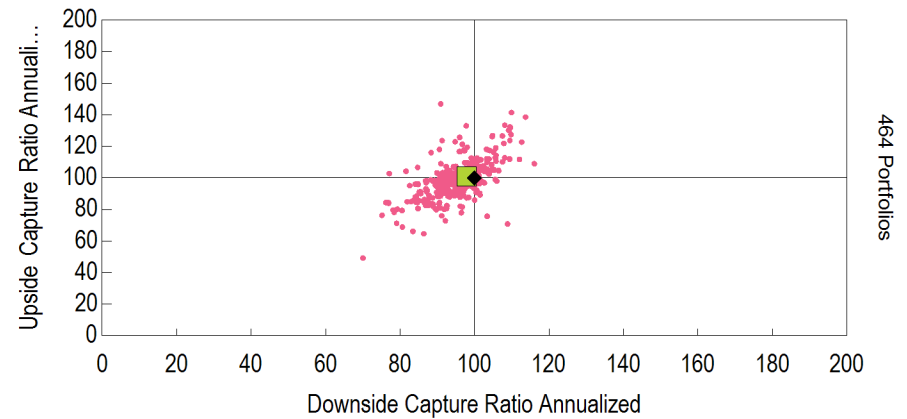
TIAA-CREF Quant Small Cap Equity I | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



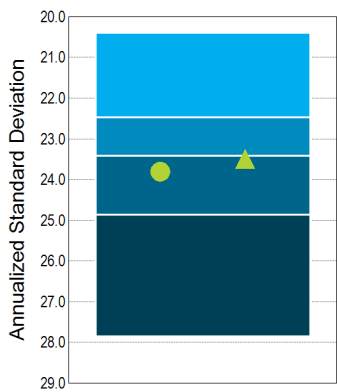
- TIAA-CREF Quant Small Cap Equity I
- Small Cap MStar MF
- Russell 2000

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022

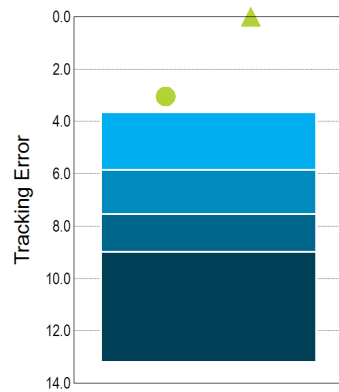


- TIAA-CREF Quant Small Cap Equity I
- Small Cap MStar MF
- Russell 2000

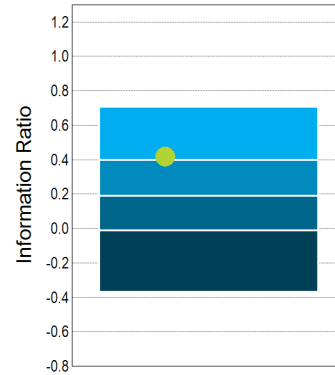
Annualized Standard Deviation



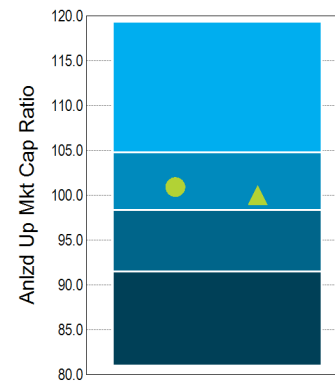
Tracking Error



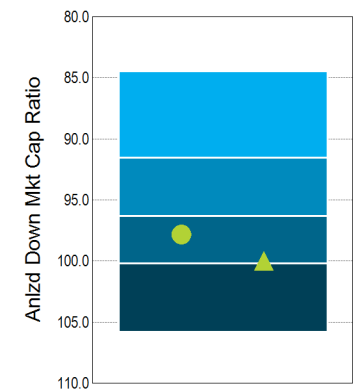
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- TIAA-CREF Quant Small Cap Equity I
- Russell 2000
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Fund Characteristics as of November 30, 2022

Sharpe Ratio (3 Year)	0.32
Average Market Cap (\$mm)	2,415.84
Price/Earnings	11.84
Price/Book	1.73
Price/Sales	0.86
Price/Cash Flow	4.93
Dividend Yield	1.39
Number of Equity Holdings	417
R-Squared (3 Year)	0.98
Alpha (3 Year)	0.21%

Sector Allocation as of November 30, 2022

BASIC MATERIALS	4.35%
COMMUNICATION SERVICES	2.50%
CONSUMER CYCLICAL	7.99%
CONSUMER DEFENSIVE	5.11%
ENERGY	7.63%
FINANCIAL SERVICES	16.65%
HEALTHCARE	15.92%
INDUSTRIALS	14.71%
REAL ESTATE	6.43%
TECHNOLOGY	14.99%
UTILITIES	3.73%

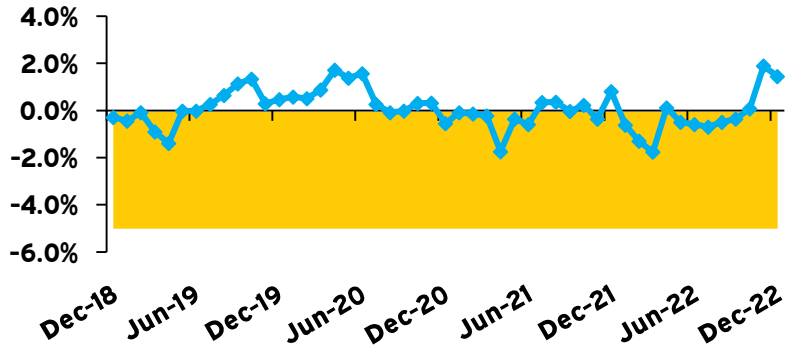
Top Holdings as of November 30, 2022

COMFORT SYSTEMS USA INC	0.93%
SANMINA CORP	0.88%
PBF ENERGY INC CLASS A	0.75%
E-MINI RUSS 2000 DEC22 XCME 20221216	0.73%
ATKORE INC	0.70%
EXLSERVICE HOLDINGS INC	0.64%
TEXAS ROADHOUSE INC	0.60%
UNITED COMMUNITY BANKS INC	0.59%
CADENCE BANK	0.58%
CHESAPEAKE ENERGY CORP ORDINARY SHARES - NEW	0.58%

Top Countries as of November 30, 2022

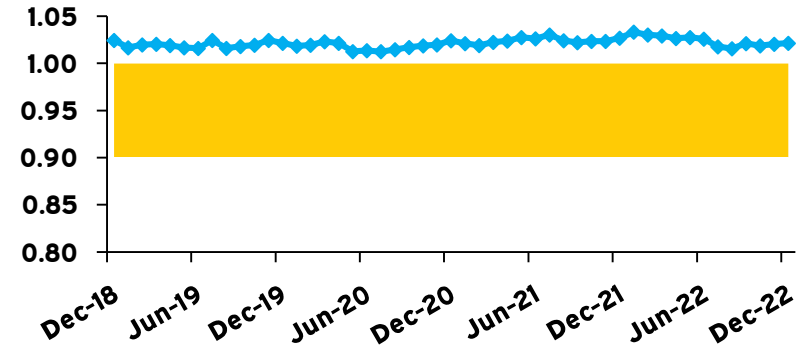
United States	98.58%
Brazil	0.58%
Puerto Rico	0.47%
Canada	0.29%
Marshall Islands	0.08%

Short Term – Rolling 12-Month Excess Return



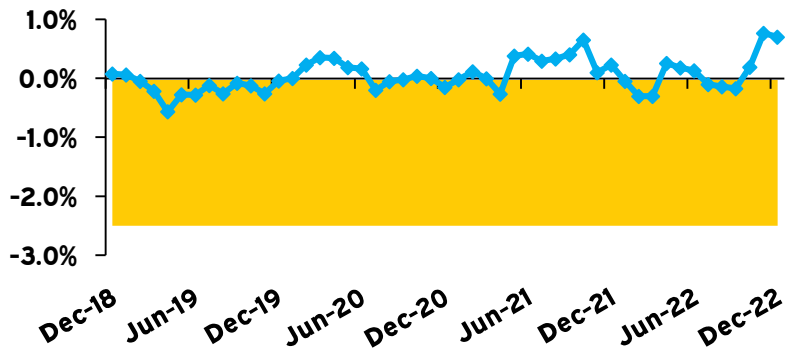
Results fall in the positive range.
Probationary Threshold -5.00%

Long Term – VRR



Results fall in the positive range.
Probationary Threshold <0.90

Medium Term – Rolling 36-Month Excess Return



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

Benchmark: Russell 3000

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Social Choice Equity I	9.8	-17.8	7.8	9.2	12.0	11/20/2011
Russell 3000	7.2	-19.2	7.1	8.8	12.4	

Monitoring Status

Positive

TIAA-CREF Social Choice Equity I | As of December 31, 2022

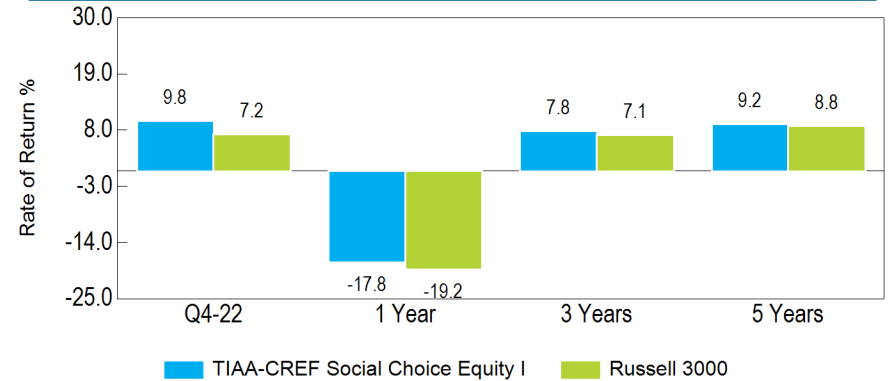
Description:

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.

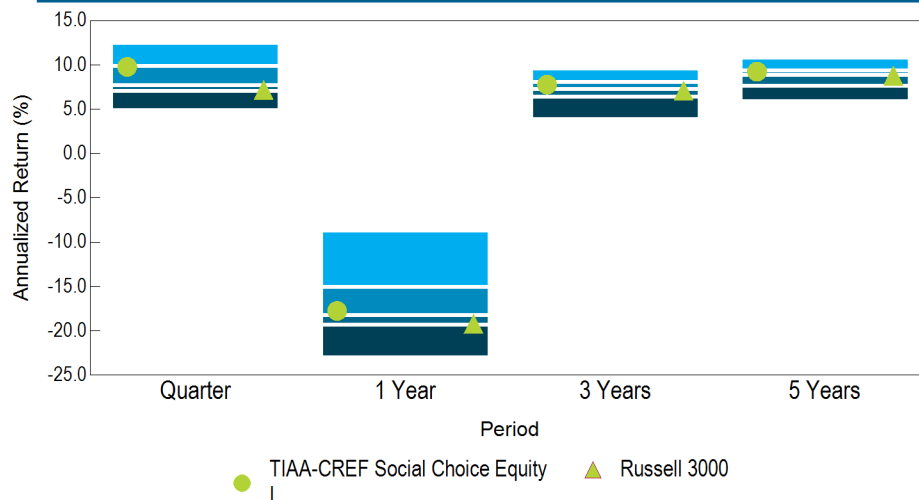
Portfolio Fund Information as of October 31, 2022

Ticker	TISCX
Morningstar Category	Large Blend
Average Market Cap (\$mm)	72,049.81
Net Assets (\$mm)	4,584.60
% Assets in Top 10 Holdings	16.27
Total Number of Holdings	526
Manager Name	Philip James(Jim) Campagna
Manager Tenure	17
Expense Ratio	0.17%
Closed to New Investors	No

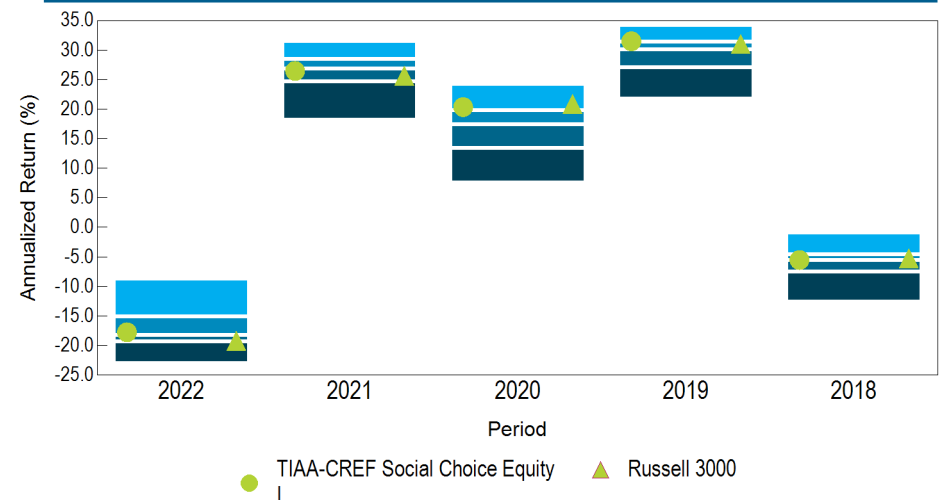
Return Summary



Large Blend MStar MF Return Comparison

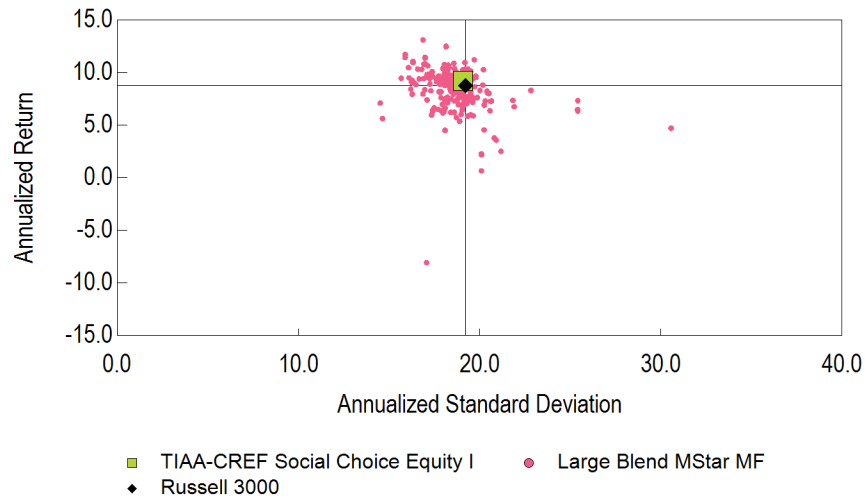


Large Blend MStar MF Return Comparison

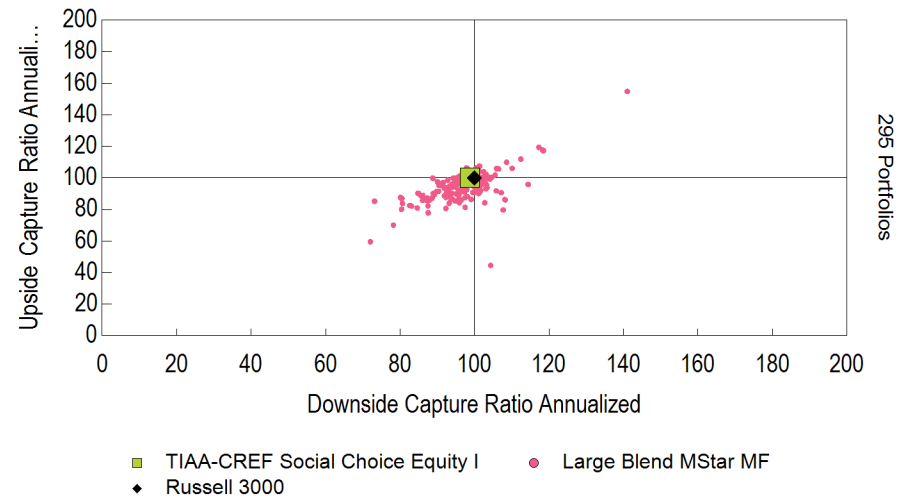


TIAA-CREF Social Choice Equity I | As of December 31, 2022

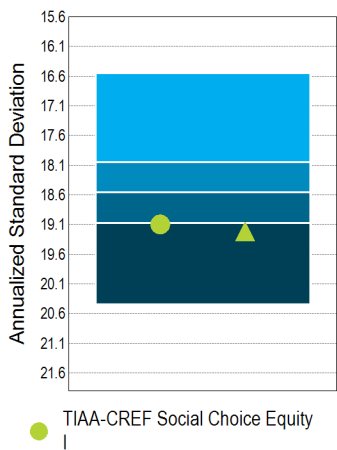
Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



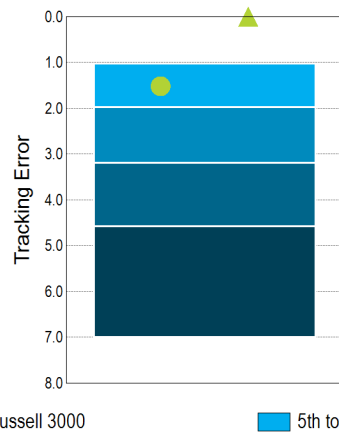
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



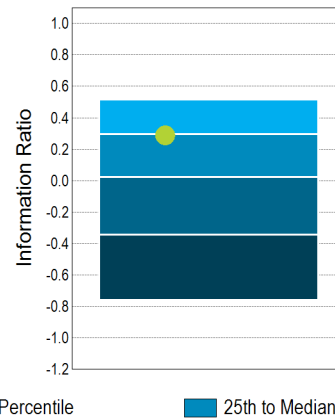
Annualized Standard Deviation



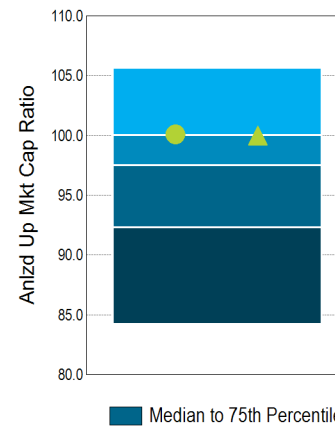
Tracking Error



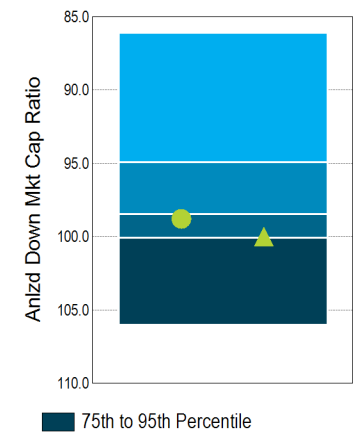
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



Fund Characteristics as of October 31, 2022

Sharpe Ratio (3 Year)	0.45
Average Market Cap (\$mm)	72,049.81
Price/Earnings	16.03
Price/Book	3.06
Price/Sales	1.85
Price/Cash Flow	9.82
Dividend Yield	1.95
Number of Equity Holdings	523
R-Squared (3 Year)	0.99
Alpha (3 Year)	0.02%

Sector Allocation as of October 31, 2022

BASIC MATERIALS	2.66%
COMMUNICATION SERVICES	4.50%
CONSUMER CYCLICAL	10.06%
CONSUMER DEFENSIVE	6.35%
ENERGY	5.23%
FINANCIAL SERVICES	16.14%
HEALTHCARE	14.66%
INDUSTRIALS	10.44%
REAL ESTATE	2.59%
TECHNOLOGY	24.21%
UTILITIES	3.17%

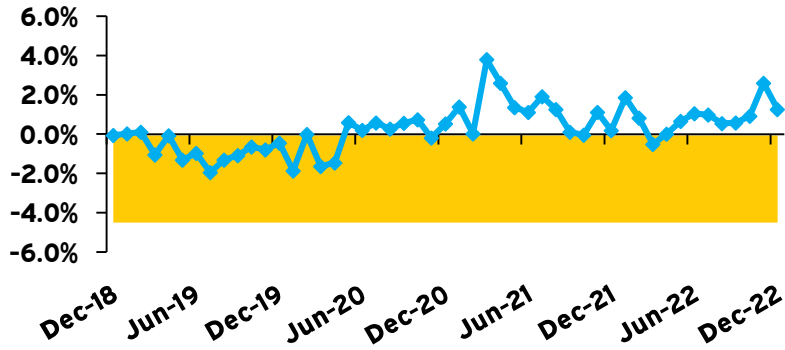
Top Holdings as of October 31, 2022

MICROSOFT CORP	4.89%
TESLA INC	1.84%
ELI LILLY AND CO	1.29%
PROCTER & GAMBLE CO	1.29%
NVIDIA CORP	1.28%
THE HOME DEPOT INC	1.27%
MASTERCARD INC CLASS A	1.23%
PEPSICO INC	1.14%
COCA-COLA CO	1.07%
THERMO FISHER SCIENTIFIC INC	0.97%

Top Countries as of October 31, 2022

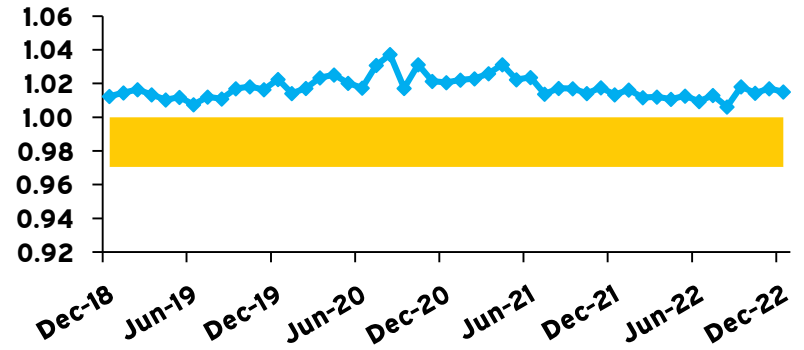
United States	98.26%
United Kingdom	0.92%
Switzerland	0.73%
Ireland	0.07%
Canada	0.01%

Short Term – Rolling 12-Month Excess Return



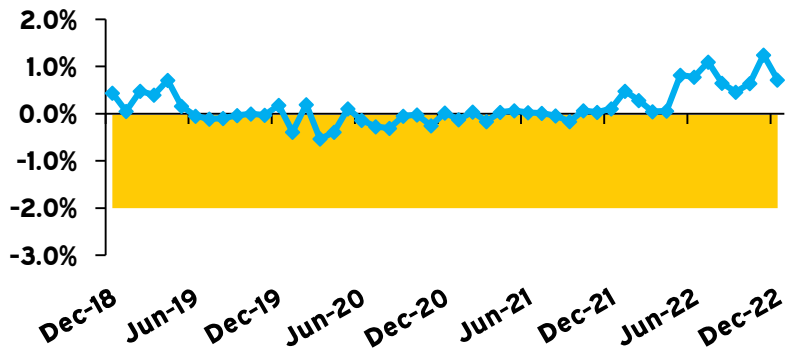
Results fall in the positive range.
Probationary Threshold -4.50%

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%

Benchmark: MSCI World ex USA

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
DFA Large Cap International I	17.2	-13.0	2.0	2.1	5.4	11/20/2011
MSCI World ex USA	16.2	-14.3	1.3	1.8	5.0	

Monitoring Status

Positive

DFA Large Cap International I | As of December 31, 2022

Description:

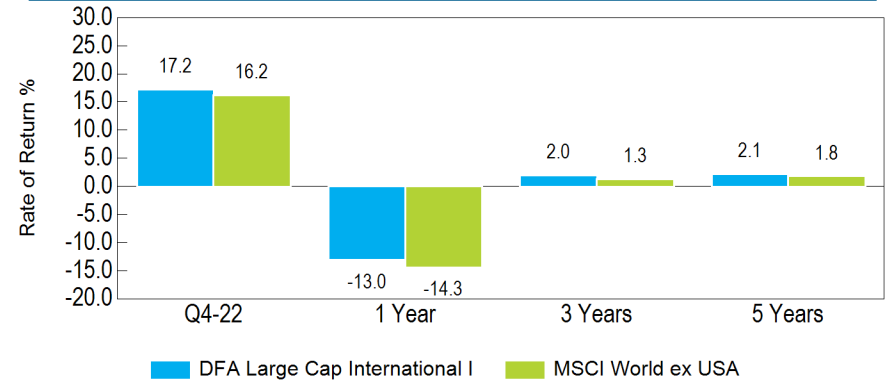
The investment seeks long-term capital appreciation.

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.

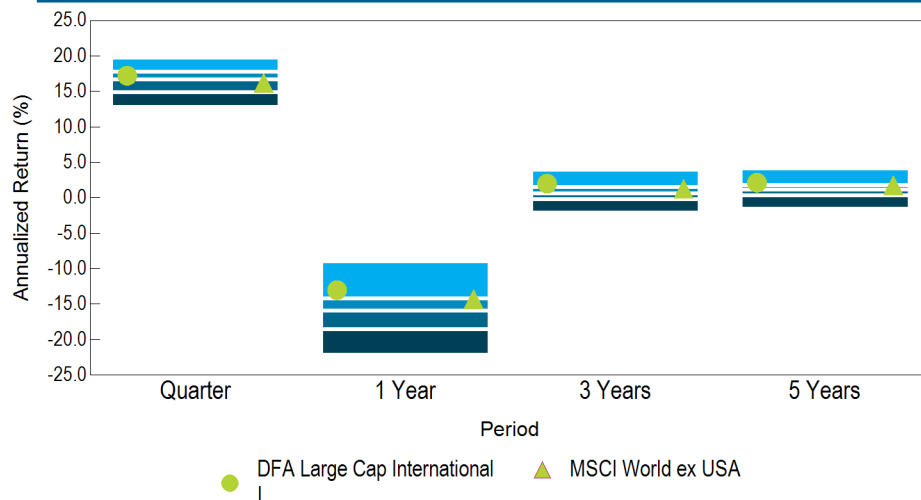
Portfolio Fund Information as of December 31, 2022

Ticker	DFALX
Morningstar Category	Foreign Large Blend
Average Market Cap (\$mm)	30,105.44
Net Assets (\$mm)	5,208.11
% Assets in Top 10 Holdings	10.25
Total Number of Holdings	1,331
Manager Name	Jed S. Fogdall
Manager Tenure	13
Expense Ratio	0.18%
Closed to New Investors	No

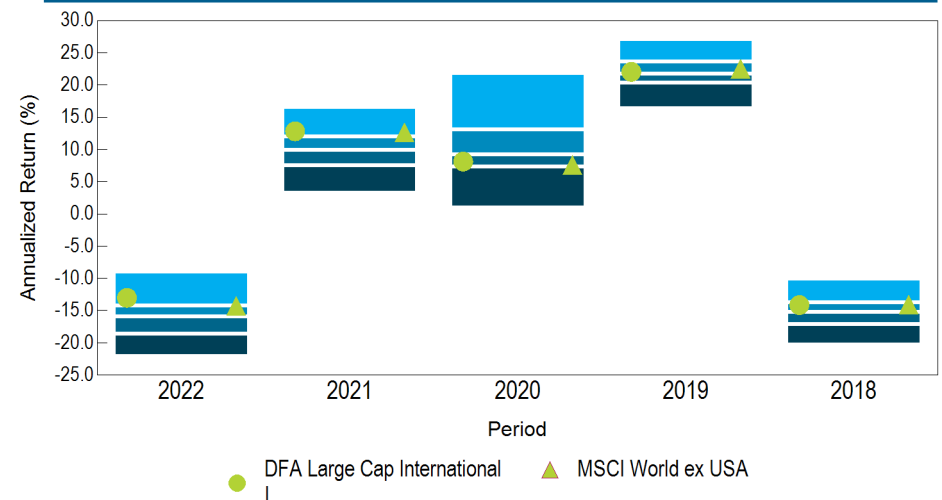
Return Summary



Foreign Large Blend MStar MF Return Comparison

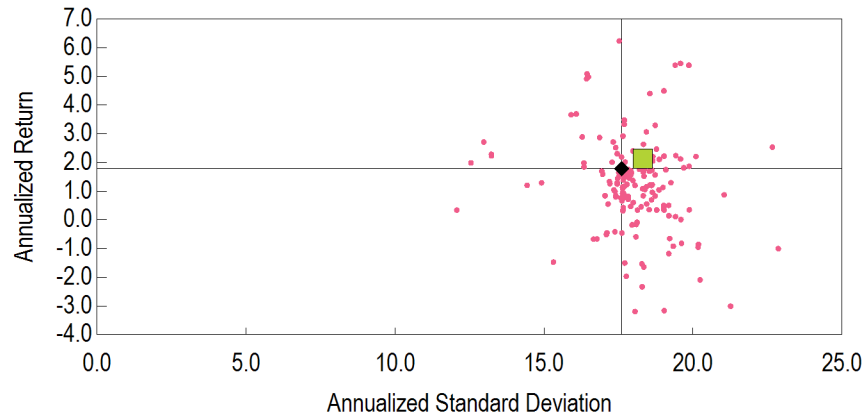


Foreign Large Blend MStar MF Return Comparison



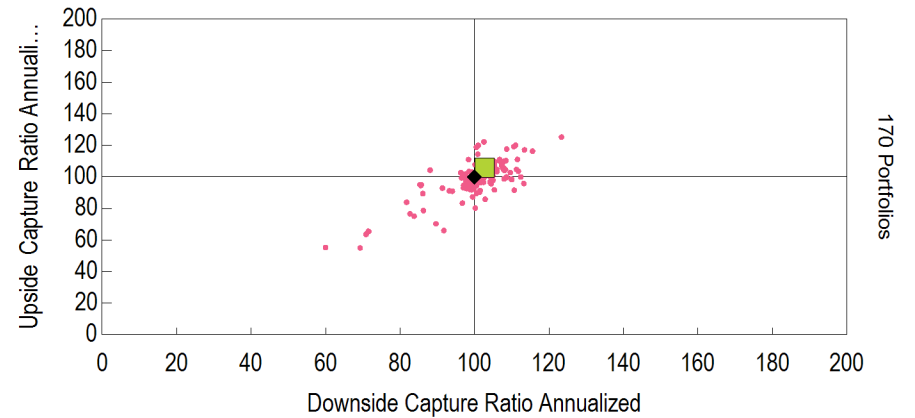
DFA Large Cap International I | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



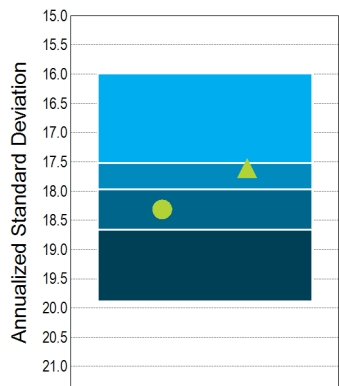
- DFA Large Cap International I
- Foreign Large Blend MStar MF
- ◆ MSCI World ex USA

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



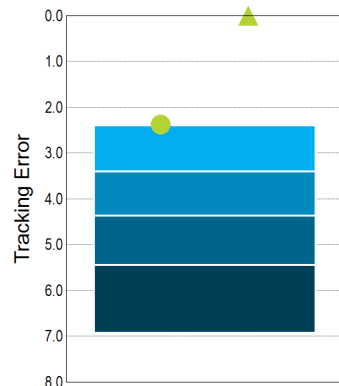
- DFA Large Cap International I
- Foreign Large Blend MStar MF
- ◆ MSCI World ex USA

Annualized Standard Deviation



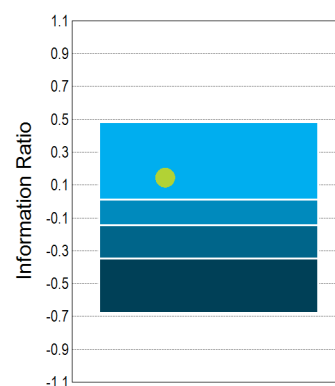
- DFA Large Cap International I
- ▲ MSCI World ex USA

Tracking Error



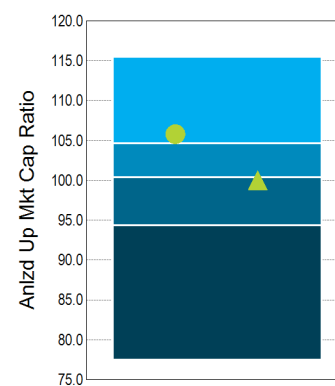
- ▲ MSCI World ex USA

Information Ratio



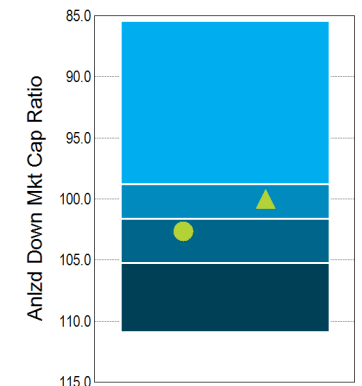
- 5th to 25th Percentile
- 25th to Median

Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile
- 75th to 95th Percentile

Anlzd Down Mkt Cap Ratio



- Median to 75th Percentile
- 75th to 95th Percentile

Fund Characteristics as of December 31, 2022

Sharpe Ratio (3 Year)	0.06
Average Market Cap (\$mm)	30,105.44
Price/Earnings	11.16
Price/Book	1.35
Price/Sales	0.90
Price/Cash Flow	5.16
Dividend Yield	4.40
Number of Equity Holdings	1,312
R-Squared (3 Year)	0.98
Alpha (3 Year)	0.06%

Sector Allocation as of December 31, 2022

BASIC MATERIALS	10.61%
COMMUNICATION SERVICES	5.63%
CONSUMER CYCLICAL	10.64%
CONSUMER DEFENSIVE	9.01%
ENERGY	7.72%
FINANCIAL SERVICES	18.20%
HEALTHCARE	10.58%
INDUSTRIALS	15.65%
REAL ESTATE	1.55%
TECHNOLOGY	7.19%
UTILITIES	3.21%

Top Holdings as of December 31, 2022

NESTLE SA	1.49%
NOVO NORDISK A/S ADR	1.32%
SHELL PLC ADR (REPRESENTING - ORDINARY SHARES)	1.25%
ROCHE HOLDING AG	1.24%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.12%
TOTALENERGIES SE	1.05%
ASML HOLDING NV ADR	0.86%
AIA GROUP LTD	0.69%
TOYOTA MOTOR CORP	0.63%
THE TORONTO-DOMINION BANK	0.61%

Top Countries as of December 31, 2022

Japan	21.06%
United Kingdom	13.14%
Canada	10.18%
France	9.24%
Switzerland	8.50%
Australia	7.17%
Germany	7.01%
Netherlands	4.17%
Sweden	2.83%
Denmark	2.70%

TIAA-CREF Social Choice Intl Equity | As of December 31, 2022

Description:

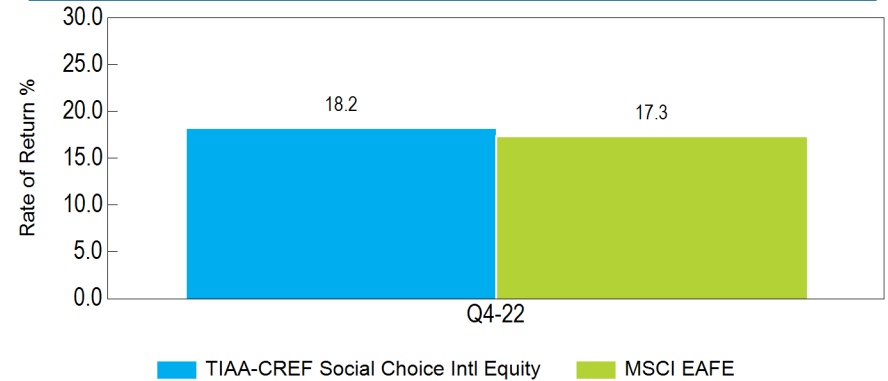
The investment seeks a favorable long-term total return that reflects the investment performance of the overall foreign equity markets while giving special consideration to certain environmental, social and governance ("ESG") criteria.

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 Morgan Stanley Capital International EAFE® (Europe, Australasia, Far East) Index (the "MSCI EAFE Index"), while taking into consideration certain ESG criteria.

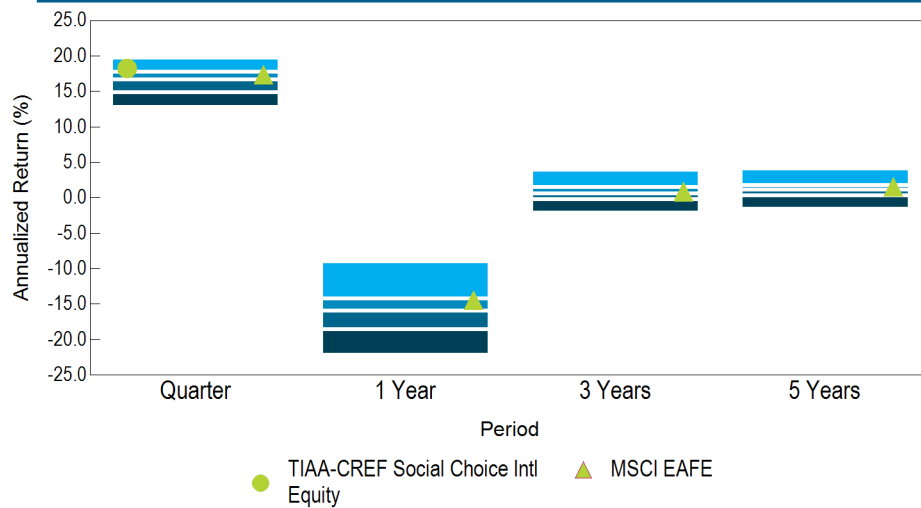
Portfolio Fund Information as of October 31, 2022

Ticker	TSONX
Morningstar Category	Foreign Large Blend
Average Market Cap (\$mm)	33,894.34
Net Assets (\$mm)	657.05
% Assets in Top 10 Holdings	15.78
Total Number of Holdings	355
Manager Name	Philip James(Jim) Campagna
Manager Tenure	7
Expense Ratio	0.36%
Closed to New Investors	No

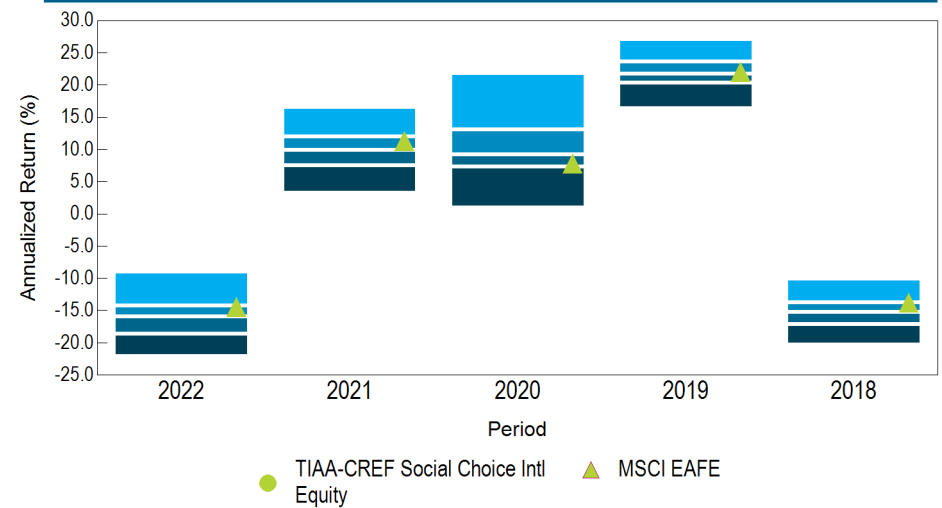
Return Summary



Foreign Large Blend MStar MF Return Comparison

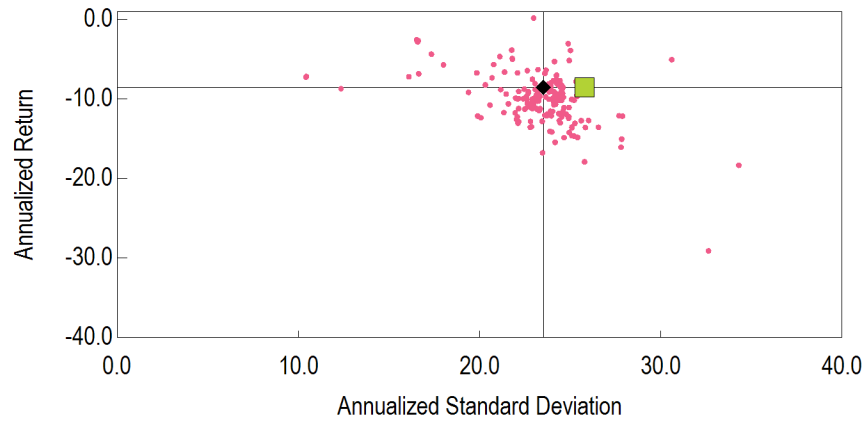


Foreign Large Blend MStar MF Return Comparison



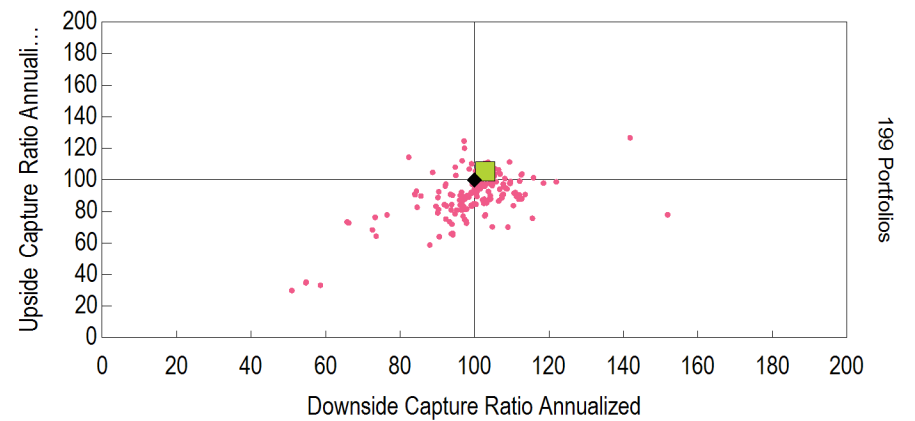
TIAA-CREF Social Choice Intl Equity | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
10 Months Ending December 31, 2022



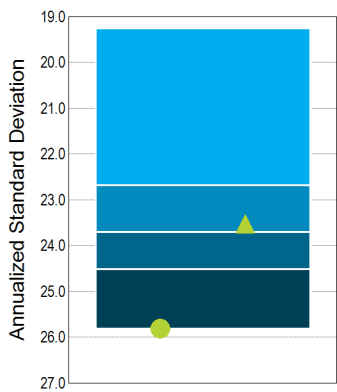
- TIAA-CREF Social Choice Intl Equity
- Foreign Large Blend MStar MF
- ◆ MSCI EAFE

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
10 Months Ending December 31, 2022



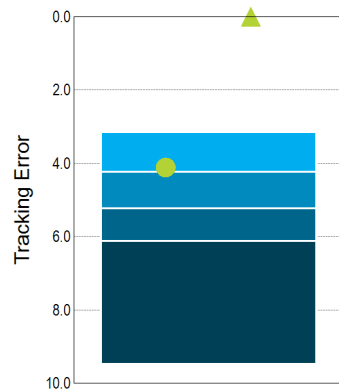
- TIAA-CREF Social Choice Intl Equity
- Foreign Large Blend MStar MF
- ◆ MSCI EAFE

Annualized Standard Deviation



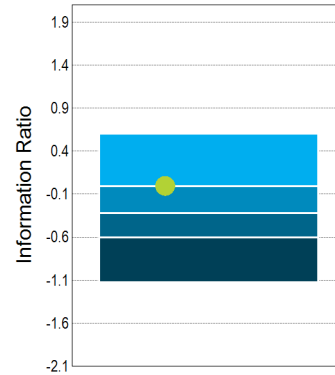
- TIAA-CREF Social Choice Intl Equity
- ▲ MSCI EAFE

Tracking Error



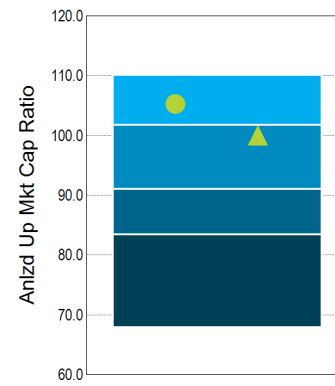
- ▲ MSCI EAFE

Information Ratio



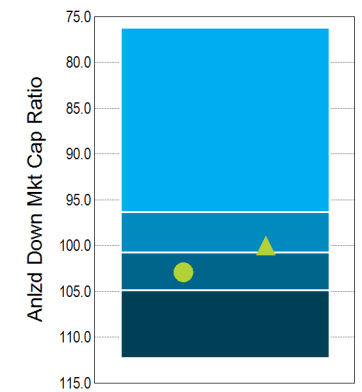
- 5th to 25th Percentile
- 25th to Median

Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile

Anlzd Down Mkt Cap Ratio



- 75th to 95th Percentile

Fund Characteristics as of October 31, 2022

Sharpe Ratio (3 Year)	
Average Market Cap (\$mm)	33,894.34
Price/Earnings	11.60
Price/Book	1.46
Price/Sales	1.03
Price/Cash Flow	6.07
Dividend Yield	4.53
Number of Equity Holdings	347
R-Squared (3 Year)	
Alpha (3 Year)	

Sector Allocation as of October 31, 2022

BASIC MATERIALS	7.53%
COMMUNICATION SERVICES	6.45%
CONSUMER CYCLICAL	9.47%
CONSUMER DEFENSIVE	10.47%
ENERGY	5.80%
FINANCIAL SERVICES	17.94%
HEALTHCARE	13.39%
INDUSTRIALS	14.38%
REAL ESTATE	2.67%
TECHNOLOGY	8.67%
UTILITIES	3.22%

Top Holdings as of October 31, 2022

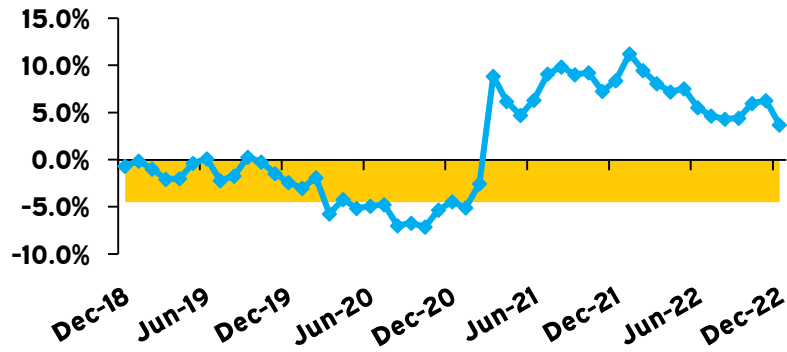
NESTLE SA	2.62%
ROCHE HOLDING AG	2.02%
ASML HOLDING NV	1.73%
ASTRAZENECA PLC	1.68%
NOVO NORDISK A/S CLASS B	1.66%
TOYOTA MOTOR CORP	1.41%
TOTALENERGIES SE	1.32%
COMMONWEALTH BANK OF AUSTRALIA	1.17%
BP PLC	1.11%
HSBC HOLDINGS PLC	1.05%

Top Countries as of October 31, 2022

Japan	22.57%
United Kingdom	14.49%
France	10.97%
Switzerland	10.79%
Germany	8.08%
Australia	7.10%
Netherlands	3.89%
Sweden	3.10%
Denmark	2.73%
Hong Kong	2.43%

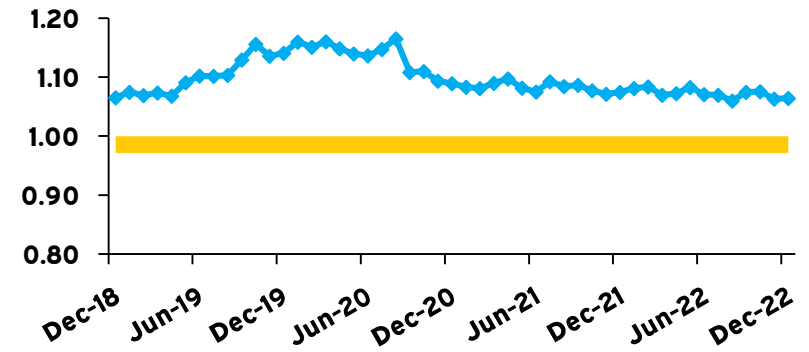
DFA Emerging Markets Core Equity I | As of December 31, 2022

Short Term – Rolling 12-Month Excess Return



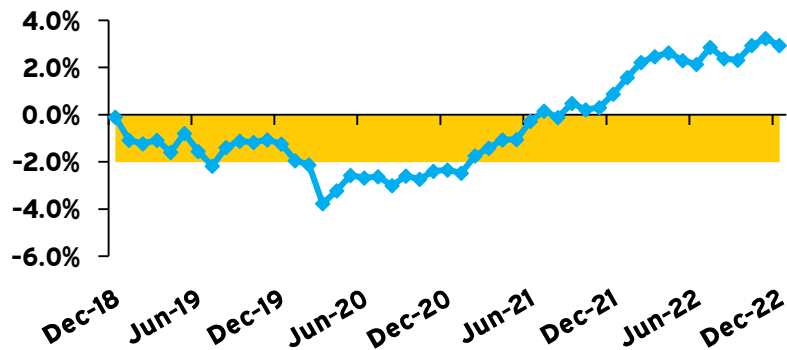
Results fall in the positive range.
Probationary Threshold -4.50%

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%

Benchmark: MSCI Emerging Markets

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
DFA Emerging Markets Core Equity I	10.5	-16.4	0.2	-0.2	3.0	11/20/2011
MSCI Emerging Markets	9.7	-20.1	-2.7	-1.4	2.1	

Monitoring Status

Positive

DFA Emerging Markets Core Equity I | As of December 31, 2022

Description:

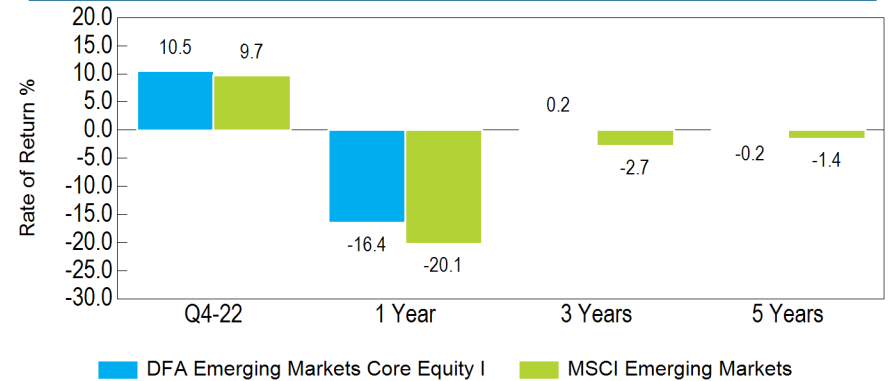
The investment seeks long-term capital appreciation.

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.

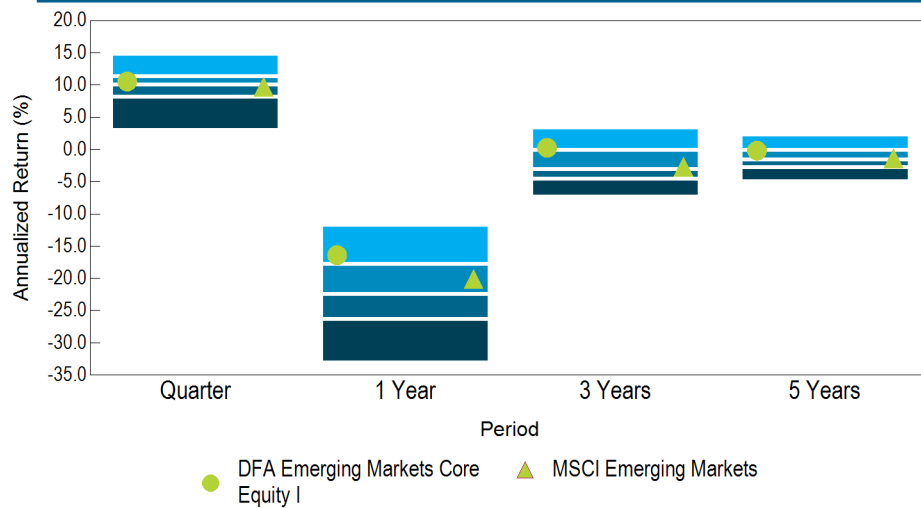
Portfolio Fund Information as of December 31, 2022

Ticker	DFCEX
Morningstar Category	Diversified Emerging Mkts
Average Market Cap (\$mm)	9,464.18
Net Assets (\$mm)	23,024.05
% Assets in Top 10 Holdings	14.34
Total Number of Holdings	6,770
Manager Name	Jed S. Fogdall
Manager Tenure	13
Expense Ratio	0.39%
Closed to New Investors	No

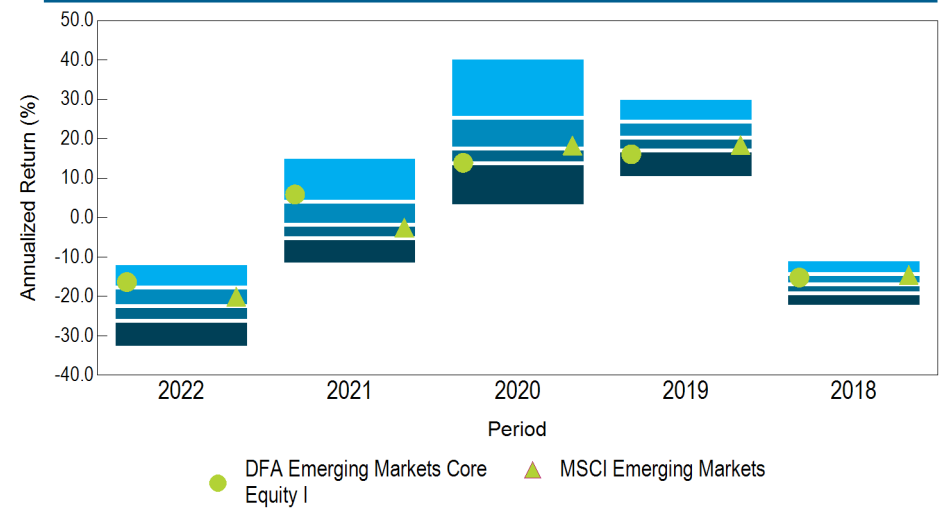
Return Summary



Diversified Emerging Mkts MStar MF Return Comparison

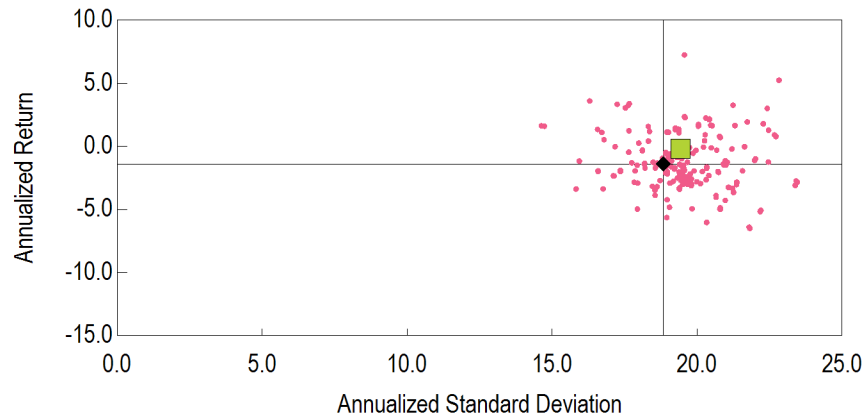


Diversified Emerging Mkts MStar MF Return Comparison

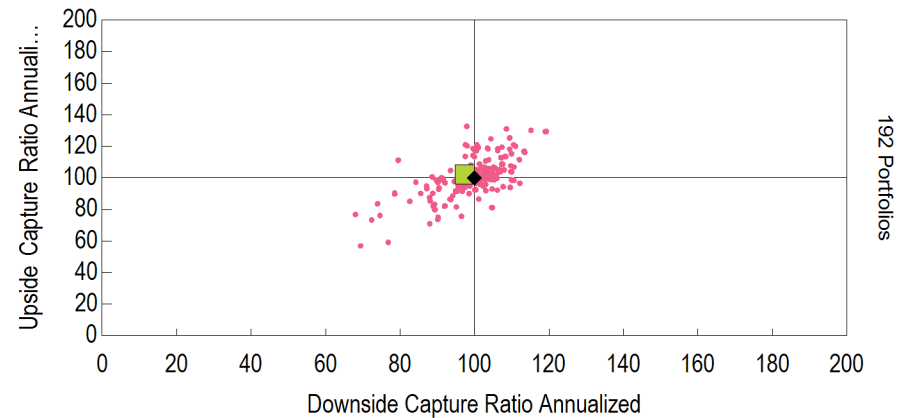


DFA Emerging Markets Core Equity I | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



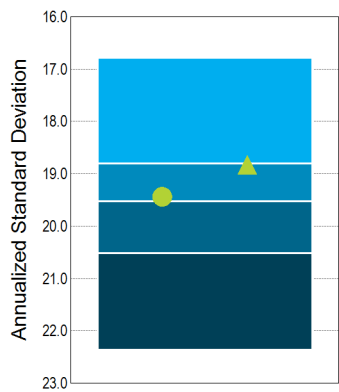
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



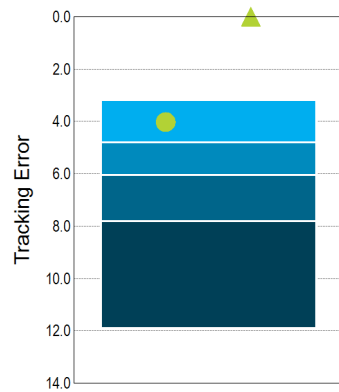
- DFA Emerging Markets Core Equity I
- Diversified Emerging Mkts MStar MF
- ◆ MSCI Emerging Markets

- DFA Emerging Markets Core Equity I
- Diversified Emerging Mkts MStar MF
- ◆ MSCI Emerging Markets

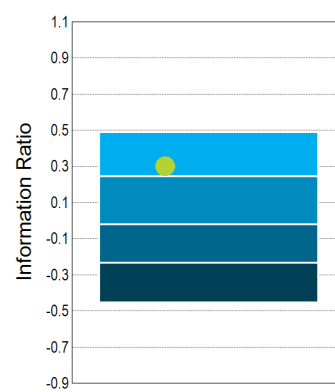
Annualized Standard Deviation



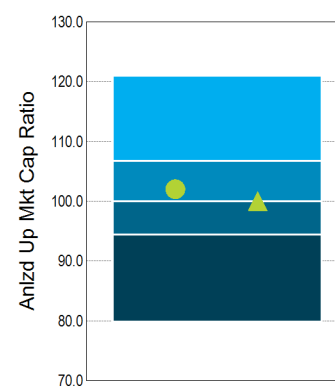
Tracking Error



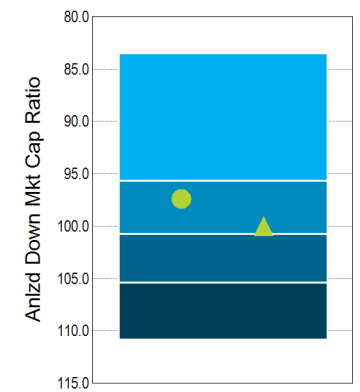
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- DFA Emerging Markets Core Equity I
- ▲ MSCI Emerging Markets
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

DFA Emerging Markets Core Equity I | As of December 31, 2022
Fund Characteristics as of December 31, 2022

Sharpe Ratio (3 Year)	-0.02
Average Market Cap (\$mm)	9,464.18
Price/Earnings	8.71
Price/Book	1.14
Price/Sales	0.70
Price/Cash Flow	4.03
Dividend Yield	4.76
Number of Equity Holdings	6,664
R-Squared (3 Year)	0.96
Alpha (3 Year)	0.28%

Sector Allocation as of December 31, 2022

BASIC MATERIALS	12.35%
COMMUNICATION SERVICES	7.56%
CONSUMER CYCLICAL	11.24%
CONSUMER DEFENSIVE	6.24%
ENERGY	5.04%
FINANCIAL SERVICES	17.20%
HEALTHCARE	4.83%
INDUSTRIALS	9.89%
REAL ESTATE	3.30%
TECHNOLOGY	19.12%
UTILITIES	3.24%

Top Holdings as of December 31, 2022

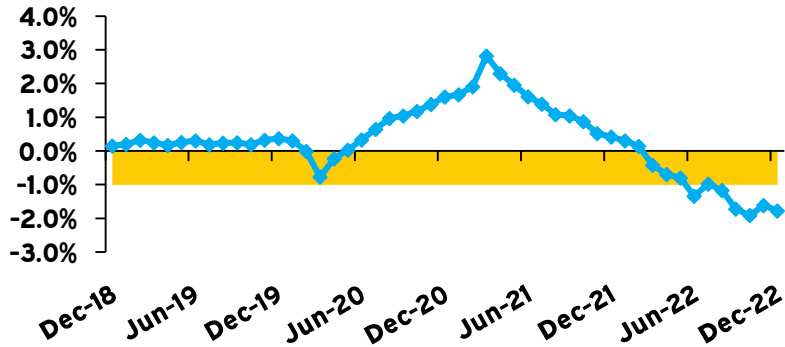
TENCENT HOLDINGS LTD	2.93%
SAMSUNG ELECTRONICS CO LTD	2.84%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	2.61%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD ADR	1.13%
CHINA CONSTRUCTION BANK CORP CLASS H	1.00%
VALE SA	0.91%
ALIBABA GROUP HOLDING LTD ADR	0.82%
PING AN INSURANCE (GROUP) CO. OF CHINA LTD CLASS H	0.81%
RELIANCE INDUSTRIES LTD	0.68%
INFOSYS LTD	0.62%

Top Countries as of December 31, 2022

China	27.90%
India	16.73%
Taiwan	16.00%
South Korea	11.77%
Brazil	5.04%
South Africa	3.71%
Saudi Arabia	3.62%
Thailand	2.62%
Mexico	2.45%
Indonesia	2.03%

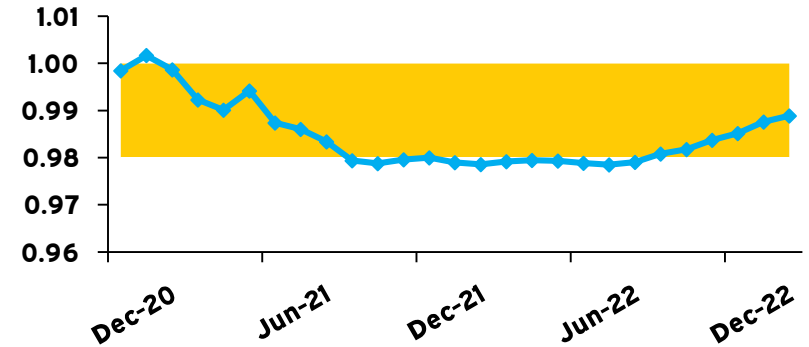
Metropolitan West Total Return Bond I | As of December 31, 2022

Short Term – Rolling 12-Month Excess Return



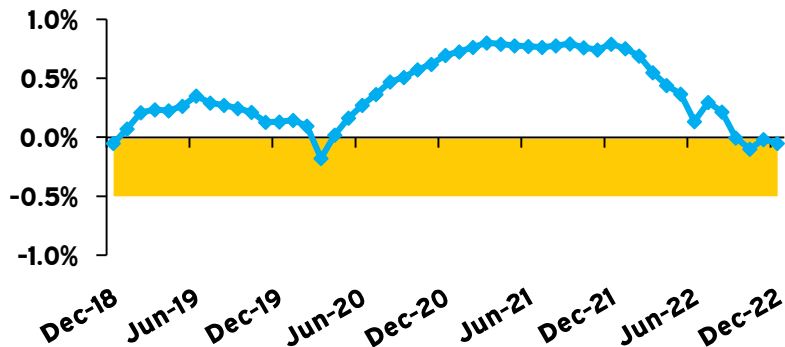
Results fall in the caution range.
Probationary Threshold -1.00%

Long Term – VRR



Results fall in the acceptable range.
Probationary Threshold <0.98

Medium Term – Rolling 36-Month Excess Return



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

Benchmark: Bloomberg US Aggregate TR

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
Metropolitan West Total Return Bond I	1.7	-14.8	-2.8	0.1	0.8	10/7/2015
Bloomberg US Aggregate TR	1.9	-13.0	-2.7	0.0	0.8	

Monitoring Status

Caution

Metropolitan West Total Return Bond I | As of December 31, 2022

Description:

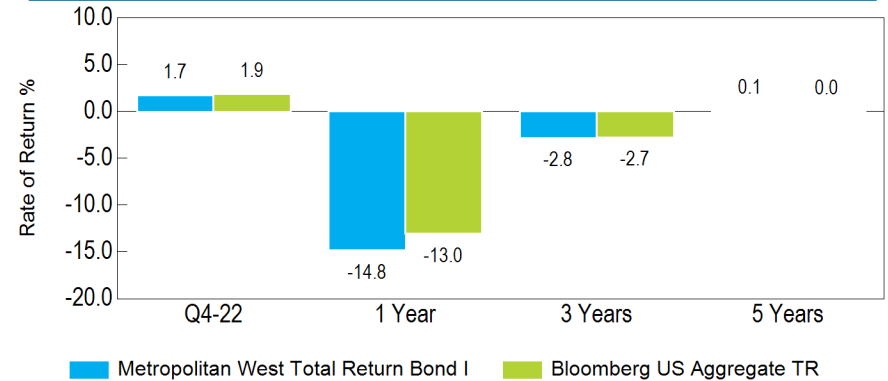
The investment seeks to maximize long-term total return.

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.

Portfolio Fund Information as of November 30, 2022

Ticker	MWTIX
Morningstar Category	Intermediate Core-Plus Bond
Average Market Cap (\$mm)	
Net Assets (\$mm)	38,377.43
% Assets in Top 10 Holdings	34.30
Total Number of Holdings	2,033
Manager Name	Stephen M. Kane
Manager Tenure	26
Expense Ratio	0.44%
Closed to New Investors	No

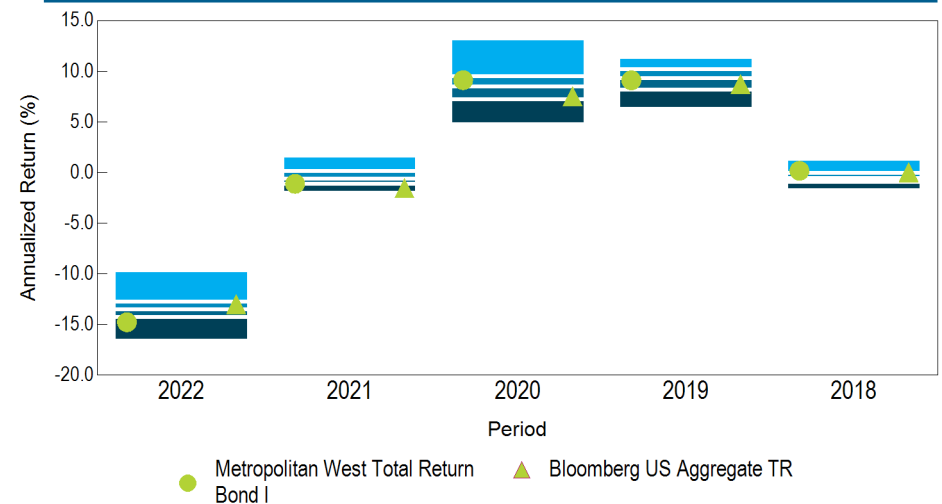
Return Summary



Intermediate Core Plus Bond MStar MF Return Comparison

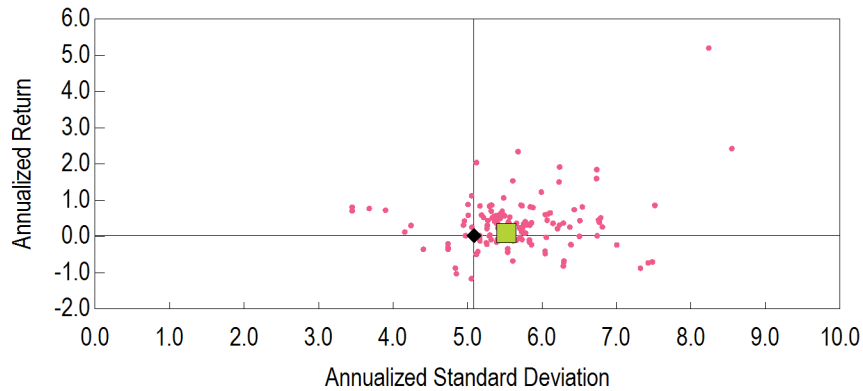


Intermediate Core Plus Bond MStar MF Return Comparison



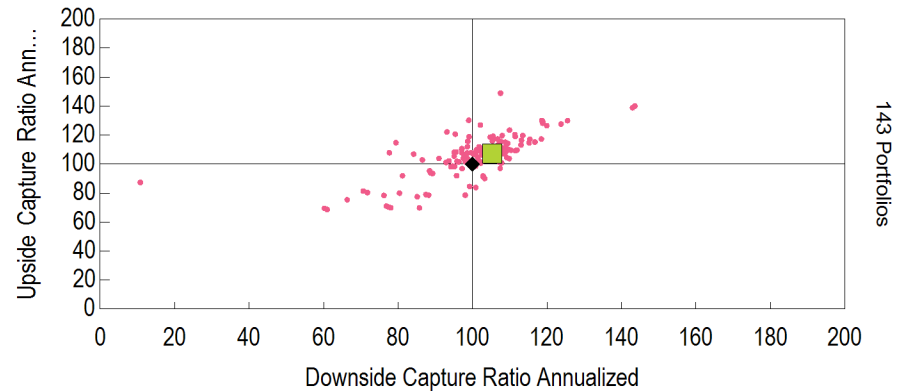
Metropolitan West Total Return Bond I | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



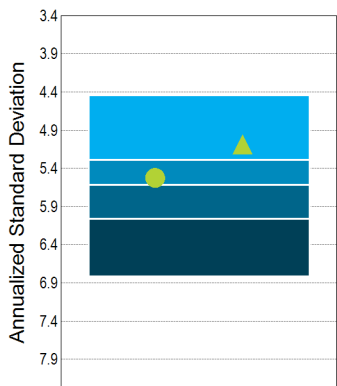
- Metropolitan West Total Return Bond I
- Bloomberg US Aggregate TR
- Intermediate Core Plus Bond MStar MF

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022

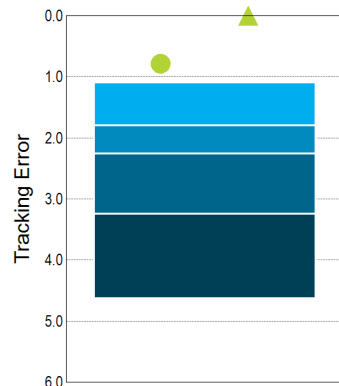


- Metropolitan West Total Return Bond I
- Bloomberg US Aggregate TR
- Intermediate Core Plus Bond MStar MF

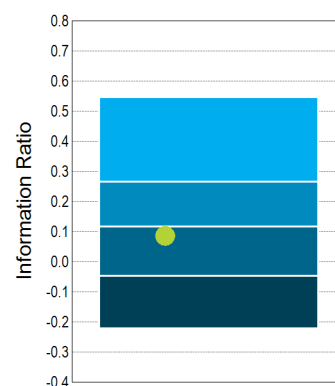
Annualized Standard Deviation



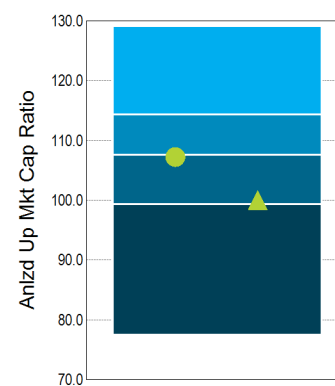
Tracking Error



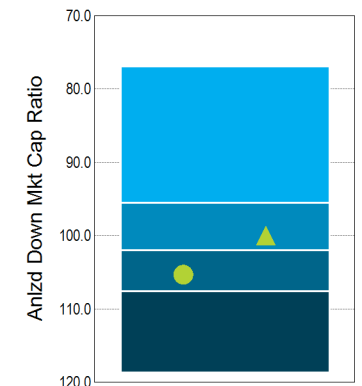
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio

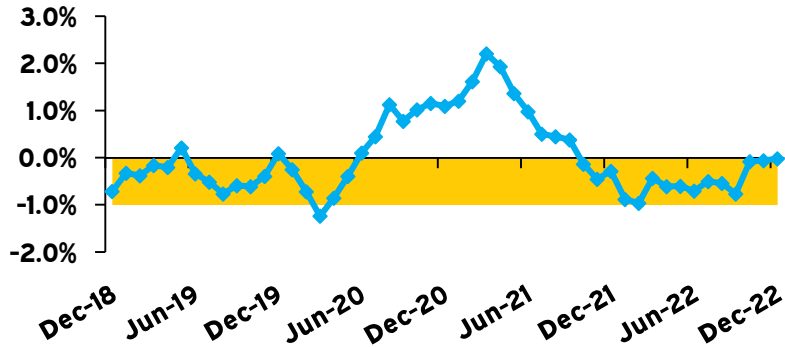


- Metropolitan West Total Return Bond I
- Bloomberg US Aggregate TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Metropolitan West Total Return Bond I | As of December 31, 2022

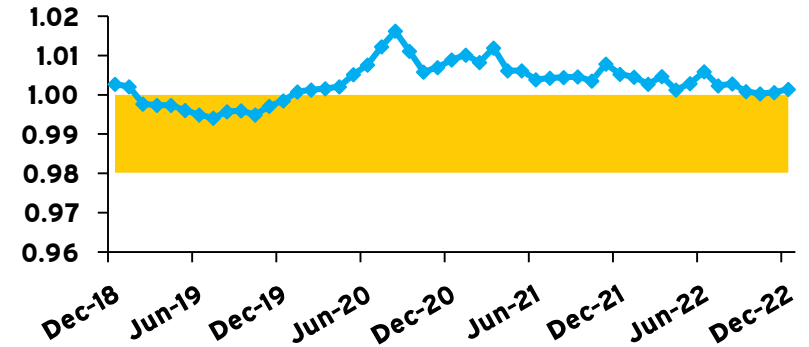
Fund Characteristics as of November 30, 2022		Top Holdings as of November 30, 2022		Fixed Income Sectors as of November 30, 2022	
Sharpe Ratio (3 Year)	-0.49	UNITED STATES TREASURY NOTES 4.375%	5.02%	GOVERNMENT	30.46%
Average Duration	6.82	FEDERAL NATIONAL MORTGAGE ASSOCIATION	4.83%	MUNICIPAL	0.68%
Average Coupon	3.56%	2%		CORPORATE	31.55%
Average Effective Maturity	8.36	UNITED STATES TREASURY NOTES 3.875%	4.29%	SECURITIZED	31.08%
R-Squared (3 Year)	0.98	UNITED STATES TREASURY NOTES 4.125%	3.71%	CASH & EQUIVALENTS	4.62%
Alpha (3 Year)	0.02%	FEDERAL NATIONAL MORTGAGE ASSOCIATION	3.17%	DERIVATIVE	1.62%
Beta (3 Year)	1.10	4.5%			
		FEDERAL NATIONAL MORTGAGE ASSOCIATION	3.13%		
		2.5%			
		UNITED STATES TREASURY BONDS 2%	2.91%		
		UNITED STATES TREASURY BONDS 2.375%	2.83%		
		FEDERAL NATIONAL MORTGAGE ASSOCIATION	2.44%		
		5%			
		FEDERAL NATIONAL MORTGAGE ASSOCIATION	1.95%		
		3%			
Credit Quality as of September 30, 2022		Maturities as of November 30, 2022		Top Countries as of November 30, 2022	
AAA	54.40%	1 to 3 Years	12.65%	United States	91.53%
AA	6.36%	3 to 5 Years	10.82%	United Kingdom	3.09%
A	13.29%	5 to 7 Years	9.01%	Switzerland	0.97%
BBB	17.04%	7 to 10 Years	6.78%	Cayman Islands	0.71%
BB	3.52%	10 to 15 Years	7.89%	Germany	0.57%
B	1.01%	15 to 20 Years	9.26%	Ireland	0.56%
Below B	4.29%	20 to 30 Years	25.86%	Mexico	0.36%
Not Rated	0.10%	Greater than 30 Years	17.03%	Netherlands	0.35%
				Australia	0.34%
				Norway	0.17%

Short Term – Rolling 12-Month Excess Return



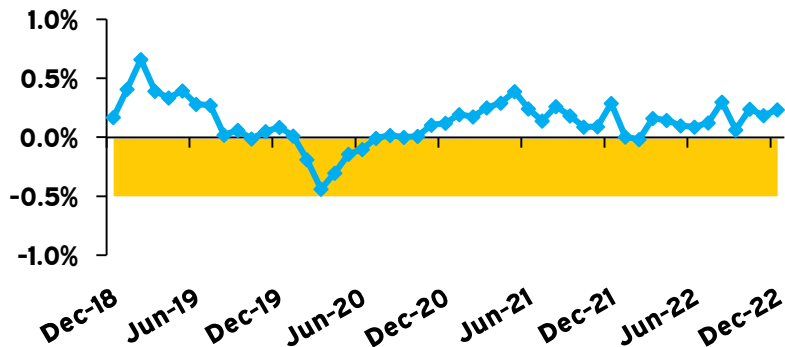
Results fall in the acceptable range.
Probationary Threshold -1.00%

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%

Benchmark: Bloomberg US TIPS TR

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
PIMCO Real Return	2.7	-11.9	1.4	2.1	1.8	11/20/2011
Bloomberg US TIPS TR	2.0	-11.8	1.2	2.1	1.7	

Monitoring Status

Acceptable

Description:

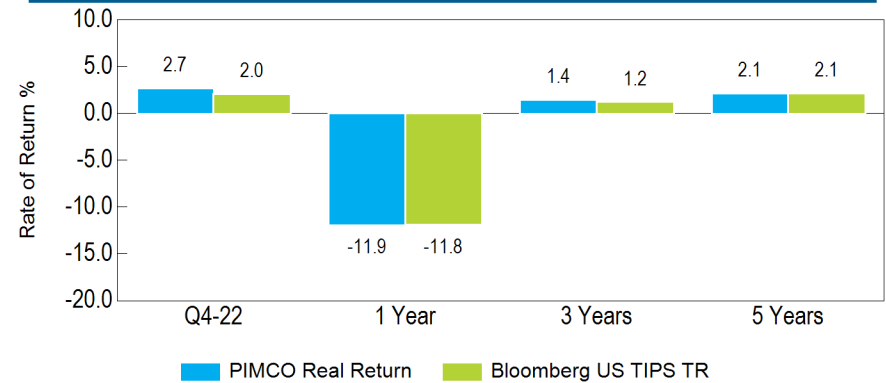
The investment seeks maximum real return, consistent with preservation of capital and prudent investment management.

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.

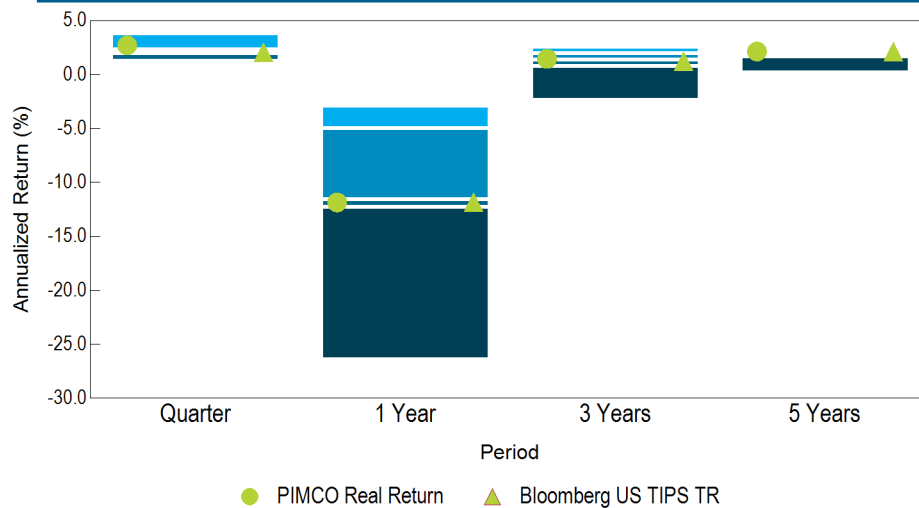
Portfolio Fund Information as of September 30, 2022

Ticker	PRRIX
Morningstar Category	Inflation-Protected Bond
Average Market Cap (\$mm)	
Net Assets (\$mm)	6,564.29
% Assets in Top 10 Holdings	64.40
Total Number of Holdings	863
Manager Name	Stephen A. Rodosky
Manager Tenure	4
Expense Ratio	0.47%
Closed to New Investors	No

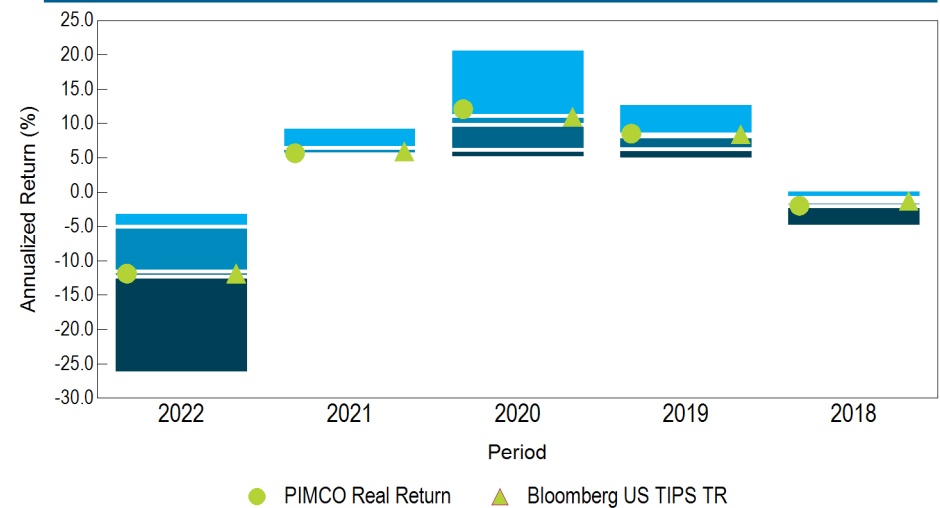
Return Summary



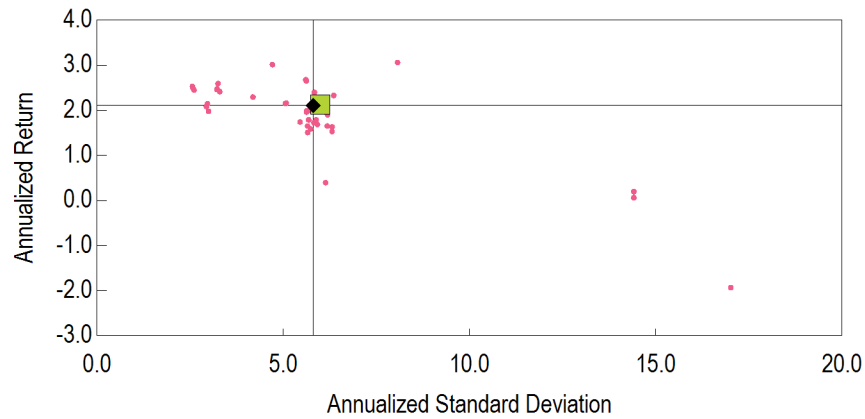
Inflation-Protected Bond MStar MF Return Comparison



Inflation-Protected Bond MStar MF Return Comparison

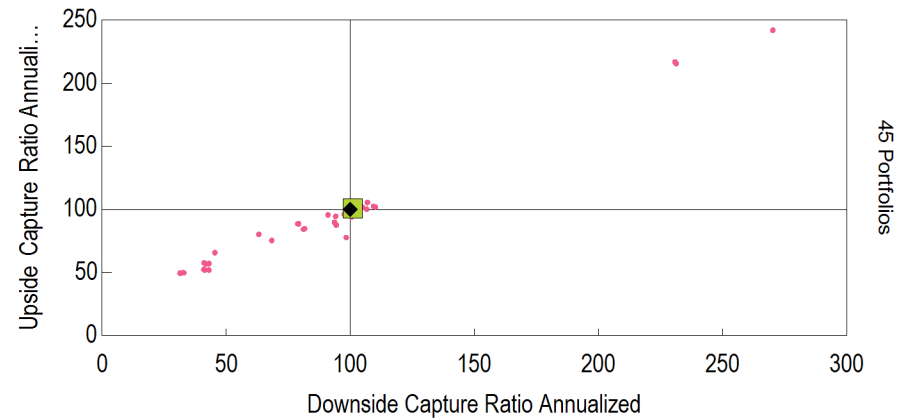


Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



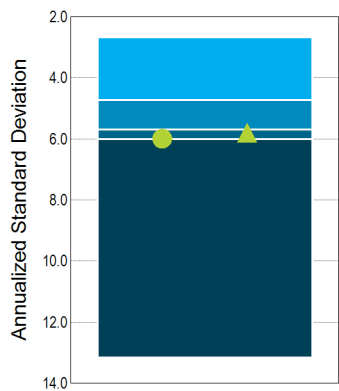
- PIMCO Real Return
- Inflation-Protected Bond MStar MF
- ◆ Bloomberg US TIPS TR

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



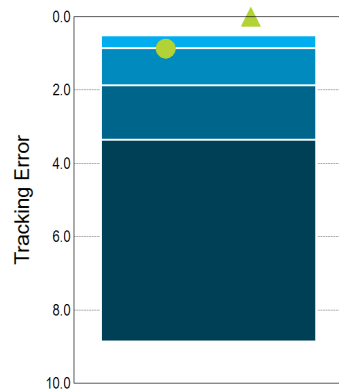
- PIMCO Real Return
- Inflation-Protected Bond MStar MF
- ◆ Bloomberg US TIPS TR

Annualized Standard Deviation



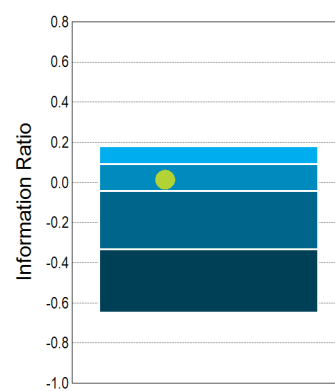
- PIMCO Real Return

Tracking Error

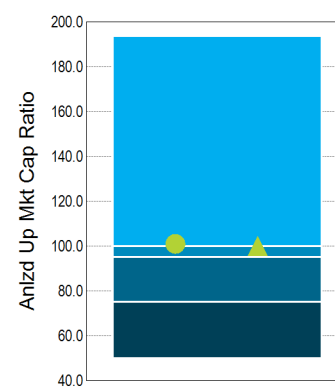


- ▲ Bloomberg US TIPS TR

Information Ratio

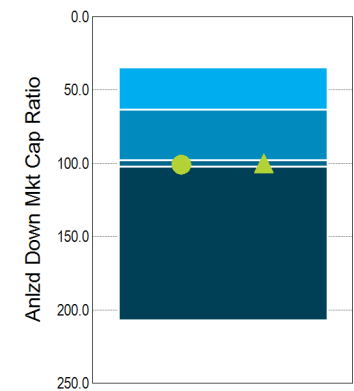


Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile
- 75th to 95th Percentile

Anlzd Down Mkt Cap Ratio

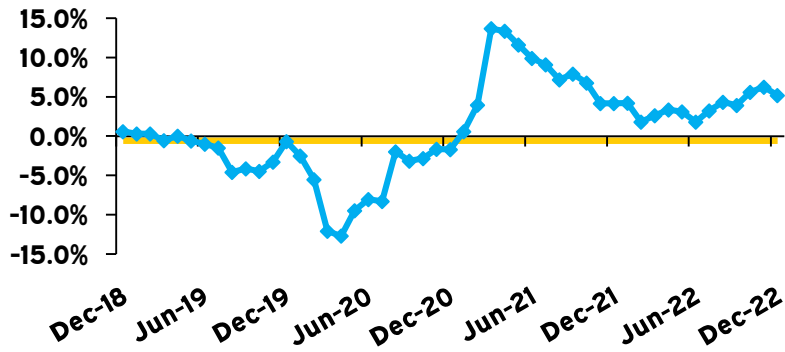


Fund Characteristics as of September 30, 2022		Top Holdings as of September 30, 2022		Fixed Income Sectors as of September 30, 2022	
Sharpe Ratio (3 Year)	0.05	10 YEAR TREASURY NOTE FUTURE DEC 22	14.14%	GOVERNMENT	77.29%
Average Duration	6.48	5 YEAR TREASURY NOTE FUTURE DEC 22	8.84%	MUNICIPAL	0.00%
Average Coupon	1.36%	EURO SCHATZ FUTURE DEC 22	8.62%	CORPORATE	0.55%
Average Effective Maturity	6.27	FIN FUT 10YR JGB OSE 12/13/22	6.39%	SECURITIZED	6.77%
R-Squared (3 Year)	0.99	UNITED STATES TREASURY NOTES 0.625%	5.29%	CASH & EQUIVALENTS	3.75%
Alpha (3 Year)	0.00%	UNITED STATES TREASURY BONDS 3.625%	4.83%	DERIVATIVE	11.65%
Beta (3 Year)	1.04	US TREASURY BOND FUTURE DEC 22	4.58%		
		UNITED STATES TREASURY NOTES 0.5%	4.08%		
		UNITED STATES TREASURY NOTES 0.125%	4.06%		
		UNITED STATES TREASURY NOTES 0.75%	3.56%		

Maturities as of September 30, 2022	
1 to 3 Years	14.97%
3 to 5 Years	11.72%
5 to 7 Years	16.92%
7 to 10 Years	16.98%
10 to 15 Years	2.38%
15 to 20 Years	3.21%
20 to 30 Years	8.93%
Greater than 30 Years	3.05%

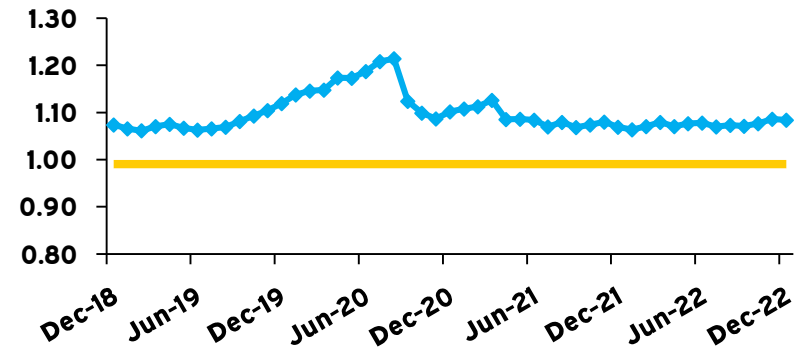
Top Countries as of September 30, 2022	
United States	78.36%
Germany	6.65%
United Kingdom	5.72%
Italy	2.15%
Denmark	2.14%
Ireland	1.55%
France	1.33%
Cayman Islands	0.93%
Japan	0.44%
Canada	0.22%

Short Term – Rolling 12-Month Excess Return



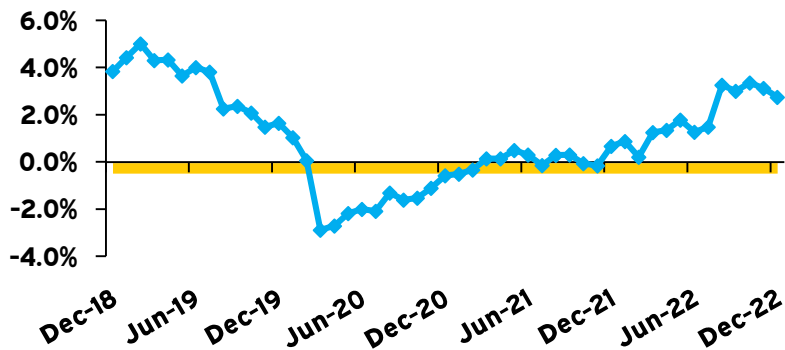
Results fall in the positive range.
Probationary Threshold -1.00%

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%

Benchmark: Bloomberg US Aggregate TR

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
PIMCO Income I	3.4	-7.8	0.0	1.7	5.5	11/20/2011
Bloomberg US Aggregate TR	1.9	-13.0	-2.7	0.0	1.4	

Monitoring Status

Positive

Description:

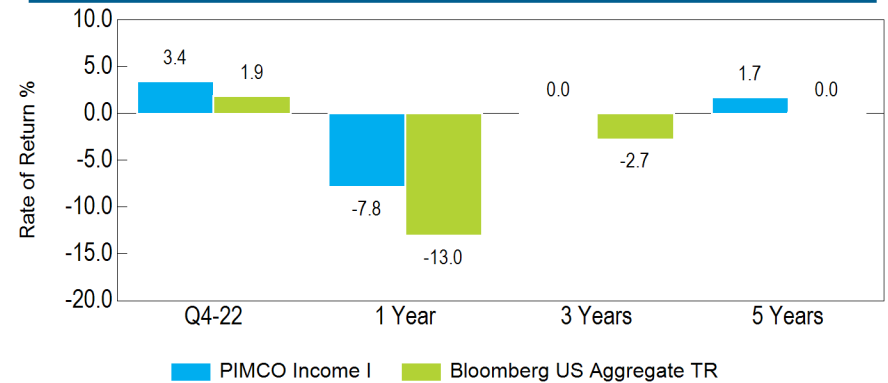
The investment seeks to maximize current income; long-term capital appreciation is a secondary objective.

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.

Portfolio Fund Information as of September 30, 2022

Ticker	PIMIX
Morningstar Category	Multisector Bond
Average Market Cap (\$mm)	
Net Assets (\$mm)	65,602.30
% Assets in Top 10 Holdings	37.38
Total Number of Holdings	7,484
Manager Name	Daniel J. Ivascyn
Manager Tenure	16
Expense Ratio	0.51%
Closed to New Investors	No

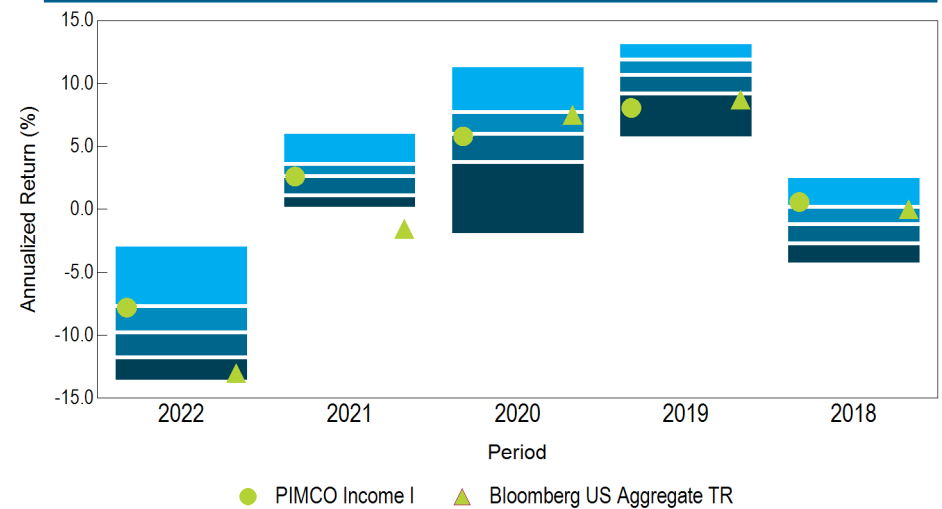
Return Summary



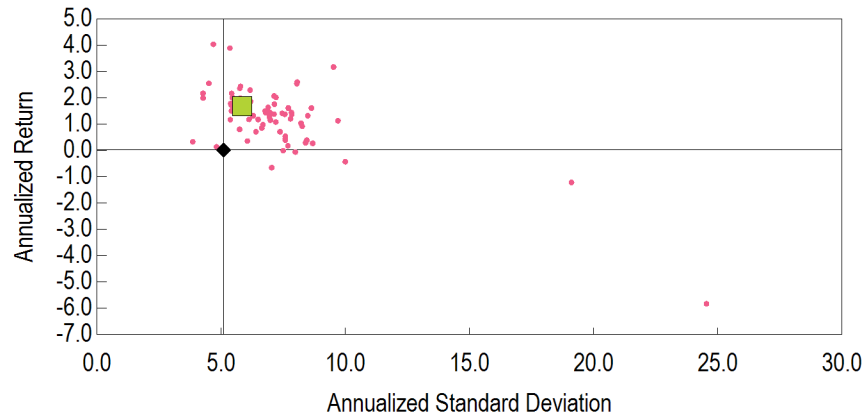
Multisector Bond MStar MF Return Comparison



Multisector Bond MStar MF Return Comparison

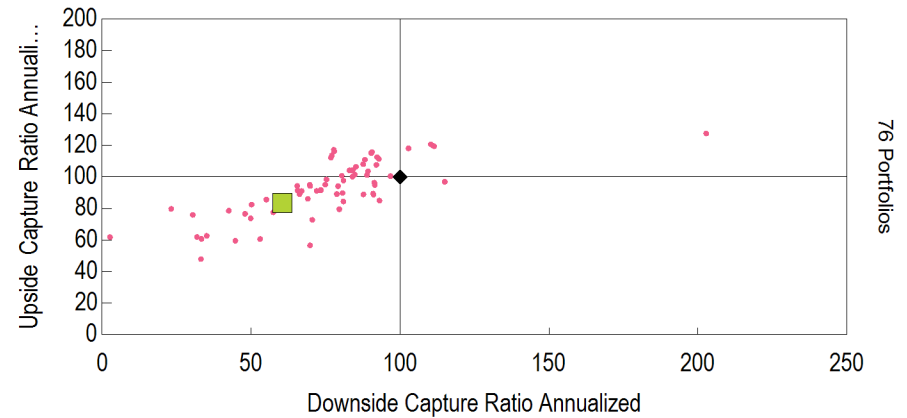


Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



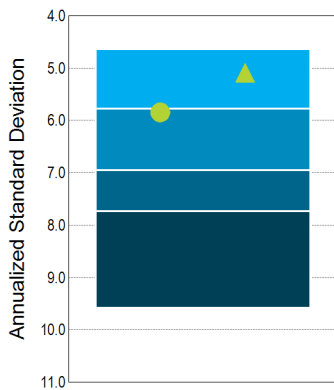
- PIMCO Income I
- Multisector Bond MStar MF
- ◆ Bloomberg US Aggregate TR

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



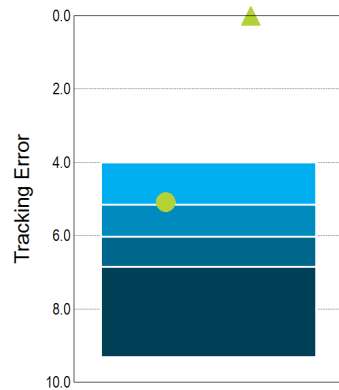
- PIMCO Income I
- Multisector Bond MStar MF
- ◆ Bloomberg US Aggregate TR

Annualized Standard Deviation



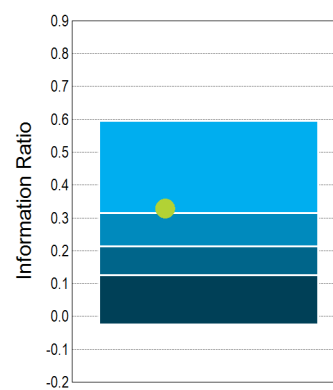
- PIMCO Income I

Tracking Error



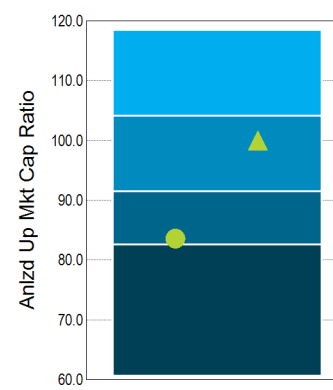
- ▲ Bloomberg US Aggregate TR

Information Ratio



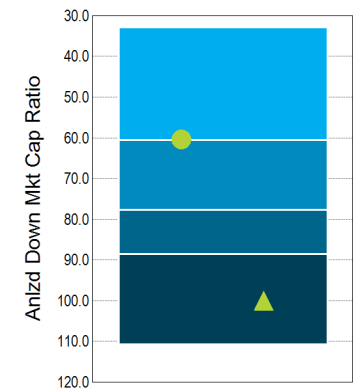
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile
- 75th to 95th Percentile

Anlzd Down Mkt Cap Ratio



- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Fund Characteristics as of September 30, 2022		Top Holdings as of September 30, 2022		Fixed Income Sectors as of September 30, 2022	
Sharpe Ratio (3 Year)	-0.11	10 YEAR TREASURY NOTE FUTURE DEC 22	8.95%	GOVERNMENT	27.35%
Average Duration	3.22	PIMCO FDS	5.47%	MUNICIPAL	0.03%
Average Coupon		FEDERAL NATIONAL MORTGAGE ASSOCIATION	4.99%	CORPORATE	5.99%
Average Effective Maturity	5.17	4%		SECURITIZED	14.80%
R-Squared (3 Year)	0.36	FEDERAL NATIONAL MORTGAGE ASSOCIATION	4.07%	CASH & EQUIVALENTS	29.48%
Alpha (3 Year)	0.21%	3.5%		DERIVATIVE	22.36%
Beta (3 Year)	0.80	FEDERAL NATIONAL MORTGAGE ASSOCIATION	3.54%		
		3%			
		FEDERAL NATIONAL MORTGAGE ASSOCIATION	2.57%		
		4%			
		US TREASURY BOND FUTURE DEC 22	2.35%		
		FEDERAL NATIONAL MORTGAGE ASSOCIATION	2.11%		
		3.5%			
		FIN FUT US ULTRA 30YR CBT 12/20/22	1.86%		

Credit Quality as of September 30, 2022		Maturities as of September 30, 2022		Top Countries as of September 30, 2022	
AAA	41.00%	1 to 3 Years	8.28%	United States	80.39%
AA	9.07%	3 to 5 Years	16.16%	United Kingdom	4.85%
A	4.04%	5 to 7 Years	13.14%	Mexico	3.09%
BBB	17.13%	7 to 10 Years	10.80%	Belize	2.90%
BB	14.90%	10 to 15 Years	5.26%	Australia	1.90%
B	4.78%	15 to 20 Years	1.23%	South Africa	1.17%
Below B	9.10%	20 to 30 Years	13.71%	Ireland	0.73%
Not Rated	0.00%	Greater than 30 Years	17.91%	Russia	0.57%
				Turkey	0.54%
				France	0.34%

Vanguard High-Yield Corp Adm | As of December 31, 2022

Description:

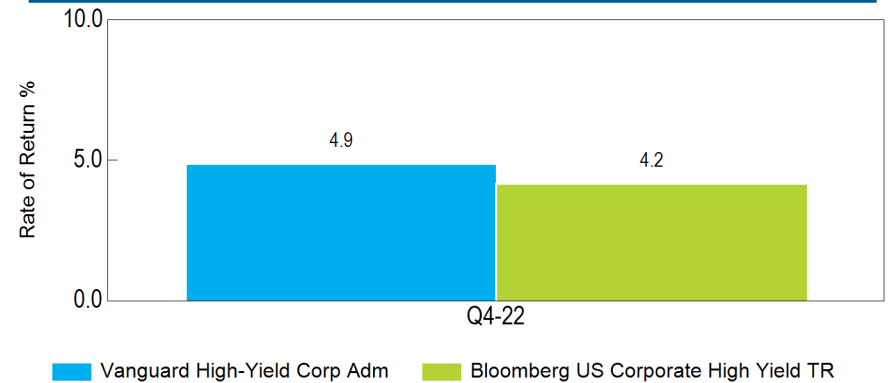
The investment seeks to provide a high level of current income.

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.

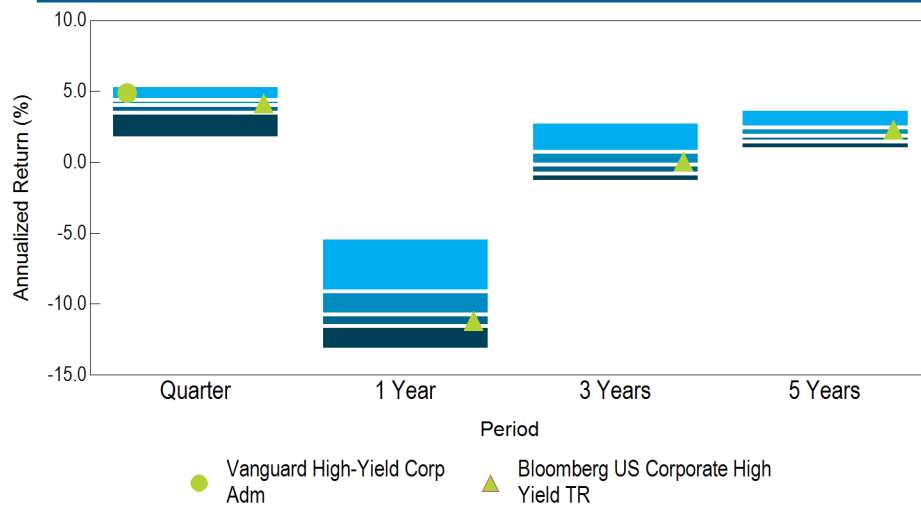
Portfolio Fund Information as of September 30, 2022

Ticker	VWEAX
Morningstar Category	High Yield Bond
Average Market Cap (\$mm)	
Net Assets (\$mm)	19,821.88
% Assets in Top 10 Holdings	8.17
Total Number of Holdings	695
Manager Name	Michael L. Hong
Manager Tenure	15
Expense Ratio	0.13%
Closed to New Investors	No

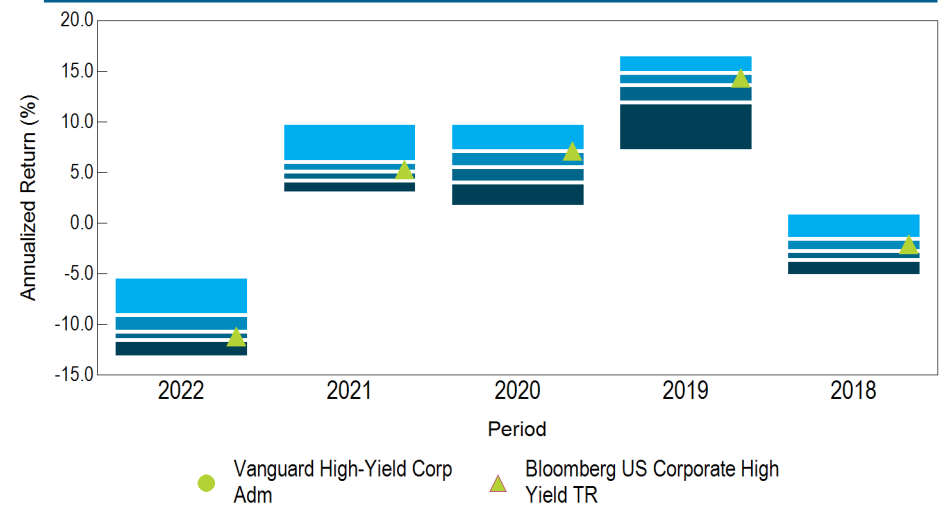
Return Summary



High Yield Bond MStar MF Return Comparison

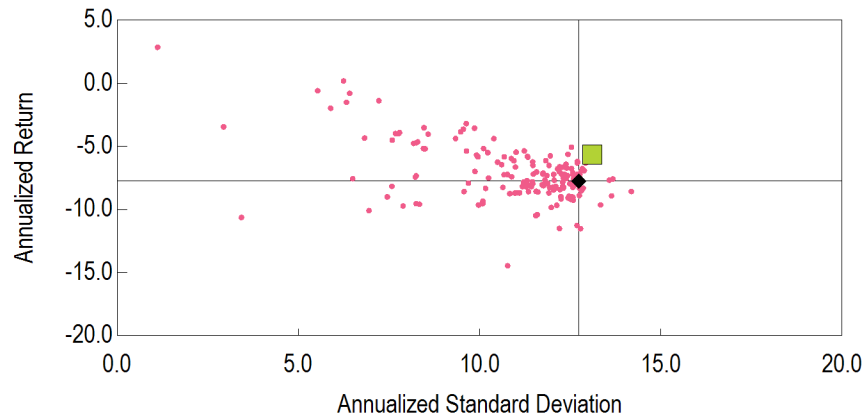


High Yield Bond MStar MF Return Comparison



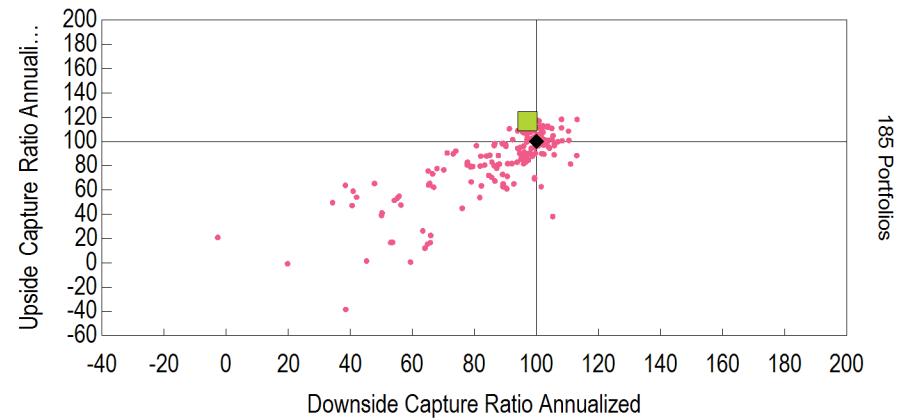
Vanguard High-Yield Corp Adm | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
10 Months Ending December 31, 2022



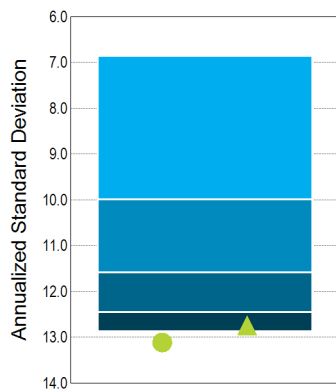
- Vanguard High-Yield Corp Adm
- ◆ Bloomberg US Corporate High Yield TR
- High Yield Bond MStar MF

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
10 Months Ending December 31, 2022



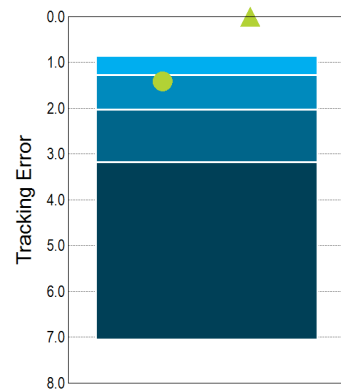
- Vanguard High-Yield Corp Adm
- ◆ Bloomberg US Corporate High Yield TR
- High Yield Bond MStar MF

Annualized Standard Deviation



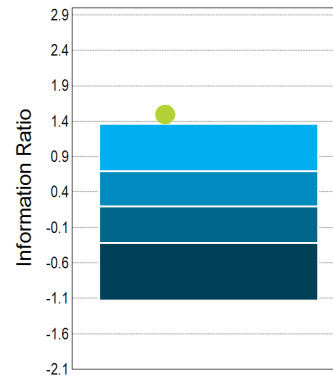
- Vanguard High-Yield Corp Adm
- ▲ Bloomberg US Corporate High Yield TR

Tracking Error



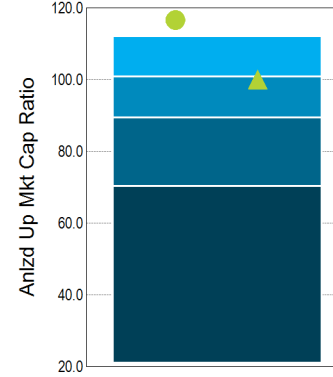
- ▲ Bloomberg US Corporate High Yield TR

Information Ratio



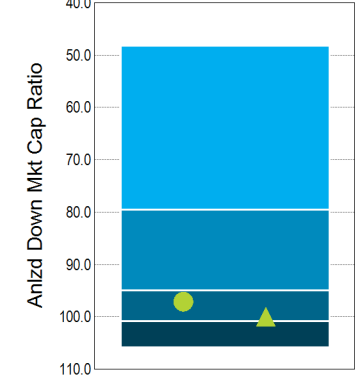
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile

Anlzd Down Mkt Cap Ratio

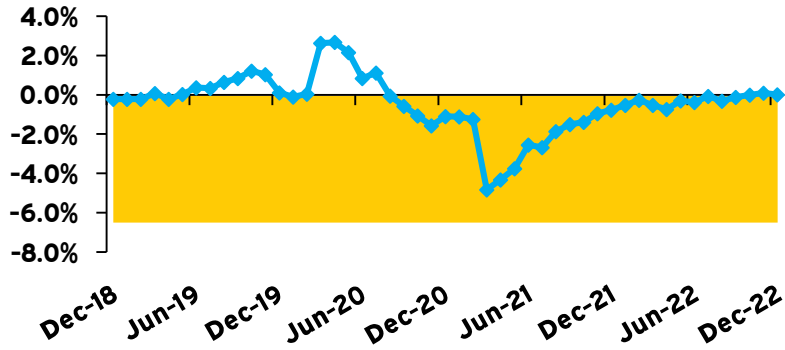


- 75th to 95th Percentile

Fund Characteristics as of September 30, 2022		Top Holdings as of September 30, 2022		Fixed Income Sectors as of September 30, 2022	
Sharpe Ratio (3 Year)		UNITED STATES TREASURY NOTES	1.21%	GOVERNMENT	3.57%
Average Duration	4.25	IMOLA MERGER CORP.	0.96%	MUNICIPAL	0.00%
Average Coupon	4.87%	HERC HOLDINGS INC	0.82%	CORPORATE	91.99%
Average Effective Maturity	5.90	CREDIT SUISSE GROUP AG	0.81%	SECURITIZED	0.00%
R-Squared (3 Year)		T-MOBILE US INC	0.71%	CASH & EQUIVALENTS	4.44%
Alpha (3 Year)		FRONTIER COMMUNICATIONS PARENT INC	0.64%	DERIVATIVE	0.00%
Beta (3 Year)		MOZART DEBT MERGER SUBORDINATED INC.	0.62%		
		SS&C TECHNOLOGIES, INC.	0.61%		
		NORTONLIFELOCK INC.	0.56%		

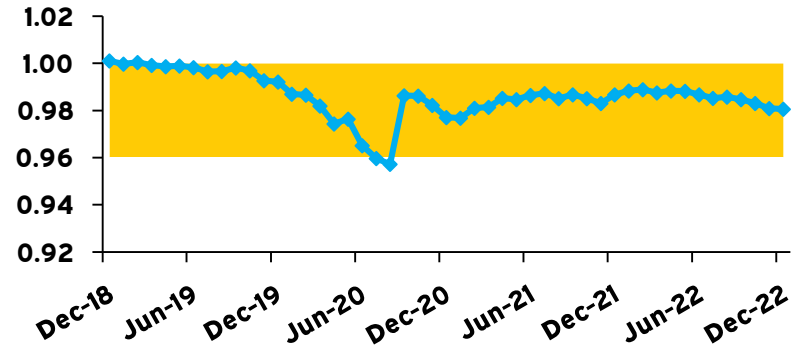
Credit Quality as of December 31, 2022		Maturities as of September 30, 2022		Top Countries as of September 30, 2022	
AAA	5.79%	1 to 3 Years	10.15%	United States	85.58%
AA	2.12%	3 to 5 Years	20.48%	Canada	3.47%
A	0.10%	5 to 7 Years	33.83%	Netherlands	2.72%
BBB	5.61%	7 to 10 Years	25.54%	United Kingdom	1.45%
BB	49.62%	10 to 15 Years	1.03%	France	1.00%
B	32.95%	15 to 20 Years	1.23%	Ireland	0.89%
Below B	3.57%	20 to 30 Years	2.06%	Italy	0.85%
Not Rated	0.24%	Greater than 30 Years	0.28%	Finland	0.84%
				Spain	0.75%
				Israel	0.47%

Short Term – Rolling 12-Month Excess Return



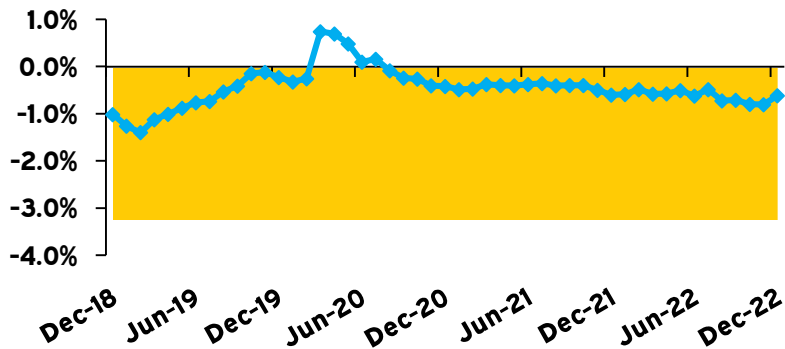
Results fall in the positive range.
Probationary Threshold -6.50%

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%

Benchmark: S&P/LSTA Performing Loan TR USD

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TRowe Price Floating Rate I	3.0	-0.6	2.1	3.1	3.9	11/20/2011
S&P/LSTA Performing Loan TR USD	2.8	-0.6	2.7	3.5	4.4	

Monitoring Status

Acceptable

Description:

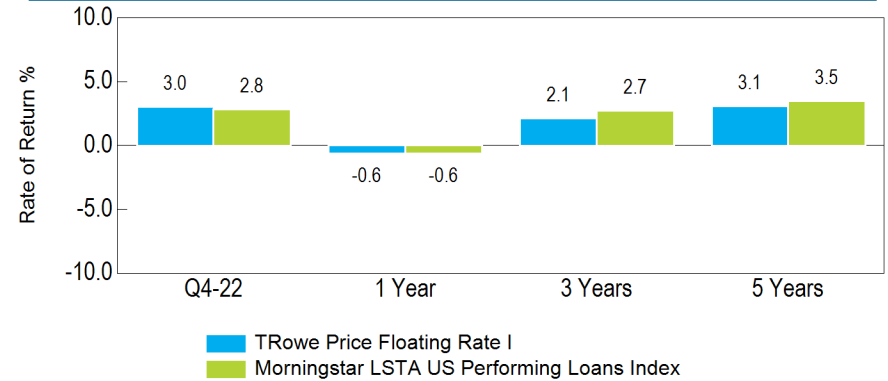
The investment seeks high current income and, secondarily, capital appreciation.

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.

Portfolio Fund Information as of December 31, 2022

Ticker	RPIFX
Morningstar Category	Bank Loan
Average Market Cap (\$mm)	
Net Assets (\$mm)	4,288.48
% Assets in Top 10 Holdings	19.24
Total Number of Holdings	359
Manager Name	Paul M. Massaro
Manager Tenure	14
Expense Ratio	0.57%
Closed to New Investors	No

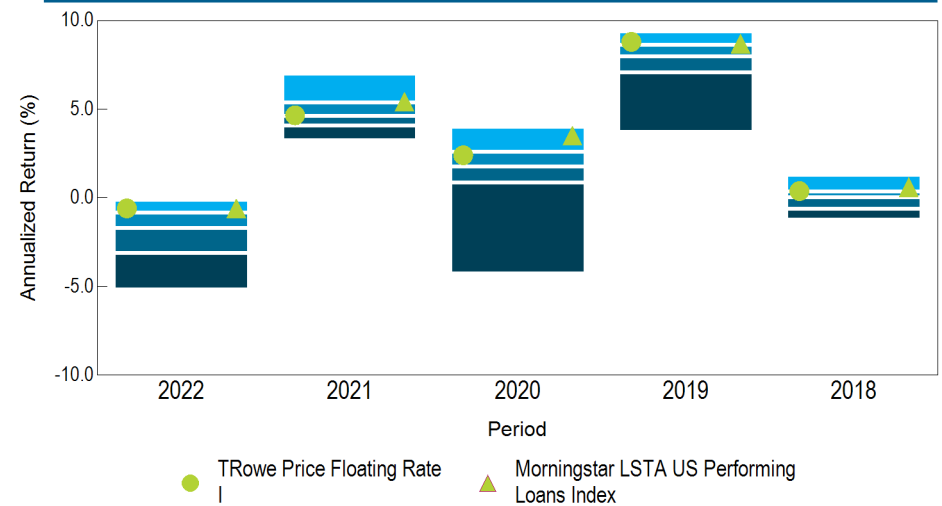
Return Summary



Bank Loan MStar MF Return Comparison

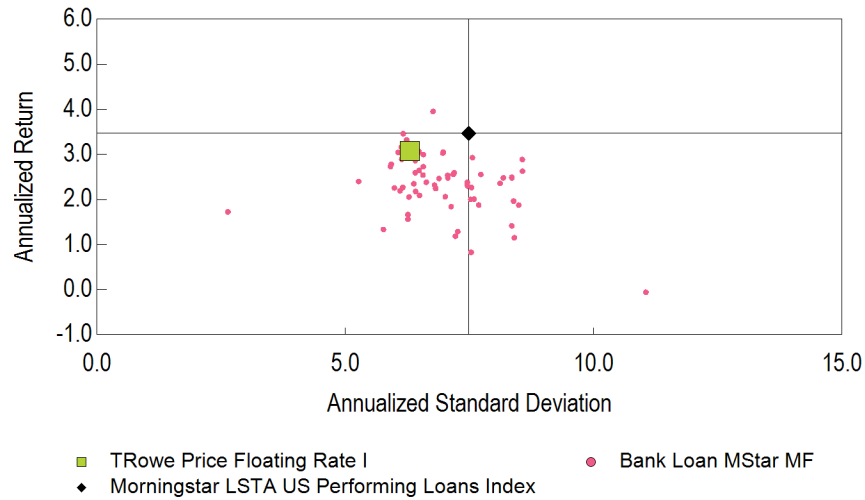


Bank Loan MStar MF Return Comparison

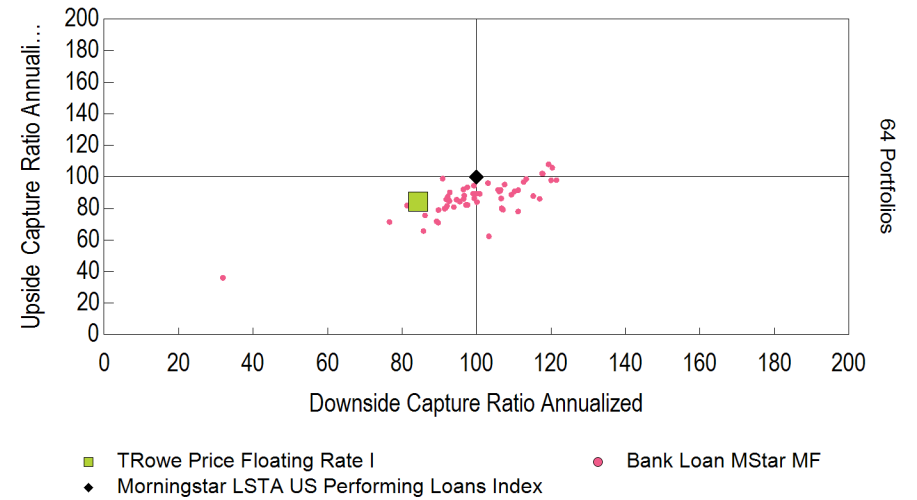


TRowe Price Floating Rate I | As of December 31, 2022

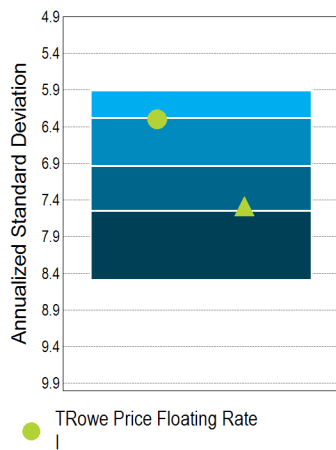
Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



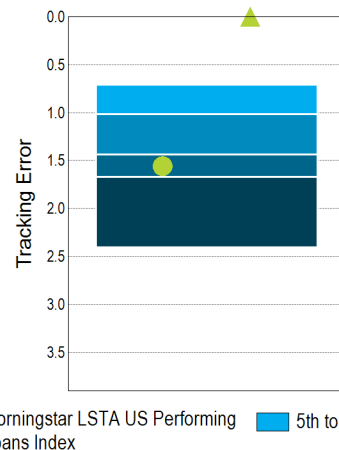
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



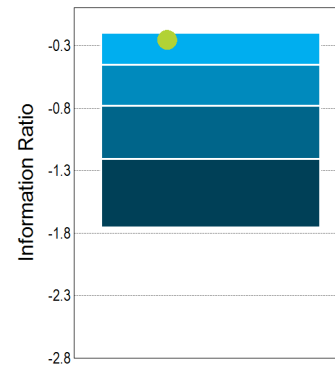
Annualized Standard Deviation



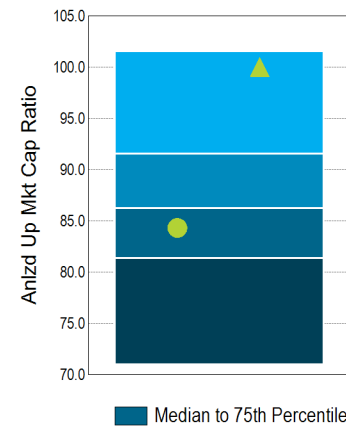
Tracking Error



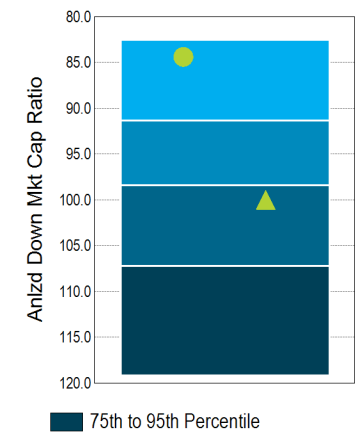
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio

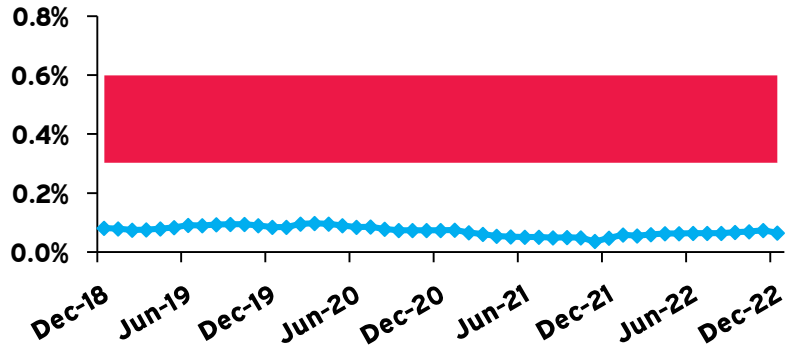


Fund Characteristics as of December 31, 2022		Top Holdings as of December 31, 2022		Fixed Income Sectors as of December 31, 2022	
Sharpe Ratio (3 Year)	0.19	T. ROWE PRICE GOV. RESERVE	5.24%	GOVERNMENT	0.00%
Average Duration	0.55	HUB INTERNATIONAL	2.59%	MUNICIPAL	0.00%
Average Coupon	8.14%	UKG	2.27%	CORPORATE	92.72%
Average Effective Maturity	4.39	UFC HOLDINGS	1.78%	SECURITIZED	0.00%
R-Squared (3 Year)	0.98	EPICOR SOFTWARE	1.53%	CASH & EQUIVALENTS	7.28%
Alpha (3 Year)	-0.02%	GAINWELL ACQUISITION	1.48%	DERIVATIVE	0.00%
Beta (3 Year)	0.83	AADVANTAGE LOYALTY IP	1.12%		
		CENTRAL PARENT	1.12%		
		PETVET CARE CENTERS	1.07%		
		UKG	1.06%		

Credit Quality as of December 31, 2022		Maturities as of December 31, 2022		Top Countries as of December 31, 2022	
AAA	7.15%	1 to 3 Years	22.07%	United States	93.85%
AA	0.00%	3 to 5 Years	39.15%	United Kingdom	1.57%
A	0.15%	5 to 7 Years	37.52%	Canada	1.33%
BBB	1.86%	7 to 10 Years	1.22%	Luxembourg	1.27%
BB	12.57%	10 to 15 Years	0.00%	France	1.26%
B	63.30%	15 to 20 Years	0.00%	Denmark	0.22%
Below B	12.74%	20 to 30 Years	0.00%	Germany	0.21%
Not Rated	2.23%	Greater than 30 Years	0.00%	Sweden	0.20%
				Mexico	0.10%

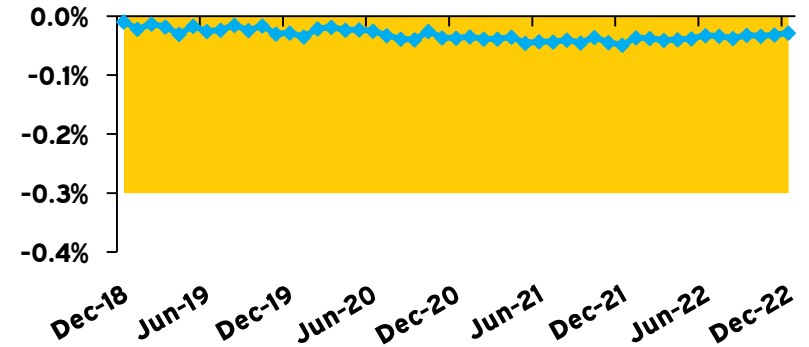
Sensitivity Analyses: Passive Funds

Short Term – Rolling 12-Month Tracking Error



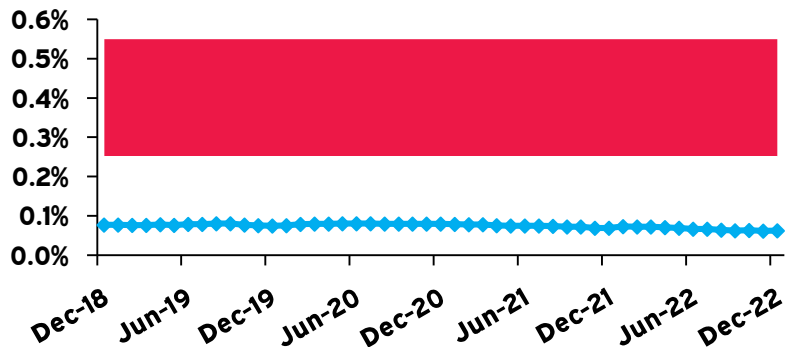
Results fall in the positive range.
Probationary Threshold 0.30%

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%

Benchmark: Russell 3000

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Equity Index I	7.2	-19.2	7.1	8.8	12.3	11/20/2011
Russell 3000	7.2	-19.2	7.1	8.8	12.4	

Monitoring Status

Acceptable

Description:

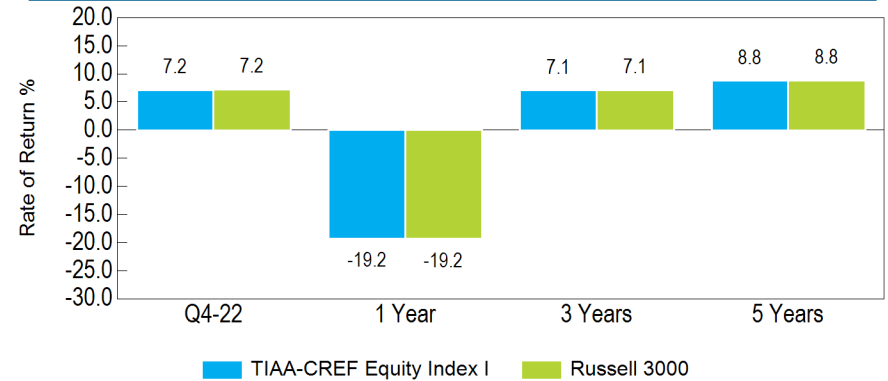
The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities selected to track the overall U.S. equity markets based on a market index.

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.

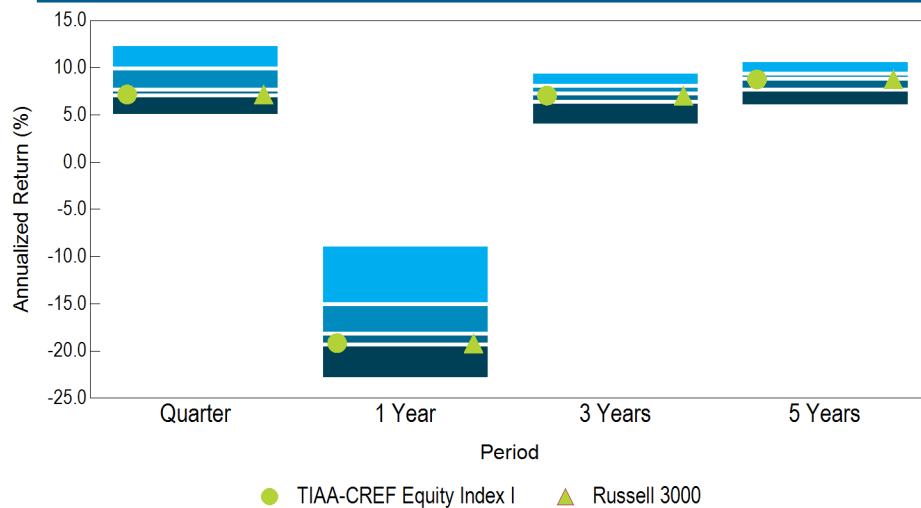
Portfolio Fund Information as of November 30, 2022

Ticker	TIEIX
Morningstar Category	Large Blend
Average Market Cap (\$mm)	106,055.55
Net Assets (\$mm)	12,247.31
% Assets in Top 10 Holdings	21.40
Total Number of Holdings	2,838
Manager Name	Philip James(Jim) Campagna
Manager Tenure	17
Expense Ratio	0.05%
Closed to New Investors	No

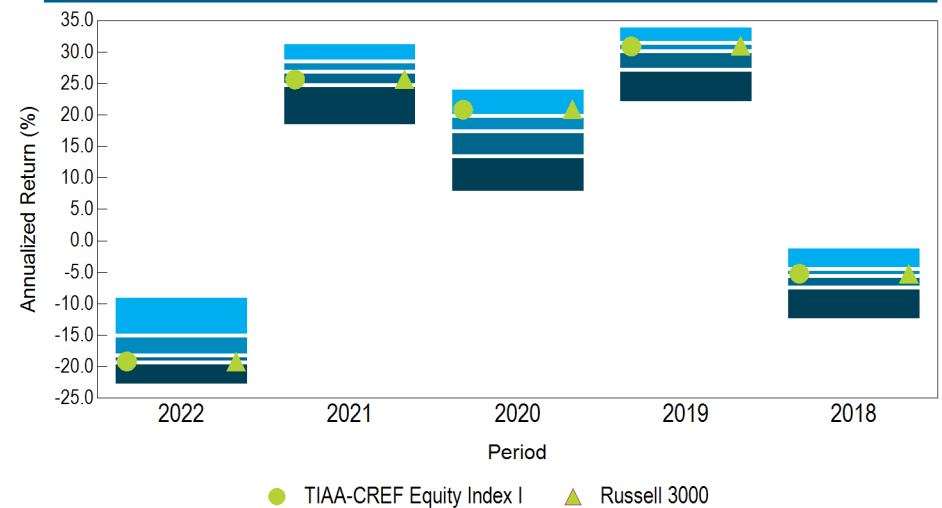
Return Summary



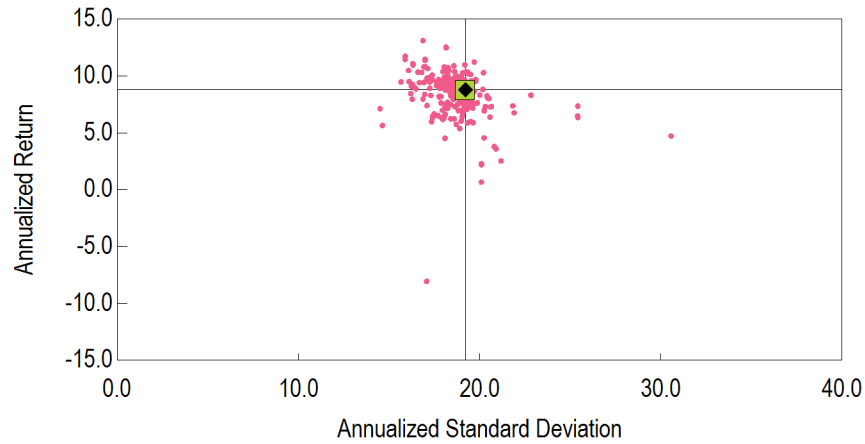
Large Blend MStar MF Return Comparison



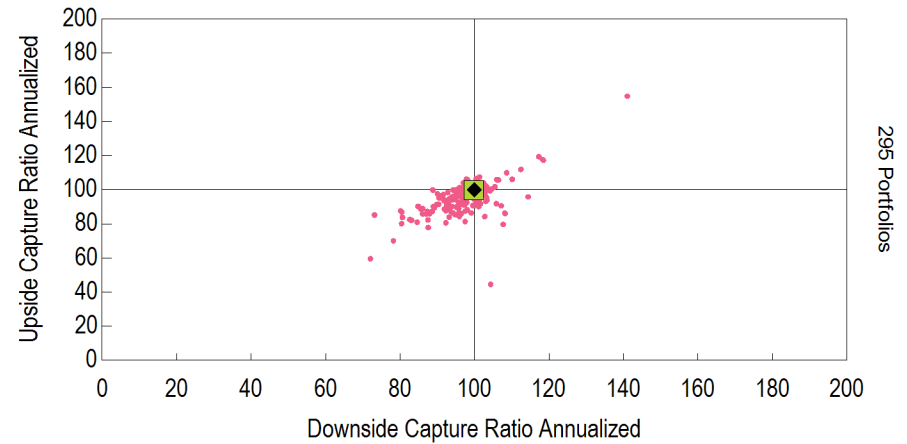
Large Blend MStar MF Return Comparison



Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



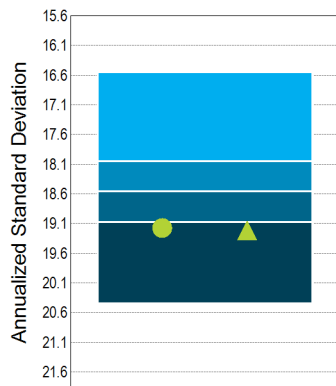
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



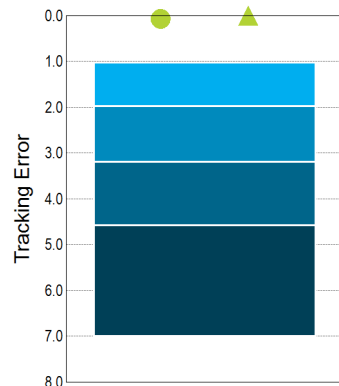
■ TIAA-CREF Equity Index I ◆ Russell 3000 ● Large Blend MStar MF

■ TIAA-CREF Equity Index I ◆ Russell 3000 ● Large Blend MStar MF

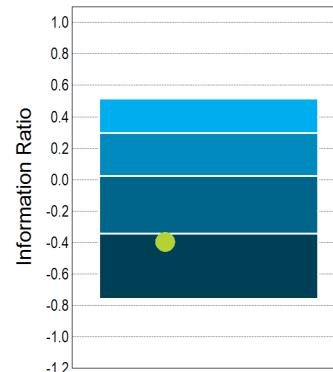
Annualized Standard Deviation



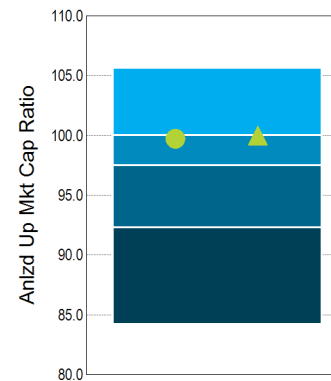
Tracking Error



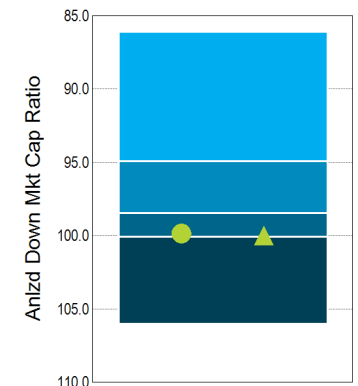
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



● TIAA-CREF Equity Index I ▲ Russell 3000 ■ 5th to 25th Percentile ■ 25th to Median ■ Median to 75th Percentile ■ 75th to 95th Percentile

Fund Characteristics as of November 30, 2022

Sharpe Ratio (3 Year)	0.45
Average Market Cap (\$mm)	106,055.55
Price/Earnings	17.33
Price/Book	3.16
Price/Sales	1.87
Price/Cash Flow	9.68
Dividend Yield	1.76
Number of Equity Holdings	2,827
R-Squared (3 Year)	1.00
Alpha (3 Year)	0.00%

Sector Allocation as of November 30, 2022

BASIC MATERIALS	2.69%
COMMUNICATION SERVICES	6.92%
CONSUMER CYCLICAL	10.34%
CONSUMER DEFENSIVE	6.79%
ENERGY	5.23%
FINANCIAL SERVICES	14.01%
HEALTHCARE	14.99%
INDUSTRIALS	9.66%
REAL ESTATE	3.46%
TECHNOLOGY	23.04%
UTILITIES	2.89%

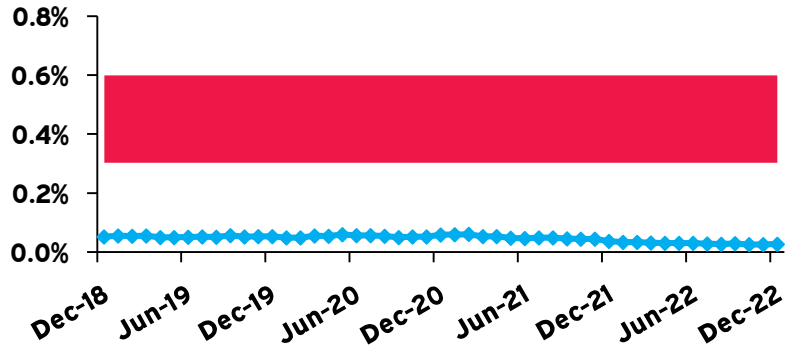
Top Holdings as of November 30, 2022

APPLE INC	5.57%
MICROSOFT CORP	4.69%
AMAZON.COM INC	2.11%
ALPHABET INC CLASS A	1.49%
BERKSHIRE HATHAWAY INC CLASS B	1.41%
ALPHABET INC CLASS C	1.35%
UNITEDHEALTH GROUP INC	1.26%
TESLA INC	1.22%
JOHNSON & JOHNSON	1.15%
EXXON MOBIL CORP	1.14%

Top Countries as of November 30, 2022

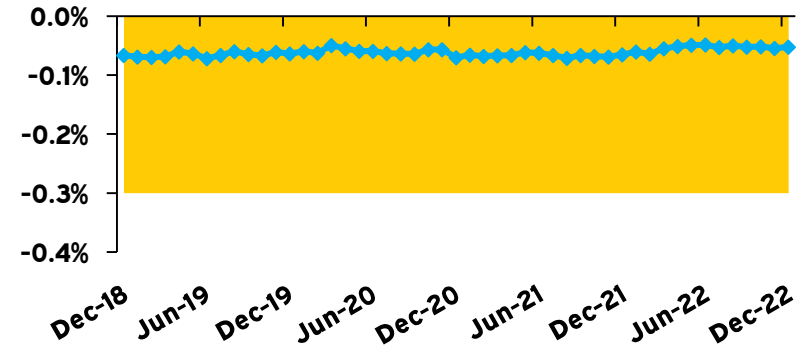
United States	99.00%
United Kingdom	0.51%
Switzerland	0.31%
Puerto Rico	0.03%
Brazil	0.02%
Canada	0.02%
India	0.02%
Israel	0.02%
China	0.01%
Ireland	0.01%

Short Term – Rolling 12-Month Tracking Error



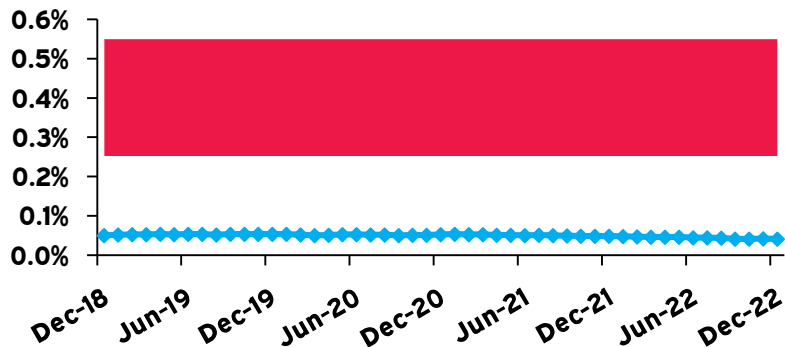
Results fall in the positive range.
Probationary Threshold 0.30%

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%

Benchmark: S&P 500

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF S&P 500 Index I	7.5	-18.1	7.6	9.4	12.7	11/20/2011
S&P 500	7.6	-18.1	7.7	9.4	12.7	

Monitoring Status

Acceptable

TIAA-CREF S&P 500 Index I | As of December 31, 2022

Description:

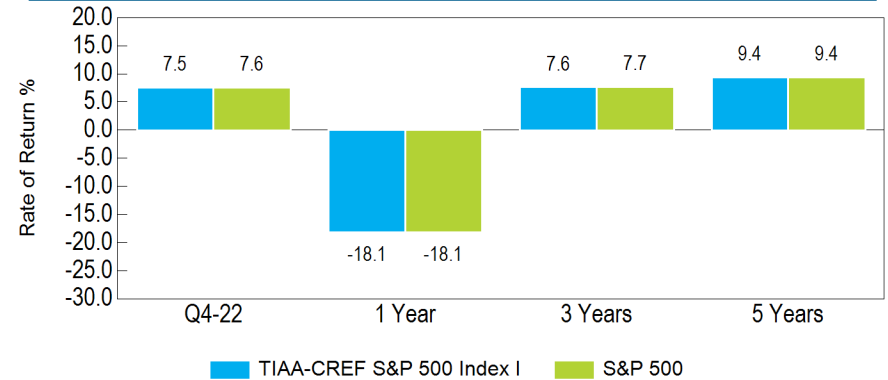
The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities of large domestic companies selected to track U.S. equity markets based on a market index.

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.

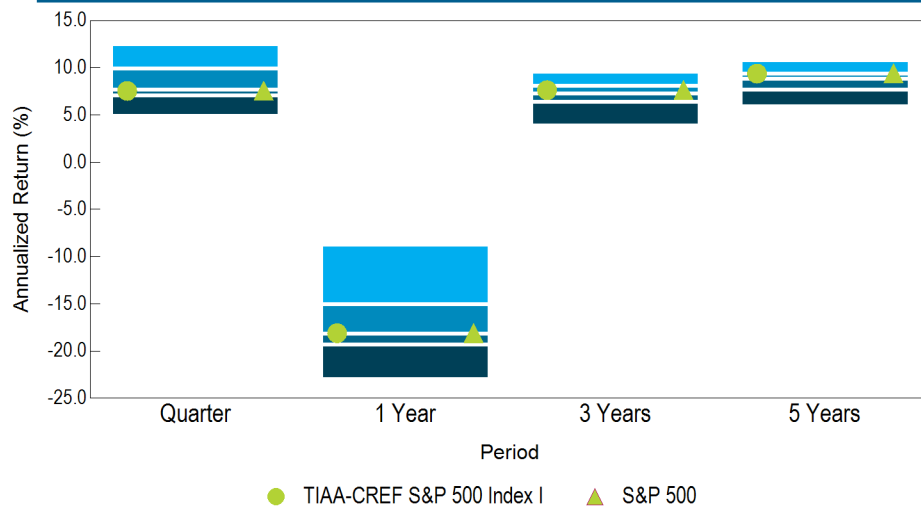
Portfolio Fund Information as of November 30, 2022

Ticker	TISPX
Morningstar Category	Large Blend
Average Market Cap (\$mm)	175,594.13
Net Assets (\$mm)	5,179.22
% Assets in Top 10 Holdings	25.14
Total Number of Holdings	507
Manager Name	Philip James(Jim) Campagna
Manager Tenure	17
Expense Ratio	0.05%
Closed to New Investors	No

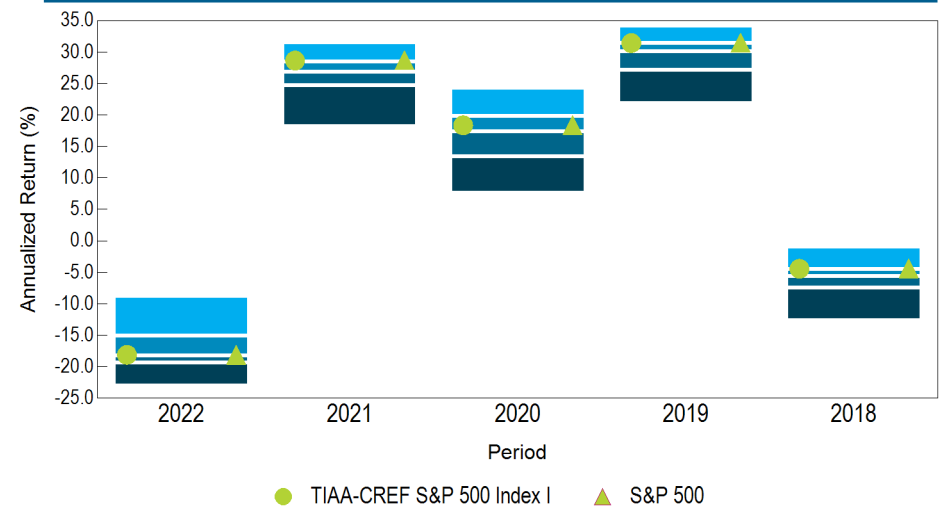
Return Summary



Large Blend MStar MF Return Comparison

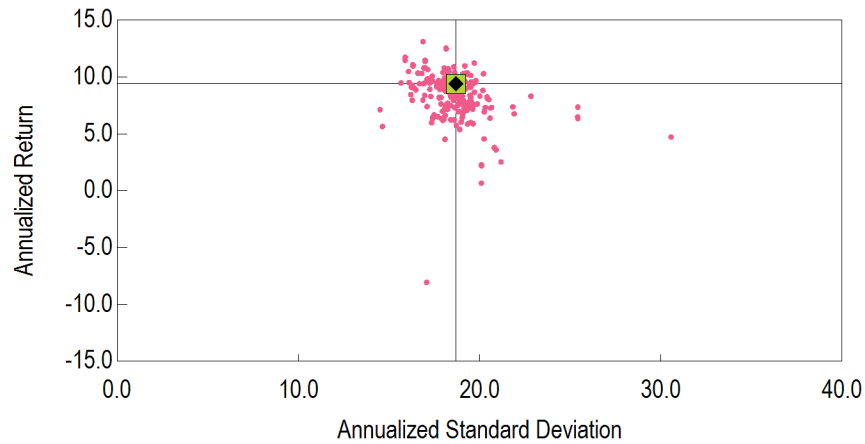


Large Blend MStar MF Return Comparison



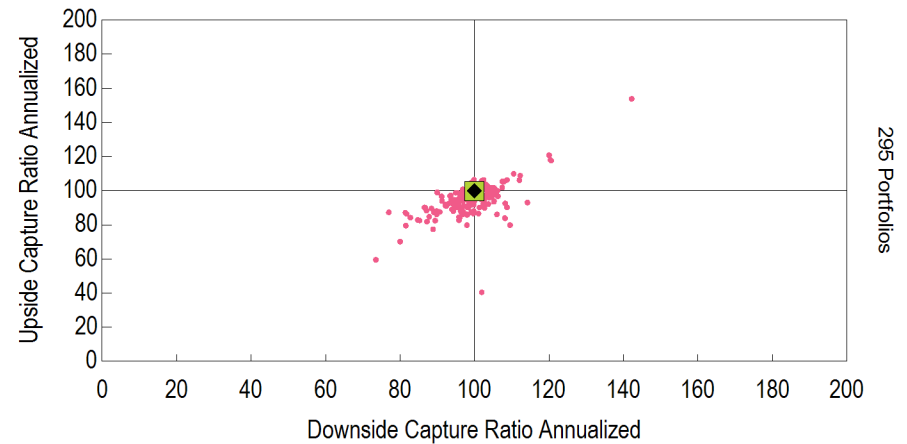
TIAA-CREF S&P 500 Index I | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



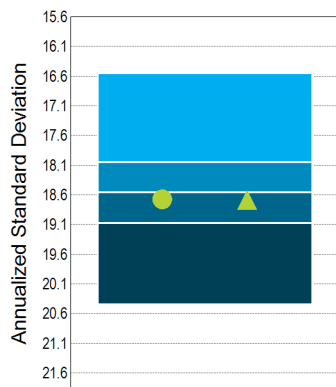
■ TIAA-CREF S&P 500 Index I ◆ S&P 500 ● Large Blend MStar MF

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



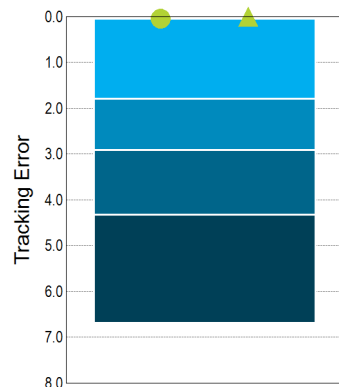
■ TIAA-CREF S&P 500 Index I ◆ S&P 500 ● Large Blend MStar MF

Annualized Standard Deviation



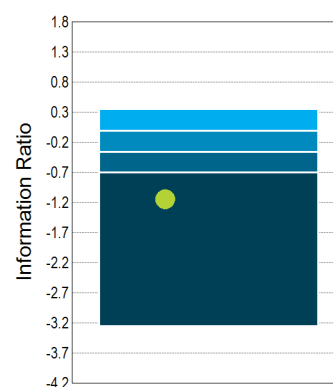
● TIAA-CREF S&P 500 Index I

Tracking Error



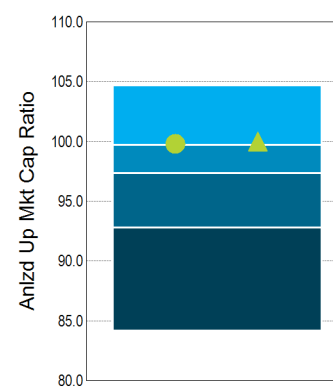
▲ S&P 500

Information Ratio



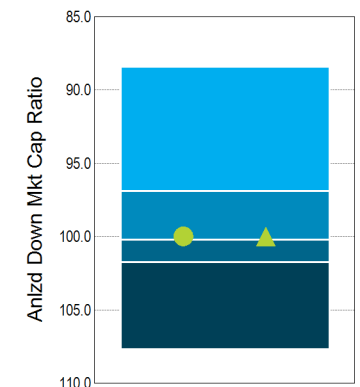
■ 5th to 25th Percentile

Anlzd Up Mkt Cap Ratio



■ Median to 75th Percentile

Anlzd Down Mkt Cap Ratio



■ 75th to 95th Percentile

Fund Characteristics as of November 30, 2022

Sharpe Ratio (3 Year)	0.49
Average Market Cap (\$mm)	175,594.13
Price/Earnings	17.93
Price/Book	3.44
Price/Sales	2.08
Price/Cash Flow	10.61
Dividend Yield	1.81
Number of Equity Holdings	503
R-Squared (3 Year)	1.00
Alpha (3 Year)	0.00%

Sector Allocation as of November 30, 2022

BASIC MATERIALS	2.40%
COMMUNICATION SERVICES	7.46%
CONSUMER CYCLICAL	10.16%
CONSUMER DEFENSIVE	7.40%
ENERGY	5.12%
FINANCIAL SERVICES	13.80%
HEALTHCARE	15.31%
INDUSTRIALS	8.87%
REAL ESTATE	2.77%
TECHNOLOGY	23.72%
UTILITIES	3.00%

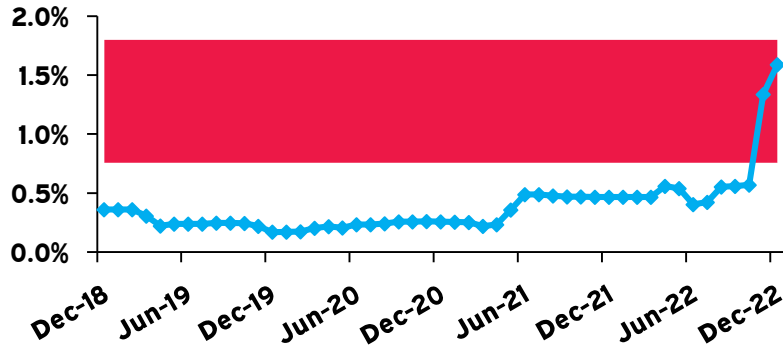
Top Holdings as of November 30, 2022

APPLE INC	6.47%
MICROSOFT CORP	5.51%
AMAZON.COM INC	2.48%
ALPHABET INC CLASS A	1.75%
BERKSHIRE HATHAWAY INC CLASS B	1.66%
ALPHABET INC CLASS C	1.58%
TESLA INC	1.50%
UNITEDHEALTH GROUP INC	1.48%
JOHNSON & JOHNSON	1.36%
EXXON MOBIL CORP	1.34%

Top Countries as of November 30, 2022

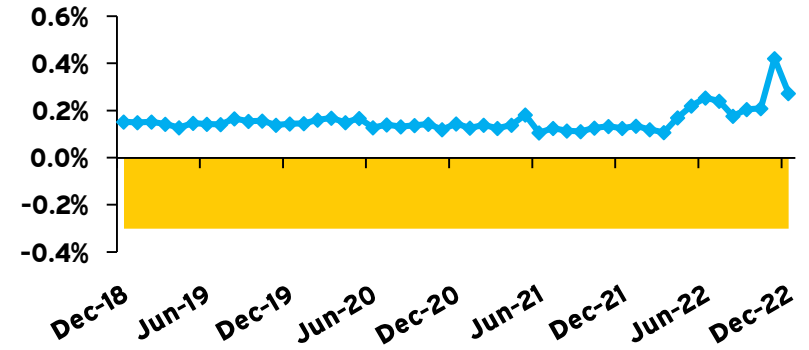
United States	98.91%
United Kingdom	0.56%
Switzerland	0.36%
Netherlands	0.13%
Singapore	0.03%

Short Term – Rolling 12-Month Tracking Error



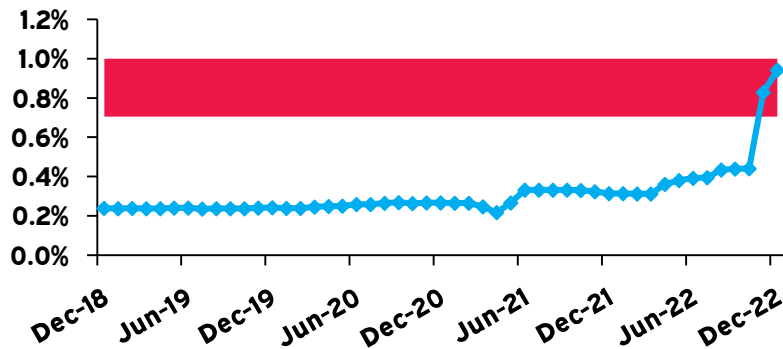
Results fall in the positive range.
Probationary Threshold 0.75%

Long Term – Rolling 60-Month Excess Return



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

Medium Term – Rolling 36-Month Tracking Error



Results fall in the positive range.
Probationary Threshold 0.70%

Benchmark: MSCI EAFE

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF International Equity Index	17.7	-13.8	1.2	1.8	5.4	11/20/2011
MSCI EAFE	17.3	-14.5	0.9	1.5	5.1	

Monitoring Status

Positive

TIAA-CREF International Equity Index | As of December 31, 2022

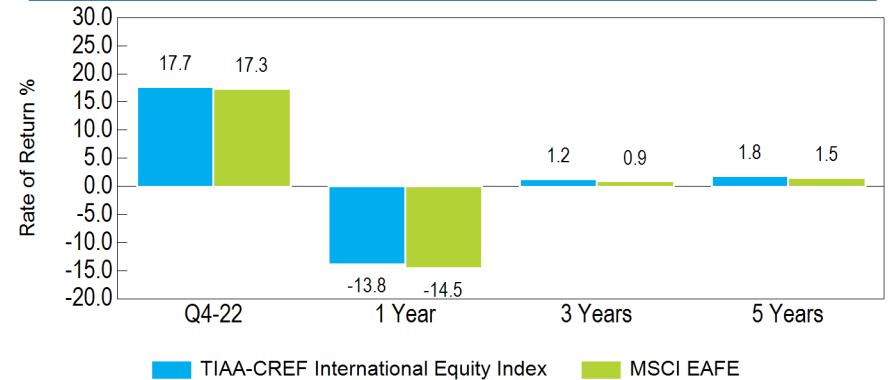
Description:

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.

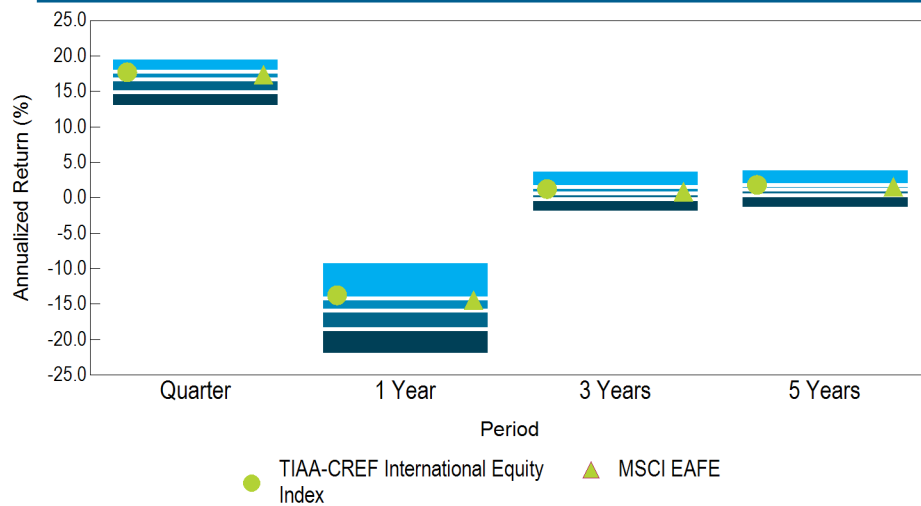
Portfolio Fund Information as of November 30, 2022

Ticker	TCIEX
Morningstar Category	Foreign Large Blend
Average Market Cap (\$mm)	43,653.28
Net Assets (\$mm)	9,460.57
% Assets in Top 10 Holdings	14.41
Total Number of Holdings	813
Manager Name	Philip James(Jim) Campagna
Manager Tenure	18
Expense Ratio	0.05%
Closed to New Investors	No

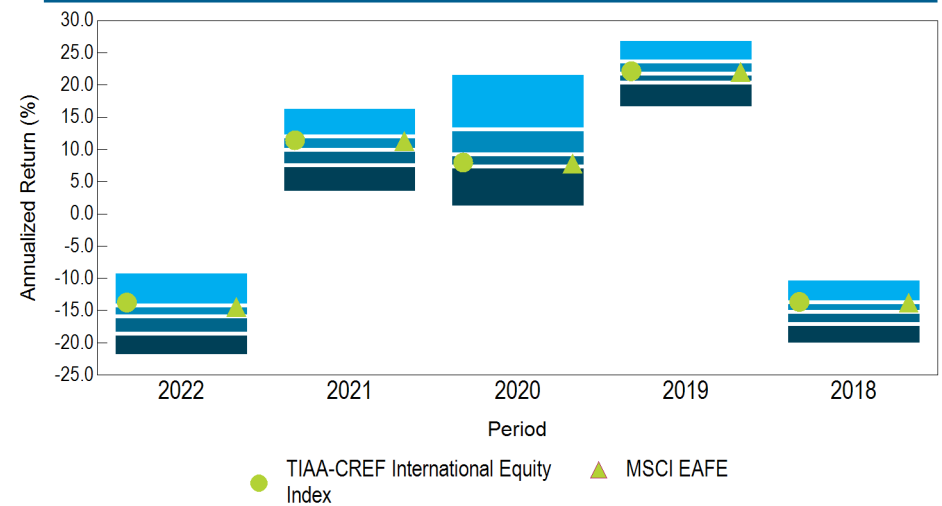
Return Summary



Foreign Large Blend MStar MF Return Comparison

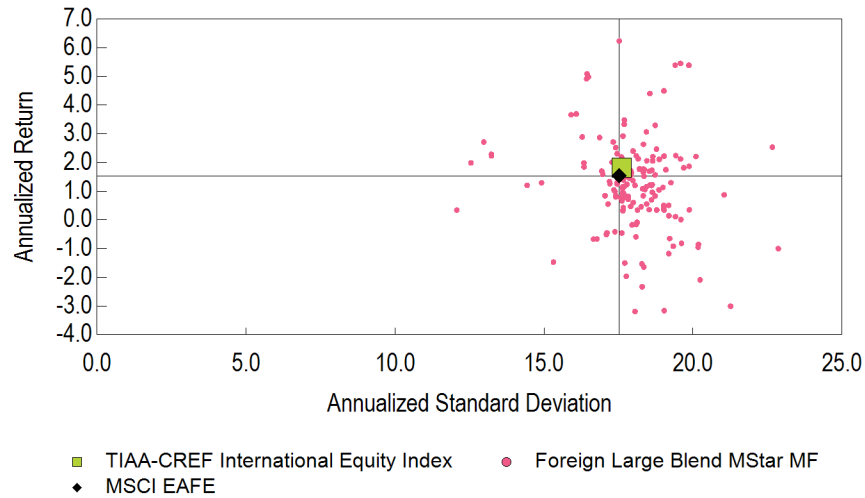


Foreign Large Blend MStar MF Return Comparison

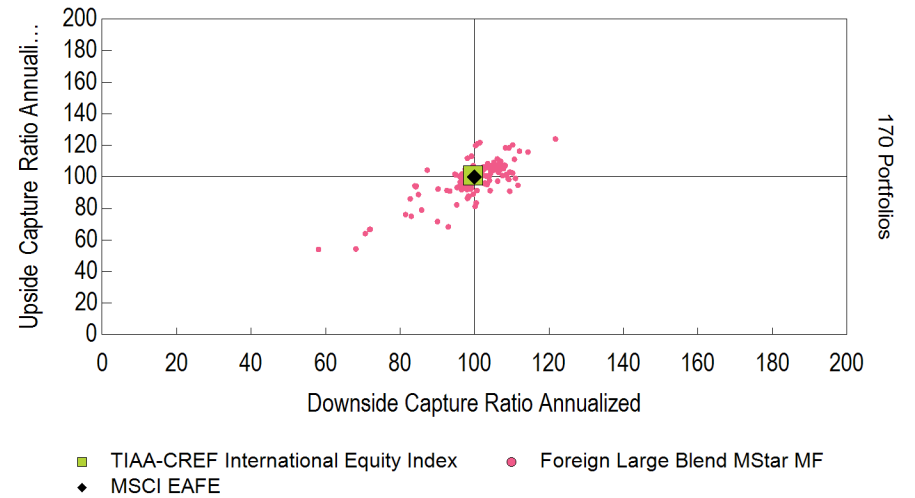


TIAA-CREF International Equity Index | As of December 31, 2022

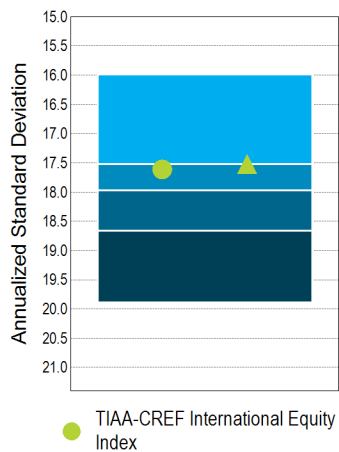
Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



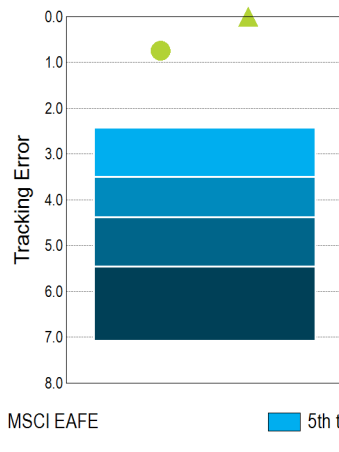
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



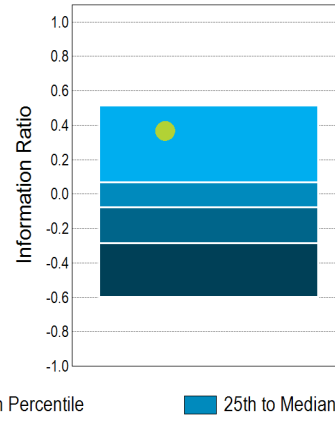
Annualized Standard Deviation



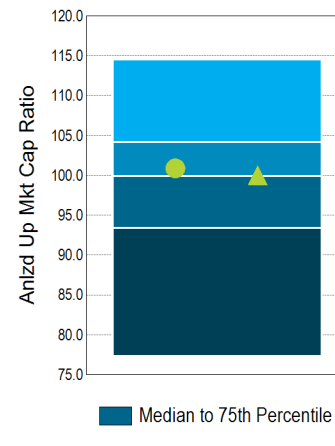
Tracking Error



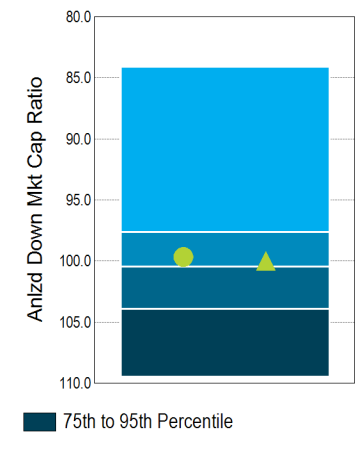
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



TIAA-CREF International Equity Index | As of December 31, 2022

Fund Characteristics as of November 30, 2022

Sharpe Ratio (3 Year)	0.10
Average Market Cap (\$mm)	43,653.28
Price/Earnings	12.28
Price/Book	1.50
Price/Sales	1.13
Price/Cash Flow	6.43
Dividend Yield	4.08
Number of Equity Holdings	797
R-Squared (3 Year)	1.00
Alpha (3 Year)	0.05%

Sector Allocation as of November 30, 2022

BASIC MATERIALS	7.84%
COMMUNICATION SERVICES	4.90%
CONSUMER CYCLICAL	10.66%
CONSUMER DEFENSIVE	10.31%
ENERGY	5.13%
FINANCIAL SERVICES	18.04%
HEALTHCARE	13.56%
INDUSTRIALS	14.93%
REAL ESTATE	2.78%
TECHNOLOGY	8.65%
UTILITIES	3.19%

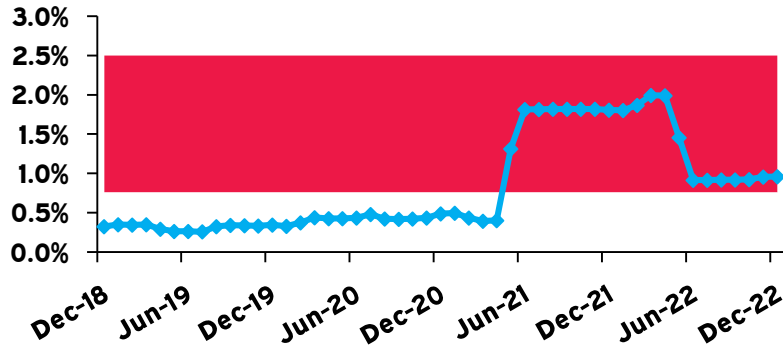
Top Holdings as of November 30, 2022

NESTLE SA	2.19%
ASML HOLDING NV	1.66%
ROCHE HOLDING AG	1.53%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.44%
SHELL PLC	1.42%
ASTRAZENECA PLC	1.40%
NOVO NORDISK A/S CLASS B	1.39%
NOVARTIS AG	1.29%
BHP GROUP LTD	1.05%
TOYOTA MOTOR CORP	1.04%

Top Countries as of November 30, 2022

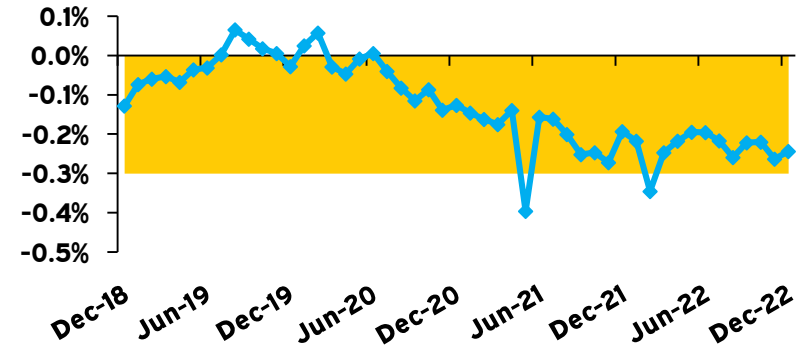
Japan	21.98%
United Kingdom	14.84%
France	11.16%
Switzerland	10.66%
Australia	8.05%
Germany	8.05%
Netherlands	5.01%
Sweden	3.38%
Denmark	2.80%
Hong Kong	2.51%

Short Term – Rolling 12-Month Tracking Error



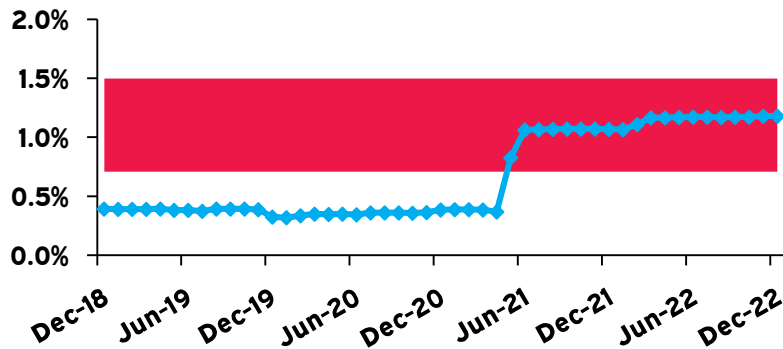
Results fall in the caution range.
Probationary Threshold 0.75%

Long Term – Rolling 60-Month Excess Return



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

Medium Term – Rolling 36-Month Tracking Error



Results fall in the caution range.
Probationary Threshold 0.70%

Benchmark: MSCI Emerging Markets

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Emerging Markets Equity Index	9.5	-20.3	-3.0	-1.6	0.6	1/31/2011
MSCI Emerging Markets	9.7	-20.1	-2.7	-1.4	0.9	

Monitoring Status

Caution

TIAA-CREF Emerging Markets Equity Index | As of December 31, 2022

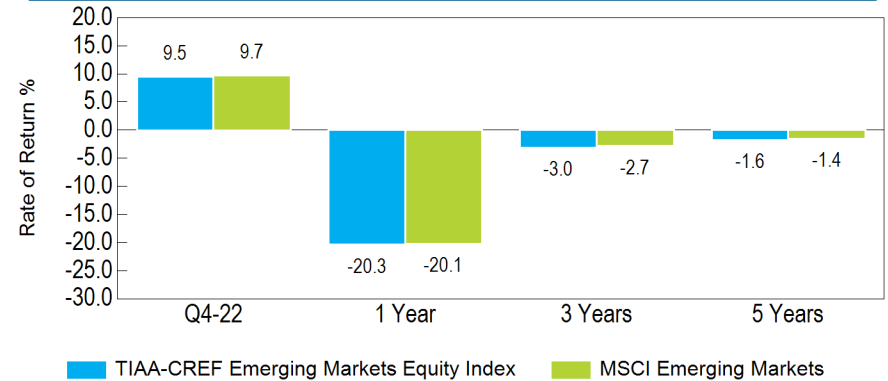
Description:

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.

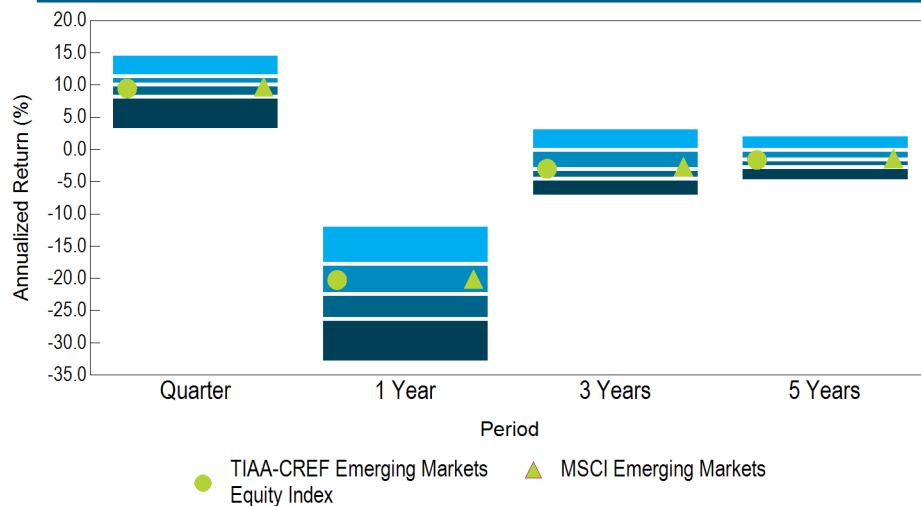
Portfolio Fund Information as of November 30, 2022

Ticker	TEQLX
Morningstar Category	Diversified Emerging Mkts
Average Market Cap (\$mm)	33,743.32
Net Assets (\$mm)	1,176.79
% Assets in Top 10 Holdings	22.03
Total Number of Holdings	1,396
Manager Name	Philip James(Jim) Campagna
Manager Tenure	12
Expense Ratio	0.18%
Closed to New Investors	No

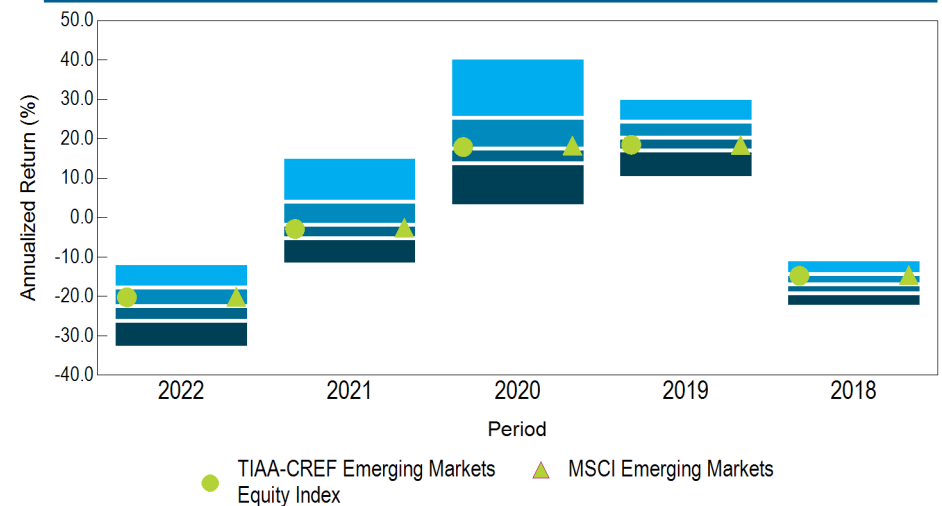
Return Summary



Diversified Emerging Mkts MStar MF Return Comparison

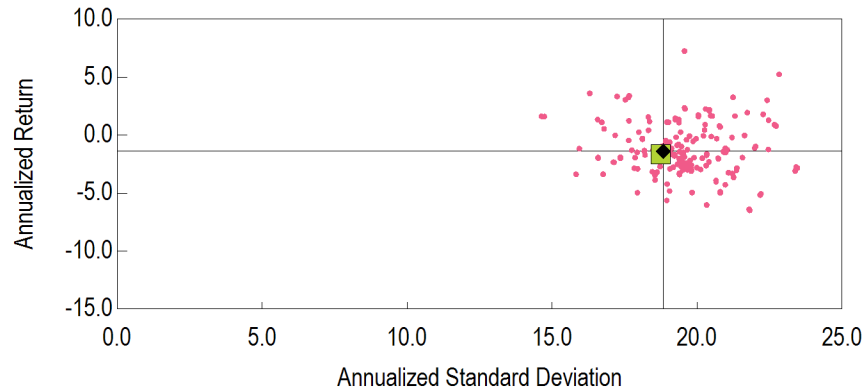


Diversified Emerging Mkts MStar MF Return Comparison

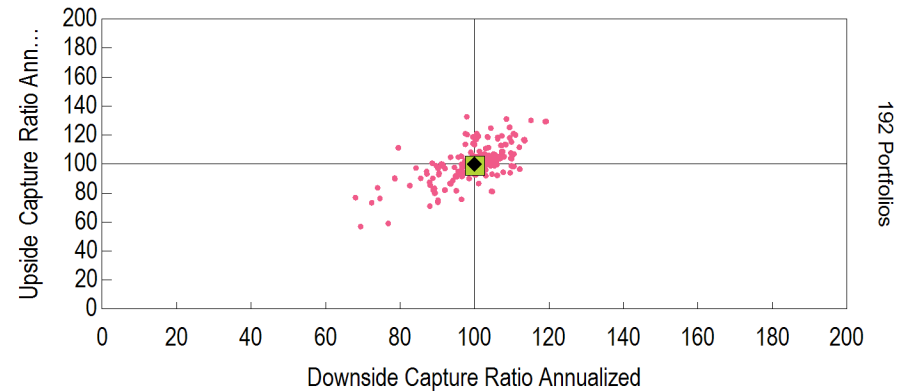


TIAA-CREF Emerging Markets Equity Index | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



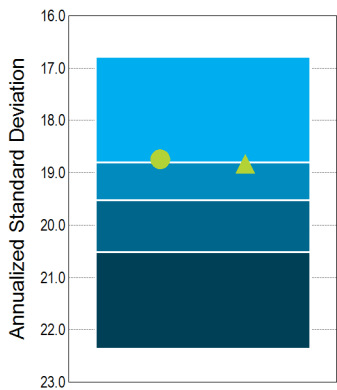
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



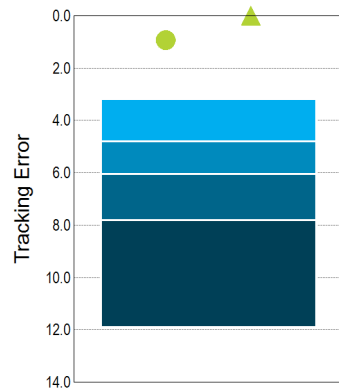
- TIAA-CREF Emerging Markets Equity Index
- ◆ MSCI Emerging Markets
- Diversified Emerging Mkts MStar MF

- TIAA-CREF Emerging Markets Equity Index
- ◆ MSCI Emerging Markets
- Diversified Emerging Mkts MStar MF

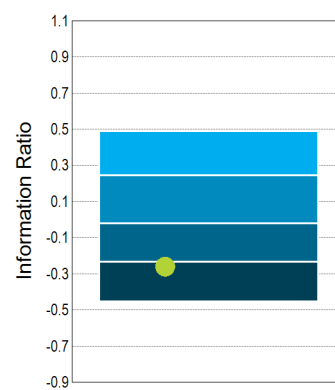
Annualized Standard Deviation



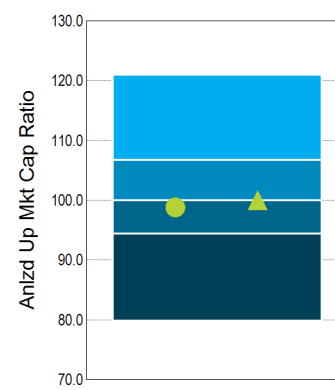
Tracking Error



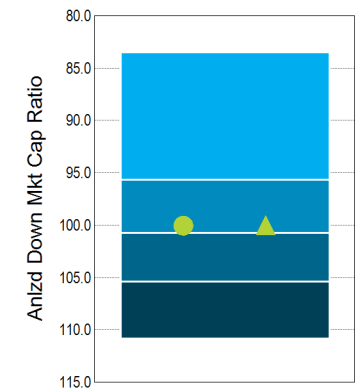
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- TIAA-CREF Emerging Markets Equity Index
- ▲ MSCI Emerging Markets
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

TIAA-CREF Emerging Markets Equity Index | As of December 31, 2022

Fund Characteristics as of November 30, 2022

Sharpe Ratio (3 Year)	-0.04
Average Market Cap (\$mm)	33,743.32
Price/Earnings	11.70
Price/Book	1.51
Price/Sales	1.11
Price/Cash Flow	5.24
Dividend Yield	3.67
Number of Equity Holdings	1,379
R-Squared (3 Year)	1.00
Alpha (3 Year)	-0.03%

Sector Allocation as of November 30, 2022

BASIC MATERIALS	9.04%
COMMUNICATION SERVICES	9.69%
CONSUMER CYCLICAL	12.95%
CONSUMER DEFENSIVE	6.10%
ENERGY	5.03%
FINANCIAL SERVICES	22.28%
HEALTHCARE	4.22%
INDUSTRIALS	5.83%
REAL ESTATE	2.02%
TECHNOLOGY	19.82%
UTILITIES	3.02%

Top Holdings as of November 30, 2022

TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	5.91%
TENCENT HOLDINGS LTD	3.53%
SAMSUNG ELECTRONICS CO LTD	3.43%
ALIBABA GROUP HOLDING LTD ORDINARY SHARES	2.41%
RELIANCE INDUSTRIES LTD	1.54%
MEITUAN CLASS B	1.42%
INFOSYS LTD	1.03%
VALE SA	0.94%
JD.COM INC ORDINARY SHARES - CLASS A	0.92%
ICICI BANK LTD	0.91%

Top Countries as of November 30, 2022

China	29.74%
India	14.96%
Taiwan	14.42%
South Korea	11.96%
Brazil	5.37%
Saudi Arabia	4.18%
South Africa	3.61%
Mexico	2.42%
Thailand	2.05%
Indonesia	1.97%

Nuveen ESG Emerging Markets Equity ETF | As of December 31, 2022

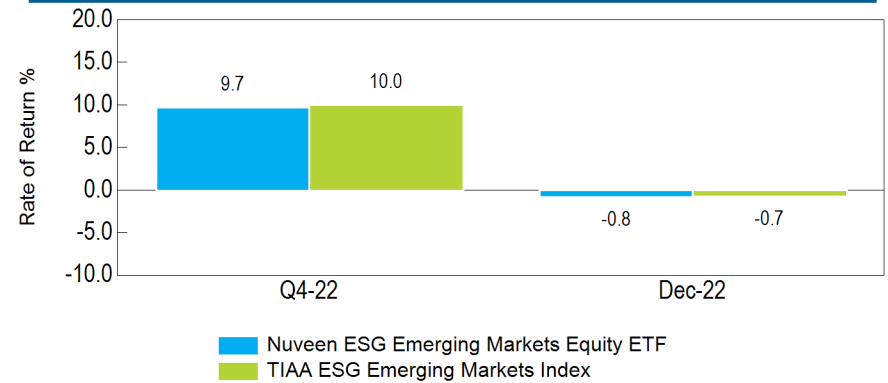
Description:

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.

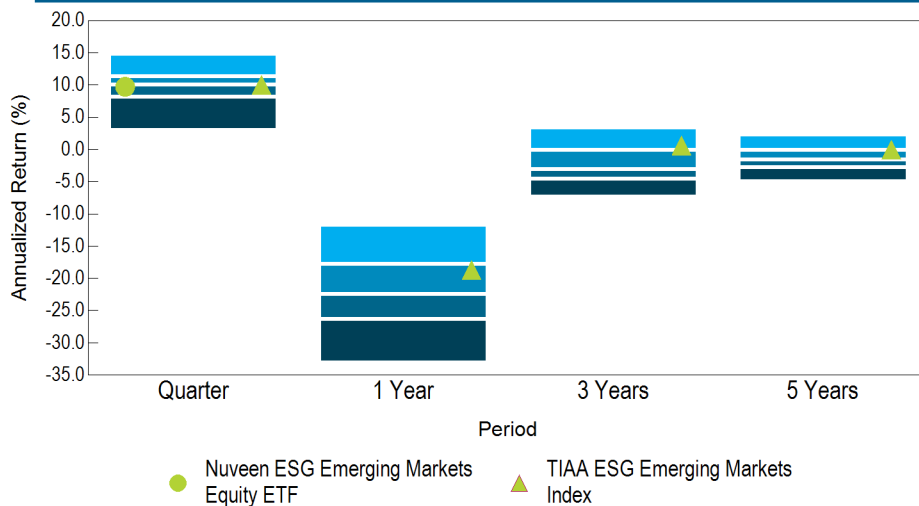
Account Information

Account Name	Nuveen ESG Emerging Markets Equity ETF
Account Structure	Mutual Fund
Investment Style	Passive
Inception Date	3/01/22
Account Type	
Benchmark	TIAA ESG Emerging Markets Index
Universe	Diversified Emerging Mkts MStar MF

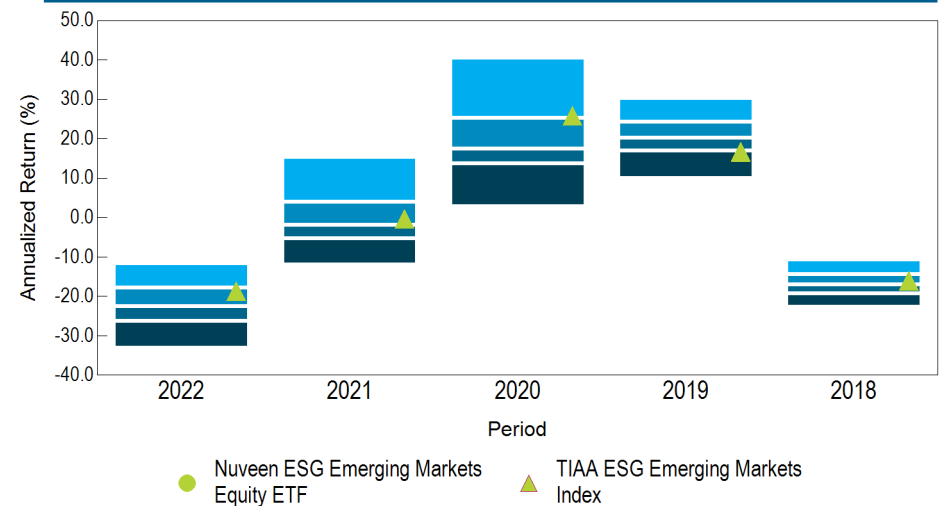
Return Summary



Diversified Emerging Mkts MStar MF Return Comparison

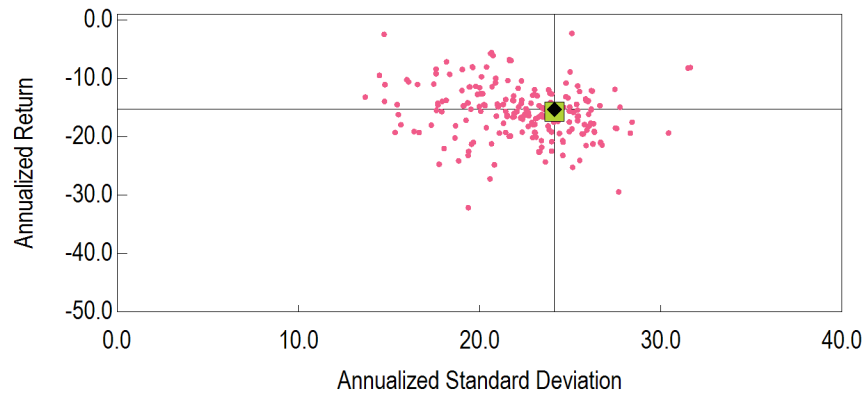


Diversified Emerging Mkts MStar MF Return Comparison

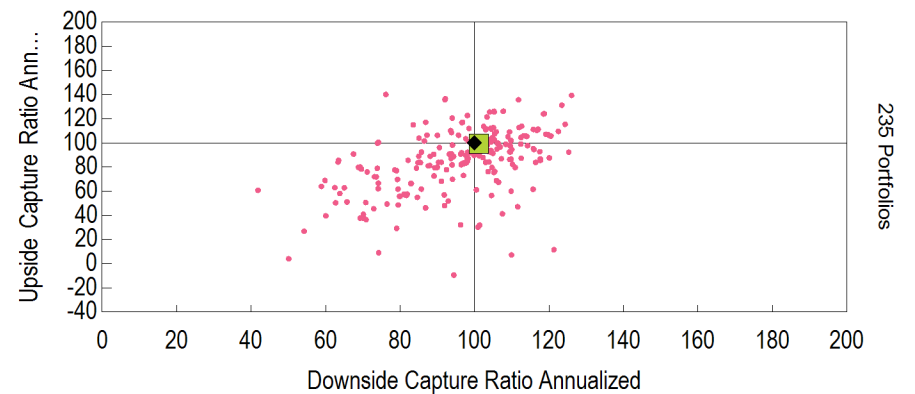


Nuveen ESG Emerging Markets Equity ETF | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
10 Months Ending December 31, 2022



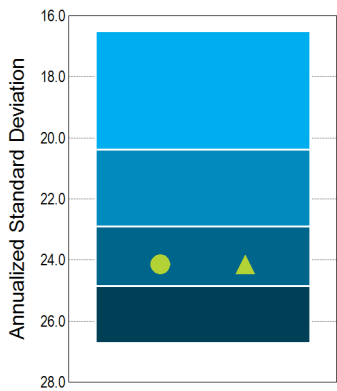
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
10 Months Ending December 31, 2022



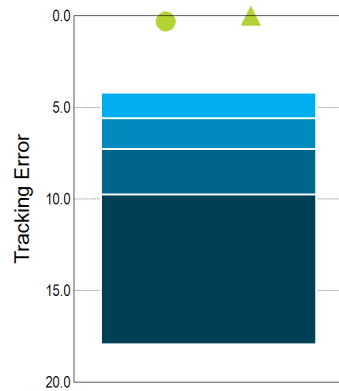
- Nuveen ESG Emerging Markets Equity ETF
- ◆ TIAA ESG Emerging Markets Index
- Diversified Emerging Mkts MStar MF

- Nuveen ESG Emerging Markets Equity ETF
- ◆ TIAA ESG Emerging Markets Index
- Diversified Emerging Mkts MStar MF

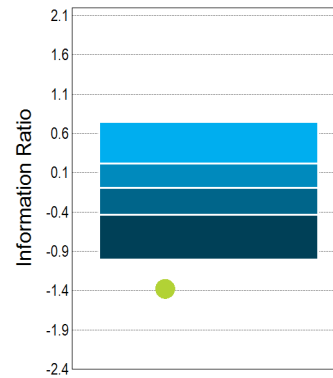
Annualized Standard Deviation



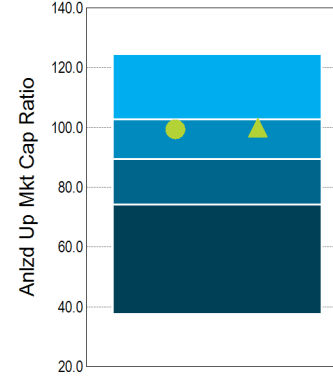
Tracking Error



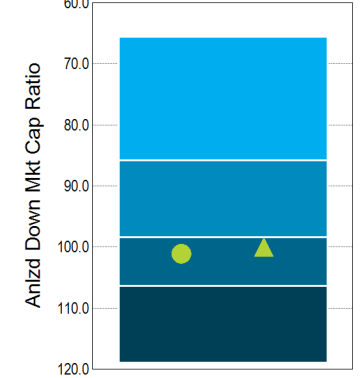
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- Nuveen ESG Emerging Markets Equity ETF
- ▲ TIAA ESG Emerging Markets Index
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Nuveen ESG Emerging Markets Equity ETF | As of December 31, 2022

Characteristics	
	Portfolio
Number of Holdings	190
Weighted Avg. Market Cap. (\$B)	55.86
Median Market Cap. (\$B)	9.58
Price To Earnings	10.68
Price To Book	2.67
Price To Sales	1.05
Return on Equity (%)	16.76
Yield (%)	3.48
Beta	
R-Squared	

Top Holdings	
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	8.46%
CHINA CONSTRUCTION BANK CORP	2.76%
AXIS BANK	2.14%
SAUDI BASIC INDUSTRIES CORP	2.03%
HINDUSTAN UNILEVER LTD	1.98%
DELTA ELECTRONICS INC	1.88%
INFOSYS LTD	1.75%
YUM CHINA HOLDINGS INC	1.70%
TELEKOMUNIKASI INDONESIA	1.68%
FIRST ABU DHABI BANK P.J.S.C	1.65%

Holdings By Sector	
GICS Sector	% of Total
Energy	4.19%
Materials	12.77%
Industrials	6.56%
Consumer Discretionary	10.49%
Consumer Staples	8.33%
Health Care	2.39%
Financials	25.89%
Information Technology	21.61%
Communication Services	4.29%
Utilities	2.45%

Vanguard Short Term Inflation-Protected Securities | As of December 31, 2022

Description:

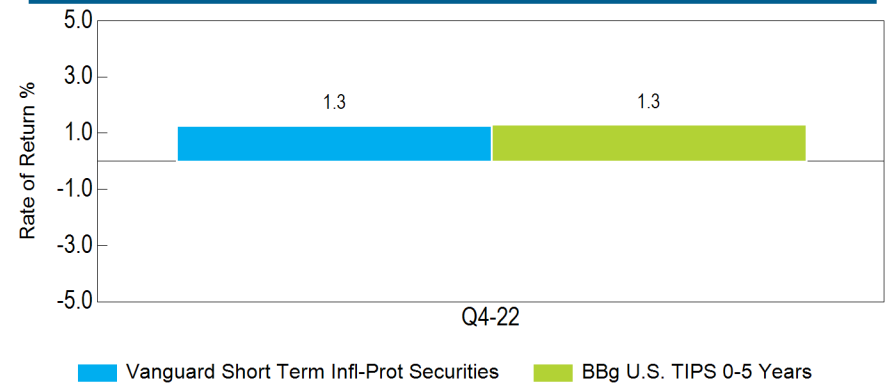
The investment seeks to track the performance of the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) 0-5 Year Index.

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.

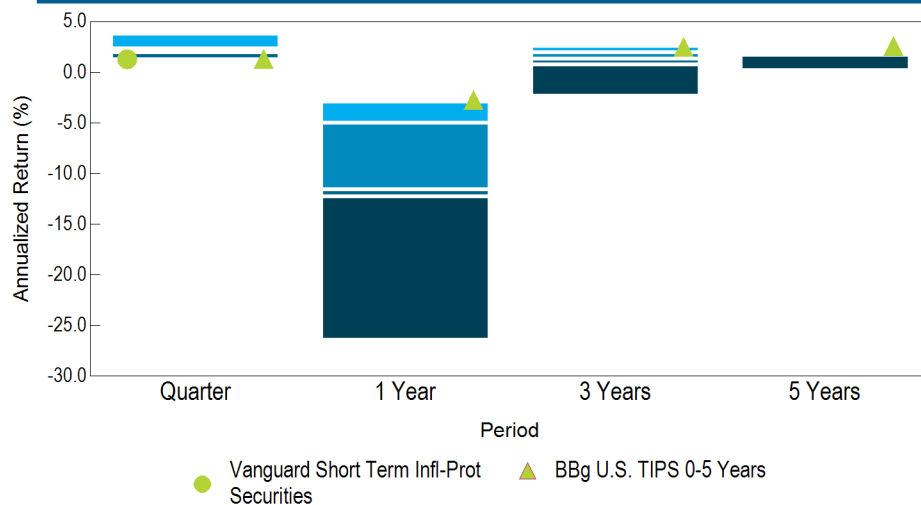
Portfolio Fund Information as of November 30, 2022

Ticker	VTSPX
Morningstar Category	Inflation-Protected Bond
Average Market Cap (\$mm)	
Net Assets (\$mm)	17,195.12
% Assets in Top 10 Holdings	55.54
Total Number of Holdings	24
Manager Name	Joshua C. Barrickman
Manager Tenure	10
Expense Ratio	0.04%
Closed to New Investors	No

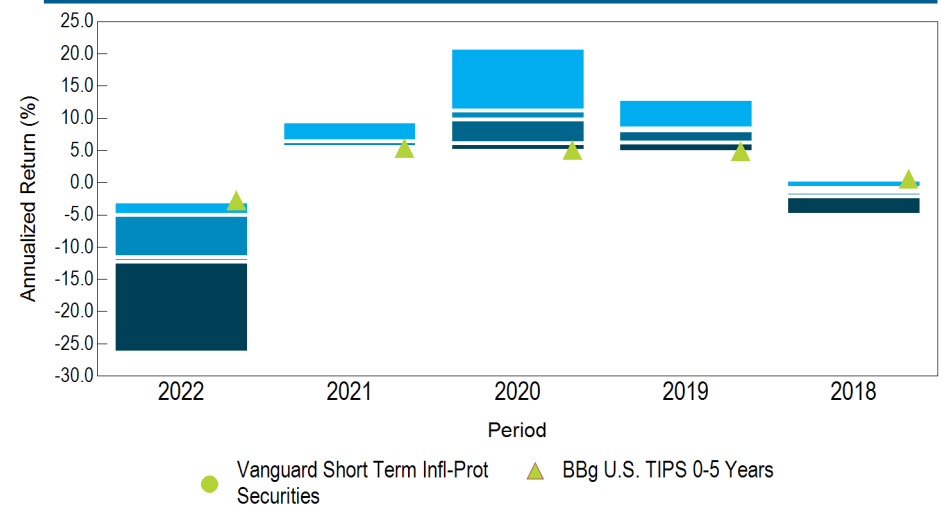
Return Summary



Inflation-Protected Bond MStar MF Return Comparison

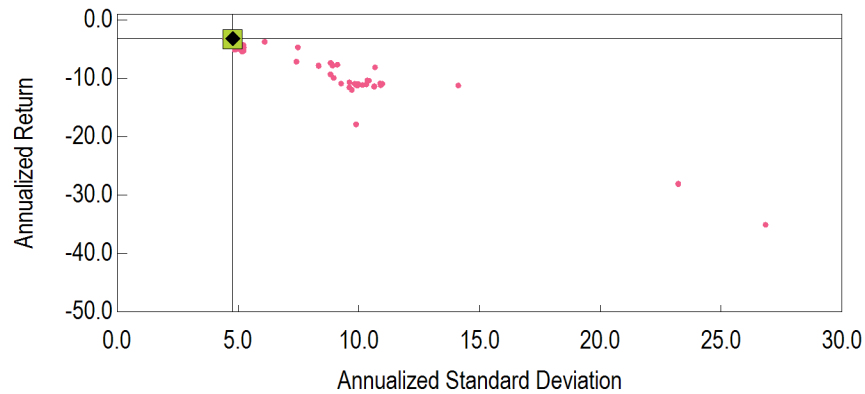


Inflation-Protected Bond MStar MF Return Comparison



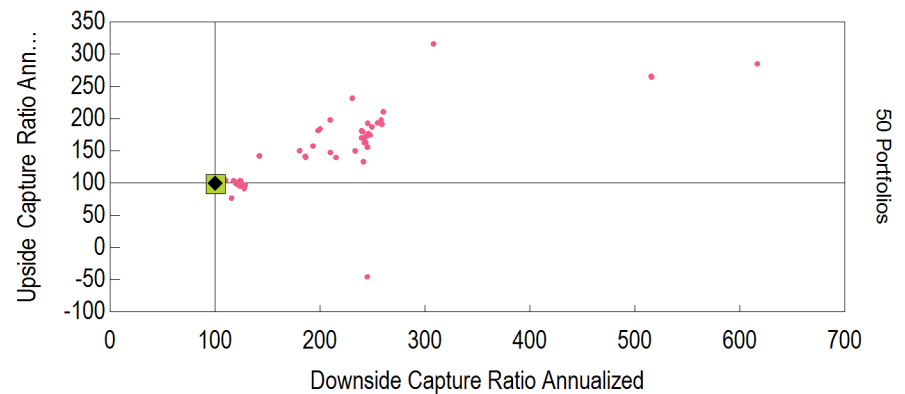
Vanguard Short Term Inflation-Protected Securities | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
10 Months Ending December 31, 2022



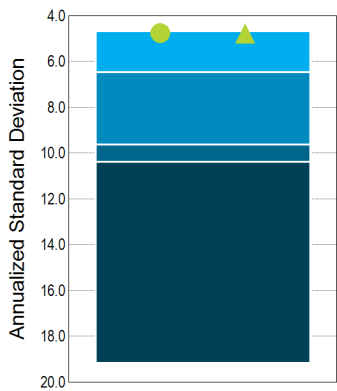
- Vanguard Short Term Inflation-Protected Securities
- ◆ BBg U.S. TIPS 0-5 Years
- Inflation-Protected Bond MStar MF

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
10 Months Ending December 31, 2022

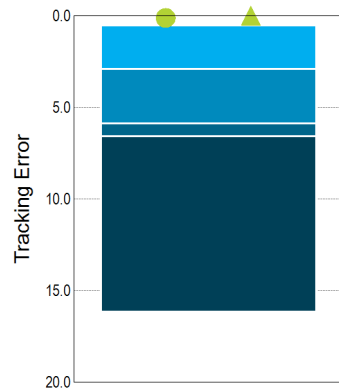


- Vanguard Short Term Inflation-Protected Securities
- ◆ BBg U.S. TIPS 0-5 Years
- Inflation-Protected Bond MStar MF

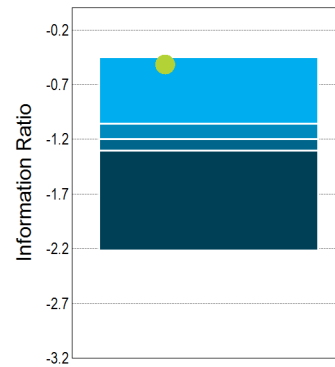
Annualized Standard Deviation



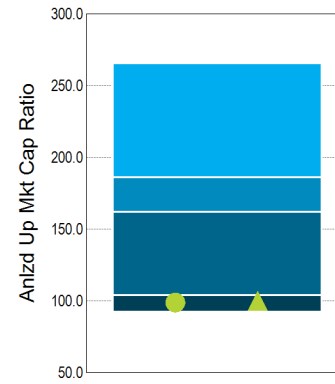
Tracking Error



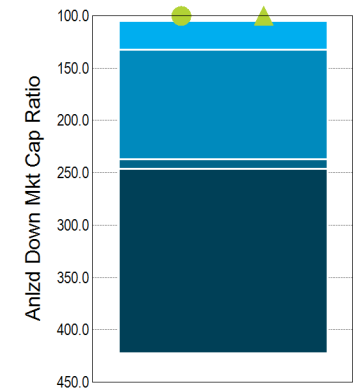
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



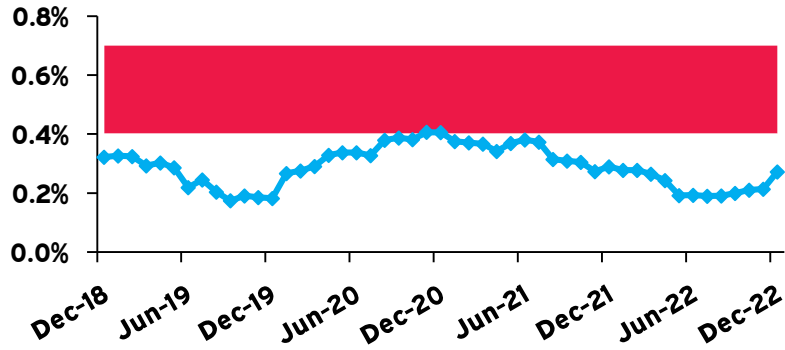
- Vanguard Short Term Inflation-Protected Securities
- ▲ BBg U.S. TIPS 0-5 Years
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Vanguard Short Term Infl-Prot Securities | As of December 31, 2022

Fund Characteristics as of November 30, 2022		Top Holdings as of November 30, 2022		Fixed Income Sectors as of November 30, 2022	
Sharpe Ratio (3 Year)		UNITED STATES TREASURY NOTES	6.71%	GOVERNMENT	93.25%
Average Duration	2.38	UNITED STATES TREASURY NOTES	6.38%	MUNICIPAL	0.00%
Average Coupon		UNITED STATES TREASURY NOTES	6.03%	CORPORATE	0.00%
Average Effective Maturity	2.50	UNITED STATES TREASURY NOTES	5.70%	SECURITIZED	0.00%
R-Squared (3 Year)		UNITED STATES TREASURY NOTES	5.42%	CASH & EQUIVALENTS	6.75%
Alpha (3 Year)		UNITED STATES TREASURY NOTES	5.41%	DERIVATIVE	0.00%
Beta (3 Year)		UNITED STATES TREASURY NOTES	5.11%		
		UNITED STATES TREASURY NOTES	5.04%		
		UNITED STATES TREASURY NOTES	4.92%		
		UNITED STATES TREASURY NOTES	4.82%		

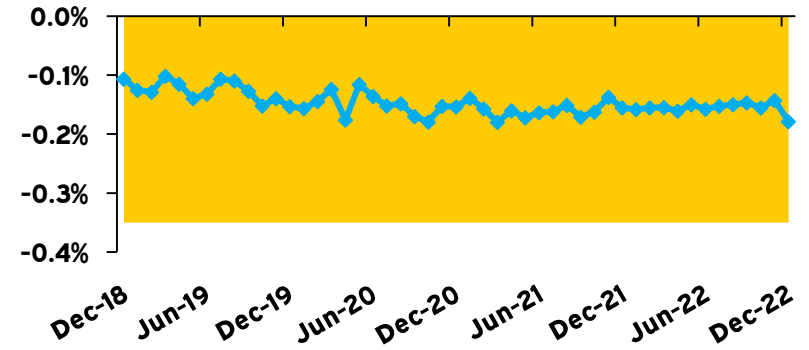
Credit Quality as of December 31, 2022		Maturities as of November 30, 2022		Top Countries as of November 30, 2022	
AAA	99.94%	1 to 3 Years	45.16%	United States	100.00%
AA	0.00%	3 to 5 Years	41.88%		
A	0.00%	5 to 7 Years	0.00%		
BBB	0.00%	7 to 10 Years	0.00%		
BB	0.00%	10 to 15 Years	0.00%		
B	0.00%	15 to 20 Years	0.00%		
Below B	0.00%	20 to 30 Years	0.00%		
Not Rated	0.06%	Greater than 30 Years	0.00%		

Short Term – Rolling 12-Month Tracking Error



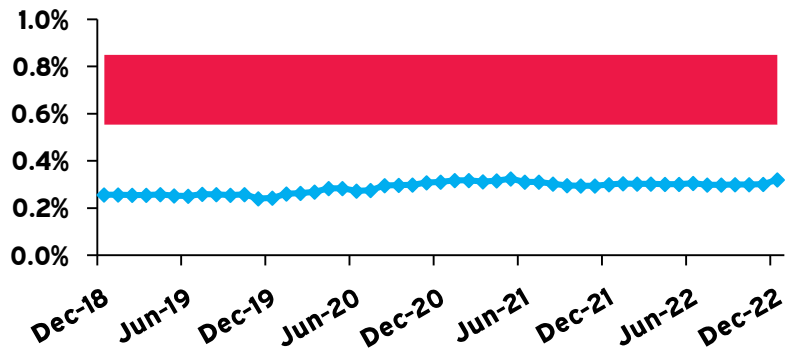
Results fall in the positive range.
Probationary Threshold 0.40%

Long Term – Rolling 60-Month Excess Return



Results fall in the acceptable range.
Probationary Threshold -0.35%

Medium Term – Rolling 36-Month Tracking Error



Results fall in the positive range.
Probationary Threshold 0.55%

Benchmark: Bloomberg US Aggregate TR

Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Bond Index I	1.6	-13.2	-2.9	-0.2	1.2	11/20/2011
Bloomberg US Aggregate TR	1.9	-13.0	-2.7	0.0	1.4	

Monitoring Status

Acceptable

Description:

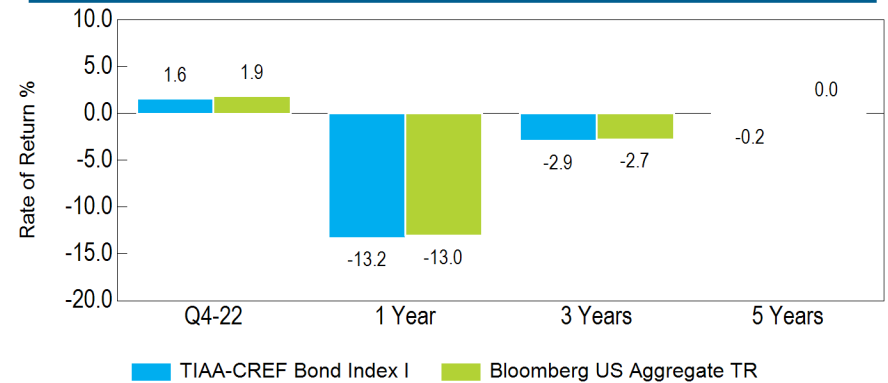
The investment seeks total return that corresponds with the total return of the Bloomberg Barclays U.S. Aggregate Bond Index.

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.

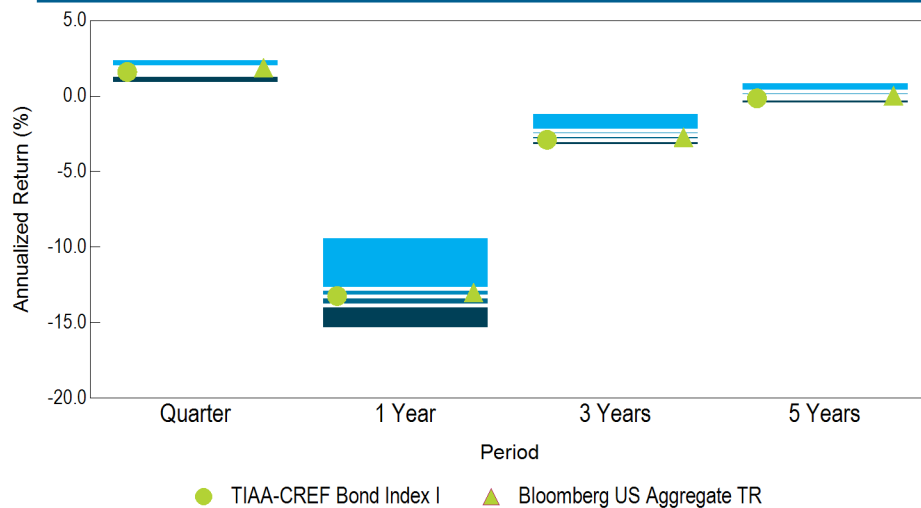
Portfolio Fund Information as of November 30, 2022

Ticker	TBIX
Morningstar Category	Intermediate Core Bond
Average Market Cap (\$mm)	
Net Assets (\$mm)	8,748.36
% Assets in Top 10 Holdings	9.20
Total Number of Holdings	8,184
Manager Name	Lijun (Kevin) Chen
Manager Tenure	13
Expense Ratio	0.07%
Closed to New Investors	No

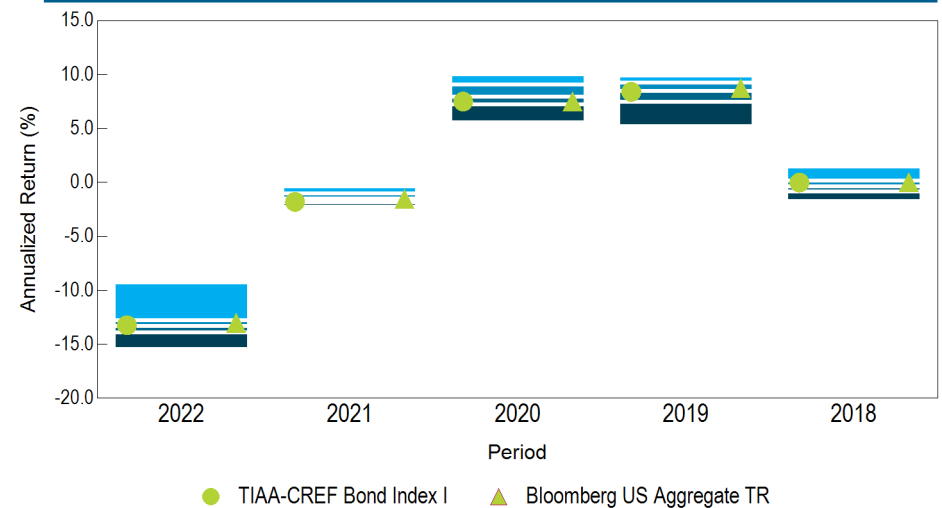
Return Summary



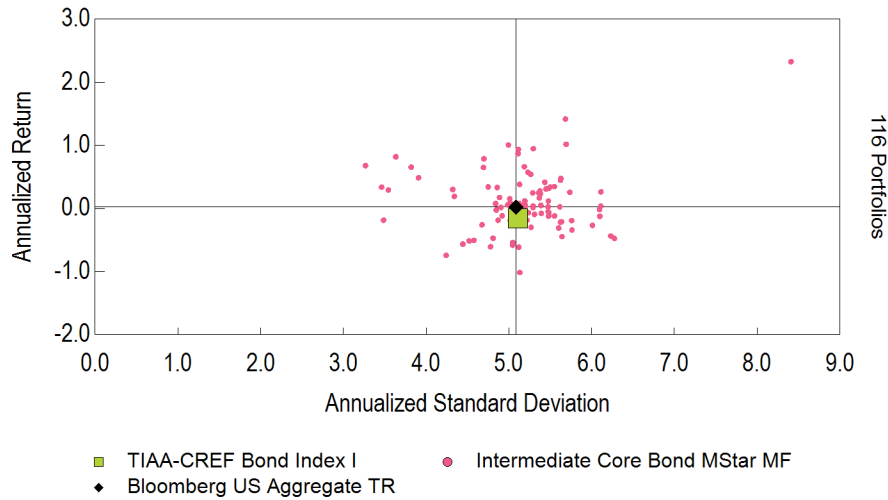
Intermediate Core Bond MStar MF Return Comparison



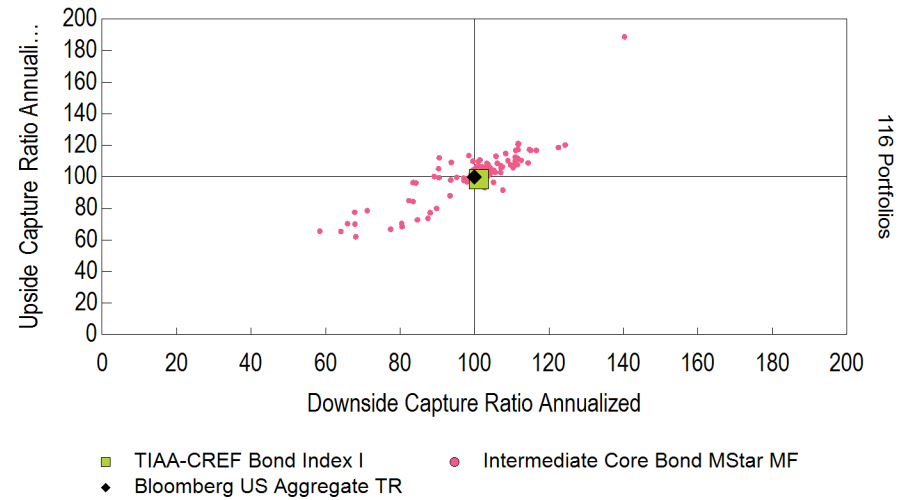
Intermediate Core Bond MStar MF Return Comparison



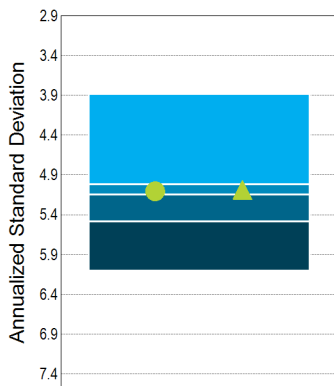
Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



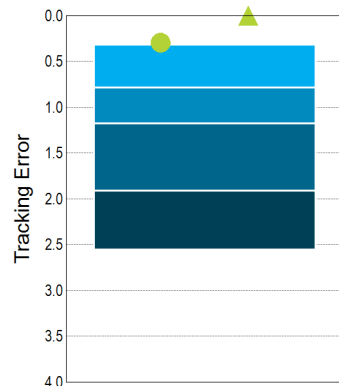
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
5 Years Ending December 31, 2022



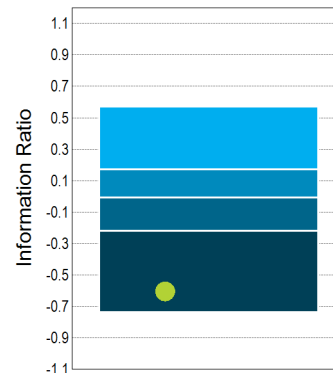
Annualized Standard Deviation



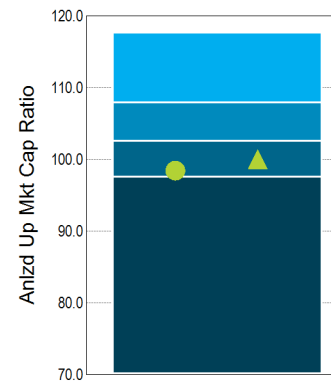
Tracking Error



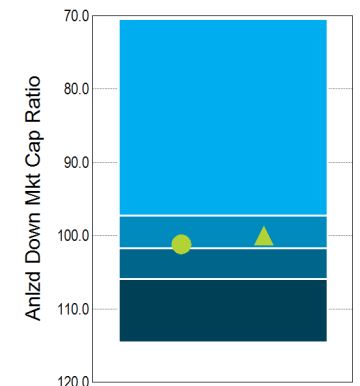
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



● TIAA-CREF Bond Index I ▲ Bloomberg US Aggregate TR ■ 5th to 25th Percentile ■ 25th to Median ■ Median to 75th Percentile ■ 75th to 95th Percentile

Fund Characteristics as of November 30, 2022		Top Holdings as of November 30, 2022		Fixed Income Sectors as of November 30, 2022	
Sharpe Ratio (3 Year)	-0.56	UNITED STATES TREASURY NOTES 2.125%	1.30%	GOVERNMENT	45.13%
Average Duration	6.19	UNITED STATES TREASURY NOTES 0.375%	1.20%	MUNICIPAL	0.77%
Average Coupon	2.61%	UNITED STATES TREASURY NOTES 1.75%	1.03%	CORPORATE	23.44%
Average Effective Maturity	8.59	UNITED STATES TREASURY BONDS 3.5%	0.88%	SECURITIZED	28.57%
R-Squared (3 Year)	1.00	UNITED STATES TREASURY NOTES 4.125%	0.86%	CASH & EQUIVALENTS	2.09%
Alpha (3 Year)	-0.01%	UNITED STATES TREASURY NOTES 2.25%	0.85%	DERIVATIVE	0.00%
Beta (3 Year)	1.00	STATE STR NAVIGATOR SECS LENDING TR	0.82%		
		UNITED STATES TREASURY NOTES 1.125%	0.77%		
		FEDERAL NATIONAL MORTGAGE ASSOCIATION 2.5%	0.75%		
		UNITED STATES TREASURY NOTES 0.75%	0.75%		

Credit Quality as of November 30, 2022		Maturities as of November 30, 2022		Top Countries as of November 30, 2022	
AAA	73.77%	1 to 3 Years	16.21%	United States	92.77%
AA	3.16%	3 to 5 Years	19.29%	Supranational	1.26%
A	10.85%	5 to 7 Years	8.04%	United Kingdom	1.23%
BBB	12.21%	7 to 10 Years	9.03%	Canada	1.17%
BB	0.00%	10 to 15 Years	4.69%	Japan	0.64%
B	0.00%	15 to 20 Years	7.08%	Germany	0.42%
Below B	0.00%	20 to 30 Years	33.32%	Netherlands	0.38%
Not Rated	0.01%	Greater than 30 Years	1.77%	Mexico	0.28%
				Belgium	0.21%
				Australia	0.15%

Nuveen ESG US Aggregate Bond ETF | As of December 31, 2022

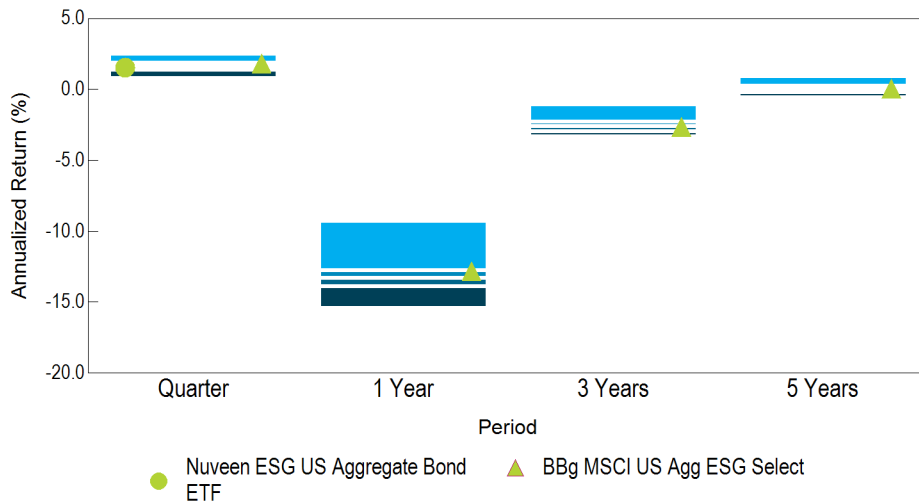
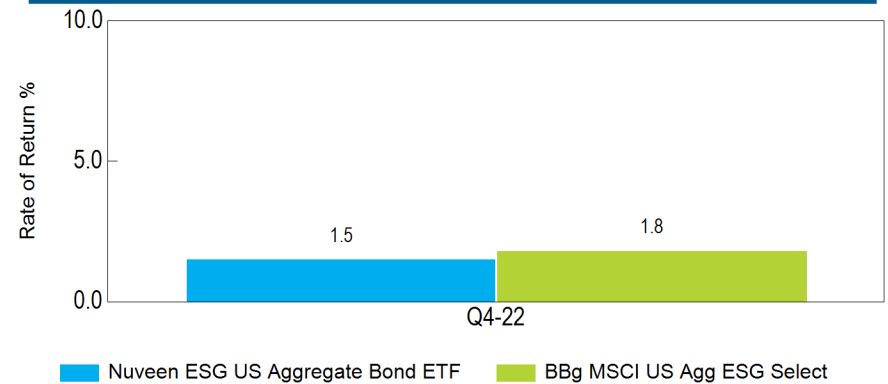
Description:

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.

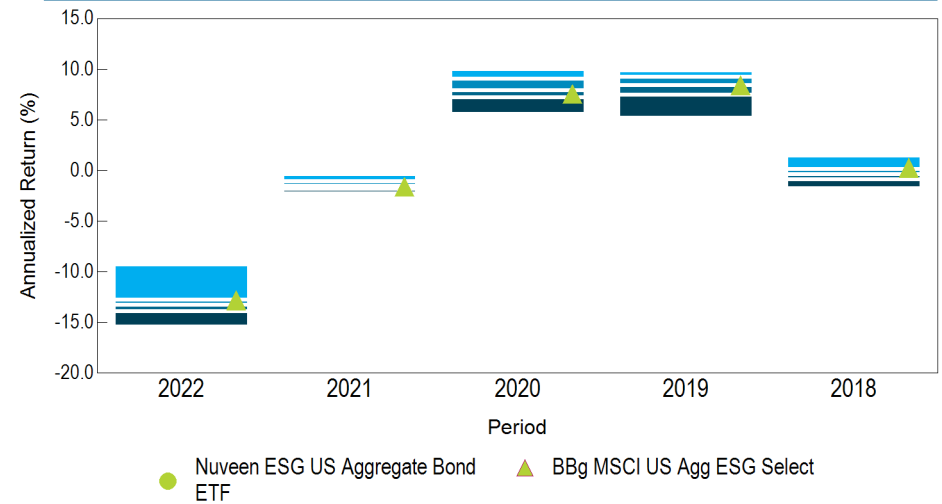
Account Information

Account Name	Nuveen ESG US Aggregate Bond ETF
Account Structure	Mutual Fund
Investment Style	Passive
Inception Date	3/01/22
Account Type	
Benchmark	BBg MSCI US Agg ESG Select
Universe	Intermediate Core Bond MStar MF

Return Summary

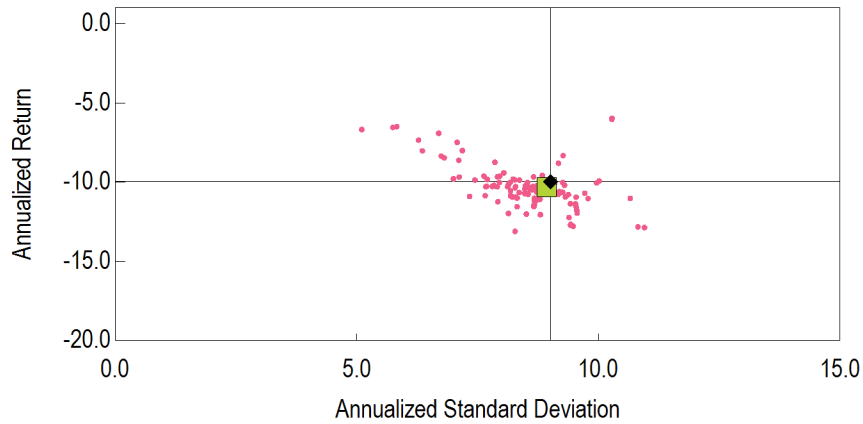


Intermediate Core Bond MStar MF Return Comparison



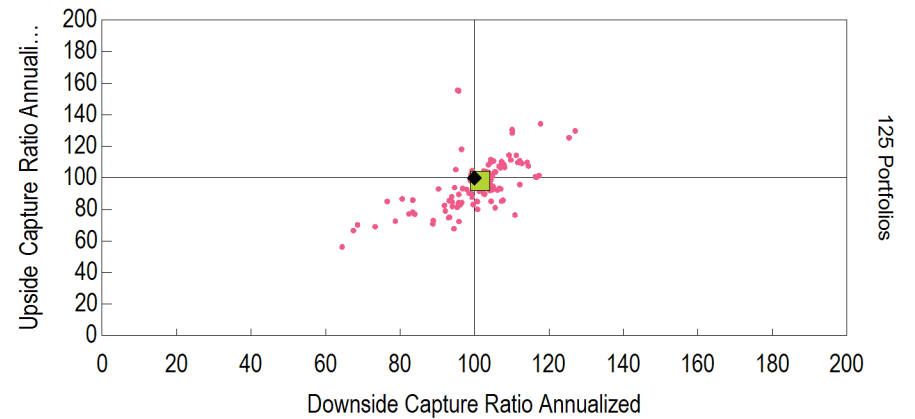
Nuveen ESG US Aggregate Bond ETF | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
10 Months Ending December 31, 2022



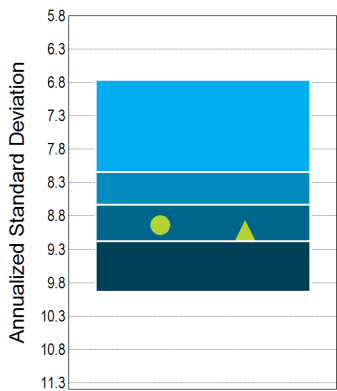
- Nuveen ESG US Aggregate Bond ETF
- Intermediate Core Bond MStar MF
- ◆ BBg MSCI US Agg ESG Select

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
10 Months Ending December 31, 2022

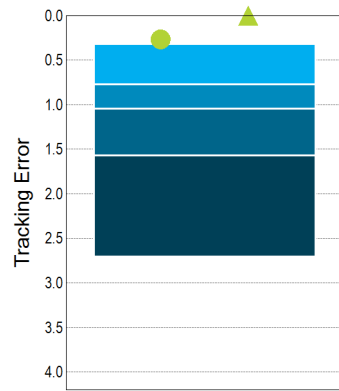


- Nuveen ESG US Aggregate Bond ETF
- Intermediate Core Bond MStar MF
- ◆ BBg MSCI US Agg ESG Select

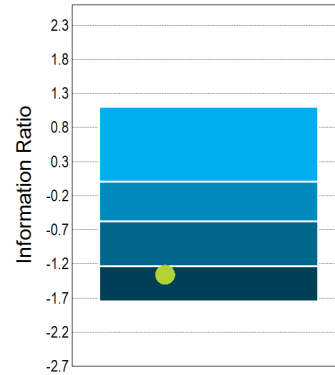
Annualized Standard Deviation



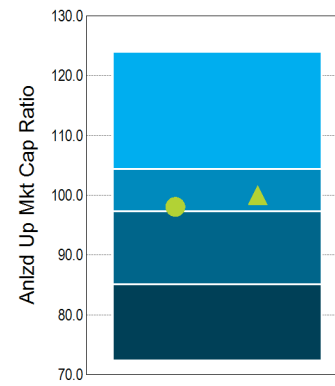
Tracking Error



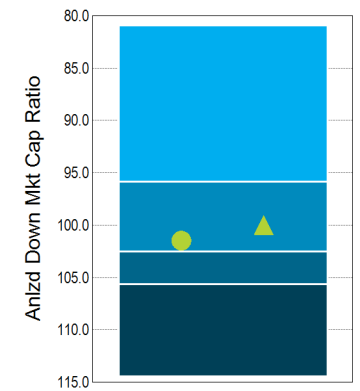
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- Nuveen ESG US Aggregate Bond ETF
- ▲ BBg MSCI US Agg ESG Select
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Nuveen ESG US Aggregate Bond ETF | As of December 31, 2022

	Portfolio Q4-22
Fixed Income Characteristics	
Yield to Maturity	4.71
Average Quality	AA

	Portfolio Q4-22
US Sector Allocation	
UST/Agency	45.39
Corporate	25.40
Other	28.96
Cash	0.25

	Portfolio Q4-22
Credit Quality Allocation	
AAA	4.51
AA	69.52
A	13.18
BBB	11.96
Not Rated	0.04
Cash	0.79

Top Holdings	
FNMA 2.500 2051-11-01 USD	2.64%
UST 2% SNR 31/05/2024 USD1000	1.86%
UST 0% NTS 30/09/25 USDAD-2025	1.44%
UST BDS USD	1.41%
UST 2.75% SNR 15/08/47 USD1000	1.36%
UST 0% NTS 31/01/26 USDU-2026	1.28%
UST 2.125% SNR 30/09/24 USD1000	1.22%
UST 0% NTS 30/04/26 USDY-2026	1.18%
UST 0% NTS 15/05/32 USDC-2032	1.16%
UST 1.375% NTS 31/01/25 USD1000	1.10%

Nuveen ESG High Yield Corp Bond ETF | As of December 31, 2022

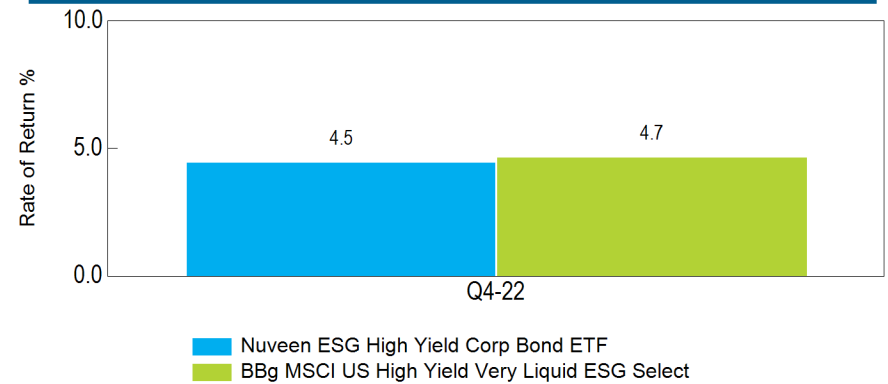
Description:

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.

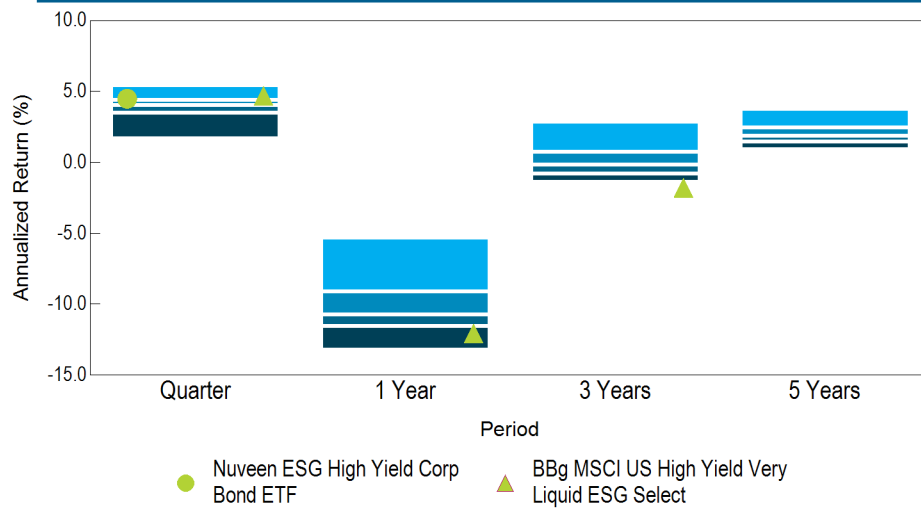
Account Information

Account Name	Nuveen ESG High Yield Corp Bond ETF
Account Structure	Mutual Fund
Investment Style	Passive
Inception Date	3/01/22
Account Type	
Benchmark	BBg MSCI US High Yield Very Liquid ESG Select
Universe	High Yield Bond MStar MF

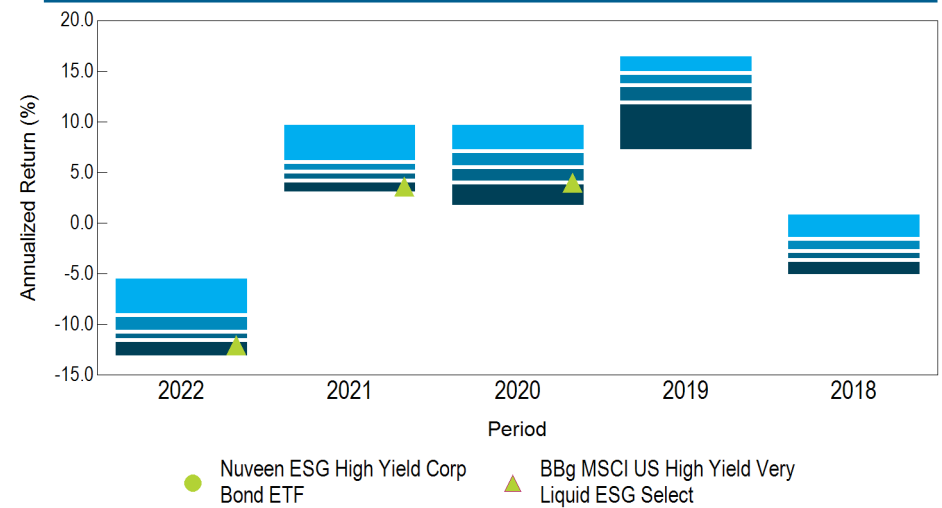
Return Summary



High Yield Bond MStar MF Return Comparison

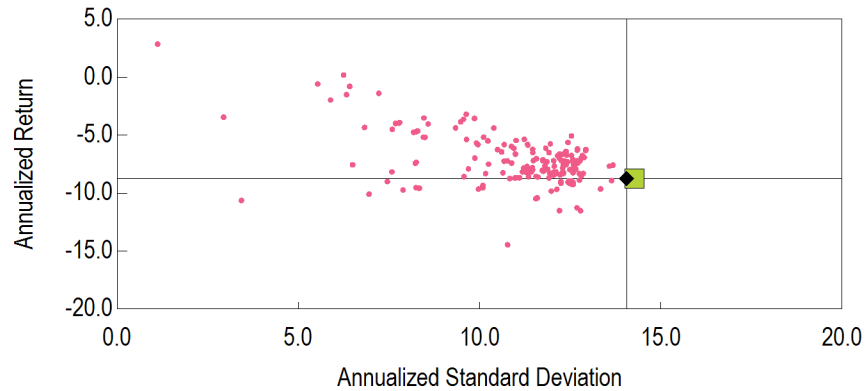


High Yield Bond MStar MF Return Comparison

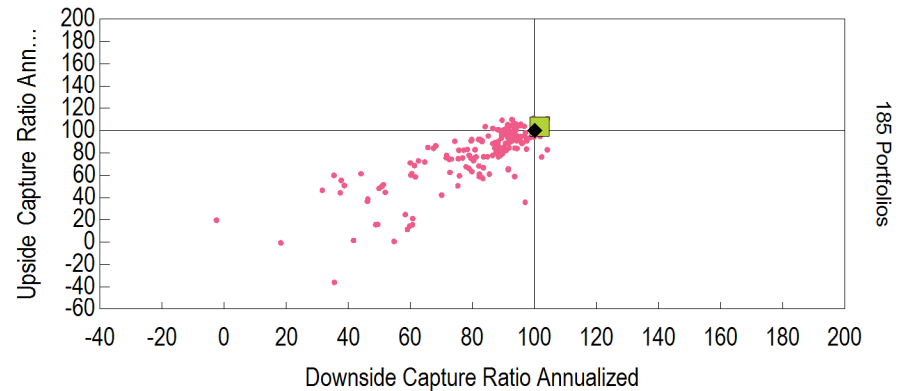


Nuveen ESG High Yield Corp Bond ETF | As of December 31, 2022

Annualized Return vs. Annualized Standard Deviation
10 Months Ending December 31, 2022



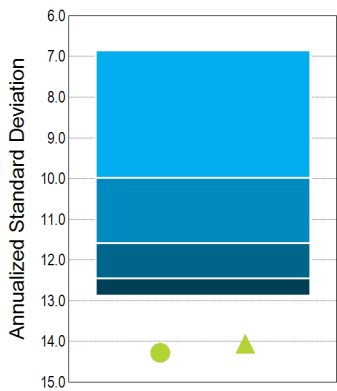
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
10 Months Ending December 31, 2022



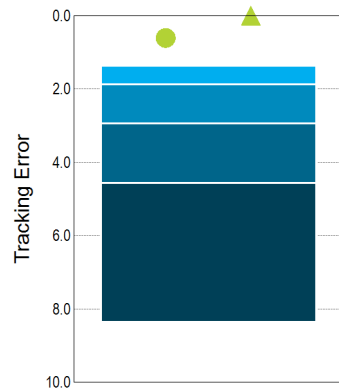
- Nuveen ESG High Yield Corp Bond ETF
- ◆ BBg MSCI US High Yield Very Liquid ESG Select
- High Yield Bond MStar MF

- Nuveen ESG High Yield Corp Bond ETF
- ◆ BBg MSCI US High Yield Very Liquid ESG Select
- High Yield Bond MStar MF

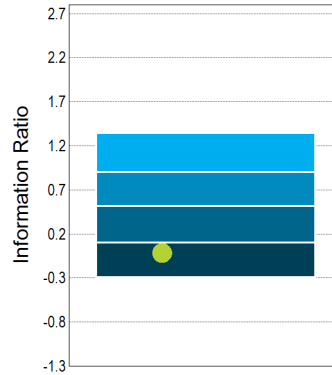
Annualized Standard Deviation



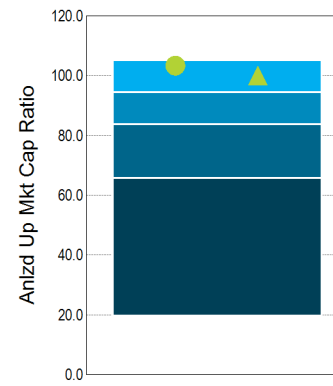
Tracking Error



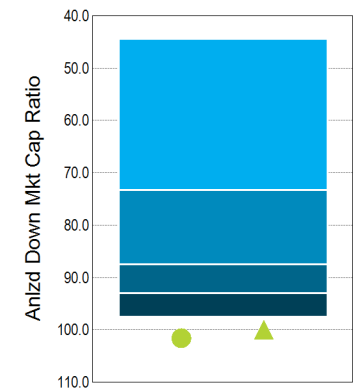
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- Nuveen ESG High Yield Corp Bond ETF

- ▲ BBg MSCI US High Yield Very Liquid ESG Select

- 5th to 25th Percentile

- 25th to Median

- Median to 75th Percentile

- 75th to 95th Percentile

Nuveen ESG High Yield Corp Bond ETF | As of December 31, 2022

Portfolio	
Q4-22	
Fixed Income Characteristics	
Average Duration	3.98
Average Quality	B

Portfolio	
Q4-22	
Credit Quality Allocation	
BB	39.00
B	51.93
CCC	6.44
Not Rated	0.75
Cash	1.88

Portfolio	
Q4-22	
US Sector Allocation	
Corporate	89.38
Foreign	8.74
Other	1.88

Top Holdings	
Weatherford International Ltd Bermuda SNR NTS USD (144A)	1.74%
Prime Securities Services Borrower, LLC and Prime Finance, Inc. 6.25% SNR SEC 15/01/28 USD	1.61%
Herc Holdings Inc 5.5% GTD SNR 15/07/2027 USD	1.42%
Intelsat Jackson Holdings, Ltd. 6.5% NTS USD (144A)	1.40%
Select Medical Corporation 6.25% GTD SNR 15/08/26 USD	1.38%
Tronox Incorporated 4.625% SNR 15/03/2029 USD	1.10%
WEATHERFORD INTERNATIONA SR SECURED 144A 0928 6.5	1.10%
Enviva Partners LP / Enviva Partners Finance Corp 6.5% GTD SNR 15/01/2026 USD	1.09%
Trivium Packaging Finance BV 5.5% GTD 15/08/2026 USD	1.08%
SeaWorld Parks & Entertainment Inc 5.25% SNR 15/08/29 USD144A	0.95%

Vanguard Real Estate Index | As of December 31, 2022

Description:

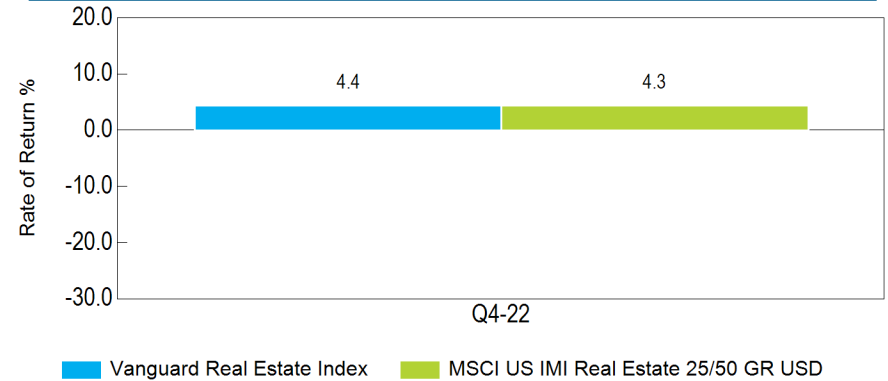
The investment seeks to provide a high level of income and moderate long-term capital appreciation by tracking the performance of the MSCI US Investable Market Real Estate 25/50 Index that measures the performance of publicly traded equity REITs and other real estate-related investments.

The advisor attempts to track the index by investing all, or substantially all, of its assets—either directly or indirectly through a wholly owned subsidiary, which is itself a registered investment company—in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index. The fund is non-diversified.

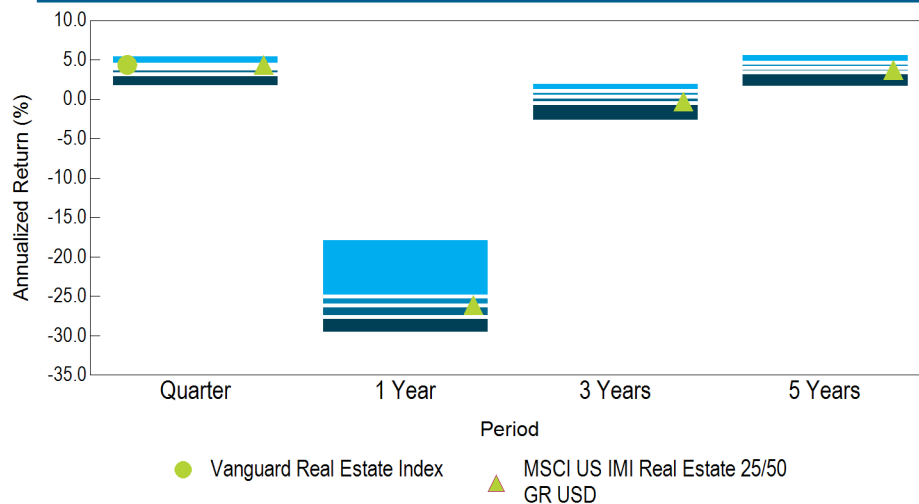
Portfolio Fund Information as of December 31, 2022

Ticker	VGSNX
Morningstar Category	Real Estate
Average Market Cap (\$mm)	20,240.50
Net Assets (\$mm)	9,658.09
% Assets in Top 10 Holdings	47.54
Total Number of Holdings	171
Manager Name	Gerard C. O'Reilly
Manager Tenure	27
Expense Ratio	0.10%
Closed to New Investors	No

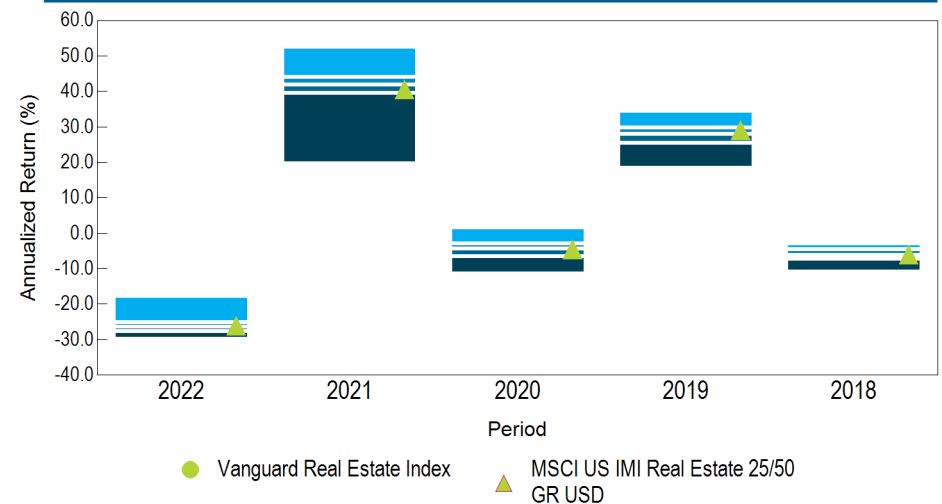
Return Summary



Real Estate MStar MF Return Comparison

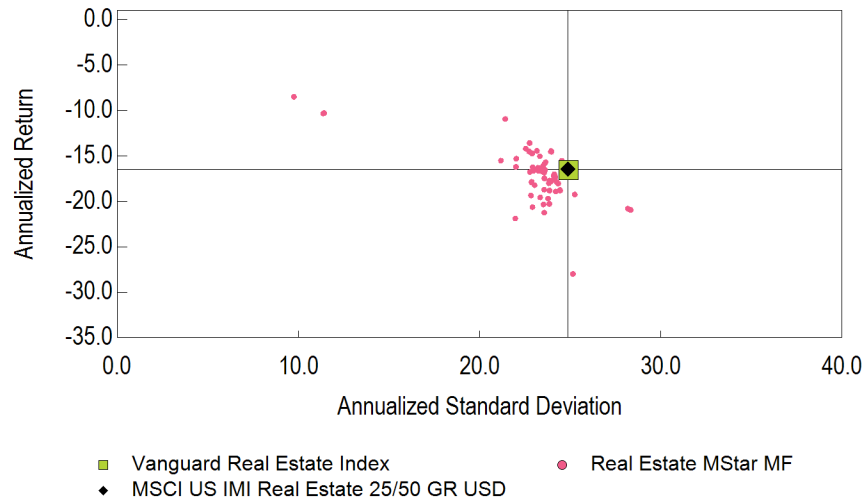


Real Estate MStar MF Return Comparison

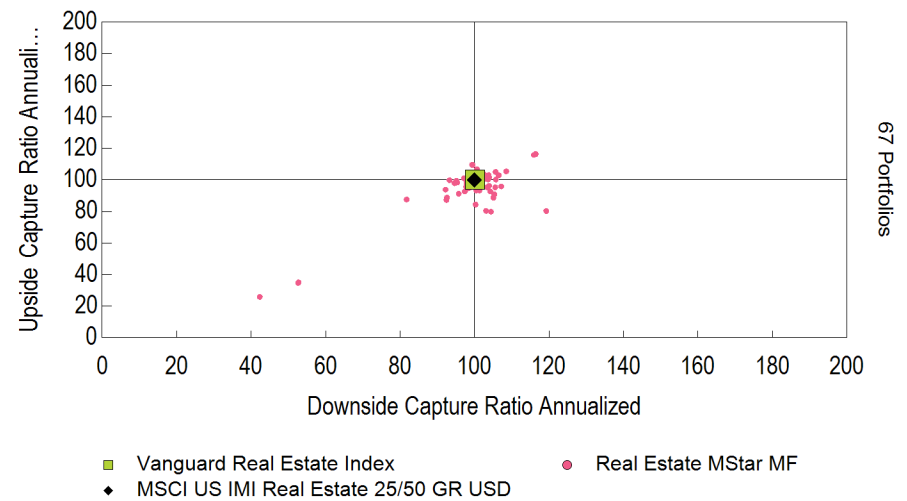


Vanguard Real Estate Index | As of December 31, 2022

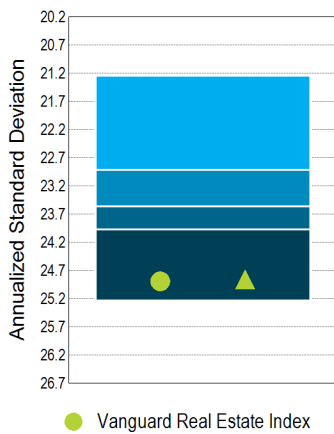
Annualized Return vs. Annualized Standard Deviation
10 Months Ending December 31, 2022



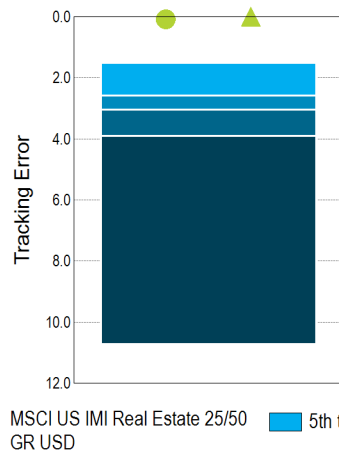
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized
10 Months Ending December 31, 2022



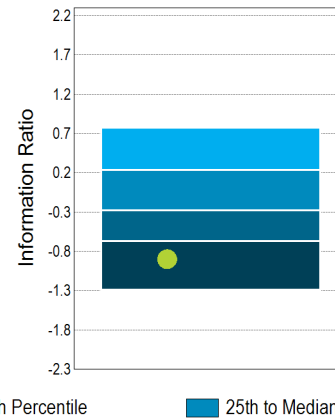
Annualized Standard Deviation



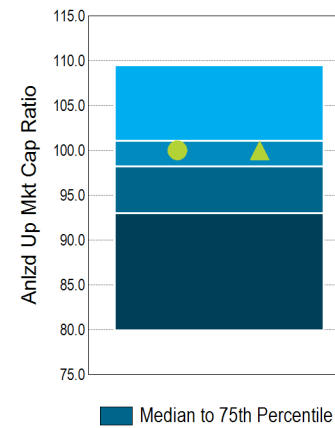
Tracking Error



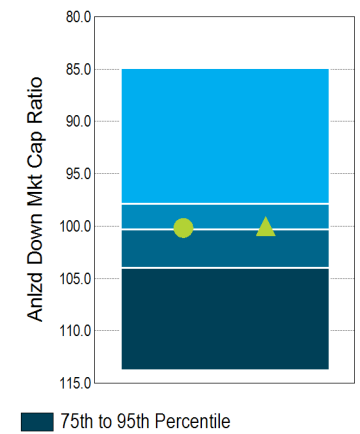
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



Fund Characteristics as of December 31, 2022

Sharpe Ratio (3 Year)	
Average Market Cap (\$mm)	20,240.50
Price/Earnings	29.75
Price/Book	2.06
Price/Sales	3.85
Price/Cash Flow	10.79
Dividend Yield	3.89
Number of Equity Holdings	167
R-Squared (3 Year)	
Alpha (3 Year)	

Sector Allocation as of December 31, 2022

BASIC MATERIALS	0.00%
COMMUNICATION SERVICES	0.57%
CONSUMER CYCLICAL	0.00%
CONSUMER DEFENSIVE	0.00%
ENERGY	0.00%
FINANCIAL SERVICES	0.03%
HEALTHCARE	0.00%
INDUSTRIALS	0.00%
REAL ESTATE	99.35%
TECHNOLOGY	0.05%
UTILITIES	0.00%

Top Holdings as of December 31, 2022

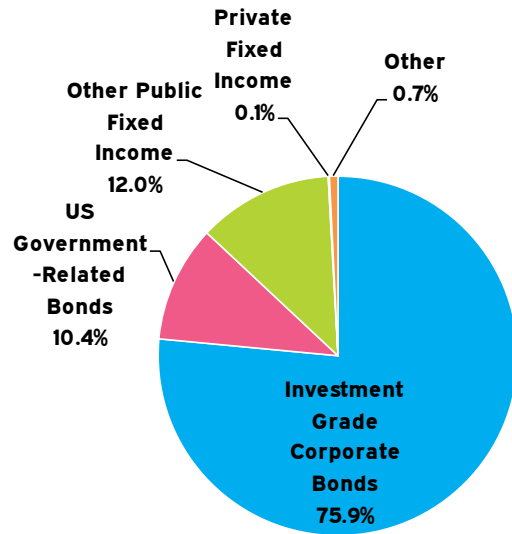
VANGUARD REAL ESTATE II INDEX	12.14%
PROLOGIS INC	7.35%
AMERICAN TOWER CORP	6.96%
EQUINIX INC	4.21%
CROWN CASTLE INC	4.15%
PUBLIC STORAGE	3.13%
REALTY INCOME CORP	2.77%
SIMON PROPERTY GROUP INC	2.64%
SBA COMMUNICATIONS CORP	2.13%
WELLTOWER INC	2.07%

Top Countries as of December 31, 2022

United States	99.97%
Canada	0.03%

Sensitivity Analyses: T-C Life Funding Agreements

T-C Life Funding Agreement



Monitoring Status
Positive

	Criteria	Status as of 9/30/22
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	99.1% 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

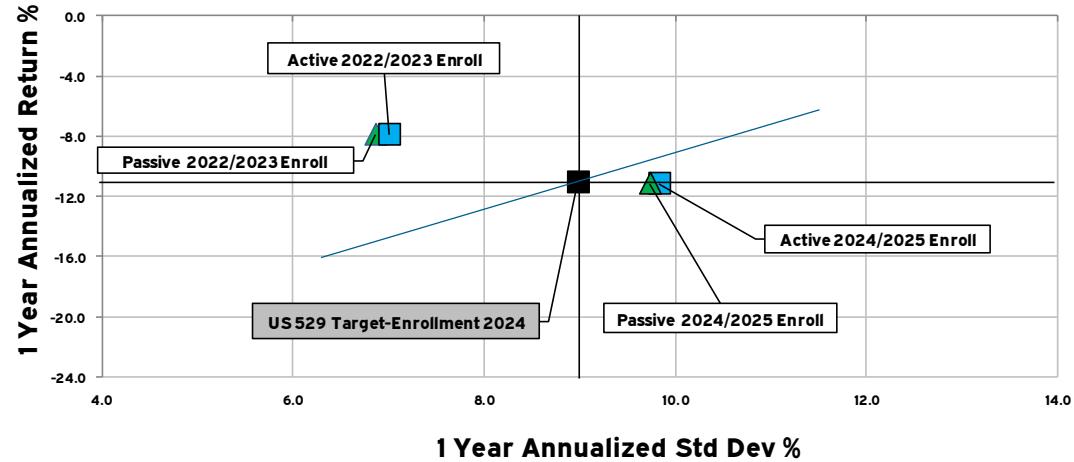
	Criteria Utilized for Performance Watch Status			
	On Watch	Short-term	Medium-term	Long-term
T. Rowe Price Instl Large Cap Growth	Yes	Yes	Yes	---
T. Rowe Price Instl Large Cap Value	No	---	---	---
TIAA-CREF Quant Small Cap Equity	No	---	---	---
TIAA-CREF Social Choice Equity	No	---	---	---
DFA Large 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
Total	1 of 16	1 of 15 eligible funds	1 of 15 eligible funds	0 of 15 eligible funds

- 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.

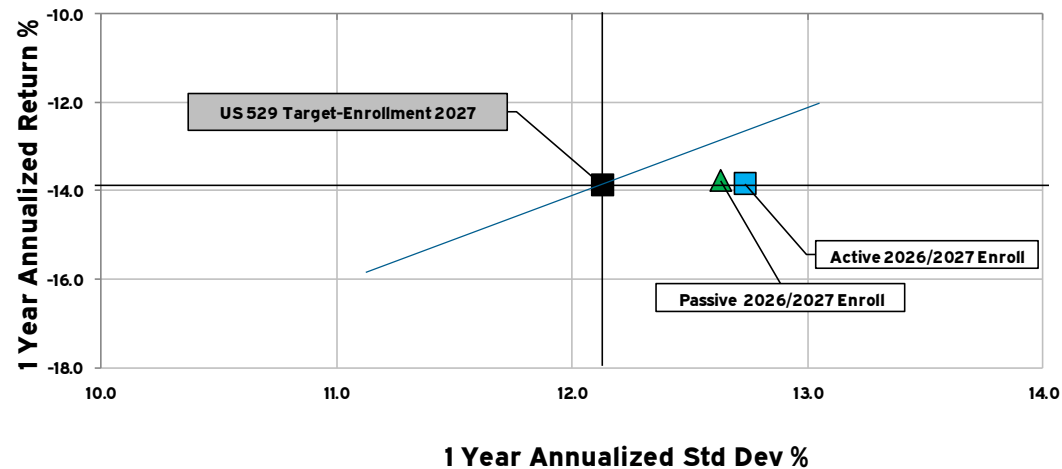
Enrollment Date Fund Performance

Enrollment Date Portfolios Performance

Morningstar Target Date 2024: 1 Year Risk/Return as of 12/31/2022

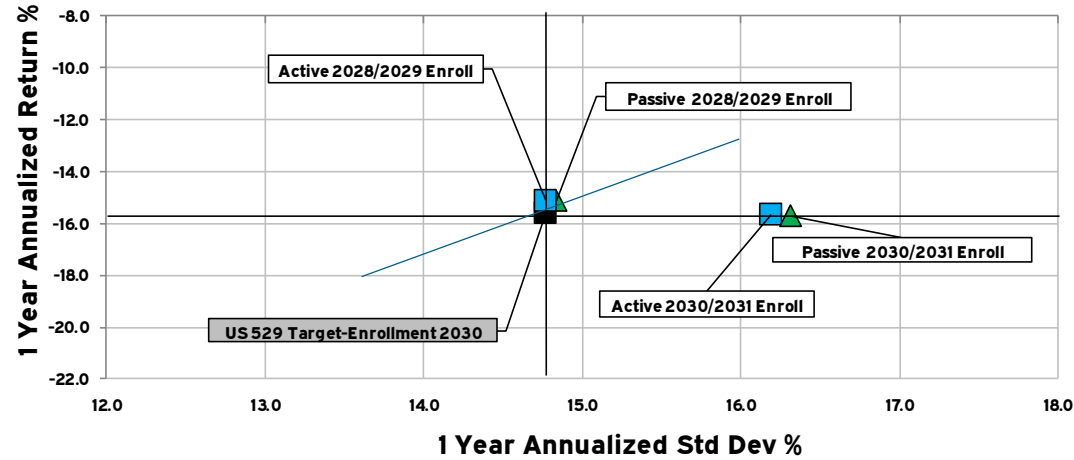


Morningstar Target Date 2027: 1 Year Risk/Return as of 12/31/2022

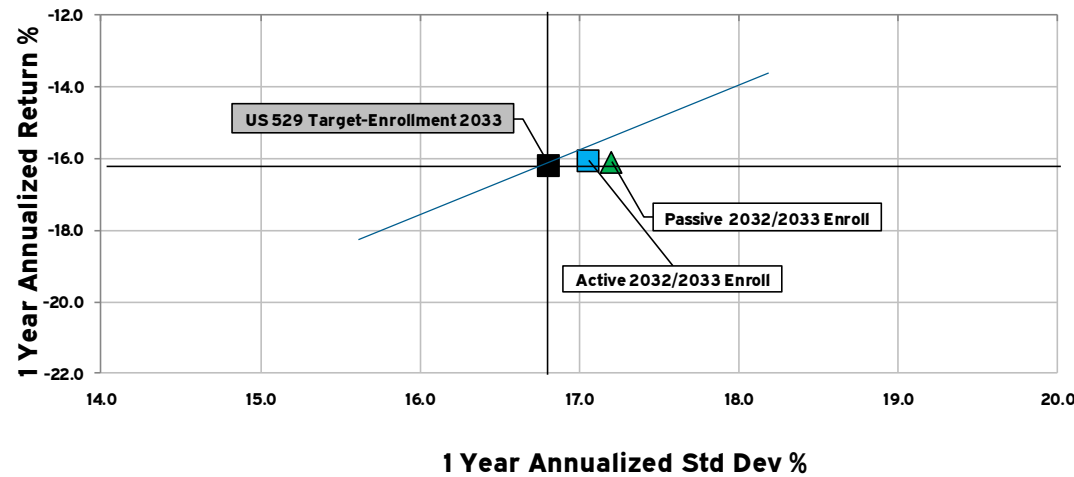


Enrollment Date Portfolios Performance

Morningstar Target Date 2030: 1 Year Risk/Return as of 12/31/2022

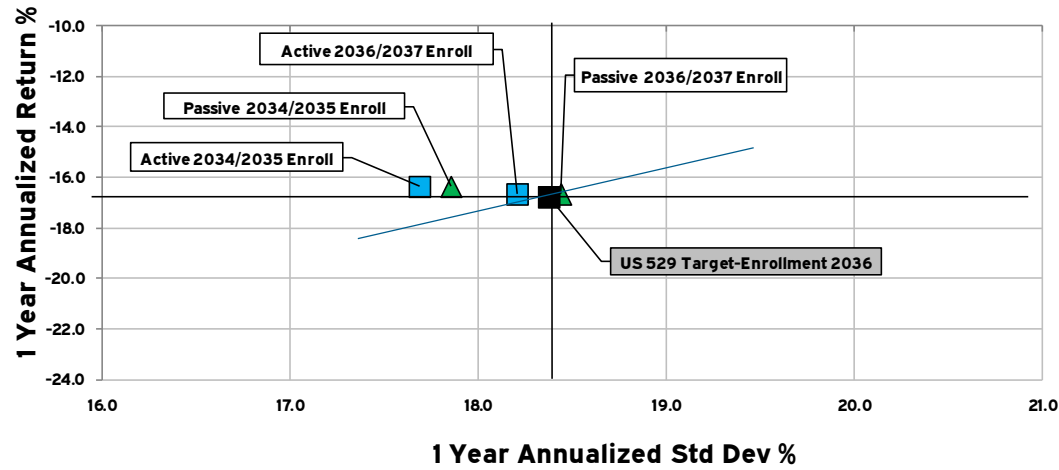


Morningstar Target Date 2033: 1 Year Risk/Return as of 12/31/2022

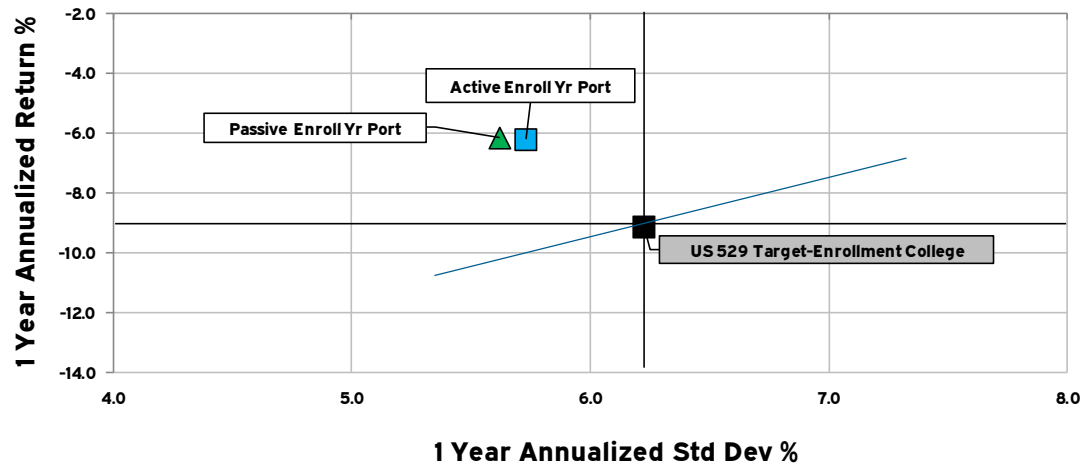


Enrollment Date Portfolios Performance

Morningstar Target Date 2036: 1 Year Risk/Return as of 12/31/2022

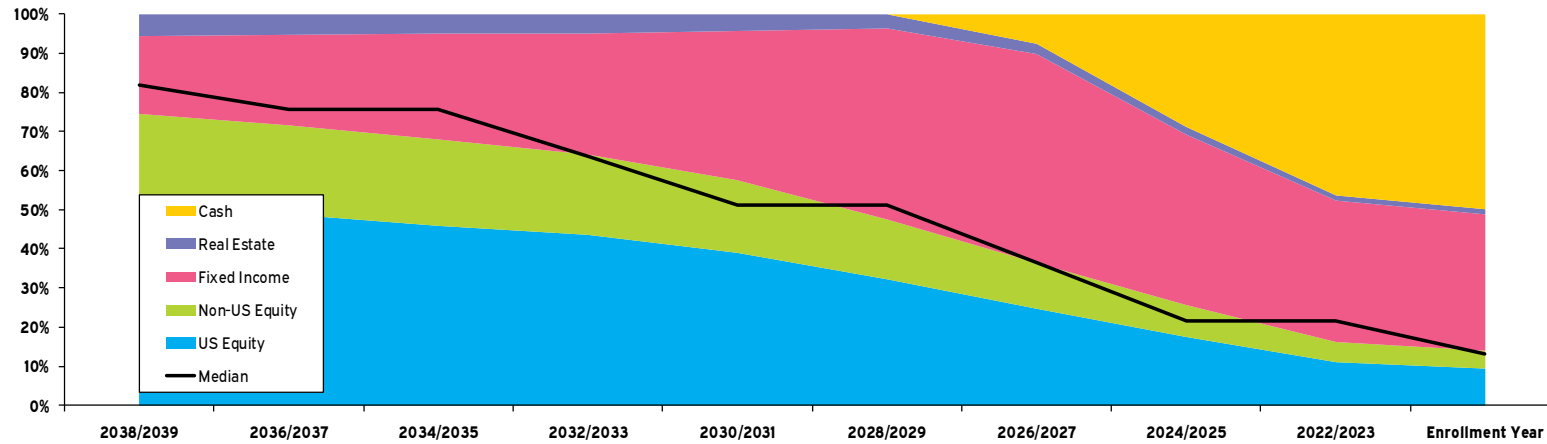


Morningstar Target Date 2039: 1 Year Risk/Return as of 12/31/2022

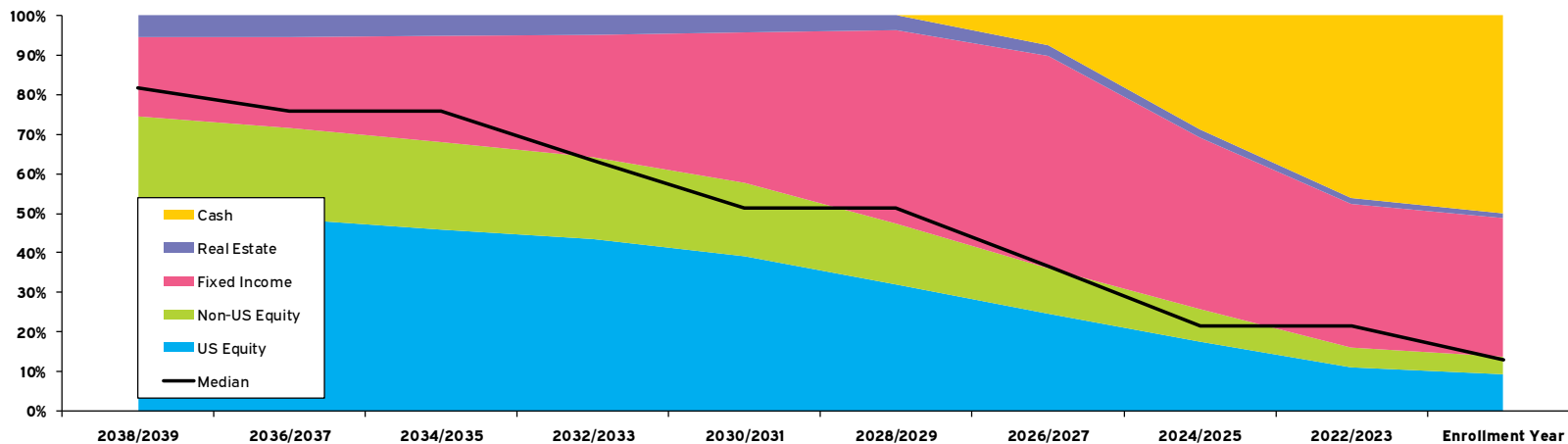


ScholarShare Enrollment Date Glidepath

Active Enrollment Date Portfolio

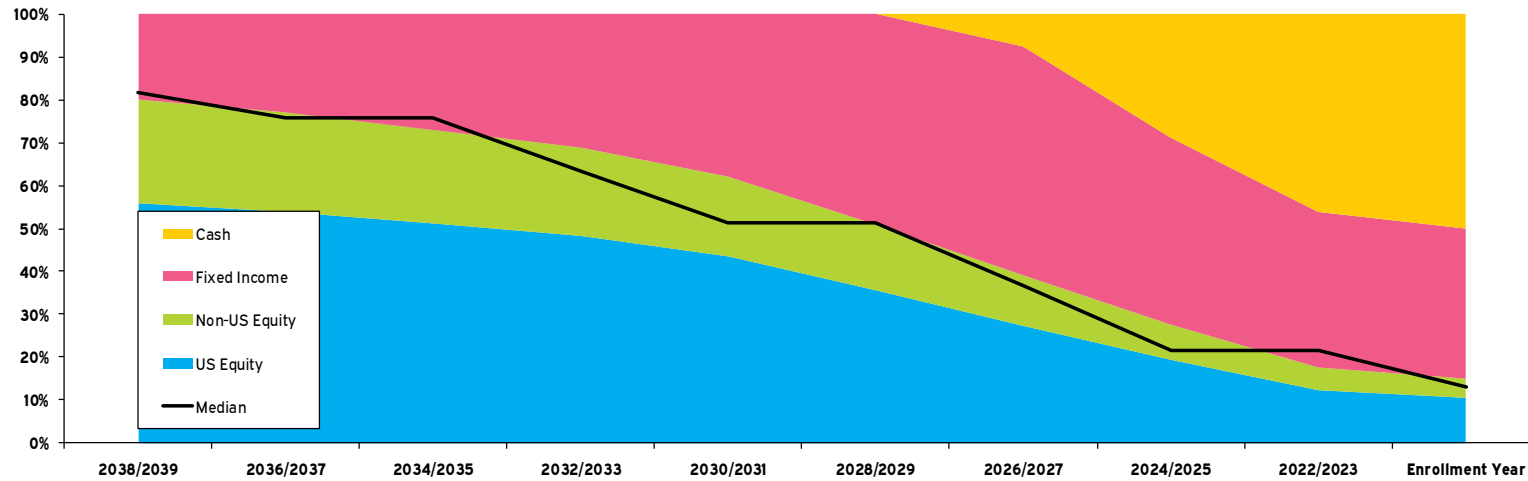


Passive Enrollment Date Portfolio



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

Disclaimer

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

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

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

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

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MEMORANDUM

TO: ScholarShare Investment Board (SIB)
FROM: Eric White, CFA; Kay Ceserani; Inwoo Hwang;
Meketa Investment Group
DATE: March 23, 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 October 1, 2022, through December 31, 2022.

At the end of the period, 2 funds continue to qualify for watch (TIAA-CREF Emerging Markets Equity Index, T. Rowe Large Cap Growth) though 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. 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. We will report any material findings to SIB.

Qualifying for Watch

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

Performance of Funds on Watch Status As of 12/31/2022

Funds on Watch Status	Board Action Date	Watch Status Start Date	No. Months Since Watch Began	Excess Perf. Since Watch Began	Plan Assets (\$mil)	% of Plan Assets
T. Rowe Large Cap Growth		4/1/2022	9	-3.2	278.4	2.4%

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 \$278.4M 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. Mr. Tamaddon has managed this fund 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 all three (short, medium, long-term) monitoring criteria. The Fund trailed the benchmark in the most recent quarter, as underweight allocations to Industrials and Business Services, as well as overweight allocations to Communication Services hurt relative performance. The fund has trailed the index in every measured trailing period since addition and ranked in the bottom quartile for the trailing 1-year return.

Trailing Performance Results, Net of Fees Ending December 31, 2022

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (11/20/2011)
T. Rowe Price Large Cap Growth Fund	-0.2	-35.2	3.7	8.4	13.6
<i>Russell 1000 Growth</i>	-2.4	-29.1	7.8	11.0	13.9
Difference	-2.6	-6.1	-4.1	-2.6	-0.3
Percentile Rank*	81	76	68	56	11

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

The fund has outperformed the benchmark in the 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 14th 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

Due to continued underperformance against its benchmark, Meketa recommends that the T. Rowe Large Cap Growth Fund remain on “Watch” status to be closely monitored over future periods.

EDW/KRC/IH/mp



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