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**DECEMBER 19, 2023**

**AGENDA ITEM 10  
INFORMATION ITEM**

**SCHOLARSHARE INVESTMENT BOARD**

*Review and Analysis of Investment Performance for ScholarShare 529*

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***Background***

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

In this item, Nuveen will provide the Board with a brief market update in their “Macro Pulse – Economy Markets Portfolio Strategy” (Exhibit A) for October 2023. SIB will also review and discuss the “Investment Performance Report” (Exhibit B) for the Plan for third quarter 2023, provided by TIAA-CREF Tuition Financing, Inc., and the “Investment Performance Status Report” (Exhibit C) for third quarter 2023, provided by Meketa. Exhibit B provides comparisons for each underlying fund allocated to the portfolios used in the Plan to applicable benchmark criteria and labels the current status of funds as “positive,” “acceptable,” or “caution.”

For the third quarter of 2023:

- 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 D):

- One (1) fund, the T. Rowe Price Institutional Large Cap Growth Fund, remains on “watch” status;
- Two (2) funds, the TIAA-CREF Emerging Markets Equity Index Fund and TIAA-CREF International Equity Index Fund (collectively the “Funds”), qualify for “watch” status, however, Meketa is not recommending they be placed on “watch” status due to explanation included in its memos dated March 16, 2022 and October 16, 2023, presented at the March 23, 2022 and October 16, 2023 Board meetings, respectively.

***Presenters***

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

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

Brian Griggs, Portfolio Strategist, Portfolio Strategy & Solutions, Nuveen

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

# nuveen

A TIAA Company

## Macro Pulse

*Economy*

*Markets*

*Portfolio Strategy*

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October 2023

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Portfolio Strategy Group

NOT FDIC INSURED | NO BANK GUARANTEE | MAY LOSE VALUE  
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# A word on risk

Investing involves risk; principal loss is possible. There is no guarantee a fund's investment objectives will be achieved. **Fixed income securities** may be susceptible to general movements in the bond market and are subject to credit and interest rate risks. **Credit risk** arises from an issuer's ability to make interest and principal payments when due, as well as the prices of bonds declining when an issuer's credit quality is expected to deteriorate. **Interest rate risk** occurs when interest rates rise causing bond prices to fall. The portfolios' **income** could decline during periods of falling interest rates. Investments in below investment grade or **high yield securities** are subject to liquidity risk and heightened credit risk. The issuer of a debt security may be able to repay principal prior to the security's maturity, known as **prepayment (call) risk**, because of an improvement in its credit quality or falling interest rates. In this event, this principal may have to be reinvested in securities with lower interest rates than the original securities, reducing the potential for income. **Non-U.S. investments** involve risks such as currency fluctuation, political and economic instability, lack of liquidity and differing legal and accounting standards. These risks are magnified in **emerging markets**. These and other risk considerations, such as active management, derivatives, extension, illiquid investments, issuer, and income volatility risks, are described in detail in the Fund's prospectus. Investments in debt securities issued or guaranteed by governments or governmental entities are subject to the risk that an entity may delay or refuse to pay interest or principal on its **sovereign debt** because of cash flow problems, insufficient foreign reserves, or political or other considerations. In this event, there may be no legal process for collecting sovereign debts that a governmental entity has not repaid. The risk that interest payments on, or market values of, **inflation-indexed investments** decline because of a decline in inflation (or deflation) or changes in investors' and/or the market's inflation expectations. The value of **convertible securities** may decline in response to such factors as rising interest rates and fluctuations in the market price of the underlying securities. **Preferred securities** are subordinate to bonds and other debt instruments in a company's capital structure and therefore are subject to greater credit risk. Certain types of preferred, hybrid or debt securities with special loss absorption

provisions, such as contingent capital securities (CoCos), may be or become so subordinated that they present risks equivalent to, or in some cases even greater than, the same company's common stock. Prices of **equity securities** may decline significantly over short or extended periods of time. **Large companies** are more mature and may grow more slowly than the overall market. **Growth stocks** tend to be more volatile than other equities and can experience sharp price declines. Investments in **smaller companies** are subject to greater volatility than those of larger companies. Concentration in **infrastructure-related securities** involves sector risk and concentration risk, particularly greater exposure to adverse economic, regulatory, political, legal, liquidity, and tax risks associated with MLPs and REIT. The use of derivatives involves substantial financial risks and transaction costs. The **real estate industry** is greatly affected by economic downturns or by changes in real estate values, rents, property taxes, interest rates, tax treatment, regulations, or the legal structure of the REIT. **Concentrating assets** in a particular industry, sector of the economy, or markets may increase volatility because the investment will be more susceptible to the impact of market, economic, regulatory, and other factors affecting that industry or sector compared with a more broadly diversified asset allocation. A portfolio that tracks an **index** is subject to the risk that it may not fully track its index closely due to security selection and may underperform when factoring in fees, expenses, transaction costs, and the size and timing of shareholder purchases and redemptions.

Featuring portfolio management by Nuveen Asset Management, LLC, a registered investment adviser and affiliate of Nuveen, LLC. member FINRA and SIPC.

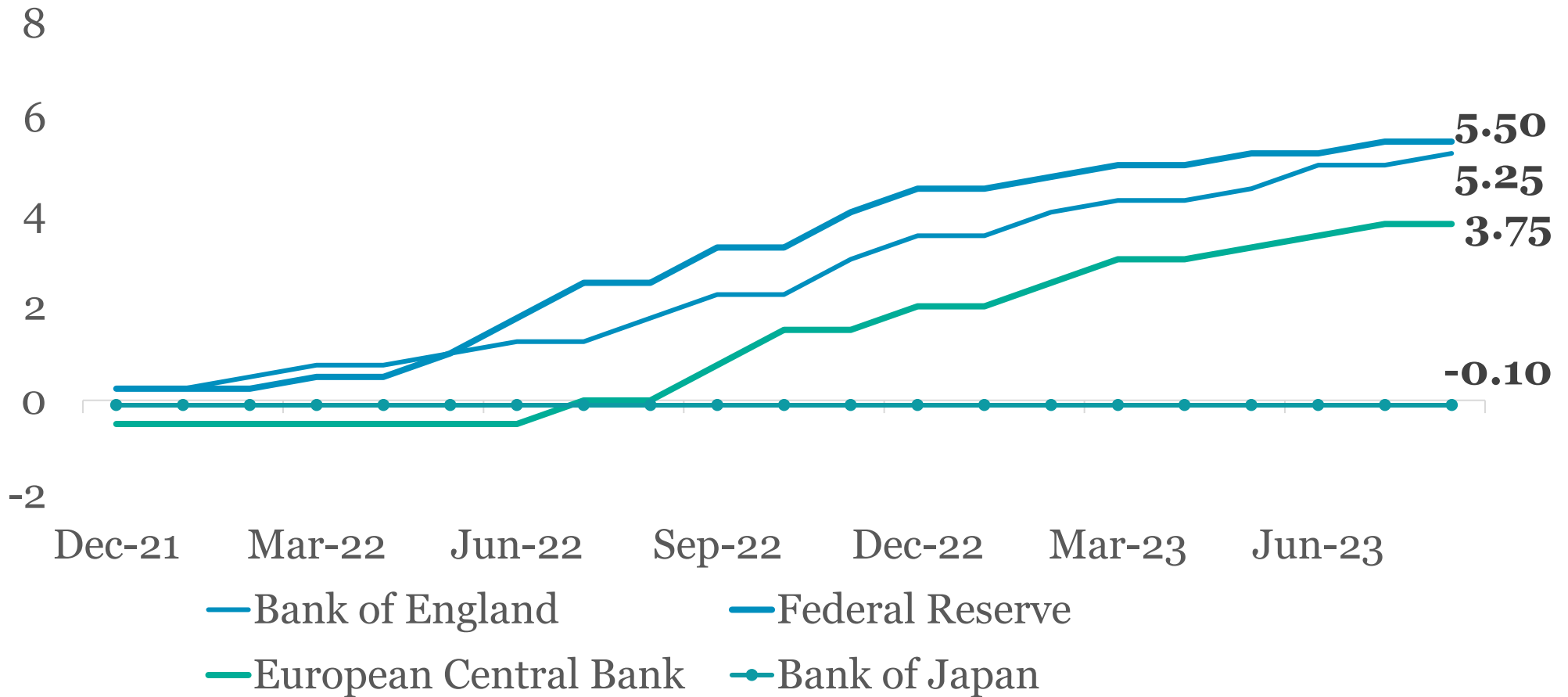
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Economy

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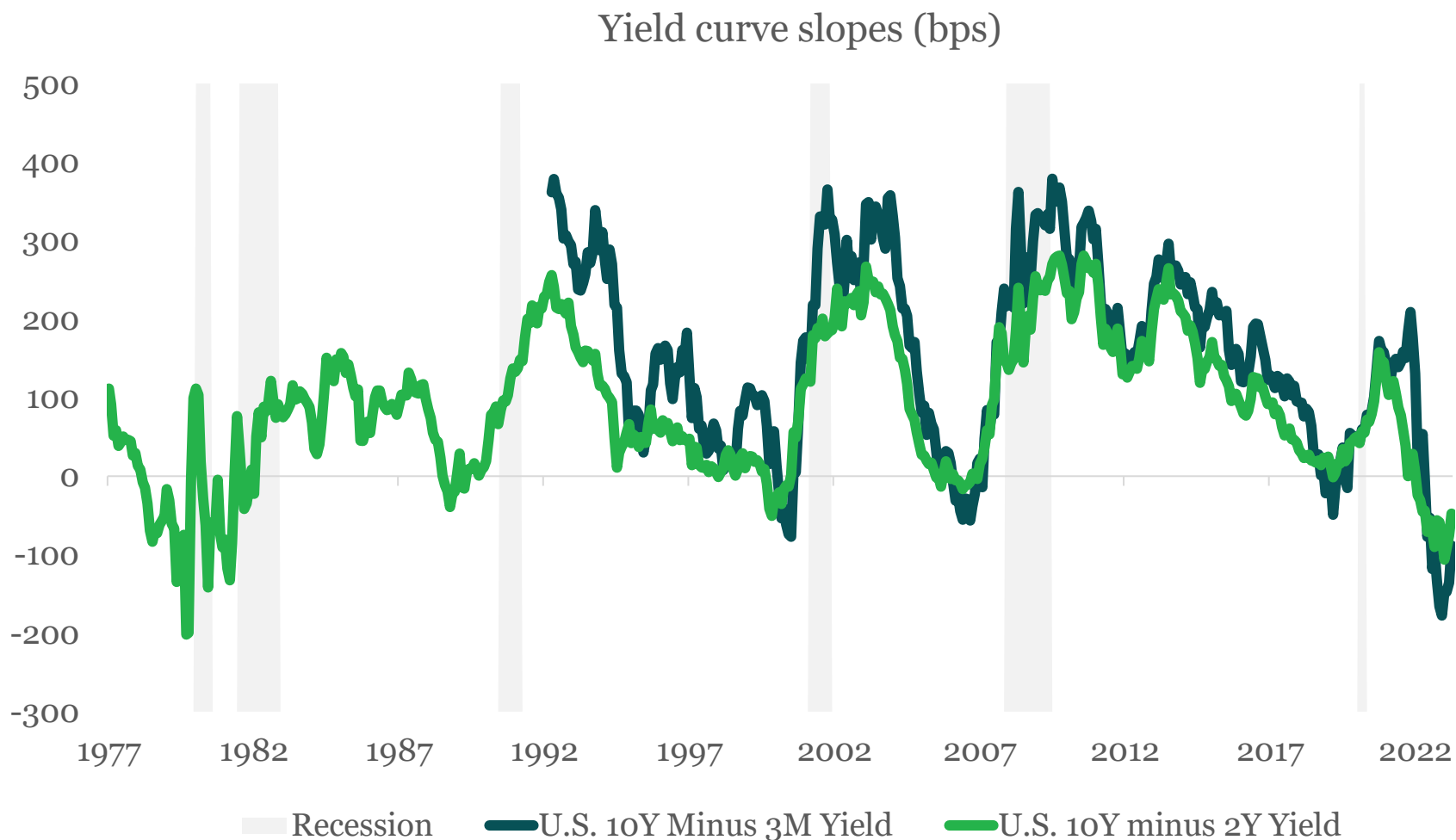
# Aggressive rate hikes for most major central banks

Global central bank policy rates (%)



Source: Nuveen Portfolio Strategy Group, Bloomberg, Start Date = 12/2018, End Date = 08/2023  
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# However, some indicators – such as an inverted yield curve – are signaling a slowdown ahead



**Past performance is no guarantee of future results.** It is not possible to invest directly in an index.

Source: Nuveen Portfolio Strategy Group, Bloomberg, Start Date = January 1977, End Date = September 2023.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Most measures of inflation trending lower



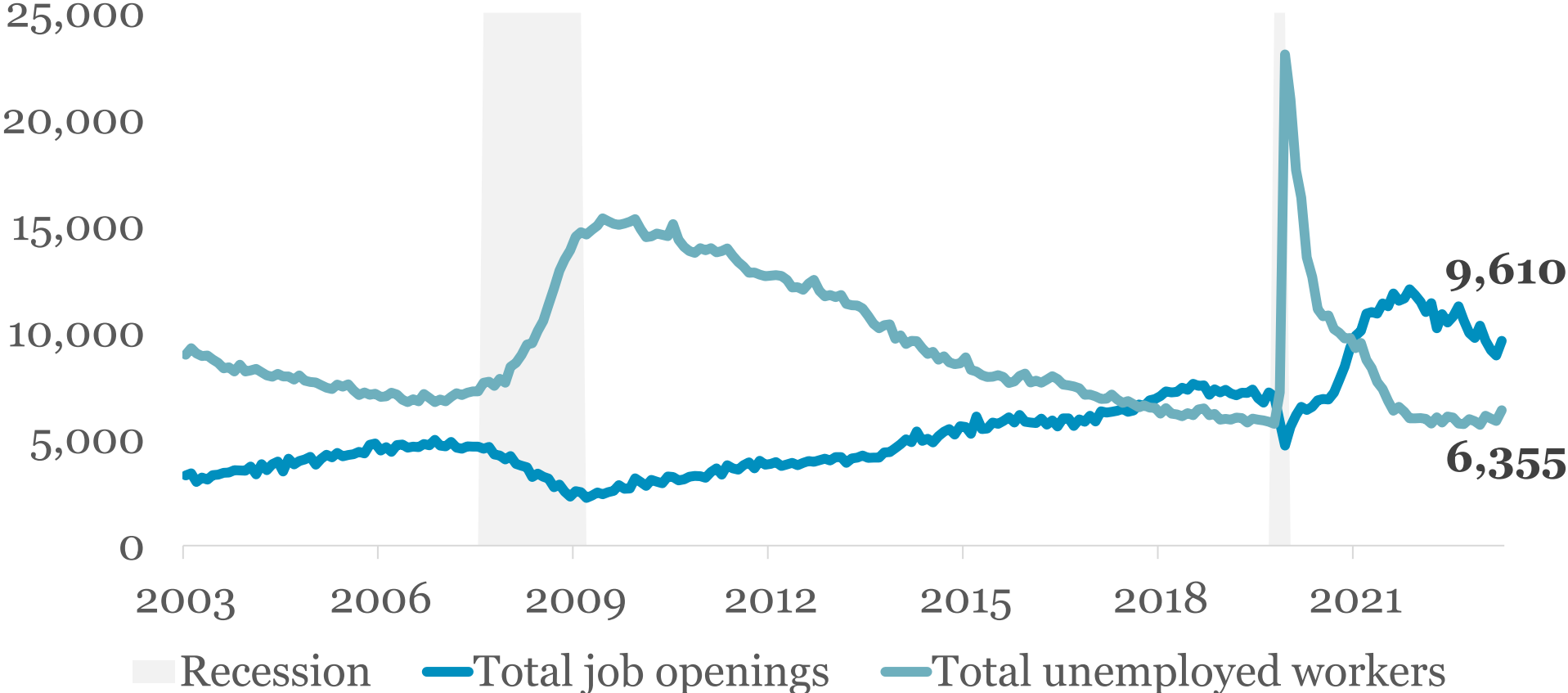
Source: Nuveen Portfolio Strategy Group, Bloomberg, Consumer Price Index from the Bureau of Labor Statistics, Start Date = January 2003, End Date = 08/2023  
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

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# Still almost 1.5x job openings per unemployed worker in the U.S.

Total job openings and unemployed workers in the U.S., thousands

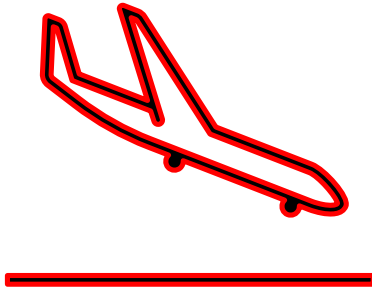


Source: Nuveen Portfolio Strategy Group, Bloomberg, Bureau of Labor Statistics, Start Date = January 2003 , End Date = 08/2023  
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# “Landing” scenarios

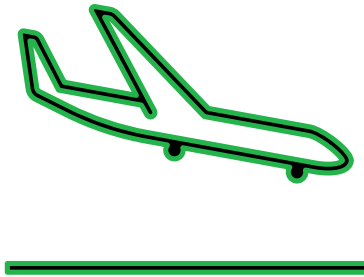
## Hard landing

- Economy contracts quickly
- Unemployment rises
- Inflation comes down quickly
- **Possible market outcome:** rates fall, credit spreads widen, equities fall



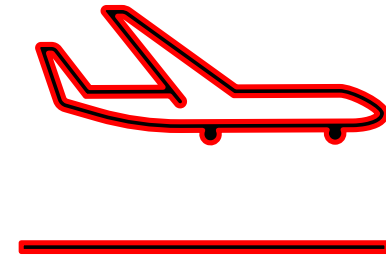
## Soft landing

- Economic growth slows
- Unemployment ticks up
- Inflation comes down slowly
- **Possible market outcomes:** Rates rangebound, credit spreads tighten, equities rise



## Delayed landing

- Economy remains hot
- Unemployment low
- Inflation remains high
- **Possible market outcomes:** Rates higher, credit spreads widen, equities rangebound (but fall in real terms)

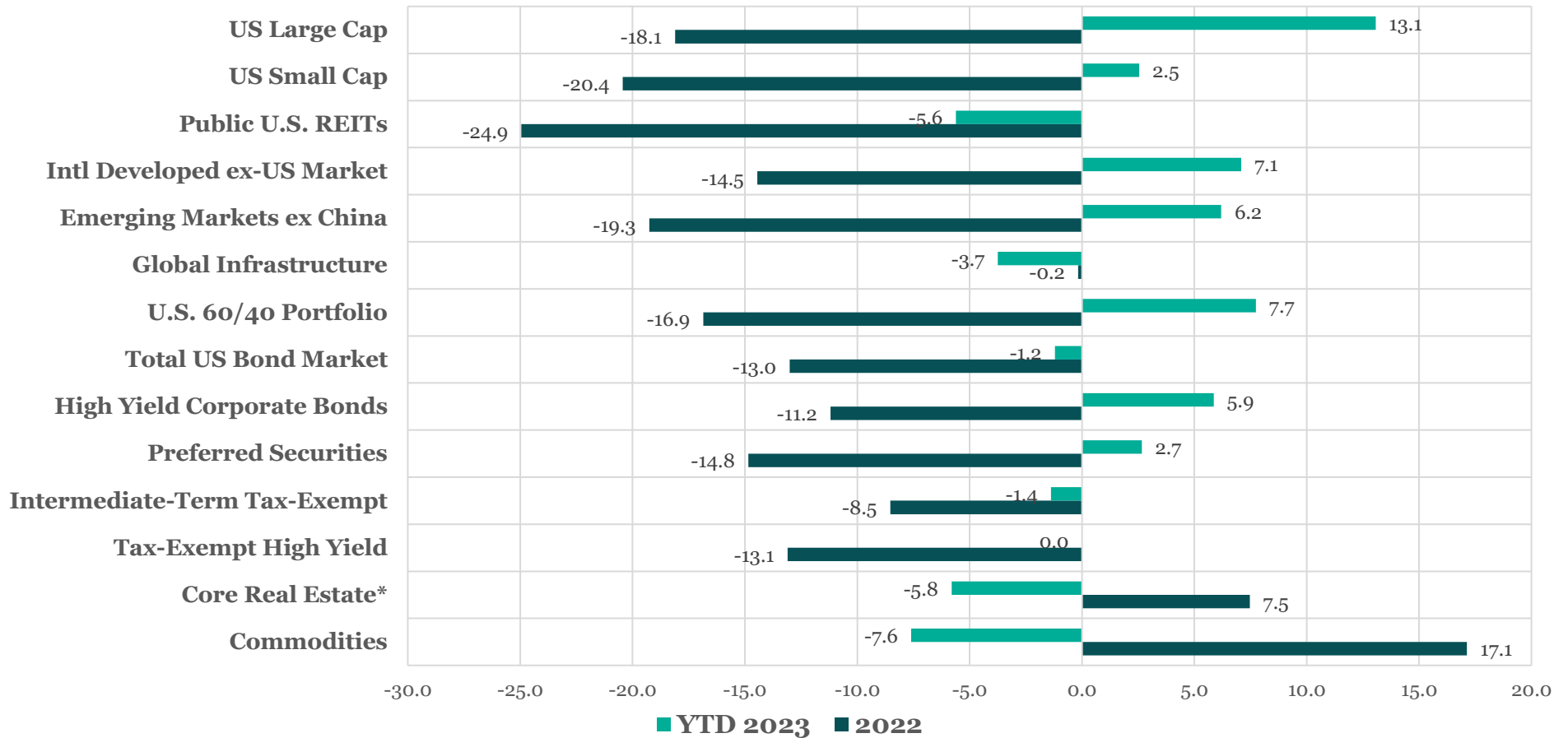


# Markets

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# Rebalancing for the most part has been rewarded in 2023

Total Return %, as of September 29th, 2023



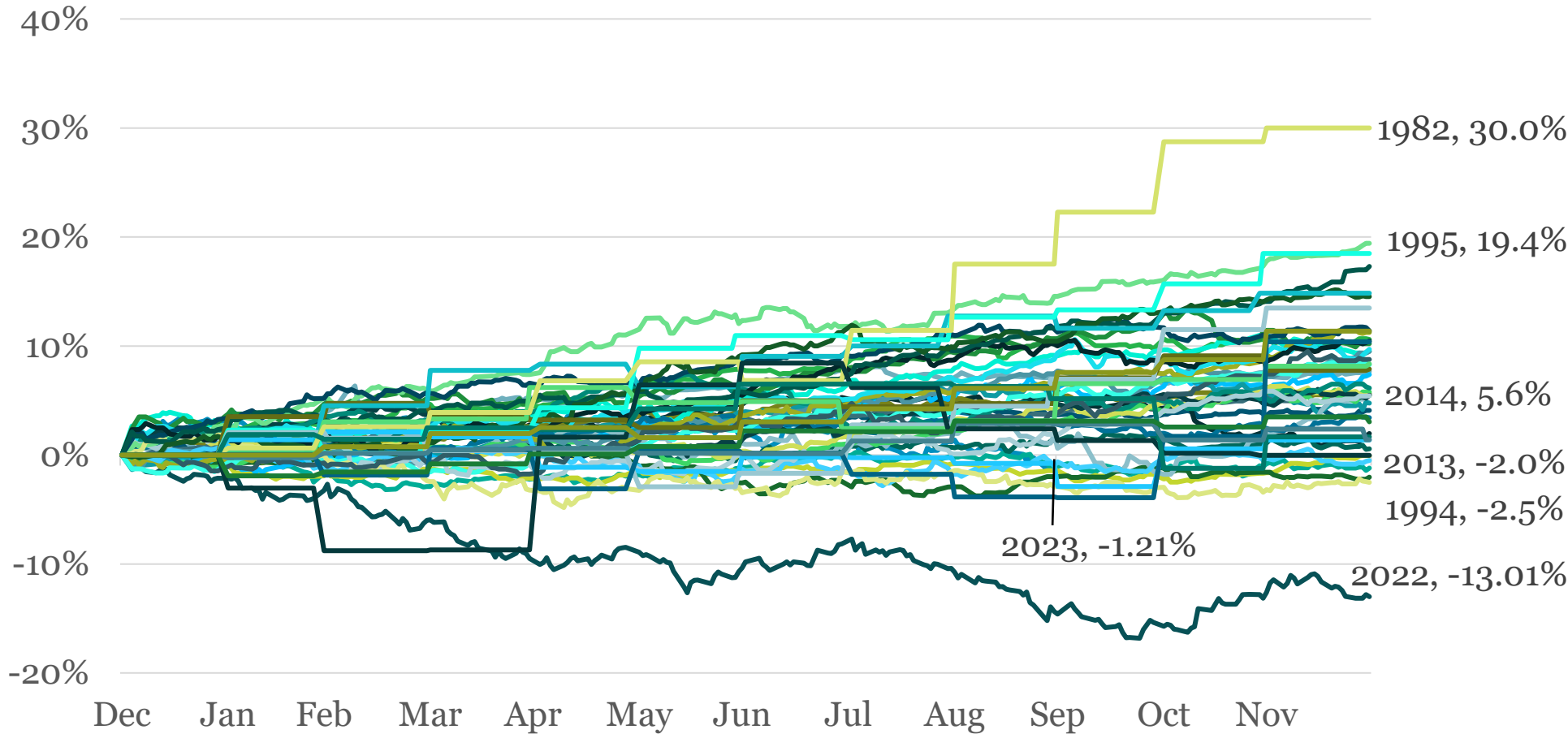
**Past performance is no guarantee of future results.** It is not possible to invest directly in an index. Different benchmarks and economic periods will produce different results. Other methods and market conditions may result in significantly different outcomes.

US Large Cap = S&P 500 Total Return Index; Intl Developed ex-US Market = MSCI EAFE Net Total Return USD Index; U.S. 60/40 Portfolio = Bloomberg US EQ:FI 60:40 Index; Global 60/40 Portfolio = Bloomberg Global EQ:FI 60:40 Index; High Yield Corporate Bonds = Bloomberg US Corporate High Yield Total Return Index Value Unhedged USD; U.S. Leveraged Loans = Morningstar LSTA US Leveraged Loan TR USD; Emerging Markets = MSCI Emerging Net Total Return USD Index; Tax-Exempt High Yield = Bloomberg Municipal Bond: High Yield (non-Investment Grade) TR Unhedged; US Small Cap = Russell 2000 Total Return Index; Preferred Securities = ICE BofA US All Capital Securities Index; Emerging Market Debt = J.P. Morgan EMBI Global Diversified Composite; Short Duration Tax-Exempt High Yield = Bloomberg Municipal High Yield Short Duration Index TR Index; Global Infrastructure = S&P Global Infrastructure Total Return Index; Total US Bond Market = Bloomberg US Agg Total Return Value Unhedged USD; Intermediate-Term Tax-Exempt = Bloomberg Municipal Bond Index Total Return Index Value Unhedged USD; Short-term bond = Bloomberg US Treasury Bellwethers 2 Year TR Index Value Unhedged USD; Public U.S. REITs = FTSE NAREIT All Equity REITs Total Return Index; Core Real Estate\* = NCREIF Fund Index Open End Diversified Core (ODCE) Total Index Value; Commodities = Bloomberg Commodity Index Total Return; Source: Bloomberg, Nuveen. YTD performance is as of September 29th, 2023. \* Core Real Estate YTD return as of Q2 2023

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# The last battle: 2022's historic fixed income pain

Bloomberg U.S. Aggregate Bond Index, calendar year path



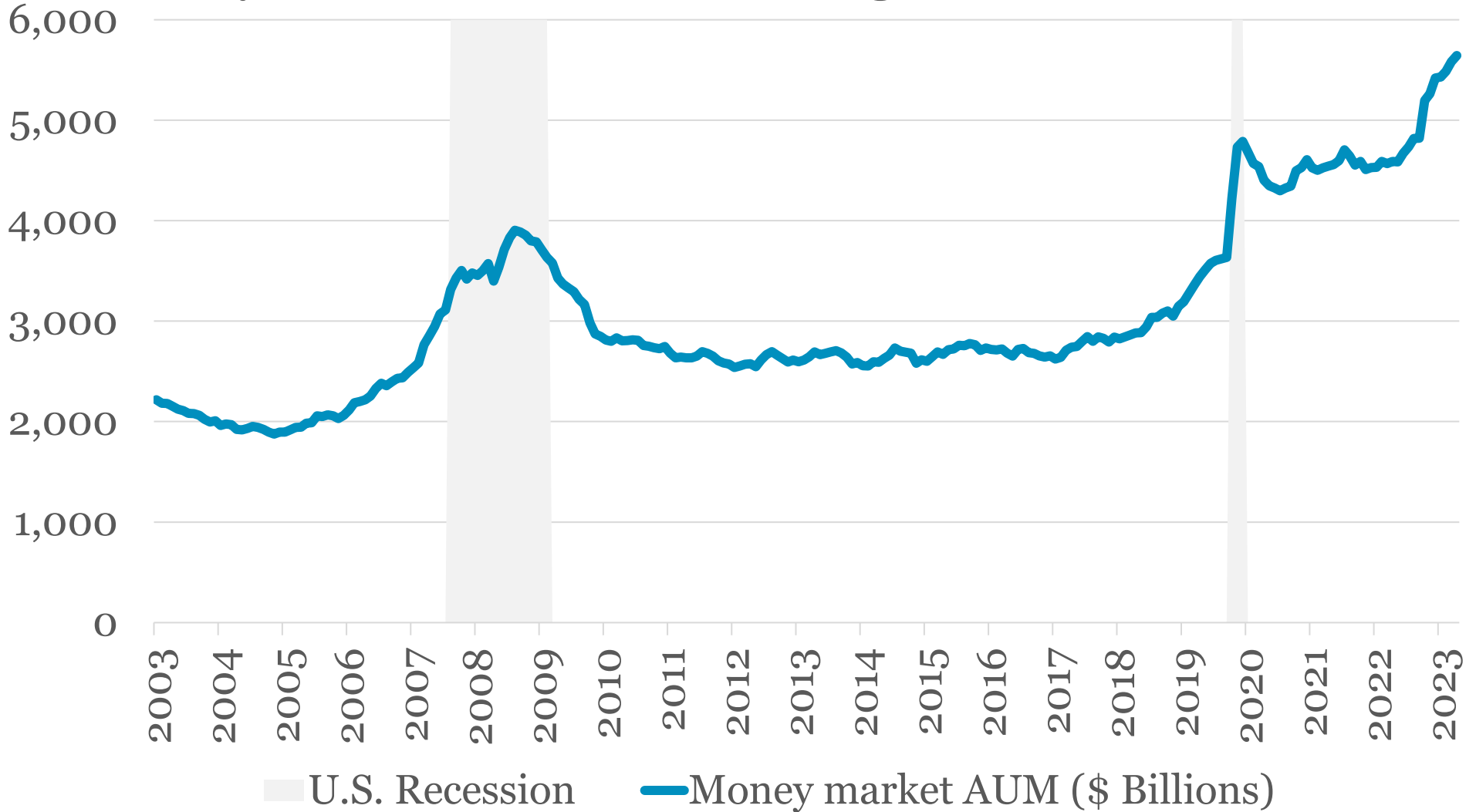
Past performance is no guarantee of future results. It is not possible to invest directly in an index.

Data source: Nuveen Portfolio Strategy & Solutions. Bloomberg, L.P., 29 September 2023.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# If markets are strong, why the dash for cash?

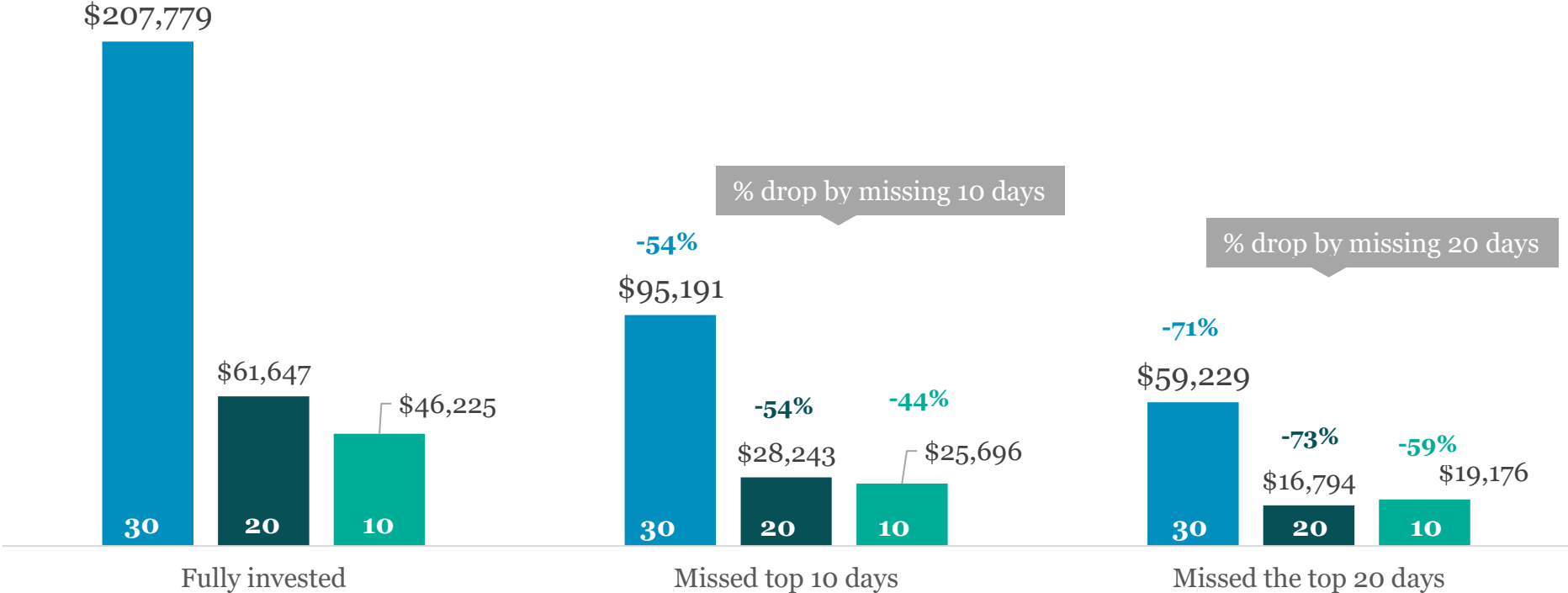
## Money market Assets Under Management (AUM)



Source: Nuveen Portfolio Strategy Group, Bloomberg, ICI Investment Company Institute, Start Date = January 2003 , End Date = 09/2023  
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Step out of cash - the pain of missing out

Growth of \$10,000 in the S&P 500® Index over 10-, 20- and 30-year time periods



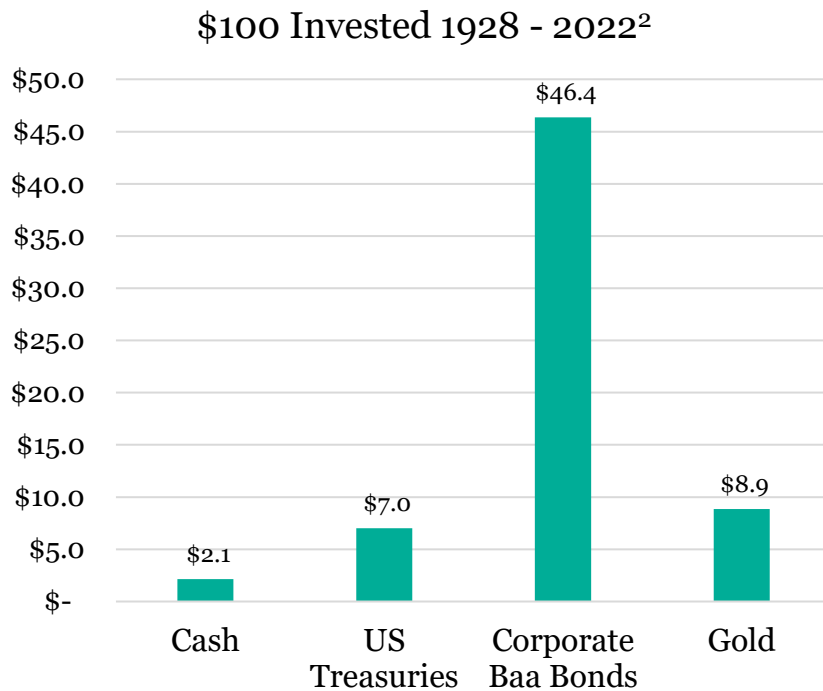
Past performance is no guarantee of future results. It is not possible to invest directly in an index.  
 Source: Factset, As of 31 Dec 2021.

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# Cash is a long-run drag. Timing is very difficult.

## Real investment returns very low

## Forecaster accuracy: rates up or down?



45%<sup>1</sup>

Accuracy of a coin flip:

50%

**Past performance is no guarantee of future results.** It is not possible to invest directly in an index.

Data source: Nuveen Portfolio Strategy Group; 1- Bloomberg Survey of Economic Forecasts 2002 – 2022. 2 – NYU Prof. Aswath Damodaran; [https://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/histretSP.html](https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html)

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# Portfolio strategy

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# GIC Highest Conviction Views



Downgrade from last quarter

Upgrade from last quarter

The views above are for informational purposes only and convey the relative merits of each asset class based on the collective assessment of Nuveen's Global Investment Committee. They do not reflect the experience or performance of any Nuveen product, strategy or service. Upgrade and downgrades reflect quarterly shifts in these views.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# *Fixed income*

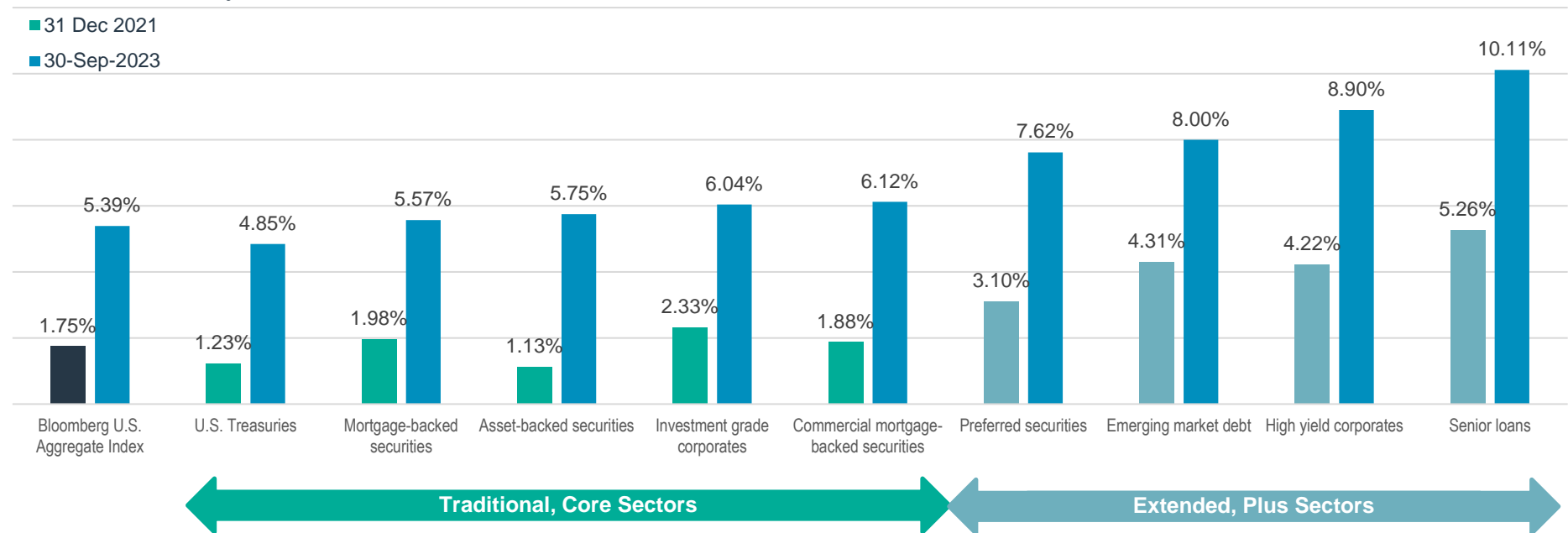
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Bright spot is higher yields

Rising Treasury rates and wider credit spreads have significantly enhanced income potential.

- Higher quality non-Treasury sectors within the U.S. Aggregate Index offer modest returns with lower risk potential
- While yields of lower quality sectors are more compelling, security selection is paramount at this stage, making active management important
- Multi-sector strategies offer the opportunity to balance stability with income

## Yield-to-worst by fixed income sector



Source: Bloomberg LP; Credit Suisse.

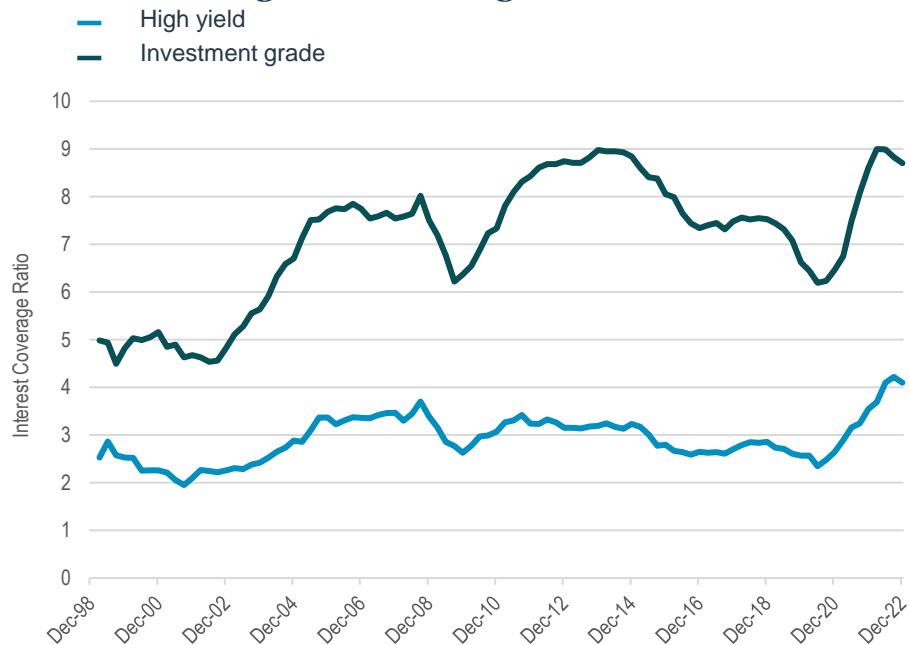
Representative indices: **U.S. Treasuries**: Bloomberg U.S. Treasury Index; **MBS**: Bloomberg U.S. Mortgage-Backed Securities Index; **CMBS**: Bloomberg Commercial Mortgage-Backed Securities Index; **ABS**: Bloomberg Asset-Backed Securities Index; **Investment grade corporates**: Bloomberg U.S. Corporate Investment Grade Index; **Emerging market debt**: Bloomberg Emerging Market USD Aggregate Index; **Preferred securities**: ICE BofA U.S. All Capital Securities Index; **Senior loans**: Credit Suisse Leveraged Loan Index; **High yield corporates**: Bloomberg U.S. Corporate High Yield 2% Issuer Capped Index. **Past performance is no guarantee of future results.** It is not possible to invest directly in an index.

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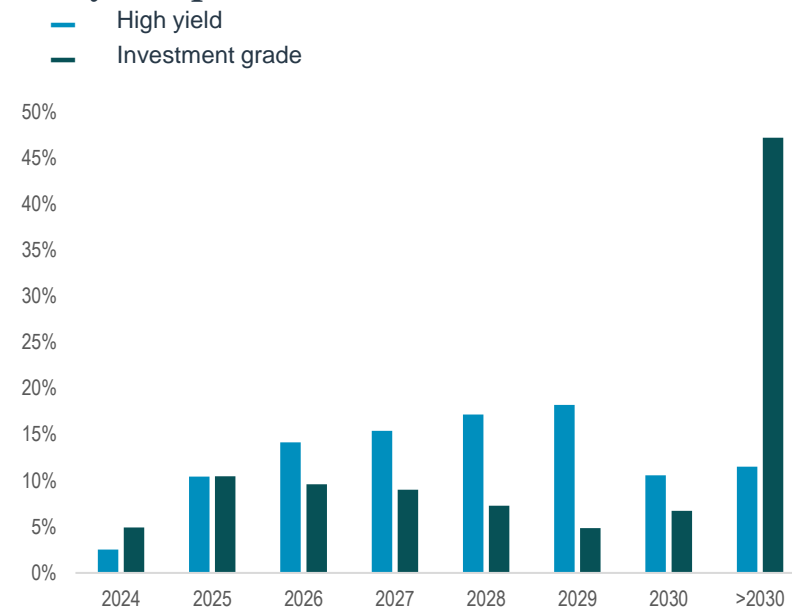
# Fundamentals and maturity wall dynamics support corporate credit

Companies used the last two years to improve their capital structures and reduce refinancing needs.

## Interest coverage ratios are high



## Maturity wall pushed out



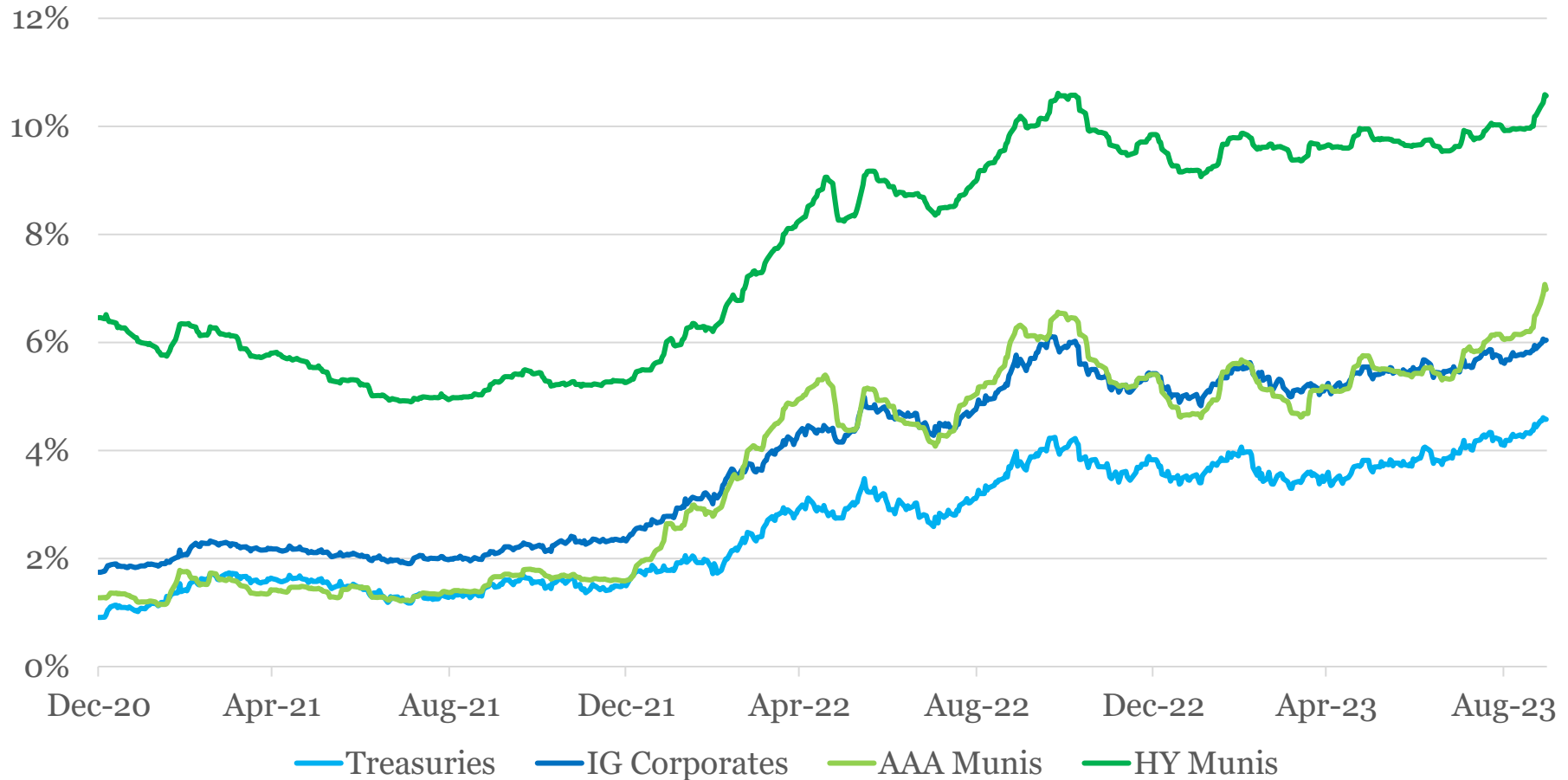
Source: Nuveen Portfolio Strategy & Solutions, Bloomberg.

Interest coverage ratio is from 31 Dec 1998 to 31 Mar 2023. Data depicts the ratio of interest expense covered by the annual operating profits of the Bloomberg Corporate High Yield Index. The maturity wall is as 30 Jun 2023.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Tax Equivalent Yield of Fixed Income Sectors

For client seeking to enhance the yield of their portfolio and diversify their risk exposures can do so by blending investment grade (IG) and high yield (HY) municipals into their fixed income allocation



Past performance is no guarantee of future results. It is not possible to invest directly in an index.

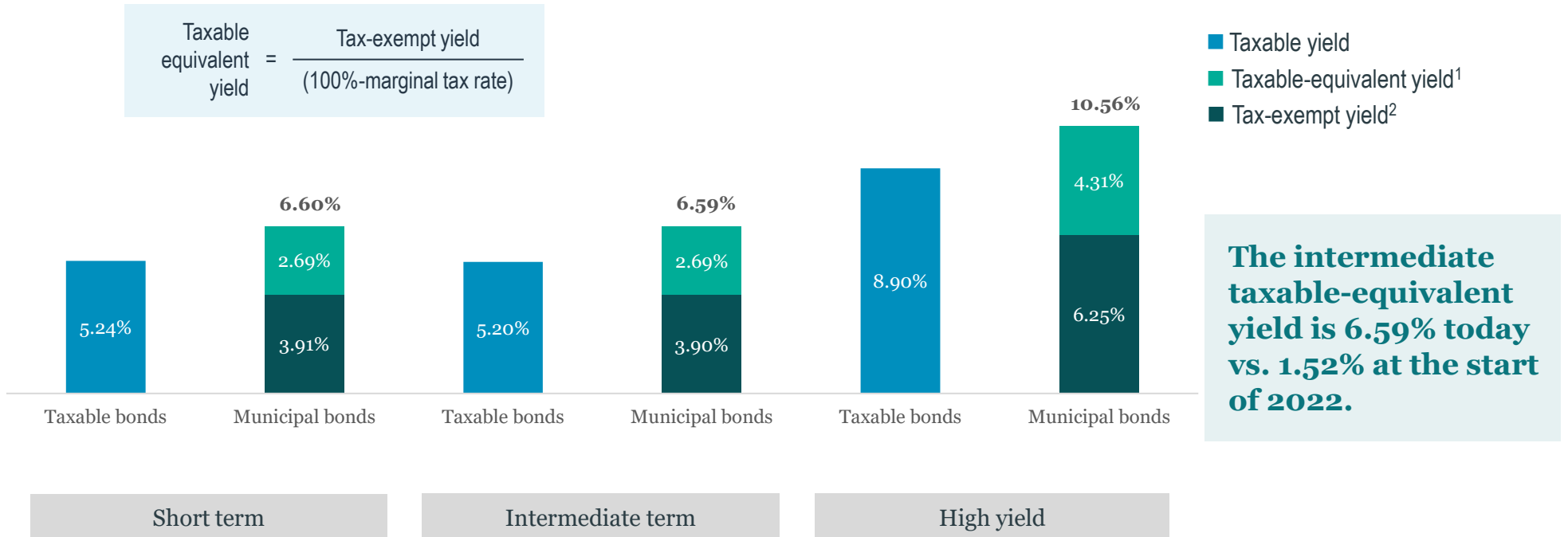
Source: Bloomberg, Nuveen Portfolio Strategy & Solutions, as of 29 September 2023. Tax-equivalent yield assumes a 40.8% maximum tax rate. Representative Indexes: Treasuries (Bloomberg US Treasury Bellwethers 10 Year TR Index), IG Corporates (Bloomberg US Corporate Investment Grade Credit Index), AAA Municipals (Bloomberg Municipal AAA TR Index), HY Munis (Bloomberg Muni High Yield TR Index).

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# Municipals are attractive on an after-tax basis

## Yield comparison

$$\text{Taxable equivalent yield} = \frac{\text{Tax-exempt yield}}{(100\% - \text{marginal tax rate})}$$



**Past performance is no guarantee of future results.** It is not possible to invest directly in an index.

1 The taxable-equivalent yield is based on the highest individual marginal federal tax rate of 37%, plus the 3.8% Medicare tax on investment income (the Net Investment Income Tax). Individual tax rates may vary.

2 Some income may be subject to state and local taxes and the federal alternative minimum tax.

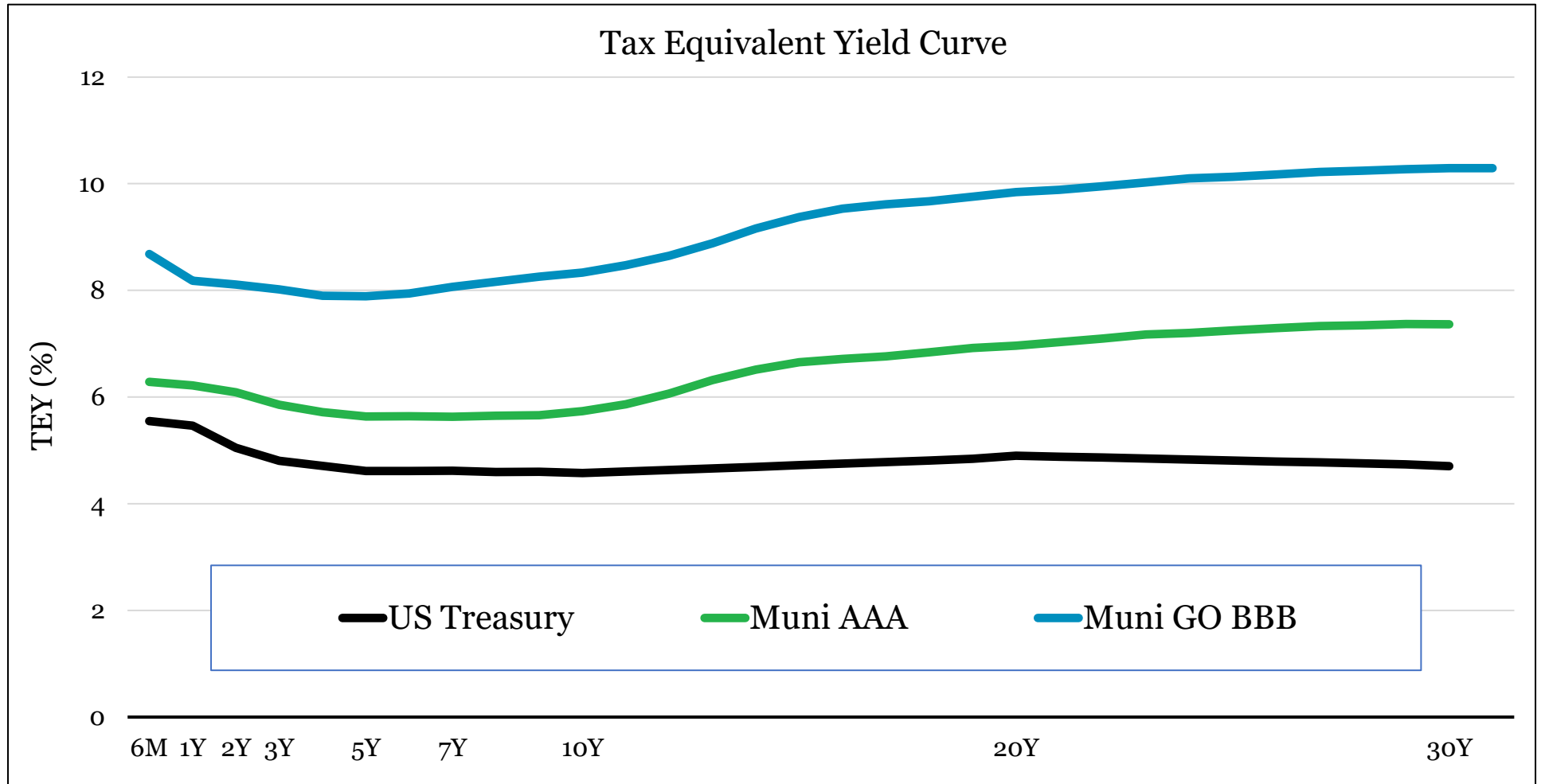
**Data source:** Bloomberg L.P., 30 Apr 2023. **Performance data shown represents past performance and does not predict or guarantee future results.** Yields are yield to worst. **Yield to worst** is the lowest potential yield that can be received on a bond without the issuer defaulting. **Taxable-equivalent yield** is the yield a taxable investment needs to possess (before taxes) for its yield to be equal to that of a tax-free municipal investment. The yields shown are based on the highest individual marginal federal tax rate of 37%, plus the 3.8% Medicare tax on investment income. Individual tax rates may vary. They do not take into account the effects of the federal alternative minimum tax (AMT) or capital gains taxes.

**Representative indexes:** **Short term taxable bonds:** Bloomberg U.S. Government/Credit 1-5 Year Index; **Short term municipal bonds:** Bloomberg Municipal Short Index; **Intermediate term taxable bonds:** Bloomberg U.S. Government/Credit 5-10 Year Index; **Intermediate term municipal bonds:** Bloomberg Municipal Intermediate Index; **High yield taxable bonds:** Bloomberg Corporate High Yield 2% Issuer Capped Index; **High yield municipal bonds:** Bloomberg High Yield Municipal Bond Index. Different benchmarks, economic periods, methodologies and market conditions will produce different results.

**OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.**

# Muni out-yielding treasuries across all maturities

For client seeking to enhance the yield of their portfolio, municipals into their fixed income allocation



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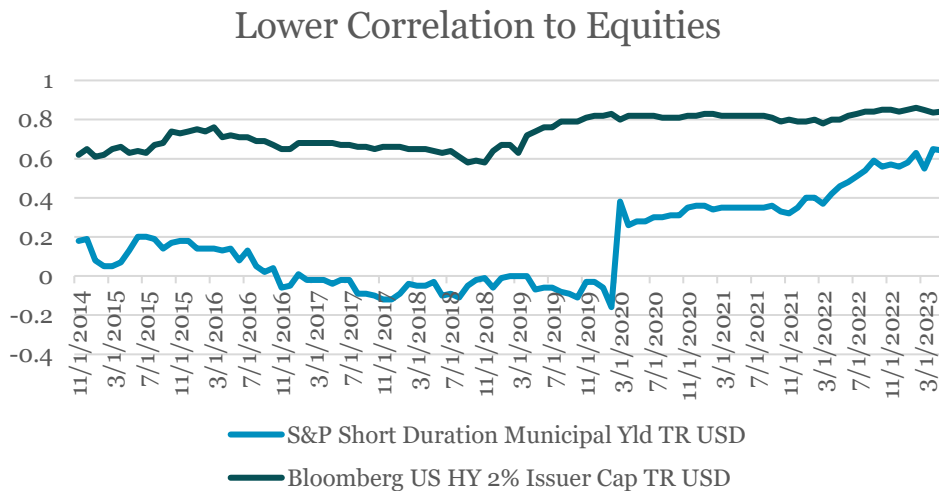
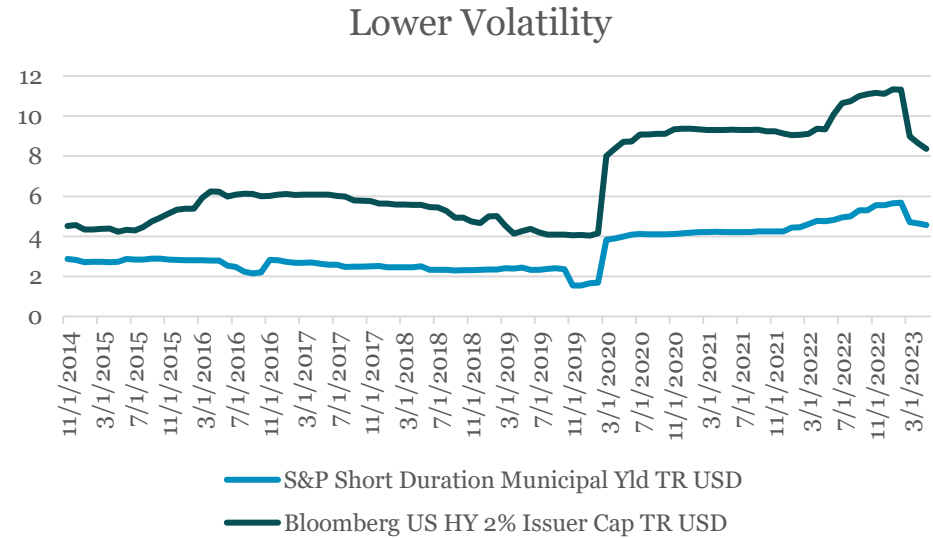
Source: Bloomberg, Nuveen Portfolio Strategy & Solutions, as of 29 September 2023. Tax-equivalent yield assumes a 40.8% maximum tax rate. Representative Indexes: Treasuries (Bloomberg US Treasury Bellwethers 10 Year TR Index), IG Corporates (Bloomberg US Corporate Investment Grade Credit Index), AAA Municipals (Bloomberg Municipal AAA TR Index), HY Munis (Bloomberg Muni High Yield TR Index).

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.



# Short Duration (SD) HY Munis vs. Corporate Credit - *Differences*

- SD HY Municipals have been less volatile than high yield corporate bonds*



- SD HY Municipals have had lower correlation to equities than high yield corporate bonds*

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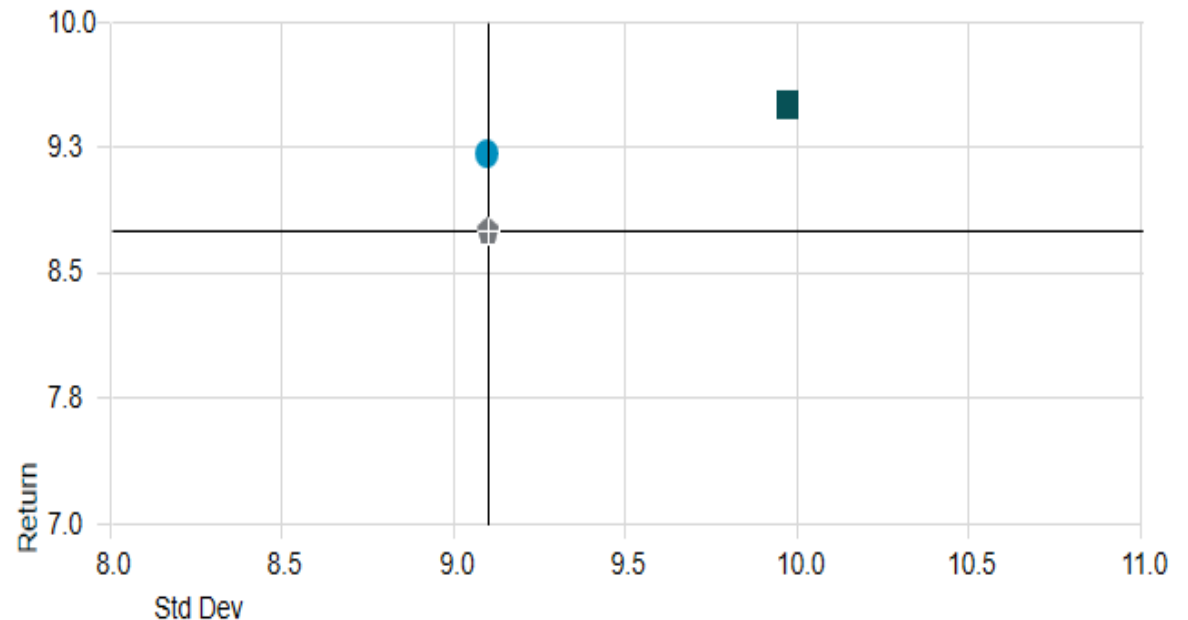
Source: Morningstar Direct. Lower volatility: Rolling 3 year annualized standard deviation of monthly returns. Since common inception. Source: Morningstar Direct Lower correlation to equities: Rolling 36-month correlation to S&P 500. Since common inception.

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# Including SD HY Munis in a 60/40 portfolio has historically increased risk-adjusted returns – *even without accounting for tax benefits.*

- *Similar volatility and higher returns than a traditional 60/40*
- *Lower volatility and similar returns as a 60/40 utilizing corporate high yield bonds*

Time Period: 12/1/2011 to 5/31/2023



- 60% S&P 500 + 20% Bloomberg Agg + 20% SD HY Munis
- 60% S&P 500 + 20% Bloomberg Agg + 20% HY Corporate
- ◆ 60% S&P 500 + 40% Bloomberg Agg

Past performance is no guarantee of future results. It is not possible to invest directly i

Source: Morningstar Direct

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# Relative value across income sectors

A dashboard of the yield and spread of various income sectors, as well as how these spreads compare to their historical averages.

Based on standardized spread levels vs trailing 3, 5 and 10-year averages

As of September 29<sup>th</sup>, 2023

	U.S. agg bond <sup>1</sup>	IG corp <sup>2</sup>	CLO (AA) <sup>3</sup>	Pfd <sup>4</sup>	EMD (\$) <sup>5</sup>	HY corp <sup>6</sup>	Lev loans <sup>7</sup>	CLO (BB) <sup>8</sup>	Taxable muni <sup>9</sup>	AA muni <sup>10</sup>	A muni <sup>10</sup>	BBB muni <sup>10</sup>	HY muni <sup>11</sup>	Real estate <sup>12</sup>
Yield to Worst / Cap Rate	5.39	6.04	6.80	7.70	9.03	8.90	10.11	13.86	5.59	4.44	4.68	5.14	6.25	6.15
Spreads*	0.52	1.30	2.32	2.42	4.30	3.97	5.51	9.25	0.84	0.29	0.53	0.99	2.08	1.56
Net chg 1M	0.04	0.04	0.07	0.00	0.09	0.25	-0.05	0.12	-0.06	0.00	0.00	0.00	-0.15	-0.50
Net chg 1Y	-0.10	-0.46	0.17	-0.15	-1.29	-1.56	-1.12	-0.03	-0.35	-0.10	-0.07	0.00	-0.20	0.08
3Y Avg Spread	0.45	1.25	2.13	2.15	4.21	3.90	5.28	8.41	0.97	0.26	0.45	0.88	2.19	2.92
5Y Avg Spread	0.48	1.32	2.09	2.10	4.10	4.18	5.34	8.36	1.07	0.24	0.44	0.89	2.29	3.19
10Y Avg Spread	0.47	1.32	2.05	1.96	3.74	4.28	5.12	7.49	1.20	0.23	0.47	0.96	2.78	3.11
3Y Z-Score	0.71	0.20	0.45	0.60	0.13	0.08	0.28	0.66	-0.66	0.31	0.66	0.54	-0.28	-1.46
5Y Z-Score	0.34	-0.06	0.51	0.52	0.26	-0.19	0.16	0.49	-0.76	0.73	0.94	0.42	-0.42	-1.74
10Y Z-Score	0.52	-0.08	0.65	0.67	0.77	-0.28	0.41	0.98	-1.21	1.10	0.57	0.14	-0.91	-2.18
Duration	6.08	8.01		4.92	5.81	3.47	0.25						7.93	

Z-score = Number of standard deviations between the current spread level and the historic average spread

Spreads **tighter** than historic average  Spreads **wider** than historic average

Source Bloomberg, Thompson Reuters MMD as of 29 September 2023. \*Spreads for municipals are YTW vs. AAA 20-yr municipal yield; for CLO AA JPM CLO Total AA discount margin; for CLO BB JPM CLO Total BB discount margin; for leveraged loans and middle mkt loans discount margin (3-yr life); and OAS to U.S. Treasury for all other fixed income sectors. \*\*Option adjusted duration is shown, except for Leveraged Loans (effective duration is shown here). Representative indexes: 1 **U.S. Agg Bond**: Bloomberg Barclays U.S. Aggregate Total Return Value Unhedged USD Index; 2 **Investment Grade Corp**: Bloomberg Barclays Liquid Investment Grade Corp Total Return Unhedged USD Index; 3 **CLO AA**: JPM CLO Total AA Yield Index; Index inception 12.30.11; 4 **Preferred securities**: ICE BofA US ALL Capital Securities Index (3/2012-4/2021), CE BofA Fixed Rate Preferred Securities Index (4/2011-2/2012); 5 **Emerging markets debt**: JPM EMBI Global Diversified Index; 6 **High yield corporates**: Bloomberg Barclays U.S. Corporate High Yield 2% Issuer Capped Total Return Value Unhedged Index; 7 **Leveraged loans**: Credit Suisse Leveraged Loan Index; 8 **CLO BB**: JPM CLO Total BB Yield Index; Index inception 12.30.11; 9 **Taxable municipals**: Bloomberg Barclays Municipal Index Taxable Bonds Total Return Index Value; 10 **AA, A, and BBB Municipal**: Thompson Reuters MMD Scale; 11 **High yield municipals**: Bloomberg Barclays High Yield Municipal Index; 12 **Real estate**: Green street advisors, Nominal Cap Rate of Major Sectors. Spread = difference between Nominal Cap Rate and the U.S.10Y Treasury Yield. **Past performance is no guarantee of future results.** It is not possible to invest directly in an index.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# *Private markets*

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# Do you need daily liquidity?

Investors overestimate liquidity needs while underestimating longevity risk

**#1 Reason advisors do not use alternatives<sup>1</sup>:**

**Illiquidity**

**Average mutual fund holding period<sup>2</sup>:**

**4.4 years**

**Joint life expectancy of 65-year-old retiring couple<sup>3</sup>:**

**26.2 years**

Source: Nuveen Portfolio Strategy & Solutions.

1 Cerulli Associates, The Cerulli Edge October 2022.

2 Dalbar Quantitative Analysis of Investor Behavior Report 2021. Average Retention Rate of equity mutual fund investors in 2021.

3 2020 Joint Life Expectancy tables, irahelp.com. <https://www.ira-help.com/printable/2020-joint-life-expectancy-table>.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

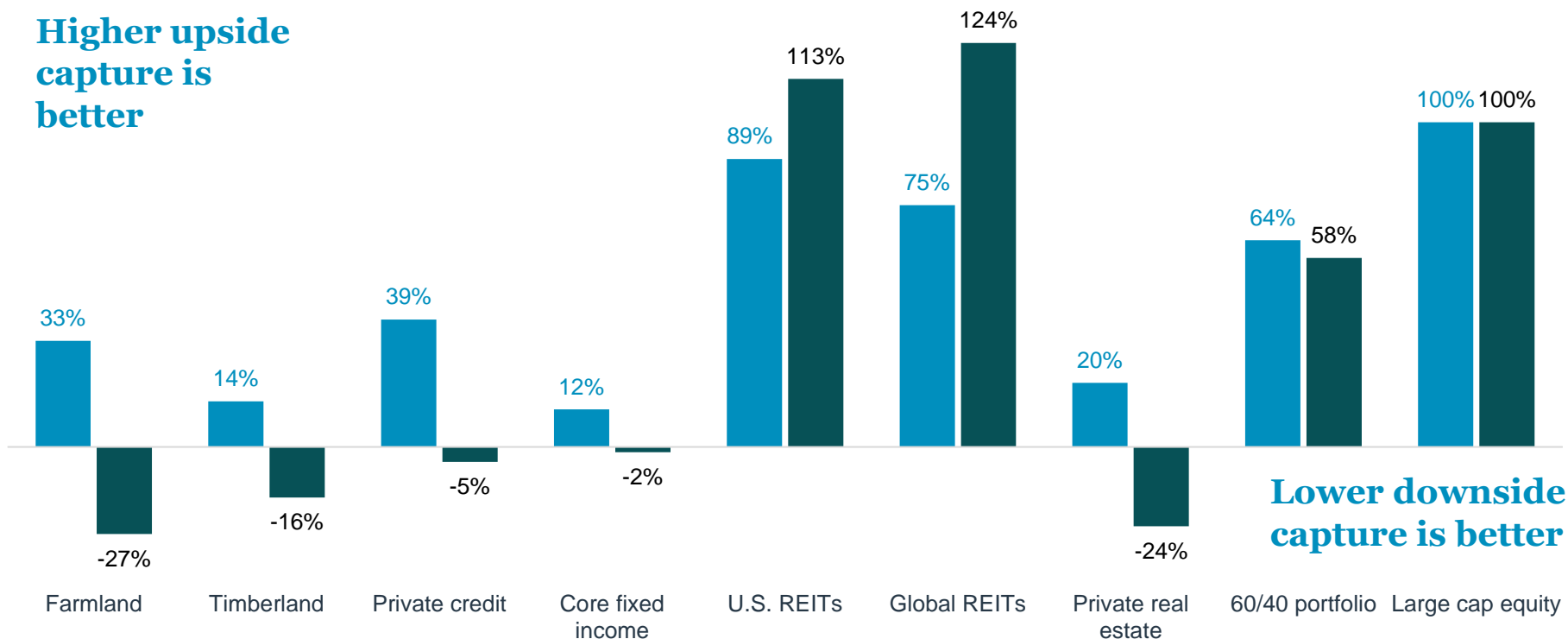
# Private markets for stability

Private markets offer less upside (but also less downside + portfolio benefits)

## Return capture vs the S&P 500 Index (15 years)

■ Upside capture ■ Downside capture

Higher upside capture is better



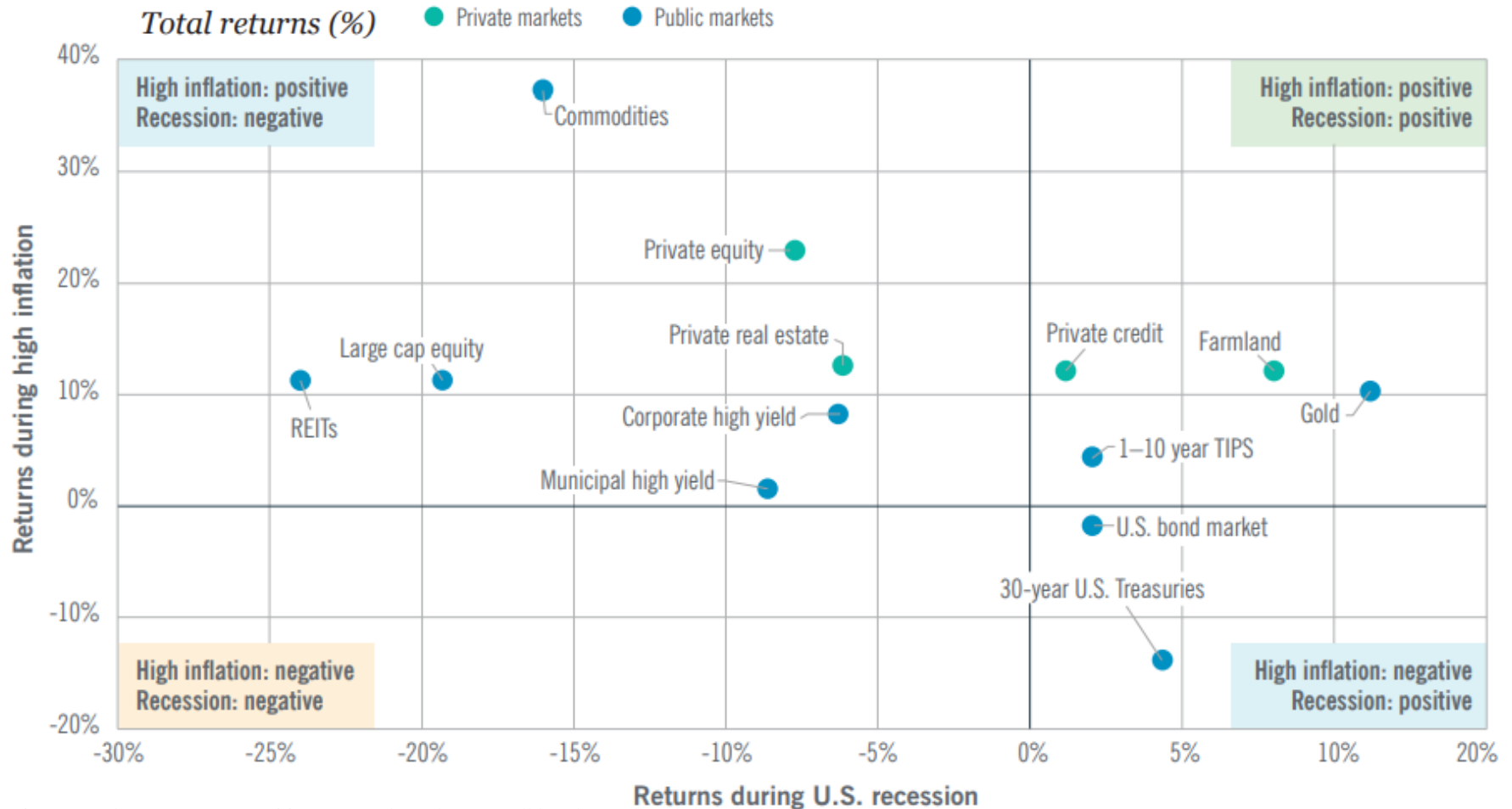
Lower downside capture is better

Source: Bloomberg, 30 June 2023. Past performance is no guarantee of future results. Representative indexes: Farmland: NCREIF Total Return (%) Farmland Index; Timberland: NCREIF Total Return (%) Timberland Index; Private credit: Cliffwater Direct Lending Index - Total Return; Core fixed income: Bloomberg U.S. Aggregate Total Return Value Unhedged USD; U.S. REITs: FTSE NAREIT All Equity REITs Total Return Index; Global REITs: FTSE EPRA NAREIT Developed Total Return Index USD; Private real estate: NCREIF Fund Index Open End Diversified Core (ODCE) Total Returns; 60/40 portfolio: 60% S&P 500 TR Index 40% Bloomberg U.S. Aggregate Bond Index; Large cap equity: S&P 500 Total Return Index.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Private markets for extreme macro environments

Private real assets and private credit may offer inflation protection while being defensive. Commodities and REITs meanwhile often decline during US recessions.

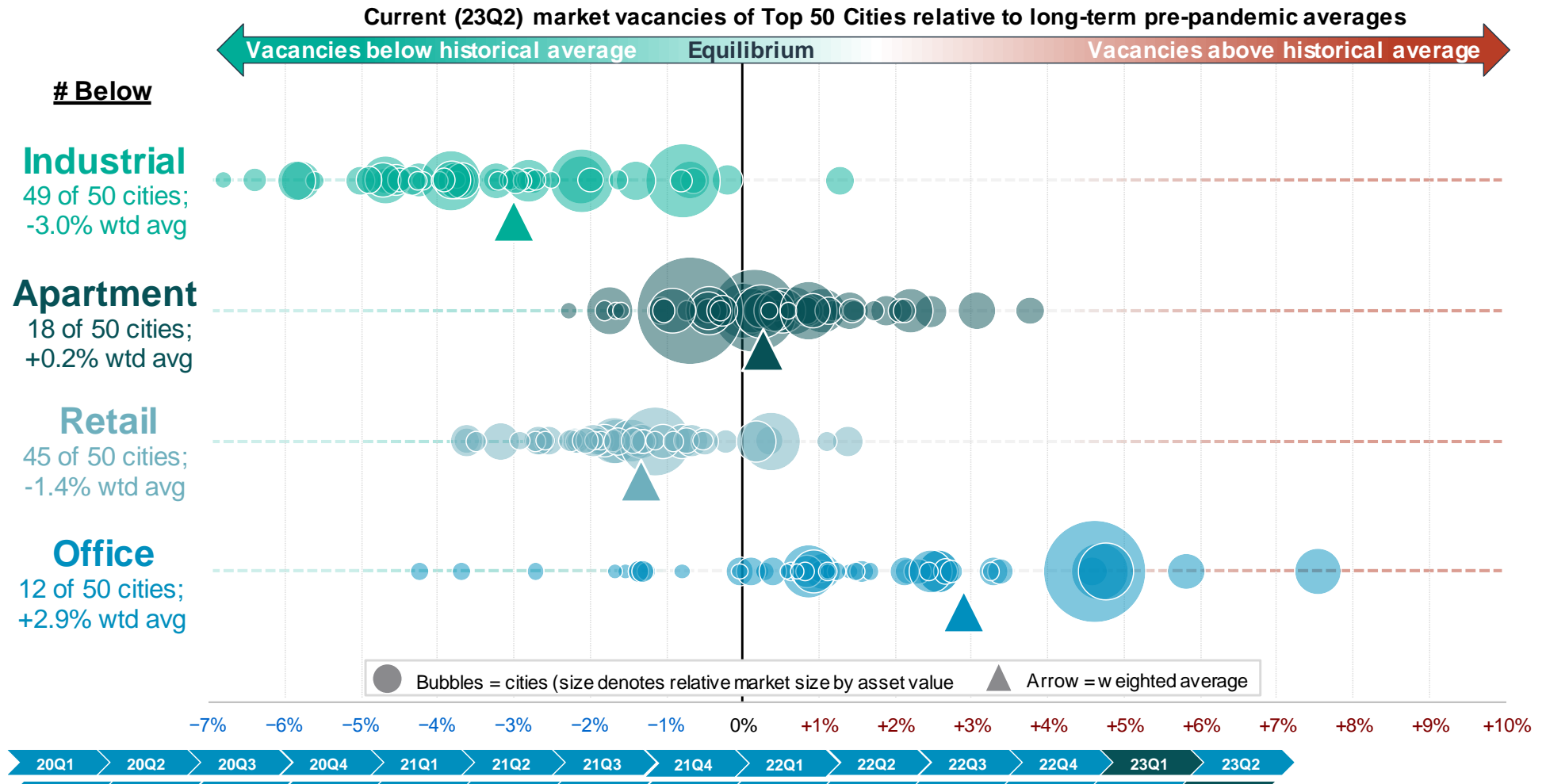


Past performance is no guarantee of future results. It is not possible to invest directly in an index.

Source: Bloomberg, Cambridge, Cliffwater. Farmland represented by the NCREIF Farmland Index, Commodities ex-precious metals by the Bloomberg Commodity ex-Precious Metals Total Return Index, Private Infrastructure by the Cambridge Private Infrastructure Index, Global Infrastructure by the S&P Global Infrastructure Total Return Index, Core Real Estate by the NCREIF Fund Open End Diversified Core (ODCE) Index, U.S. REITs by the FTSE NAREIT All Equity REITS Total Return Index, Middle Market Direct Lending by the Cliffwater Direct Lending Index, U.S. Corporate High Yield by the Bloomberg U.S. Corporate High Yield Total Return Index, Leveraged Loans by the Credit Suisse Leveraged Loan Total Return Index, Private Equity by the Cambridge Private Equity Index, and U.S. Small Cap Equity is represented by the Russell 2000 Total Return Index.

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# Fundamentals shifting, but industrial/retail still healthy

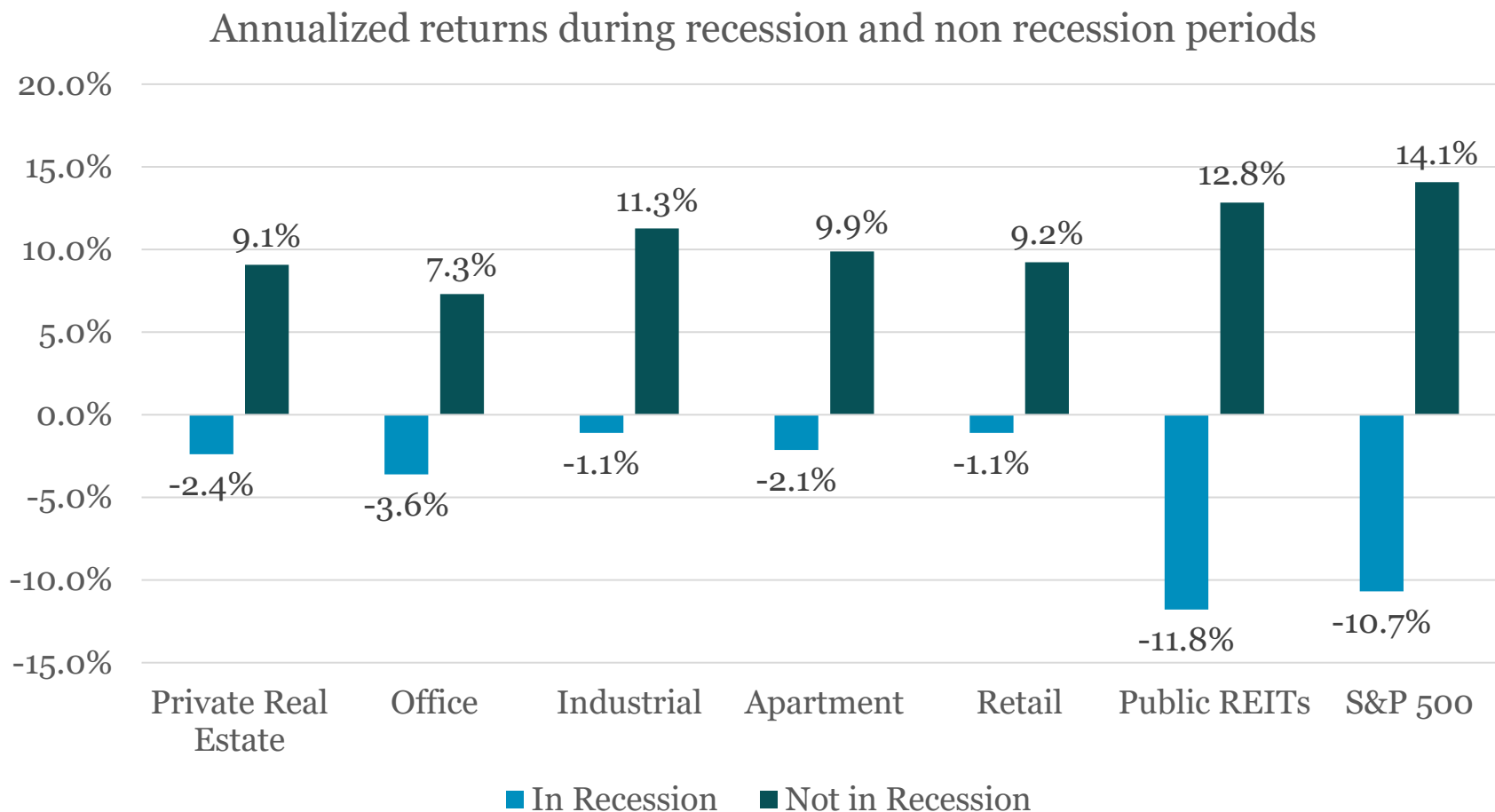


Source: CoStar; Nuveen Real Estate Research (Q2 2023); Note: Pre-pandemic average = 2000-2019 in most cases but varies by length of market data history.

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# Private real estate has experienced less downside capture during past recessions



**Past performance is no guarantee of future results.** It is not possible to invest directly in an index.

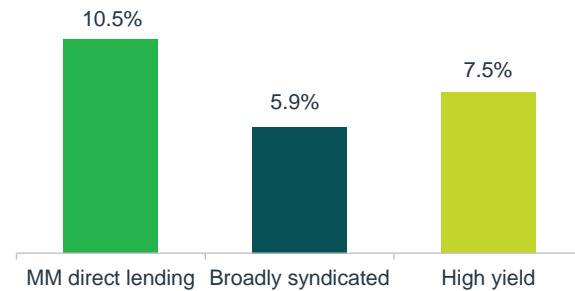
Source: Bloomberg, Nuveen Portfolio Strategy. Period is from 30 September 1984 to 31 March 2023. Asset classes represented are Private Real Estate (NCREIF ODCE Total Return Index); Office (NCREIF Property Office Index), Industrial (NCREIF Property Industrial Index), Apartment (NCREIF Property Apartment Index), Retail (NCREIF Property Retail Index), Public REITs (FTSE NAREIT All Equity REITs TR Index), S&P 500 (S&P 500 TR Index). Recessions are determined by the National Bureau of Economic Research.

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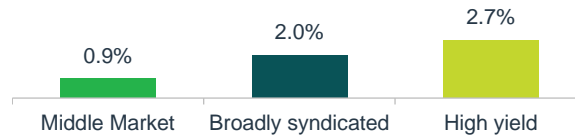
# Income & risk adjusted returns

Highly selective, diversified private capital portfolios with low losses can provide durable income & attractive-risk adjusted returns

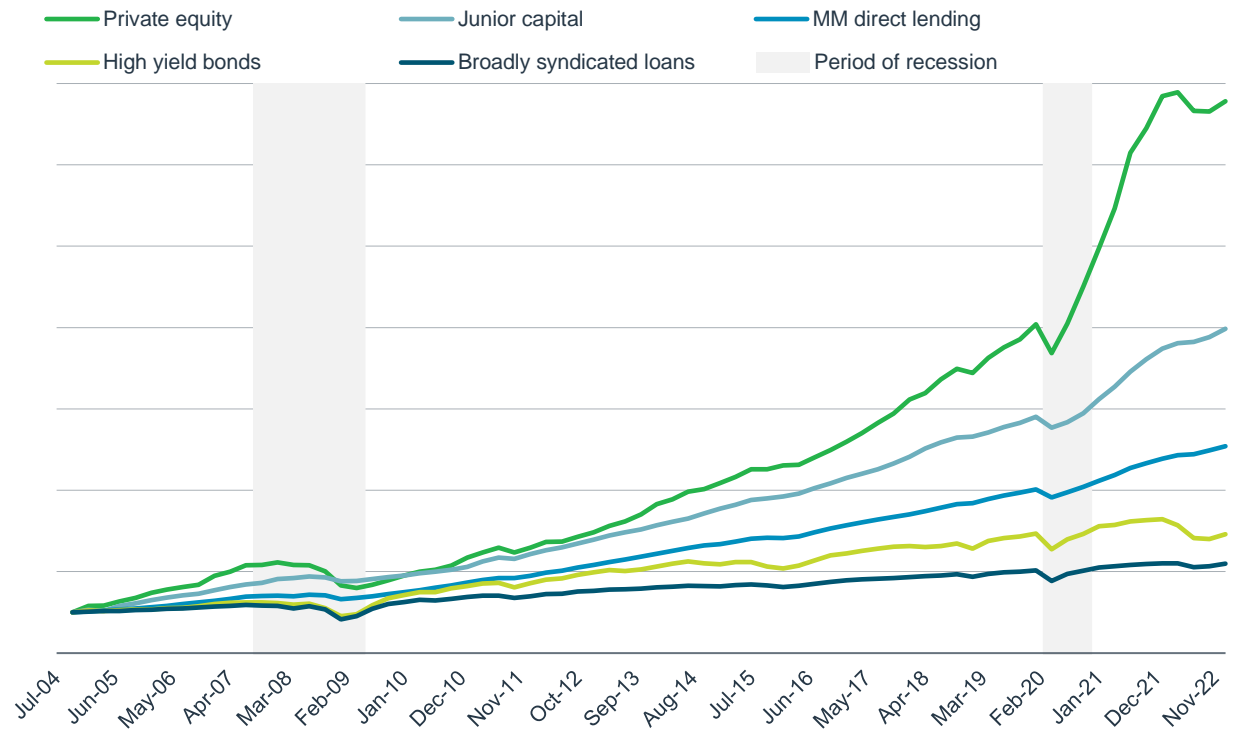
**Average yields over 15-years<sup>1</sup>**



**Average annual loss rates<sup>2</sup>**



**Indexed returns<sup>3</sup>**



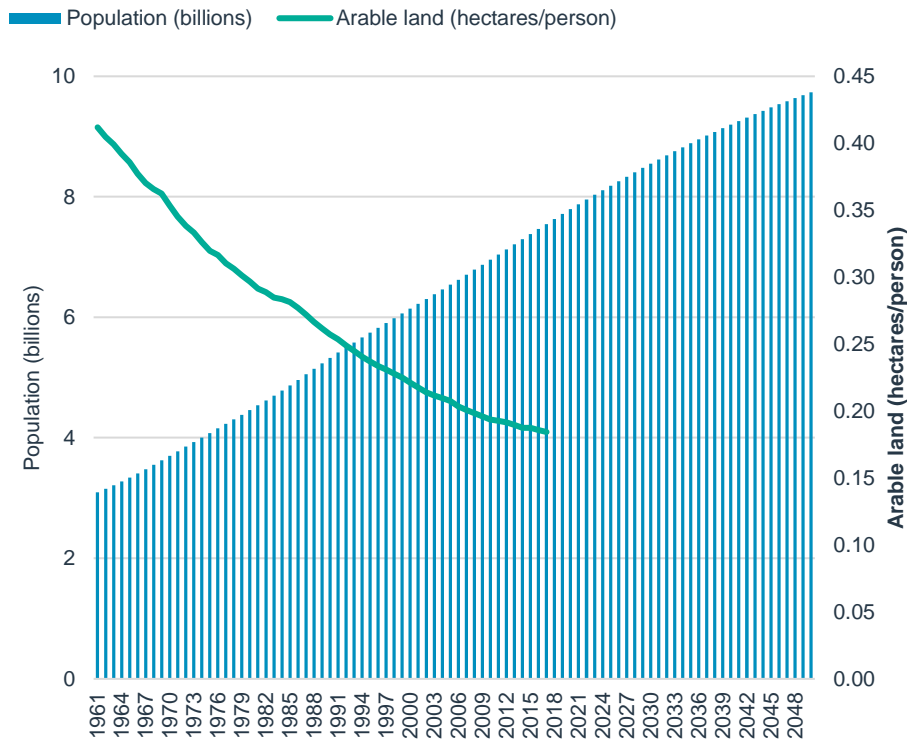
1 Sources: MM direct lending - Cliffwater CDLI, High yield - ICE BofA US High Yield Index, Broadly syndicated - S&P/LSTA LL 100. As of 1Q 2023. 2 Source: Moody's, 1995-1Q 2022; Middle market loans include total facility sizes of less than \$500 million and broadly syndicated loans denote total facility sizes of greater than or equal to \$500 million; 3 Source: Private equity & junior capital - Cambridge Associates, MM direct lending - Cliffwater CDLI, High yield - ICE BofA US High Yield Index, Broadly syndicated - S&P/LSTA LL, 4Q 2022.

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# Long-term farmland value drivers

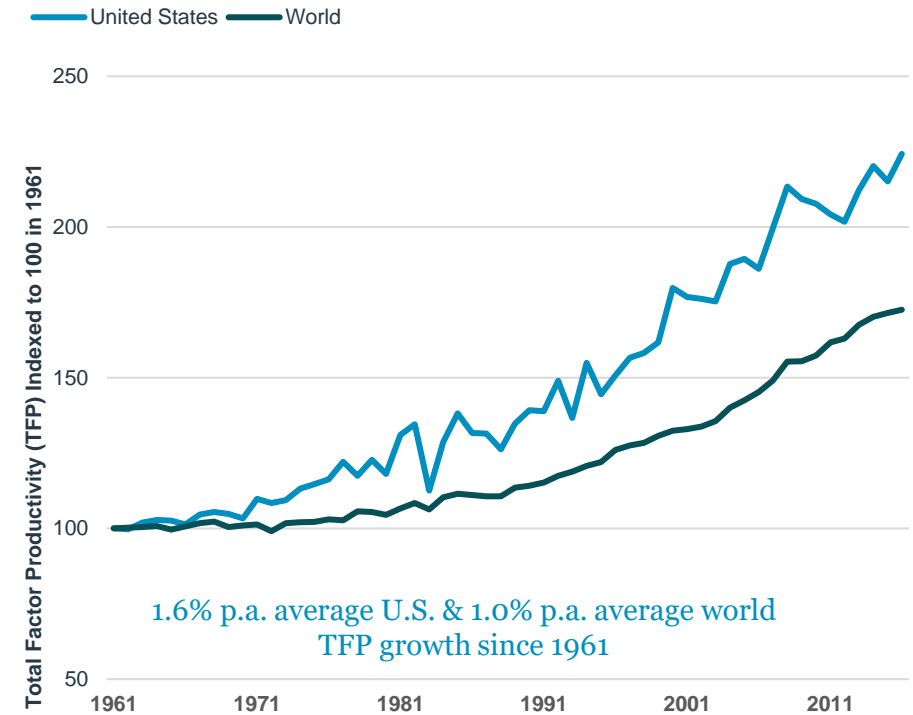
## Rising global population and limited supply of farmland...

### Population growth and land availability<sup>1</sup>



## ...requires increased farmland productivity

### Farmland returns are driven by rising productivity<sup>2</sup>



1 Sources: United Nations World Population Forecast 2017 and Food and Agriculture Organization of the United Nations (FAOSTAT).

2 US Department of Agriculture Economic Research Service, 1961-2019.

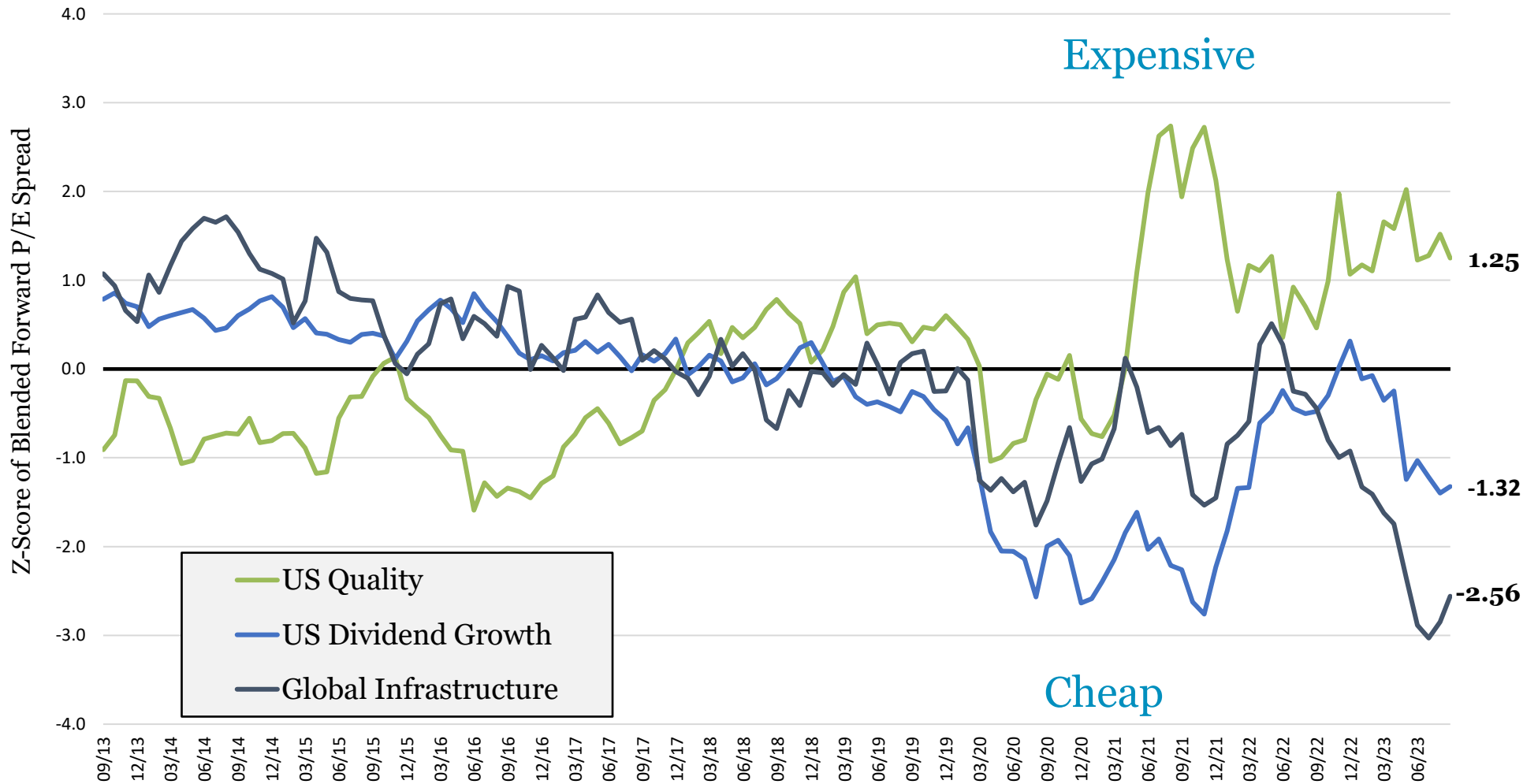
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# *Equities*

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Dividend growth & infrastructure attractively valued among defensive styles

Defensive Style Relative Valuation

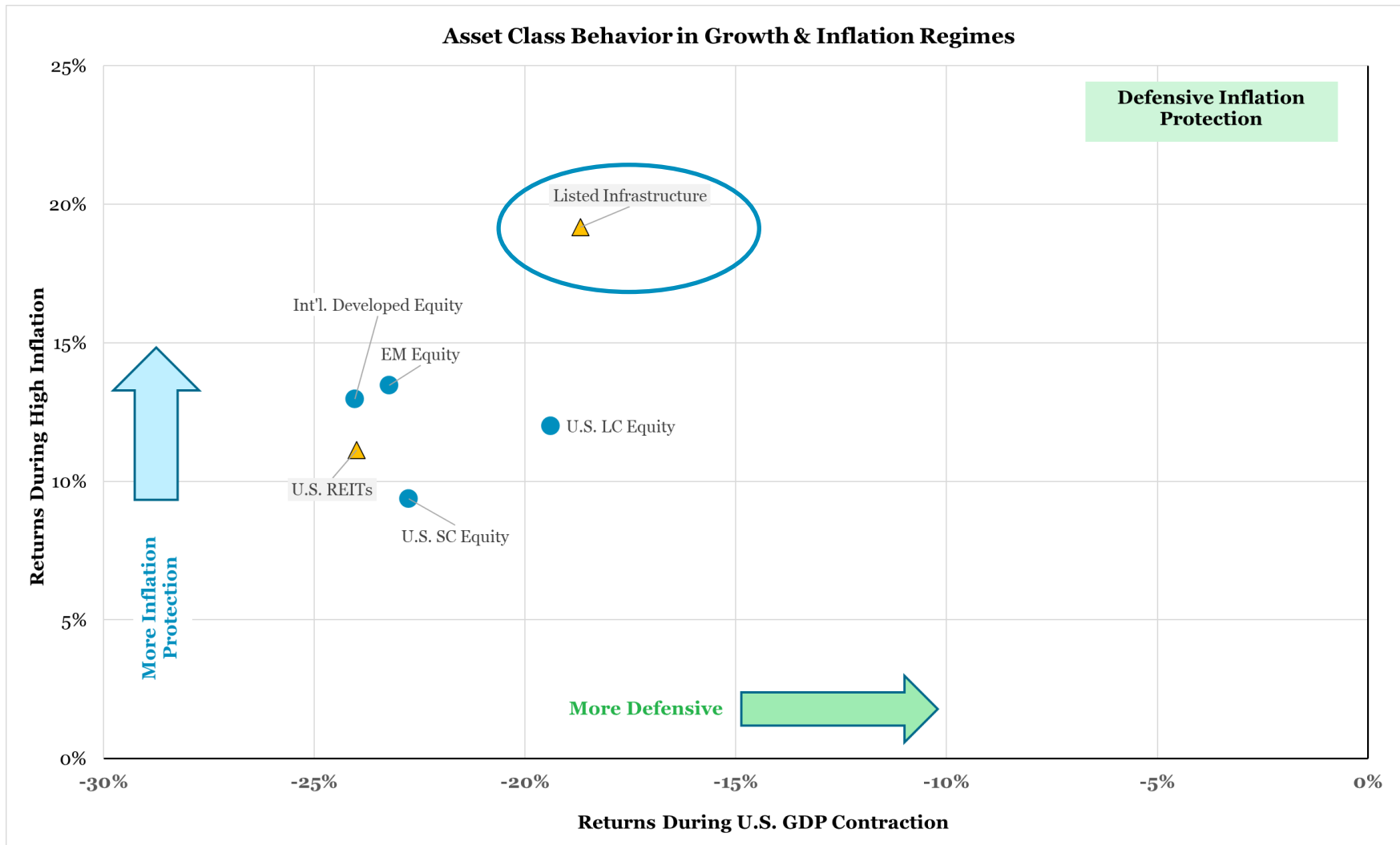


Past performance is no guarantee of future results. It is not possible to invest directly in an index.

Source: Nuveen Portfolio Strategy Group; Bloomberg, L.P. Data is computed by applying a z-score transformation to the difference in blended forward Price-to-Earnings Ratios for each style index and that for the S&P 500. US Quality is represented by the MSCI USA Quality Index. US Dividend Growth is represented by the S&P 500 Dividend Aristocrats Index. As of 29 Sept. 2023. 1 -Trailing returns analysis represents 20 years ending 29 Sept. 2023.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# Infrastructure – defensive & inflation sensitive



Past performance is no guarantee of future results. It is not possible to invest directly in an index.

Source: Bloomberg, Cambridge, Cliffwater. From 12/31/2004 to 12/31/2022. Returns During US GDP Contraction represent returns during quarters where US GDP was negative. Returns During High Inflation represents returns during the top quartile of US CPI increases over the time period. Farmland represented by the NCREIF Farmland Index, Commodities by the Bloomberg Commodity Total Return Index, Private Infrastructure by the Cambridge Private Infrastructure Index, Global Infrastructure by the S&P Global Infrastructure Total Return Index, Core Real Estate by the NCREIF Fund Open End Diversified Core (ODCE) Index, U.S. REITs by the FTSE NAREIT All Equity REITS Total Return Index, Middle Market Direct Lending by the Cliffwater Direct Lending Index, U.S. Corporate High Yield by the Bloomberg U.S. Corporate High Yield Total Return Index, Leveraged Loans by the Credit Suisse Leveraged Loan Total Return Index, Private Equity by the Cambridge Private Equity Index, U.S. Small Cap Equity is represented by the Russell 2000 Total Return Index, Preferreds by the S&P Preferred Stock Index, HY Muni by the Bloomberg Municipal High Yield Index, SD HY Muni by the Bloomberg Municipal High Yield Short Duration Index, IG Muni by the Bloomberg Municipal Bond Index, EM Debt by the Bloomberg EM USD Aggregate Index, Gold by the Bloomberg Gold Subindex, 1 – 10 Yr. TIPS by the Bloomberg Treasury Inflation Notes 1-10 Yr. Index, EM Equity by the MSCI Emerging Markets Index, Int'l. Developed by the MSCI World ex USA Index, 30 Yr. Treasury by the Bloomberg Bellwether 30 Yr. Treasury Index, and the US Aggregate Bond by the Bloomberg US Aggregate Bond Index.

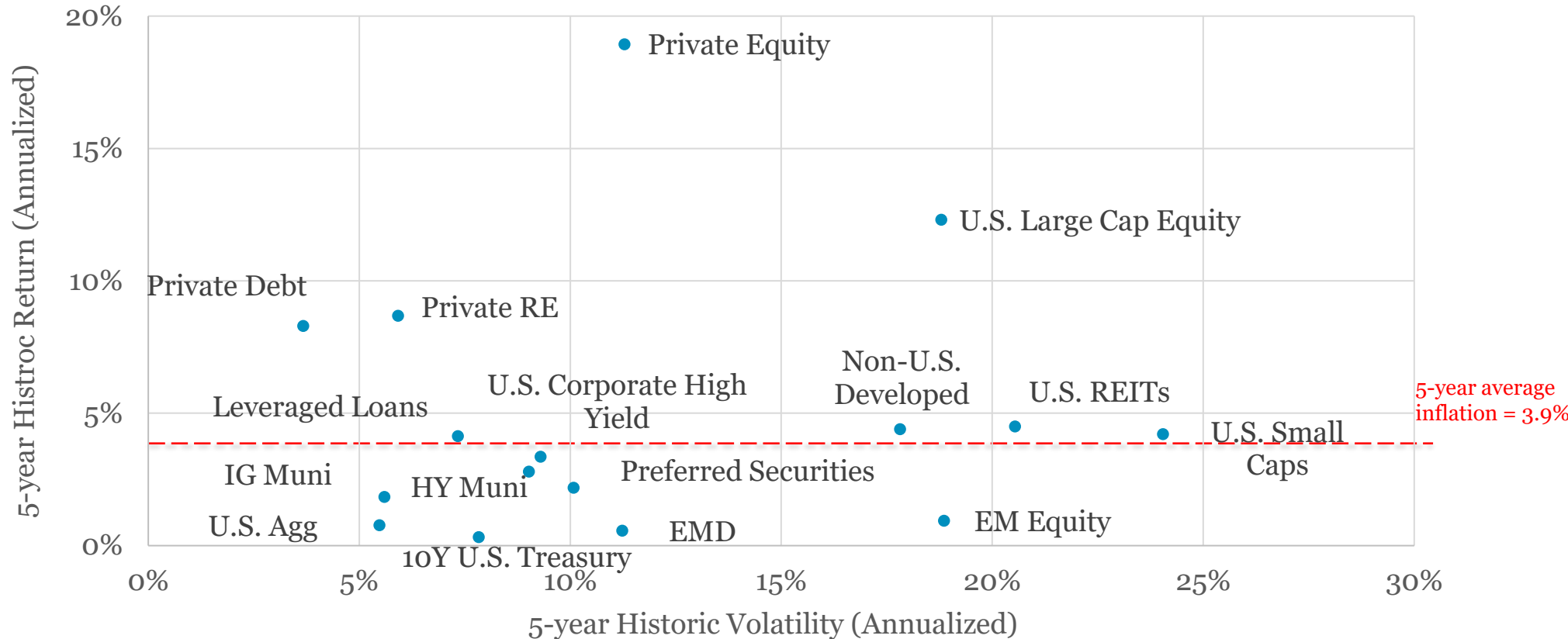
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

# *Portfolio construction*

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# Historic returns and volatility

## 5-year historic return vs. 5-year historic volatility



Past performance is no guarantee of future results. It is not possible to invest directly in an index.

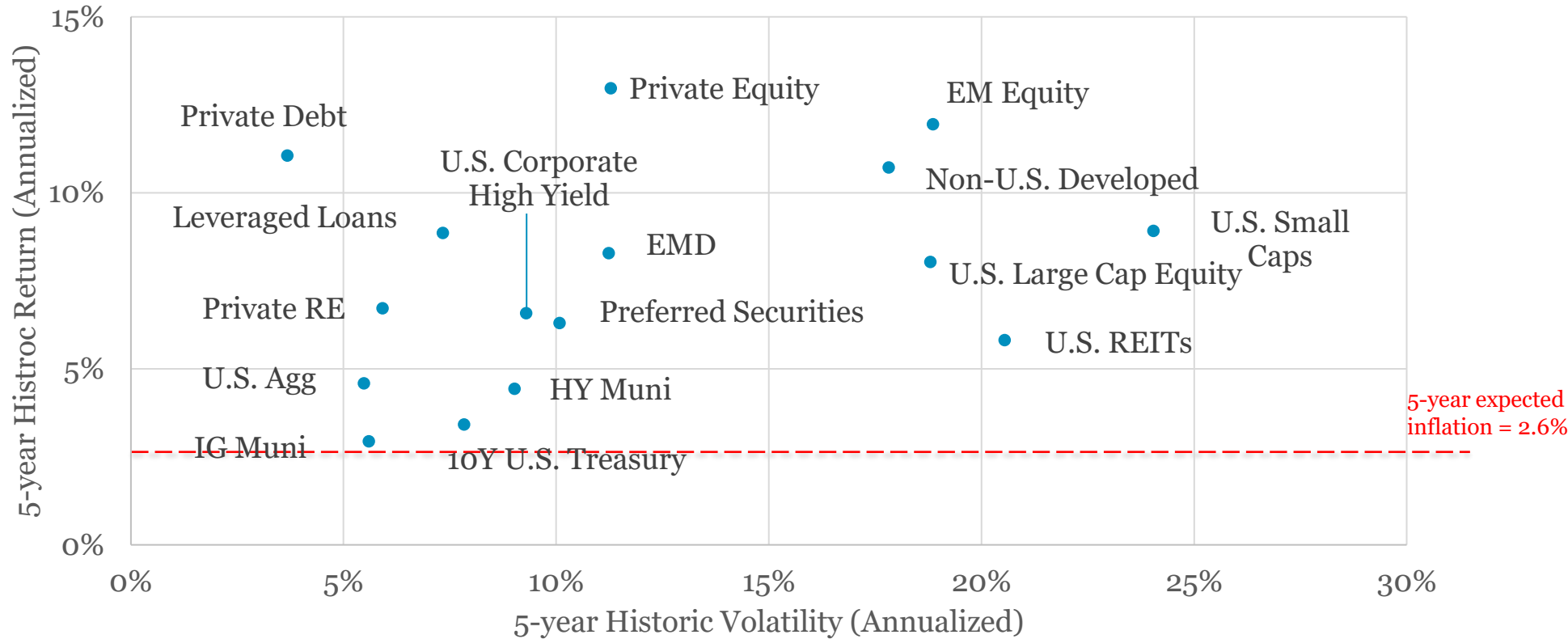
Data as of June 30th, 2023. Volatility data sourced from Bloomberg; Expected returns from the Nuveen Multi-Asset Team. Index definitions: U.S. Large Cap Equity: S&P 500 Total Return Index; Non-U.S. Developed: MSCI EAFE Net Total Return USD Index; Emerging Markets: MSCI Emerging Net Total Return USD Index; Private Equity: Bloomberg Buyout Private Equity Index; U.S. Small Caps: Russell 2000 Total Return Index; U.S. Aggregate Bond: Bloomberg US Agg Total Return Value Unhedged USD; U.S. Corporate High Yield: Bloomberg US Corporate High Yield Total Return Index Value Unhedged USD; Emerging Market Debt (\$): J.P. Morgan EMBI Global Diversified Composite; Leveraged Loans: S&P/LSTA Leveraged Loan Total Return Index; IG Municipals: Bloomberg Municipal Bond Index Total Return Index Value Unhedged USD; HY Municipals: Bloomberg Municipal Bond: High Yield (non-Investment Grade) TR Unhedged; U.S. REITs: FTSE NAREIT All Equity REITs Total Return Index; Private Real Estate: NCREIF Fund Index Open End Diversified Core (ODCE) Total Returns; Private Debt: Cliffwater Direct Lending Index - Total Return; 10Y U.S. Treasury: Bloomberg US Treasury Bellwethers 10 Year TR Index Value Unhedged USD; Preferred Securities: ICE BofA US All Capital Securities Index.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.



# Nuveen's capital market assumptions

## 5-year expected return vs. 5-year historic volatility

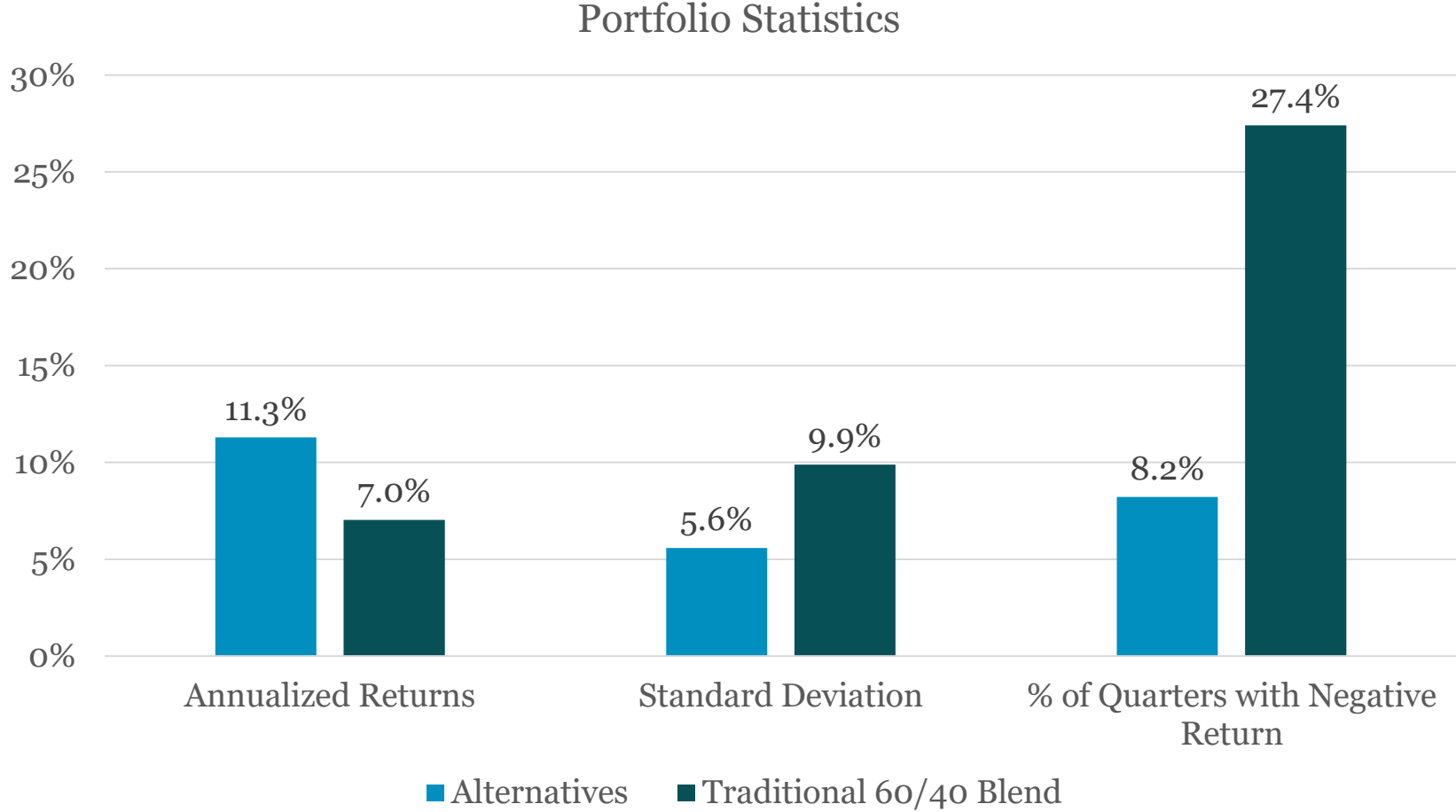


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Data as of June 30th, 2023. Volatility data sourced from Bloomberg; Expected returns from the Nuveen Multi-Asset Team. Index definitions: U.S. Large Cap Equity: S&P 500 Total Return Index; Non-U.S. Developed: MSCI EAFE Net Total Return USD Index; Emerging Markets: MSCI Emerging Net Total Return USD Index; Private Equity: Bloomberg Buyout Private Equity Index; U.S. Small Caps: Russell 2000 Total Return Index; U.S. Aggregate Bond: Bloomberg US Agg Total Return Value Unhedged USD; U.S. Corporate High Yield: Bloomberg US Corporate High Yield Total Return Index Value Unhedged USD; Emerging Market Debt (\$): J.P. Morgan EMBI Global Diversified Composite; Leveraged Loans: S&P/LSTA Leveraged Loan Total Return Index; IG Municipals: Bloomberg Municipal Bond Index Total Return Index Value Unhedged USD; HY Municipals: Bloomberg Municipal Bond: High Yield (non-Investment Grade) TR Unhedged; U.S. REITs: FTSE NAREIT All Equity REITS Total Return Index; Private Real Estate: NCREIF Fund Index Open End Diversified Core (ODCE) Total Returns; Private Debt: Cliffwater Direct Lending Index - Total Return; 10Y U.S. Treasury: Bloomberg US Treasury Bellwethers 10 Year TR Index Value Unhedged USD; Preferred Securities: ICE BofA US All Capital Securities Index.

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# A blend of alternative assets has historically had higher returns and lower volatility than a traditional 60/40 portfolio.

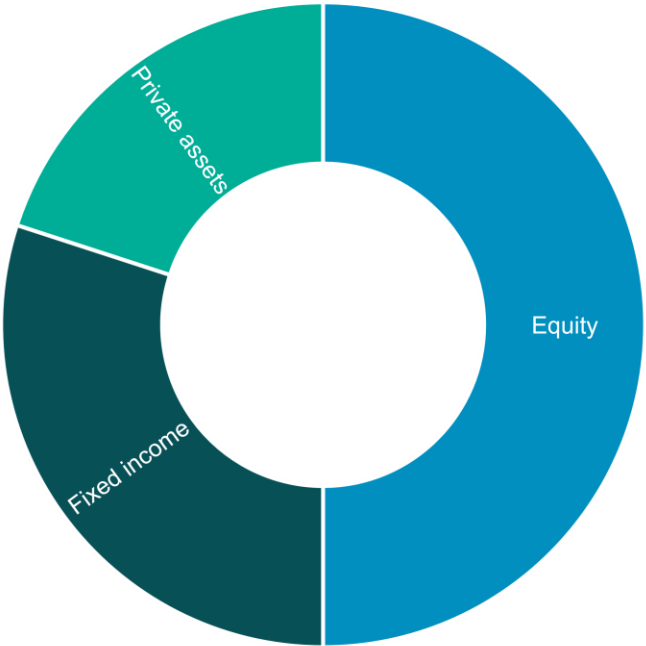


Source: Bloomberg, as of 31 December 2022. Alts Blend reflects 40% in private credit, 35% in private equity and 25% in private real estate.

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# Portfolio views for a moderate risk tolerance, high-net-worth investor

## Target allocation model



Asset class	Strategic
US Large Cap	24.0%
US Small Cap	5.0%
Intl Developed ex-US Market	10.0%
Emerging Markets	5.0%
Global Infrastructure	3.0%
REIT	3.0%
<b>Total Equity</b>	<b>50%</b>
Total US Bond Market	9.0%
High Yield Corporate Bonds	3.0%
Preferred Securities	3.0%
U.S. Leveraged Loans	3.0%
Intermediate-Term Tax-Exempt	9.0%
Tax-Exempt High Yield	3.0%
<b>Total Fixed Income</b>	<b>30%</b>
Core Real Estate	5.0%
U.S. Private Credit	8.0%
U.S. Private Equity	7.0%
<b>Total Private Markets</b>	<b>20%</b>
<b>Tracking Error vs U.S. 60/40</b>	<b>~3.0%</b>

Source: Nuveen Portfolio Strategy & Solutions.

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# How would private market allocations benefit your portfolio construction?

Nuveen's Portfolio Strategy Group can be your partner, delivering personalized insights for your client portfolios through robust portfolio reviews.



Curious how your portfolio might handle:

- Persistent inflation?
- Rising rates?
- A weakening dollar?
- A recession?

Nuveen's Portfolio Strategy Group can be your partner, delivering personalized insights for your client portfolios through robust portfolio reviews.

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Nuveen, LLC provides investment solutions through its investment specialists.

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# Quarterly Investment Performance Report

3rd Quarter 2023

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

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

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



# Market Overview: Q3 2023

## Key Themes

- U.S. equities posted negative returns during the third quarter, led by the decline of a few large cap technology stocks. The Russell 3000 Index declined 3.25% in the third quarter.

## Equities

- A majority of the eleven GIC sectors in the S&P 500 produced negative returns in the third quarter. Utilities and Real Estate declined the most, while Energy was the strongest performer.

## Fixed Income

- The U.S. Federal Reserve raised its target range for the Fed Funds Rate by 25 basis points in July, followed by a pause at its September meeting. Treasury yields rose across the curve during the quarter, while the 2year-10year yield curve narrowed its inversion as the 10-year Treasury rose more than the 2-year. The Bloomberg U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds declined 3.23% during the third quarter.

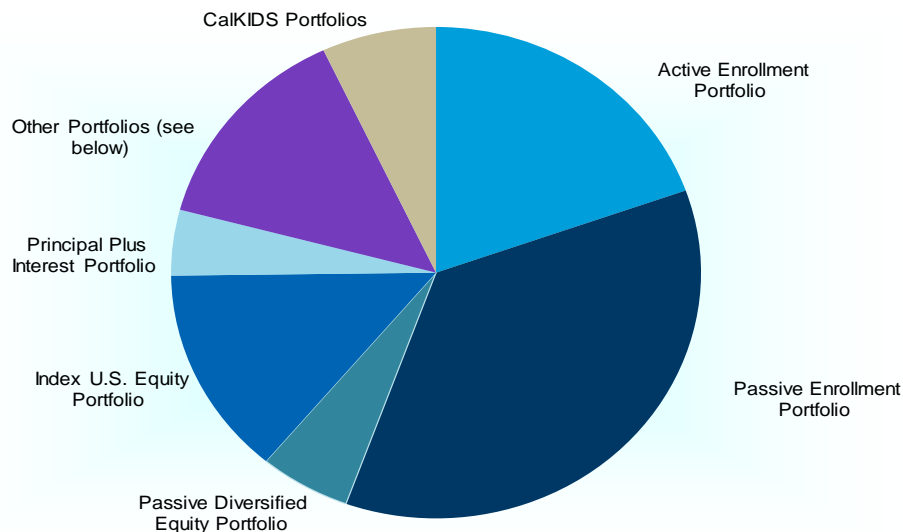
Past performance is not indicative of future results. You can not invest directly in an index. U.S. Equities – Russell 3000 Index; U.S. Growth Stocks – Russell 1000 Growth Index; U.S. Value Stocks – Russell 1000 Value Index; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small-Cap Stocks – Russell 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. C34631

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Asset Class	3 Month	1 Year	3 Year	5 Year
U.S. Equities	-3.25	20.46	9.38	9.14
U.S. Growth Stocks	-3.13	27.72	7.97	12.42
U.S. Value Stocks	-3.16	14.44	11.05	6.23
U.S. Mid-Cap Stocks	-4.68	13.45	8.09	6.38
U.S. Small-Cap Stocks	-5.13	8.93	7.16	2.40
Int'l Developed Stocks	-4.11	25.65	5.75	3.24
Emerging Markets Stocks	-2.93	11.70	-1.73	0.55
Real Estate Stocks	-8.33	-1.71	2.68	2.79
U.S. Investment Grade Bonds	-3.23	0.64	-5.21	0.10
Inflation-Linked Bonds	-1.00	2.11	-0.02	2.63
High Yield Bonds	0.23	9.61	1.25	2.93
Commodities	4.71	-1.30	16.23	6.13
Cash	1.33	4.65	1.76	1.76
<b>Annualized Tuition Inflation Ending as of 2022-2023 Academic Year* (%)</b>				
<b>Educational Institution</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>	
National Average Public 4-Year In-state	1.77	1.57	1.85	
National Average Private Nonprofit 4-Year	3.49	2.23	2.57	
Consumer Price Index, September 2023	3.70	5.75	4.04	

\*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 Q3 2023 - Total Assets: \$13.3 Billion



Portfolio	% of Assets	\$ Millions	Portfolio	% of Assets	\$ Millions
Passive Enrollment Portfolio	35.89%	\$4,761	Passive Diversified Equity Portfolio	5.45%	\$723
Active Enrollment Portfolio	19.45%	\$2,580	Principal Plus Interest Portfolio	4.15%	\$550
Index U.S. Equity Portfolio	13.89%	\$1,842	Other Portfolios (see below)	13.79%	\$1,829

## Other Portfolios

Active Diversified Equity Portfolio	3.18%	\$422	Index Bond Portfolio	0.73%	\$96
Active Growth Portfolio	2.76%	\$366	Active Conservative Portfolio	0.59%	\$78
Passive Growth Portfolio	2.30%	\$305	Active International Equity Portfolio	0.33%	\$43
Social Choice Equity Portfolio	1.93%	\$256	ESG Enrollment Portfolio	0.11%	\$15
Index International Equity Portfolio	1.11%	\$148	ESG Bond Portfolio	0.02%	\$3.0
Passive Conservative Portfolio	0.68%	\$90	ESG International Equity Portfolio	0.02%	\$2.4

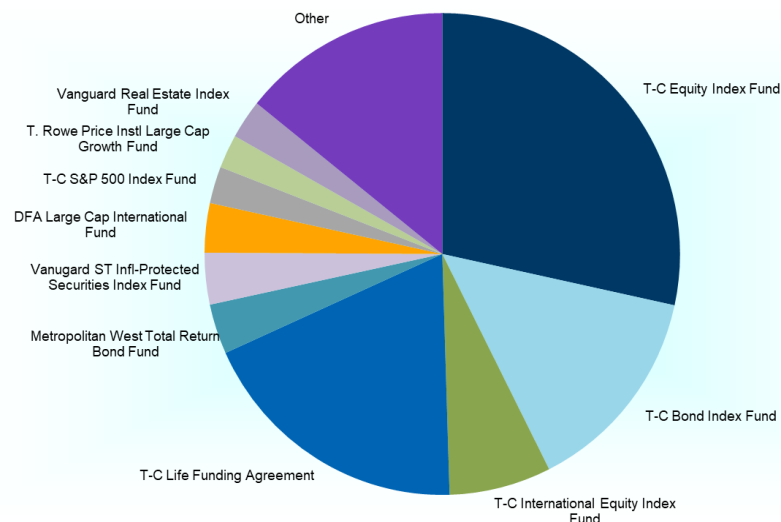
## CalKIDS / CSA Portfolios

CalKIDS*	7.38%	\$979	Local CSA Programs	0.03%	\$4.12
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\* CalKIDS AUM invested in ScholarShare are included in the total assets of \$13.3 billion. Does not include CalKIDS AUM held outside of ScholarShare of \$1.08 billion.



# Asset Overview by Underlying Fund as of Q3 2023



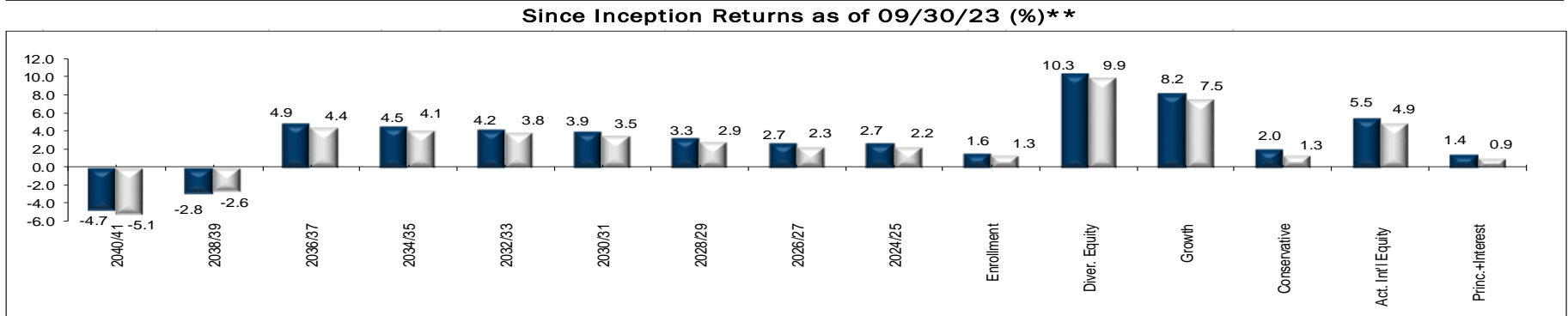
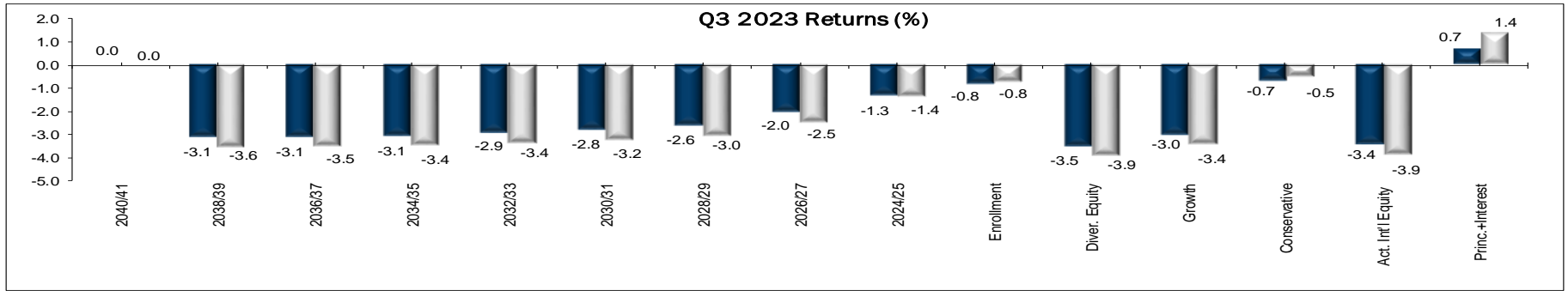
Fund	% of Assets	\$ Millions	Fund	% of Assets	\$ Millions
T-C Equity Index Fund	29.93%	\$3,971	DFA Large Cap International Fund	3.12%	\$414
T-C Life Funding Agreement	17.99%	\$2,387	Vanguard Real Estate Index Fund	2.56%	\$339
T-C Bond Index Fund	14.20%	\$1,884	T-C S&P 500 Index Fund	2.41%	\$320
T-C International Equity Index Fund	6.95%	\$923	T. Rowe Price Instl Large Cap Growth Fund	2.23%	\$296
Vanugard ST Infl-Protected Securities Index Fund	3.49%	\$463	Other	13.90%	\$1,844
Metropolitan West Total Return Bond Fund	3.22%	\$427			

## Other Funds

T. Rowe Price Instl Large Cap Value Fund	2.20%	\$291	T-C Quant Small Cap Equity Fund	0.76%	\$100
PIMCO Income Fund	1.85%	\$245	DFA Emerging Markets Core Equity Portfolio	0.78%	\$103
PIMCO Real Return Fund	1.84%	\$245	Nuveen ESG US Agg Bond ETF	0.06%	\$8
T-C Social Choice Equity Fund	1.97%	\$261	T-C Social Choice Int'l Equity Fund	0.03%	\$4.1
Vanguard High-Yield Corporate Fund	1.73%	\$230	Nuveen ESG HY Corp Bond ETF	0.00%	\$0.6
T-C Emerging Markets Equity Index Fund	1.75%	\$232	Nuveen ESG EM Equity ETF	0.00%	\$0.4
T. Rowe Price Instl Floating Rate Fund	0.94%	\$124			

\* CalKIDS AUM are included in the total assets of \$13.3B

# Active Portfolios vs. Composite Benchmarks



■ Actively Managed Portfolios    ■ Benchmark

\* The 2040-41 Enrollment Yr Portfolio was launched on 7/14/23 and does not reflect a full quarter of performance.

The 2022-23 Enrollment Yr Portfolio was merged into Enrollment Year Portfolio as of 7/14/23

\*\* 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

- The U.S. economy gained 336,000 jobs in September and the unemployment rate was 3.8 percent at the end of the quarter.
- Average hourly earnings of all employees on private nonfarm payrolls increased 4.2% year-over-year from last September, seasonally adjusted.
- Sales of new single-family houses in the United States were at a seasonally adjusted annual rate of 675,000 in August.
- The Active Enrollment Year Portfolios generated negative absolute returns in Q3, with more aggressive portfolios posting lower returns than conservative portfolios. Portfolios outperformed their blended benchmarks.
- Nearly all underlying funds produced negative returns in Q3. Strong contributors to relative returns were the T.Rowe Price Large Cap Growth Fund and the TIAA-CREF Quant Small Cap Equity Fund, which outperformed their respective benchmarks by over 100bps during the quarter

# 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	
<b>Active Enrollment Year Portfolios</b>							
2040/2041 Enrollment Portfolio Active	-	-	-	-	-	-4.70%	07/14/23
Blended Benchmark Returns	-	-	-	-	-	-5.15%	
Difference						0.45%	
2038/2039 Enrollment Portfolio Active	-3.11%	7.59%	15.99%	-	-	-2.83%	06/11/21
Blended Benchmark Returns	-3.56%	7.12%	15.61%	-	-	-2.61%	
Difference	0.45%	0.47%	0.38%	-	-	-0.22%	
2036/2037 Enrollment Portfolio Active	-3.09%	7.29%	15.39%	6.24%	-	4.88%	01/24/20
Blended Benchmark Returns	-3.49%	6.84%	15.11%	5.46%	-	4.39%	
Difference	0.40%	0.45%	0.28%	0.78%	-	0.49%	
2034/2035 Enrollment Portfolio Active	-3.05%	6.92%	14.75%	5.91%	-	4.47%	01/24/20
Blended Benchmark Returns	-3.44%	6.47%	14.40%	5.12%	-	4.09%	
Difference	0.39%	0.45%	0.35%	0.79%	-	0.38%	
2032/2033 Enrollment Portfolio Active	-2.92%	6.68%	14.22%	5.50%	-	4.23%	01/24/20
Blended Benchmark Returns	-3.37%	6.13%	13.73%	4.69%	-	3.83%	
Difference	0.45%	0.55%	0.49%	0.81%	-	0.40%	
2030/2031 Enrollment Portfolio Active	-2.78%	5.98%	13.05%	5.00%	-	3.91%	01/24/20
Blended Benchmark Returns	-3.23%	5.50%	12.55%	4.17%	-	3.50%	
Difference	0.45%	0.48%	0.50%	0.83%	-	0.41%	
2028/2029 Enrollment Portfolio Active	-2.59%	5.13%	11.25%	4.17%	-	3.30%	01/24/20
Blended Benchmark Returns	-3.04%	4.52%	10.70%	3.30%	-	2.86%	
Difference	0.45%	0.61%	0.55%	0.87%	-	0.44%	
2026/2027 Enrollment Portfolio Active	-2.04%	4.35%	9.53%	3.22%	-	2.70%	01/24/20
Blended Benchmark Returns	-2.46%	3.90%	9.06%	2.40%	-	2.27%	
Difference	0.42%	0.45%	0.47%	0.82%	-	0.43%	
2024/2025 Enrollment Portfolio Active	-1.34%	3.77%	7.62%	2.71%	-	2.67%	01/24/20
Blended Benchmark Returns	-1.38%	3.89%	7.97%	2.10%	-	2.24%	
Difference	0.04%	-0.12%	-0.35%	0.61%	-	0.43%	
Enrollment Year Portfolio Active	-0.84%	2.72%	5.06%	1.23%	-	1.57%	01/24/20
Blended Benchmark Returns	-0.75%	3.27%	5.92%	0.95%	-	1.34%	
Difference	-0.09%	-0.55%	-0.86%	0.28%	-	0.23%	

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

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

Investment Portfolios*	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Active Multi-Fund Investment Portfolios</b>							
Active Diversified Equity Portfolio	-3.48%	9.22%	19.30%	8.48%	6.68%	10.32%	11/04/11
Blended Benchmark Returns	-3.87%	8.86%	19.07%	7.70%	6.73%	9.89%	
Difference	0.39%	0.36%	0.23%	0.78%	-0.05%	0.43%	
Active Growth Portfolio	-3.00%	6.50%	13.90%	5.21%	5.27%	8.20%	11/04/11
Blended Benchmark Returns	-3.39%	6.04%	13.51%	4.42%	5.26%	7.53%	
Difference	0.39%	0.46%	0.39%	0.79%	0.01%	0.67%	
Active Conservative Portfolio	-0.71%	1.36%	2.68%	-0.50%	1.52%	1.98%	11/04/11
Blended Benchmark Returns	-0.54%	1.92%	3.39%	-0.82%	1.40%	1.30%	
Difference	-0.17%	-0.56%	-0.71%	0.32%	0.12%	0.68%	
Active International Equity Portfolio	-3.39%	6.88%	23.83%	6.32%	3.59%	5.46%	11/10/11
Blended Benchmark Returns	-3.86%	5.77%	21.57%	4.58%	2.95%	4.92%	
Difference	0.47%	1.11%	2.26%	1.74%	0.64%	0.54%	
<b>Active Single Fund Investment Portfolios</b>							
Principal Plus Interest Portfolio**	0.68%	2.07%	2.34%	1.54%	1.60%	1.42%	11/04/11
Benchmark Returns	1.38%	3.80%	4.71%	1.78%	1.74%	0.06%	
Difference	-0.70%	-1.73%	-2.37%	-0.24%	-0.14%	1.36%	

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

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

# Active Portfolios: Asset Allocation, Fees, and Performance

Active Enrollment Year Portfolio	Annual Asset Based Fees (bp)*	T. Rowe Price Instl Large Cap Growth Fund	T. Rowe Price Instl Large Cap Value Fund	TIAA-CREF Quant Small Cap Equity Fund	TIAA-CREF S&P 500 Index Fund	DFA Large Cap Int'l Portfolio	DFA Emerging Markets Core Equity I Portfolio	Vanguard Real Estate Index Fund	MetWest Total Return Bond Fund	TIAA-CREF Bond Index Fund	PIMCO Real Return Fund	PIMCO Income Fund	T. Rowe Price Instl Floating Rate Fund	T-C Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>		<b>55</b>	<b>56</b>	<b>42</b>	<b>5</b>	<b>17</b>	<b>40</b>	<b>10</b>	<b>37</b>	<b>7</b>	<b>67</b>	<b>62</b>	<b>57</b>	<b>N/A</b>
2040-2041	40	14.80%	14.80%	5.00%	15.80%	19.20%	4.80%	5.60%	7.00%	3.00%	4.00%	4.00%	2.00%	0.00%
2038-2039	40	14.80%	14.80%	5.00%	15.80%	19.20%	4.80%	5.60%	7.00%	3.00%	4.00%	4.00%	2.00%	0.00%
2036-2037	41	14.00%	14.00%	4.80%	15.20%	18.10%	4.60%	5.30%	8.40%	3.60%	4.80%	4.80%	2.40%	0.00%
2034-2035	41	13.30%	13.30%	4.50%	14.20%	17.30%	4.30%	5.10%	9.80%	4.20%	5.60%	5.60%	2.80%	0.00%
2032-2033	42	12.50%	12.50%	4.30%	13.60%	16.30%	4.00%	4.80%	11.20%	4.80%	6.40%	6.40%	3.20%	0.00%
2030-2031	43	11.10%	11.10%	3.80%	11.80%	14.40%	3.60%	4.20%	14.00%	6.00%	8.00%	8.00%	4.00%	0.00%
2028-2029	45	8.80%	8.80%	3.00%	9.60%	11.50%	2.90%	3.40%	18.20%	7.80%	10.40%	10.40%	5.20%	0.00%
2026-2027	42	6.60%	6.60%	2.30%	7.20%	8.60%	2.20%	2.50%	18.90%	8.10%	10.80%	10.80%	5.40%	10.00%
2024-2025	32	4.60%	4.60%	1.50%	5.00%	6.00%	1.50%	1.80%	14.00%	6.00%	8.00%	8.00%	4.00%	35.00%
Enrollment	27	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	42	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	29								17.50%	7.50%	10.00%	10.00%	5.00%	50.00%
Active International Equity Portfolio	28					80.00%	20.00%							
<b>Fund's Performance vs Benchmk Q3 2023 (bp)</b>		<b>113</b>	<b>(2)</b>	<b>120</b>	<b>(2)</b>	<b>23</b>	<b>141</b>	<b>0</b>	<b>(28)</b>	<b>(2)</b>	<b>28</b>	<b>269</b>	<b>(66)</b>	<b>(70)</b>

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

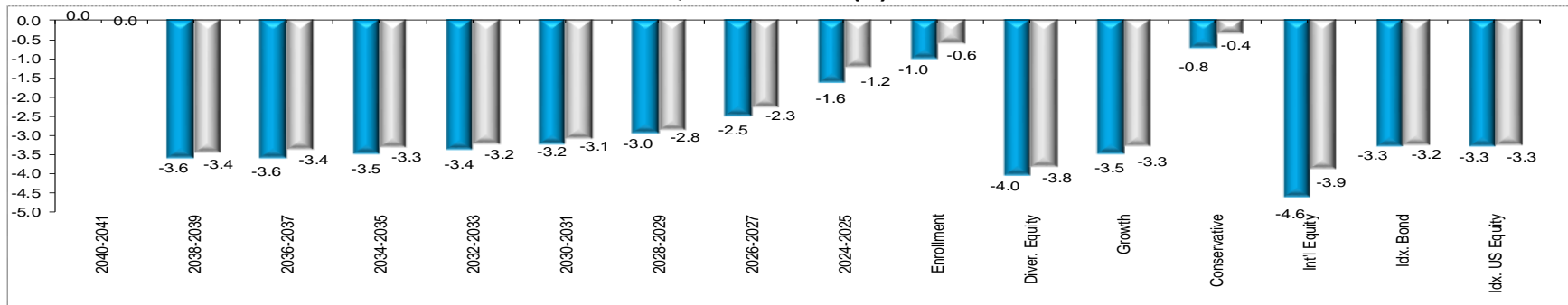
## Active Single Fund Investment Portfolios

Investment Portfolios	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q3 2023 (bp)
Principal Plus Interest Portfolio	N/A	100.00%	TIAA-CREF Life Co. Funding Agreement	(70)

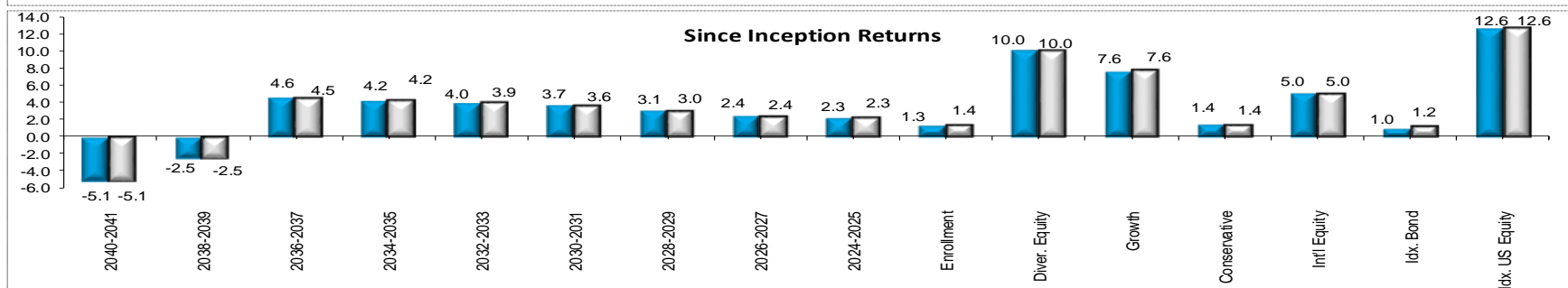
\* Asset Based Fees include most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

# Passive Portfolios vs Composite Benchmarks

### Q3 2023 Returns (%)



### Since Inception Returns



■ Passively Managed Portfolios ■ Benchmark

\* The 2040-41 Enrollment Yr Portfolio was launched on 7/14/23 and does not reflect a full quarter of performance.  
The 2022-23 Enrollment Yr Portfolio was merged into Enrollment Year Portfolio as of 7/14/23

\*\* 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 negative returns during the third quarter, led by the decline of a few large cap technology stocks. The Russell 3000 Index declined 3.25% in the third quarter.
- The U.S. Federal Reserve raised its target range for the Fed Funds Rate by 25 basis points in July, followed by a pause at its September meeting. Treasury yields rose across the curve during the quarter, while the 2year-10year yield curve narrowed its inversion as the 10-year Treasury rose more than the 2-year. The Bloomberg U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds declined 3.23% during the third quarter.
- Based on respective Russell indexes, small cap companies underperformed the broad large cap market. Growth and Value stocks both declined during the quarter.
- The Passive Enrollment Year Portfolios posted negative absolute returns in Q3. More aggressive allocations in the Enrollment Year Portfolios had lower 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		
<b>Passive Enrollment Year Portfolios</b>							
2040/2041 Enrollment Portfolio Passive	-	-	-	-	-	-5.10%	06/11/21
Blended Benchmark Returns	-	-	-	-	-	-5.09%	
Difference	-	-	-	-	-	-0.01%	
2038/2039 Enrollment Portfolio Passive	-3.58%	7.39%	16.11%	-	-	-2.47%	06/11/21
Blended Benchmark Returns	-3.45%	7.40%	16.11%	-	-	-2.51%	
Difference	-0.13%	-0.01%	0.00%	-	-	0.04%	
2036/2037 Enrollment Portfolio Passive	-3.59%	6.97%	15.44%	16.77%	-	4.62%	01/24/20
Blended Benchmark Returns	-3.37%	7.11%	15.60%	16.21%	-	4.49%	
Difference	-0.22%	-0.14%	-0.16%	0.56%	-	0.13%	
2034/2035 Enrollment Portfolio Passive	-3.48%	6.59%	14.78%	4.87%	-	4.23%	01/24/20
Blended Benchmark Returns	-3.30%	6.75%	14.89%	5.00%	-	4.20%	
Difference	-0.18%	-0.16%	-0.11%	-0.13%	-	0.03%	
2032/2033 Enrollment Portfolio Passive	-3.35%	6.36%	14.14%	4.47%	-	3.96%	01/24/20
Blended Benchmark Returns	-3.23%	6.39%	14.17%	4.58%	-	3.94%	
Difference	-0.12%	-0.03%	-0.03%	-0.11%	-	0.02%	
2030/2031 Enrollment Portfolio Passive	-3.21%	5.73%	12.93%	4.00%	-	3.72%	01/24/20
Blended Benchmark Returns	-3.07%	5.75%	12.97%	4.08%	-	3.62%	
Difference	-0.14%	-0.02%	-0.04%	-0.08%	-	0.10%	
2028/2029 Enrollment Portfolio Passive	-2.95%	4.78%	11.02%	3.14%	-	3.07%	01/24/20
Blended Benchmark Returns	-2.85%	4.74%	11.06%	3.26%	-	2.99%	
Difference	-0.10%	0.04%	-0.04%	-0.12%	-	0.08%	
2026/2027 Enrollment Portfolio Passive	-2.50%	3.90%	8.98%	2.23%	-	2.42%	01/24/20
Blended Benchmark Returns	-2.28%	4.07%	9.34%	2.40%	-	2.40%	
Difference	-0.22%	-0.17%	-0.36%	-0.17%	-	0.02%	
2024/2025 Enrollment Portfolio Passive	-1.63%	3.43%	7.31%	1.81%	-	2.26%	01/24/20
Blended Benchmark Returns	-1.25%	4.00%	8.15%	2.00%	-	2.26%	
Difference	-0.38%	-0.57%	-0.84%	-0.19%	-	0.00%	
Enrollment Year Portfolio Passive	-1.04%	2.54%	4.80%	0.84%	-	1.31%	01/24/20
Blended Benchmark Returns	-0.64%	3.35%	6.04%	1.00%	-	1.39%	
Difference	-0.40%	-0.81%	-1.24%	-0.16%	-	-0.08%	

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

# Passive Portfolios vs. Composite Benchmarks

Investment Portfolios*	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Passive Multi-Fund Investment Portfolios</b>							
Passive Diversified Equity Portfolio	-4.02%	9.08%	19.69%	7.35%	6.91%	10.04%	11/04/11
Blended Benchmark Returns	-3.80%	9.20%	19.69%	7.46%	6.86%	10.01%	
Difference	-0.22%	-0.12%	0.00%	-0.11%	0.05%	0.03%	
Passive Growth Portfolio	-3.46%	6.42%	14.10%	4.20%	5.34%	7.64%	11/04/11
Blended Benchmark Returns	-3.28%	6.48%	14.32%	4.36%	5.40%	7.65%	
Difference	-0.18%	-0.06%	-0.22%	-0.16%	-0.06%	-0.01%	
Passive Conservative Portfolio	-0.76%	1.11%	2.16%	-0.89%	1.32%	1.42%	11/04/11
Blended Benchmark Returns	-0.39%	1.97%	3.45%	-0.70%	1.47%	1.35%	
Difference	-0.37%	-0.86%	-1.29%	-0.19%	-0.15%	0.07%	
Index International Equity Portfolio	-4.57%	5.58%	22.93%	4.08%	2.73%	5.04%	11/04/11
Blended Benchmark Returns	-3.86%	6.06%	22.86%	4.33%	2.79%	5.03%	
Difference	-0.71%	-0.48%	0.07%	-0.25%	-0.06%	0.01%	
<b>Passive Single Fund Investment Portfolios</b>							
Index Bond Portfolio	-3.27%	-0.97%	0.63%	-5.31%	-0.02%	0.99%	11/04/11
Benchmark Returns	-3.23%	-1.21%	0.64%	-5.21%	0.10%	1.18%	
Difference	-0.04%	0.24%	-0.01%	-0.10%	-0.12%	-0.19%	
Index U.S. Equity Portfolio	-3.26%	12.33%	20.36%	9.34%	9.09%	12.56%	11/04/11
Benchmark Returns	-3.25%	12.39%	20.46%	9.38%	9.14%	12.61%	
Difference	-0.01%	-0.06%	-0.10%	-0.04%	-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
<b>Underlying Fund Expenses (bp)</b>		<b>5</b>	<b>5</b>	<b>19</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>13</b>	<b>N/A</b>
<b>2040-2041</b>	<b>7</b>	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
<b>2038-2039</b>	<b>7</b>	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
<b>2036-2037</b>	<b>7</b>	47.90%	18.20%	4.60%	5.30%	16.80%	4.80%	2.40%	0.00%
<b>2034-2035</b>	<b>7</b>	45.40%	17.30%	4.30%	5.00%	19.60%	5.60%	2.80%	0.00%
<b>2032-2033</b>	<b>7</b>	42.80%	16.30%	4.10%	4.80%	22.40%	6.40%	3.20%	0.00%
<b>2030-2031</b>	<b>8</b>	37.80%	14.40%	3.60%	4.20%	28.00%	8.00%	4.00%	0.00%
<b>2028-2029</b>	<b>8</b>	30.20%	11.50%	2.90%	3.40%	36.40%	10.40%	5.20%	0.00%
<b>2026-2027</b>	<b>7</b>	22.70%	8.60%	2.20%	2.50%	37.80%	10.80%	5.40%	10.00%
<b>2024-2025</b>	<b>5</b>	15.70%	6.00%	1.50%	1.80%	28.00%	8.00%	4.00%	35.00%
<b>Enrollment</b>	<b>4</b>	9.40%	3.60%	0.90%	1.10%	24.50%	7.00%	3.50%	50.00%

## Passive Multi-Fund Investment Portfolios

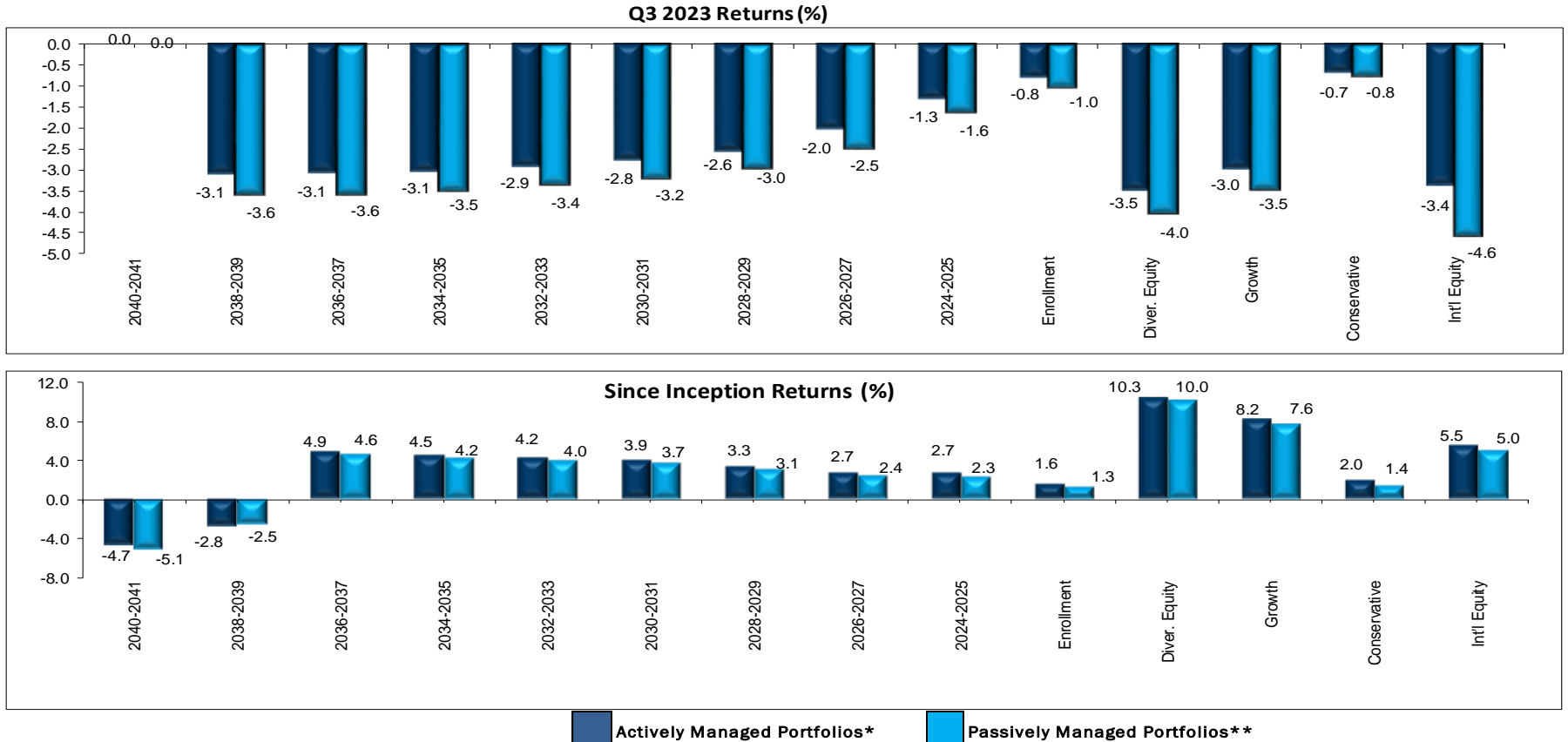
<b>Passive Diversified Equity Portfolio</b>	<b>7</b>	63.00%	24.00%	6.00%	7.00%				
<b>Passive Growth Portfolio</b>	<b>7</b>	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
<b>Passive Conservative Portfolio</b>	<b>5</b>					35.00%	10.00%	5.00%	50.00%
<b>Index International Equity Portfolio</b>	<b>9</b>		80.00%	20.00%					
<b>Fund's Performance vs Benchmk Q3 2023 (bp)</b>		<b>(2)</b>	<b>(70)</b>	<b>(65)</b>	<b>0</b>	<b>(2)</b>	<b>0</b>	<b>(37)</b>	<b>(70)</b>

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

Passive Investment Portfolios	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q3 2023 (bp)
<b>Index Bond Portfolio</b>	<b>9</b>	100.00%	TIAA-CREF Bond Index Fund	<b>(2)</b>
<b>Index U.S. Equity Portfolio</b>	<b>6</b>	100.00%	TIAA-CREF Equity Index Fund	<b>(2)</b>

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

# Active Portfolios vs Passive Portfolios



\* The 2040-41 Enrollment Yr Portfolio was launched on 7/14/23 and does not reflect a full quarter of performance.

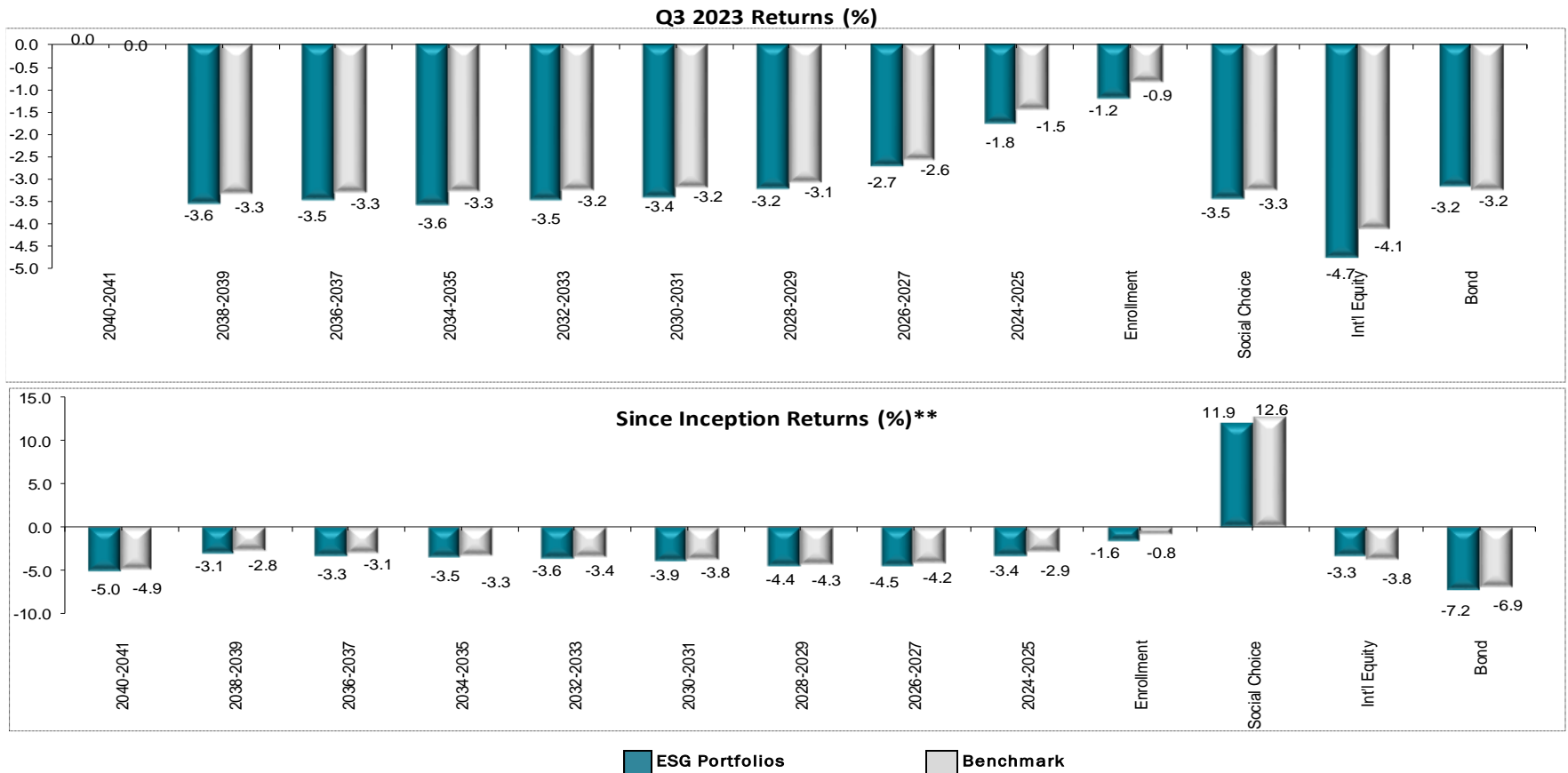
The 2022-23 Enrollment Yr Portfolio was merged into Enrollment Year Portfolio as of 7/14/23

\*\* 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 inception 6/11/21).

- In Q3, Passive Portfolios underperformed Active Portfolios.
- A primary driver of outperformance in the Active Portfolios was the T. Rowe Price Large Cap Growth Fund, which receives larger allocations across the earlier stages of the glide path and outperformed its benchmark by 113 basis points during the quarter.
- Since inception, most Active Portfolios have modestly outperformed their Passive counterparts.

# ESG Portfolios vs Composite Benchmarks



\* The 2040-41 Enrollment Yr Portfolio was launched on 7/14/23 and does not reflect a full quarter of performance. The 2022-23 Enrollment Yr Portfolio was merged into Enrollment Year Portfolio as of 7/14/23

\*\* 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 modestly lower than those of the benchmarks during Q3, primarily driven by the large allocations to the TIAA-CREF Social Choice Equity Fund and the TIAA-CREF Social Choice International Equity Fund; both slightly underperformed their respective benchmarks during the quarter.
- Since inception on February 11, 2022, returns for the ESG Enrollment Year Investment Portfolios reflect the broad market downturns that investors have experienced during this time.

# ESG Portfolios vs. Composite Benchmarks

Investment Portfolios*	3 Month	YTD	Average Annual Total Return				Inception Date
			1 Year	3 Year	5 Year	Since Inception	
<b>ESG Enrollment Year Portfolios</b>							
2040/2041 Enrollment Portfolio ESG	-	-	-	-	-	-5.00%	07/14/23
Blended Benchmark Returns	-	-	-	-	-	-4.90%	
Difference	-	-	-	-	-	-0.10%	
2038/2039 Enrollment Portfolio ESG	-3.55%	6.15%	16.56%	-	-	-3.09%	02/11/22
Blended Benchmark Returns	-3.33%	8.32%	17.87%	-	-	-2.76%	
Difference	-0.22%	-2.17%	-1.31%	-	-	-0.33%	
2036/2037 Enrollment Portfolio ESG	-3.47%	5.93%	16.05%	-	-	-3.28%	02/11/22
Blended Benchmark Returns	-3.29%	7.95%	16.74%	-	-	-3.11%	
Difference	-0.18%	-2.02%	-0.69%	-	-	-0.17%	
2034/2035 Enrollment Portfolio ESG	-3.58%	5.77%	-6.91%	-	-	-3.47%	02/11/22
Blended Benchmark Returns	-3.27%	7.18%	-8.58%	-	-	-3.27%	
Difference	-0.31%	-1.41%	1.67%	-	-	-0.20%	
2032/2033 Enrollment Portfolio ESG	-3.48%	5.13%	14.32%	-	-	-3.59%	02/11/22
Blended Benchmark Returns	-3.24%	7.06%	15.12%	-	-	-3.41%	
Difference	-0.24%	-1.93%	-0.80%	-	-	-0.18%	
2030/2031 Enrollment Portfolio ESG	-3.40%	4.46%	13.03%	-	-	-3.90%	02/11/22
Blended Benchmark Returns	-3.18%	6.24%	13.71%	-	-	-3.77%	
Difference	-0.22%	-1.78%	-0.68%	-	-	-0.13%	
2028/2029 Enrollment Portfolio ESG	-3.23%	3.45%	10.86%	-	-	-4.41%	02/11/22
Blended Benchmark Returns	-3.09%	4.99%	11.53%	-	-	-4.29%	
Difference	-0.14%	-1.54%	-0.67%	-	-	-0.12%	
2026/2027 Enrollment Portfolio ESG	-2.73%	2.77%	8.79%	-	-	-4.47%	02/11/22
Blended Benchmark Returns	-2.58%	4.15%	9.61%	-	-	-4.21%	
Difference	-0.15%	-1.38%	-0.82%	-	-	-0.26%	
2024/2025 Enrollment Portfolio ESG	-1.77%	2.61%	7.02%	-	-	-3.40%	02/11/22
Blended Benchmark Returns	-1.47%	4.05%	8.37%	-	-	-2.86%	
Difference	-0.30%	-1.44%	-1.35%	-	-	-0.54%	
Enrollment Year Portfolio ESG	-1.22%	1.88%	4.51%	-	-	-1.60%	02/11/22
Blended Benchmark Returns	-0.86%	3.29%	6.08%	-	-	-0.85%	
Difference	-0.36%	-1.41%	-1.57%	-	-	-0.75%	
<b>ESG Single Fund Investment Portfolios</b>							
Social Choice Equity Portfolio	-3.45%	8.60%	19.19%	8.78%	8.99%	11.87%	11/04/11
Benchmark Returns	-3.25%	12.39%	20.46%	9.38%	9.14%	12.61%	
Difference	-0.20%	-3.79%	-1.27%	-0.60%	-0.15%	-0.74%	
ESG International Equity Portfolio	-4.73%	7.01%	26.44%	-	-	-3.28%	02/11/22
Benchmark Returns	-4.11%	7.08%	25.65%	-	-	-3.82%	
Difference	-0.62%	-0.07%	0.79%	-	-	0.54%	
ESG Bond Portfolio	-3.17%	-1.78%	-0.11%	-	-	-7.20%	02/11/22
Benchmark Returns	-3.23%	-1.21%	0.64%	-	-	-6.89%	
Difference	0.06%	-0.57%	-0.75%	-	-	-0.31%	

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

# ESG Portfolios: Asset Allocation Fees, and Performance

ESG Enrollment Year Portfolios	Annual Asset Based Fees (bp)*	TIAA-CREF Social Choice Equity Fund	TIAA-CREF Social Choice International Equity Fund	Nuveen ESG Emerging Markets Equity ETF	Nuveen ESG US Aggregate Bond ETF	Nuveen ESG High Yield Corporate Bond ETF	TIAA-CREF Life Funding Agreement
Underlying Fund Expenses (bp)		18	37	36	15	30	N/A
2040-2041	28	56.00%	19.20%	4.80%	18.00%	2.00%	0.00%
2038-2039	28	56.00%	19.20%	4.80%	18.00%	2.00%	0.00%
2036-2037	28	53.30%	18.10%	4.60%	21.60%	2.40%	0.00%
2034-2035	28	50.40%	17.30%	4.30%	25.20%	2.80%	0.00%
2032-2033	27	47.70%	16.30%	4.00%	28.80%	3.20%	0.00%
2030-2031	27	42.00%	14.40%	3.60%	36.00%	4.00%	0.00%
2028-2029	26	33.60%	11.50%	2.90%	46.80%	5.20%	0.00%
2026-2027	23	25.20%	8.60%	2.20%	48.60%	5.40%	10.00%
2024-2025	19	17.50%	6.00%	1.50%	36.00%	4.00%	35.00%
Enrollment	15	10.50%	3.60%	0.90%	31.50%	3.50%	50.00%
Fund's Performance vs Benchmk Q3 2023 (bp)		(18)	(58)	(20)	5	(3)	(70)

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 Q3 2023 (bp)
Social Choice Equity Portfolio	23	100.00%	TIAA-CREF Social Choice Equity Fund	(18)
ESG International Equity Portfolio	42	100.00%	TIAA-CREF Social Choice International Equity Fund	(2)
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

TIAA-CREF FUNDS	Average Annual Total Return						3-Year Standard Deviation	Fund Incept. Date
	3 Month	YTD	1 Year	3 Year	5 Year	Life		
T-C Bond Index Fund	-3.25%	-0.94%	0.64%	-5.30%	-0.01%	1.86%	6.34%	09/14/2009
Bloomberg U.S. Aggregate Bond Index	-3.23%	-1.21%	0.64%	-5.21%	0.10%	2.02%	6.29%	
Difference	<b>-0.02%</b>	<b>0.27%</b>	<b>0.00%</b>	<b>-0.09%</b>	<b>-0.11%</b>	<b>-0.16%</b>		
T-C Emerging Markets Equity Index Fund*	-3.58%	1.53%	11.42%	-2.29%	0.31%	1.99%	19.15%	08/31/2010
MSCI Emerging Markets® Index	-2.93%	1.82%	11.70%	-1.73%	0.55%	2.32%	18.85%	
Difference	<b>-0.65%</b>	<b>-0.29%</b>	<b>-0.28%</b>	<b>-0.56%</b>	<b>-0.24%</b>	<b>-0.33%</b>		
T-C Equity Index Fund	-3.27%	12.34%	20.38%	9.36%	9.11%	6.92%	19.55%	07/01/1999
Russell 3000 Index	-3.25%	12.39%	20.46%	9.39%	9.14%	6.98%	19.59%	
Difference	<b>-0.02%</b>	<b>-0.05%</b>	<b>-0.08%</b>	<b>-0.03%</b>	<b>-0.03%</b>	<b>-0.06%</b>		
T-C International Equity Index Fund*	-4.81%	6.65%	25.98%	5.67%	3.30%	6.81%	18.88%	10/01/2002
MSCI EAFE Index	-4.11%	7.08%	25.65%	5.76%	3.24%	6.77%	18.16%	
Difference	<b>-0.70%</b>	<b>-0.43%</b>	<b>0.33%</b>	<b>-0.09%</b>	<b>0.06%</b>	<b>0.04%</b>		
T-C S&P 500 Index Fund	-3.29%	13.02%	21.54%	10.10%	9.87%	10.09%	19.22%	10/01/2002
S&P 500 Index	-3.27%	13.07%	21.62%	10.16%	9.92%	10.17%	19.23%	
Difference	<b>-0.02%</b>	<b>-0.05%</b>	<b>-0.08%</b>	<b>-0.06%</b>	<b>-0.05%</b>	<b>-0.08%</b>		
T-C Quant Small Cap Equity Fund	-3.93%	4.95%	13.53%	13.62%	4.57%	9.86%	22.21%	10/01/2002
Russell 2000 Index	-5.13%	2.54%	8.93%	7.17%	2.40%	9.26%	22.84%	
Difference	<b>1.20%</b>	<b>2.41%</b>	<b>4.60%</b>	<b>6.45%</b>	<b>2.17%</b>	<b>0.60%</b>		
T-C Social Choice Equity Fund	-3.43%	8.67%	19.28%	8.86%	9.06%	6.71%	19.59%	07/01/1999
Russell 3000 Index	-3.25%	12.39%	20.46%	9.39%	9.14%	6.98%	19.59%	
Difference	<b>-0.18%</b>	<b>-3.72%</b>	<b>-1.18%</b>	<b>-0.53%</b>	<b>-0.08%</b>	<b>-0.27%</b>		
T-C Social Choice International Equity Fund*	-4.69%	7.06%	26.58%	5.97%	3.85%	4.31%	19.23%	12/04/2015
MSCI EAFE Index	-4.11%	7.08%	25.65%	5.76%	3.24%	3.77%	18.16%	
Difference	<b>-0.58%</b>	<b>-0.02%</b>	<b>0.93%</b>	<b>0.21%</b>	<b>0.61%</b>	<b>0.54%</b>		
Nuveen ESG Emerging Markets Equity ETF	-3.55%	2.70%	12.67%	-0.50%	1.92%	2.39%	19.20%	06/06/2017
TIAA ESG Emerging Markets Equity Index	-3.35%	3.28%	13.60%	0.31%	2.72%	3.18%	19.27%	
Difference	<b>-0.20%</b>	<b>-0.58%</b>	<b>-0.93%</b>	<b>-0.81%</b>	<b>-0.80%</b>	<b>-0.79%</b>		
Nuveen ESG US Aggregate Bond ETF	-3.17%	-0.98%	0.53%	-5.49%	-	-0.33%	6.26%	09/29/2017
Bloomberg MSCI US Aggregate ESG Select Index	-3.22%	-1.20%	0.67%	-5.21%	-	-	6.28%	
Difference	<b>0.05%</b>	<b>0.22%</b>	<b>-0.14%</b>	<b>-0.28%</b>	<b>-</b>	<b>-</b>		
Nuveen ESG High Yield Corporate Bond ETF	-0.25%	4.25%	8.92%	-	-	-	-	09/25/2019
Bloomberg MSCI U.S. HY Very Liquid ESG Select Index	-0.22%	4.43%	9.32%	-	-	-	-	
Difference	<b>-0.03%</b>	<b>-0.18%</b>	<b>-0.40%</b>	<b>-</b>	<b>-</b>	<b>-</b>		

# Underlying Funds vs. Benchmarks

## Average Annual Total Return

DFA FUNDS	3 Month	YTD	1 Year	3 Year	5 Year	Life	3-Year Standard Deviation	Fund Incept. Date
DFA Emerging Markets Core Equity Portfolio*	-1.52%	7.04%	18.30%	4.72%	3.21%	6.43%	18.50%	04/05/2005
MSCI Emerging Markets® Index	-2.93%	1.82%	11.70%	-1.73%	0.55%	5.53%	18.85%	
Difference	<b>1.41%</b>	<b>5.22%</b>	<b>6.60%</b>	<b>6.45%</b>	<b>2.66%</b>	<b>0.90%</b>		
DFA Large Cap International Portfolio*	-3.87%	6.87%	25.26%	6.73%	3.71%	5.46%	18.65%	07/17/1991
MSCI World Ex US Index	-4.10%	6.73%	24.00%	6.08%	3.44%	5.46%	18.10%	
Difference	<b>0.23%</b>	<b>0.14%</b>	<b>1.26%</b>	<b>0.65%</b>	<b>0.27%</b>	<b>0.00%</b>		
<b>METWEST FUNDS</b>								
MetWest Total Return Bond Fund	-3.51%	-1.36%	0.42%	-5.54%	0.14%	2.00%	7.06%	07/01/1999
Bloomberg U.S. Aggregate Bond Index	-3.23%	-1.21%	0.64%	-5.21%	0.10%	1.38%	6.29%	
Difference	<b>-0.28%</b>	<b>-0.15%</b>	<b>-0.22%</b>	<b>-0.33%</b>	<b>0.04%</b>	<b>0.62%</b>		
<b>PIMCO FUNDS</b>								
PIMCO Income Fund	-0.54%	3.23%	6.76%	0.67%	2.38%	6.52%	6.04%	03/30/2007
Bloomberg U.S. Aggregate Bond Index	-3.23%	-1.21%	0.64%	-5.21%	0.10%	2.67%	6.29%	
Difference	<b>2.69%</b>	<b>4.44%</b>	<b>6.12%</b>	<b>5.88%</b>	<b>2.28%</b>	<b>3.85%</b>		
PIMCO Real Return Fund	-2.32%	-0.79%	1.89%	-1.94%	2.17%	4.99%	7.34%	01/29/1997
Bloomberg U.S. TIPS Index	-2.60%	-0.78%	1.25%	-1.98%	2.12%	-	7.10%	
Difference	<b>0.28%</b>	<b>-0.01%</b>	<b>0.64%</b>	<b>0.04%</b>	<b>0.05%</b>	<b>-</b>		
<b>T. ROWE PRICE FUNDS</b>								
T. Rowe Price Floating Rate Fund	2.92%	9.03%	12.30%	5.45%	4.17%	4.88%	4.77%	01/31/2008
S&P/LSTA Performing Loan Index	3.58%	10.44%	13.45%	6.32%	4.64%	5.21%	5.06%	
Difference	<b>-0.66%</b>	<b>-1.41%</b>	<b>-1.15%</b>	<b>-0.87%</b>	<b>-0.47%</b>	<b>-0.33%</b>		
T. Rowe Price Large Cap Growth Fund	-2.00%	27.96%	27.73%	4.92%	9.81%	10.76%	23.21%	10/31/2001
Russell 1000 Growth Index	-3.13%	24.98%	27.72%	7.98%	12.42%	9.71%	23.06%	
Difference	<b>1.13%</b>	<b>2.98%</b>	<b>0.01%</b>	<b>-3.06%</b>	<b>-2.61%</b>	<b>1.05%</b>		
T. Rowe Price Large Cap Value Fund	-3.18%	-1.40%	10.56%	12.57%	6.26%	7.92%	17.91%	3/31/2000
Russell 1000 Value Index	-3.16%	1.79%	14.44%	11.06%	6.23%	6.80%	17.94%	
Difference	<b>-0.02%</b>	<b>-3.19%</b>	<b>-3.88%</b>	<b>1.51%</b>	<b>0.03%</b>	<b>1.12%</b>		
<b>VANGUARD FUNDS</b>								
Vananguard ST Infl-Protected Securities Index Fund	0.43%	2.01%	3.31%	1.89%	2.77%	1.45%	3.21%	10/16/2012
Bloomberg US TIPS 0-5 Year Index	0.43%	1.92%	3.24%	1.90%	2.80%	1.45%	3.23%	
Difference	<b>0.00%</b>	<b>0.09%</b>	<b>0.07%</b>	<b>-0.01%</b>	<b>-0.03%</b>	<b>0.00%</b>		
Vanguard Real Estate Index Fund	-8.50%	-5.34%	-1.22%	2.34%	2.46%	7.27%	20.42%	12/2/2003
MSCI US Investable Market Real Estate 25/50 Index	-8.50%	-5.26%	-1.14%	2.45%	2.54%	-	20.41%	
Difference	<b>0.00%</b>	<b>-0.08%</b>	<b>-0.08%</b>	<b>-0.11%</b>	<b>-0.08%</b>	<b>-</b>		
Vanguard High-Yield Corporate Fund	-0.20%	4.14%	9.21%	0.97%	2.82%	5.74%	8.64%	11/12/2001
Bloomberg US HY Ba/B 2% Issuer Cap TR USD	0.17%	5.01%	9.79%	1.28%	3.27%	6.58%	9.06%	
Bloomberg US Corporate High Yield Index	0.46%	5.86%	10.28%	1.76%	2.96%	-	8.99%	
Difference	<b>-0.37%</b>	<b>-0.87%</b>	<b>-0.58%</b>	<b>-0.31%</b>	<b>-0.45%</b>	<b>-0.84%</b>		

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



TIAA-CREF Tuition Financing, Inc.



# ScholarShare 529 College Savings Plan

December 19, 2023

3Q 2023 Investment Performance  
Status Report

1. Economic and Market Update
2. 529 Industry Data
3. Review of ScholarShare Policy
4. Summary of Performance Status
5. Portfolio Management Overview
6. Year-of-Enrollment Option Analysis
7. Active Underlying Fund Analysis
8. Passive Underlying Fund Analysis
9. T. Life Funding Agreement Review
10. Appendix

### Takeaways

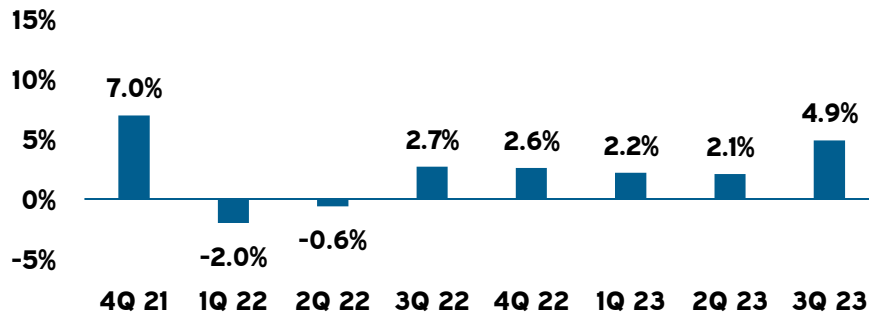
- The third quarter of 2023 saw broad market declines across equities and fixed income markets. Shifting expectations towards “higher-for-longer” rates as well as weakening economic data abroad weighed on returns over the period, though year-to-date returns remain positive for most asset classes.
- Equities broadly saw negative returns over the quarter. Domestically, Large Cap continued to outperform Small Cap stocks while growth outperformed value for the quarter as the continued outperformance of mega-cap tech stocks was the primary factor. T Rowe Price Large Cap Growth was the top performing actively managed domestic equity fund for the quarter, returning -2.0%. Non-US Developed markets trailed the US over the quarter, as the strong US dollar continued to weigh on returns. Emerging Markets, while also declining over the period due to the strong dollar and weak economic data from China, fared better than their developed counterparts. DFA Large Cap International returned -3.9%, whereas the DFA Emerging Markets Core Equity returned -1.5%.
- DFA Emerging Markets Core Equity was the top performing actively managed equity fund for the quarter, returning -1.5%, outpacing its benchmark by 1.4%.
- The T Rowe Price Floating Rate had the strongest absolute performance amongst actively managed fixed income fund for the quarter, returning 2.9%, versus benchmark return of 3.6%.
- 7 of the 12 active managers in the ScholarShare plan outperformed or met their benchmark returns.

# **Economic and Market Update**

## Data as of September 30, 2023

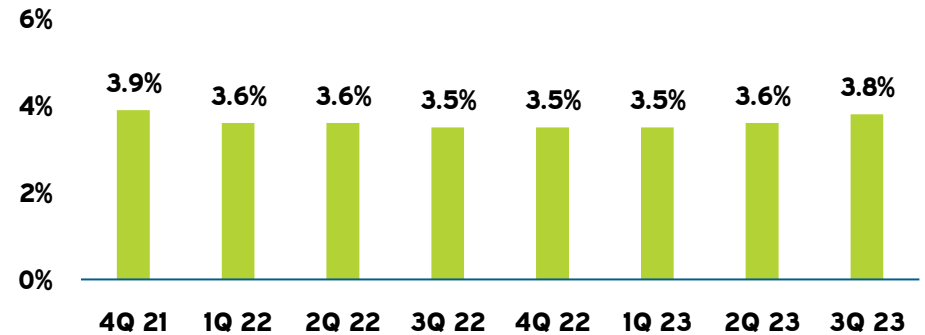
### Economic and Market Update

#### Quarterly Real GDP (Annualized)



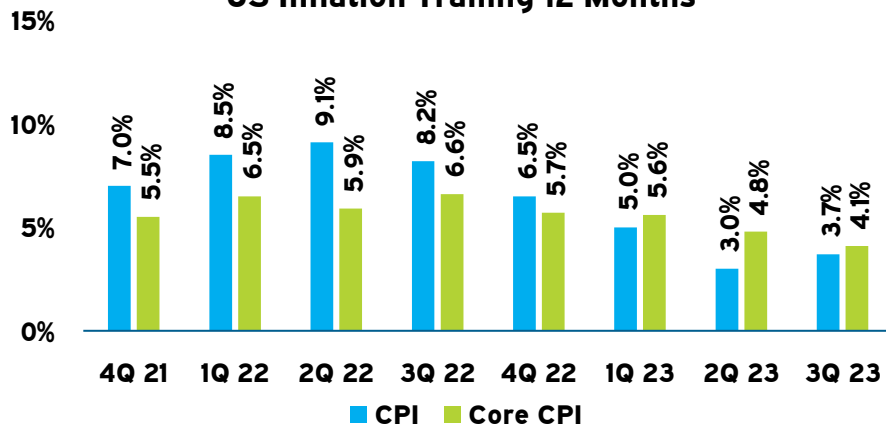
Source: Bureau of Economic Analysis. Data as of Q3 2023 represents the "advance" estimate. The Q3 2023 "second" estimate will be released November 29, 2023.

#### US Unemployment



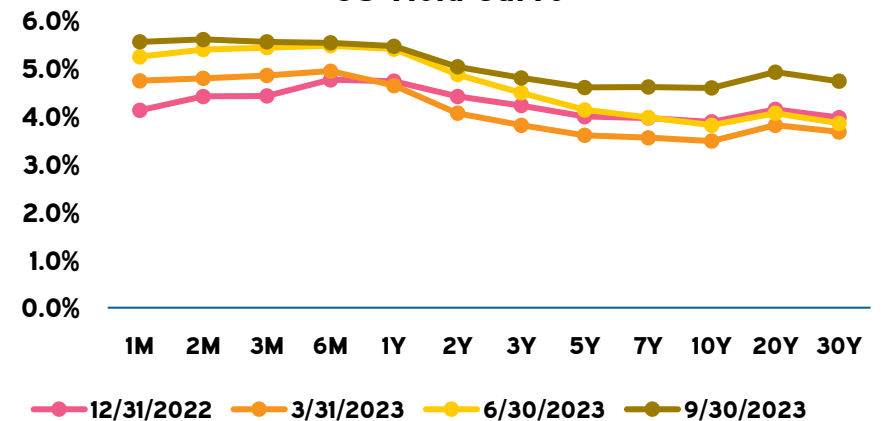
Source: Bureau of Labor Statistics. Data as of September 30, 2023. Seasonally adjusted.

#### US Inflation Trailing 12 Months



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

#### US Yield Curve



Source: US Department of the Treasury.

### Index Returns

	QTR (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
<b>Domestic Equity</b>					
S&P 500	(3.3)	21.6	10.2	9.9	11.9
Russell 3000	(3.3)	20.5	9.4	9.1	11.3
Russell 1000	(3.2)	21.2	9.5	9.6	11.6
Russell 1000 Growth	(3.1)	27.7	8.0	12.4	14.5
Russell 1000 Value	(3.2)	14.4	11.1	6.2	8.5
Russell MidCap	(4.7)	13.5	8.1	6.4	9.0
Russell MidCap Growth	(5.2)	17.5	2.6	7.0	9.9
Russell MidCap Value	(4.5)	11.1	11.0	5.2	7.9
Russell 2000	(5.1)	8.9	7.2	2.4	6.7
Russell 2000 Growth	(7.3)	9.6	1.1	1.6	6.7
Russell 2000 Value	(3.0)	7.8	13.3	2.6	6.2
<b>Non-US Equity</b>					
MSCI ACWI (ex. US)	(4.1)	24.0	6.1	3.4	3.8
MSCI EAFE	(4.1)	25.7	5.8	3.2	3.8
MSCI EAFE Growth	(8.6)	20.0	0.4	3.2	4.4
MSCI EAFE Value	0.6	31.5	11.1	2.8	3.0
MSCI EAFE (Local Currency)	(1.3)	20.3	10.8	5.7	6.8
MSCI EAFE Small Cap	(3.5)	17.9	1.1	0.8	4.3
MSCI Emerging Markets	(2.9)	11.7	(1.7)	0.6	2.1
MSCI Emg Mkts (Local Currency)	(1.4)	10.9	0.6	2.7	5.0
MSCI China	(1.9)	5.2	(14.3)	(4.2)	1.7
<b>Fixed Income</b>					
Bloomberg Universal	(2.9)	1.6	(4.7)	0.3	1.4
Bloomberg Aggregate	(3.2)	0.6	(5.2)	0.1	1.1
Bloomberg US TIPS	(2.6)	1.3	(2.0)	2.1	1.7
Bloomberg High Yield	0.5	10.3	1.8	3.0	4.2
JPM GBI-EM Global Diversified	(3.3)	13.1	(2.7)	0.0	(0.8)
<b>Other</b>					
FTSE NAREIT Equity	(7.1)	3.0	5.8	2.8	6.0
Bloomberg Commodity Index	4.7	(1.3)	16.2	6.1	(0.8)

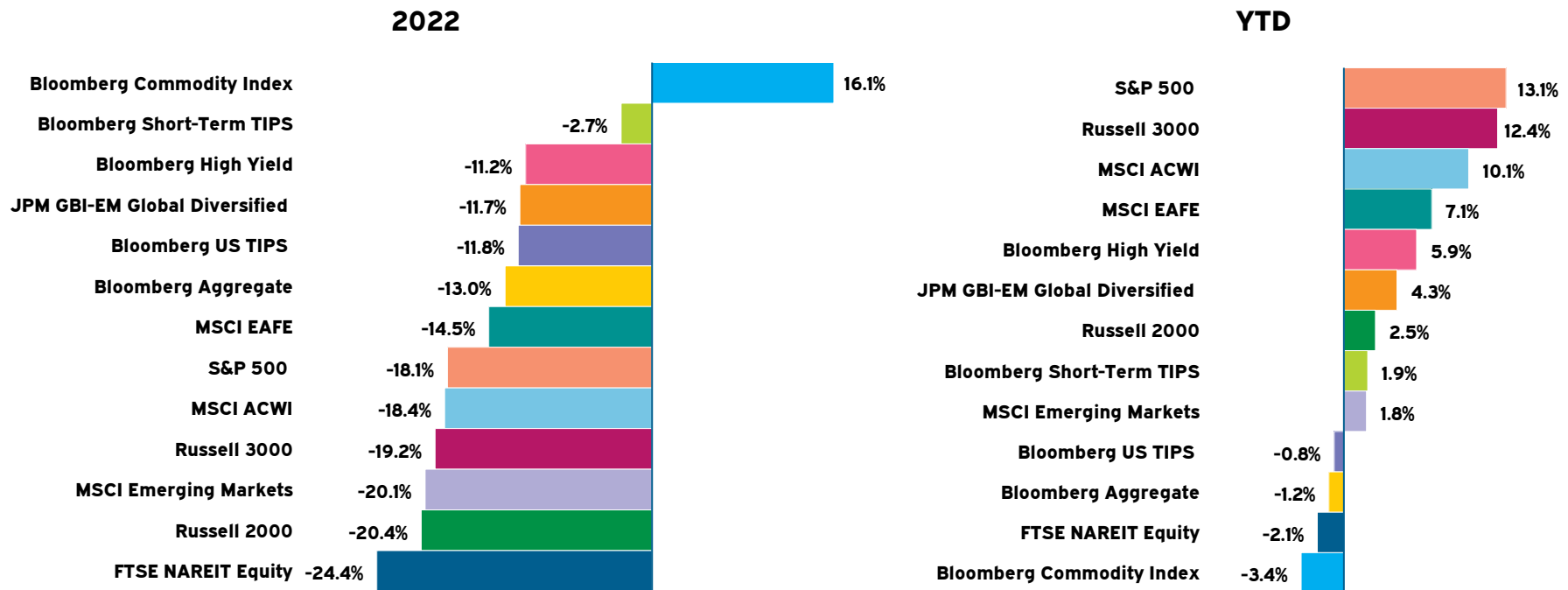
#### During the Quarter:

- Following a strong start to Q3, markets declined in August and September as expectations shifted to the Fed keeping interest rates higher for longer. The uncertainty surrounding the geopolitical risks with the wars in Ukraine and Israel and slowing global growth also contributed to the declines.
  - Volatility continued as inflation remained elevated, unemployment stayed historically low and weak international data, specifically Europe and China, weighed on results.
- Despite a rough Q3, returns remain positive year-to-date apart from fixed income markets as rates rose at both ends of the curve.
- The FOMC raised its federal funds rate target range by 0.25% in July to 5.25% to 5.50% but held the target range steady in September. Investors are expecting a pause from the FOMC in November.
- The rebound in equities ended in Q3 as most asset classes declined.
  - US equities (-3.3%) continue to outpace non-US equities (-3.8%).
  - US Large Caps outperformed US Small Caps as investors favored larger, higher quality companies in most industries
  - Value outpaced Growth across all market capitalizations in the US except for Large Cap, which were largely the same.
  - YTD Large Cap Growth kept its massive lead over value despite pressure on Big Tech from surging rates.
  - Within Non-US, Emerging Markets outperformed Developed Markets.
- Broad fixed income returns were mostly negative.
  - US Treasury yields rose mainly due to higher policy expectations and the higher for longer narrative.
- Diversifying asset classes produced mixed results.
  - Commodities were up (+4.7%).
  - REITs decreased (-7.1%)

### Commentary

- After a strong July, global assets turned negative in August and September as expectations shifted to the Fed keeping interest rates higher for longer. Weakening economic data from Europe and China, as well as further instability in the Chinese real estate sector and a strong US dollar, weighed on results.
- The Federal Open Markets Committee (FOMC) increased policy rates in July by 0.25% to a range of 5.25% - 5.5% and kept rates at that level at their September meeting. Markets are now largely expecting the FOMC to maintain interest rates at this level through the first half of next year.
  - US equity markets (Russell 3000 index) fell in the third quarter (-3.3%), bringing the year-to-date gains to 12.4%. The technology sector remains the key driver of results this year, helped by artificial intelligence optimism.
  - Non-US developed equity markets declined more than the US in the third quarter (MSCI EAFE -4.1%) with the strength of the US dollar adding 2.8% to the quarterly declines. This widened the gap between US and international developed equities for the year (12.4% versus 7.1%).
  - Emerging market equities experienced the smallest declines in the third quarter (-2.9%). Negative results were driven by China and again the strong US dollar. Emerging markets continue to significantly trail developed market equities year-to-date, returning just 1.8%, again driven by China.
  - Interest rates generally rose over the quarter, particularly for longer-dated maturities. The broad US bond market fell (-3.2%) for the quarter and turned negative (-1.2%) year-to-date, as higher income has offset capital losses from rising rates.
- For the rest of this year, the paths of inflation and monetary policy, slowing global growth, and the wars in Ukraine and Israel will all be key.

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



→ After a particularly difficult 2022, most public market assets are up thus far in 2023, led by developed market equities.

→ While hopes for a soft landing remain in place, the prospect of higher interest rates for longer weighed on market sentiment in August and September.

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



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

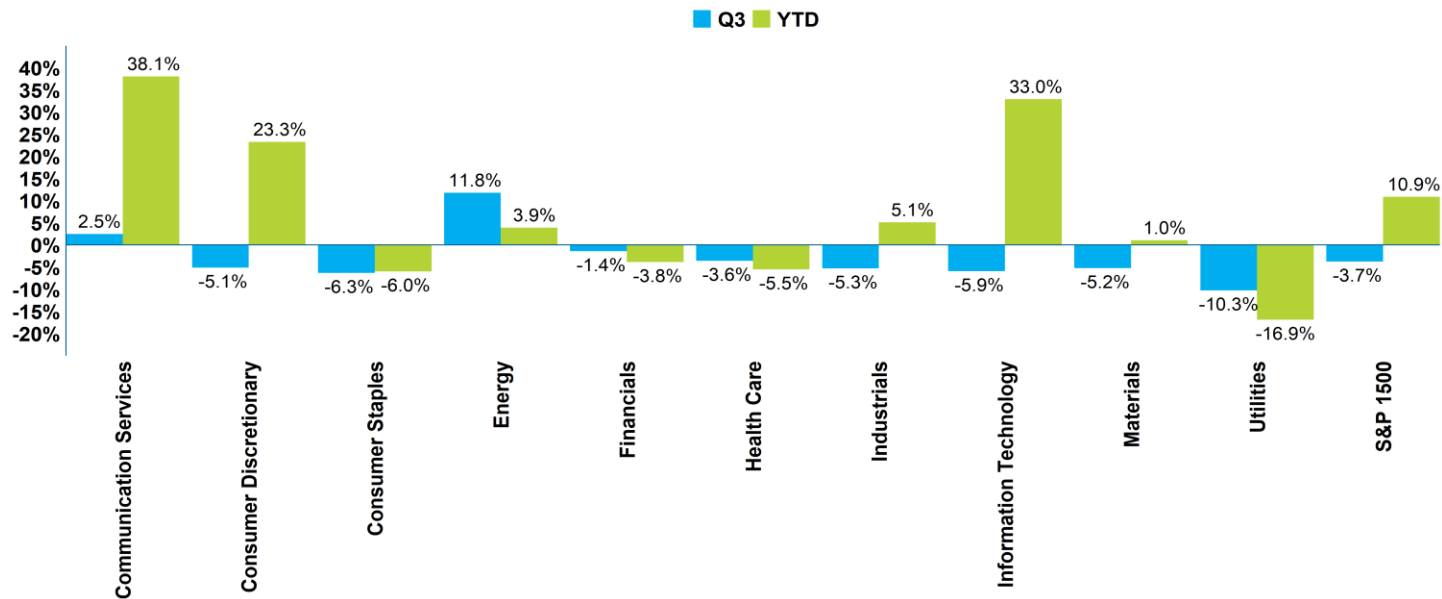
Domestic Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-4.8	-3.3	13.1	21.6	10.2	9.9	11.9
Russell 3000	-4.8	-3.3	12.4	20.5	9.4	9.1	11.3
Russell 1000	-4.7	-3.1	13.0	21.2	9.5	9.6	11.6
Russell 1000 Growth	-5.4	-3.1	25.0	27.7	8.0	12.4	14.5
Russell 1000 Value	-3.9	-3.2	1.8	14.4	11.1	6.2	8.4
Russell MidCap	-5.0	-4.7	3.9	13.4	8.1	6.4	9.0
Russell MidCap Growth	-4.9	-5.2	9.9	17.5	2.6	7.0	9.9
Russell MidCap Value	-5.1	-4.5	0.5	11.0	11.0	5.2	7.9
Russell 2000	-5.9	-5.1	2.5	8.9	7.2	2.4	6.6
Russell 2000 Growth	-6.6	-7.3	5.2	9.6	1.1	1.6	6.7
Russell 2000 Value	-5.2	-3.0	-0.5	7.8	13.3	2.6	6.2

#### US Equities: The Russell 3000 Index fell 3.3% in the third quarter but is up 12.4% YTD.

- US stocks fell 3.3% in the third quarter as healthy economic data and comments from the Fed caused investors to expect interest rates to remain higher for longer.
- Large cap stocks outperformed small cap stocks during the quarter, bringing their year-to-date outperformance to over 10%. The so called “Magnificent Seven” within the large cap market drove most of this outperformance despite a weak third quarter.
- Energy strongly led the way during the quarter posting double-digit gains while most other sectors declined. Oil prices rose after Saudi Arabia and Russia extended output cuts.

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

### S&P 1500 Sector Returns<sup>1</sup>



→ Except for energy, which benefited from rising oil prices, all sectors were down in the third quarter.

→ So far in 2023, the communication services (+38.1%) and technology (+33.0%) sectors had the best results on artificial intelligence optimism. Given the continued strength in the US consumer the consumer discretionary sector followed (+23.3%), while more defensive sectors like utilities (-16.9%) and consumer staples (-6.0%) have trailed.

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

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

Foreign Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-3.2	-3.8	5.3	20.4	3.7	2.6	3.3
MSCI EAFE	-3.4	-4.1	7.1	25.6	5.8	3.2	3.8
MSCI EAFE (Local Currency)	-1.1	-1.3	10.7	20.3	10.8	5.7	6.8
MSCI EAFE Small Cap	-4.4	-3.5	1.8	17.9	1.1	0.8	4.3
MSCI Emerging Markets	-2.6	-2.9	1.8	11.7	-1.7	0.6	2.1
MSCI Emerging Markets (Local Currency)	-1.8	-1.4	4.0	10.9	0.6	2.7	4.9
MSCI China	-2.8	-1.9	-7.3	5.2	-14.3	-4.2	1.7

**Foreign Equity: Developed international equities (MSCI EAFE) fell 4.1% in the third quarter bringing the YTD gain to 7.1%. Emerging market equities (MSCI EM) fell 2.9% in the period, rising 1.8% YTD.**

- Outside of the US, equities were also weak during the third quarter with the continued strength of the US dollar being a key driver.
- Eurozone shares felt pressure from slowing GDP growth and an interest rate hike by the ECB, although inflation continued to ease. By contrast, the UK saw modest gains amid promising economic data including slowing inflation and GDP back around pre-pandemic levels. Japan outperformed regional peers for the quarter due in part to strong earnings.
- Emerging market performance, while negative, outpaced developed peers. Chinese markets saw losses in-line with other emerging market countries, driven largely by unease surrounding property company Evergrande and a continued lackluster reopening of the economy.

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

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

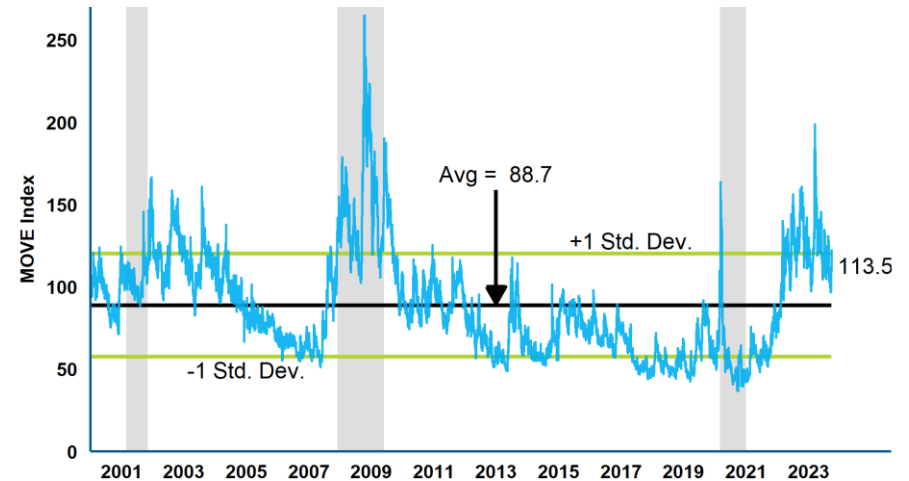
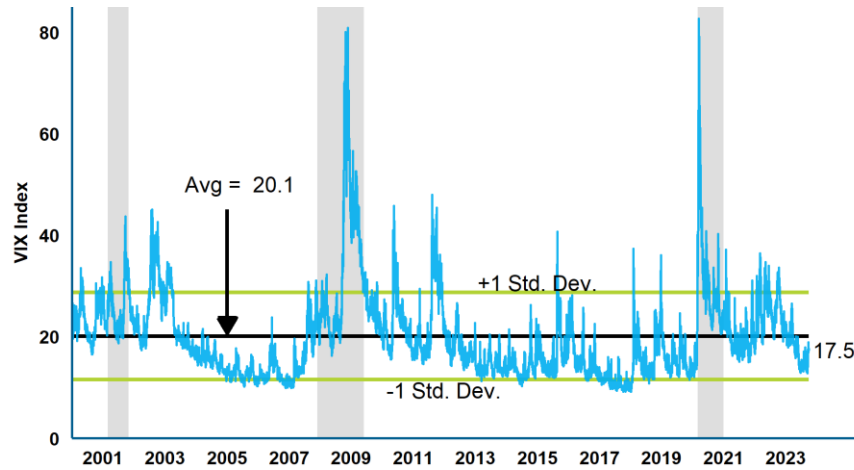
Fixed Income	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-2.4	-2.9	-0.6	1.6	-4.7	0.3	1.4	5.7	6.0
Bloomberg Aggregate	-2.5	-3.2	-1.2	0.6	-5.2	0.1	1.1	5.4	6.2
Bloomberg US TIPS	-1.8	-2.6	-0.8	1.2	-2.0	2.1	1.7	5.0	6.6
Bloomberg Short-term TIPS	-0.2	0.4	1.9	3.2	1.9	2.8	1.7	5.4	2.5
Bloomberg High Yield	-1.2	0.5	5.9	10.3	1.8	3.0	4.2	8.9	4.0
JPM GBI-EM Global Diversified (USD)	-3.4	-3.3	4.3	13.1	-2.7	0.0	-0.8	6.9	4.9

**Fixed Income: The Bloomberg Universal index declined 2.9% in the third quarter and -0.6% YTD.**

- The downgrade of US government debt from AAA to AA+ by Fitch combined with expectations for higher borrowing put upward pressure on longer-term rates for the quarter and weighed on overall results. Expectations for policy rates to remain higher for longer than previously expected also contributed to the decline in bonds.
- The broad US bond market (Bloomberg Aggregate) fell 3.2% for the quarter bringing YTD results into negative territory. The broader TIPS index fell by 2.6%, while the less interest-rate-sensitive short-term TIPS index outperformed most sectors, up 0.4%.
- High yield bonds were the strongest quarterly performers, up 0.5%, while emerging market bonds were the weakest performer, falling 3.3%. The two asset classes remain the top performers for the year as risk appetite in credit markets remains robust.

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

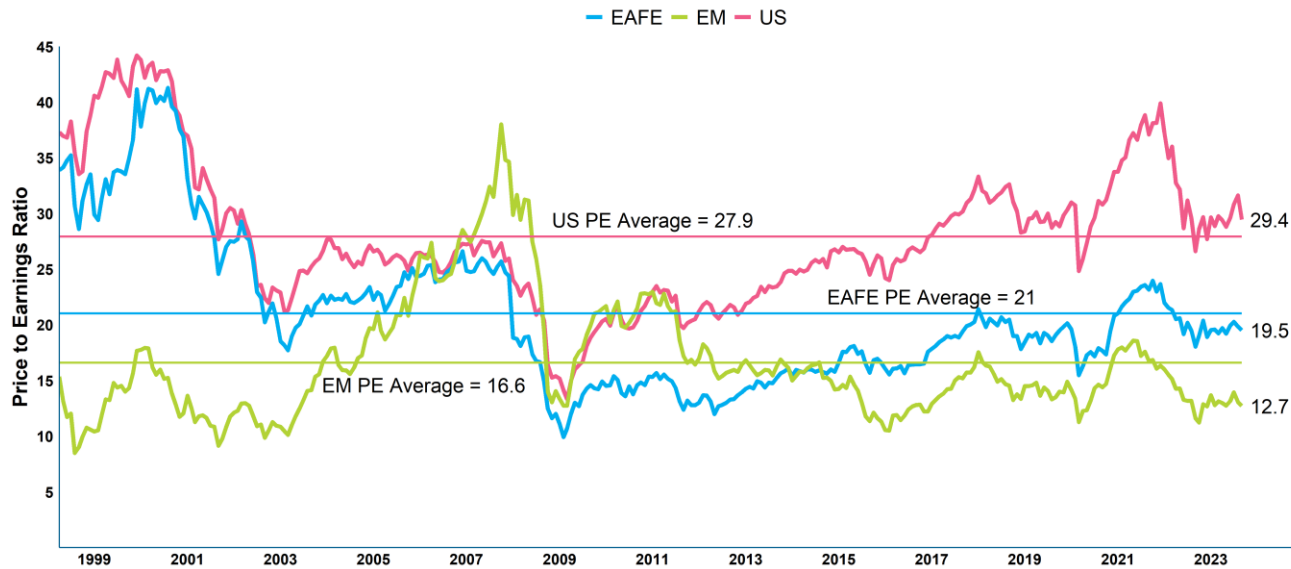
### Equity and Fixed Income Volatility<sup>1</sup>



- Volatility in equities (VIX) increased over the quarter but finished at a level below the long-term average. The recent increase in equity volatility has largely been driven by investors coming to terms that interest rates might remain higher for a longer period.
- In comparison, volatility in the bond market (MOVE) remains well above its long-run average (88.7) after last year's historic losses and due to continued policy uncertainty. Over the quarter, fixed income volatility finished slightly higher compared to where it started, like equities, driven by expectations for rates to stay higher for longer.

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

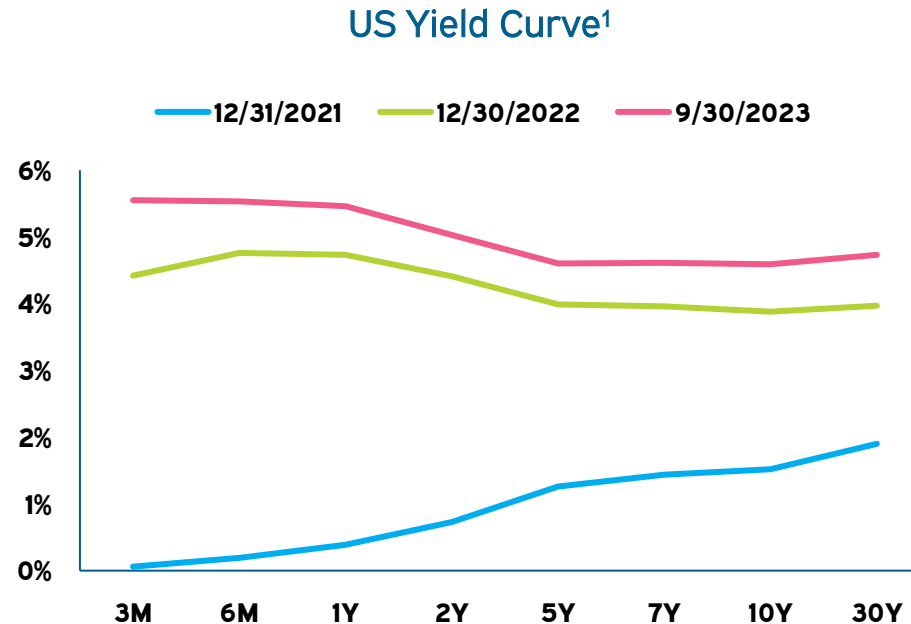
**Equity Cyclically Adjusted P/E Ratios<sup>1</sup>**



→ Given the strong technology-driven rally this year, the US equity price-to-earnings ratio increased above its long-run (21st century) average. With the equity market decline in August and September the P/E ratio fell from its recent peak.

→ International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average (close to one standard deviation below).

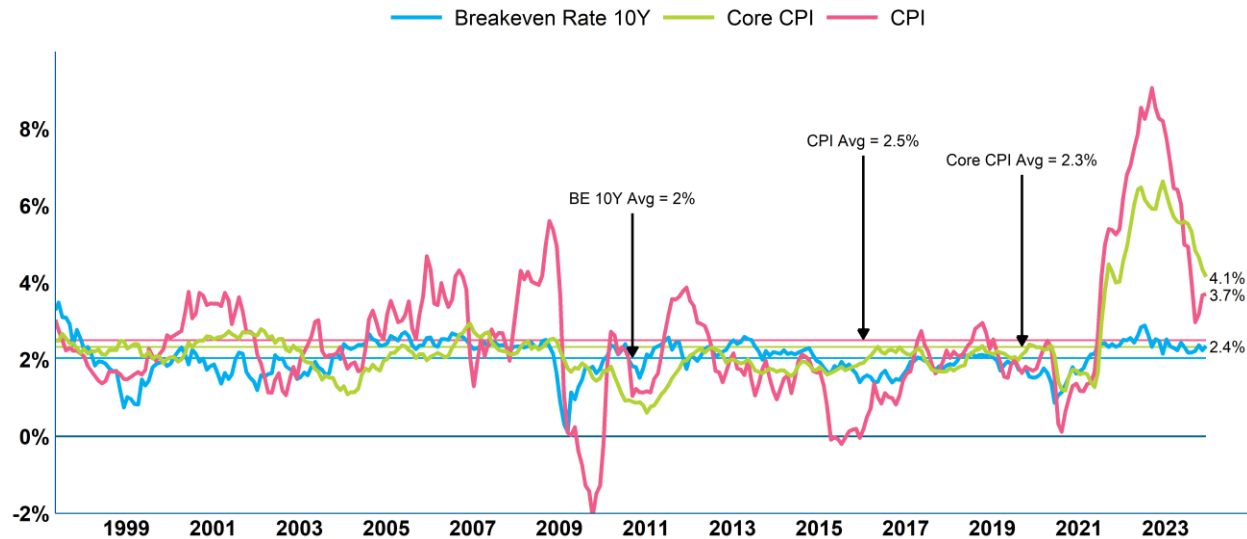
<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of September 2023. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.



- Overall rates have continued to increase this year, particularly at the policy sensitive front-end of the yield curve, but at much slower pace compared to last year.
- Over the quarter, very short-term interest rates (two years or less) increased only slightly as monetary policy has likely reached close to its terminal rate for this cycle. By contrast, longer-term rates rose dramatically as US debt was downgraded and investors came to terms with rates remaining higher for longer. The ten-year Treasury yield increased from 3.8% to 4.6% over the quarter.
- Because of the dynamic above, the yield curve's inversion decreased with the spread between two-year and ten-year Treasuries finishing the quarter at -0.47% (it started the quarter at -1.05%).

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

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



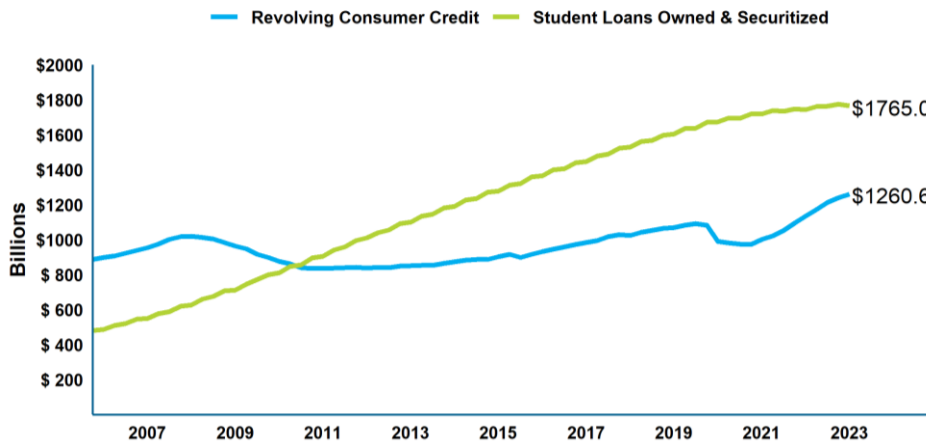
- After the steady decline in inflation from the June 2022 peak, consumer prices recently increased driven by energy prices.
- Year-over-year headline inflation was flat at 3.7% coming in slightly higher than expectations as improvements in energy prices were offset by higher shelter costs.
- Core inflation – excluding food and energy – continued its decline (4.3% to 4.1%) year-over-year. It remains stubbornly high, though, driven by shelter costs (+7.2%), particularly owners’ equivalent rent, and transportation services (+9.1%).
- Inflation expectations (breakevens) remain well below current inflation as investors continue to expect inflation to track back toward the Fed’s 2% average target.

<sup>1</sup> Source: FRED. Data is as September 30, 2023. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

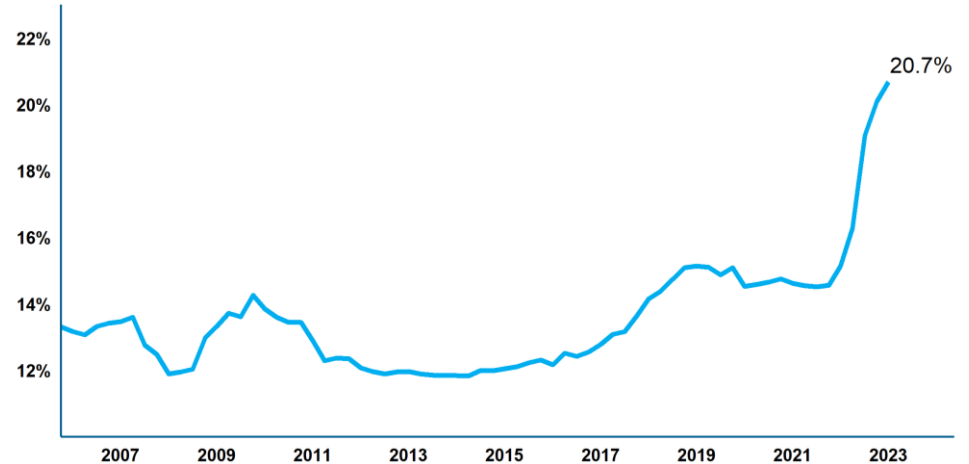


### US Consumer Under Stress<sup>1</sup>

#### Revolving Consumer Credit & Student Loans (\$B)



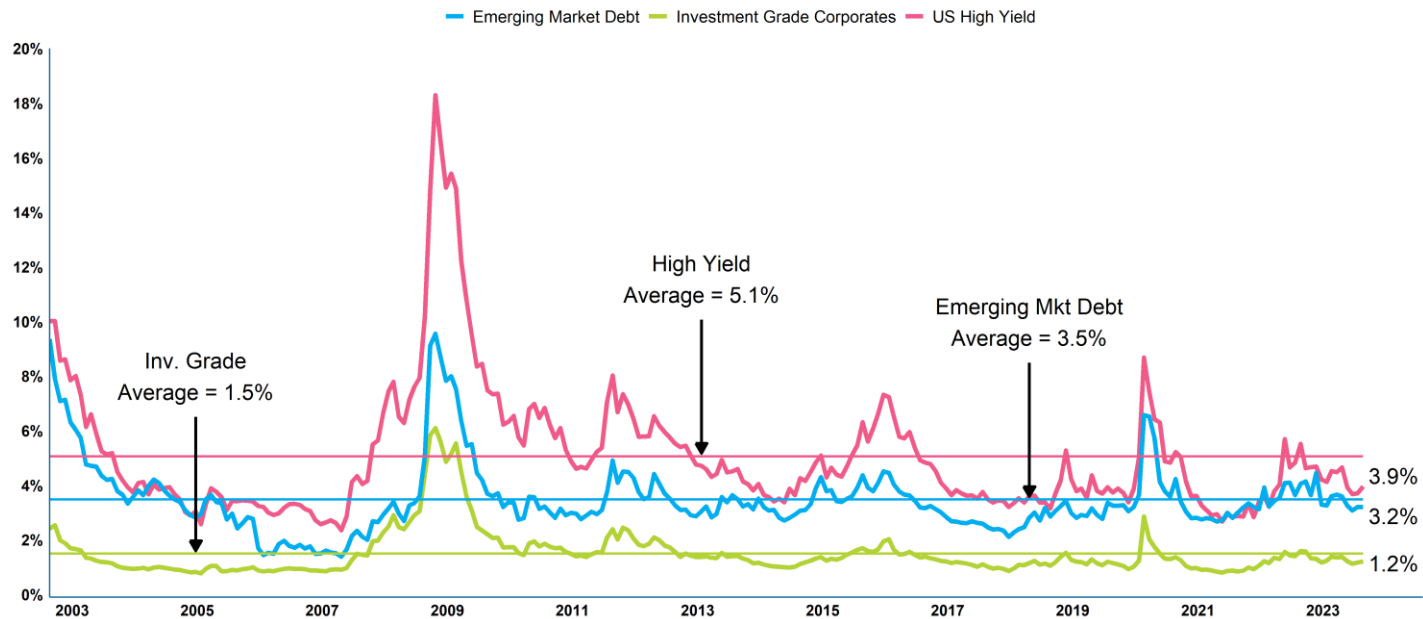
#### Consumer Credit Card Interest Rates (%)



- Despite the strong labor market and higher wages, pressures have started to build on the US consumer. This is an important consideration as consumer spending has been an important driver of economic growth.
- Revolving consumer credit surged to new highs in 2023 even as credit card interest rates hit levels not seen before (the prior peak was around 19% in the 1980s).
- The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially balanced by recently initiated repayment and forgiveness programs.
- As we look ahead, the strength of the US consumers will remain key as they make up most of domestic growth (GDP).

<sup>1</sup> Source: FRED. The most recent data is as June 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

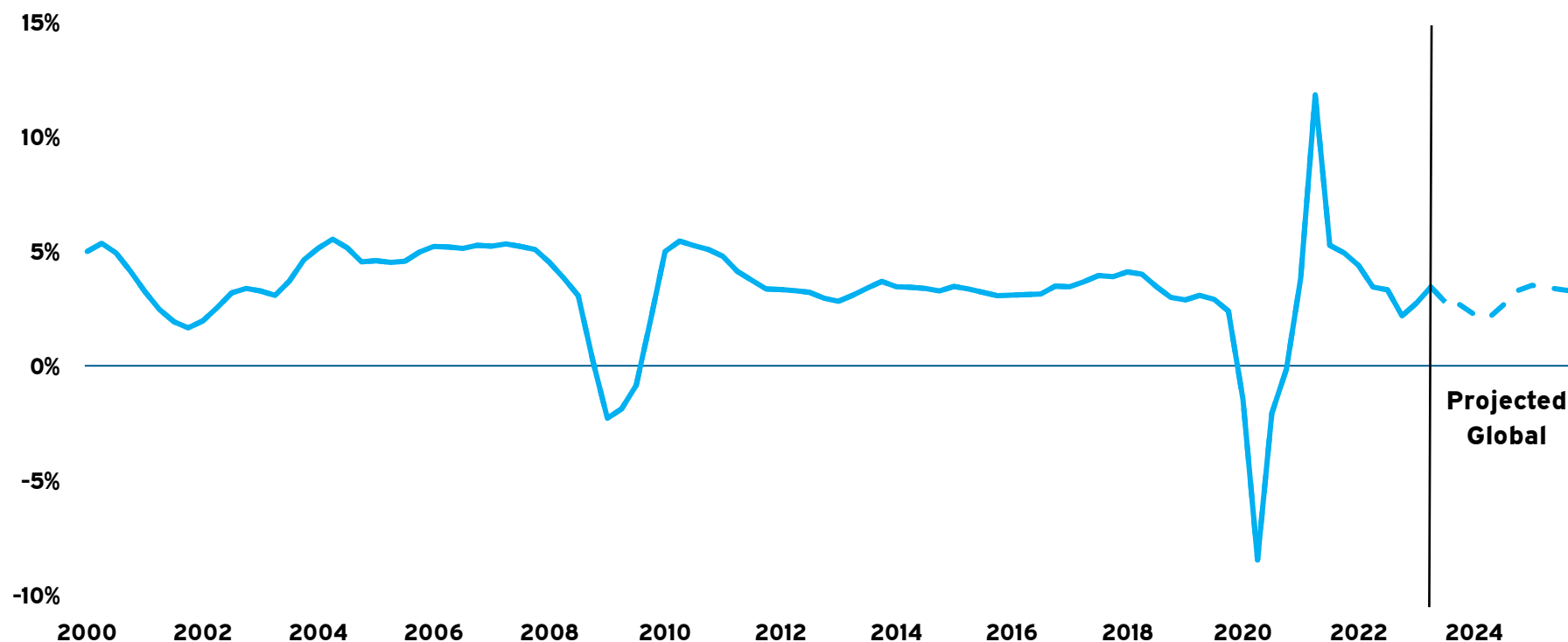
**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- Credit spreads (the added yield above a comparable maturity Treasury) largely remained unchanged over the quarter.
- High yield spreads remain well below the long-term average given the overall risk appetite this year. Investment grade and emerging market spreads are also below their respective long-term averages, but by smaller margins.

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

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

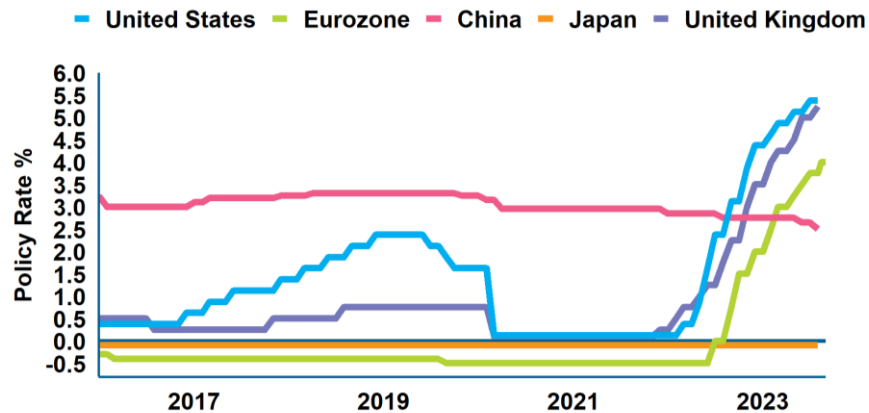


- Global economies are expected to slow this year compared to 2022. The risk of recession remains elevated given policymakers' aggressive tightening, but optimism has started to grow over some central banks potentially navigating a soft landing.
- The delicate balancing act of central banks trying to reduce inflation without dramatically disrupting labor markets and depressing economic growth, will remain key.

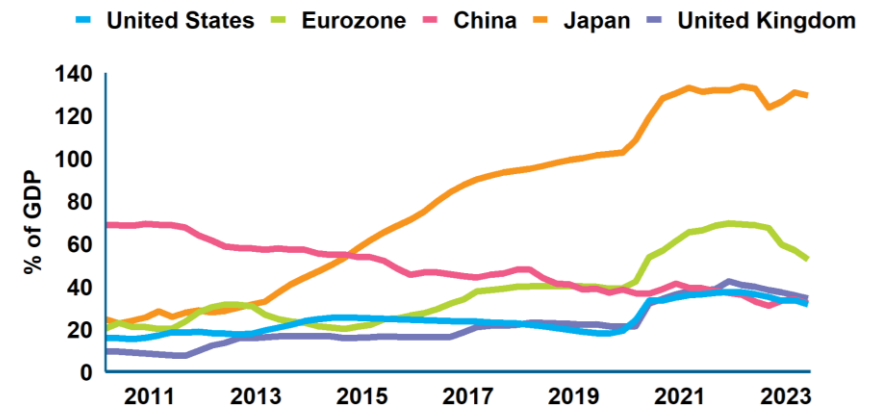
<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated September 2023.

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

#### Policy Rates



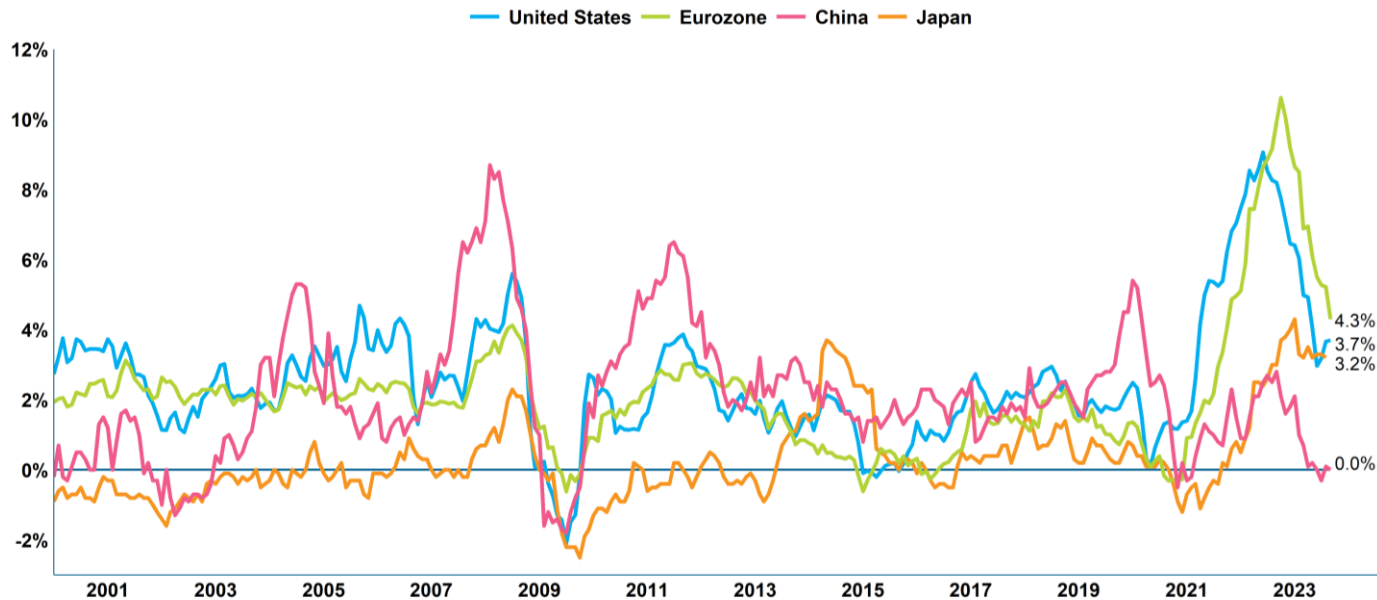
#### Balance Sheet as % of GDP



- Slowing inflation and growth have led to expectations for a reduction in the pace of aggressive policy tightening.
- In July the Fed raised rates another 25 basis points to a range of 5.25% to 5.50% and then kept rates at this level at their September meeting. Markets are expecting at most one more hike later this year.
- The European Central Bank also increased rates in July, with an additional hike in September, but rates remain lower than in the US. In Japan, expectations have increased that the BOJ will end its negative interest rate policy due to rising inflation.
- The central bank in China has continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Risks remain for a policy error as central banks attempt to balance bringing down inflation, maintaining financial stability, and supporting growth.

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

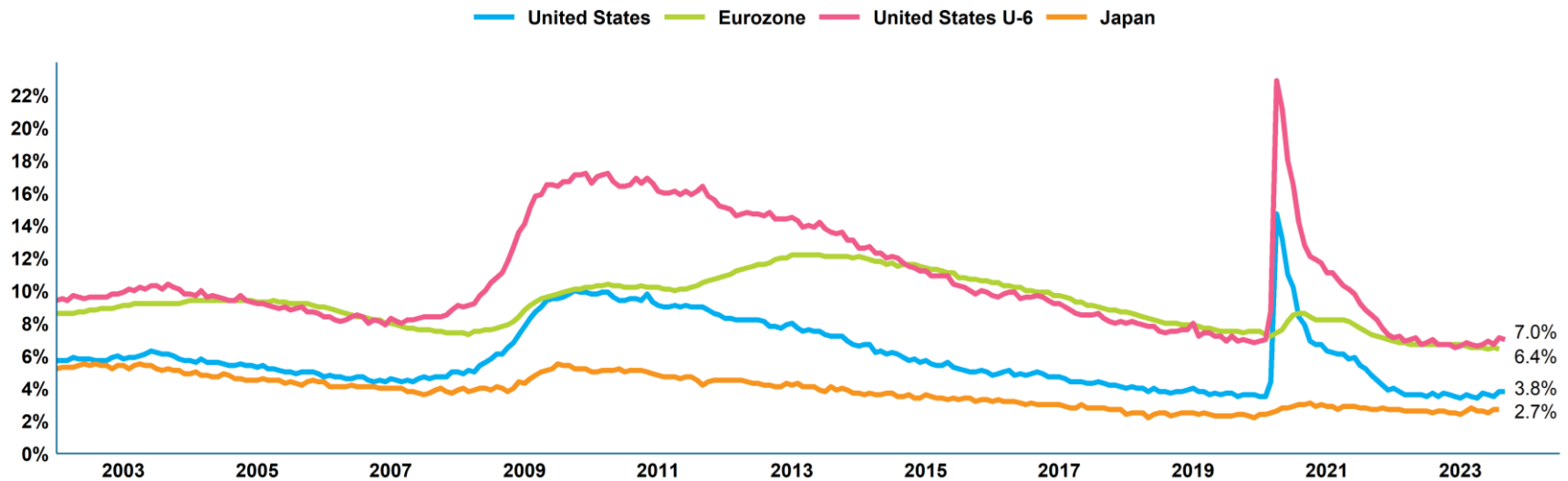
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- The inflation picture remains mixed across the major economies.
- In the US, inflation was flat at 3.7%, influenced by rising shelter costs, while eurozone inflation remained higher than the US at 4.3%, a level well off its peak, however. Despite 2023’s significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation in Japan has increased to levels not seen in almost a decade largely driven by food and home related items. In China, deflationary pressures eased but prices were flat from a year prior.

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

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



- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued. The pace of wage growth has slowed though, and despite remaining elevated, the number of job openings has declined from recent highs.
- In September, unemployment remained at 3.8%, a level only 0.2% higher than the start of the quarter. The labor force participation rate remained at 62.8% well off the lows of the pandemic (60.1%) but not back to pre-pandemic levels (63.3%). Broader measures of unemployment (U-6) finished the quarter at 7.0% up only slightly from the end of June (6.9%).
- Unemployment in Europe has also declined but remains higher than the US, while levels in Japan have been flat through the pandemic given less layoffs.

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

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



- After a strong 2022, the US dollar declined late last year and into early this year as weaker economic data and lower inflation led to investors anticipating the end of FOMC tightening.
- Recently though, the dollar reversed course and appreciated against major currencies as relative growth remains strong and investors anticipate the FOMC keeping interest rates higher for longer.
- For the rest of this year, the track of inflation across economies and the corresponding monetary policies will be key drivers of currency moves.

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

## Summary

### Key Trends:

- The impact of inflation still above policy targets will remain key, with bond market volatility likely to stay high.
- Global monetary policies could diverge going forward. The risk of policy errors remains elevated as central banks try to reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecasted to tip into recession. However, optimism has been building that some economies could experience a soft landing. Inflation, monetary policy, and the war will all be key.
- In the US, consumers could feel pressure as certain components of inflation remain high (e.g., shelter), borrowing costs are elevated, and the job market may weaken.
- The key for US equities going forward will be whether earnings can remain resilient if growth continues to slow. Also, the future paths of the large technology companies that have driven market gains will be important.
- Equity valuations remain lower in emerging and developed markets, but risks remain, including the potential for recent strength in the US dollar to persist, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.
- After month-end, heightened tensions in Israel could add to overall uncertainty and drive safe haven flows.



## 529 Industry Data

### Tuition Inflation

- Twelve-month CPI increased in September to 3.7% coming in slightly above what economists had expected.
  - Elevated inflation could impact participants ability to save.
- College tuition inflation also ticked down in June from 2.1% to 1.9%
- While Tuition inflation remains below CPI the gap between the two has narrowed considerably.

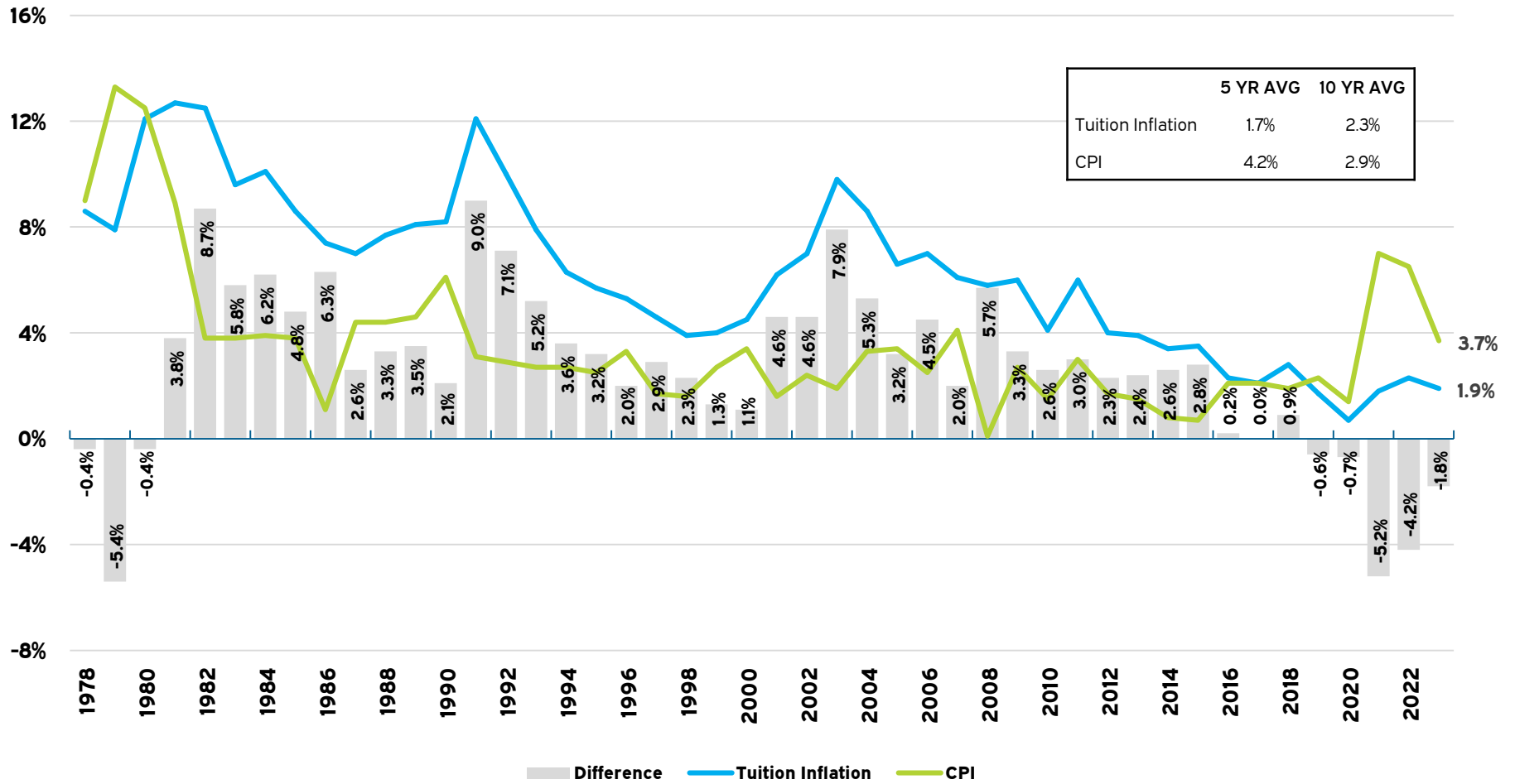
### Account & Asset Growth

- As of September 30, 2023, total college savings assets were \$414 billion, down from \$426 billion at the end of June 2023.
- Direct plans' accounts and assets continue to out pace Advisor plans.
- Account growth is below the 10-year average for both Direct and Advisor.
  - Direct plan's account growth continued to decline from its peaked in 3Q 2021 at 8.7%
  - Advisor plans account growth remained just below its 10-year average over the quarter

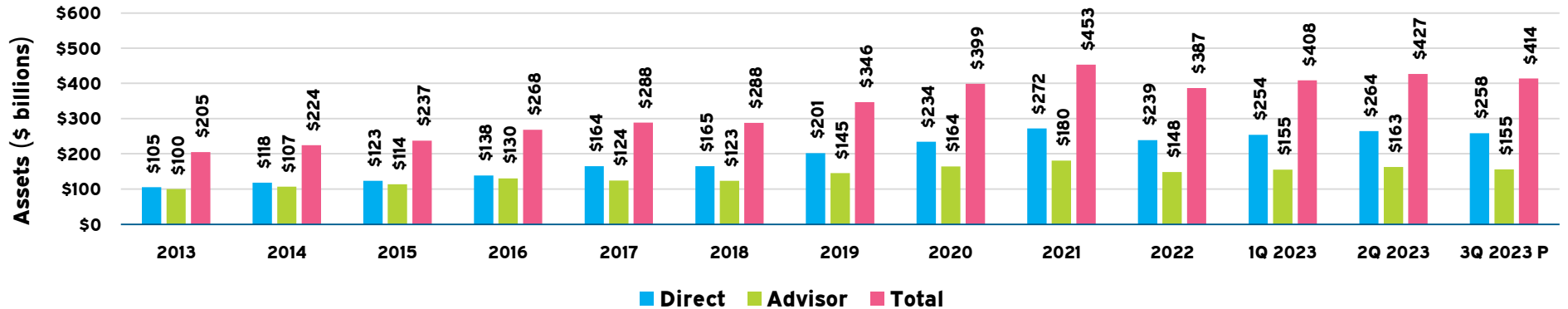
### Median Portfolio Results

- Both age-based and YOE portfolios saw negative results over the most recent quarter, though all other trailing periods remain positive.
- Direct Age-based portfolios matched or outperformed their Advisor counterparts in almost all peer groups and time periods measured.
- Direct YOE portfolios matched or outperformed their Advisor counterparts, in almost all peer groups and time periods measured.
- Most Direct portfolios experienced less risk than their Advisor counterparts.

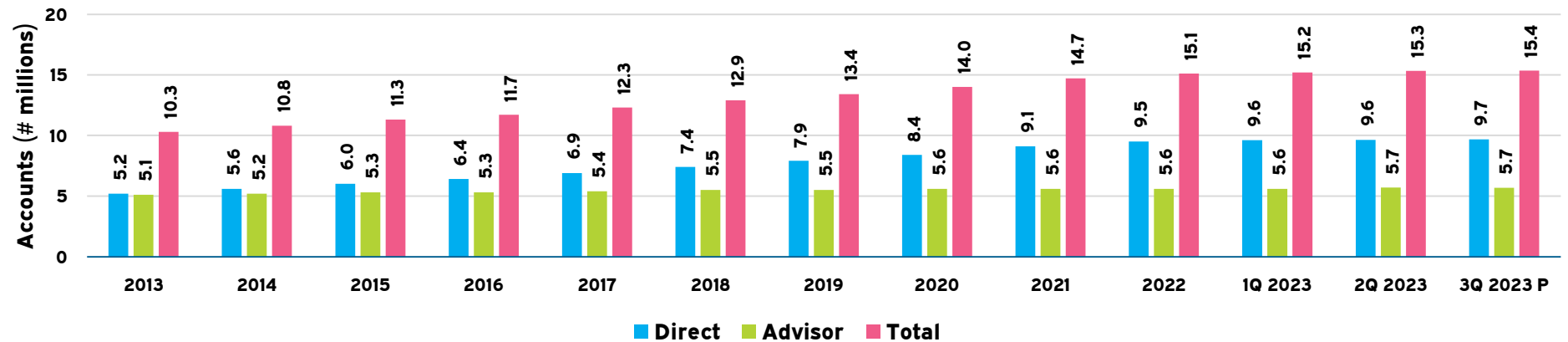
**Year-Over-Year (1978 – September 2023)**  
**College Tuition Inflation v. the Consumer Price Index,**  
**US Bureau of Labor Statistics**



Industry Total Assets Under Management by Plan Type



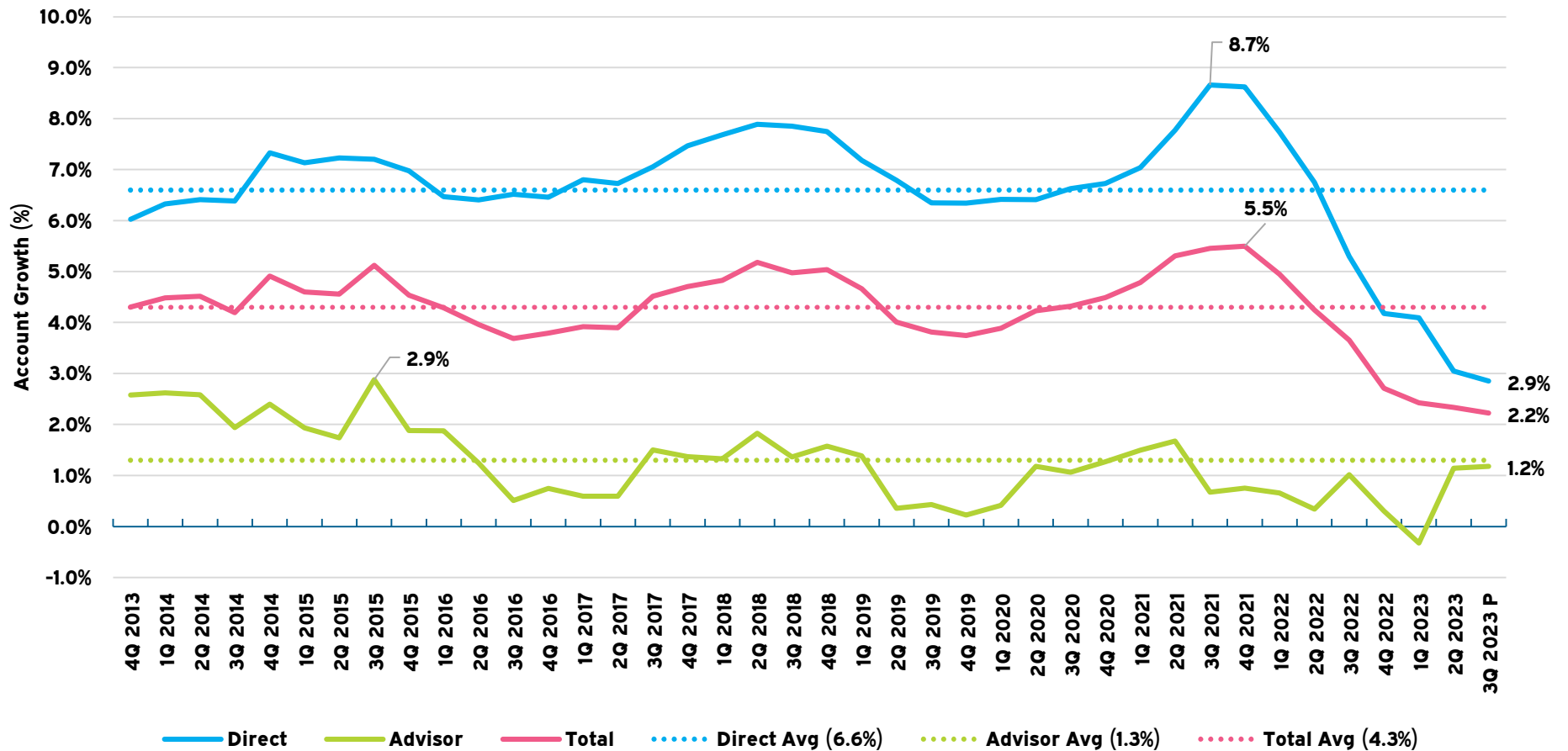
Industry Total Accounts By Plan Type



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

Size of Market: Account Growth

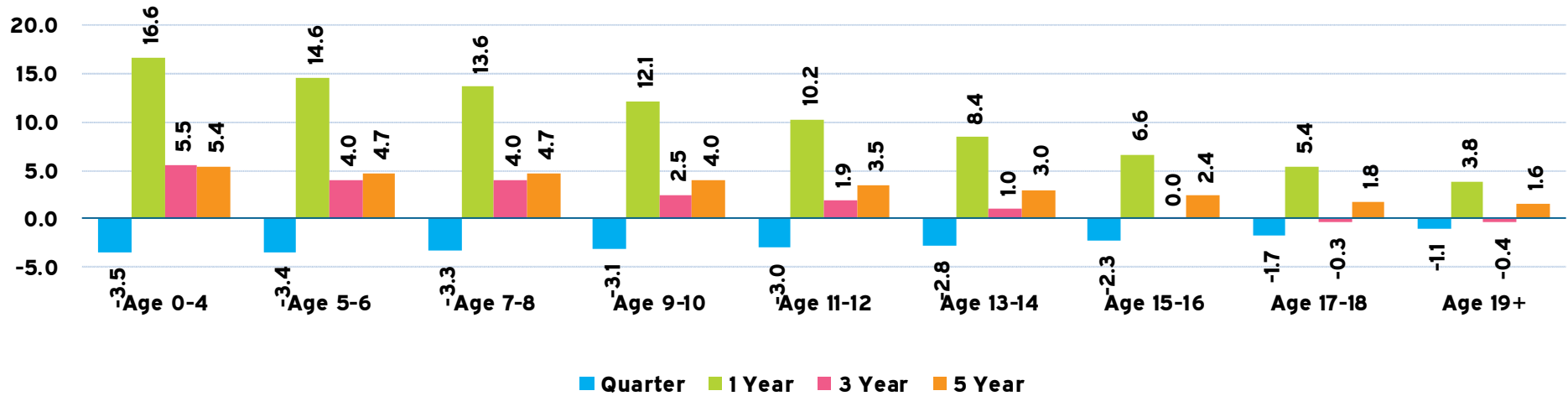
Rolling 1-Year Account Growth by Plan Type (%)



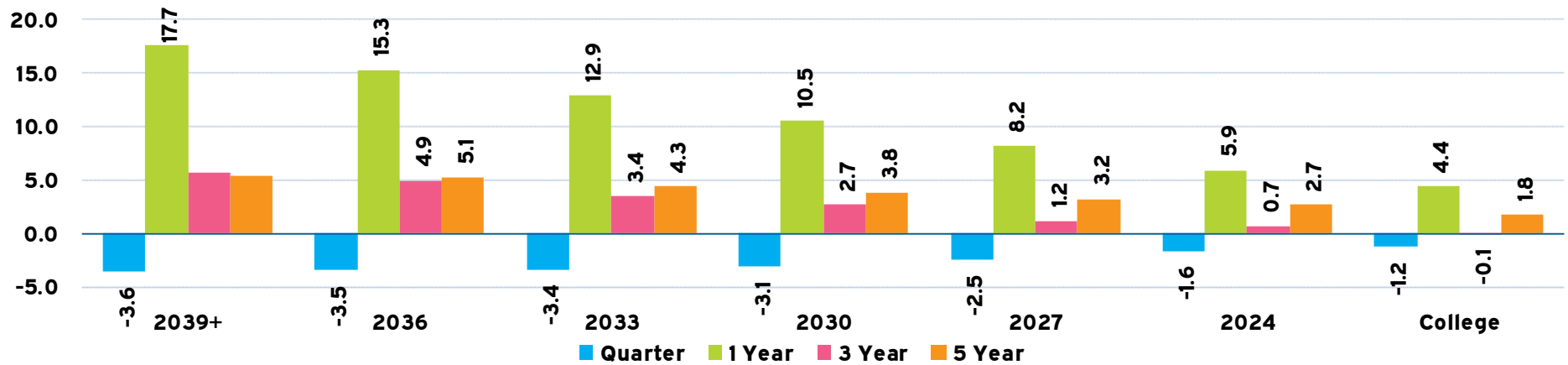
Source: ISS Market Intelligence as of September 30, 2023. (September 30, 2023, data preliminary)

### Median Portfolio Returns

#### Age-Based Portfolios (%)



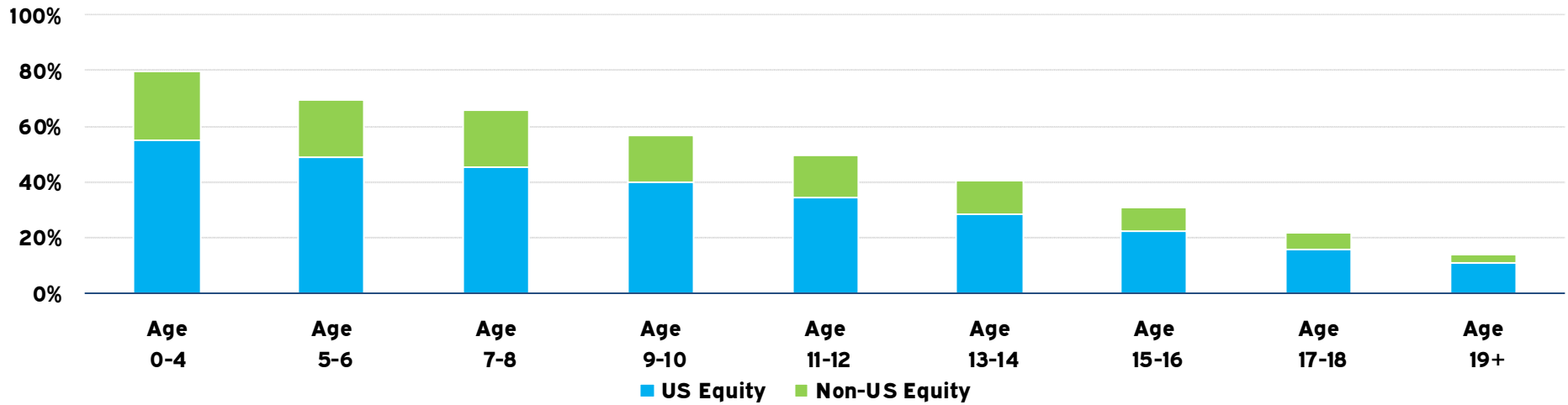
#### Enrollment-Based Portfolios (%)



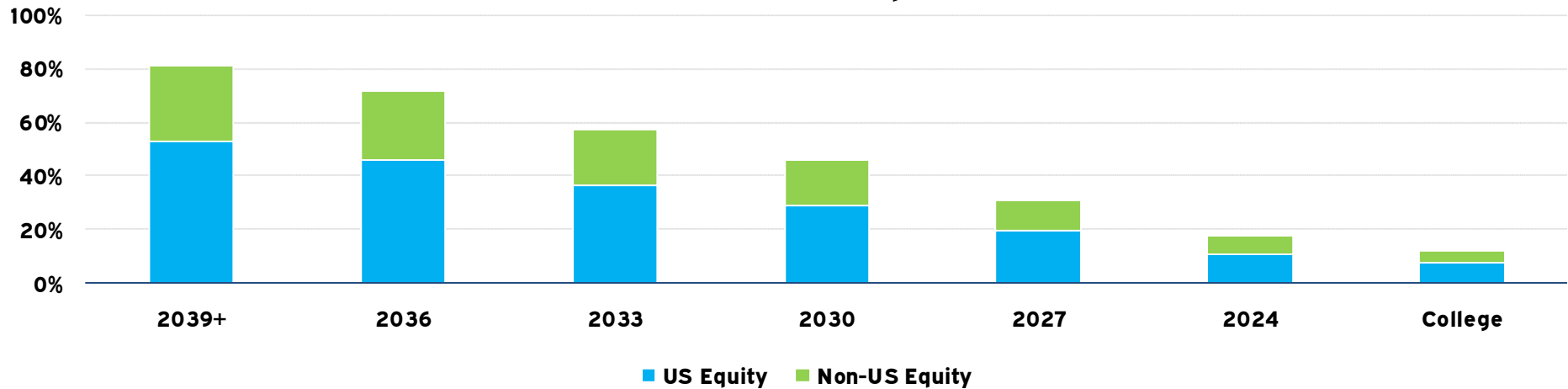
Source: Morningstar Direct. Returns are net of fees. Advisor Plan returns reflect A Shares excluding the effects of sales charges.

### Average Equity Allocations

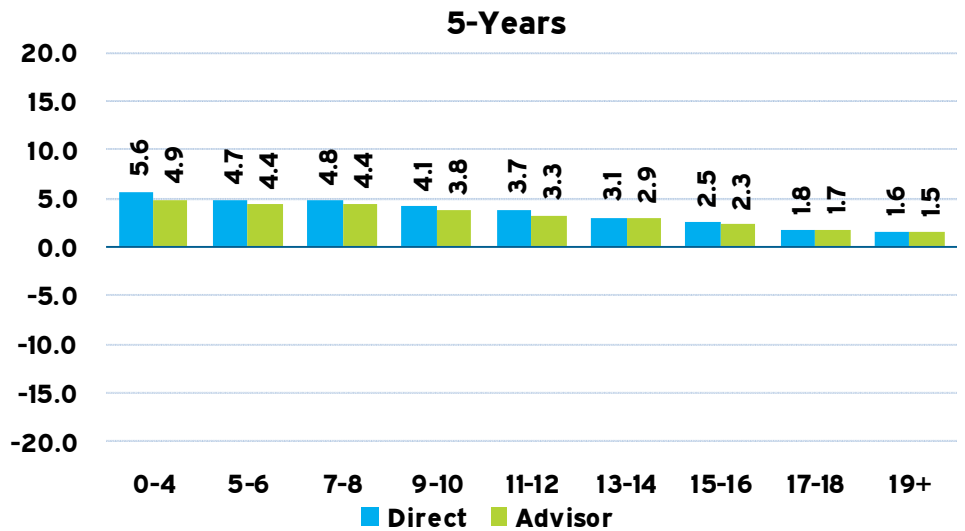
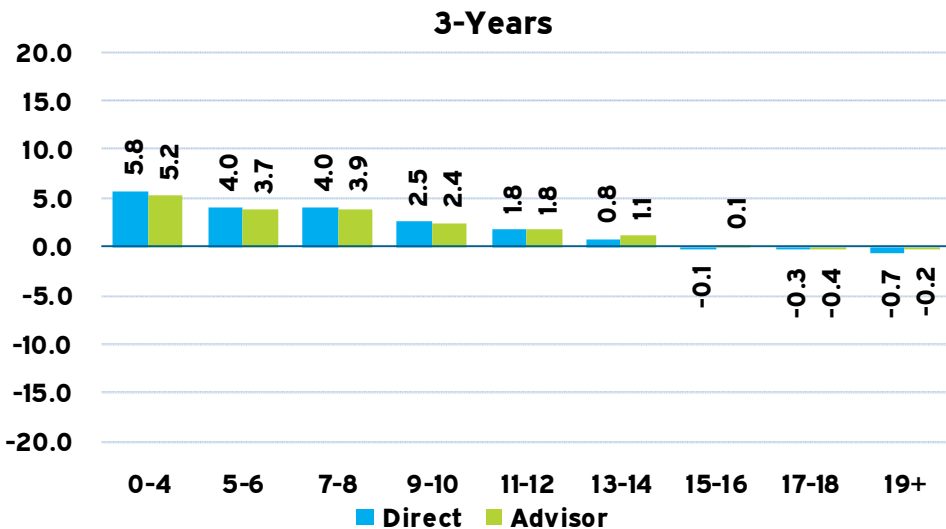
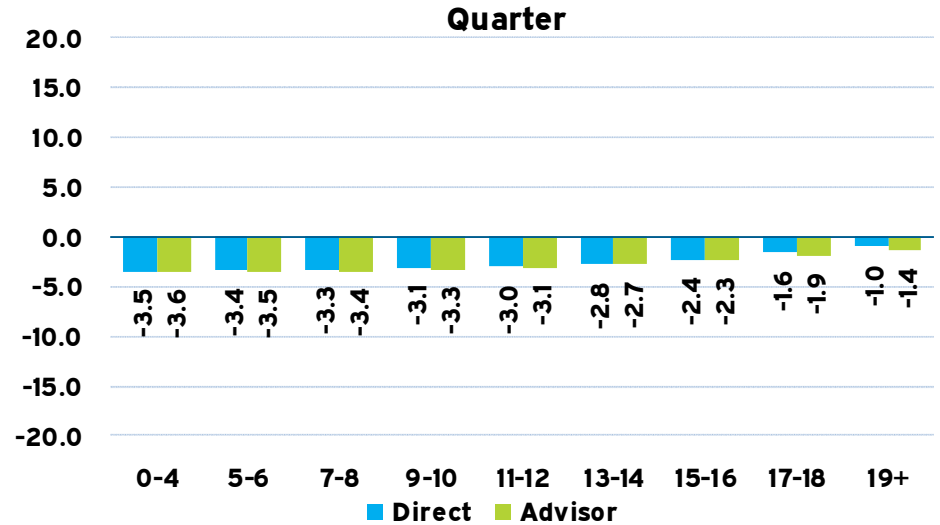
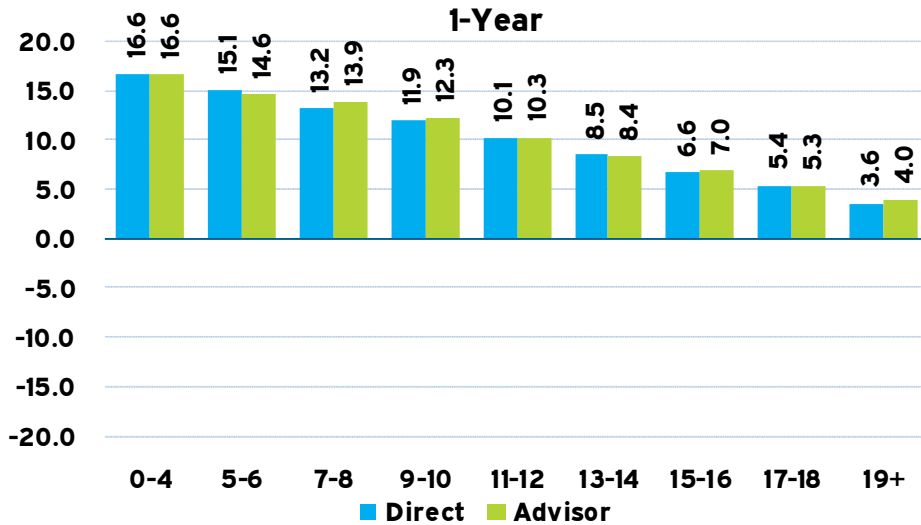
#### Age-Based Options



#### Enrollment-Based Options



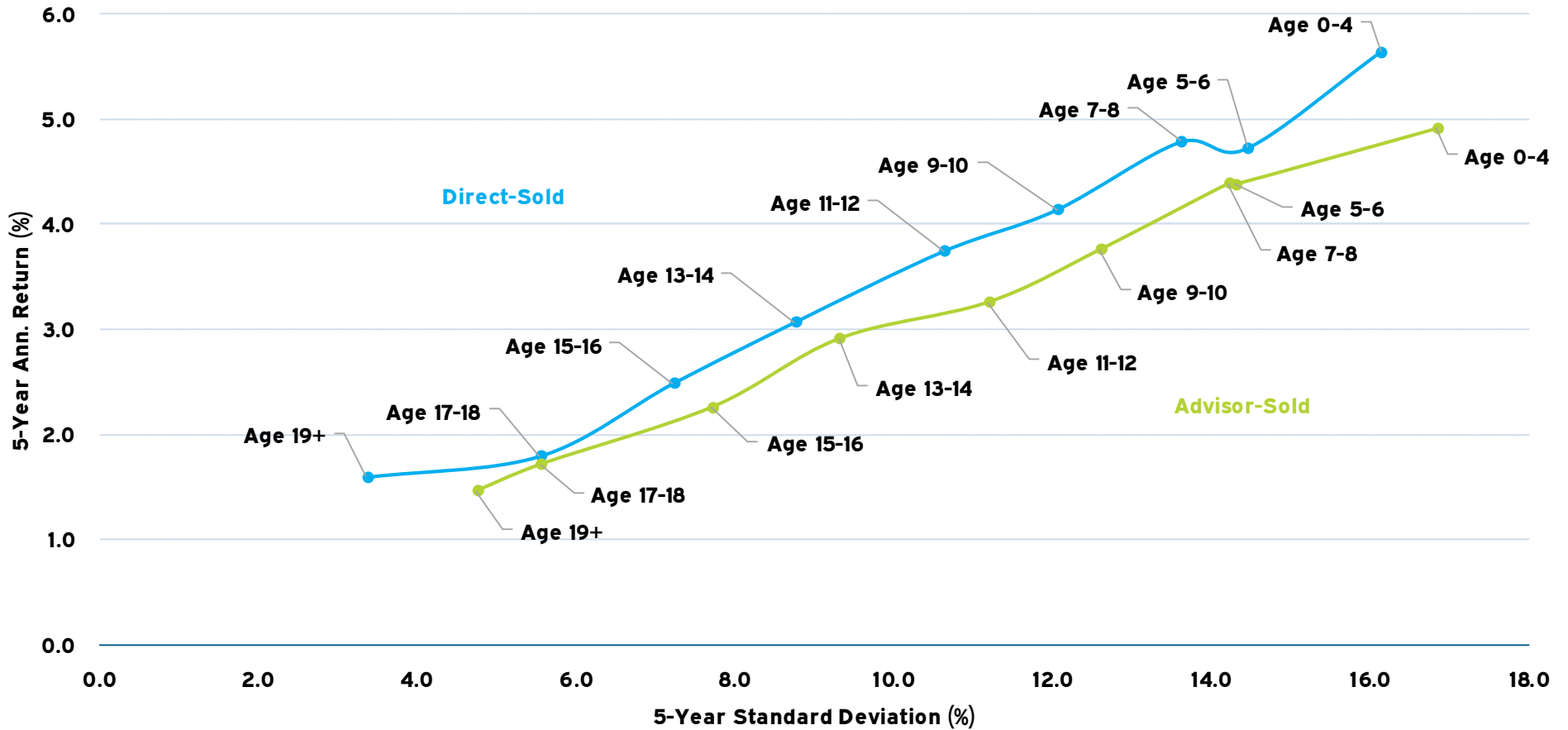
Source: Morningstar Direct.



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

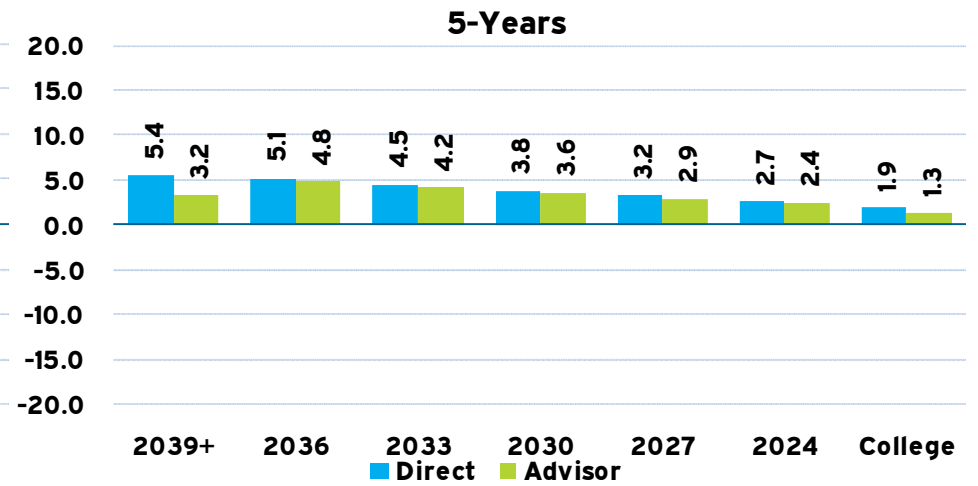
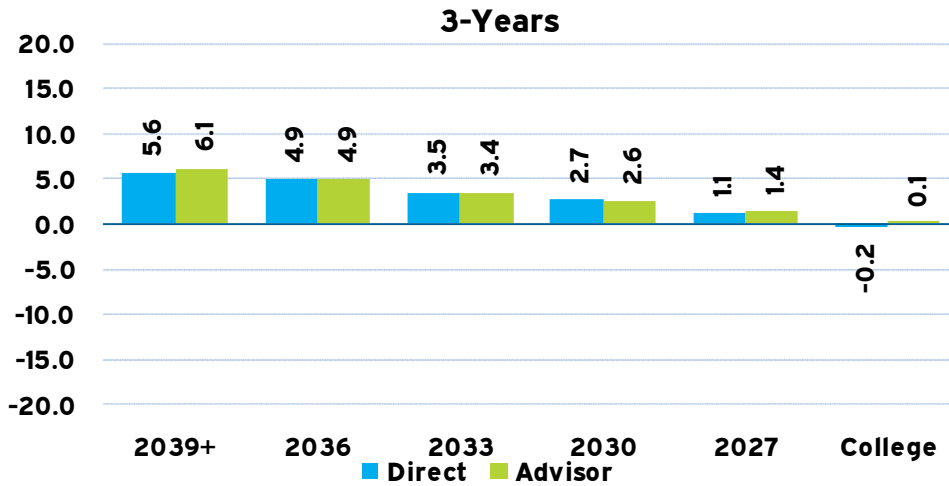
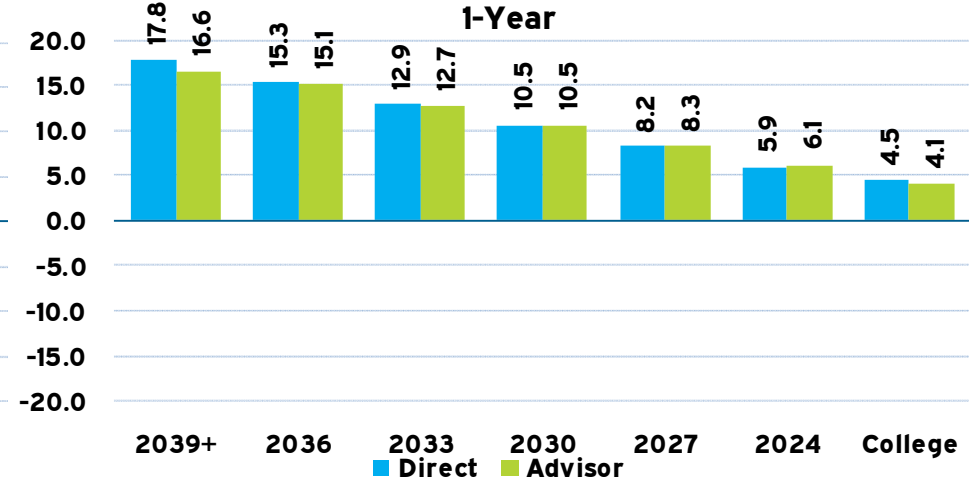
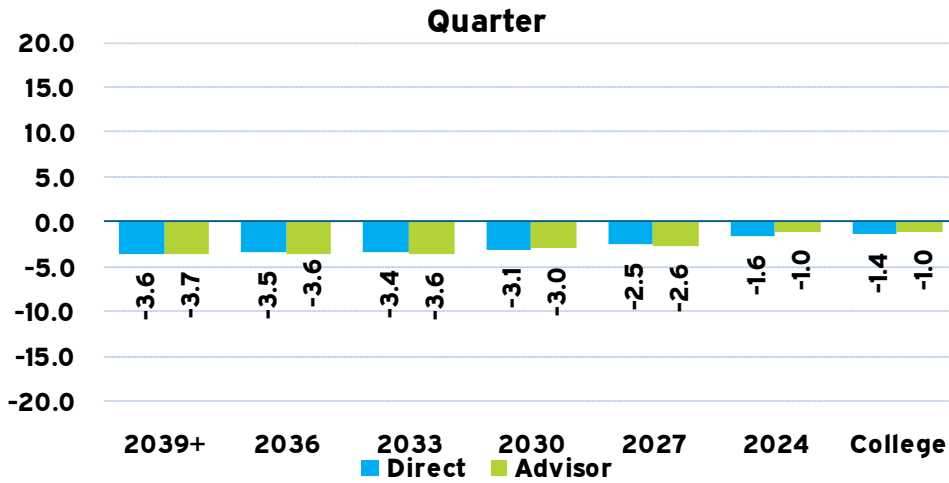


**Median Age-Based Risk vs Return  
(5 Years ending September 30, 2023)**



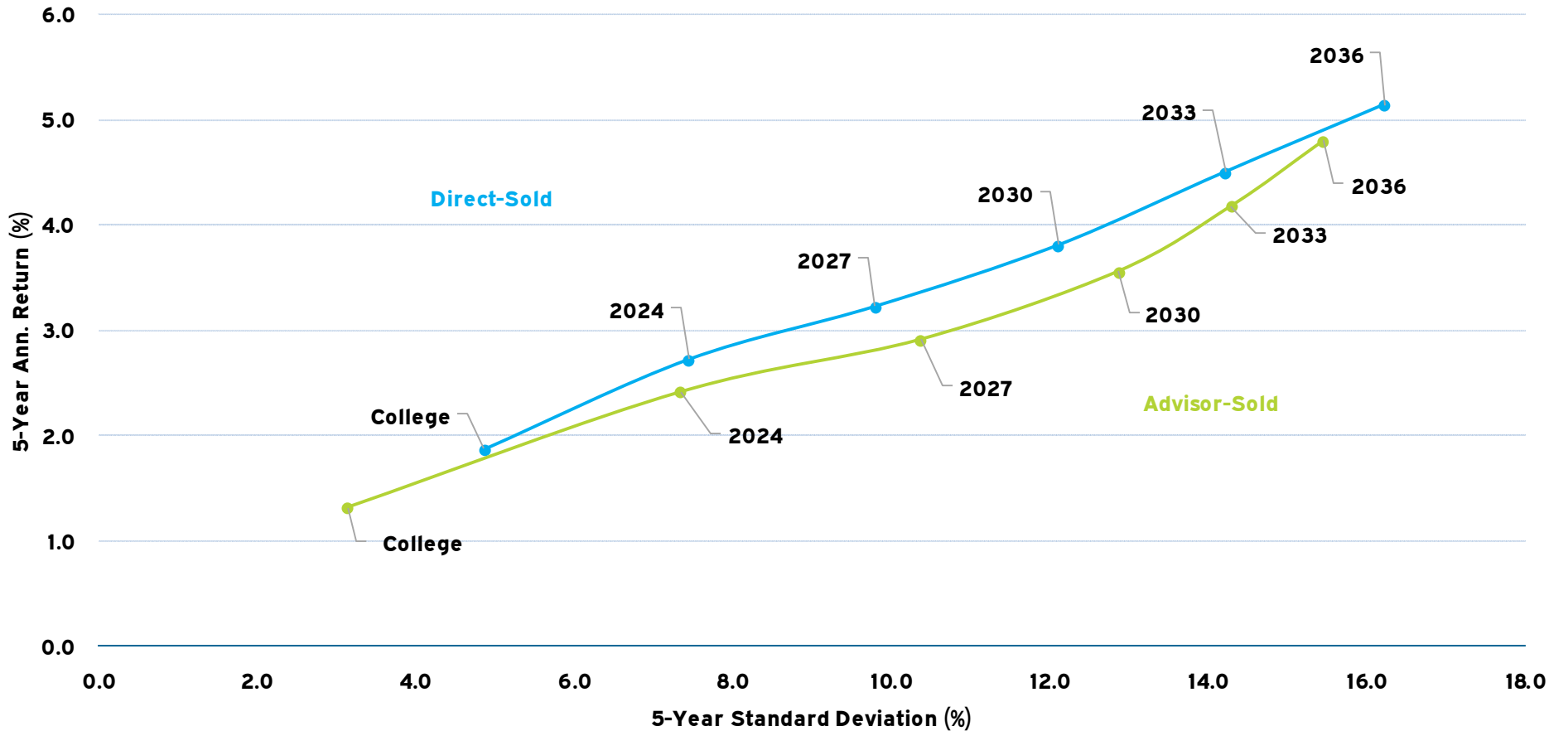
Source: Morningstar Direct. Returns are net of fees. Advisor Plan returns reflect A Shares excluding the effects of sales charges.

### Enrollment-Based Portfolios



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

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



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

## **Review of ScholarShare Policy**

**Active Funds**

Fund	Asset Class	Benchmark
T. Rowe Price Instl Large Cap Growth	Domestic Equity	Russell 1000 Growth TR USD
T. Rowe Price Instl Large Cap Value	Domestic Equity	Russell 1000 Value TR USD
TIAA-CREF Quant Small Cap Equity	Domestic Equity	Russell 2000 TR USD
TIAA-CREF Social Choice Equity	Domestic Equity	Russell 3000 TR USD
DFA Large Cap International	International Equity	MSCI World ex US NR USD
TIAA-CREF Social Choice International Equity	International Equity	MSCI EAFE
DFA Emerging Markets Core Equity	International Equity	MSCI EM NR USD
Metropolitan West Total Return Bond	Fixed Income	BBg BarCap US Agg Bond TR USD
PIMCO Real Return	Fixed Income	BBg BarCap US Trsy US TIPS TR USD
PIMCO Income	Fixed Income	BBg BarCap US Agg Bond TR USD
Vanguard High-Yield Corp Adm	High Yield	Bloomberg US Corporate High Yield TR
T. Rowe Price Institutional Floating Rate	High Yield	S&P/LSTA Performing Loan TR

**Passive Funds**

Fund	Asset Class	Benchmark
TIAA-CREF Equity Index	Domestic Equity	Russell 3000 TR USD
TIAA-CREF S&P 500 Index	Domestic Equity	S&P 500 TR
TIAA-CREF International Equity Index	International Equity	MSCI EAFE NR USD
TIAA-CREF Emerging Markets Equity Index	International Equity	MSCI EM NR USD
Nuveen ESG Emerging Markets Equity ETF	International Equity	TIAA ESG Emerging Markets Index
Vanguard Short Term Infl-Protected Securities	Fixed Income	BBg US TIPS 0-5 Years
TIAA-CREF Bond Index	Fixed Income	BBg BarCap US Agg Bond TR USD
Nuveen ESG US Aggregate Bond Index	Fixed Income	BBg MSCI US Agg ESG Select
Nuveen ESG High Yield Corporate Bond ETF	High Yield	BBg MSCI US High Yield Very Liquid ESG Select
Vanguard Real Estate Index	Real Estate	MSCI US IMI Real Estate 25/50 GR USD

**T-C Life Funding Agreements**

T-C Life Funding Agreements <sup>1</sup>	---	---
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<sup>1</sup> Investment through a funding agreement with TIAA-CREF Life Insurance Company. Not benchmarked to an index, rather, portfolio performance is monitored using a set of qualitative guidelines.

## Performance Criteria for Placing a Fund on Watch

### Actively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term <sup>5</sup> (> 60 months)	Morningstar Sustainability Rating
Domestic Equity	Fund return < bench return -3.5% for 6 consecutive months	Fund return < bench return -1.75% for 6 consecutive months	VRR < 0.97 for 6 consecutive months	--
International Equity	Fund return < bench return -4.5% for 6 consecutive months	Fund return < bench return -2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months	--
Fixed Income	Fund return < bench return -1.0% for 6 consecutive months	Fund return < bench return -0.5% for 6 consecutive months	VRR < 0.98 for 6 consecutive months	--
High Yield	Fund return < bench return -6.5% for 6 consecutive months	Fund return < bench return -3.25% for 6 consecutive months	VRR < 0.96 for 6 consecutive months	--
Social Choice	Fund return < bench return -5.0% for 6 consecutive months	Fund return < bench return -2.50% for 6 consecutive months	VRR < 0.9 for 6 consecutive months	Above Average

### Passively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term <sup>5</sup> (rolling 60-month periods)
Domestic Equity	Tracking Error > 0.30% for 6 consecutive months	Tracking Error > 0.25% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months
International Equity	Tracking Error > 0.75% for 6 consecutive months	Tracking Error > 0.70% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months
Fixed Income	Tracking Error > 0.40% for 6 consecutive months	Tracking Error > 0.55% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.35% for 6 consecutive months

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

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

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

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

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

Performance Criteria for Placing a Fund on Watch (Continued)

T-C Life Funding Agreements<sup>1</sup>  
(based on non-investment performance criteria)

Fund Name	Financial Strength	Mortgage Portfolio	Bond Portfolio	Account Diversification
T-C Life Funding Agreements	Moody's $\geq$ Aa2 Standard & Poor's $\geq$ AA A.M. Best $\geq$ A+ Fitch $\geq$ AA	100% in Good Standing	At least 90% Investment Grade	Portfolio is diversified across asset classes and types

ESG Funds  
(based on net-of-fee asset class performance)

Asset Class	Short-Term (rolling 12-month periods)	Medium-Term (rolling 36-month periods)	Long-Term (rolling 60-month periods)
International Equity <sup>2</sup>	Tracking Error > 1.00% for 6 consecutive months	Tracking Error > 0.75% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.50% for 6 consecutive months
Fixed Income	Tracking Error > 0.70% for 6 consecutive months	Tracking Error > 0.60% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.50% for 6 consecutive months
High Yield	Tracking Error > 0.75% for 6 consecutive months	Tracking Error > 0.65% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.55% for 6 consecutive months

<sup>1</sup> The T-C Life Funding Agreements are measured against a set of non-investment performance criteria (see above) in a published TIAA-CREF report every quarter.

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

### Investment Status Schedule

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

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

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



## **Summary of Performance Status**

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

<b>Trailing Net Performance</b>						
	<b>QTR</b> (%)	<b>YTD</b> (%)	<b>1 Yr</b> (%)	<b>3 Yrs</b> (%)	<b>5 Yrs</b> (%)	<b>10 Yrs</b> (%)
<b>Active</b>						
TRowe Price Large Cap Growth I	-2.0 (8)	28.0 (14)	27.7 (25)	4.9 (49)	9.8 (39)	13.8 (11)
<i>Russell 1000 Growth Index</i>	-3.1 (32)	25.0 (26)	27.7 (25)	8.0 (15)	12.4 (7)	14.5 (5)
<i>Large Growth Median</i>	-3.7	21.3	24.5	4.8	9.2	11.9
TRowe Price Large Cap Value I	-3.2 (67)	-1.4 (82)	10.6 (84)	12.6 (39)	6.3 (54)	8.6 (40)
<i>Russell 1000 Value Index</i>	-3.2 (66)	1.8 (47)	14.4 (50)	11.1 (60)	6.2 (55)	8.4 (46)
<i>Large Value Median</i>	-2.6	1.5	14.4	11.8	6.4	8.4
TIAA-CREF Quant Small Cap Equity I	-3.9 (39)	5.0 (33)	13.5 (35)	13.6 (30)	4.6 (34)	8.1 (24)
<i>Russell 2000 Index</i>	-5.1 (61)	2.5 (60)	8.9 (73)	7.2 (63)	2.4 (74)	6.6 (63)
<i>Small Cap Median</i>	-4.7	3.3	11.3	10.1	3.7	7.1
TIAA-CREF Social Choice Equity I	-3.4 (63)	8.7 (68)	19.3 (60)	8.9 (62)	9.1 (42)	--
<i>Russell 3000 Index</i>	-3.3 (48)	12.4 (38)	20.5 (48)	9.4 (50)	9.1 (40)	11.3 (30)
<i>Large Blend Median</i>	-3.3	11.3	20.3	9.4	8.8	10.6
DFA Large Cap International I	-3.9 (24)	6.9 (27)	25.3 (31)	6.7 (13)	3.7 (23)	4.1 (25)
<i>MSCI World ex U.S. (Net)</i>	-4.1 (31)	6.7 (30)	24.0 (45)	6.1 (18)	3.4 (29)	3.8 (37)
<i>Foreign Large Blend Median</i>	-4.7	5.7	23.2	4.3	2.8	3.6
TIAA-CREF Social Choice Intl Equity	-4.7 (50)	7.1 (24)	26.6 (15)	--	--	--
<i>MSCI EAFE (Net)</i>	-4.1 (31)	7.1 (23)	25.6 (27)	5.8 (22)	3.2 (33)	3.8 (38)
<i>Foreign Large Blend Median</i>	-4.7	5.7	23.2	4.3	2.8	3.6
DFA Emerging Markets Core Equity I	-1.5 (18)	7.0 (18)	18.3 (17)	4.7 (13)	3.2 (20)	3.4 (20)
<i>MSCI Emerging Markets (Net)</i>	-2.9 (33)	1.8 (65)	11.7 (61)	-1.7 (43)	0.6 (56)	2.1 (48)
<i>Diversified Emerging Mkts Median</i>	-3.8	3.3	13.2	-2.3	0.8	2.0
Metropolitan West Total Return Bond I	-3.6 (84)	-1.4 (75)	0.3 (73)	-5.6 (84)	0.1 (58)	--
<i>Blmbg. U.S. Aggregate Index</i>	-3.2 (67)	-1.2 (70)	0.6 (65)	-5.2 (70)	0.1 (57)	1.1 (63)
<i>Intermediate Core-Plus Bond Median</i>	-3.0	-0.7	1.2	-4.8	0.2	1.3
PIMCO Real Return	-2.3 (53)	-0.8 (59)	1.9 (42)	-1.9 (47)	2.2 (36)	1.7 (16)
<i>Blmbg. U.S. TIPS</i>	-2.6 (68)	-0.8 (59)	1.2 (57)	-2.0 (48)	2.1 (37)	1.7 (14)
<i>Inflation-Protected Bond Median</i>	-2.2	-0.6	1.5	-2.0	1.9	1.4

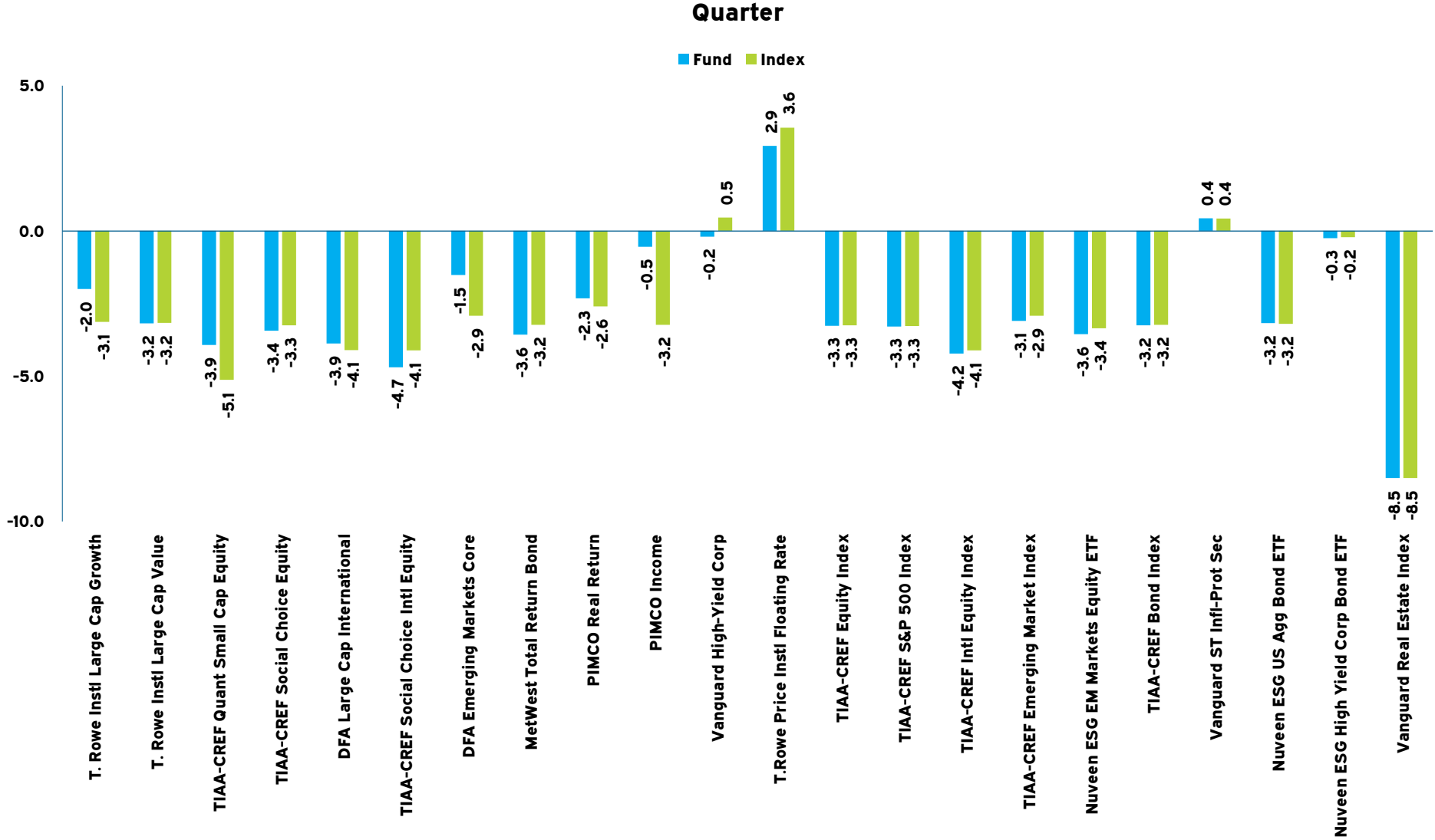
**Asset Allocation & Performance | As of September 30, 2023**

	<b>QTR</b> (%)	<b>YTD</b> (%)	<b>1 Yr</b> (%)	<b>3 Yrs</b> (%)	<b>5 Yrs</b> (%)	<b>10 Yrs</b> (%)
PIMCO Income I	-0.5 (36)	3.2 (25)	6.8 (27)	0.7 (20)	2.4 (15)	4.0 (1)
<i>Blmbg. U.S. Aggregate Index</i>	<i>-3.2 (97)</i>	<i>-1.2 (98)</i>	<i>0.6 (97)</i>	<i>-5.2 (100)</i>	<i>0.1 (89)</i>	<i>1.1 (95)</i>
<i>Multisector Bond Median</i>	<i>-0.9</i>	<i>2.3</i>	<i>5.3</i>	<i>-0.7</i>	<i>1.5</i>	<i>2.5</i>
Vanguard High-Yield Corp Adm	-0.2 (89)	4.1 (84)	9.2 (61)	--	--	--
<i>Blmbg. U.S. Corp: High Yield Index</i>	<i>0.5 (56)</i>	<i>5.9 (32)</i>	<i>10.3 (34)</i>	<i>1.8 (46)</i>	<i>3.0 (26)</i>	<i>4.2 (11)</i>
<i>High Yield Bond Median</i>	<i>0.5</i>	<i>5.3</i>	<i>9.6</i>	<i>1.6</i>	<i>2.4</i>	<i>3.4</i>
TRowe Price Floating Rate I	2.9 (49)	9.0 (48)	12.3 (33)	5.4 (25)	4.2 (6)	4.1 (3)
<i>Morningstar LSTA US Performing Loans</i>	<i>3.6 (10)</i>	<i>10.4 (10)</i>	<i>13.4 (8)</i>	<i>6.3 (5)</i>	<i>4.6 (1)</i>	<i>4.6 (1)</i>
<i>Bank Loan Median</i>	<i>2.9</i>	<i>9.0</i>	<i>11.7</i>	<i>4.7</i>	<i>3.0</i>	<i>3.4</i>
<b>Passive</b>						
TIAA-CREF Equity Index I	-3.3 (49)	12.3 (39)	20.4 (49)	9.4 (51)	9.1 (40)	11.2 (31)
<i>Russell 3000 Index</i>	<i>-3.3 (48)</i>	<i>12.4 (38)</i>	<i>20.5 (48)</i>	<i>9.4 (50)</i>	<i>9.1 (40)</i>	<i>11.3 (30)</i>
<i>Large Blend Median</i>	<i>-3.3</i>	<i>11.3</i>	<i>20.3</i>	<i>9.4</i>	<i>8.8</i>	<i>10.6</i>
TIAA-CREF S&P 500 Index I	-3.3 (53)	13.0 (26)	21.5 (30)	10.1 (30)	9.9 (17)	11.9 (10)
<i>S&amp;P 500 Index</i>	<i>-3.3 (50)</i>	<i>13.1 (24)</i>	<i>21.6 (28)</i>	<i>10.2 (29)</i>	<i>9.9 (15)</i>	<i>11.9 (8)</i>
<i>Large Blend Median</i>	<i>-3.3</i>	<i>11.3</i>	<i>20.3</i>	<i>9.4</i>	<i>8.8</i>	<i>10.6</i>
TIAA-CREF International Equity Index	-4.2 (35)	6.7 (30)	25.6 (27)	6.0 (19)	3.4 (29)	4.0 (29)
<i>MSCI EAFE (Net)</i>	<i>-4.1 (31)</i>	<i>7.1 (23)</i>	<i>25.6 (27)</i>	<i>5.8 (22)</i>	<i>3.2 (33)</i>	<i>3.8 (38)</i>
<i>Foreign Large Blend Median</i>	<i>-4.7</i>	<i>5.7</i>	<i>23.2</i>	<i>4.3</i>	<i>2.8</i>	<i>3.6</i>
TIAA-CREF Emerging Markets Equity Index	-3.1 (36)	1.5 (69)	11.2 (65)	-2.1 (48)	0.3 (65)	1.9 (53)
<i>MSCI Emerging Markets (Net)</i>	<i>-2.9 (33)</i>	<i>1.8 (65)</i>	<i>11.7 (61)</i>	<i>-1.7 (43)</i>	<i>0.6 (56)</i>	<i>2.1 (48)</i>
<i>Diversified Emerging Mkts Median</i>	<i>-3.8</i>	<i>3.3</i>	<i>13.2</i>	<i>-2.3</i>	<i>0.8</i>	<i>2.0</i>
Nuveen ESG Emerging Markets Equity ETF	-3.6 (45)	2.7 (58)	12.7 (54)	--	--	--
<i>TIAA ESG Emerging Markets Index</i>	<i>-3.4 (42)</i>	<i>3.3 (50)</i>	<i>13.6 (48)</i>	<i>0.3 (30)</i>	<i>2.7 (24)</i>	<i>3.4 (20)</i>
<i>Diversified Emerging Mkts Median</i>	<i>-3.8</i>	<i>3.3</i>	<i>13.2</i>	<i>-2.3</i>	<i>0.8</i>	<i>2.0</i>

Asset Allocation & Performance | As of September 30, 2023

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
TIAA-CREF Bond Index I	-3.2 (65)	-0.9 (44)	0.6 (48)	-5.3 (60)	0.0 (54)	1.0 (54)
<i>Blmbg. U.S. Aggregate Index</i>	<i>-3.2 (63)</i>	<i>-1.2 (63)</i>	<i>0.6 (47)</i>	<i>-5.2 (52)</i>	<i>0.1 (42)</i>	<i>1.1 (42)</i>
<i>Intermediate Core Bond Median</i>	<i>-3.1</i>	<i>-1.0</i>	<i>0.6</i>	<i>-5.2</i>	<i>0.0</i>	<i>1.0</i>
Vanguard Short Term Infl-Prot Securities	0.4 (6)	2.0 (6)	3.3 (9)	--	--	--
<i>BBg U.S. TIPS 0-5 Years</i>	<i>0.4 (7)</i>	<i>1.9 (8)</i>	<i>3.2 (11)</i>	<i>1.9 (8)</i>	<i>2.8 (7)</i>	<i>--</i>
<i>Inflation-Protected Bond Median</i>	<i>-2.2</i>	<i>-0.6</i>	<i>1.5</i>	<i>-2.0</i>	<i>1.9</i>	<i>1.4</i>
Nuveen ESG US Aggregate Bond ETF	-3.2 (54)	-1.0 (46)	0.5 (55)	--	--	--
<i>BBg MSCI US Agg ESG Select</i>	<i>-3.2 (59)</i>	<i>-1.2 (65)</i>	<i>0.6 (51)</i>	<i>-5.2 (54)</i>	<i>0.1 (41)</i>	<i>--</i>
<i>Intermediate Core Bond Median</i>	<i>-3.1</i>	<i>-1.0</i>	<i>0.6</i>	<i>-5.2</i>	<i>0.0</i>	<i>1.0</i>
Nuveen ESG High Yield Corp Bond ETF	-0.3 (90)	4.3 (82)	8.9 (69)	--	--	--
<i>BBg MSCI US High Yield Very Liquid ESG Select</i>	<i>-0.2 (89)</i>	<i>4.4 (79)</i>	<i>9.3 (59)</i>	<i>0.0 (92)</i>	<i>--</i>	<i>--</i>
<i>High Yield Bond Median</i>	<i>0.5</i>	<i>5.3</i>	<i>9.6</i>	<i>1.6</i>	<i>2.4</i>	<i>3.4</i>
Vanguard Real Estate Index	-8.5 (75)	-5.3 (79)	-1.2 (70)	--	--	--
<i>MSCI US IMI Real Estate 25/50 GR USD</i>	<i>-8.5 (75)</i>	<i>-5.3 (77)</i>	<i>-1.1 (68)</i>	<i>2.4 (70)</i>	<i>2.5 (58)</i>	<i>5.0 (71)</i>
<i>Real Estate Median</i>	<i>-7.7</i>	<i>-3.6</i>	<i>0.1</i>	<i>3.5</i>	<i>2.8</i>	<i>5.6</i>

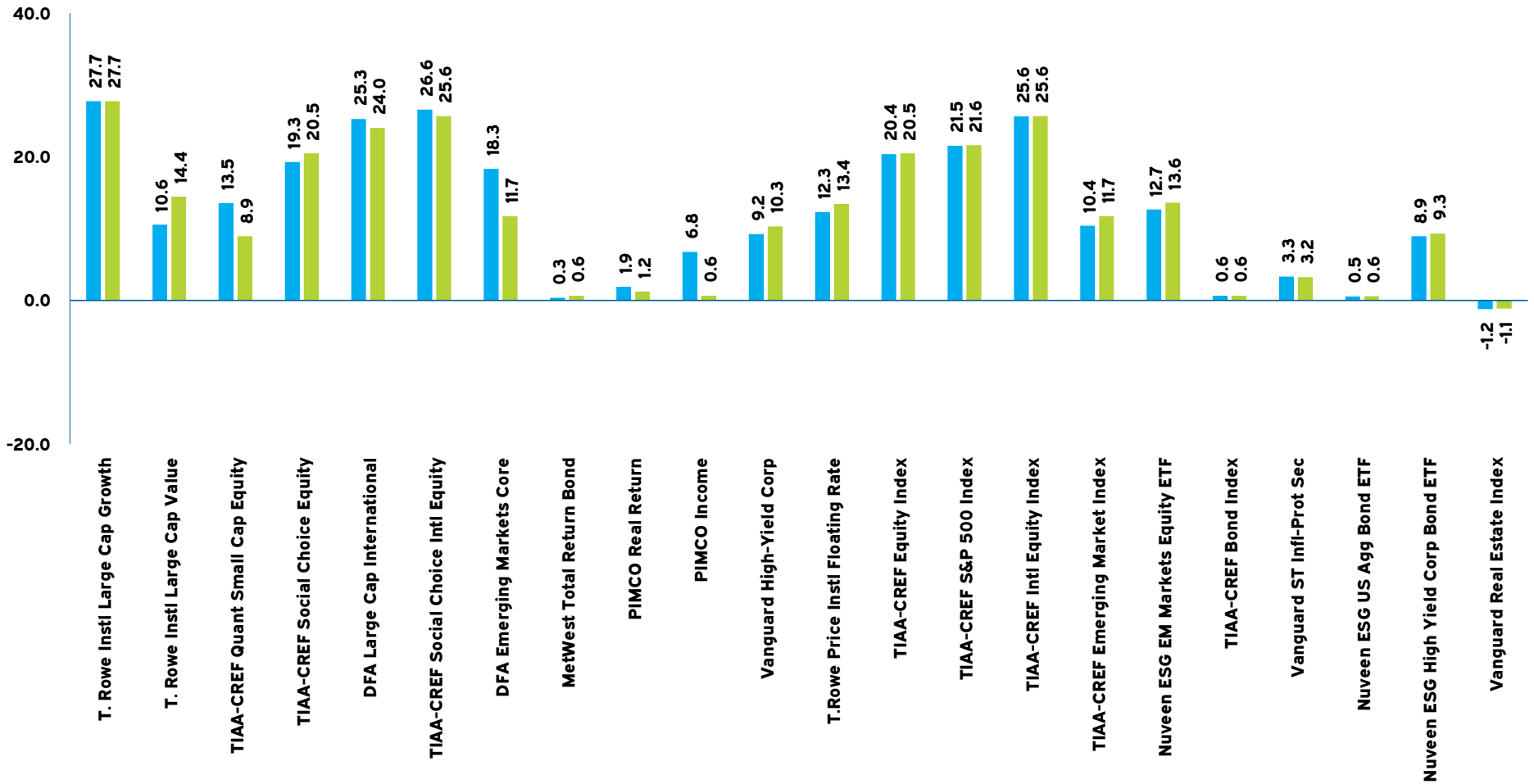
Summary of Fund Performance 9/30/2023



Summary of Fund Performance 9/30/2023

1 Year

Fund Index



	<i>Total Fund</i>	
	\$	%
<b>California Scholarshare Total Fund</b>	<b>13,263,700,250</b>	<b>100.0</b>
Active	2,740,411,582	20.7
TRowe Price Large Cap Growth I	295,854,624	2.2
TRowe Price Large Cap Value I	291,242,069	2.2
TIAA-CREF Quant Small Cap Equity I	100,473,867	0.8
TIAA-CREF Social Choice Equity I	260,823,722	2.0
DFA Large Cap International I	413,797,782	3.1
TIAA-CREF Social Choice Intl Equity	4,134,073	0.0
DFA Emerging Markets Core Equity I	103,122,759	0.8
Metropolitan West Total Return Bond I	427,298,131	3.2
PIMCO Real Return	244,700,383	1.8
PIMCO Income I	245,034,725	1.8
Vanguard High-Yield Corp Adm	229,809,627	1.7
TRowe Price Floating Rate I	124,119,817	0.9
Passive	8,140,296,091	61.4
TIAA-CREF Equity Index I	3,971,419,690	29.9
TIAA-CREF S&P 500 Index I	319,572,307	2.4
TIAA-CREF International Equity Index	922,662,806	7.0
TIAA-CREF Emerging Markets Equity Index	231,603,085	1.7
Nuveen ESG Emerging Markets Equity ETF	435,570	0.0
TIAA-CREF Bond Index I	1,883,546,366	14.2
Nuveen ESG US Aggregate Bond ETF	8,043,300	0.1
Nuveen ESG High Yield Corp Bond ETF	562,359	0.0
Vanguard Short Term Infl-Prot Securities	463,290,069	3.5
Vanguard Real Estate Index	339,160,539	2.6
Other Assets	2,382,992,577	18.0
T-C Life Funding Agreement	2,382,992,577	18.0

CalKIDS AUM excluding non-529 assets are included in the total.

### Summary of Fund Performance Status

Program	Total Funds	Positive	Acceptable	Caution	Watch <sup>1</sup>
Number of Funds	23	12	8	3	1
% of Funds	100%	52%	35%	13%	4%
% of Program Assets <sup>1</sup>	100%	38%	52%	10%	2%
Fund Status ↑	--	—	—	—	—
Fund Status ↓	1	—	1	—	—
Domestic Equity Funds	6	1	4	1	1
Intl Equity Funds	6	4	—	2	—
Fixed Income Funds	6	4	2	—	—
High Yield Funds	3	1	2	—	—
Real Estate	1	1	—	—	—
Funding Agreement	1	1	—	—	—

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

- Eighty-three percent of the Program’s funds have either a Positive or Acceptable performance status.
- No funds improved over the quarter:
- One fund declined over the quarter:
  - Vanguard High Yield Corporate (Acceptable)
- T. Rowe Price Instl Large Cap Growth fund continues to qualify for “Watch” status.
- The TIAA-CREF Emerging Markets Index and International Equity Index funds qualify for watch, but we recommend keeping them off watch as detailed in the watch memo.

<sup>1</sup> Percentage of total 529 assets, excluding the CalKids portfolio.



Summary of Fund Performance Status

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

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

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

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	---	---	---
TIAA-CREF Social Choice International Equity	No	---	N/A	N/A
Metropolitan West Total Return Bond	No	---	---	---
PIMCO Real Return	No	---	---	---
PIMCO Income	No	---	---	---
Vanguard High-Yield Corporate Adm	No	---	N/A	N/A
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	Yes	Yes	---
TIAA-CREF Emerging Markets Eq Index	No	---	Yes	---
Nuveen ESG EM Market Equity	No	---	---	---
TIAA-CREF Bond Index	No	---	---	---
Vanguard Short-Term Infl-Prot Sec Index	No	---	N/A	N/A
Nuveen ESG US Agg Bond	No	---	N/A	N/A
Nuveen ESG High Yield	No	---	N/A	N/A
Vanguard REIT Index	No	---	N/A	N/A
T-C Life Funding Agreements	No	N/A	N/A	N/A
<b>Total</b>	<b>1 of 23</b>	<b>1 of 22 eligible funds</b>	<b>3 of 16 eligible funds</b>	<b>1 of 16 eligible funds</b>

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

# Portfolio Management Overview

Portfolio Management Overview

Fund	Ticker	Current PM Team		Recent PM Departures <sup>1</sup>	
T.Rowe Price Large Cap Growth	TRLGX	01/01/2017-	Taymour R. Tamaddon		
T.Rowe Price Large Cap Value	TILCX	03/31/2000- 02/25/2010- 10/01/2021-	John D. Linehan Mark S. Finn Gabriel Solomon	01/01/2015 – 05/01/2022	Heather K. McPherson
TIAA-CREF Quant Small Cap Equity	TISEX	03/01/2016- 03/01/2019-	Pei Chen Max Kozlov	10/23/2006- 10/1/2020	Adam Cao
TIAA-CREF Social Choice Equity	TISCX	12/31/2005- 05/30/2014- 05/01/2022-	Philip James Campagna Lei Liao Darren Tran		
DFA Large Cap International	DFALX	02/28/2010- 02/28/2020- 02/28/2020-	Jed S. Fogdall Joel P. Schneider Arun C. Keswani	02/28/2010-02/28/2019 07/21/2015-02/28/2020 07/21/2015-02/28/2023	Joseph H. Chi Mary T. Phillips Bhanu P. Singh
TIAA-CREF Social Choice Intl Equity	TSONX	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- 02/28/2017- 02/28/2019-	Jed S. Fogdall Allen Pu Mary T. Phillips William Collins-Dean	02/28/2010-02/28/2019 07/21/2015-02/28/2023	Joseph H. Chi Bhanu P. Singh
Nuveen ESG EM Market Equity	NUEM	06/06/2017 – 06/06/2017 –	Lei Liao Philip James Campagna		

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

Portfolio Management Overview

Fund	Ticker	Current PM Team	Recent PM Departures <sup>1</sup>
Metropolitan West Total Return Bond	MWTIX	03/31/1997- 03/31/1997- 12/31/2004- 09/06/2023- 09/06/2023- Stephen M. Kane Laird R. Landman Bryan T. Whalen Jerry M. Cudzil Ruben Hovhannisyan	03/31/1997-12/31/2021 Tad Rivelle
PIMCO Real Return	PRRIX	01/09/2019- 12/11/2019- Stephen A. Rodosky Daniel He	01/02/2015-01/09/2019 12/31/2007-12/11/2019 Jeramie Banet Mihir P. Worah
PIMCO Income	PIMIX	03/30/2007- 03/15/2013- 07/30/2018- Daniel J. Ivascyn Alfred T. Murata Joshua Anderson	
Vanguard High-Yield Corp Adm	VWEAX	08/29/2022 – 08/29/2022 – Elizabeth H. Shortsleeve Michael Chang	02/14/2008 – 07/31/2023 Michael L. Hong
Nuveen ESG High Yield	NUHY	11/30/2021 – 11/30/2021 – James Tsang Rui (Vivian) Liu	09/25/2019 – 11/30/2021 09/29/2017 – 03/21/2023 Yong (Mark) Zheng Lijun (Kevin) Chen
T.Rowe Price Floating Rate	RPIFX	05/01/2009- Paul M. Massaro	
Nuveen ESG US Agg Bond	NUBD	11/30/2021 – 11/30/2021 – James Tsang Rui (Vivian) Liu	09/25/2019 – 11/30/2021 09/29/2017 – 03/21/2023 Yong (Mark) Zheng Lijun (Kevin) Chen
TIAA-CREF Equity Index	TIEIX	12/31/2005- 05/30/2014- 03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF S&P 500 Index	TISPX	12/31/2005- 05/30/2014- 03/01/2019- Philip James Campagna Lei Liao Darren Tran	

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

Portfolio Management Overview (continued)

Fund	Ticker	Current PM Team		Recent PM Departures <sup>1</sup>
TIAA-CREF International Equity Index	TCIEX	08/01/2005- 05/30/2014- 03/01/2019-	Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF Emerging Markets Equity Index	TEQLX	08/31/2010- 05/30/2014- 03/01/2019-	Philip James Campagna Lei Liao Darren Tran	
Vanguard REIT Index	VGSLX	05/13/1996 – 05/25/2016 –	Gerard C. O'Reilly Walter Nejman	
Vanguard ST Infl-Prot Sec Index	VTSPX	10/12/2012 -	Joshua C. Barrickman	
TIAA-CREF Bond Index	TBIIX	08/24/2011-	James Tsang	12/31/2009-03/21/2023 Lijun (Kevin) Chen

Observations:

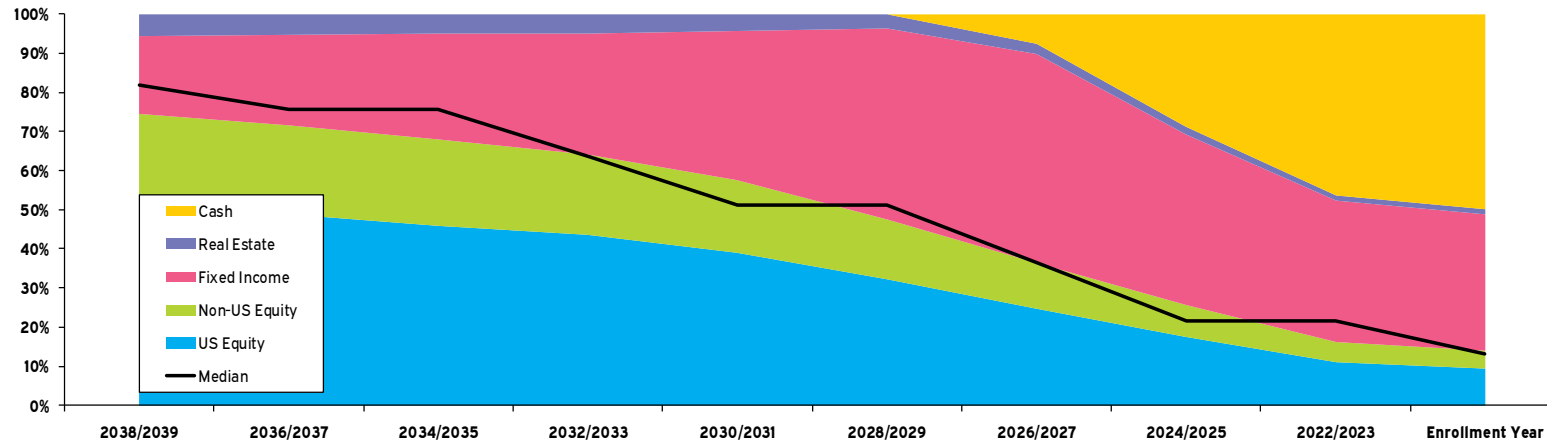
→ Jerry M. Cudzil and Ruben Hovhannisyan joined the Metropolitan West Total Return Bond team in September 2023.

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

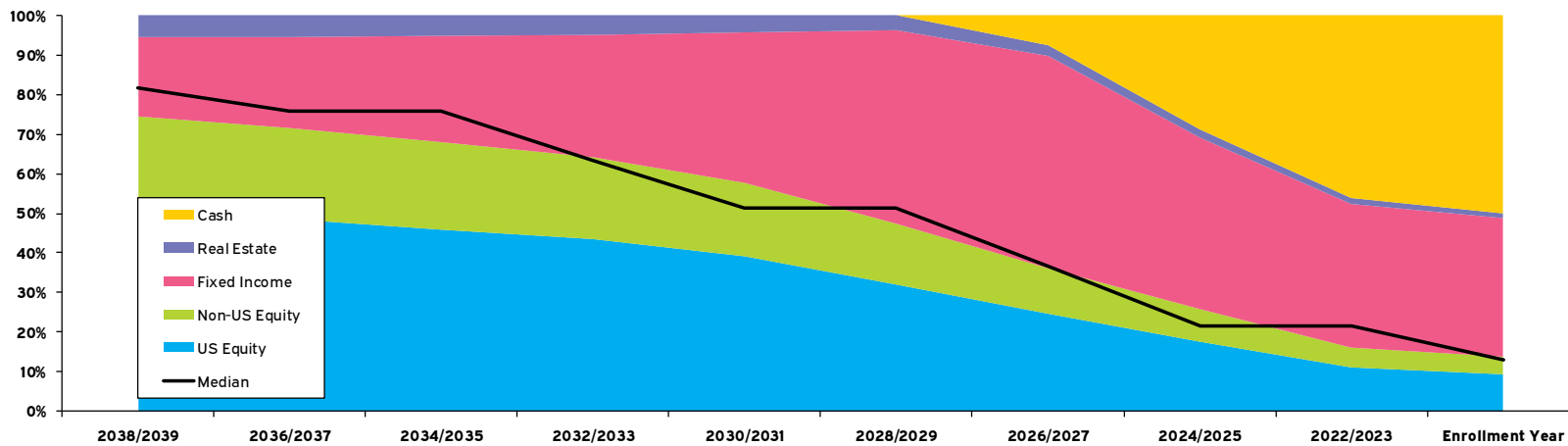
## Year-of-**Enrollment** Option Analysis

#### ScholarShare Enrollment Date Glidepath

##### Active Enrollment Date Portfolio



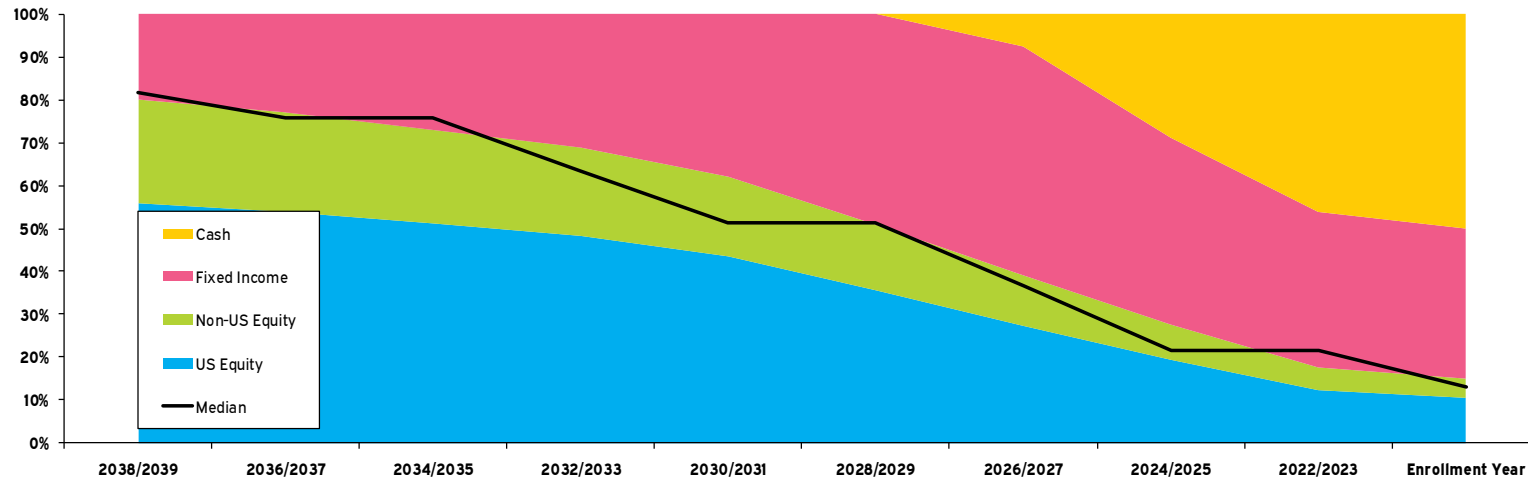
##### Passive Enrollment Date Portfolio





**ScholarShare Enrollment Date Glidepath**

**ESG Enrollment Date Portfolio**

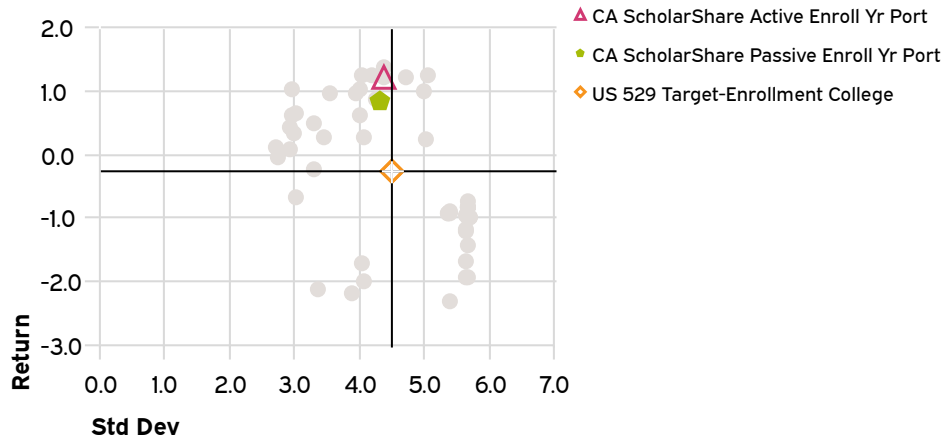


### Year-of-Enrollment Option Analysis

#### Risk-Reward

Time Period: 10/1/2020 to 9/30/2023

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment College



#### Risk

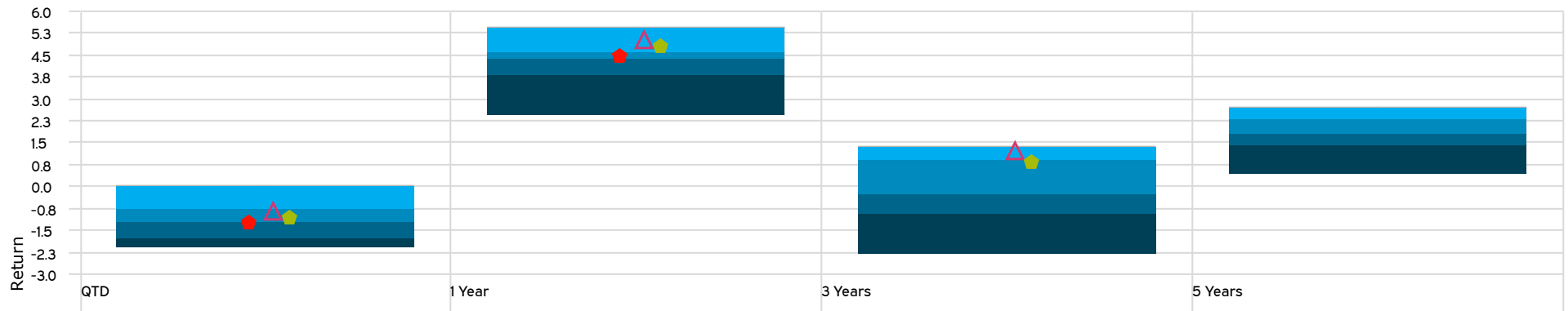
Time Period: 10/1/2020 to 9/30/2023 Peer Group: 529 Portfolios - U.S. - Target-Enrollment College

	Return	Peer group percentile	Std Dev	Peer group percentile	Sharpe Ratio (arith)
CA ScholarShare Active Enroll Yr Port	1.23	12	4.38	57	-0.19
CA ScholarShare Passive Enroll Yr Port	0.84	29	4.31	60	-0.28
Median	-0.25		4.73		-0.51
Count	42		42		42

#### Performance Relative to Peer Group

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment College

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



▲ CA ScholarShare Active Enroll Yr Port

● CA ScholarShare ESG Enroll Yr Port

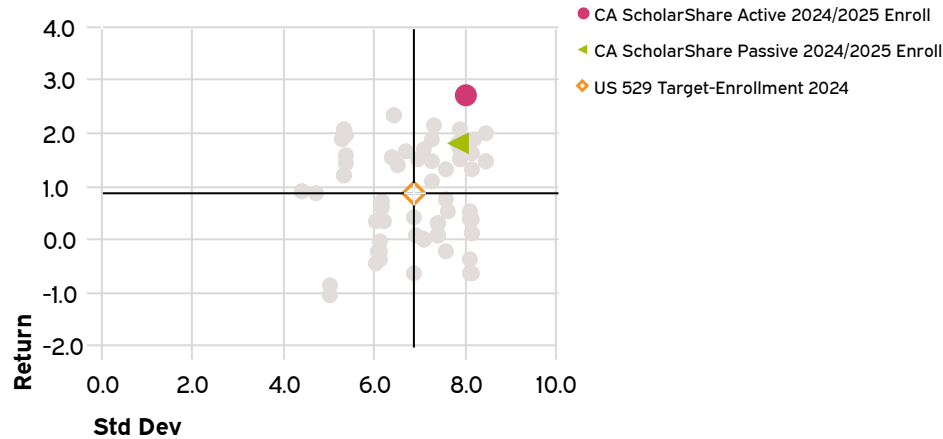
● CA ScholarShare Passive Enroll Yr Port

### Year-of-Enrollment Option Analysis

#### Risk-Reward

Time Period: 10/1/2020 to 9/30/2023

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2024



#### Risk

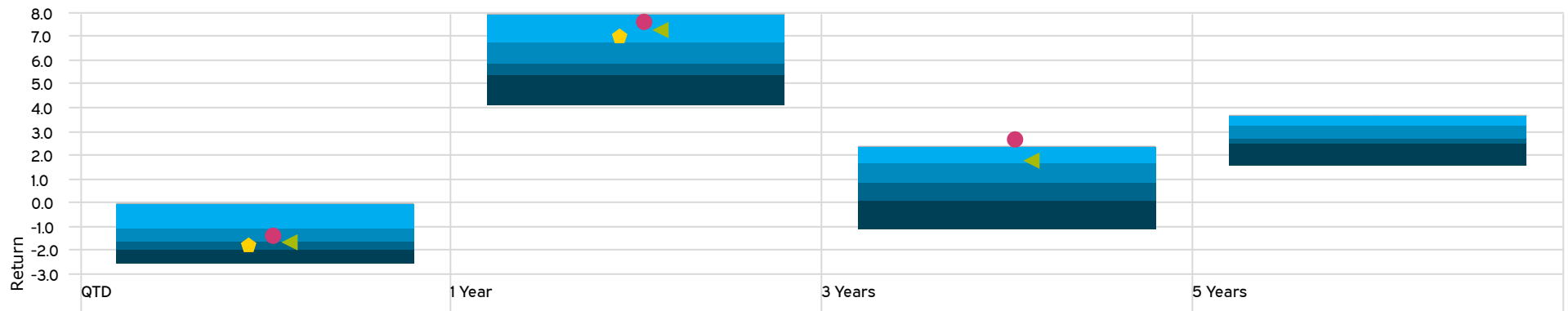
Time Period: 10/1/2020 to 9/30/2023 Peer Group: 529 Portfolios - U.S. - Target-Enrollment 2024

	Return	Peer group percentile	Std Dev	Peer group percentile	Sharpe Ratio (arith)
CA ScholarShare Active 2024/2025 Enroll	2.71	3	8.00	19	0.08
CA ScholarShare Passive 2024/2025 Enroll	1.81	17	7.83	28	-0.03
Median	0.88		7.26		-0.20
Count	49		49		49

#### Performance Relative to Peer Group

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2024

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



● CA ScholarShare Active 2024/2025 Enroll

● CA ScholarShare ESG 2024/2025 Enroll

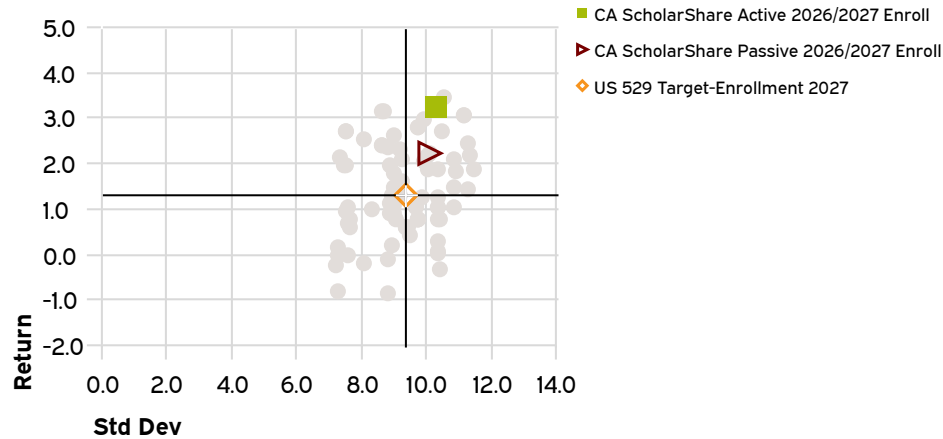
▲ CA ScholarShare Passive 2024/2025 Enroll

### Year-of-Enrollment Option Analysis

#### Risk-Reward

Time Period: 10/1/2020 to 9/30/2023

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2027



#### Risk

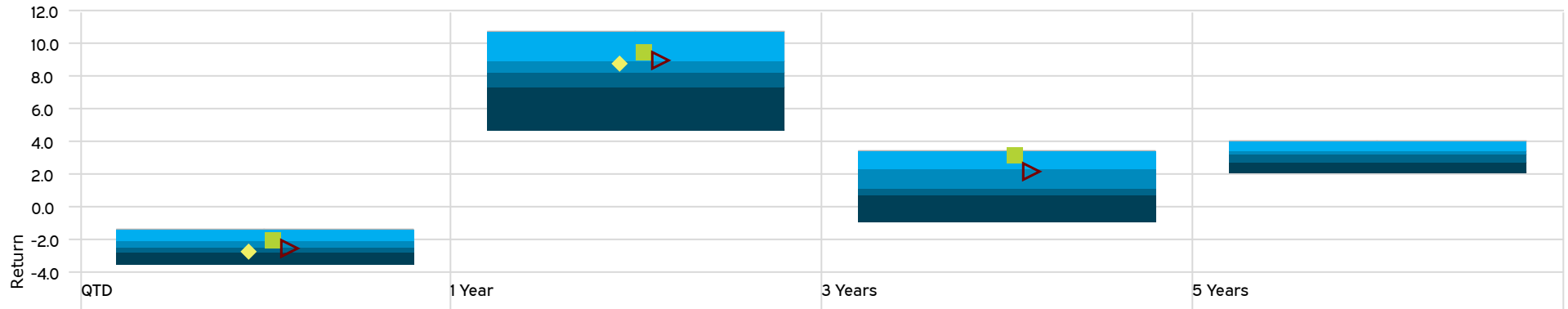
Time Period: 10/1/2020 to 9/30/2023 Peer Group: 529 Portfolios - U.S. - Target-Enrollment 2027

	Return	Peer group percentile	Std Dev	Peer group percentile	Sharpe Ratio (arith)
CA ScholarShare Active 2026/2027 Enroll	3.22	7	10.32	29	0.11
CA ScholarShare Passive 2026/2027 Enroll	2.23	26	10.09	31	0.02
Median	1.15		9.68		-0.08
Count	57		57		57

#### Performance Relative to Peer Group

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2027

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



■ CA ScholarShare Active 2026/2027 Enroll

◆ CA ScholarShare ESG 2026/2027 Enroll

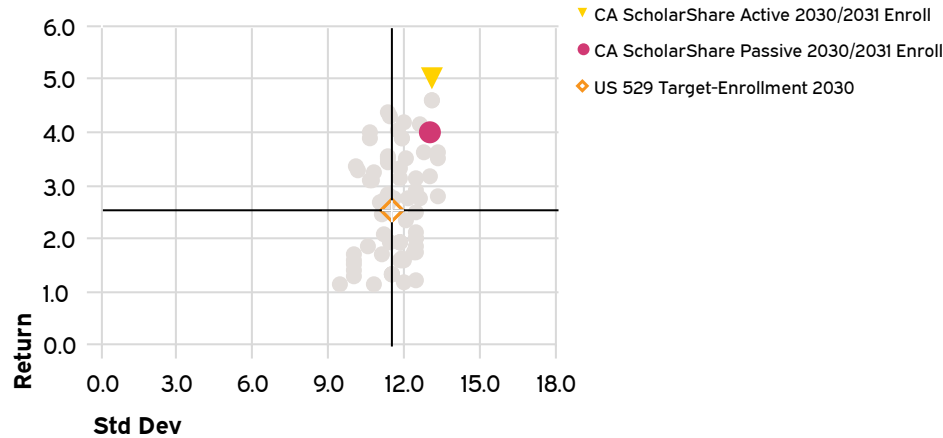
▴ CA ScholarShare Passive 2026/2027 Enroll

### Year-of-Enrollment Option Analysis

#### Risk-Reward

Time Period: 10/1/2020 to 9/30/2023

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2030



#### Risk

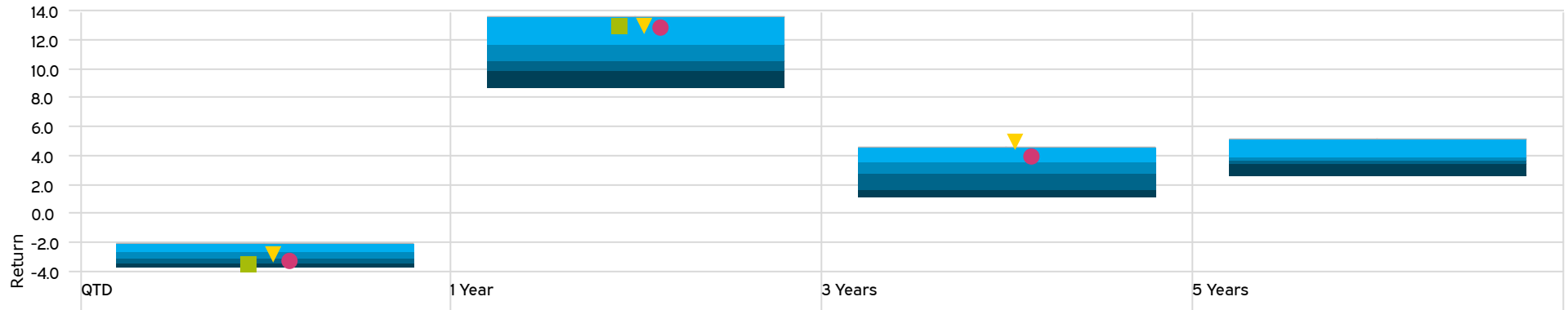
Time Period: 10/1/2020 to 9/30/2023 Peer Group: 529 Portfolios - U.S. - Target-Enrollment 2030

	Return	Peer group percentile	Std Dev	Peer group percentile	Sharpe Ratio (arith)
CA ScholarShare Active 2030/2031 Enroll	5.00	1	13.09	10	0.23
CA ScholarShare Passive 2030/2031 Enroll	4.00	19	13.00	19	0.15
Median	2.72		11.85		0.06
Count	56		56		56

#### Performance Relative to Peer Group

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2030

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



CA ScholarShare Active 2030/2031 Enroll

CA ScholarShare ESG 2030/2031 Enroll

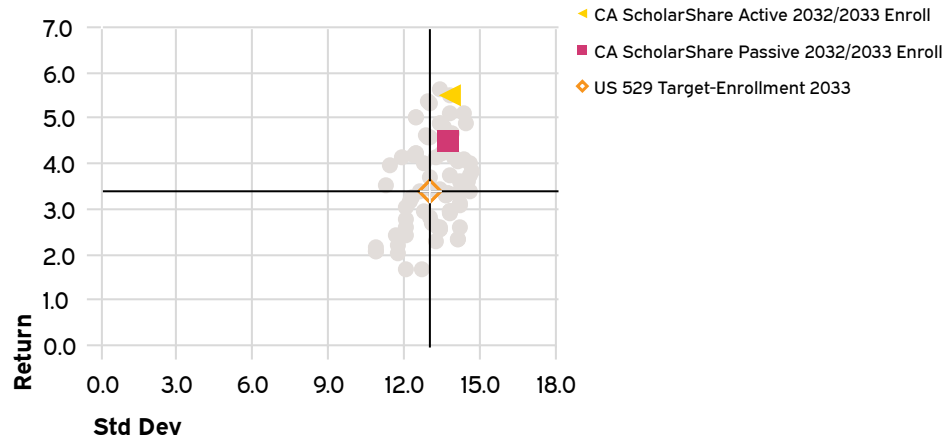
CA ScholarShare Passive 2030/2031 Enroll

### Year-of-Enrollment Option Analysis

#### Risk-Reward

Time Period: 10/1/2020 to 9/30/2023

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2033



#### Risk

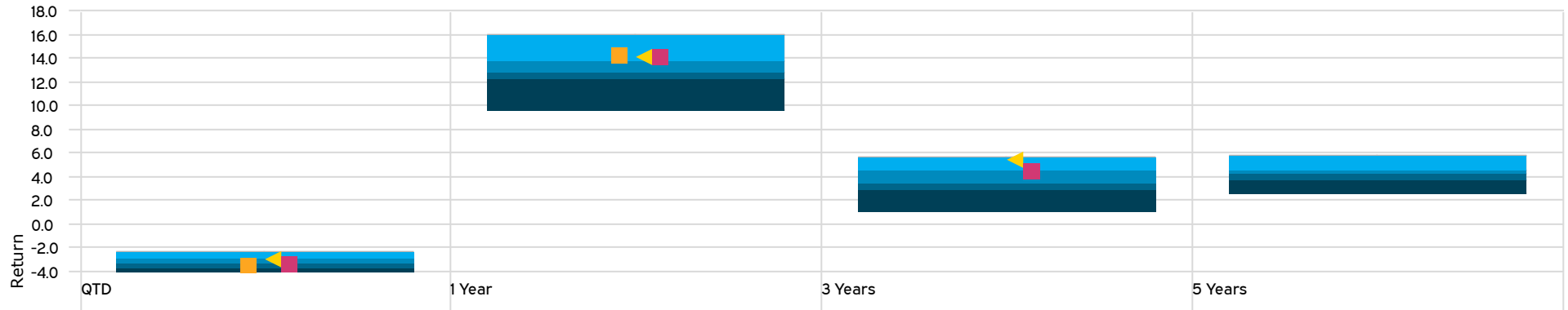
Time Period: 10/1/2020 to 9/30/2023 Peer Group: 529 Portfolios - U.S. - Target-Enrollment 2033

	Return	Peer group percentile	Std Dev	Peer group percentile	Sharpe Ratio (arith)
CA ScholarShare Active 2032/2033 Enroll	5.50	7	13.78	35	0.25
CA ScholarShare Passive 2032/2033 Enroll	4.47	26	13.68	40	0.18
Median	3.43		13.49		0.11
Count	56		56		56

#### Performance Relative to Peer Group

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2033

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



CA ScholarShare Active 2032/2033 Enroll

CA ScholarShare ESG 2032/2033 Enroll

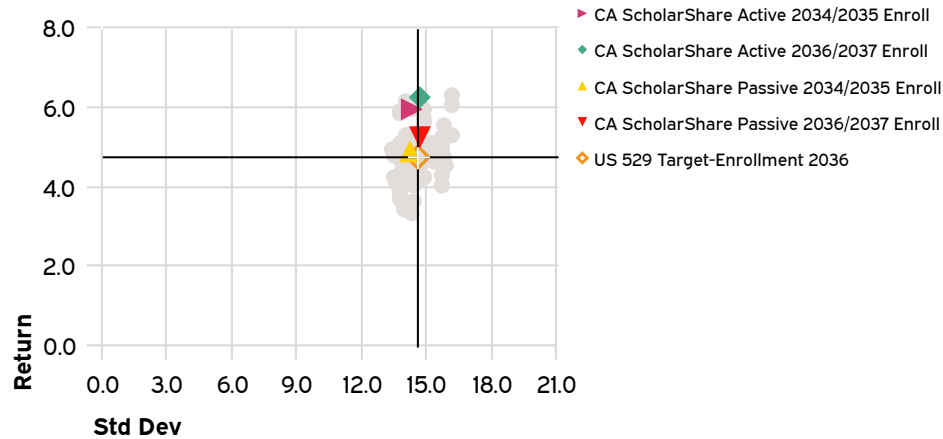
CA ScholarShare Passive 2032/2033 Enroll

### Year-of-Enrollment Option Analysis

#### Risk-Reward

Time Period: 10/1/2020 to 9/30/2023

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2036



#### Risk

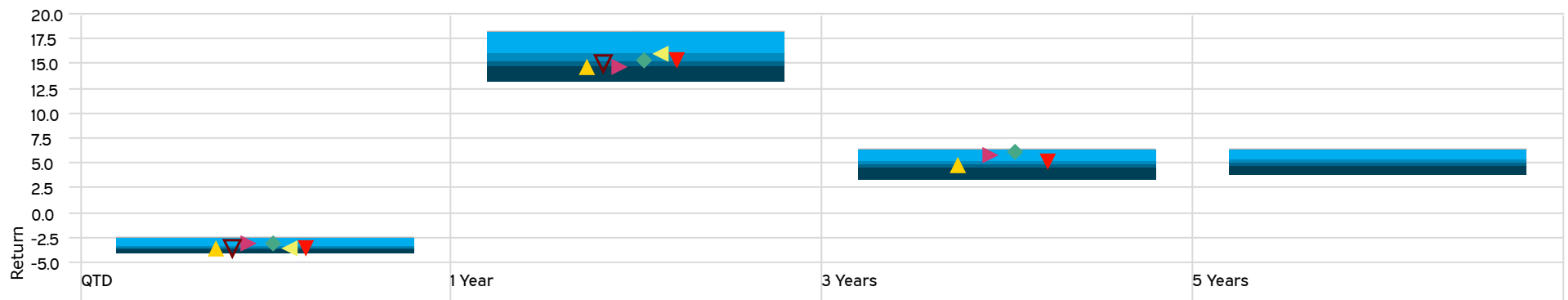
Time Period: 10/1/2020 to 9/30/2023 Peer Group: 529 Portfolios - U.S. - Target-Enrollment 2036

	Return	Peer group percentile	Std Dev	Peer group percentile	Sharpe Ratio (arith)
CA ScholarShare Active 2034/2035 Enroll	5.91	11	14.30	75	0.27
CA ScholarShare Active 2036/2037 Enroll	6.24	7	14.73	52	0.28
CA ScholarShare Passive 2034/2035 Enroll	4.87	51	14.20	77	0.20
CA ScholarShare Passive 2036/2037 Enroll	5.21	26	14.68	54	0.22
Median	4.88		14.78		0.20
Count	56		56		56

#### Performance Relative to Peer Group

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2036

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



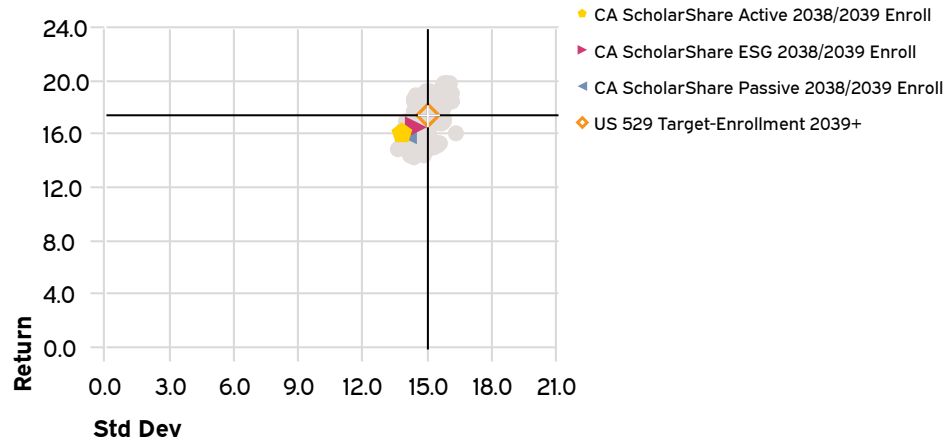
▶ CA ScholarShare Active 2034/2035 Enroll     
 ◆ CA ScholarShare Active 2036/2037 Enroll     
 ▼ CA ScholarShare ESG 2034/2035 Enroll  
▲ CA ScholarShare ESG 2036/2037 Enroll     
 ▲ CA ScholarShare Passive 2034/2035 Enroll     
 ▼ CA ScholarShare Passive 2036/2037 Enroll

### Year-of-Enrollment Option Analysis

#### Risk-Reward

Time Period: 10/1/2022 to 9/30/2023

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2039+



#### Risk

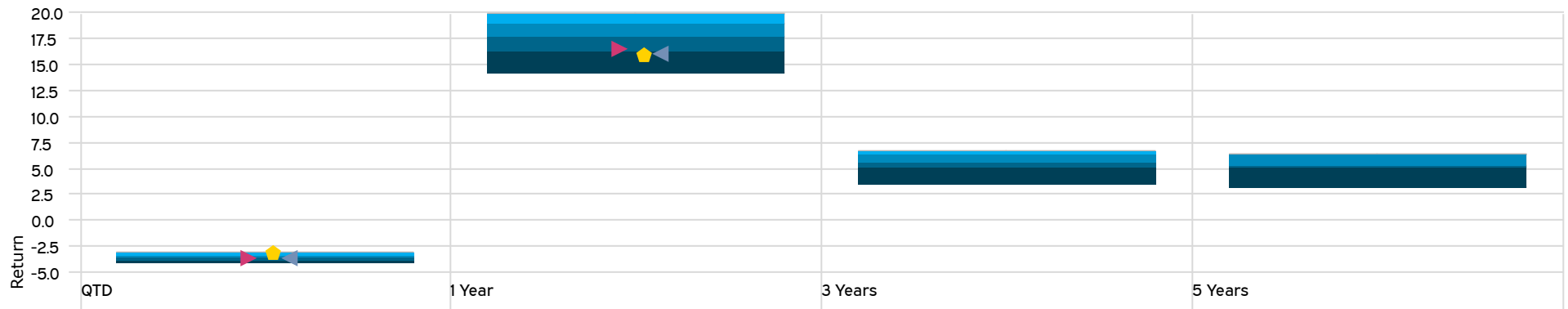
Time Period: 10/1/2022 to 9/30/2023 Peer Group: 529 Portfolios - U.S. - Target-Enrollment 2039+

	Return	Peer group percentile	Std Dev	Peer group percentile	Sharpe Ratio (arith)
CA ScholarShare Active 2038/2039 Enroll	15.99	80	13.85	94	0.79
CA ScholarShare ESG 2038/2039 Enroll	16.56	71	14.50	74	0.79
CA ScholarShare Passive 2038/2039 Enroll	16.11	77	14.04	83	0.79
Median	17.70		15.21		0.82
Count	89		89		89

#### Performance Relative to Peer Group

Peer Group (5-95%): 529 Portfolios - U.S. - Target-Enrollment 2039+

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● CA ScholarShare Active 2038/2039 Enroll

▲ CA ScholarShare ESG 2038/2039 Enroll

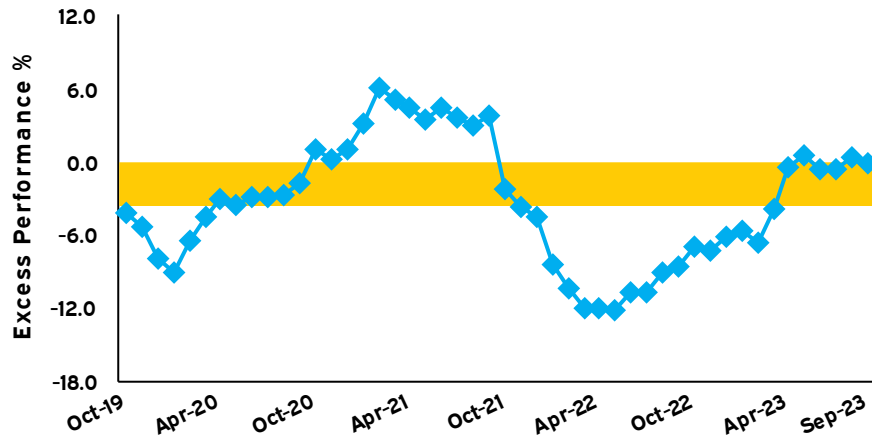
◀ CA ScholarShare Passive 2038/2039 Enroll



## **Active Underlying Fund Analysis**

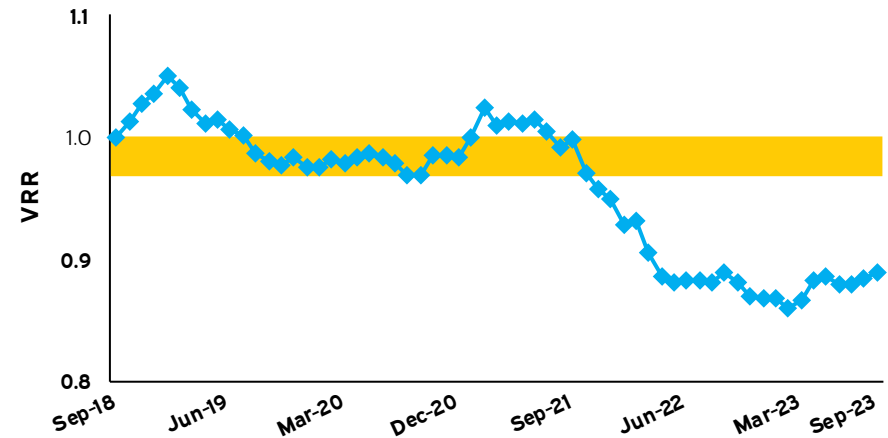
### TRowe Price Large Cap Growth I | As of September 30, 2023

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



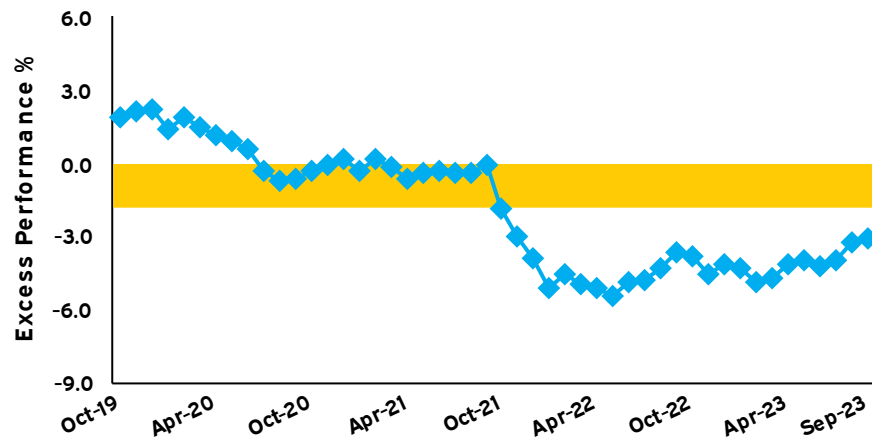
Results fall in the positive range.  
Probationary Threshold - 3.50%

#### Long Term - VRR



Results fall in the caution range.  
Probationary Threshold <0.97

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



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TRowe Price Large Cap Growth I	-2.0 (8)	27.7 (25)	4.9 (49)	9.8 (39)	15.4 (6)	12/1/2011
Russell 1000 Growth Index	-3.1 (32)	27.7 (25)	8.0 (15)	12.4 (7)	15.3 (7)	
Large Growth Median	-3.7	24.5	4.8	9.2	13.2	

#### Monitoring Status

Caution, On Watch

### Objective

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

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

### Account Information

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

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TRowe Price Large Cap Growth I	-2.0 (8)	28.0 (14)	27.7 (25)	4.9 (49)	9.8 (39)
Russell 1000 Growth Index	-3.1 (32)	25.0 (26)	27.7 (25)	8.0 (15)	12.4 (7)
Large Growth Median	-3.7	21.3	24.5	4.8	9.2

	2022	2021	2020	2019	2018
TRowe Price Large Cap Growth I	-35.2 (77)	23.2 (40)	39.6 (34)	28.5 (84)	4.3 (8)
Russell 1000 Growth Index	-29.1 (38)	27.6 (16)	38.5 (37)	36.4 (20)	-1.5 (49)
Large Growth Median	-30.9	22.0	35.0	32.8	-1.6

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

### Portfolio Characteristics vs Russell 1000 Growth Index

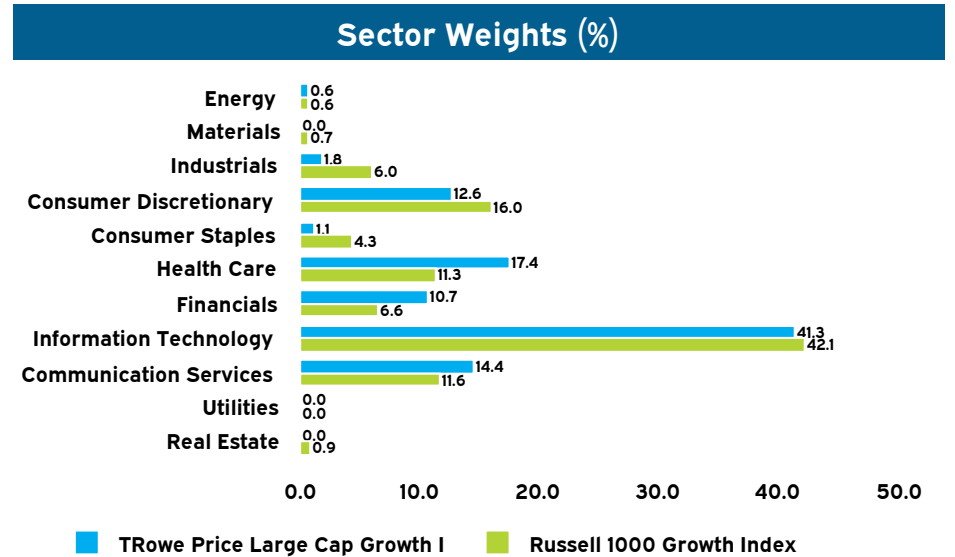
	Portfolio	Index
# of Holdings	49	446
Wtd. Avg. Mkt. Cap	933.4	952.6
Median Mkt. Cap	75.0	15.8
P/E Ratio	35.4	31.8
Yield	0.5	0.8
EPS Growth - 5 Yrs.	19.7	20.4
Price/Book ratio	6.8	10.4
Beta	1.0	1.0

### Risk Statistics

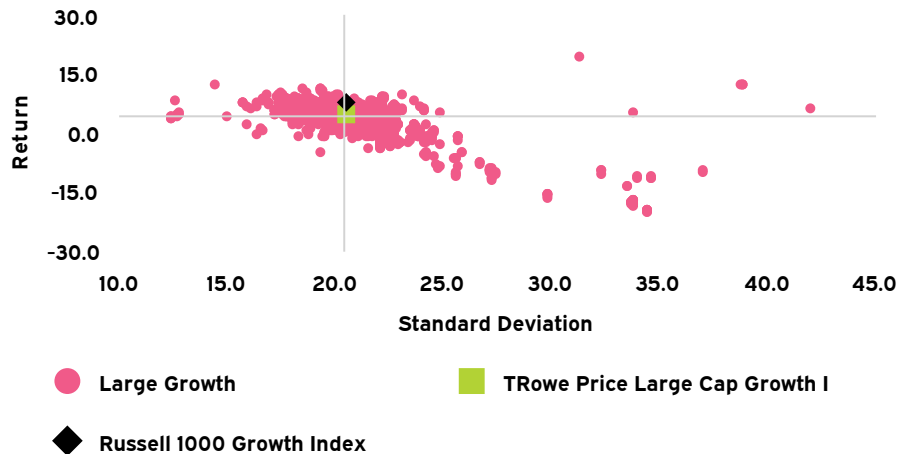
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	20.5	21.0
Tracking Error	4.2	3.8
Up Capture	88.9	91.6
Down Capture	96.0	96.6
Consistency	44.4	43.3
Alpha	-2.6	-2.1
Sharpe Ratio	0.3	0.5

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

Top Holdings	
Microsoft Corp	13.2
Apple Inc	8.7
Alphabet Inc	7.5
Amazon.com Inc	7.3
NVIDIA Corporation	5.9
Unitedhealth Group Inc	4.2
Meta Platforms Inc	3.9
Intuit Inc.	3.7
Mastercard Inc	3.1
The Cigna Group	2.9
<b>% of Portfolio</b>	<b>60.4</b>

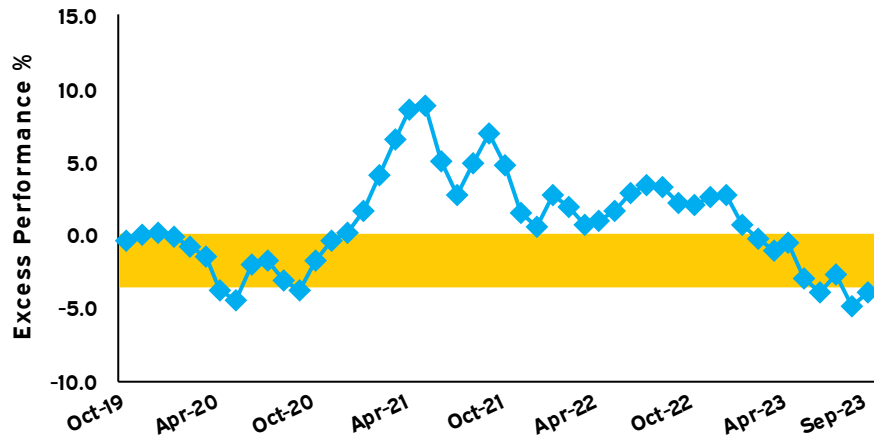


### Return vs. Standard Deviation 3 Years Ending September 30, 2023



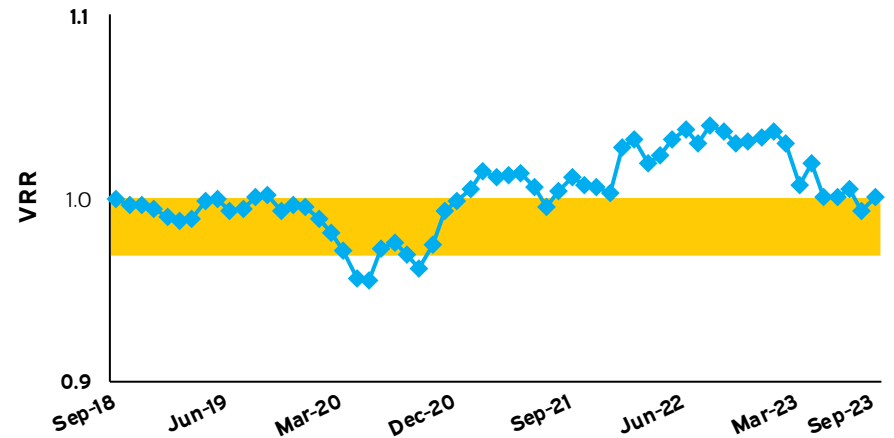
### TRowe Price Large Cap Value I | As of September 30, 2023

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



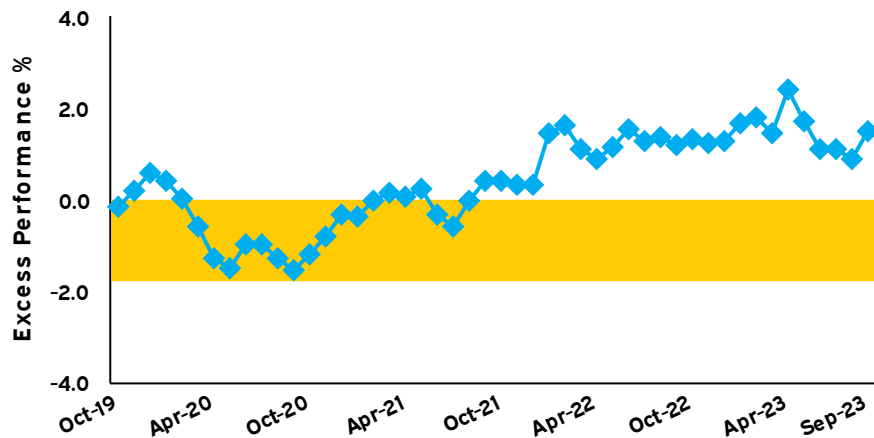
Results fall in the acceptable range.  
Probationary Threshold - 3.50%

#### Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

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



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TRowe Price Large Cap Value I	-3.2 (67)	10.6 (84)	12.6 (39)	6.3 (54)	10.8 (27)	12/1/2011
Russell 1000 Value Index	-3.2 (66)	14.4 (50)	11.1 (60)	6.2 (55)	10.5 (36)	
Large Value Median	-2.6	14.4	11.8	6.4	10.1	

#### Monitoring Status

Acceptable

### Objective

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

The fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in securities of large-cap companies that the portfolio manager regards as undervalued. The manager defines a large-cap company as having a market capitalization that, at the time of purchase, is either (i) larger than the current median market capitalization of companies in the Russell 1000® Value Index or (ii) larger than the three year average median market capitalization of companies in the index as of December 31 of the three preceding years.

### Account Information

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

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TRowe Price Large Cap Value I	-3.2 (67)	-1.4 (82)	10.6 (84)	12.6 (39)	6.3 (54)
Russell 1000 Value Index	-3.2 (66)	1.8 (47)	14.4 (50)	11.1 (60)	6.2 (55)
Large Value Median	-2.6	1.5	14.4	11.8	6.4

	2022	2021	2020	2019	2018
TRowe Price Large Cap Value I	-4.8 (42)	25.8 (55)	3.0 (47)	26.7 (35)	-9.3 (59)
Russell 1000 Value Index	-7.5 (69)	25.2 (62)	2.8 (50)	26.5 (37)	-8.3 (43)
Large Value Median	-5.5	26.1	2.7	25.5	-8.8

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

### Portfolio Characteristics vs Russell 1000 Value Index

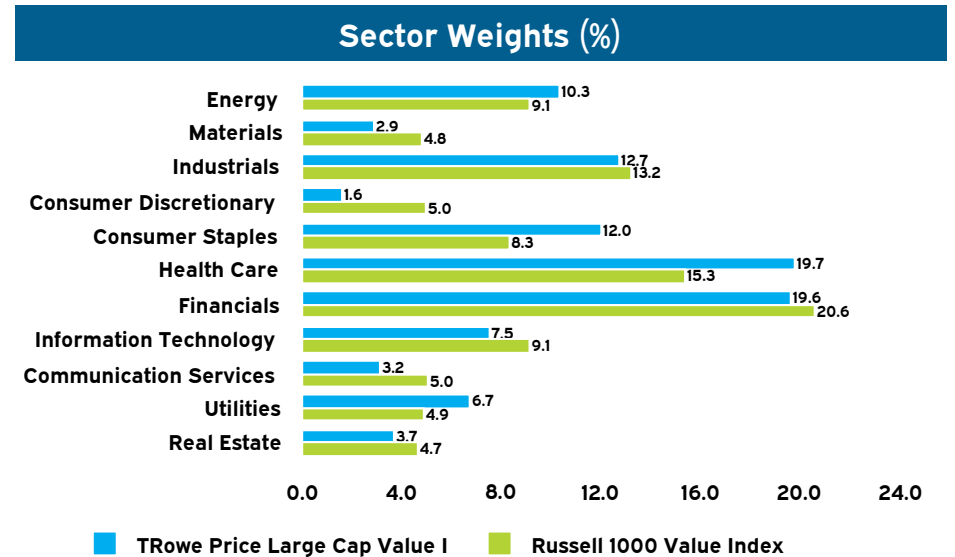
	Portfolio	Index
# of Holdings	76	845
Wtd. Avg. Mkt. Cap	132.6	137.9
Median Mkt. Cap	58.8	11.5
P/E Ratio	14.9	15.3
Yield	3.1	2.5
EPS Growth - 5 Yrs.	10.5	15.7
Price/Book ratio	2.2	2.4
Beta	1.0	1.0

### Risk Statistics

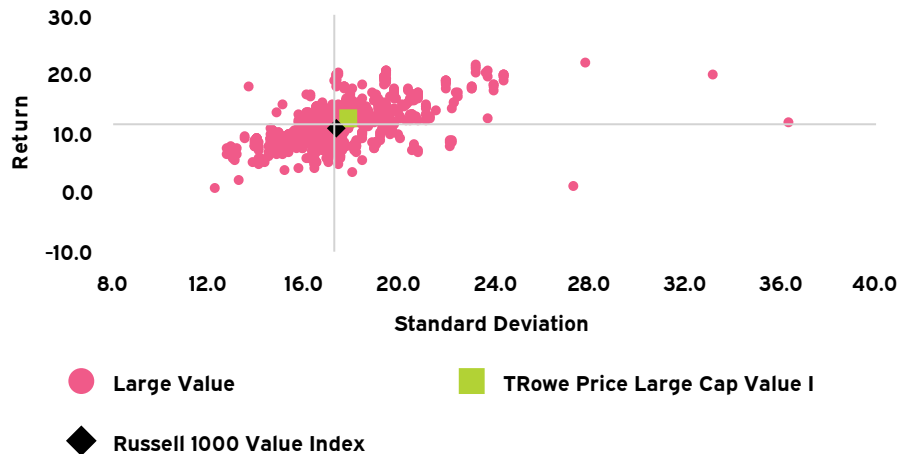
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.9	19.5
Tracking Error	3.3	3.0
Up Capture	102.9	100.0
Down Capture	97.2	99.5
Consistency	61.1	51.7
Alpha	1.3	0.0
Sharpe Ratio	0.7	0.3

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

Top Holdings	
Southern Co (The)	3.1
Chubb Ltd	3.0
TotalEnergies SE	3.0
QUALCOMM Inc.	2.8
Philip Morris International Inc	2.8
Wells Fargo & Co	2.8
Johnson & Johnson	2.6
Walmart Inc	2.6
Elevance Health Inc	2.4
Bank of America Corp	2.3
<b>% of Portfolio</b>	<b>27.4</b>

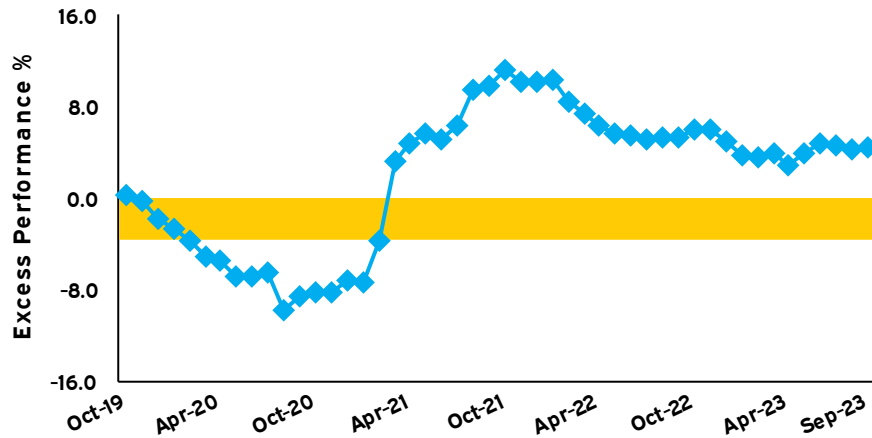


### Return vs. Standard Deviation 3 Years Ending September 30, 2023



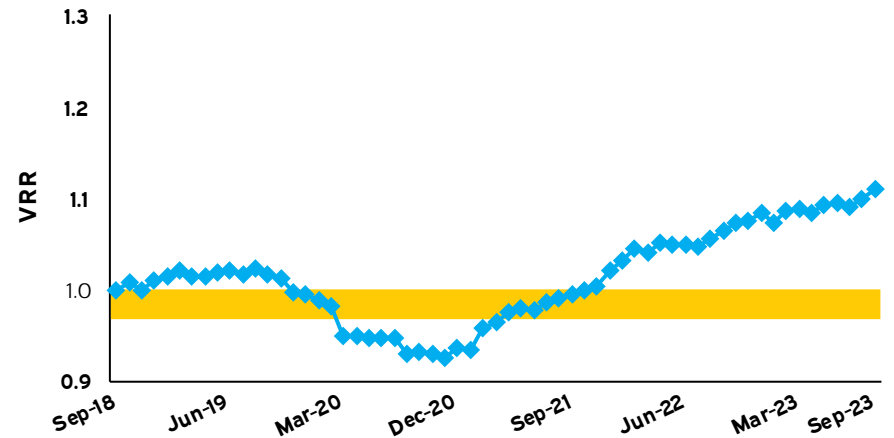
### TIAA-CREF Quant Small Cap Equity I | As of September 30, 2023

Short Term - Rolling 12-Month Excess Return



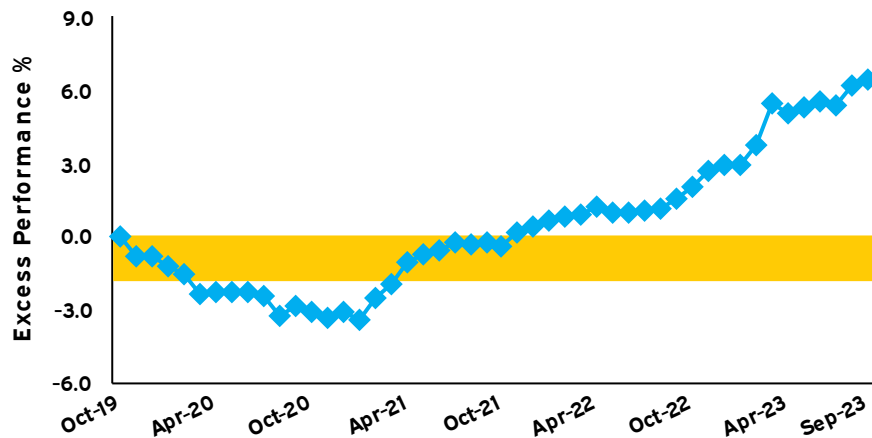
Results fall in the positive range.  
Probationary Threshold - 3.50%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

Medium Term - Rolling 36-Month Excess Return



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Quant Small Cap Equity I	-3.9 (39)	13.5 (35)	13.6 (30)	4.6 (34)	10.4 (26)	12/1/2011
Russell 2000 Index	-5.1 (61)	8.9 (73)	7.2 (63)	2.4 (74)	9.2 (58)	
Small Cap Median	-4.7	11.3	10.1	3.7	9.5	

#### Monitoring Status

Positive



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

#### Objective

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

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Quant Small Cap Equity I	-3.9 (39)	5.0 (33)	13.5 (35)	13.6 (30)	4.6 (34)
Russell 2000 Index	-5.1 (61)	2.5 (60)	8.9 (73)	7.2 (63)	2.4 (74)
Small Cap Median	-4.7	3.3	11.3	10.1	3.7

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

#### Portfolio Characteristics vs Russell 2000 Index

	Portfolio	Index
# of Holdings	396	1,985
Wtd. Avg. Mkt. Cap	3.3	2.8
Median Mkt. Cap	2.0	0.8
P/E Ratio	12.3	12.5
Yield	1.4	1.7
EPS Growth - 5 Yrs.	19.5	15.4
Price/Book ratio	2.5	2.3
Beta	1.0	1.0

#### Risk Statistics

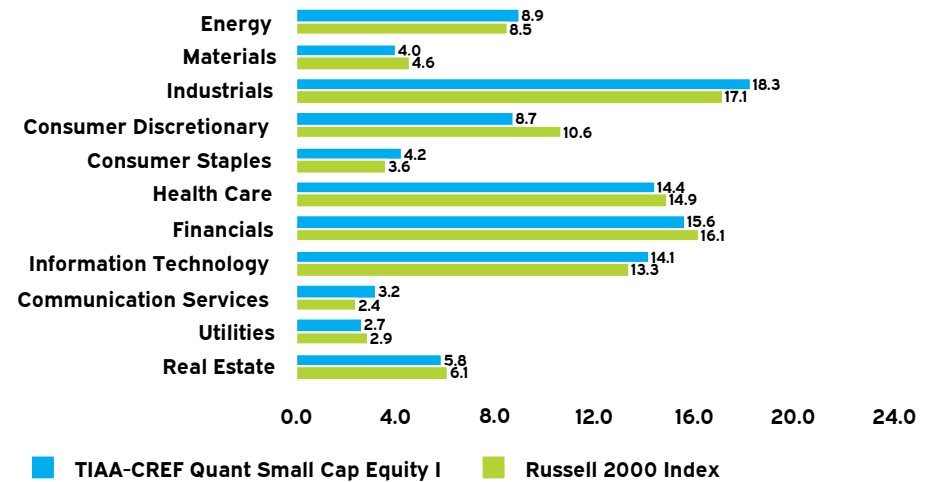
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	21.6	24.3
Tracking Error	2.6	3.0
Up Capture	107.2	101.3
Down Capture	87.2	94.4
Consistency	72.2	58.3
Alpha	6.2	2.2
Sharpe Ratio	0.6	0.2

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

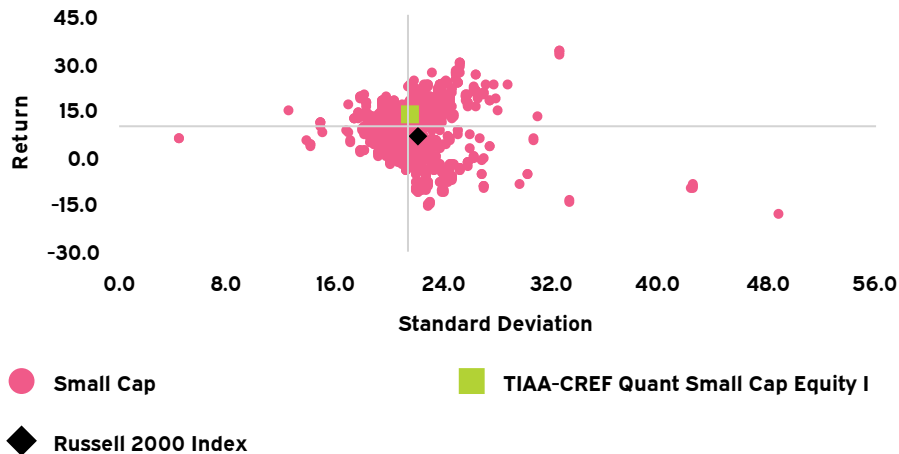
#### Top Holdings

Super Micro Computer Inc	1.2
Comfort Systems USA Inc.	1.0
e.l.f. Beauty Inc	0.9
Murphy Oil Corp	0.8
Sanmina Corp	0.8
California Resources Corp	0.7
Atkore Inc	0.7
BellRing Brands Inc	0.6
Belden Inc	0.6
Rambus Inc	0.6
<b>% of Portfolio</b>	<b>7.9</b>

#### Sector Weights (%)

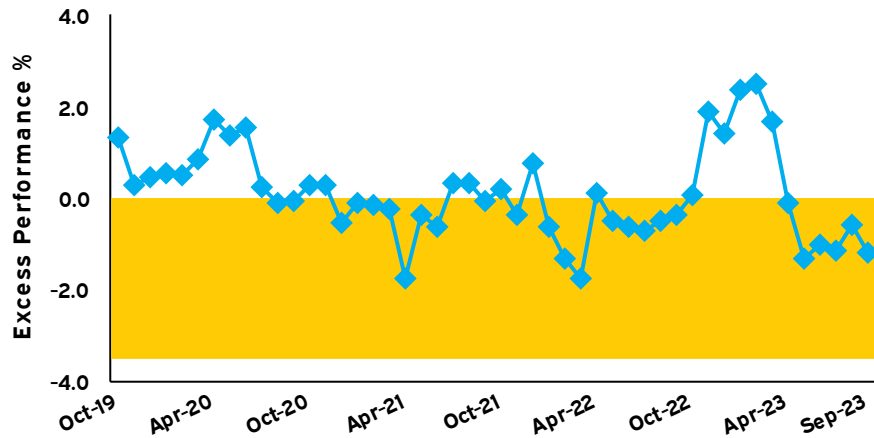


#### Return vs. Standard Deviation 3 Years Ending September 30, 2023



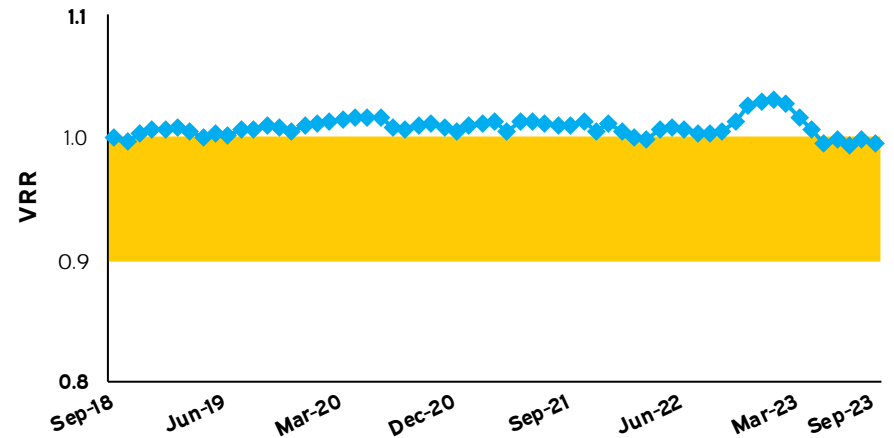
### TIAA-CREF Social Choice Equity I | As of September 30, 2023

Short Term - Rolling 12-Month Excess Return



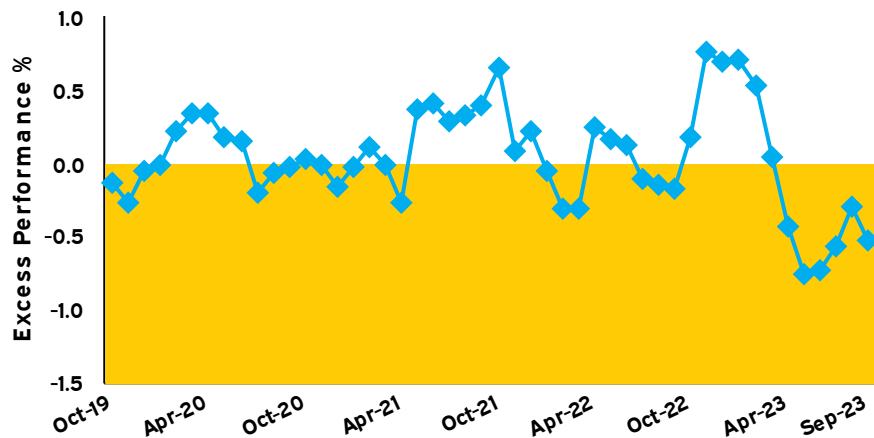
Results fall in the acceptable range.  
Probationary Threshold - 5.00%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.90

Medium Term - Rolling 36-Month Excess Return



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

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Social Choice Equity I	-3.4 (63)	19.3 (60)	8.9 (62)	9.1 (42)	11.5 (32)	1/1/2016
Russell 3000 Index	-3.3 (48)	20.5 (48)	9.4 (50)	9.1 (40)	11.6 (27)	
Large Blend Median	-3.3	20.3	9.4	8.8	10.9	

### Monitoring Status

Acceptable

### Objective

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

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

### Account Information

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

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Social Choice Equity I	-3.4 (63)	8.7 (68)	19.3 (60)	8.9 (62)	9.1 (42)
Russell 3000 Index	-3.3 (48)	12.4 (38)	20.5 (48)	9.4 (50)	9.1 (40)
Large Blend Median	-3.3	11.3	20.3	9.4	8.8

	2022	2021	2020	2019	2018
TIAA-CREF Social Choice Equity I	-17.8 (48)	26.5 (52)	20.3 (24)	31.5 (23)	-5.5 (49)
Russell 3000 Index	-19.2 (71)	25.7 (62)	20.9 (20)	31.0 (34)	-5.2 (43)
Large Blend Median	-18.1	26.7	17.1	29.8	-5.6

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

### Portfolio Characteristics vs Russell 3000 Index

	Portfolio	Index
# of Holdings	472	2,994
Wtd. Avg. Mkt. Cap	327.6	538.6
Median Mkt. Cap	6.2	1.8
P/E Ratio	21.8	20.6
Yield	1.7	1.6
EPS Growth - 5 Yrs.	17.5	18.1
Price/Book ratio	4.2	4.0
Beta	1.0	1.0

### Risk Statistics

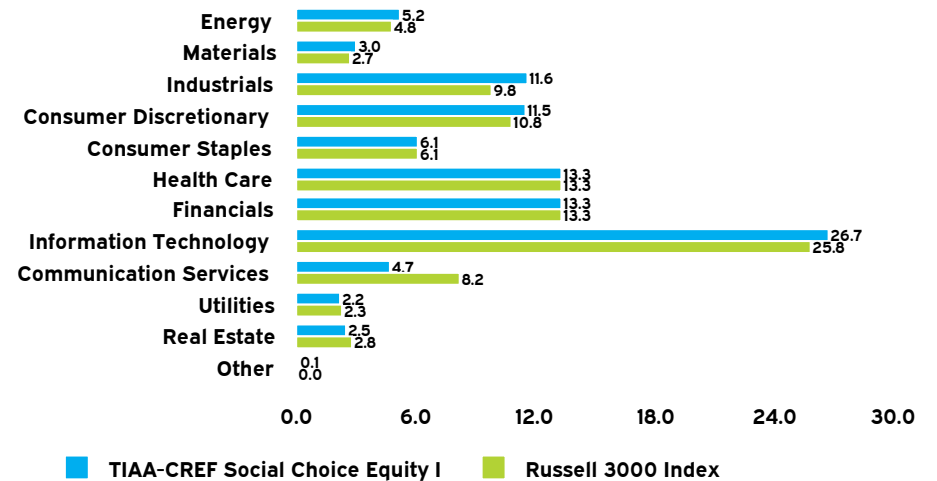
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	18.0	19.3
Tracking Error	1.9	1.7
Up Capture	98.5	98.9
Down Capture	100.0	98.8
Consistency	50.0	53.3
Alpha	-0.5	0.0
Sharpe Ratio	0.5	0.5

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

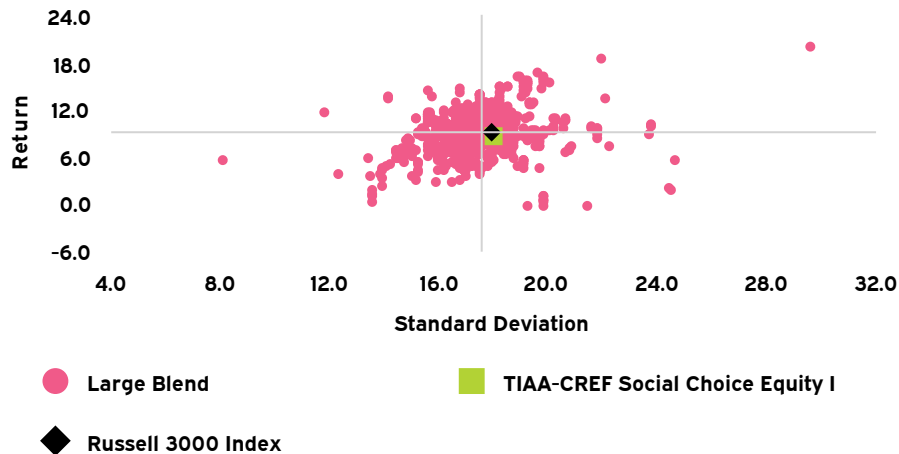
#### Top Holdings

Microsoft Corp	6.1
NVIDIA Corporation	2.9
Amazon.com Inc	2.8
Tesla Inc	2.2
Eli Lilly and Co	1.6
Procter & Gamble Co (The)	1.3
Mastercard Inc	1.3
Home Depot Inc. (The)	1.2
Unitedhealth Group Inc	1.1
Merck & Co Inc	1.1
<b>% of Portfolio</b>	<b>21.6</b>

#### Sector Weights (%)

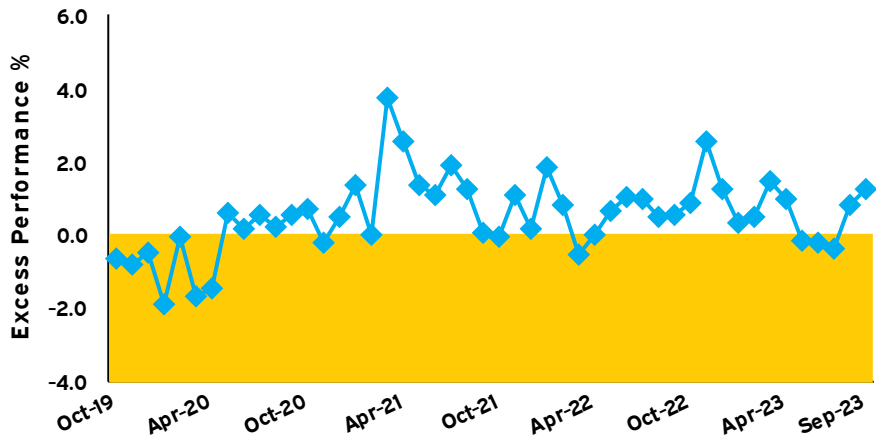


#### Return vs. Standard Deviation 3 Years Ending September 30, 2023



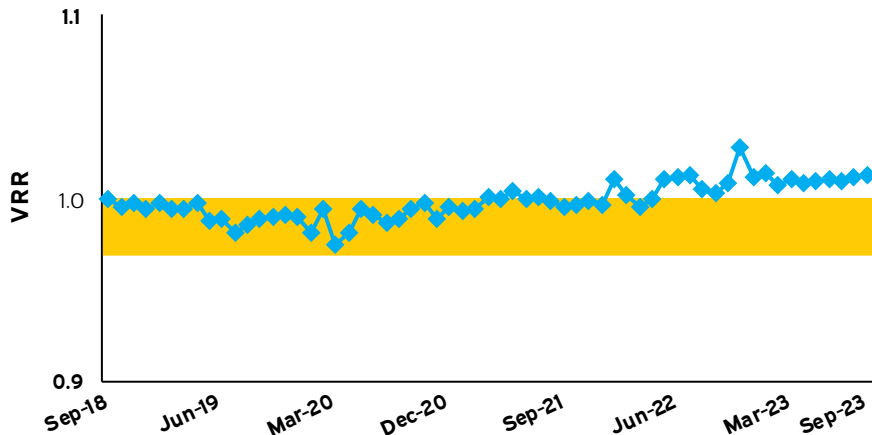
### DFA Large Cap International I | As of September 30, 2023

Short Term - Rolling 12-Month Excess Return



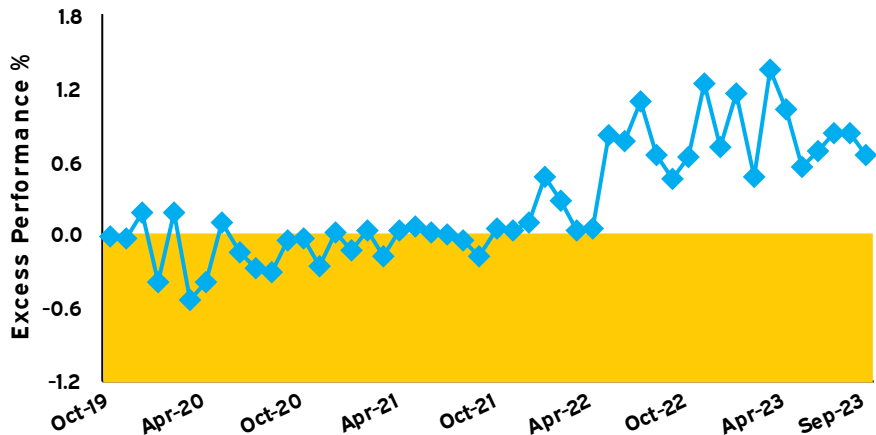
Results fall in the positive range.  
Probationary Threshold - 4.50%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

Medium Term - Rolling 36-Month Excess Return



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

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
DFA Large Cap International I	-3.9 (24)	25.3 (31)	6.7 (13)	3.7 (23)	5.9 (30)	12/1/2011
MSCI World ex U.S. (Net)	-4.1 (31)	24.0 (45)	6.1 (18)	3.4 (29)	5.7 (38)	
Foreign Large Blend Median	-4.7	23.2	4.3	2.8	5.4	

### Monitoring Status

Positive

### Objective

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

### Account Information

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

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
DFA Large Cap International I	-3.9 (24)	6.9 (27)	25.3 (31)	6.7 (13)	3.7 (23)
MSCI World ex U.S. (Net)	-4.1 (31)	6.7 (30)	24.0 (45)	6.1 (18)	3.4 (29)
Foreign Large Blend Median	-4.7	5.7	23.2	4.3	2.8

	2022	2021	2020	2019	2018
DFA Large Cap International I	-13.0 (16)	12.8 (18)	8.1 (63)	22.0 (51)	-14.1 (36)
MSCI World ex U.S. (Net)	-14.3 (27)	12.6 (20)	7.6 (71)	22.5 (46)	-14.1 (34)
Foreign Large Blend Median	-15.9	10.3	9.7	22.1	-15.1

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

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

	Portfolio	Index
# of Holdings	1,232	883
Wtd. Avg. Mkt. Cap	109.4	77.9
Median Mkt. Cap	8.7	12.3
P/E Ratio	11.0	13.1
Yield	2.6	3.5
EPS Growth - 5 Yrs.	9.6	9.2
Price/Book ratio	2.3	2.4
Beta	1.0	1.0

### Risk Statistics

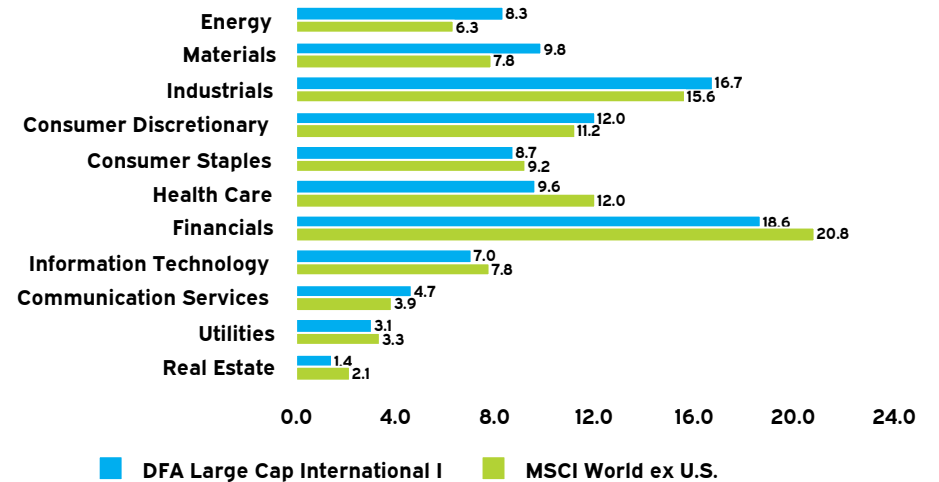
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	18.3	18.7
Tracking Error	2.2	2.3
Up Capture	104.8	104.7
Down Capture	103.2	104.1
Consistency	58.3	56.7
Alpha	0.6	0.2
Sharpe Ratio	0.4	0.2

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

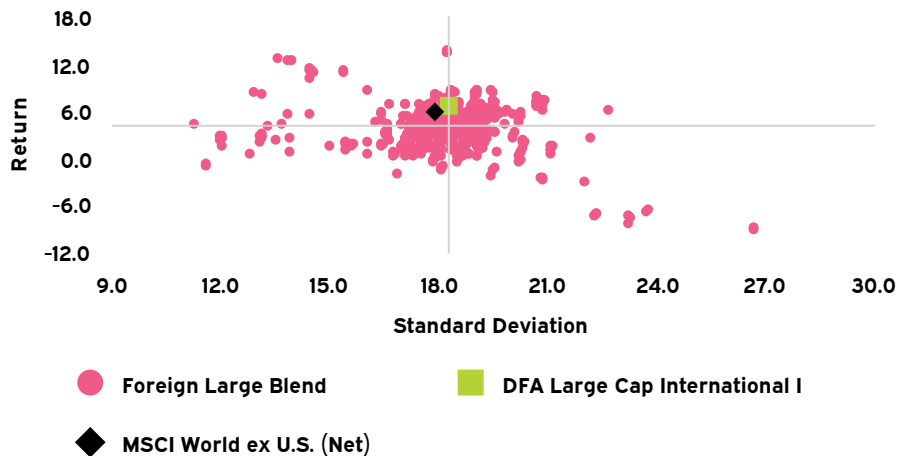
#### Top Holdings

Nestle SA, Cham Und Vevey	1.5
Shell Plc	1.3
TotalEnergies SE	1.2
LVMH Moet Hennessy Louis Vuitton SE	1.2
Roche Holding AG	1.1
ASML Holding NV	0.9
Toyota Motor Corp	0.8
Novo Nordisk A/S	0.8
Royal Bank of Canada	0.8
Novartis AG	0.7
<b>% of Portfolio</b>	<b>10.3</b>

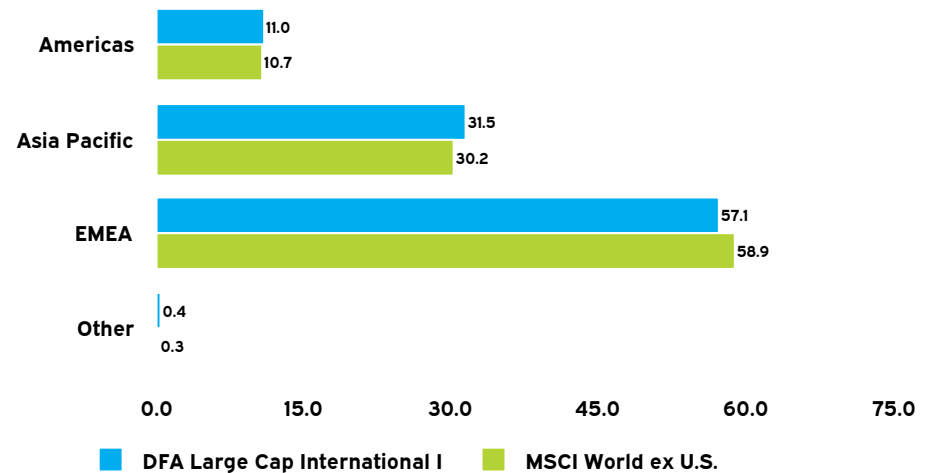
#### Sector Weights (%)



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

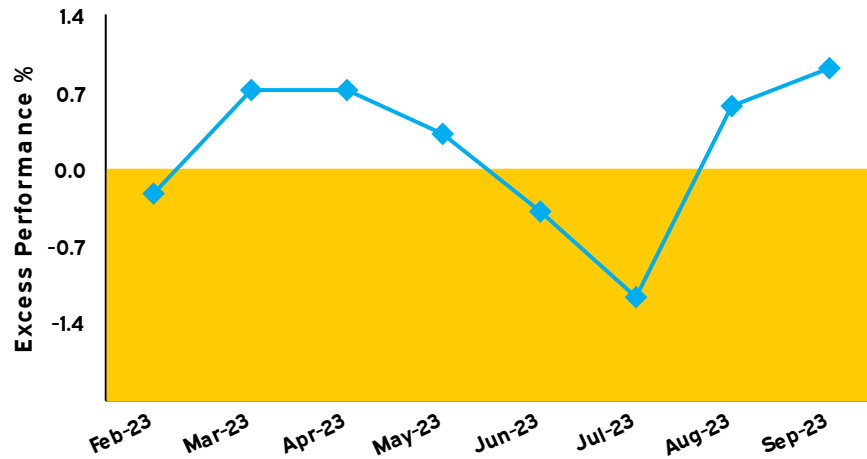


#### Region





Short Term - Rolling 12-Month Excess Return



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

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
TIAA-CREF Social Choice Intl Equity	-4.7 (50)	7.1 (24)	26.6 (15)	-1.3 (21)	3/1/2022
MSCI EAFE (Net)	-4.1 (31)	7.1 (23)	25.6 (27)	-1.3 (20)	
Foreign Large Blend Median	-4.7	5.7	23.2	-3.0	

#### Monitoring Status

Positive

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

#### Objective

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

Under normal circumstances, the fund invests at least 80% of its assets in equity securities of foreign issuers. The advisor attempts to achieve the return of the foreign equity markets, as represented by its benchmark index, the MSCI EAFE® (Europe, Australasia, Far East) Index (the "MSCI EAFE Index"), while taking into consideration certain ESG criteria.

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Social Choice Intl Equity	-4.7 (50)	7.1 (24)	26.6 (15)	-	-
MSCI EAFE (Net)	-4.1 (31)	7.1 (23)	25.6 (27)	5.8 (22)	3.2 (33)
Foreign Large Blend Median	-4.7	5.7	23.2	4.3	2.8

	2022	2021	2020	2019	2018
TIAA-CREF Social Choice Intl Equity	-	-	-	-	-
MSCI EAFE (Net)	-14.5 (30)	11.3 (37)	7.8 (68)	22.0 (52)	-13.8 (28)
Foreign Large Blend Median	-15.9	10.3	9.7	22.1	-15.1

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

	Portfolio	Index
# of Holdings	353	795
Wtd. Avg. Mkt. Cap	118.7	81.3
Median Mkt. Cap	14.4	12.1
P/E Ratio	9.2	13.0
Yield	2.3	3.5
EPS Growth - 5 Yrs.	9.2	9.3
Price/Book ratio	2.6	2.4
Beta	-	1.0

#### Risk Statistics

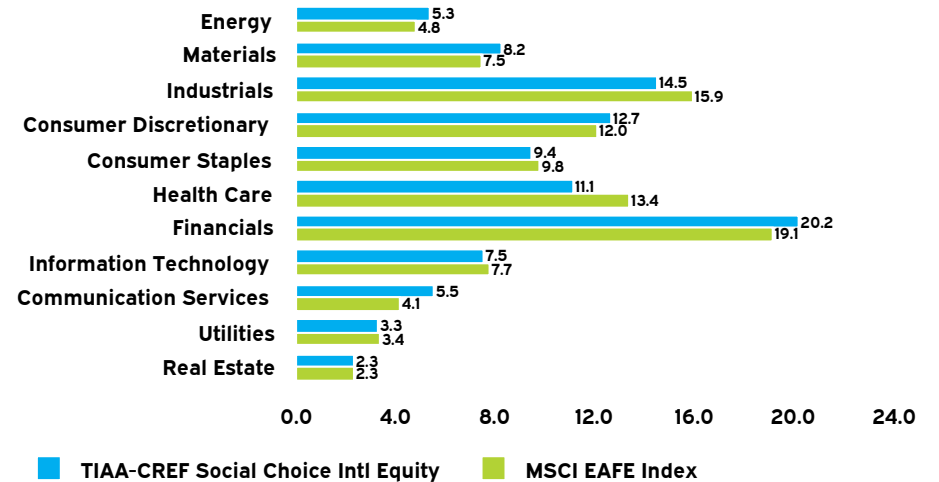
	1 Yr (%)
Standard Deviation	18.4
Tracking Error	3.4
Up Capture	103.9
Down Capture	102.9
Consistency	58.3
Alpha	-1.8
Sharpe Ratio	1.1

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

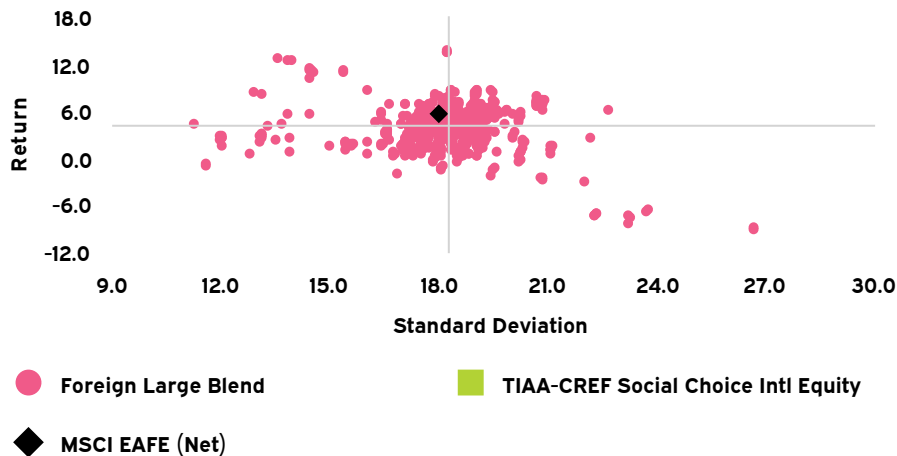
#### Top Holdings

Nestle SA, Cham Und Vevey	2.4
ASML Holding NV	1.9
Shell Plc	1.8
Novartis AG	1.8
Astrazeneca PLC	1.8
HSBC Holdings PLC	1.4
Toyota Motor Corp	1.4
TotalEnergies SE	1.4
SAP SE	1.2
Novo Nordisk A/S	1.2
<b>% of Portfolio</b>	<b>16.3</b>

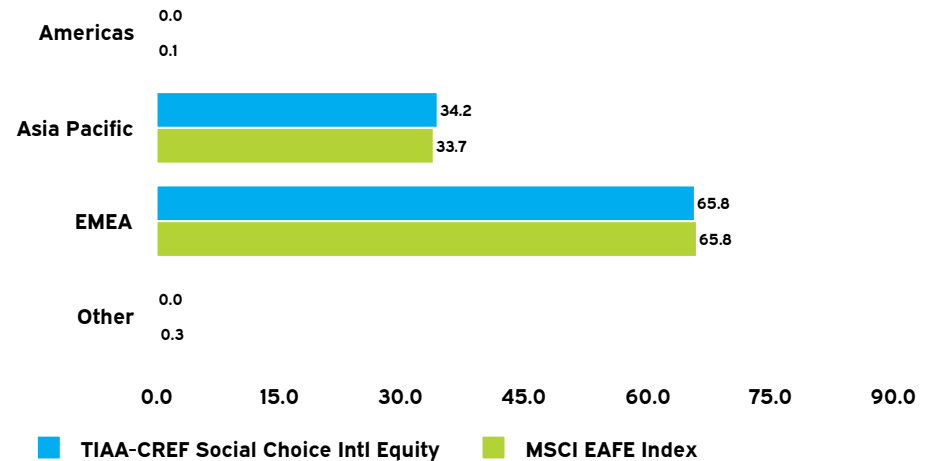
#### Sector Weights (%)



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

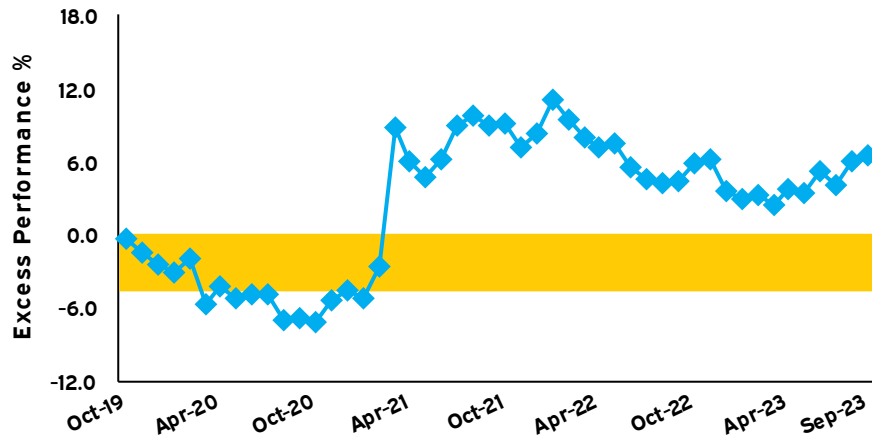


#### Region



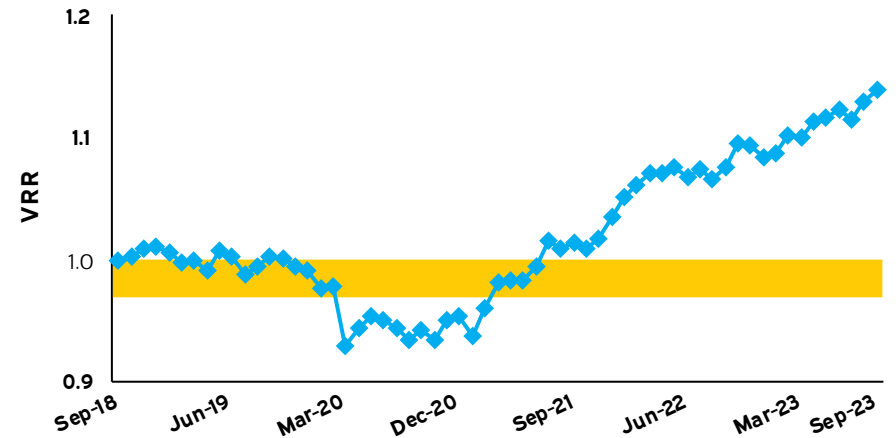
### DFA Emerging Markets Core Equity I | As of September 30, 2023

Short Term - Rolling 12-Month Excess Return



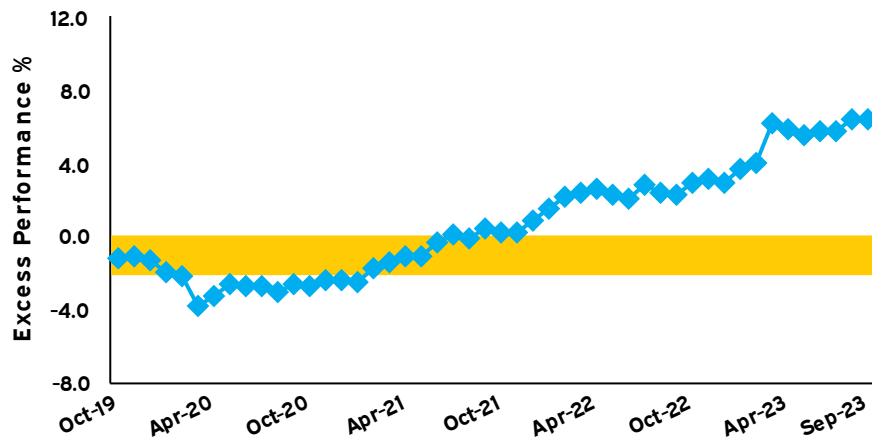
Results fall in the positive range.  
Probationary Threshold - 4.50%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.97

Medium Term - Rolling 36-Month Excess Return



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
DFA Emerging Markets Core Equity I	-1.5 (18)	18.3 (17)	4.7 (13)	3.2 (20)	3.8 (24)	12/1/2011
MSCI Emerging Markets (Net)	-2.9 (33)	11.7 (61)	-1.7 (43)	0.6 (56)	2.7 (49)	
Diversified Emerging Mkts Median	-3.8	13.2	-2.3	0.8	2.7	

#### Monitoring Status

Positive

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

**Objective**

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

**Account Information**

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

**Portfolio Performance Summary**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
DFA Emerging Markets Core Equity I	-1.5 (18)	7.0 (18)	18.3 (17)	4.7 (13)	3.2 (20)
MSCI Emerging Markets (Net)	-2.9 (33)	1.8 (65)	11.7 (61)	-1.7 (43)	0.6 (56)
Diversified Emerging Mkts Median	-3.8	3.3	13.2	-2.3	0.8

	2022	2021	2020	2019	2018
DFA Emerging Markets Core Equity I	-16.4 (15)	5.8 (17)	13.9 (71)	16.0 (80)	-15.2 (39)
MSCI Emerging Markets (Net)	-20.1 (31)	-2.5 (58)	18.3 (47)	18.4 (64)	-14.6 (30)
Diversified Emerging Mkts Median	-22.5	-1.5	17.8	20.4	-16.4

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

	Portfolio	Index
# of Holdings	6,697	1,437
Wtd. Avg. Mkt. Cap	64.3	93.5
Median Mkt. Cap	0.7	6.3
P/E Ratio	10.7	12.1
Yield	3.4	3.1
EPS Growth - 5 Yrs.	15.0	14.2
Price/Book ratio	2.3	2.4
Beta	1.0	1.0

**Risk Statistics**

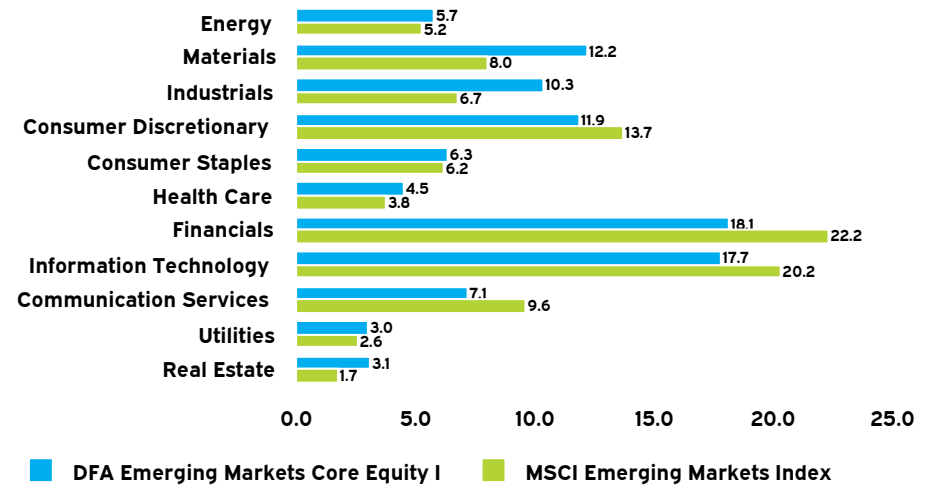
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.2	19.5
Tracking Error	3.4	3.9
Up Capture	105.5	101.8
Down Capture	78.7	90.9
Consistency	66.7	58.3
Alpha	6.4	2.7
Sharpe Ratio	0.3	0.2

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

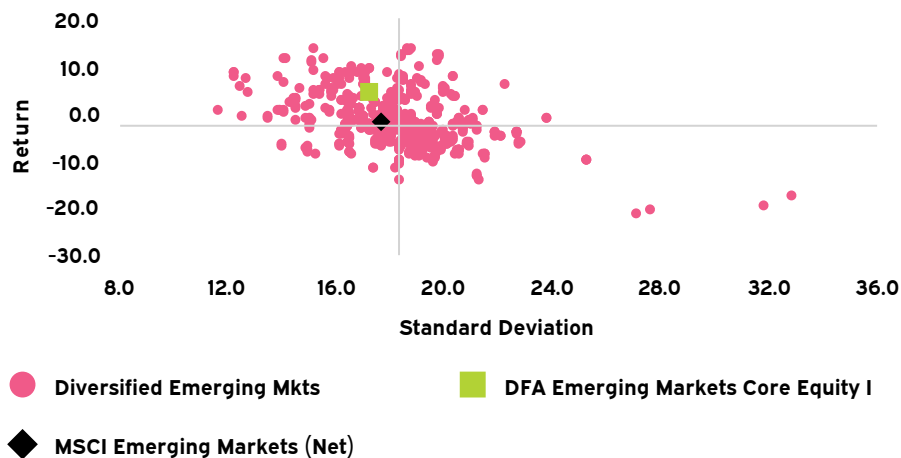
#### Top Holdings

Taiwan Semiconductor Manufacturing Co Ltd	2.9
Tencent Holdings LTD	2.5
Alibaba Group Holding Ltd	1.3
Taiwan Semiconductor Manufacturing Co Ltd	1.2
Alibaba Group Holding Ltd	0.8
SK Hynix Inc	0.8
China Construction Bank Corp	0.7
Petroleo Brasileiro S.A.- Petrobras	0.7
H D F C Bank Ltd	0.6
Infosys Ltd	0.6
<b>% of Portfolio</b>	<b>12.1</b>

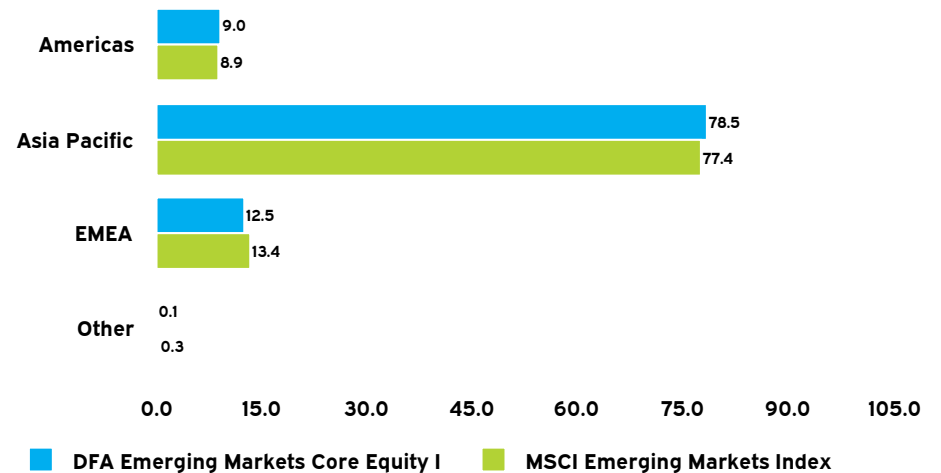
#### Sector Weights (%)



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

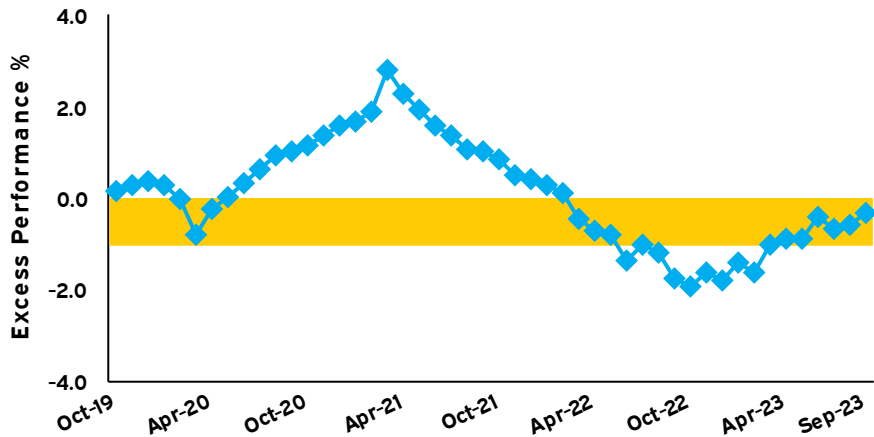


#### Region



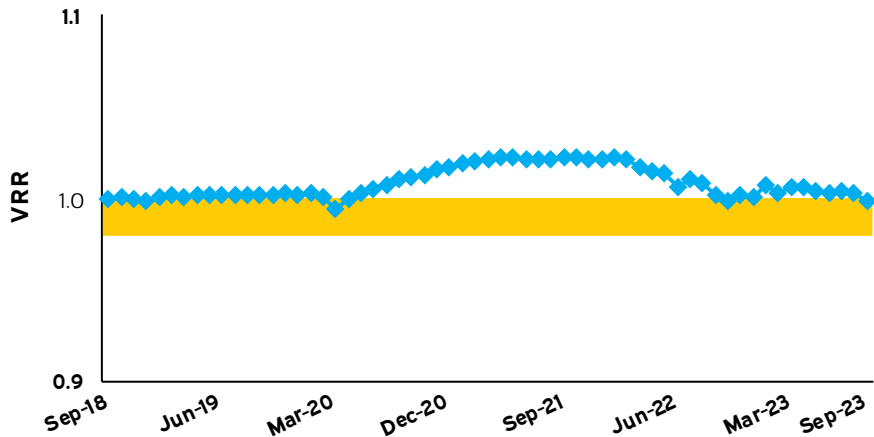
### Metropolitan West Total Return Bond I | As of September 30, 2023

Short Term - Rolling 12-Month Excess Return



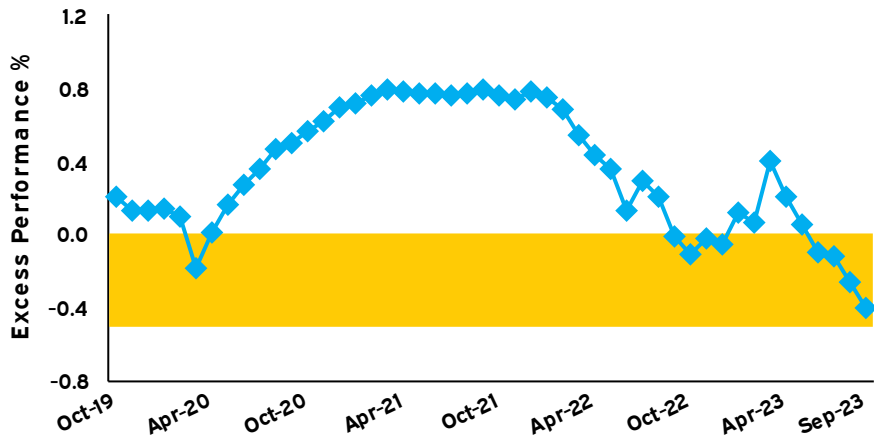
Results fall acceptable in the range.  
Probationary Threshold - 1.00%

Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.98

Medium Term - Rolling 36-Month Excess Return



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
Metropolitan West Total Return Bond I	-3.6 (84)	0.3 (73)	-5.6 (84)	0.1 (58)	0.6 (66)	11/1/2015
Blmbg. U.S. Aggregate Index	-3.2 (67)	0.6 (65)	-5.2 (70)	0.1 (57)	0.6 (67)	
Intermediate Core-Plus Bond Median	-3.0	1.2	-4.8	0.2	0.8	

#### Monitoring Status

Acceptable

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

**Objective**

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

**Account Information**

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

**Portfolio Performance Summary**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Metropolitan West Total Return Bond I	-3.6 (84)	-1.4 (75)	0.3 (73)	-5.6 (84)	0.1 (58)
Blmbg. U.S. Aggregate Index	-3.2 (67)	-1.2 (70)	0.6 (65)	-5.2 (70)	0.1 (57)
Intermediate Core-Plus Bond Median	-3.0	-0.7	1.2	-4.8	0.2

	2022	2021	2020	2019	2018
Metropolitan West Total Return Bond I	-14.8 (76)	-1.1 (65)	9.1 (30)	9.1 (56)	0.2 (17)
Blmbg. U.S. Aggregate Index	-13.0 (27)	-1.5 (82)	7.5 (71)	8.7 (69)	0.0 (20)
Intermediate Core-Plus Bond Median	-13.9	-0.8	8.4	9.3	-0.8

**Portfolio Characteristics vs Benchmark**

	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	-	5.4
Average Duration	7.1	6.2
Average Quality	AA	AA
Weighted Average Maturity	8.3	8.5

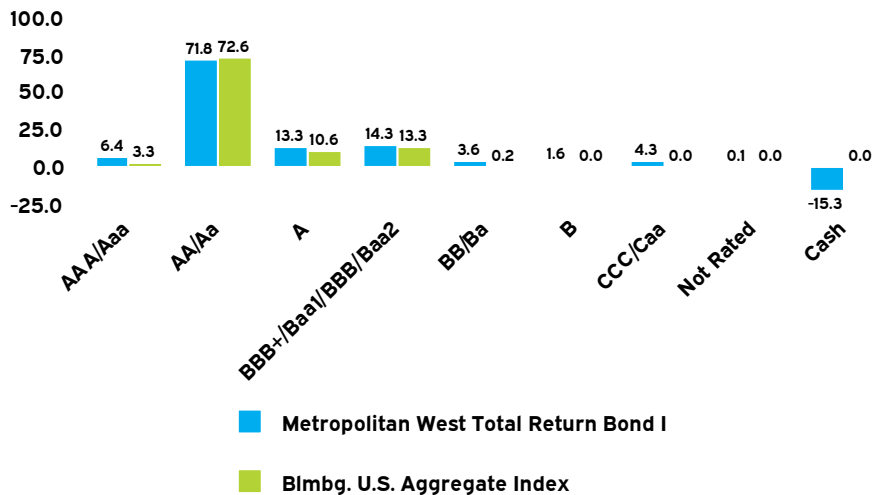
**Risk Statistics**

	3 Yrs (%)	5 Yrs (%)
Standard Deviation	6.8	6.1
Tracking Error	0.9	0.9
Up Capture	110.3	108.3
Down Capture	108.9	108.4
Consistency	44.4	53.3
Alpha	0.2	0.0
Sharpe Ratio	-1.1	-0.2

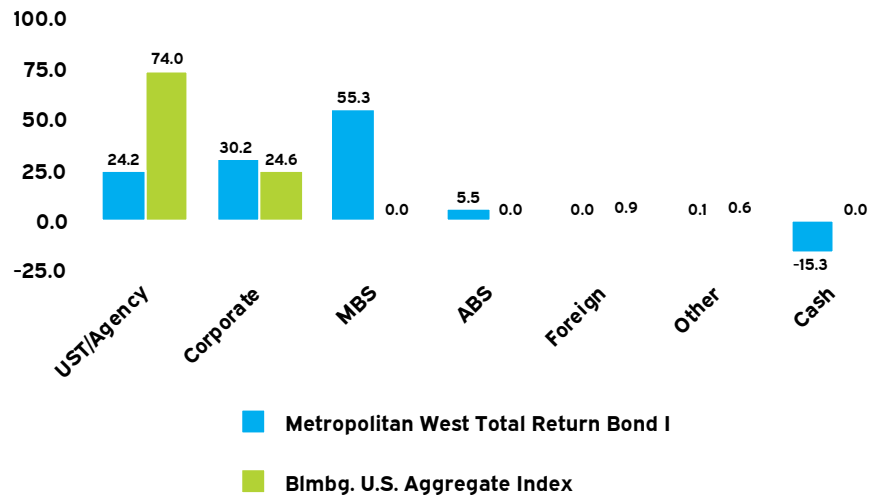


### Metropolitan West Total Return Bond I | As of September 30, 2023

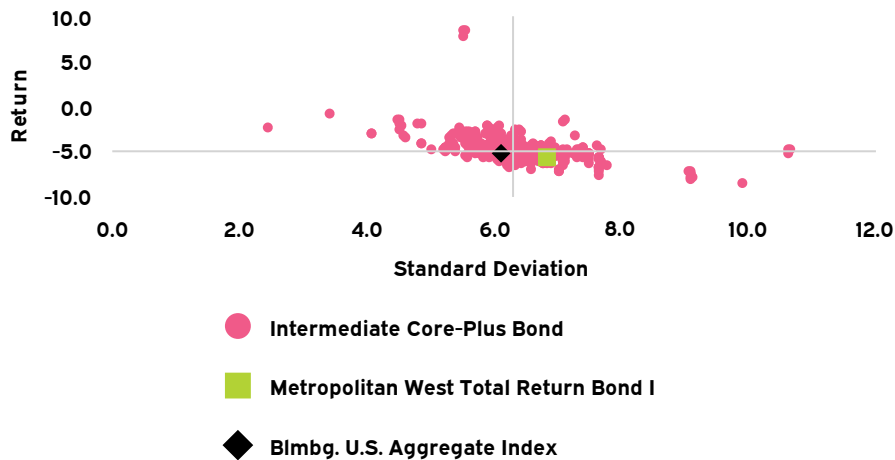
#### Credit Quality



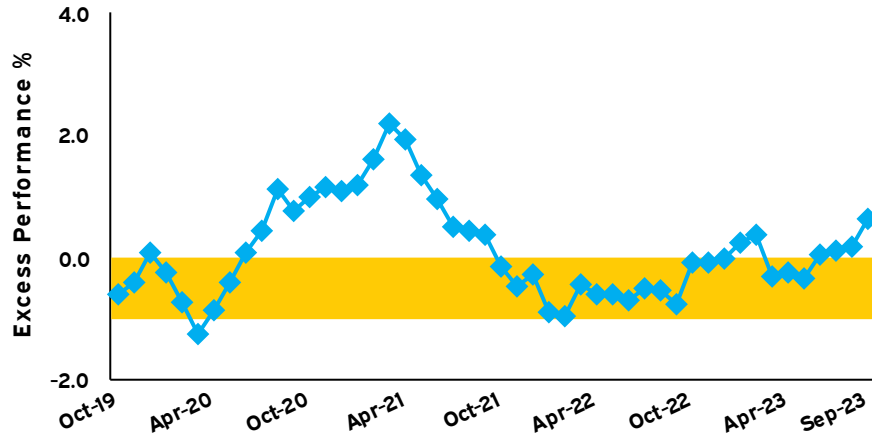
#### Sector Allocation



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

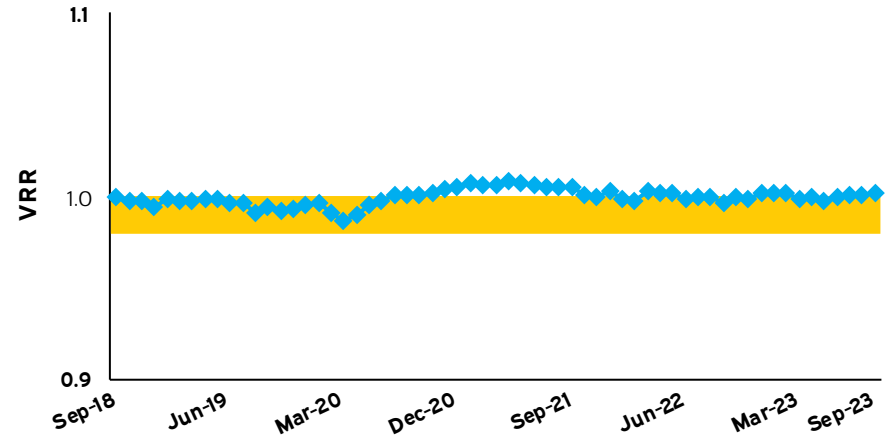


#### Short Term - Rolling 12-Month Excess Return



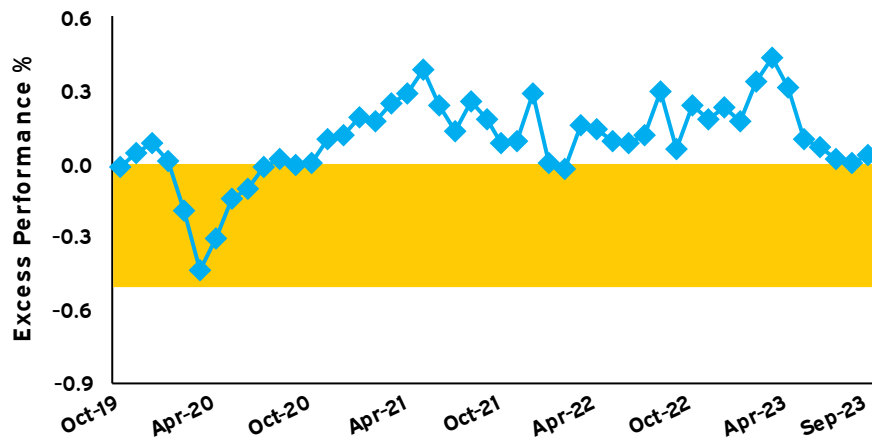
Results fall in the positive range.  
Probationary Threshold - 1.00%

#### Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.98

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



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
PIMCO Real Return	-2.3 (53)	1.9 (42)	-1.9 (47)	2.2 (36)	1.6 (13)	12/1/2011
Blmbg. U.S. TIPS	-2.6 (68)	1.2 (57)	-2.0 (48)	2.1 (37)	1.5 (22)	
Inflation-Protected Bond Median	-2.2	1.5	-2.0	1.9	1.2	

#### Monitoring Status

Positive

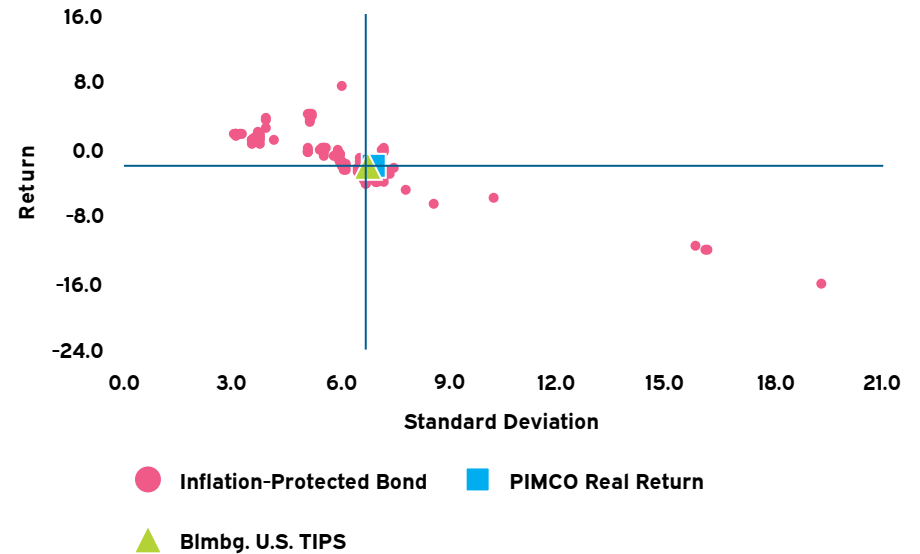
#### Strategy Description

The investment seeks maximum real return, consistent with preservation of capital and prudent investment management. The fund normally invests at least 80% of its net assets in inflation-indexed bonds of varying maturities issued by the U.S. and non-U.S. governments, their agencies or instrumentalities, and corporations, which may be represented by forwards or derivatives such as options, futures contracts or swap agreements.

#### Account Information

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

#### 3-Year Return vs Standard Deviation

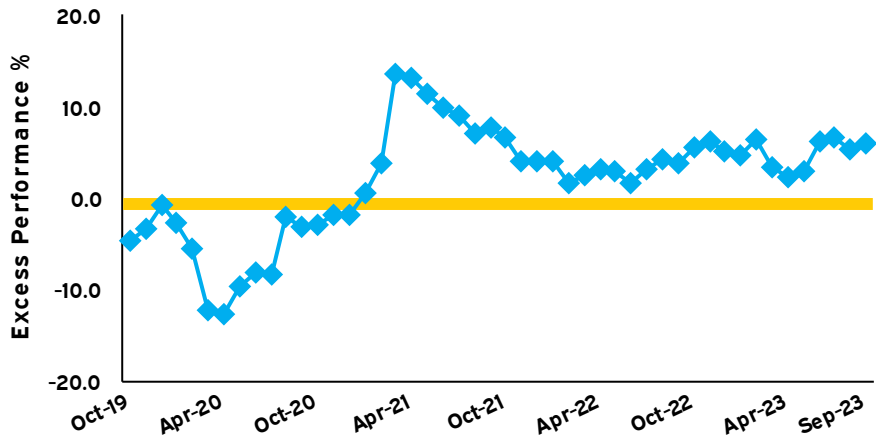


#### Performance Summary

	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
PIMCO Real Return	-1.72 (49)	-0.79 (59)	1.89 (42)	-1.94 (47)	2.17 (36)	1.71 (16)
Blmbg. U.S. TIPS	-1.85	-0.78	1.25	-1.98	2.12	1.74
Inflation-Protected Bond Median	-1.74	-0.59	1.55	-2.03	1.94	1.42

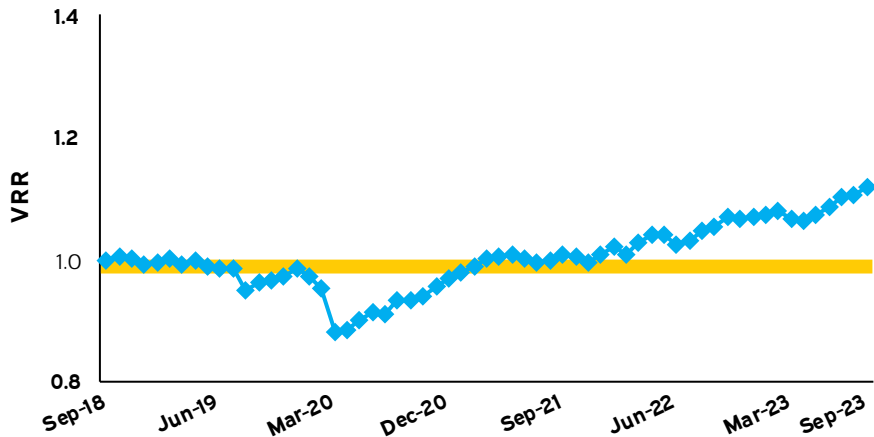
	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)
PIMCO Real Return	-11.86 (56)	5.67 (33)	12.09 (14)	8.52 (15)	-1.97 (66)
Blmbg. U.S. TIPS	-11.85 (55)	5.96 (24)	10.99 (27)	8.43 (17)	-1.26 (37)
Inflation-Protected Bond Median	-11.67	5.27	9.74	7.51	-1.57

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



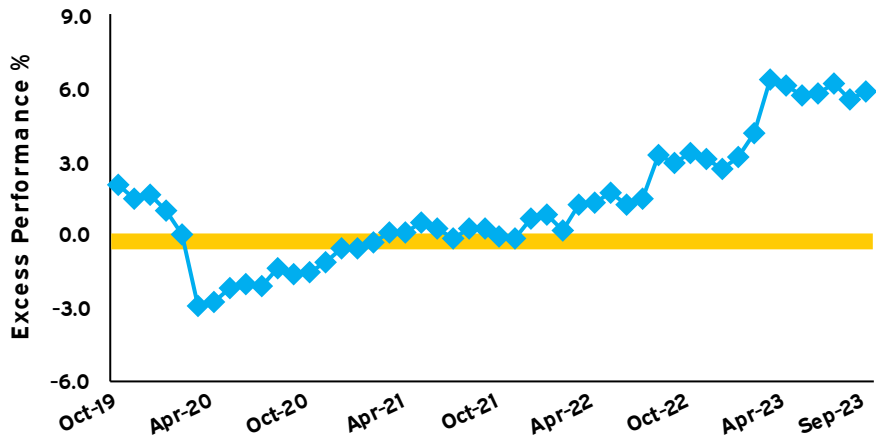
Results fall in the positive range.  
Probationary Threshold - 1.00%

#### Long Term - VRR



Results fall in the positive range.  
Probationary Threshold <0.98

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



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
PIMCO Income I	-0.5 (36)	6.8 (27)	0.7 (20)	2.4 (15)	5.6 (1)	12/1/2011
Blmbg. U.S. Aggregate Index	-3.2 (97)	0.6 (97)	-5.2 (100)	0.1 (89)	1.2 (100)	
Multisector Bond Median	-0.9	5.3	-0.7	1.5	3.2	

#### Monitoring Status

Positive

#### Strategy Description

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

#### Account Information

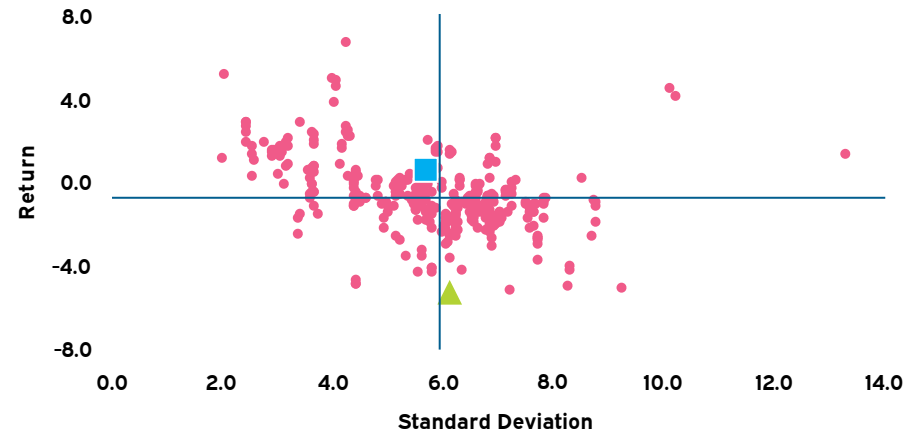
Account Name	PIMCO Income I
Inception Date	11/20/2011
Account Structure	Mutual Fund
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	Multisector Bond

#### Performance Summary

	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
PIMCO Income I	-1.40 (40)	3.23 (25)	6.76 (27)	0.67 (20)	2.37 (15)	4.00 (1)
<i>Blmbg. U.S. Aggregate Index</i>	<i>-2.54</i>	<i>-1.21</i>	<i>0.64</i>	<i>-5.21</i>	<i>0.10</i>	<i>1.13</i>
<i>Multisector Bond Median</i>	<i>-1.55</i>	<i>2.32</i>	<i>5.32</i>	<i>-0.71</i>	<i>1.46</i>	<i>2.54</i>

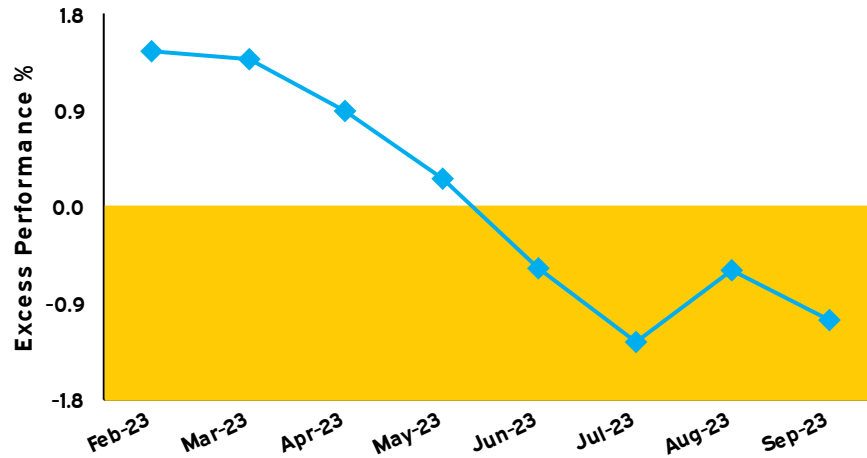
	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)
PIMCO Real Return	-11.86 (56)	5.67 (33)	12.09 (14)	8.52 (15)	-1.97 (66)
<i>Blmbg. U.S. TIPS</i>	<i>-11.85 (55)</i>	<i>5.96 (24)</i>	<i>10.99 (27)</i>	<i>8.43 (17)</i>	<i>-1.26 (37)</i>
<i>Inflation-Protected Bond Median</i>	<i>-11.67</i>	<i>5.27</i>	<i>9.74</i>	<i>7.51</i>	<i>-1.57</i>

#### 3-Year Return vs Standard Deviation



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

Short Term - Rolling 12-Month Excess Return



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

### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Vanguard High-Yield Corp Adm	-0.2 (89)	4.1 (84)	9.2 (61)	-1.1 (35)	3/1/2022
Blmbg. U.S. Corp: High Yield Index	0.5 (56)	5.9 (32)	10.3 (34)	-1.5 (47)	
High Yield Bond Median	0.5	5.3	9.6	-1.6	

### Monitoring Status

Acceptable

### Objective

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

### Account Information

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

### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Vanguard High-Yield Corp Adm	-0.2 (89)	4.1 (84)	9.2 (61)	-	-
Blmbg. U.S. Corp: High Yield Index	0.5 (56)	5.9 (32)	10.3 (34)	1.8 (46)	3.0 (26)
High Yield Bond Median	0.5	5.3	9.6	1.6	2.4

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

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

### Portfolio Characteristics vs Benchmark

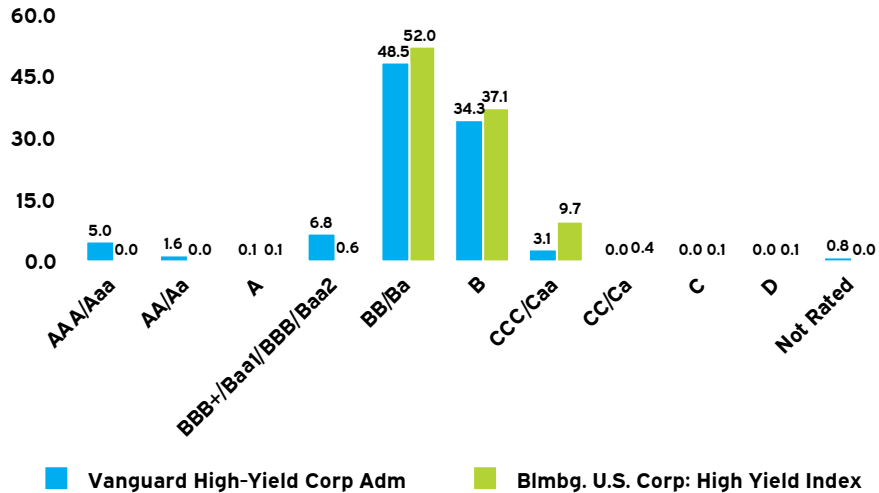
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	7.1	8.9
Average Duration	3.7	3.9
Average Quality	BB	B
Weighted Average Maturity	4.9	5.0

### Risk Statistics

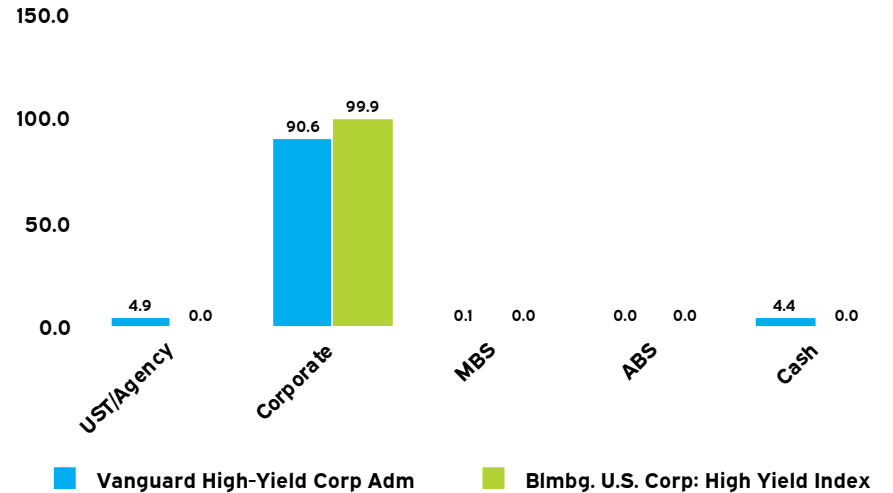
	1 Yr (%)
Standard Deviation	5.5
Tracking Error	1.0
Up Capture	95.4
Down Capture	108.2
Consistency	41.7
Alpha	-1.0
Sharpe Ratio	0.8

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

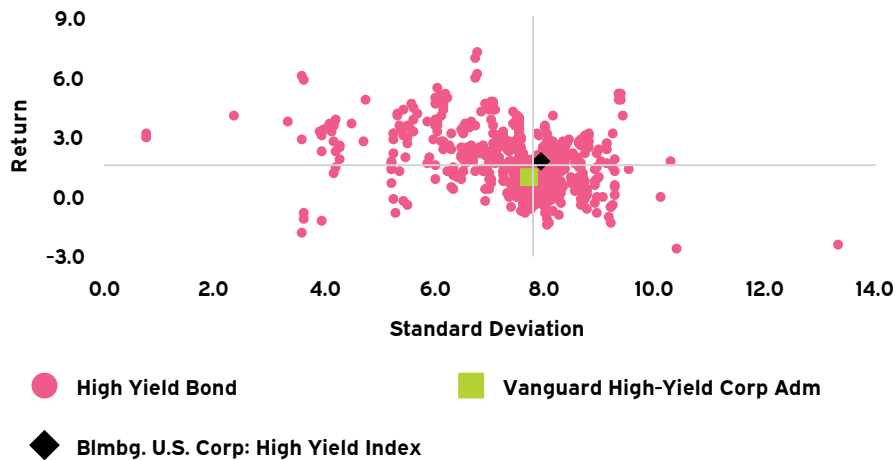
#### Credit Quality



#### Sector Allocation



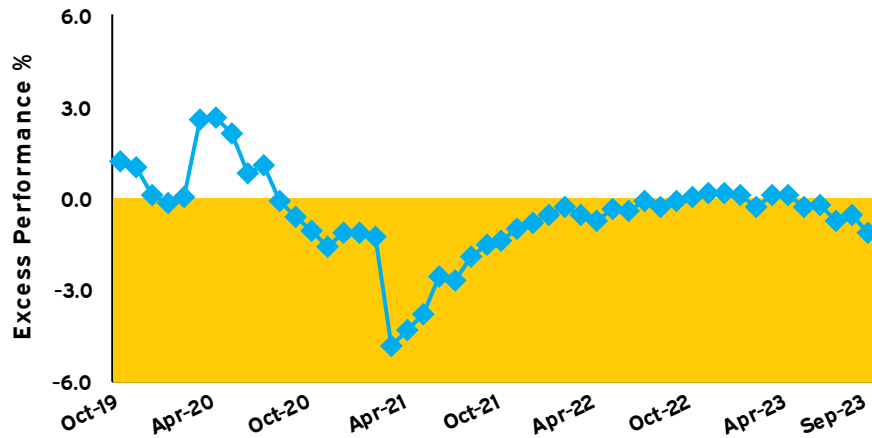
#### Return vs. Standard Deviation 3 Years Ending September 30, 2023





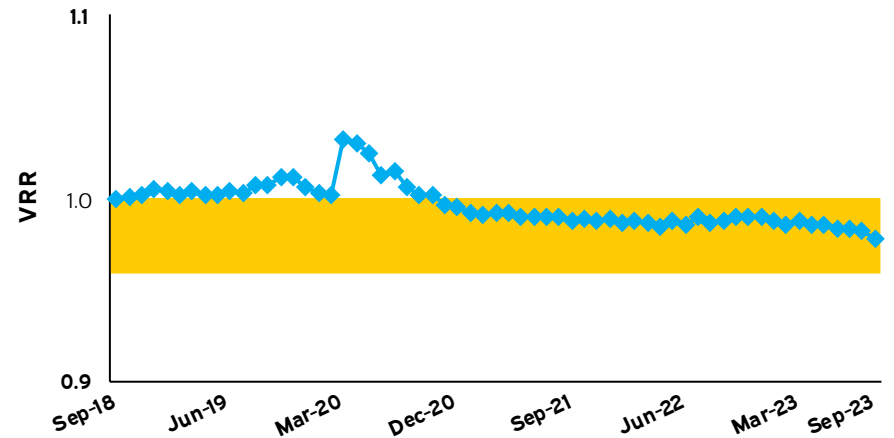
### TRowe Price Floating Rate I | As of September 30, 2023

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



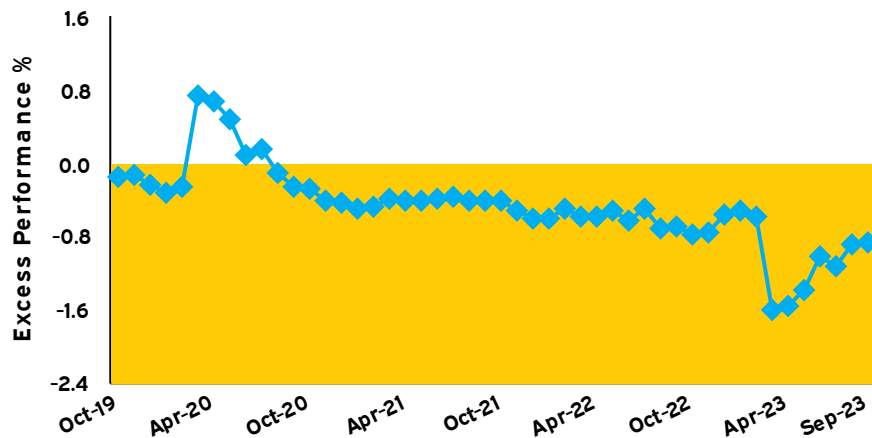
Results fall in the acceptable range.  
Probationary Threshold -6.50%

#### Long Term - VRR



Results fall in the acceptable range.  
Probationary Threshold <0.96

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



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

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TRowe Price Floating Rate I	2.9 (49)	12.3 (33)	5.4 (25)	4.2 (6)	4.5 (11)	12/1/2011
Morningstar LSTA US Performing Loans	3.6 (10)	13.4 (8)	6.3 (5)	4.6 (1)	5.0 (1)	
Bank Loan Median	2.9	11.7	4.7	3.0	3.9	

#### Monitoring Status

Acceptable

### TRowe Price Floating Rate I | As of September 30, 2023

#### Objective

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

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TRowe Price Floating Rate I	2.9 (49)	9.0 (48)	12.3 (33)	5.4 (25)	4.2 (6)
Morningstar LSTA US Performing Loans	3.6 (10)	10.4 (10)	13.4 (8)	6.3 (5)	4.6 (1)
Bank Loan Median	2.9	9.0	11.7	4.7	3.0

	2022	2021	2020	2019	2018
TRowe Price Floating Rate I	-0.6 (9)	4.7 (40)	2.4 (25)	8.8 (17)	0.4 (18)
Morningstar LSTA US Performing Loans	-0.8 (12)	5.4 (19)	3.5 (6)	8.7 (20)	0.6 (10)
Bank Loan Median	-2.3	4.4	1.5	7.7	-0.3

#### Portfolio Characteristics vs Benchmark

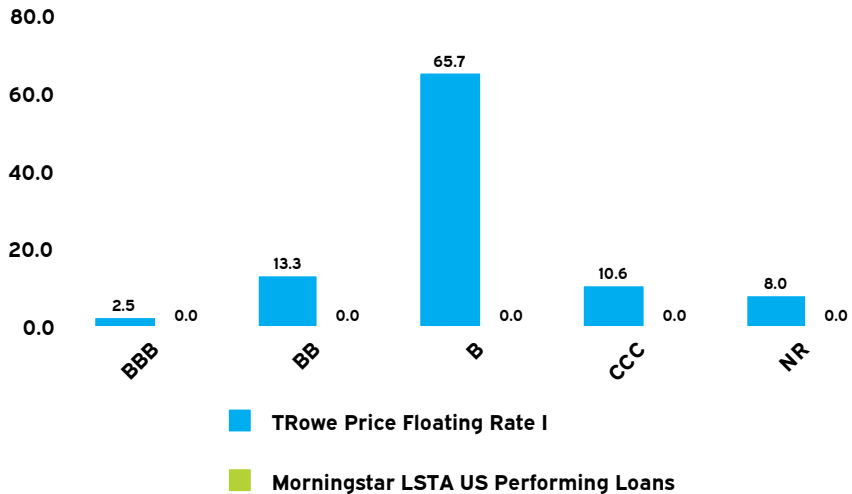
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	-	-
Average Duration	0.6	-
Average Quality	B	-
Weighted Average Maturity	4.2	-

#### Risk Statistics

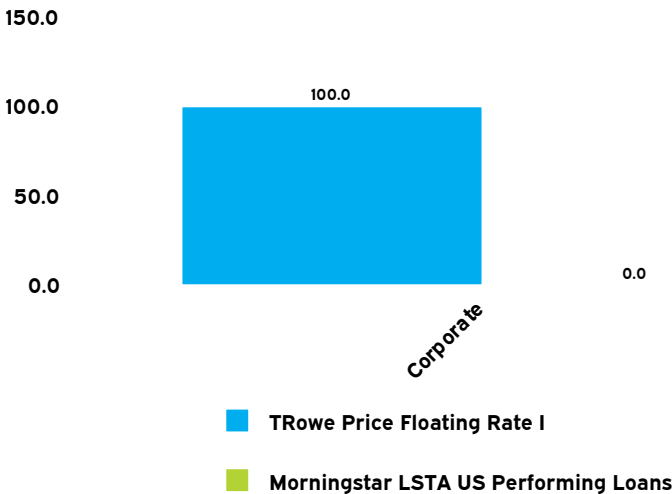
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	3.8	6.4
Tracking Error	0.7	1.6
Up Capture	89.4	85.8
Down Capture	95.7	83.0
Consistency	36.1	40.0
Alpha	-0.5	0.3
Sharpe Ratio	1.0	0.4

TRowe Price Floating Rate I | As of September 30, 2023

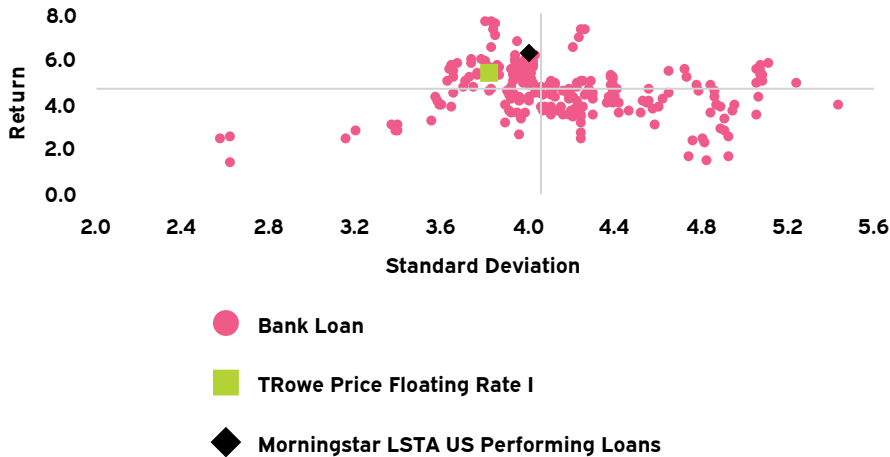
### Credit Quality



### Sector Allocation



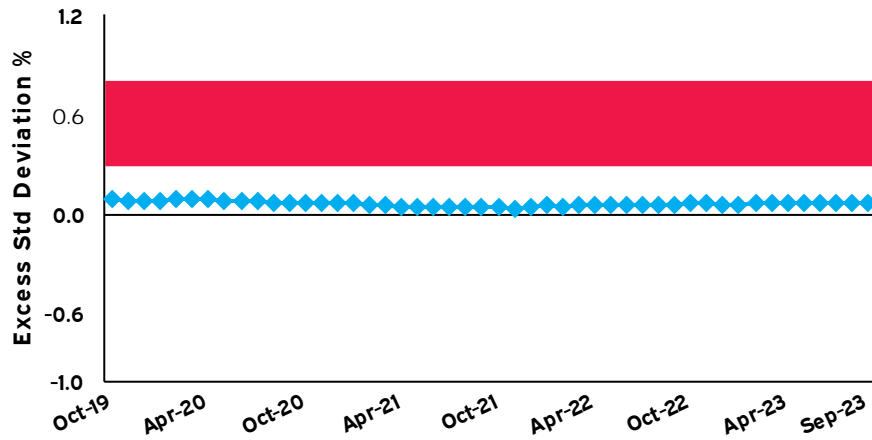
### Return vs. Standard Deviation 3 Years Ending September 30, 2023



# Passive Underlying Fund Analysis

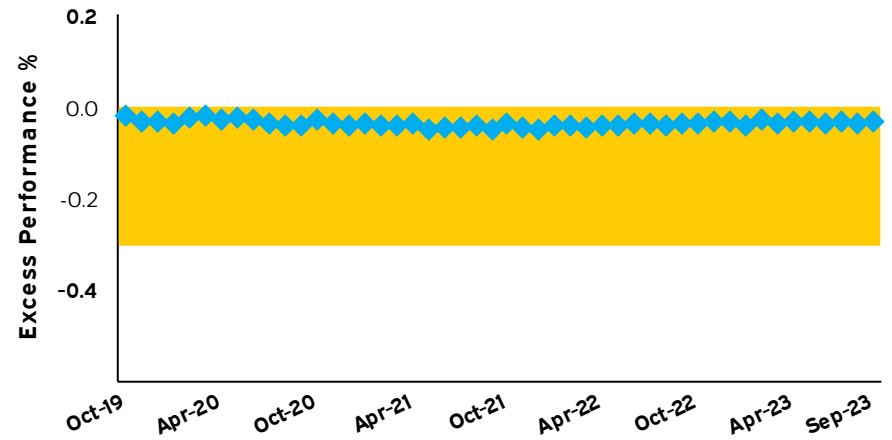
### TIAA-CREF Equity Index I | As of September 30, 2023

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



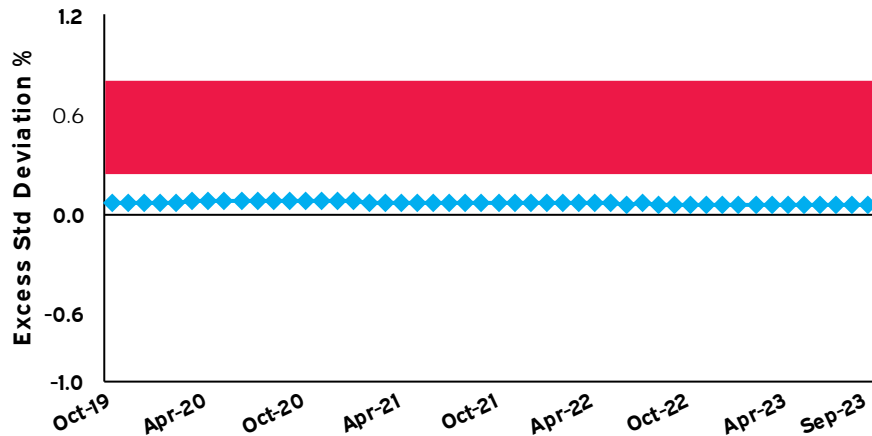
Results fall in the positive range.  
Probationary Threshold 0.30%

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



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

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



Results fall in the positive range.  
Probationary Threshold 0.25%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Equity Index I	-3.3 (49)	20.4 (49)	9.4 (51)	9.1 (40)	12.7 (28)	12/1/2011
Russell 3000 Index	-3.3 (48)	20.5 (48)	9.4 (50)	9.1 (40)	12.8 (26)	
Large Blend Median	-3.3	20.3	9.4	8.8	12.1	

#### Monitoring Status

Acceptable

### TIAA-CREF Equity Index I | As of September 30, 2023

#### Objective

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

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

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Equity Index I	-3.3 (49)	12.3 (39)	20.4 (49)	9.4 (51)	9.1 (40)
Russell 3000 Index	-3.3 (48)	12.4 (38)	20.5 (48)	9.4 (50)	9.1 (40)
Large Blend Median	-3.3	11.3	20.3	9.4	8.8

	2022	2021	2020	2019	2018
TIAA-CREF Equity Index I	-19.2 (70)	25.6 (63)	20.8 (20)	30.9 (38)	-5.2 (43)
Russell 3000 Index	-19.2 (71)	25.7 (62)	20.9 (20)	31.0 (34)	-5.2 (43)
Large Blend Median	-18.1	26.7	17.1	29.8	-5.6

#### Portfolio Characteristics vs Russell 3000 Index

	Portfolio	Index
# of Holdings	2,760	2,994
Wtd. Avg. Mkt. Cap	539.0	538.6
Median Mkt. Cap	2.3	1.8
P/E Ratio	20.6	20.6
Yield	1.6	1.6
EPS Growth - 5 Yrs.	18.1	18.1
Price/Book ratio	4.0	4.0
Beta	1.0	1.0

#### Risk Statistics

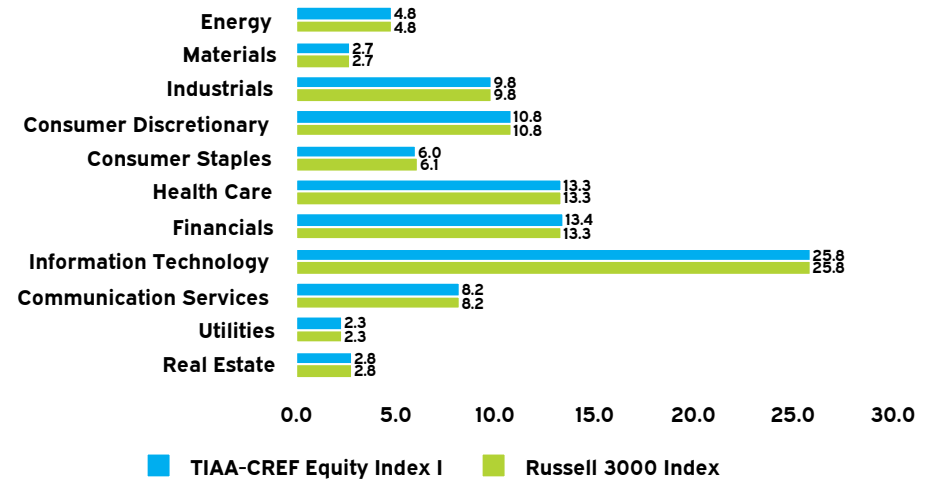
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception
Standard Deviation	3.5	3.8	15.5	17.9	19.4	15.3	14.6
Tracking Error	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Up Capture	100.0	99.7	99.7	99.7	99.7	99.8	99.8
Down Capture	100.2	99.8	99.8	99.8	99.8	99.8	99.8
Consistency	33.3	33.3	33.3	44.4	41.7	44.2	44.4
Alpha	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sharpe Ratio	-0.4	0.3	1.0	0.5	0.5	0.7	0.8

### TIAA-CREF Equity Index I | As of September 30, 2023

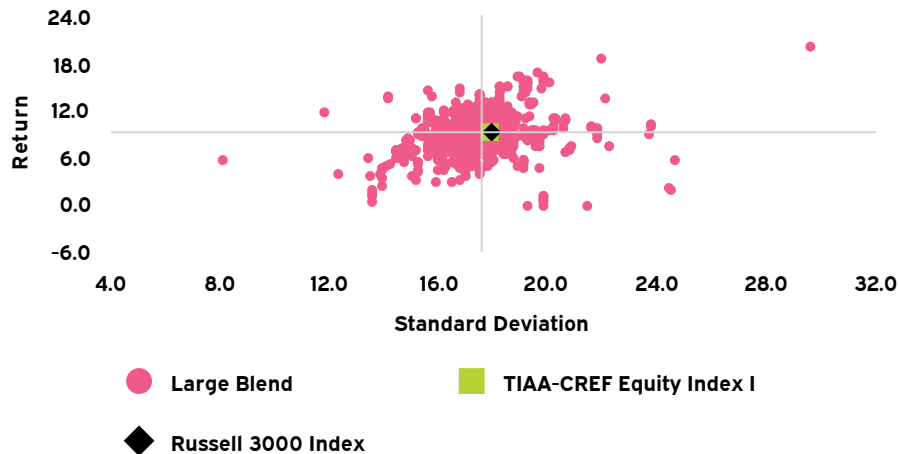
#### Top Holdings

Apple Inc	6.1
Microsoft Corp	5.6
Amazon.com Inc	2.7
NVIDIA Corporation	2.5
Alphabet Inc	1.9
Tesla Inc	1.6
Alphabet Inc	1.6
Meta Platforms Inc	1.6
Berkshire Hathaway Inc	1.5
Exxon Mobil Corp	1.1
<b>% of Portfolio</b>	<b>26.2</b>

#### Sector Weights (%)

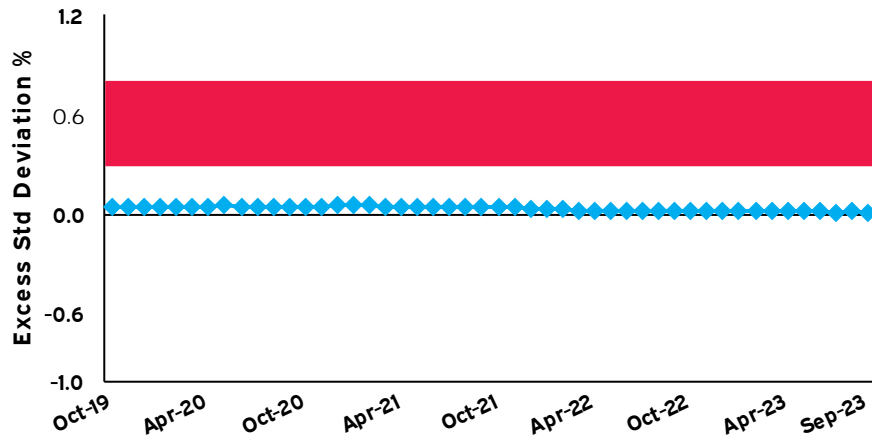


#### Return vs. Standard Deviation 3 Years Ending September 30, 2023



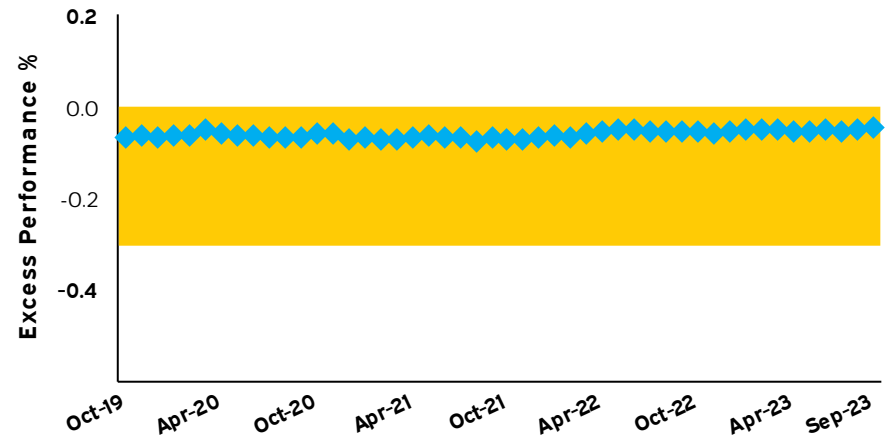
TIAA-CREF S&P 500 Index I | As of September 30, 2023

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



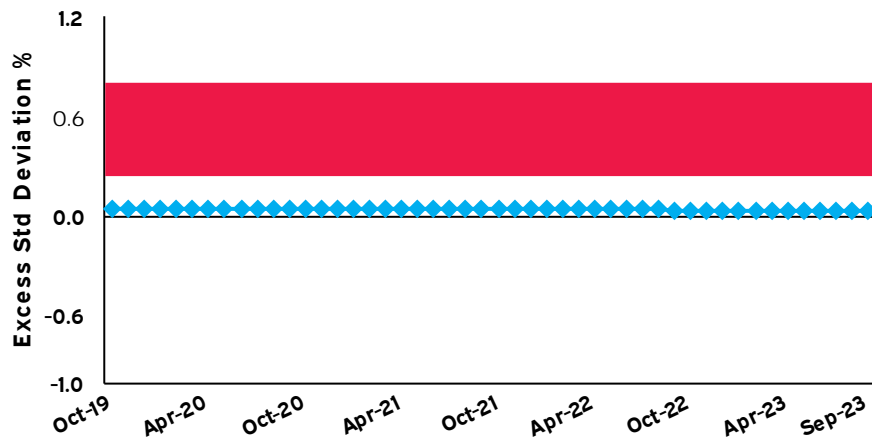
Results fall in the positive range.  
Probationary Threshold 0.30%

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



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

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



Results fall in the positive range.  
Probationary Threshold 0.25%

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF S&P 500 Index I	-3.3 (53)	21.5 (30)	10.1 (30)	9.9 (17)	13.1 (13)	12/1/2011
S&P 500 Index	-3.3 (50)	21.6 (28)	10.2 (29)	9.9 (15)	13.2 (10)	
Large Blend Median	-3.3	20.3	9.4	8.8	12.1	

### Monitoring Status

Acceptable



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

#### Objective

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

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

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF S&P 500 Index I	-3.3 (53)	13.0 (26)	21.5 (30)	10.1 (30)	9.9 (17)
S&P 500 Index	-3.3 (50)	13.1 (24)	21.6 (28)	10.2 (29)	9.9 (15)
Large Blend Median	-3.3	11.3	20.3	9.4	8.8

	2022	2021	2020	2019	2018
TIAA-CREF S&P 500 Index I	-18.1 (51)	28.6 (23)	18.3 (38)	31.4 (25)	-4.5 (26)
S&P 500 Index	-18.1 (51)	28.7 (21)	18.4 (36)	31.5 (23)	-4.4 (24)
Large Blend Median	-18.1	26.7	17.1	29.8	-5.6

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

	Portfolio	Index
# of Holdings	503	503
Wtd. Avg. Mkt. Cap	625.1	622.9
Median Mkt. Cap	30.0	30.4
P/E Ratio	21.8	21.8
Yield	1.7	1.6
EPS Growth - 5 Yrs.	18.3	18.3
Price/Book ratio	4.3	4.3
Beta	1.0	1.0

#### Risk Statistics

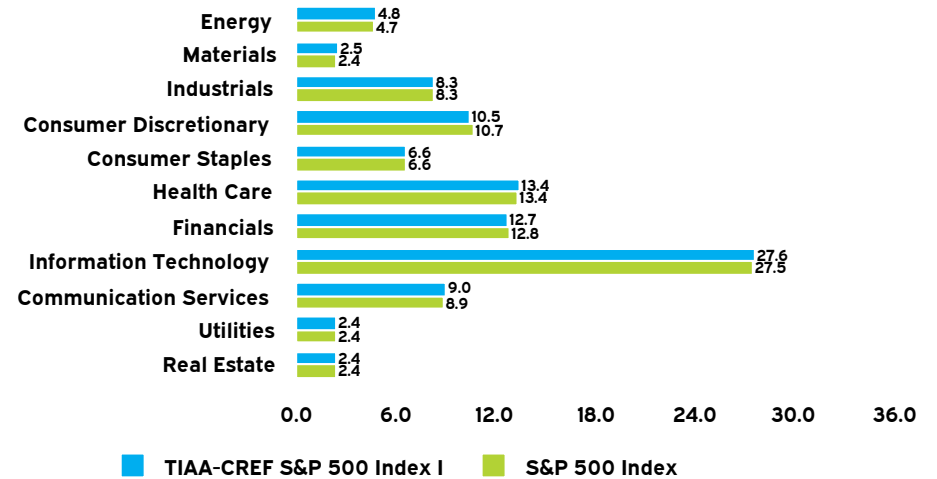
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.6	18.8
Tracking Error	0.0	0.0
Up Capture	99.9	99.9
Down Capture	100.0	100.0
Consistency	30.6	38.3
Alpha	0.0	0.0
Sharpe Ratio	0.5	0.5

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

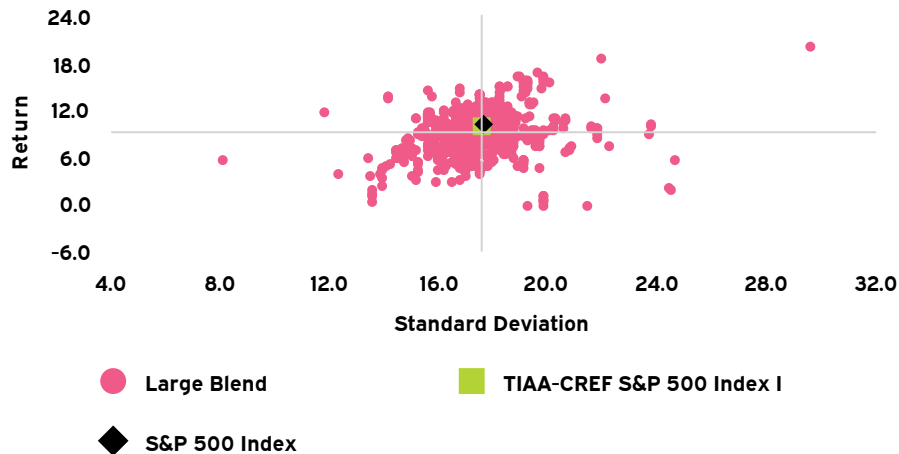
### Top Holdings

Apple Inc	7.1
Microsoft Corp	6.6
Amazon.com Inc	3.2
NVIDIA Corporation	3.0
Alphabet Inc	2.2
Tesla Inc	1.9
Alphabet Inc	1.9
Meta Platforms Inc	1.9
Berkshire Hathaway Inc	1.7
Exxon Mobil Corp	1.3
<b>% of Portfolio</b>	<b>30.8</b>

### Sector Weights (%)

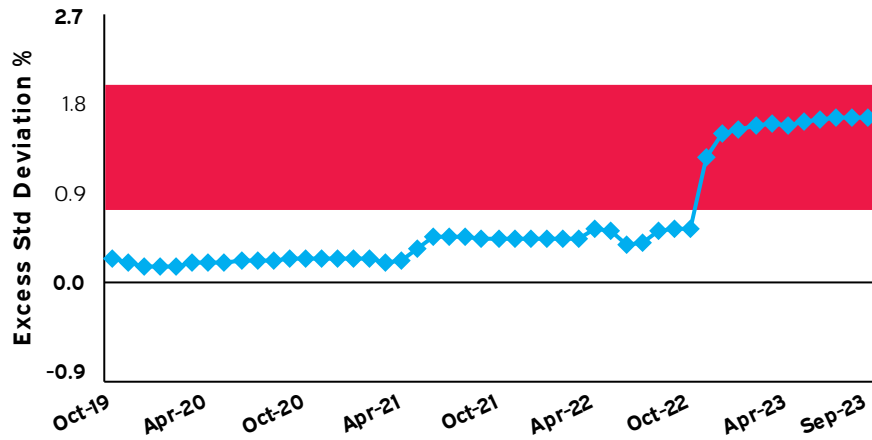


### Return vs. Standard Deviation 3 Years Ending September 30, 2023



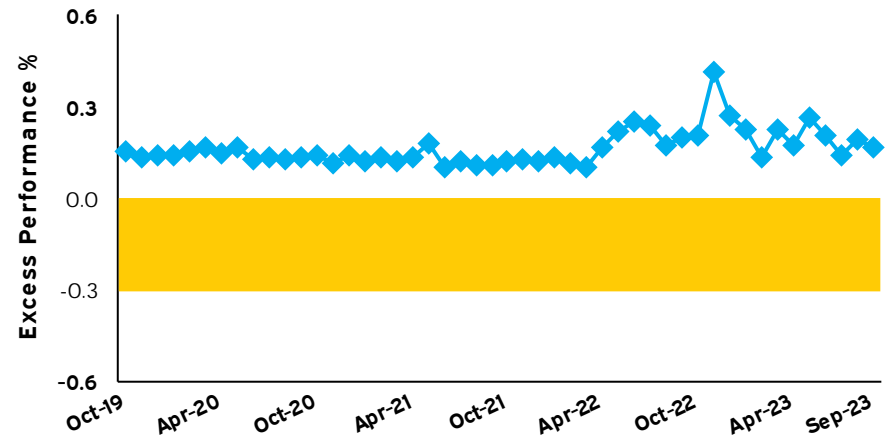
### TIAA-CREF International Equity Index | As of September 30, 2023

Short Term - Rolling 12-Month Tracking Error



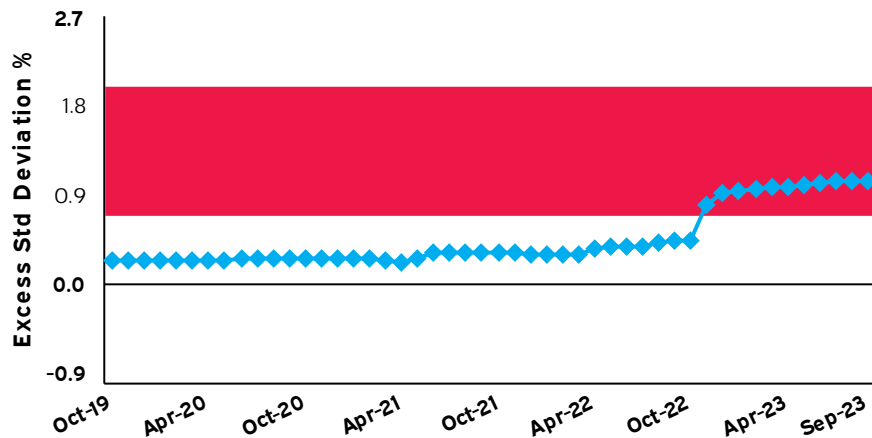
Results fall in the caution range.  
Probationary Threshold 0.75%

Long Term - Rolling 60-Month Excess Return



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

Medium Term - Rolling 36-Month Tracking Error



Results fall in the caution range.  
Probationary Threshold 0.70%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF International Equity Index	-4.2 (35)	25.6 (27)	6.0 (19)	3.4 (29)	6.1 (23)	12/1/2011
MSCI EAFE (Net)	-4.1 (31)	25.6 (27)	5.8 (22)	3.2 (33)	5.9 (30)	
Foreign Large Blend Median	-4.7	23.2	4.3	2.8	5.4	

#### Monitoring Status

Caution

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

**Objective**

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

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

**Account Information**

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

**Portfolio Performance Summary**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF International Equity Index	-4.2 (35)	6.7 (30)	25.6 (27)	6.0 (19)	3.4 (29)
MSCI EAFE (Net)	-4.1 (31)	7.1 (23)	25.6 (27)	5.8 (22)	3.2 (33)
Foreign Large Blend Median	-4.7	5.7	23.2	4.3	2.8

	2022	2021	2020	2019	2018
TIAA-CREF International Equity Index	-13.8 (20)	11.4 (34)	8.0 (66)	22.1 (50)	-13.7 (26)
MSCI EAFE (Net)	-14.5 (30)	11.3 (37)	7.8 (68)	22.0 (52)	-13.8 (28)
Foreign Large Blend Median	-15.9	10.3	9.7	22.1	-15.1

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

	Portfolio	Index
# of Holdings	789	795
Wtd. Avg. Mkt. Cap	135.0	81.3
Median Mkt. Cap	13.0	12.1
P/E Ratio	9.7	13.0
Yield	2.2	3.5
EPS Growth - 5 Yrs.	8.7	9.3
Price/Book ratio	2.7	2.4
Beta	1.0	1.0

**Risk Statistics**

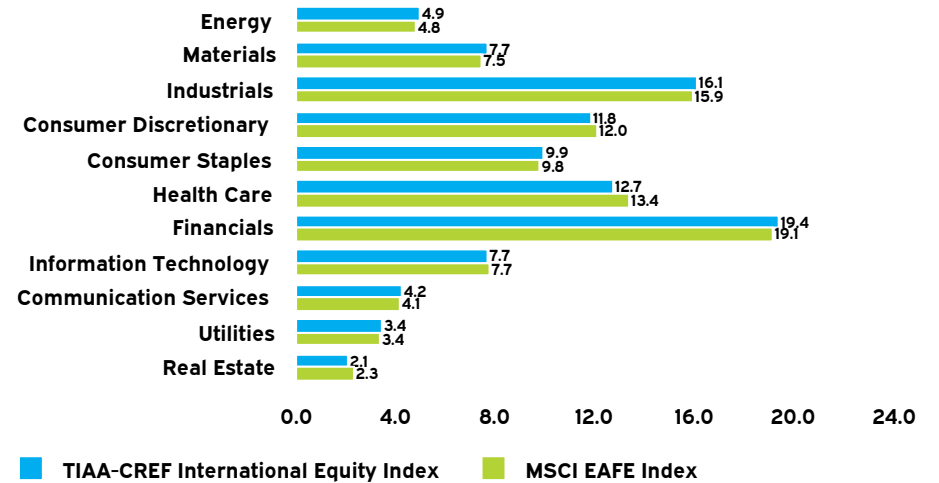
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	18.1	17.9
Tracking Error	1.0	0.8
Up Capture	100.4	100.1
Down Capture	99.6	99.3
Consistency	44.4	48.3
Alpha	0.2	0.2
Sharpe Ratio	0.3	0.2

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

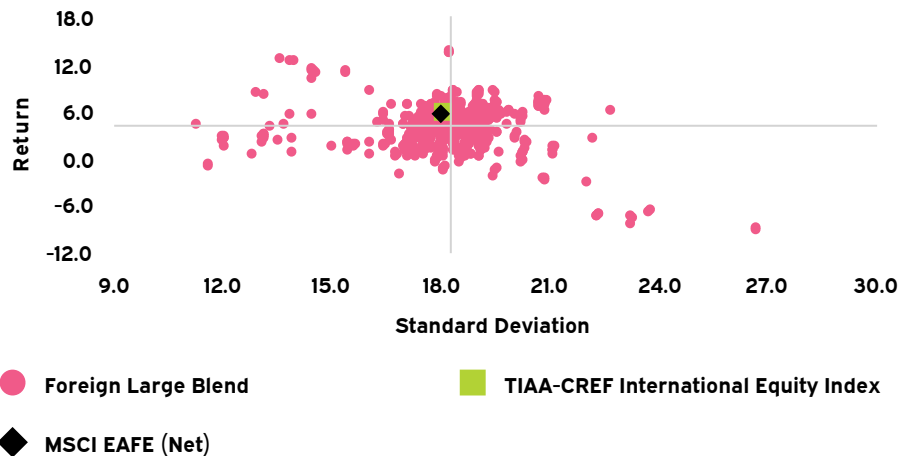
#### Top Holdings

Nestle SA, Cham Und Vevey	2.1
ASML Holding NV	1.6
Shell Plc	1.5
Novartis AG	1.5
LVMH Moet Hennessy Louis Vuitton SE	1.5
Astrazeneca PLC	1.5
Roche Holding AG	1.3
Toyota Motor Corp	1.3
HSBC Holdings PLC	1.1
Novo Nordisk A/S	1.1
<b>% of Portfolio</b>	<b>14.5</b>

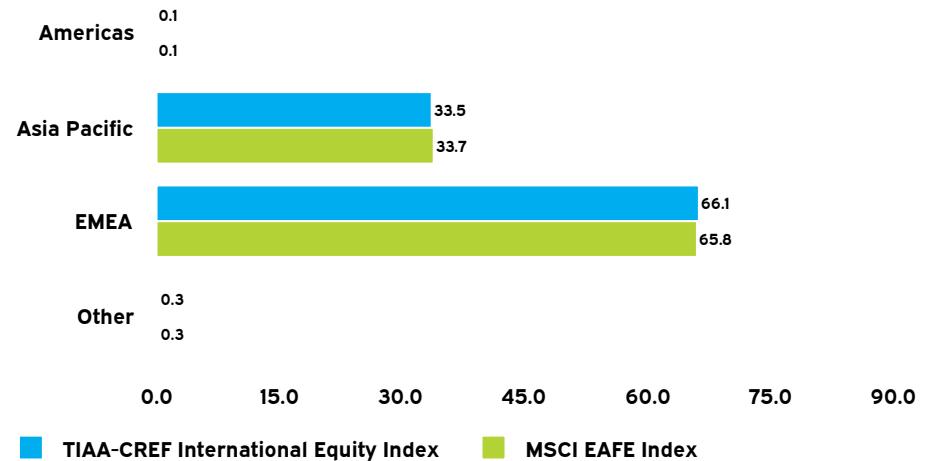
#### Sector Weights (%)



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

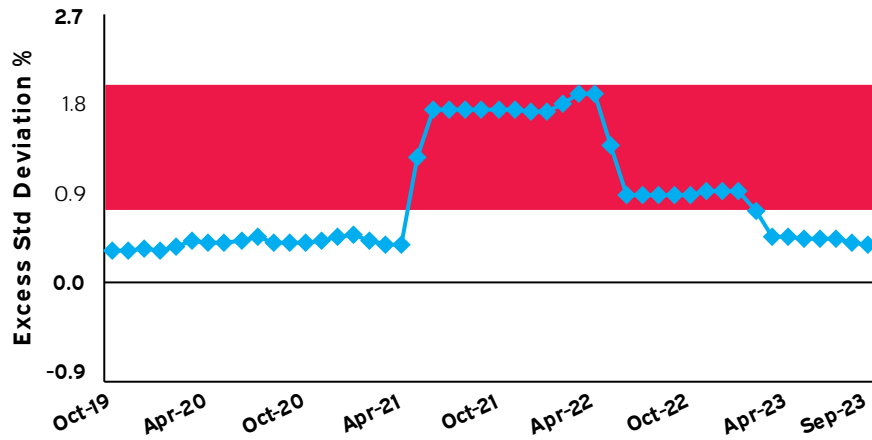


#### Region



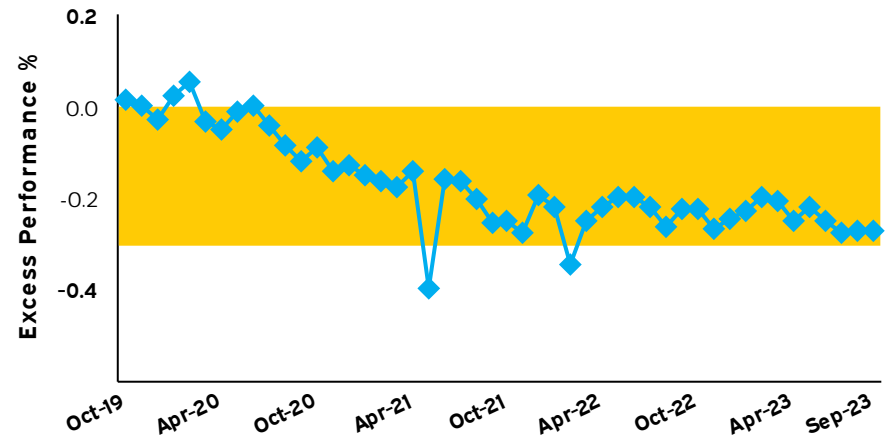
### TIAA-CREF Emerging Markets Equity Index | As of September 30, 2023

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



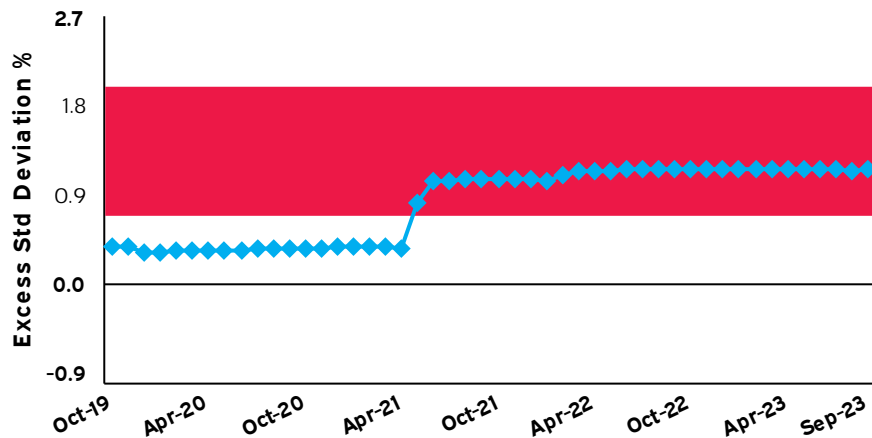
Results fall in the positive range.  
Probationary Threshold 0.75%

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



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

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



Results fall in the caution range.  
Probationary Threshold 0.70%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Emerging Markets Equity Index	-3.1 (35)	11.2 (65)	-2.1 (48)	0.3 (65)	1.0 (61)	2/1/2011
MSCI Emerging Markets (Net)	-2.9 (32)	11.7 (61)	-1.7 (43)	0.6 (56)	1.2 (55)	
Diversified Emerging Mkts Median	-3.9	13.2	-2.3	0.8	1.3	

#### Monitoring Status

Caution

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

#### Objective

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

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

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Emerging Markets Equity Index	-3.1 (35)	1.5 (69)	11.2 (65)	-2.1 (48)	0.3 (65)
MSCI Emerging Markets (Net)	-2.9 (32)	1.8 (65)	11.7 (61)	-1.7 (43)	0.6 (56)
Diversified Emerging Mkts Median	-3.9	3.3	13.2	-2.3	0.8

	2022	2021	2020	2019	2018
TIAA-CREF Emerging Markets Equity Index	-20.3 (32)	-2.9 (61)	17.9 (50)	18.5 (64)	-14.8 (34)
MSCI Emerging Markets (Net)	-20.1 (31)	-2.5 (59)	18.3 (47)	18.4 (65)	-14.6 (29)
Diversified Emerging Mkts Median	-22.5	-1.5	17.8	20.5	-16.5

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

	Portfolio	Index
# of Holdings	1,422	1,437
Wtd. Avg. Mkt. Cap	103.1	93.5
Median Mkt. Cap	5.9	6.3
P/E Ratio	12.1	12.1
Yield	3.0	3.1
EPS Growth - 5 Yrs.	15.2	14.2
Price/Book ratio	2.5	2.4
Beta	1.0	1.0

#### Risk Statistics

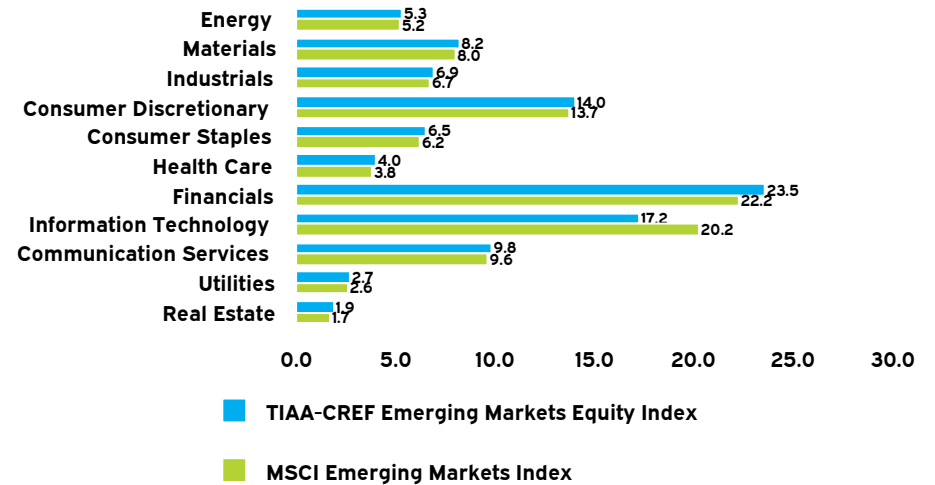
	3 Yrs (%)	5 Yrs (%)
Standard Deviation	17.5	19.0
Tracking Error	1.2	0.9
Up Capture	98.1	98.8
Down Capture	100.0	99.9
Consistency	38.9	41.7
Alpha	-0.4	-0.3
Sharpe Ratio	-0.1	0.0

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

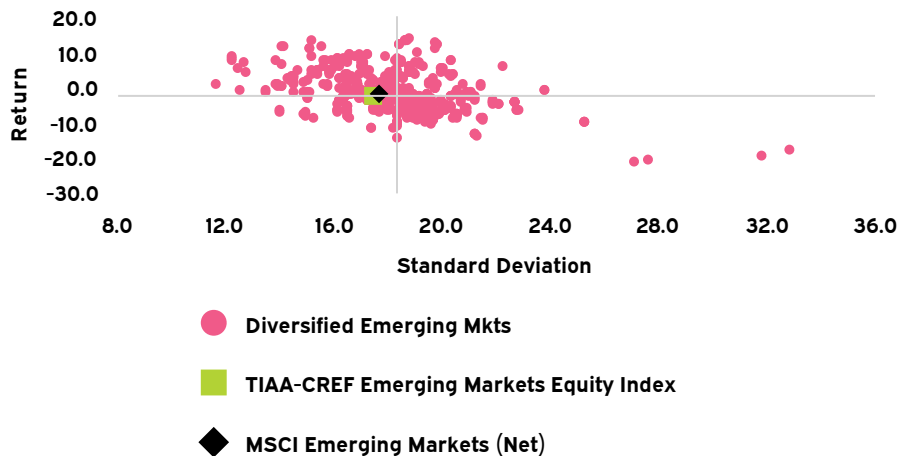
#### Top Holdings

Taiwan Semiconductor Manufacturing	6.4
Tencent Holdings LTD	4.2
Alibaba Group Holding Ltd	2.9
Reliance Industries Ltd	1.4
Meituan	1.2
Icici Bank Ltd	1.0
PDD Holdings Inc	0.9
Infosys Ltd	0.9
China Construction Bank Corp	0.9
H D F C Bank Ltd	0.8
<b>% of Portfolio</b>	<b>20.6</b>

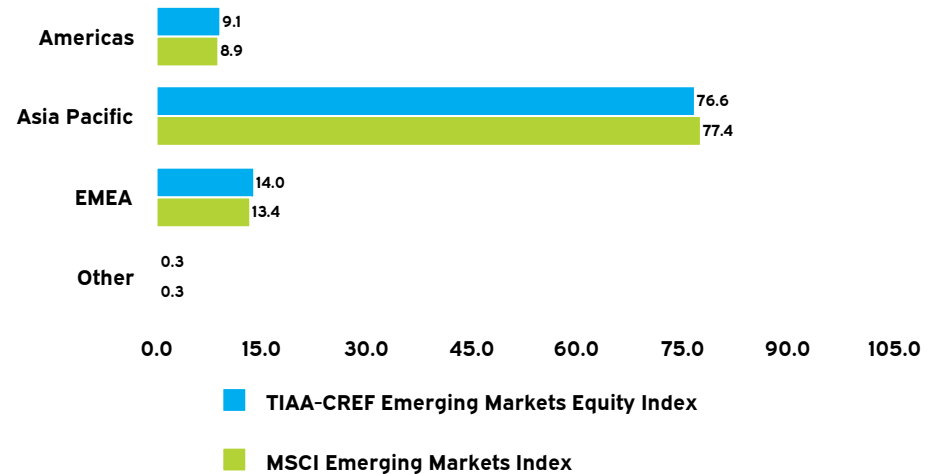
#### Sector Weights (%)



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



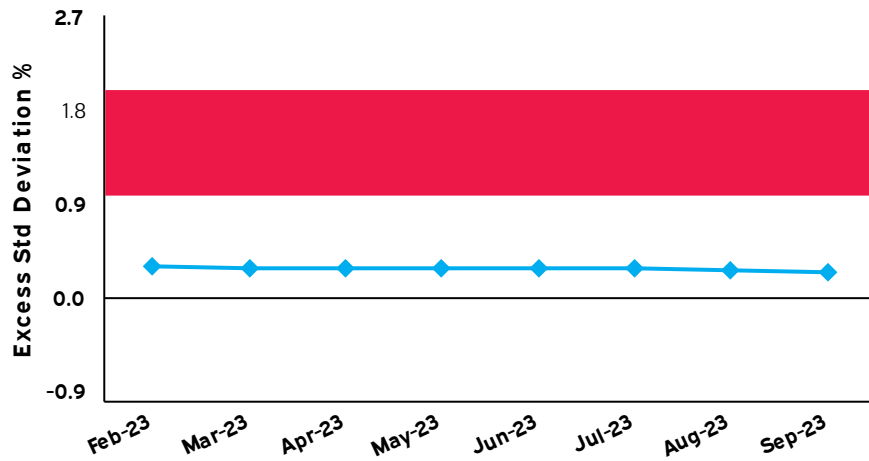
#### Region





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

Short Term - Rolling 12-Month Tracking Error



Results fall in the positive range.  
 Probationary Threshold 1.00%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Nuveen ESG Emerging Markets Equity ETF	-3.6 (45)	2.7 (58)	12.7 (54)	-8.7 (49)	3/1/2022
TIAA ESG Emerging Markets Index	-3.4 (42)	3.3 (50)	13.6 (48)	-8.1 (45)	
Diversified Emerging Mkts Median	-3.8	3.3	13.2	-9.0	

#### Monitoring Status

Positive

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

#### Objective

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

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Nuveen ESG Emerging Markets Equity ETF	-3.6 (45)	2.7 (58)	12.7 (54)	-	-
TIAA ESG Emerging Markets Index	-3.4 (42)	3.3 (50)	13.6 (48)	0.3 (30)	2.7 (24)
Diversified Emerging Mkts Median	-3.8	3.3	13.2	-2.3	0.8

	2022	2021	2020	2019	2018
Nuveen ESG Emerging Markets Equity ETF	-	-	-	-	-
TIAA ESG Emerging Markets Index	-18.7 (23)	-0.4 (45)	25.8 (23)	16.7 (77)	-16.1 (47)
Diversified Emerging Mkts Median	-22.5	-1.5	17.8	20.4	-16.4

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

	Portfolio	Index
# of Holdings	255	1,437
Wtd. Avg. Mkt. Cap	63.7	93.5
Median Mkt. Cap	9.7	6.3
P/E Ratio	12.4	12.1
Yield	2.9	3.1
EPS Growth - 5 Yrs.	11.6	14.2
Price/Book ratio	2.6	2.4
Beta	1.0	1.0

#### Risk Statistics

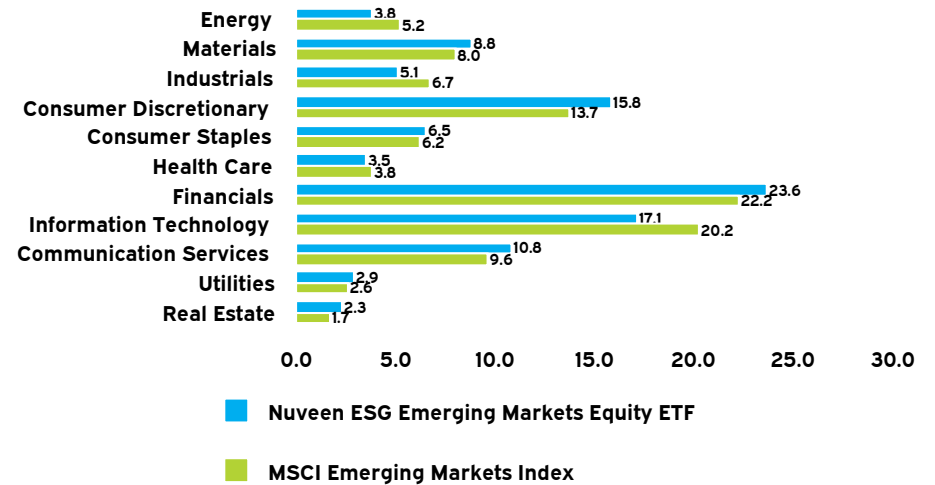
	1 Yr (%)
Standard Deviation	21.2
Tracking Error	0.2
Up Capture	98.8
Down Capture	101.7
Consistency	8.3
Alpha	-0.9
Sharpe Ratio	0.5

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

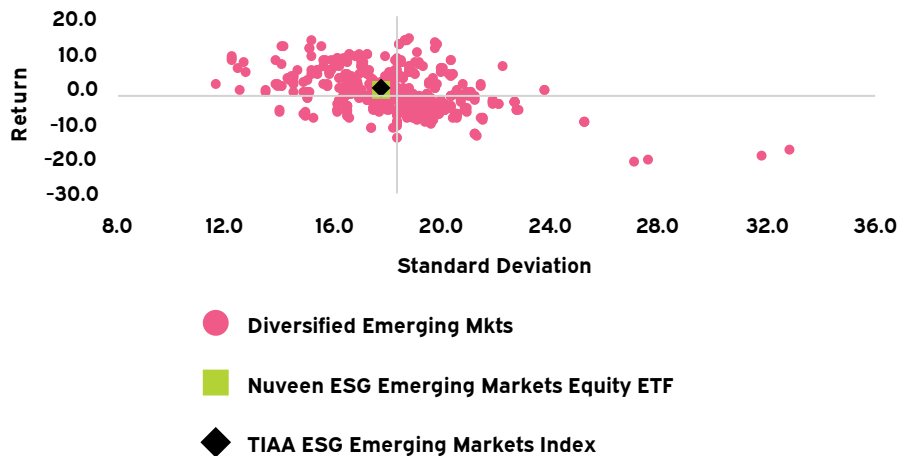
#### Top Holdings

Taiwan Semiconductor Manufacturing Co Ltd	7.4
Alibaba Group Holding Ltd	3.8
China Construction Bank Corp	2.1
Baidu Inc	2.0
Kuaishou Technology	1.5
China Merchants Bank Co Ltd	1.5
Ping An Insurance Group	1.5
Delta Electronics Inc	1.5
SK Hynix Inc	1.4
Industrial and Commercial Bank of China Limited	1.4
<b>% of Portfolio</b>	<b>24.1</b>

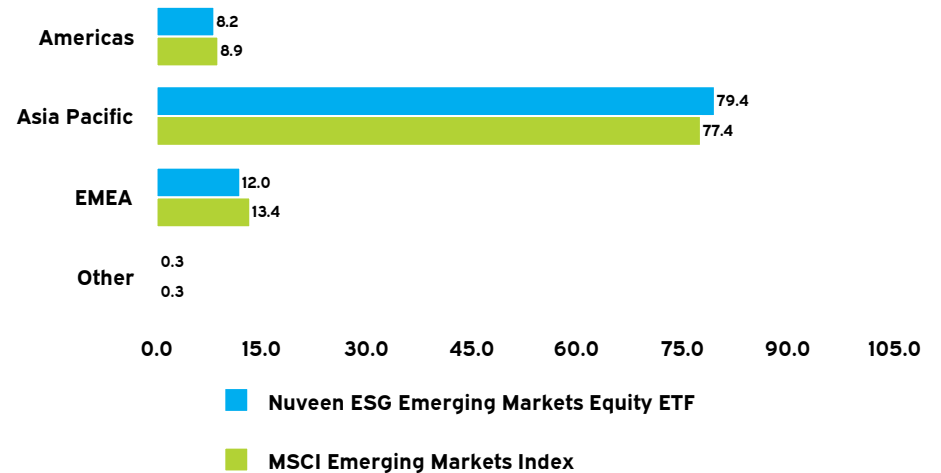
#### Sector Weights (%)



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

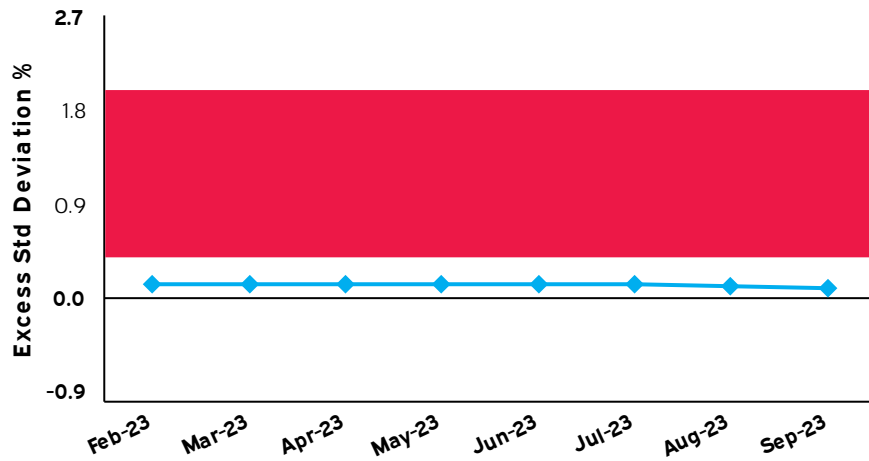


#### Region



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

Short Term - Rolling 12-Month Tracking Error



Results fall in the positive range.  
 Probationary Threshold 0.40%

Portfolio Performance Summary					
	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Vanguard Short Term Infl-Prot Securities	0.4 (6)	2.0 (6)	3.3 (9)	-0.8 (2)	3/1/2022
BBg U.S. TIPS 0-5 Years	0.4 (7)	1.9 (8)	3.2 (11)	-0.8 (3)	
Inflation-Protected Bond Median	-2.2	-0.6	1.5	-7.4	

Monitoring Status
Positive

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

**Objective**

The investment seeks to track the performance of the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) 0-5 Year Index. The index is a market-capitalization-weighted index that includes all inflation-protected public obligations issued by the U.S. Treasury with remaining maturities of less than 5 years. The manager attempts to replicate the target index by investing all, or substantially all, of its assets in the securities that make up the index, holding each security in approximately the same proportion as its weighting in the index.

**Account Information**

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

**Portfolio Performance Summary**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Vanguard Short Term Infl-Prot Securities	0.4 (6)	2.0 (6)	3.3 (9)	-	-
BBg U.S. TIPS 0-5 Years	0.4 (7)	1.9 (8)	3.2 (11)	1.9 (8)	2.8 (7)
Inflation-Protected Bond Median	-2.2	-0.6	1.5	-2.0	1.9

	2022	2021	2020	2019	2018
Vanguard Short Term Infl-Prot Securities	-	-	-	-	-
BBg U.S. TIPS 0-5 Years	-2.7 (1)	5.3 (47)	5.1 (93)	4.8 (90)	0.6 (2)
Inflation-Protected Bond Median	-11.7	5.3	9.7	7.5	-1.6

**Portfolio Characteristics vs Benchmark**

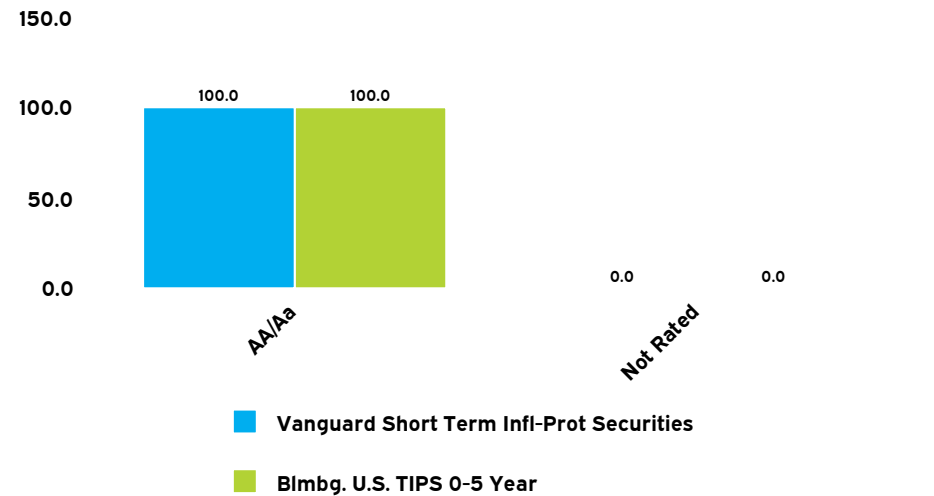
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	4.6	5.0
Average Duration	2.6	2.5
Average Quality	AA	AA
Weighted Average Maturity	2.7	2.6

**Risk Statistics**

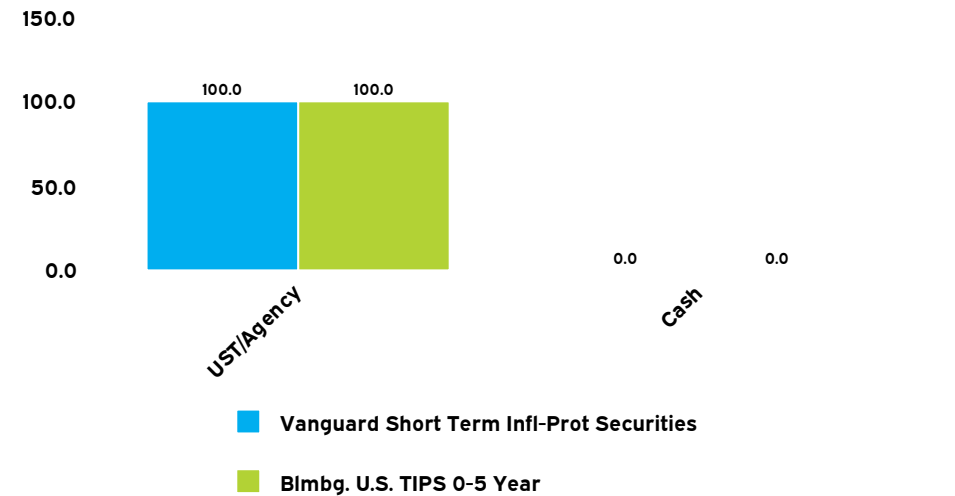
	1 Yr (%)
Standard Deviation	2.4
Tracking Error	0.1
Up Capture	102.1
Down Capture	102.2
Consistency	66.7
Alpha	0.0
Sharpe Ratio	-0.4

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

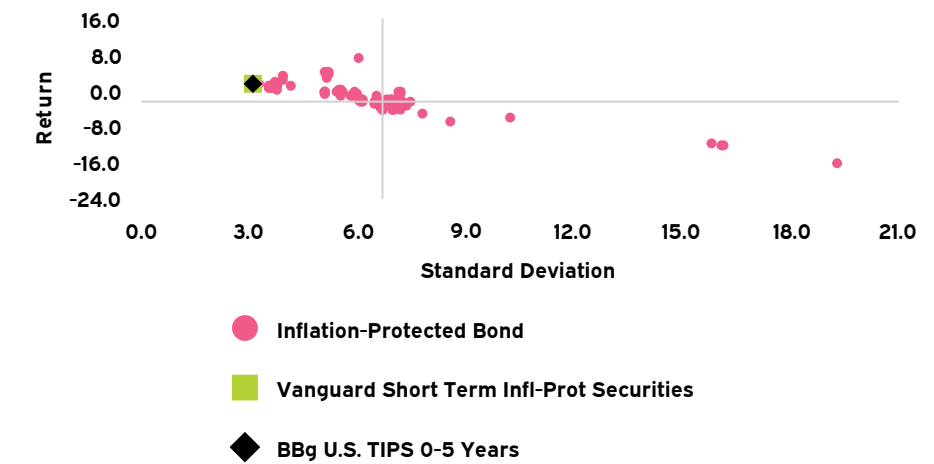
#### Credit Quality



#### Sector Allocation

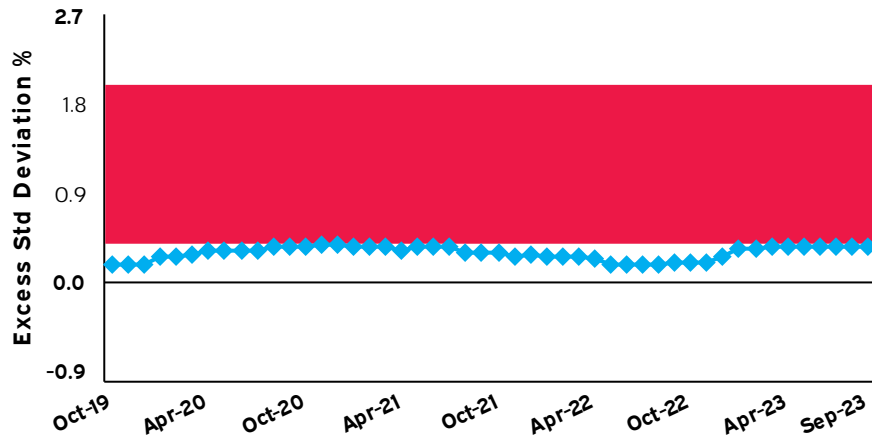


#### Return vs. Standard Deviation 3 Years Ending September 30, 2023



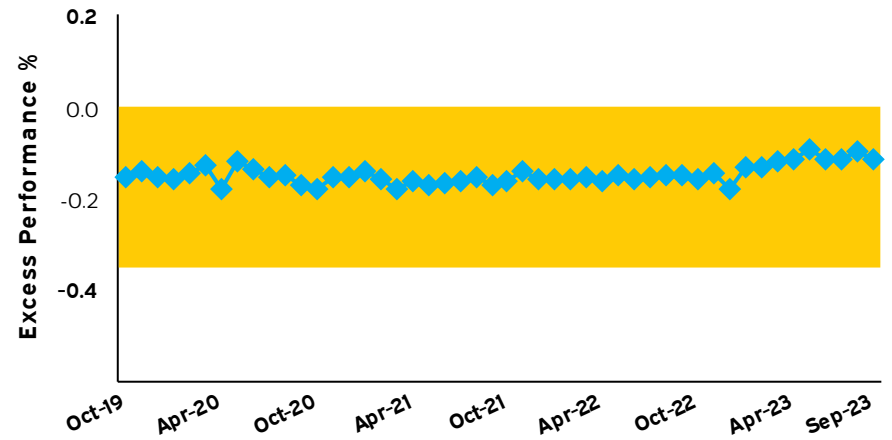
### TIAA-CREF Bond Index I | As of September 30, 2023

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



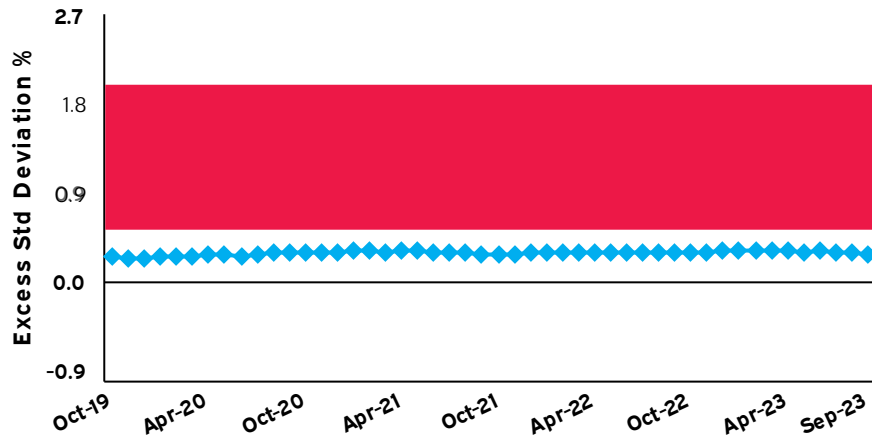
Results fall in the positive range.  
Probationary Threshold 0.40%

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



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

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



Results fall in the positive range.  
Probationary Threshold 0.70%

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception	Inception Date
TIAA-CREF Bond Index I	-3.2 (65)	0.6 (48)	-5.3 (60)	0.0 (54)	1.1 (65)	12/1/2011
Blmbg. U.S. Aggregate Index	-3.2 (63)	0.6 (47)	-5.2 (52)	0.1 (42)	1.2 (52)	
Intermediate Core Bond Median	-3.1	0.6	-5.2	0.0	1.3	

#### Monitoring Status

Acceptable

### TIAA-CREF Bond Index I | As of September 30, 2023

#### Objective

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

#### Account Information

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

#### Portfolio Performance Summary

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
TIAA-CREF Bond Index I	-3.2 (65)	-0.9 (44)	0.6 (48)	-5.3 (60)	0.0 (54)
Blmbg. U.S. Aggregate Index	-3.2 (63)	-1.2 (63)	0.6 (47)	-5.2 (52)	0.1 (42)
Intermediate Core Bond Median	-3.1	-1.0	0.6	-5.2	0.0

	2022	2021	2020	2019	2018
TIAA-CREF Bond Index I	-13.2 (41)	-1.8 (66)	7.5 (60)	8.4 (52)	0.0 (31)
Blmbg. U.S. Aggregate Index	-13.0 (31)	-1.5 (49)	7.5 (58)	8.7 (35)	0.0 (29)
Intermediate Core Bond Median	-13.4	-1.6	7.8	8.4	-0.4

#### Portfolio Characteristics vs Benchmark

	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	4.7	5.4
Average Duration	6.2	6.2
Average Quality	AA	AA
Weighted Average Maturity	8.7	8.5

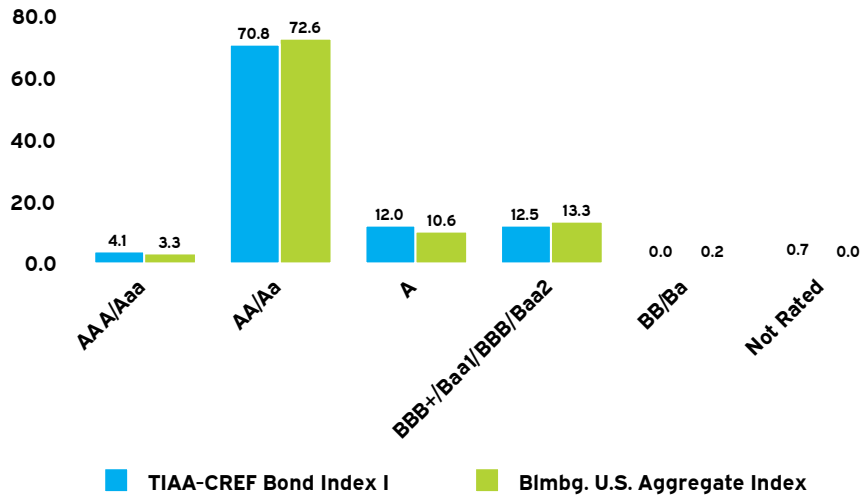
#### Risk Statistics

	3 Yrs (%)	5 Yrs (%)
Standard Deviation	6.2	5.6
Tracking Error	0.3	0.3
Up Capture	100.9	100.2
Down Capture	101.3	101.8
Consistency	41.7	41.7
Alpha	-0.1	-0.1
Sharpe Ratio	-1.1	-0.3

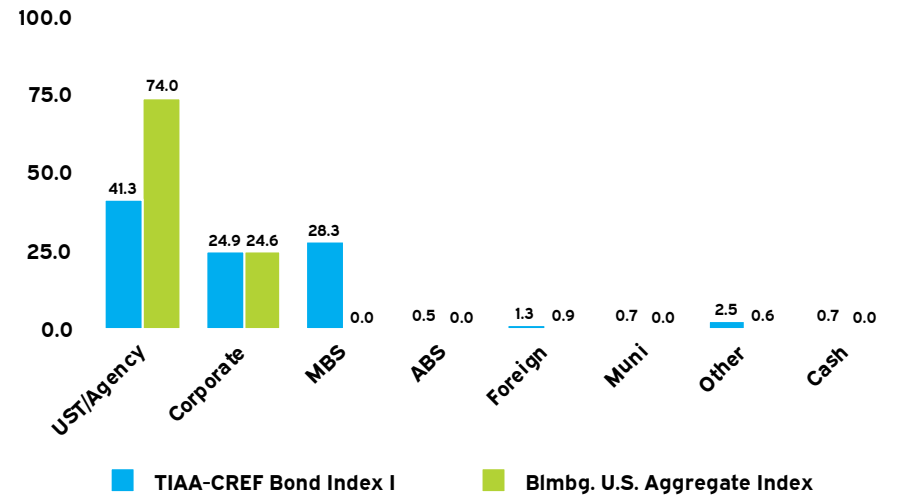


TIAA-CREF Bond Index I | As of September 30, 2023

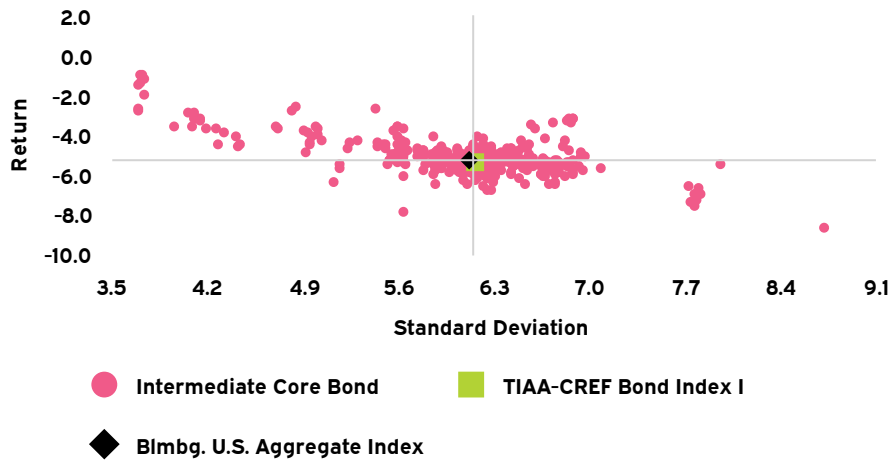
### Credit Quality



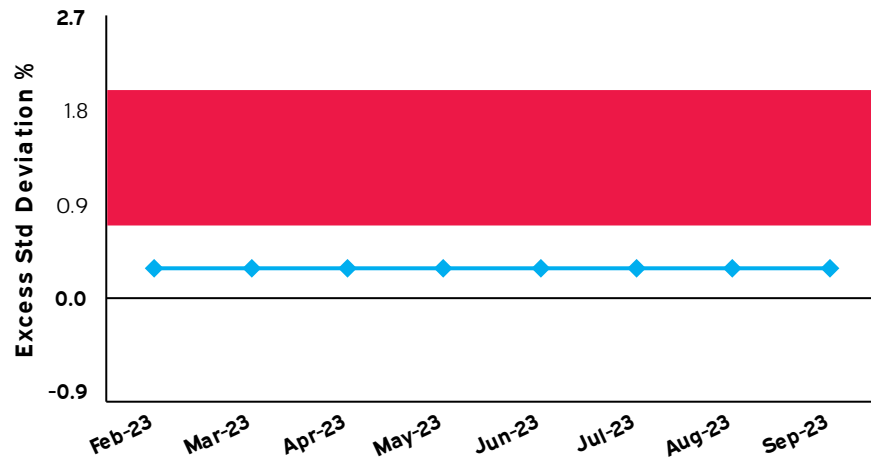
### Sector Allocation



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



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



Results fall in the positive range.  
 Probationary Threshold 0.70%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Nuveen ESG US Aggregate Bond ETF	-3.2 (54)	-1.0 (46)	0.5 (55)	-7.2 (37)	3/1/2022
BBg MSCI US Agg ESG Select	-3.2 (59)	-1.2 (65)	0.6 (51)	-7.1 (29)	
Intermediate Core Bond Median	-3.1	-1.0	0.6	-7.4	

#### Monitoring Status

Positive

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

**Objective**

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

**Account Information**

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

**Portfolio Performance Summary**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Nuveen ESG US Aggregate Bond ETF	-3.2 (54)	-1.0 (46)	0.5 (55)	-	-
BBg MSCI US Agg ESG Select	-3.2 (59)	-1.2 (65)	0.6 (51)	-5.2 (54)	0.1 (41)
Intermediate Core Bond Median	-3.1	-1.0	0.6	-5.2	0.0

	2022	2021	2020	2019	2018
Nuveen ESG US Aggregate Bond ETF	-	-	-	-	-
BBg MSCI US Agg ESG Select	-12.8 (25)	-1.6 (51)	7.6 (58)	8.4 (51)	0.3 (17)
Intermediate Core Bond Median	-13.4	-1.6	7.8	8.4	-0.4

**Portfolio Characteristics vs Benchmark**

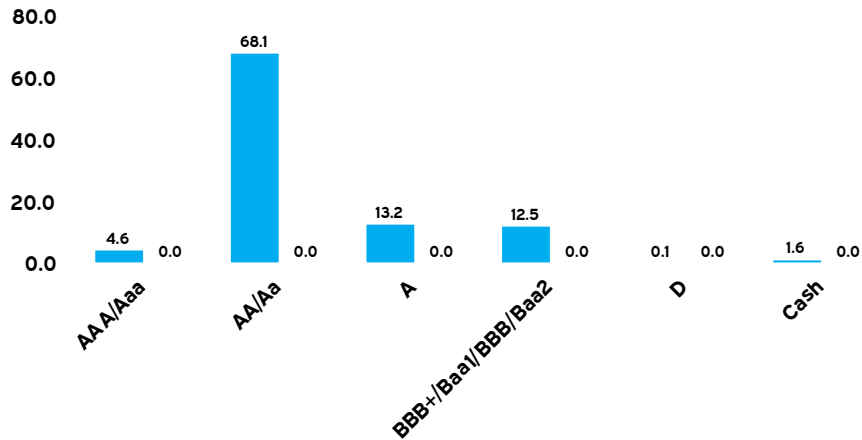
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	5.3	5.4
Average Duration	6.1	6.2
Average Quality	AA	AA
Weighted Average Maturity	8.4	8.5

**Risk Statistics**

	1 Yr (%)
Standard Deviation	6.8
Tracking Error	0.3
Up Capture	101.2
Down Capture	101.8
Consistency	58.3
Alpha	0.0
Sharpe Ratio	-0.5

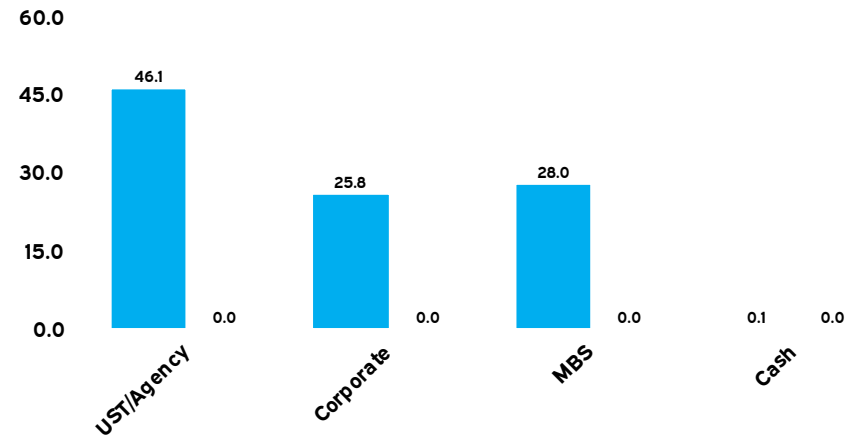
### Nuveen ESG US Aggregate Bond ETF | As of September 30, 2023

#### Credit Quality



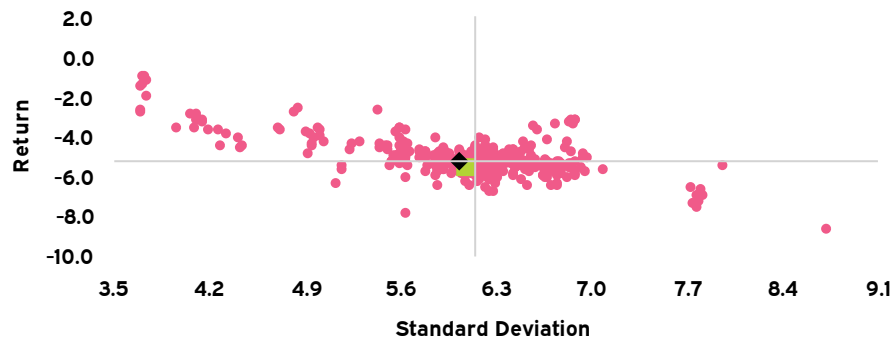
■ Nuveen ESG US Aggregate Bond ETF ■ BBg MSCI US Agg ESG Select

#### Sector Allocation



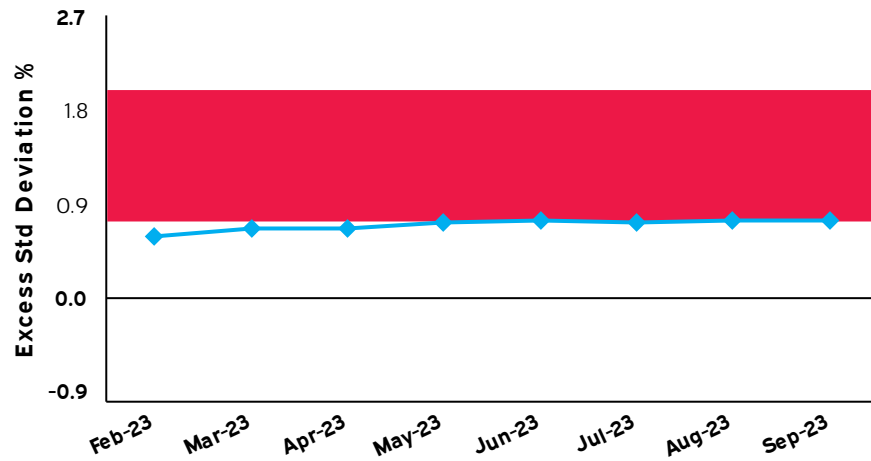
■ Nuveen ESG US Aggregate Bond ETF ■ BBg MSCI US Agg ESG Select

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



● Intermediate Core Bond ■ Nuveen ESG US Aggregate Bond ETF  
◆ BBg MSCI US Agg ESG Select

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



Results fall in the positive range.  
 Probationary Threshold 0.75%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Nuveen ESG High Yield Corp Bond ETF	-0.3 (90)	4.3 (82)	8.9 (69)	-3.1 (88)	3/1/2022
BBg MSCI US High Yield Very Liquid ESG Select	-0.2 (89)	4.4 (79)	9.3 (59)	-3.0 (86)	
High Yield Bond Median	0.5	5.3	9.6	-1.6	

#### Monitoring Status

Positive

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

**Objective**

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

**Account Information**

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

**Portfolio Performance Summary**

	QTR (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Nuveen ESG High Yield Corp Bond ETF	-0.3 (90)	4.3 (82)	8.9 (69)	-	-
BBg MSCI US High Yield Very Liquid ESG Select	-0.2 (89)	4.4 (79)	9.3 (59)	0.0 (92)	-
High Yield Bond Median	0.5	5.3	9.6	1.6	2.4

	2022	2021	2020	2019	2018
Nuveen ESG High Yield Corp Bond ETF	-12.1 (83)	2.8 (92)	4.0 (73)	-	-
BBg MSCI US High Yield Very Liquid ESG Select	-12.1 (82)	3.6 (80)	4.0 (72)	-	-
High Yield Bond Median	-10.7	4.8	5.2	13.5	-2.9

**Portfolio Characteristics vs Benchmark**

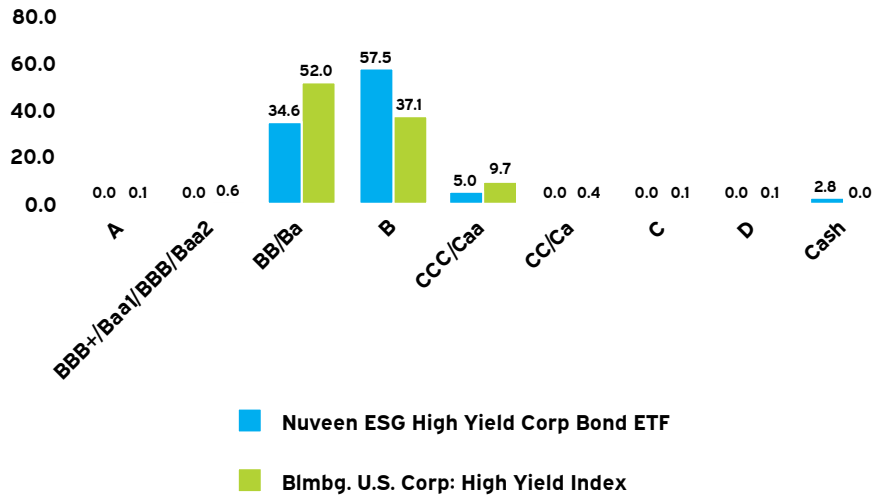
	Portfolio	Index
<b>Portfolio Characteristics</b>		
Yield To Maturity (%)	8.6	8.9
Average Duration	3.6	3.9
Average Quality	B	B
Weighted Average Maturity	5.0	5.0

**Risk Statistics**

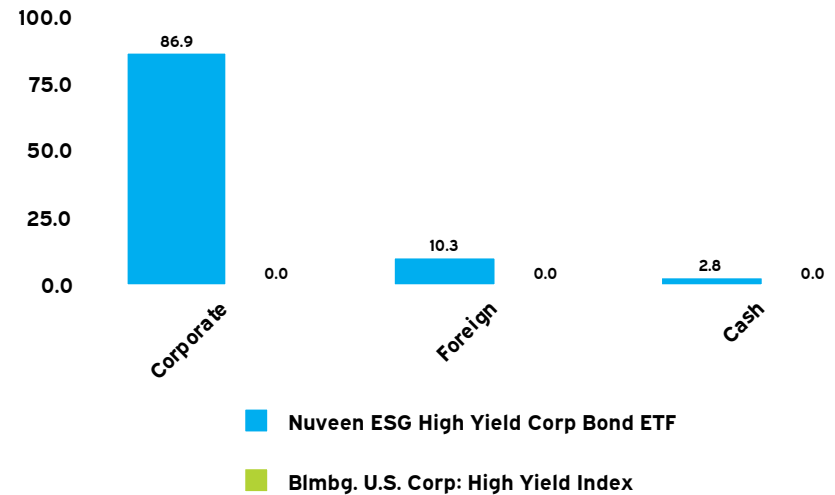
	1 Yr (%)
Standard Deviation	6.2
Tracking Error	0.7
Up Capture	102.0
Down Capture	112.7
Consistency	41.7
Alpha	-0.9
Sharpe Ratio	0.7

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

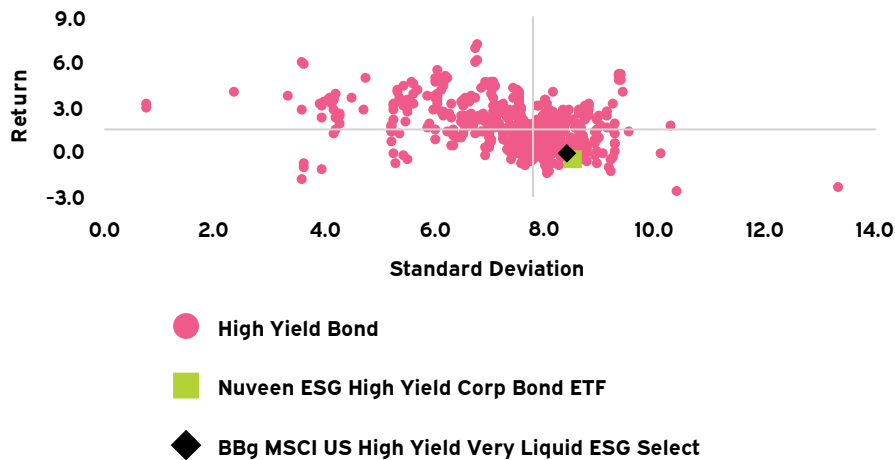
#### Credit Quality



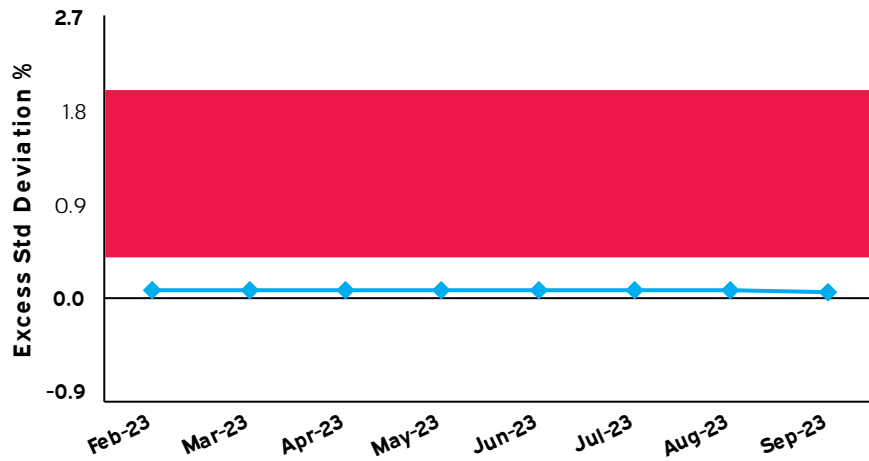
#### Sector Allocation



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



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



Results fall in the positive range.  
 Probationary Threshold 0.40%

#### Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	Since Inception	Inception Date
Vanguard Real Estate Index	-8.5 (75)	-5.3 (79)	-1.2 (70)	-13.8 (69)	3/1/2022
MSCI US IMI Real Estate 25/50 GR USD	-8.5 (75)	-5.3 (77)	-1.1 (68)	-13.7 (66)	
Real Estate Median	-7.7	-3.6	0.1	-13.1	

#### Monitoring Status

Positive



### Objective

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

### Account Information

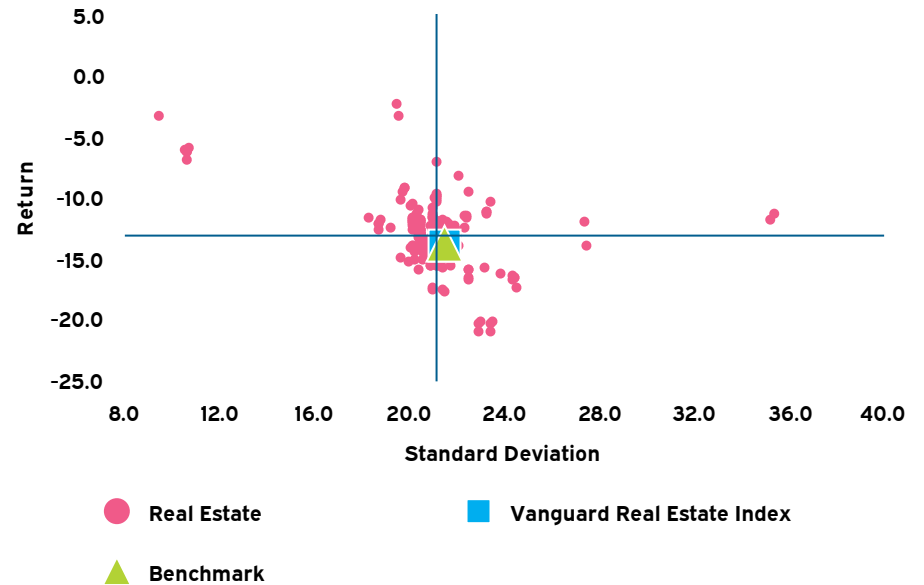
Account Name	Vanguard Real Estate Index
Inception Date	02/11/2022
Account Structure	Mutual Fund
Asset Class	US Private Real Estate
Benchmark	MSCI US IMI Real Estate 25/50 GR USD
Peer Group	Real Estate

### Performance Summary

	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Vanguard Real Estate Index	-7.34 (80)	-5.34 (79)	-1.22 (70)	--	--	--
<i>MSCI US IMI Real Estate 25/50 GR USD</i>	-7.33	-5.26	-1.14	2.45	2.54	5.03
<i>Real Estate Median</i>	-6.72	-3.56	0.14	3.48	2.78	5.59

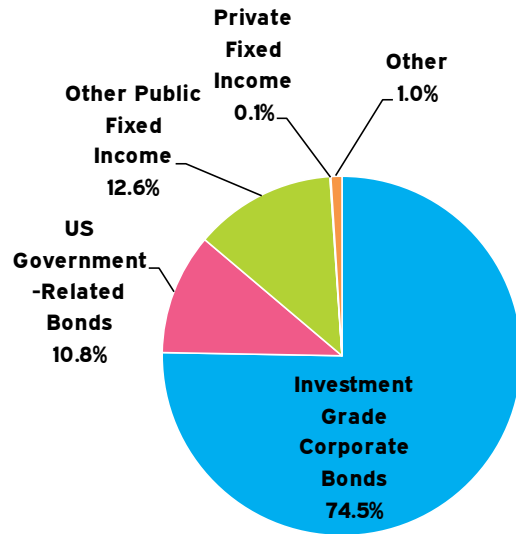
### Vanguard Real Estate Index | As of September 30, 2023

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



## **T-C Life Funding Agreement Review**

#### T-C Life Funding Agreement



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

	Criteria	Status as of 09/30/23
Financial Strength	Moody's = Aa2 Standard & Poor's = AA A.M. Best = A+ Fitch = AA-	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA
Mortgage Portfolio*	100% in Good Standing	100% in Good Standing*
Bond Portfolio*	At least 90% Investment Grade	98.93% 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

# 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.

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

## MEMORANDUM

**TO:** ScholarShare Investment Board (SIB)  
**FROM:** Kay Ceserani; Aysun Kilic; Inwoo Hwang;  
 Meketa Investment Group (“Meketa”)  
**DATE:** December 19, 2023  
**RE:** ScholarShare 529 Programs “Watch” Status Update

### 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 July 1, 2023, through September 30, 2023. As of the end of the period, three funds continue to qualify for “Watch” status.

*Meketa recommends the T. Rowe Large Cap Growth fund remain on “Watch” status and the two remaining funds be kept off “Watch” status as we have seen most Passive International funds’ tracking errors tick upwards. We will report any material findings to SIB.* All funds listed below are discussed in more detail on the following pages.

### Performance of Funds on “Watch” Status (As of 09/30/2023)

Funds on Watch Status	Plan Assets (\$M)	SIB Action Date	Watch Status Start Date	Months Since Watch Began	Qualifies for Watch	Excess Performance Recent Quarter	Excess Performance Since Watch Began	Level of Concern
<b>Passive</b>								
None	---	---	---	---	---	---	---	---
<b>Active</b>								
T. Rowe Price Large Cap Growth Fund	\$295.9	6/22/22	4/1/22	18	Medium	1.1%	-1.2%	1

#### Concern Level

- Low** Underperformance consistent with biases of investment strategy; benchmark and/or peer group mismatch.
- Moderate** Isolated periods of underperformance due to stock selection and/or sector selection.
- Moderately High** Persistent underperformance resulting from stock and/or sector selection; significant personnel change.
- High** Portfolio exhibiting style drift; change in investment philosophy or process; material personnel change.

### Funds being monitored off “Watch” status

When there is a quantifiable reason not to place funds on “Watch” status, even though they qualify, we recommend that rather than being placed on watch, those funds be monitored separately.

At the end of the period, the TIAA-CREF International Equity Index (Passive) and the TIAA-CREF Emerging Markets Equity Index (Passive) continue to qualify for “Watch” status. The two international equity index funds fall into Caution range primarily due to “Fair Value” adjustment procedures, which increases tracking error.

#### Fair Value Pricing:

Some ETFs or mutual funds will use Fair Value pricing if the value of their underlying securities has been materially affected by events occurring before the US market closes, but after the close of the markets or exchanges on which the security is traded. This situation most commonly occurs with foreign securities, which may trade on foreign exchanges that close many hours before the ETF or mutual fund is priced in the US. Fair Value pricing addresses the price discrepancies in such scenarios. As a result, a divergence in a Fair Value priced asset and the index may be observed temporarily.

#### Recommendation:

Although these funds qualify for “Watch,” Meketa does not recommend placing them on “Watch” given the root cause for them qualifying is operational versus a fundamental flaw with the funds’ investment processes. However, we will continue to monitor these funds and report any material findings to SIB.



## Funds Currently on “Watch” Status

### 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 \$295.9M of ScholarShare 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’s portfolio manager since 2017 and has been with the firm since 2004. He earned an MBA from Dartmouth College and is also a CFA charter holder. Taymour is supported by other members of T. Rowe Price’s US Large Cap Growth team.

#### Investment Philosophy and Approach

The fund uses a growth style of investing employing a bottom-up investment approach on companies that fall in the large-cap US investment universe, defined as companies in the Russell 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. Additionally, the fund may have a significant portion of its assets invested in the same economic sector, such as the information technology sector.

Portfolios are constructed on the basis of identifying large-cap growth companies that the portfolio manager believes can generate real, double-digit earnings growth for a minimum of three years. Portfolio Manager Taymour Tamaddon looks for companies on the right side of change, and these have tended to be high-quality companies that are well run and score well on environmental, social, and governance (ESG) measures. As such, their primary emphasis is on company fundamentals, not the composition of the Russell 1000 Growth Index.

They are cognizant of whether or not a potential holding is in the index and of its weighting. However, position size is a function of their conviction in a company’s ability to deliver long-term, double-digit growth. Active position sizes typically range up to +5% of their relative weighting in the Russell 1000 Growth Index at the time of purchase. Position size ultimately reflects the strength of the investment case, including valuation levels, a company’s growth prospects, its ESG profile, and other fundamentals and risk factors affecting the stock.

Sector and industry weightings are a residual of their bottom-up stock selection process. In some instances, they may have a macro view that modestly influences sector and industry weightings, but that is a qualitative, not quantitative, judgment. For primary sectors in the Russell 1000 Growth Index (i.e., those weighted approximately 10% or higher), the portfolio's sector weights typically vary from  $\pm 15\%$  of the index weight for purposes of diversification and risk management. Positions are built carefully over time, however, when an unusually attractive entry point develops the investment period is accelerated. While portfolio holdings are continuously monitored, there is no automatic appreciation level that would trigger trimming of a position. Each decision is made on a stock-by-stock basis, considering factors such as company fundamentals, valuation, confidence level in the security, ESG assessment, and the stock's weight in the portfolio. When selling, a position is generally gradually scaled out of unless a change in the fundamental view of the company prompts a quicker divestment. The fund typically holds between 50-60 securities, with the top 10 positions representing over half of the assets.

- 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

As of September 30, 2023, the T. Rowe Large Cap Growth fund continues to qualify for "Watch" status by having a rolling 36-month excess return below (1.75%) for six or more consecutive months.

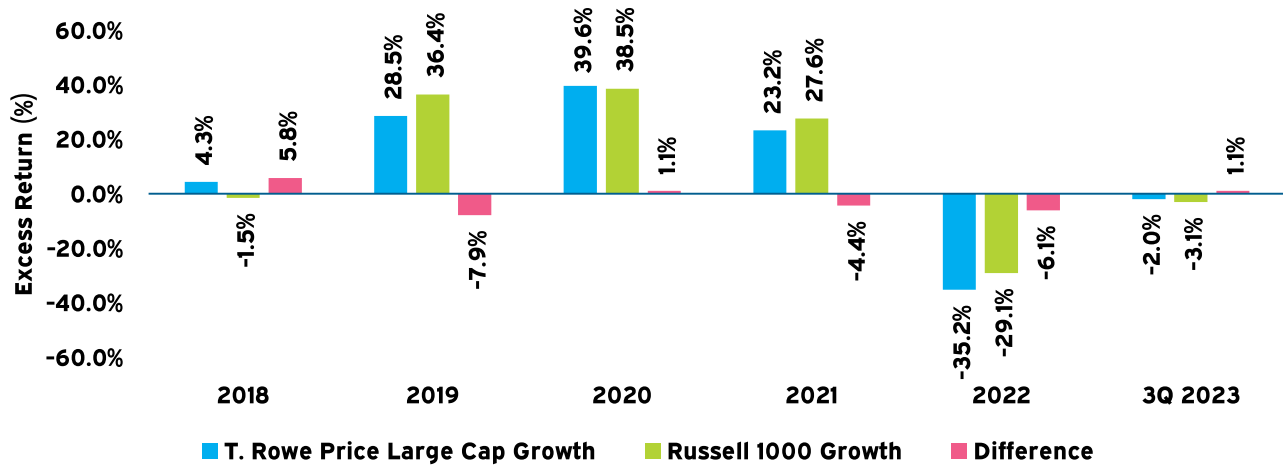
For the most recent quarter, the fund returned (2.0%) while the Russell 1000 Growth index returned (3.1%), outpacing the index by 1.1%. The fund's outperformance relative to the index over the period was attributable to security selection in the technology and consumer discretionary sectors. From a sector allocation perspective, the fund's overweight to communication services sector relative to benchmark also contributed to relative outperformance as it was the second-best performing sector during the quarter. At the security level, Apple and Intuit were the top contributors.

Over the trailing 1- and 3-year periods performance was mixed, matching the Russell 1000 Growth Index return of 27.7% over the 1-year period, but lagging over the 3-year period by (3.1%); ranked in the 25th and 49th percentile versus its US Large Cap Growth Equity peer group, respectively. Performance was negatively impacted by the overall challenging year in 2021 for high-growth investors, after two years of extraordinary returns in 2019 and 2020.

The following graph shows the fund's quarter-to-date and calendar year excess returns over the last five years.

Calendar Year Performance, Net of Fees  
Ending September 30, 2023

T. Rowe Price Large Cap Growth vs. Russell 1000 Growth



Given the Russell 1000 Growth Index’s high concentration in it’s top holdings and that the fund can, and does, look materially different than its index, it is likely that the T. Rowe Large Cap Growth fund will exhibit volatile relative performance over time. We would expect that this volatility should be materially positive in some periods and materially negative in others. Prior to recent materially negative relative performance, the fund had a sizeable relative outperformance over a considerable period of time. Over time, this fund has demonstrated strong absolute and peer results though with periods of dramatic underperformance relative to the benchmark. Overall, Meketa has a favorable opinion of the fund and views it as one of the better options in its peer universe.

**Recommendation**

Despite recovery over the recent periods on both absolute and relative to benchmark basis, fund performance continues to be mixed and trails the index since being placed on “Watch”. The fund continues to qualify for “Watch” based on its medium-term results. *Therefore, Meketa continues to recommend the T. Rowe Price Large Cap Growth fund remain on “Watch” status to be closely monitored over the coming periods.*

KRC/AK/IH/mp

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