



**FIDUCIENT**  
Advisors

Helping Clients Prosper

Ledyard, CT

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Quarterly Investment Review - First Quarter 2023

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*Please consult with your advisor, attorney and accountant, as appropriate, regarding specific advice. Past performance does not indicate future performance and there is risk of loss.*



# Fiducient Advisors Update



## Retirement Plans

### Featured Insights

- Webcast: Diagnosing and Treating Defined Benefit Plans for Healthcare Organizations
- Webcast: Secure 2.0 Act – Key Provisions and Actionable Takeaways

### Coming Soon

- Pension Pulse Newsletter
- The Public Fiduciary Newsletter



## Research Insights

- Monthly Market Recaps
- Monthly Market Updates
  - *Hot Data, Cool Markets, Good News* - February
  - *Markets Start 2023 Off with a Bang* - January
- Blog: Update Regarding Silicon Valley Bank (SVB)
- Webcast: Fiducient Speaker Series with Matthews Asia
- Research Paper: The Fed's Inflation Target is Not Yours
- Webcast: 2023 Essential Economic Update



## Endowments & Foundations

### Featured Insights

- Nonprofit Investment Stewards Podcast
- Blog: If ESG is Considered Green – Why is There So Much Gray?

### Coming Soon

- Steward Newsletter



## The Wealth Office®

### Featured Insights

- Blog: Are My Assets Safe?
- Webcast: Assessing Your Financial Wellness – Important Considerations for 2023
- 2023 Financial Planning Guide
- Blog: Simple Actions Today Can Lead to Positive Results Tomorrow

**SAVE THE DATE!**

**2023 Investor Conference**

**September 26-27**

**Boston**

**Westin Copley Center**

**Reserve your room today:**

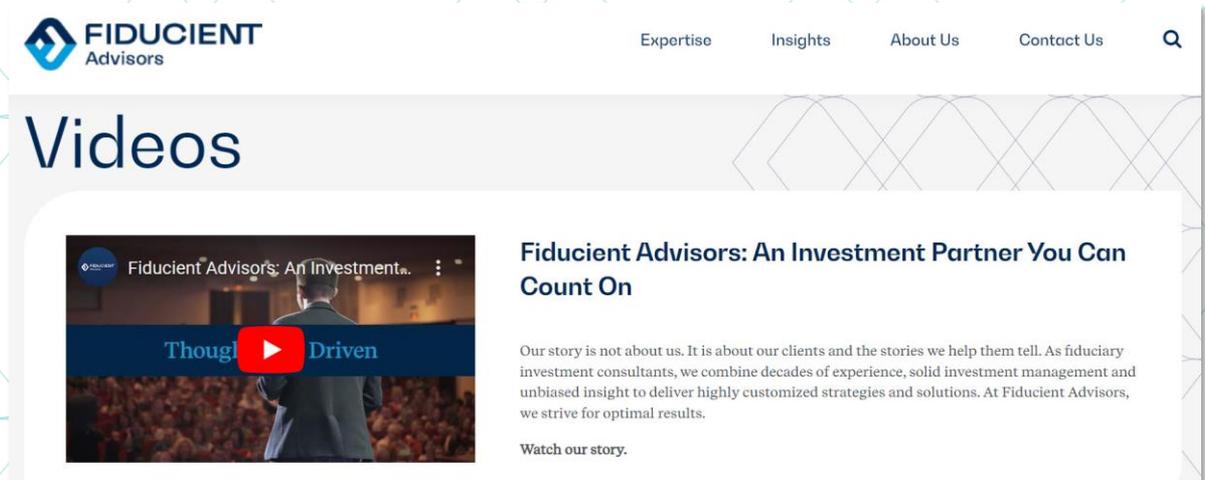
<https://book.passkey.com/event/50425437/owner/251/home>



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## 2023 New Associates – Welcome!

- Alexandra Brown, Consulting Analyst
- Natalka Bukalo, Senior Consultant
- Isaias Cadenas, Client Service Associate, The Wealth Office®
- Eva Campbell, Finance Associate
- Alexander Collins, Client Service Associate
- Ariel Lubin, Business Systems Engineer
- Jack Morrissey, Client Service Associate, The Wealth Office®
- Stiv Mucollari, Client Service Associate
- Melissa Peters, Human Resources Generalist
- Stefan Strauss, Consulting Analyst
- Ruth Tegene, Consulting Analyst
- Neshie Tiwari, Associate General Counsel and Chief Compliance Officer

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## Governance Calendar



# Fiduciary Governance Calendar



\*Liquidity analysis is provided only for portfolios with marketable alternatives and/or private equity.

\*\*Timing of actuarial review is dependent on client's individual plan and/or fiscal year and actuarial input.



# Portfolio Expense Analysis

	Estimated Annual Cost
Investment Portfolio (Weighted Average)	0.44%
Webster Bank (Base cost)	0.14% on first \$5 million 0.12% on next \$5 million 0.11% on next \$15 million Minimum Annual Fee: \$10,000
Fiducient	Flat Fee Subject to Escalator. Approximate 2022 Fees Paid: \$48,000

DISCLOSURE: The figures on this page have been obtained from sources we deem to be reliable. Fiducient Advisors has not independently verified this information. A breakdown of investment management fees are detailed in the main report.



Town of Ledyard		
	<u>7/1/2021</u>	<u>7/1/2019</u>
Actuarial Value of Assets	\$28,700,912	\$25,375,810
Total Accrued Liability	32,850,603	30,313,077
Funded Ratio	87.4%	83.7%
Actuarial Return Assumption	6.25%	6.25%



## Capital Market Updates

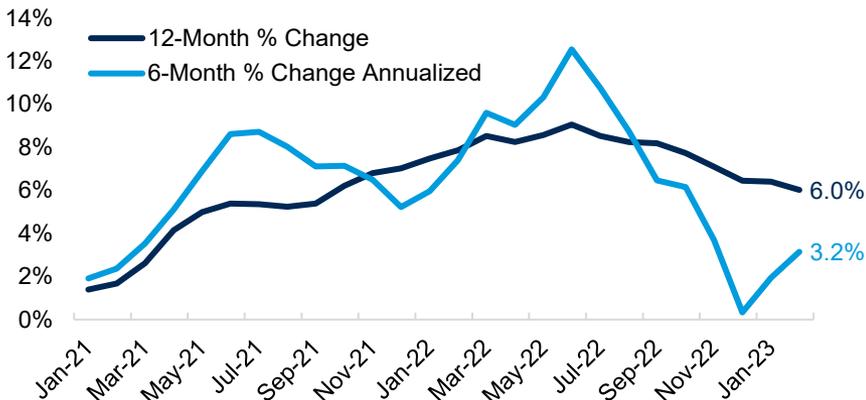


# Market Themes

1. As highlighted in our 2023 Outlook, volatility has persisted across all segments of the market. Uncertainty surrounding Fed policy, angst in the banking sector, and oscillating fears of recession kept volatility elevated.
2. We headed into 2023 with the notion that inflation will trend lower, but the path of reduction would not be smooth. This has been the trajectory thus far. We continue to see inflation measures contract, but the route remains unsettled.
3. Since the onset of Covid-19, investors have experienced incredible bouts of volatility, which we believe may continue. Staying disciplined, even when uncomfortable, has rewarded investors over the long-run.

## Inflation Perspectives

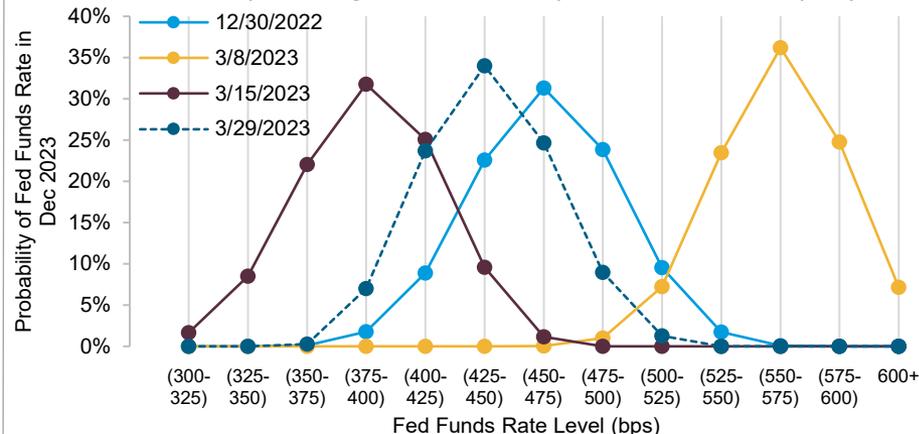
Headline inflation has been moderating, but more recent trends show further slowing. Additionally, housing, which is incorporated into CPI on a lagged basis, points to further softening as we head into summer.



Sources: FactSet, BLS, Fiducient Advisors calculations. As of February 2023. US Consumer Price Index All Items, not seasonally adjusted.

## Market Implied Probability for December 2023 Fed Fund Rate

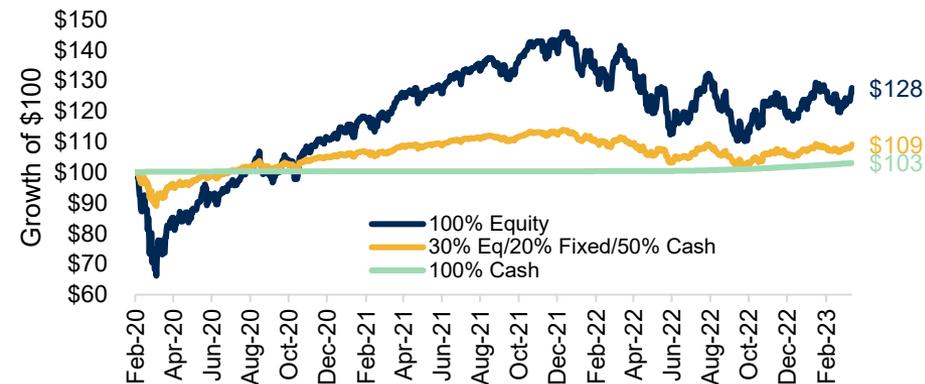
Wavering markets, inflation volatility, and uncertainty surrounding the economy's direction has led to rapid and significant shifts in expectations for Fed rate policy.



Sources: CME FedWatch Tool. As of March 29, 2023.

## Staying Invested - Growth of \$100 since Pre-Covid Peak

Despite volatility and bear markets, staying invested since the onset of the global Covid-19 pandemic has rewarded investors compared to shifting to cash.



Source: Morningstar Direct. Growth of \$100 from February 19, 2020 to March 31, 2023. Equity = S&P 500 Index, Fixed = Bloomberg US Agg Bond Index, Cash = Bloomberg US Tbill 1-3M Index. Blends are rebalanced monthly at listed weights.

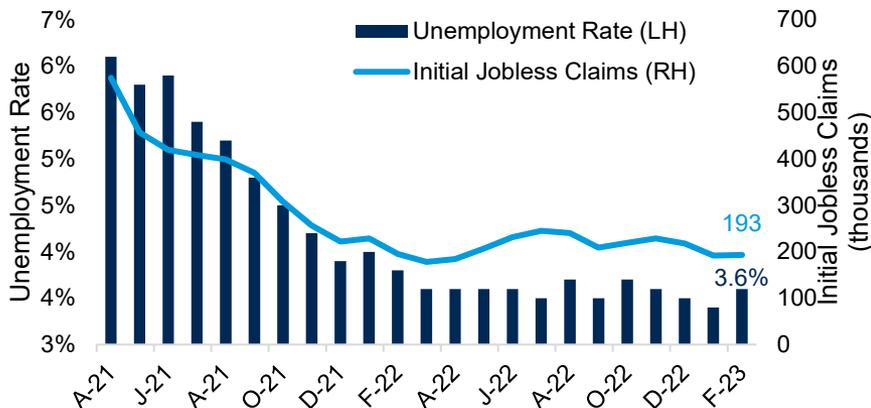
See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.



# Economic Review

## Labor Market Remains Resilient

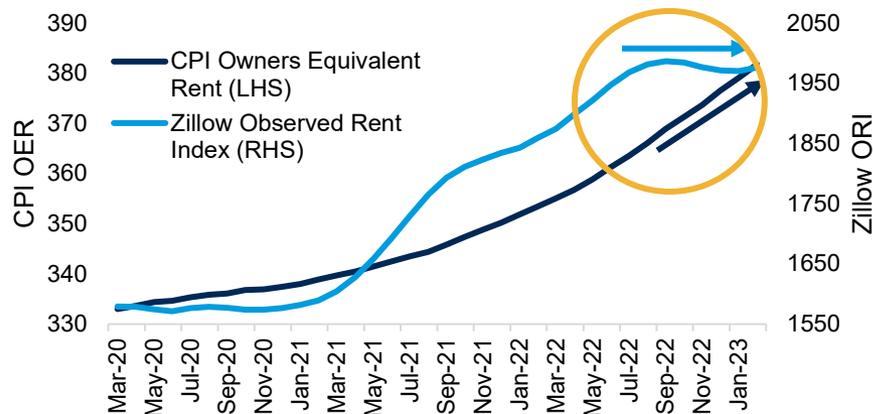
The consumer is the bedrock of the U.S. economy. Strong financial positions for consumers and a resilient job market have helped mitigate the risk of an extreme recession.



Sources: FactSet, DOL. As of February 28, 2023.

## Rents - Surveyed vs. Reality?

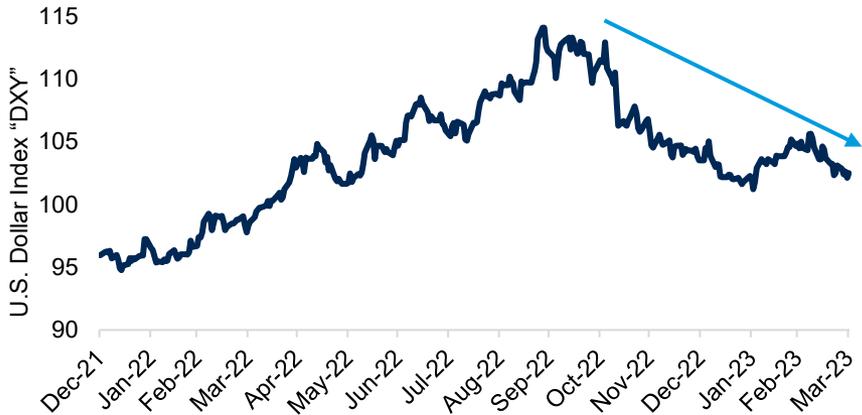
Owners equivalent rent, a key component in the CPI calculation, continues to climb. However, recent "market" data shows rents may have plateaued last summer and, with a softening housing market, may help drive inflation lower.



Sources: FactSet, BLS, Zillow. As of February 28, 2023.

## U.S. Dollar Continues to Fall

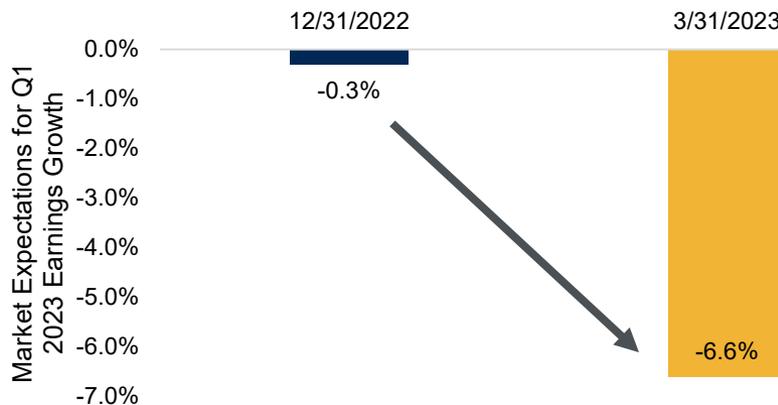
Falling rates in the U.S., slowing inflation and shifting expectations for Federal Reserve rate cuts later in the year put further pressure on the U.S. dollar relative to other major currencies. The dollar index fell 1.0 percent in the first quarter.



Source: FactSet. As of March 31, 2023.

## Shifting Earnings Sentiment

Market expectations for corporate earnings have shifted significantly since the end of 2022. As we've highlighted, earnings are likely "the next shoe to drop" in this cycle following 2022's decline in prices across asset classes.



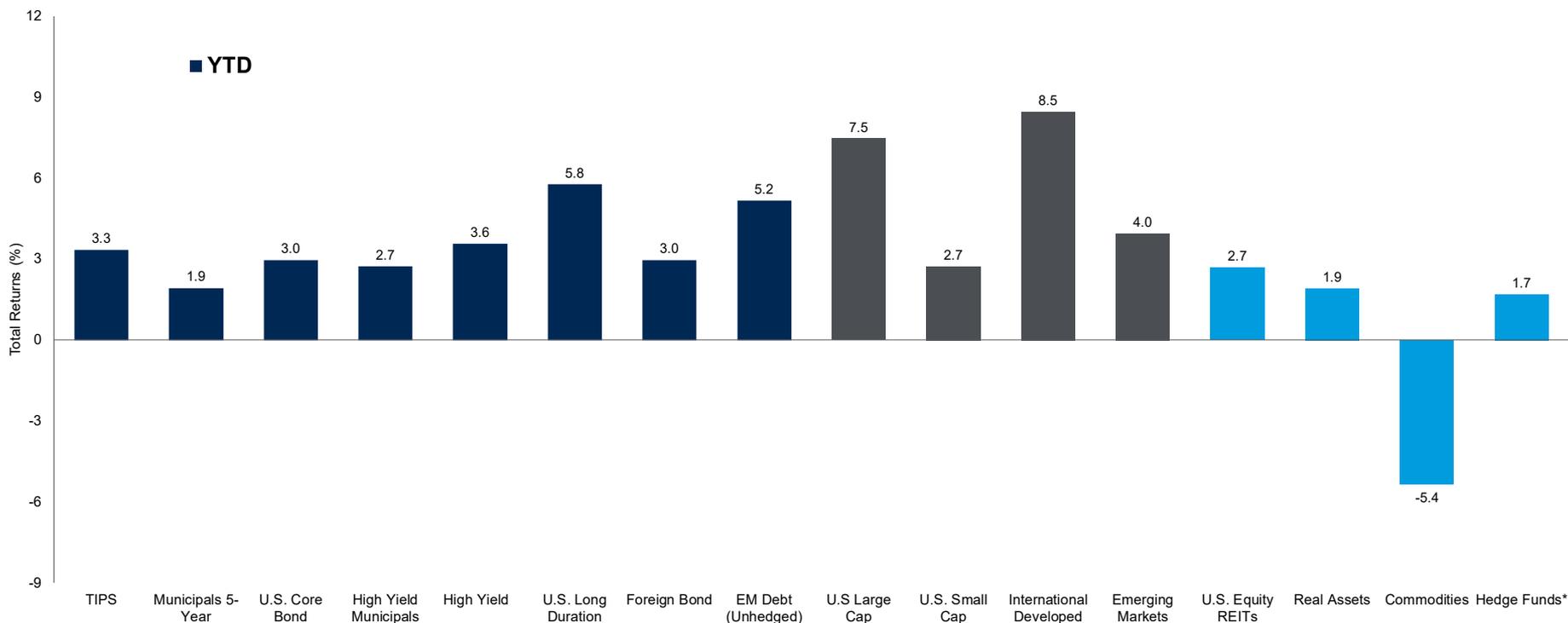
Source: FactSet Earnings Insight. As of March 31, 2023.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Indices cannot be invested in directly.



# Asset Class Returns



Source: Morningstar Direct. As of March 31, 2023. \*Hedge fund returns as of February 28, 2023.

## Fixed Income (1Q)

- + Interest rate markets were highly volatile in the first quarter, as investors grappled with Fed policy action and banking sector uncertainty. Ultimately, rates ended lower, providing a tailwind for bond investors.
- + Credit sectors generally fared well, even with spreads widening at the end of the quarter with the turmoil stemming from the banking sector.
- + Inflation expectations were volatile during the quarter, rising sharply in February before settling back in March. TIPS outpaced Core Bonds in the quarter as a result.

## Equity (1Q)

- + Despite volatility caused from the fallout of SVB, equity markets overall fared well in the first quarter. Swift action from policy makers helped instill confidence to calm markets.
- + Non-U.S. developed led equity markets during the quarter. Strength in Europe early on helped pave the way despite volatility picking up in March. A falling dollar provided an added tailwind.
- + Emerging market equity posted a modest positive return. Mexico was a key driver, gaining over 20% in the quarter.

## Real Asset / Alternatives (1Q)

- + U.S. REITs had a modest gain, with strength in industrial, self storage and data centers. However, clouds still linger over the office market.
- Commodity markets took a step back in the quarter, largely driven by a pullback in the energy sector due to concerns of falling demand from economic contraction.
- + Hedge Funds saw modest gains for the first two months of the year. Equity hedge strategies have been the noticeable standout thus far.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

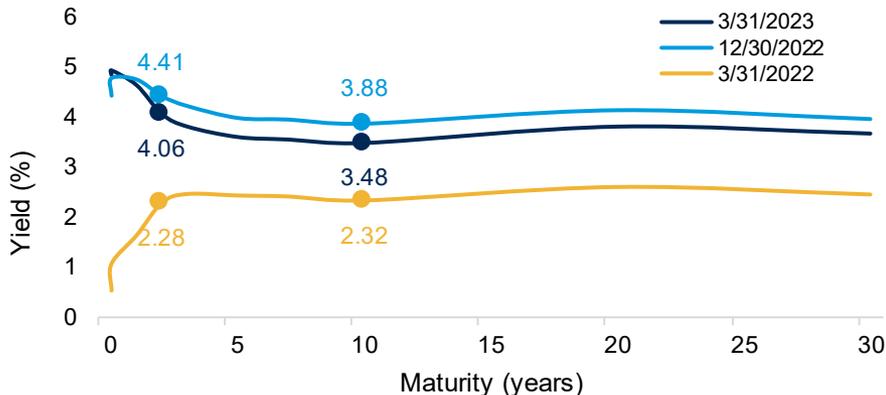
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# Fixed Income Market Update

## U.S. Treasury Yield Curve

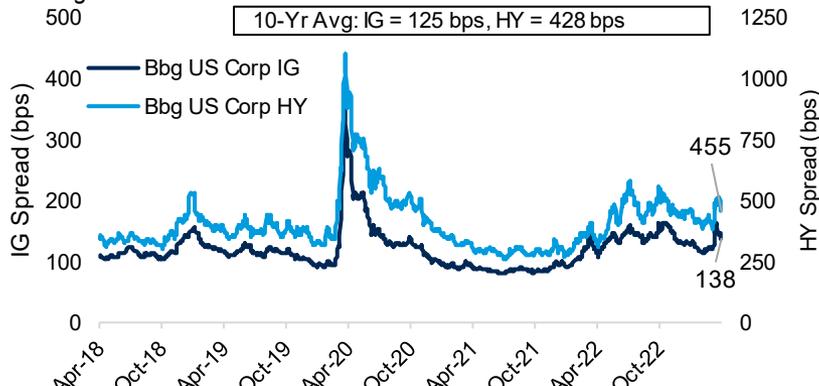
Interest rate volatility was elevated during the quarter. The Fed raised its target rate by 25 bps in both February and March, pushing yields on the front end of the curve higher. However, disruption in the banking sector and uncertainty about economic growth pushed longer dated yields lower.



Source: FactSet. As of March 31, 2023.

## Corporate Market Spreads – Trailing 5 Years

Disruption in the banking sector in March pushed corporate credit spreads wider at the end of the quarter as investors grappled with the potential for further contagion.

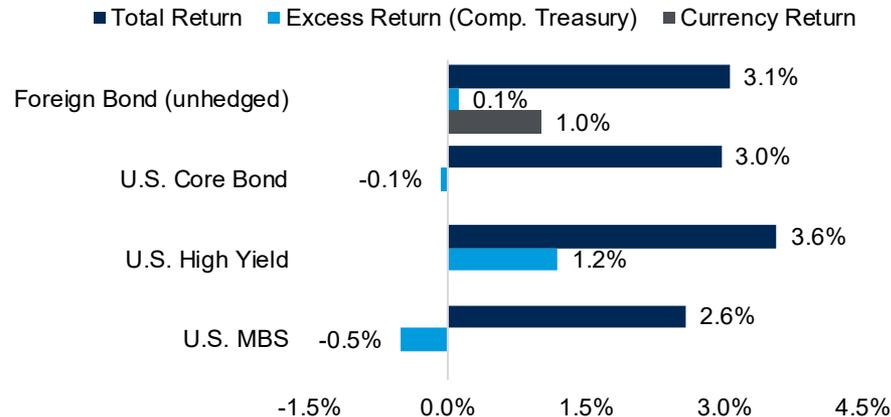


Source: FactSet. As of March 31, 2023.

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## Index Performance Attribution (1Q 2023)

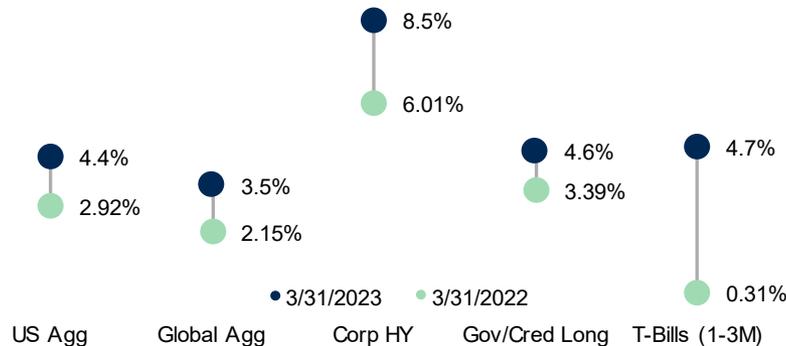
Non-government sectors, relative to similar duration Treasuries, were mixed in the quarter. Corporate high yield strength early on overcame volatility and concerns stemming from the March banking sector crisis, while mortgages modestly lagged as interest rate volatility weighed on the sector.



Source: FactSet. As of March 31, 2023.

## Current Yield-to-Worst vs. 1 Year Ago

Fixed income yields have seen a large jump from one year ago on the back of higher interest rates. While performance has suffered over the last year, the prospect for fixed income going forward looks more attractive at these yield levels.



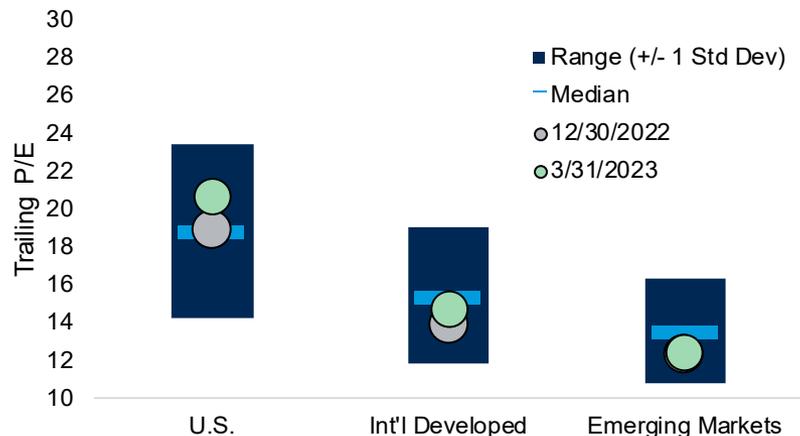
Source: FactSet. As of March 31, 2023. Based on respective Bloomberg Index.



# Equity Market Update

## Equity Valuations (Trailing PE – Last 15 Years)

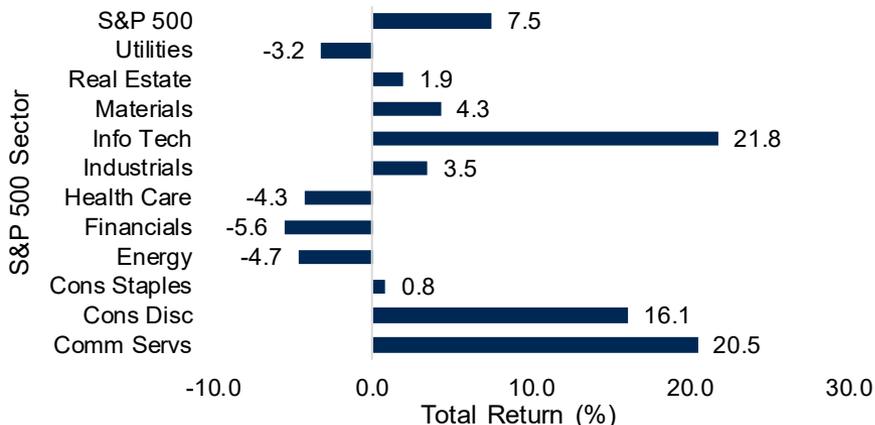
Valuations edged higher as prices rose and earnings fell. The U.S. market ends near median levels compared to the last 15 years, while international and EM look more attractive on an absolute and relative basis.



Source: FactSet. As of March 31, 2023.

## U.S. Equities – Return by Sector (1Q 2023)

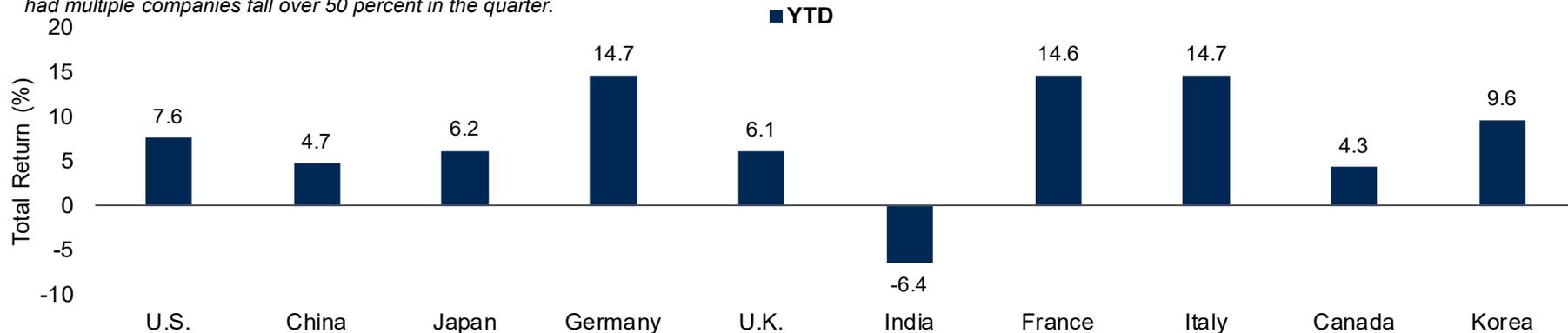
Equities were narrowly driven by growth related stocks in the information technology and consumer sectors. Constituents such as NVIDIA, Tesla and Meta saw strong rebounds, while financials struggled in the wake of the banking sector disruption.



Source: Morningstar Direct. As of March 31, 2023.

## Country Total Returns (%) – Top 10 Largest Economies

Global equity markets saw a strong rebound following disappointing 2022 results. Europe was the standout for the quarter compared to both the U.S. and emerging markets. Areas such as Germany, France, and Italy saw strong rallies as the warmer than expected winter alleviated concerns over Russia's grip on commodity supplies in the region. China saw positive gains as the country continues to benefit from the re-opening trade while India struggled; Adani Group, a large Indian conglomerate, had multiple companies fall over 50 percent in the quarter.



Source: Morningstar Direct. As of March 31, 2023.

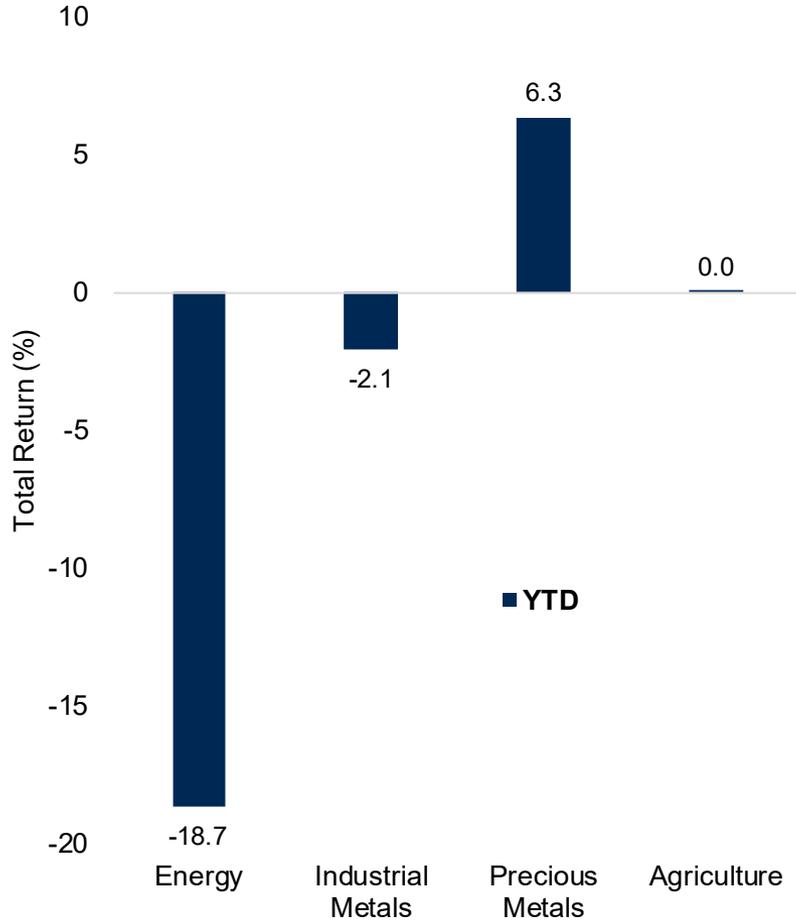
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# Real Assets Market Update

## Commodity Performance

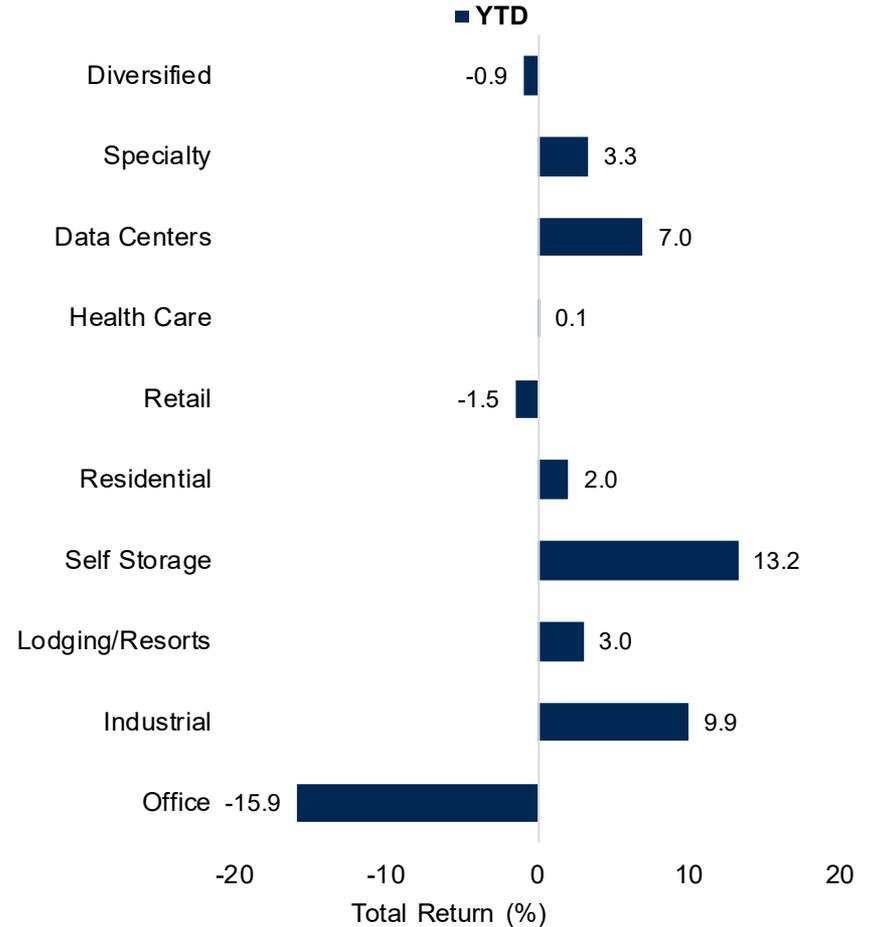
Commodities struggled in the quarter. Demand for natural gas amid a warmer than anticipated winter resulted in prices falling 37 percent, the key drag within energy. A flight to “safe haven” gold amid the volatility in the markets drove precious metals higher.



Source: Morningstar Direct. As of March 31, 2023.

## REIT Sector Performance

There was wide disparity in property type performance for the quarter. Segments with lower debt and strong cashflow streams fared best (industrial, self-storage and data centers). The office market continues to be plagued by the “new” hybrid work environment and subsequent lower demand for office space.



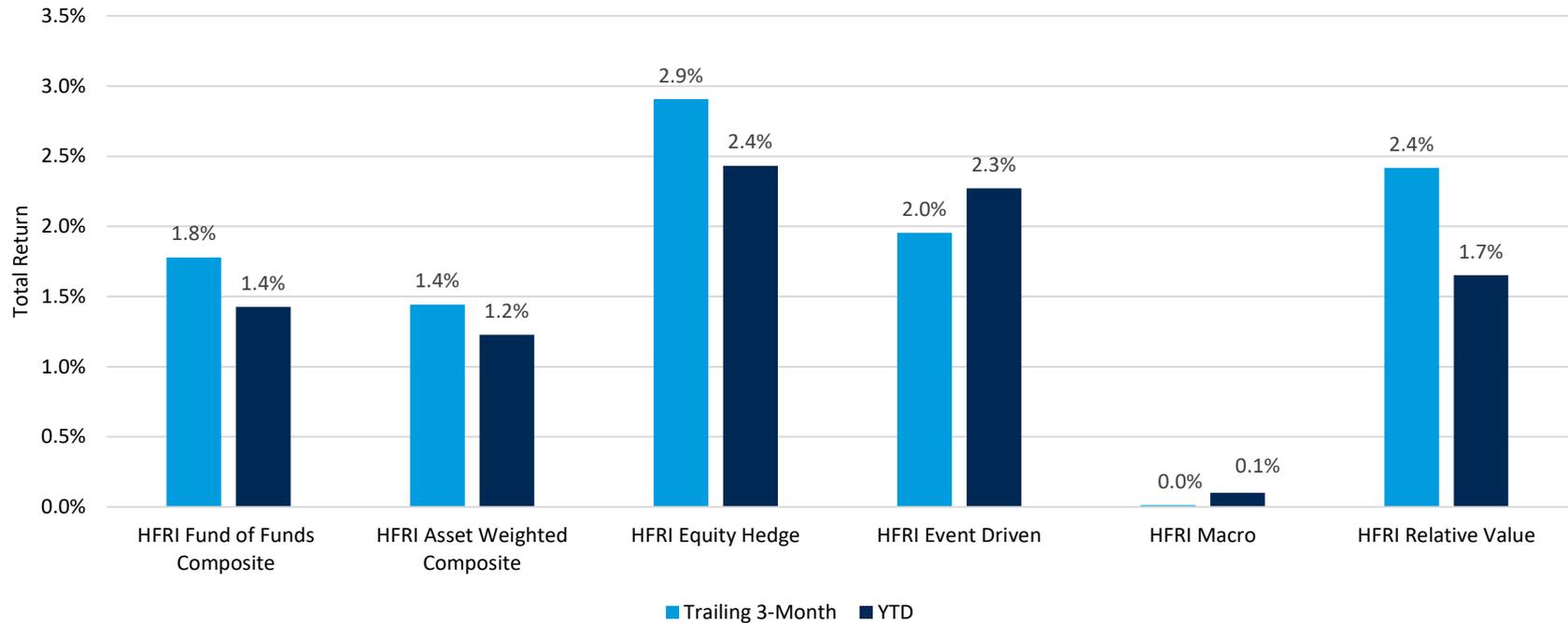
Source: Morningstar Direct. As of March 31, 2023.

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# Marketable Alternatives



Source: Morningstar Direct. As of February 28, 2023.

## Fund of Funds / Asset Weighted (1Q)

+ The HFRI Fund of Funds Composite returned 1.8 percent over the trailing 3-month period.

+ The HFRI Asset Weighted Composite returned 1.4 percent over the trailing 3-month period.

+ Marketable alternatives generally outpaced equities and fixed income markets over the trailing 3-month period as, on average, they protected capital better in December and February.

## Equity Hedge / Event Driven (1Q)

+ Equity hedge strategies returned 2.9 percent over the period, buoyed by a strong equity market in January. Fundamental Value strategies were a notable contributor.

+ Event driven strategies returned 2.0 percent over the period, led by Credit Arbitrage and Activist strategies.

+ Special Situations and Event Driven Directional strategies also provided strong relative performance during the period.

## Macro / Relative Value (1Q)

+/- Macro strategies were flat over the period. Systematic strategies were the notable detractors, as other major strategy groups generated positive performance.

+ Relative Value strategies returned 2.4 percent over the period. Fixed Income Sovereign and Fixed Income Convertible Arbitrage strategies were the primary contributors over the period.

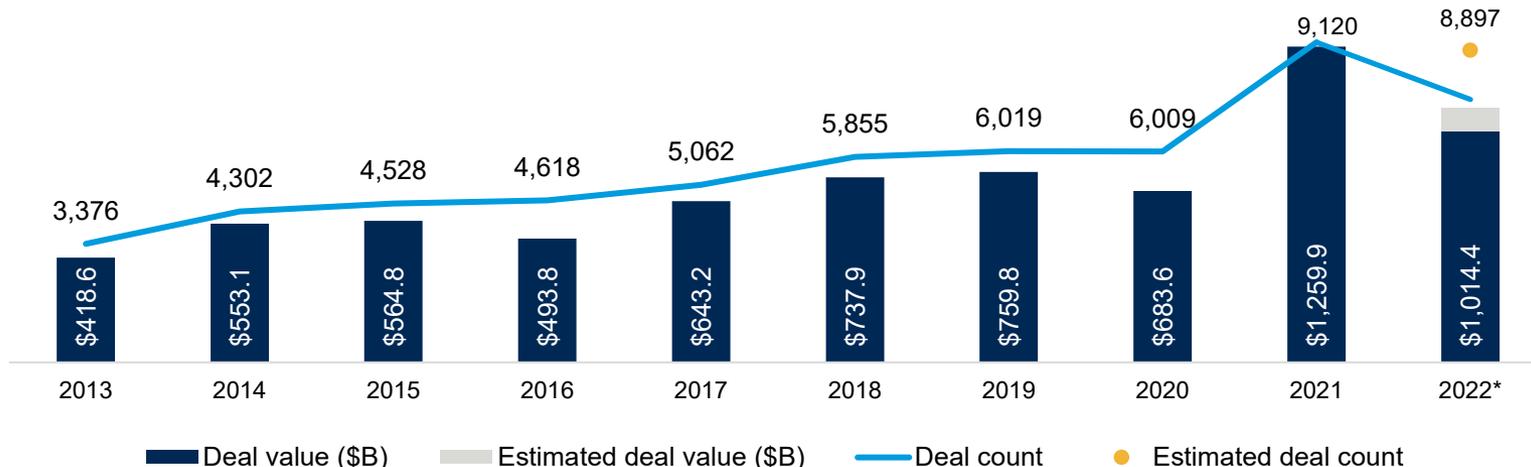
- Volatility strategies detracted modestly during the period.



# Private Equity Market Update

## U.S. Private Equity Deal Activity

U.S. Private Equity deal activity, while still high historically, moderated during 2022 relative to the frantic environment that consumed investors throughout 2021.



Source: Pitchbook. As of December 31, 2022.

## Private Equity Performance (As of September 30, 2022)

Private equity performance was relatively flat during the third quarter of 2022 with US Growth and Venture continuing to lead the decline on a one-year basis. Over longer time periods, performance remains strong with dispersion between asset classes normalizing in recent quarters.

Benchmark	1-YR	3-YR	5-YR	10-Y	15-Y
US Private Equity Index	0.2%	22.2%	19.6%	17.5%	12.6%
US Buyout Index	3.6%	20.9%	18.4%	17.0%	12.1%
US Growth Equity Index	-8.1%	26.3%	23.7%	19.1%	14.9%
US Venture Capital Index	-8.5%	30.1%	24.5%	19.2%	13.4%
S&P 500 Index	-15.5%	8.2%	9.2%	11.7%	8.0%

Source: Cambridge Associates. As of September 30, 2022. Returns presented as horizon pooled return, net of fees. S&P 500 Index as of September 30, 2022. Indices cannot be invested in directly.

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## U.S. Private Equity Fundraising Activity

The fundraising market cooled in 2022 but remained strong by historical standards as the denominator effect and commitments from the previous two years began to create some fatigue among investors. The largest funds in market continued to raise the majority of the capital.



Source: Pitchbook. As of December 31, 2022.



# The Case for Diversification

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	10 Years (Ann)
U.S. Small Cap 38.8	U.S. Equity REITs 30.1	U.S. Equity REITs 3.2	U.S. Small Cap 21.3	Emerging Markets 37.3	High Yield Munis 4.8	U.S. Large Cap 31.5	U.S. Small Cap 20.0	U.S. Equity REITs 43.2	Commodities 16.1	International Dev. 8.5	U.S. Large Cap 12.0
U.S. Large Cap 32.4	High Yield Munis 13.8	Municipals 5-Year 2.4	High Yield 17.1	International Dev. 25.0	Municipals 5-Year 1.7	U.S. Equity REITs 26.0	U.S. Large Cap 18.4	Commodities 27.1	Municipals 5-Year -5.3	U.S. Large Cap 7.5	U.S. Small Cap 8.0
International Dev. 22.8	U.S. Large Cap 13.7	High Yield Munis 1.8	U.S. Large Cap 12.0	U.S. Large Cap 21.8	Foreign Bond 0.5	U.S. Small Cap 25.5	Emerging Markets 18.3	US Large Cap 26.5	Hedge Funds -5.6	EM Debt (unhedged) 5.2	U.S. Equity REITs 6.0
Balanced 12.2	Core Bond 6.0	U.S. Large Cap 1.4	Commodities 11.7	EM Debt (unhedged) 15.2	Core Bond 0.0	International Dev. 22.5	TIPS 11.0	US Small Cap 14.8	High Yield -11.2	Balanced 4.6	International Dev. 5.0
Hedge Funds 9.0	Balanced 5.1	Core Bond 0.6	Emerging Markets 11.2	U.S. Small Cap 14.6	TIPS -1.3	Emerging Markets 18.4	Balanced 8.8	International Dev. 11.3	EM Debt (unhedged) -11.7	Emerging Markets 4.0	Balanced 4.5
High Yield 7.4	U.S. Small Cap 4.9	Hedge Funds -0.3	EM Debt (unhedged) 9.9	Balanced 13.6	High Yield -2.1	Balanced 17.5	International Dev. 7.8	Balanced 9.8	TIPS -11.8	High Yield 3.6	High Yield 4.1
U.S. Equity REITs 2.5	TIPS 3.6	International Dev. -0.8	U.S. Equity REITs 8.5	High Yield Munis 9.7	Hedge Funds -4.0	High Yield 14.3	Core Bond 7.5	High Yield Munis 7.8	U.S. Core Bond -13.0	TIPS 3.3	High Yield Municipal 3.6
Municipals 5-Year 0.8	Hedge Funds 3.4	TIPS -1.4	Balanced 7.6	Hedge Funds 7.8	U.S. Large Cap -4.4	EM Debt (unhedged) 13.5	Hedge Funds 7.1	TIPS 6.0	High Yield Municipal -13.1	U.S. Core Bond 3.0	Hedge Funds 3.4
Foreign Bond -1.0	Municipals 5-Year 3.2	Foreign Bond -2.3	TIPS 4.7	High Yield 7.5	U.S. Equity REITs -4.6	High Yield Munis 10.7	High Yield 7.1	Hedge Funds 5.7	Foreign Bond -14.2	Foreign Bond 3.0	Emerging Markets 2.0
Core Bond -2.0	Foreign Bond 2.9	Balanced -3.3	Foreign Bond 3.2	Foreign Bond 6.5	Balanced -5.8	Core Bond 8.7	Foreign Bond 7.0	High Yield 5.3	International Dev. -14.5	U.S. Small Cap 2.7	Municipals 5-Year 1.6
Emerging Markets -2.6	High Yield 2.5	U.S. Small Cap -4.4	High Yield Munis 3.0	U.S. Equity REITs 5.2	EM Debt (unhedged) -6.2	TIPS 8.4	High Yield Munis 4.9	Municipals 5-Year 0.3	Balanced -14.9	U.S. Equity REITs 2.7	TIPS 1.5
High Yield Munis -5.5	Emerging Markets -2.2	High Yield -4.5	Core Bond 2.6	Core Bond 3.5	U.S. Small Cap -11.0	Hedge Funds 7.8	Municipals 5-Year 4.3	Core Bond -1.5	U.S. Large Cap -19.1	High Yield Municipal 2.7	U.S. Core Bond 1.4
TIPS -8.6	International Dev. -4.9	Emerging Markets -14.9	International Dev. 1.0	Municipals 5-Year 3.1	Commodities -11.2	Commodities 7.7	EM Debt (unhedged) 2.7	Emerging Markets -2.5	Emerging Markets -20.1	Municipals 5-Year 1.9	Foreign Bond 0.6
EM Debt (unhedged) -9.0	EM Debt (unhedged) -5.7	EM Debt (unhedged) -14.9	Hedge Funds 0.5	TIPS 3.0	International Dev. -13.8	Foreign Bond 6.3	Commodities -3.1	Foreign Bond -4.2	U.S. Small Cap -20.4	Hedge Funds 1.7	EM Debt (unhedged) -1.5
Commodities -9.5	Commodities -17.0	Commodities -24.7	Municipals 5-Year -0.4	Commodities 1.7	Emerging Markets -14.6	Municipals 5-Year 5.4	U.S. Equity REITs -8.0	EM Debt (unhedged) -8.7	U.S. Equity REITs -24.4	Commodities -5.4	Commodities -1.7

Sources: Morningstar, FactSet. As of March 31, 2023. \*Periods greater than one year are annualized. Total returns in U.S. dollars. Hedge Funds as of February 28, 2023.

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# Financial Markets Performance

**Total Return as of March 31, 2023**  
**Periods greater than one year are annualized**  
**All returns are in U.S. dollar terms**

	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
<b>Global Fixed Income Markets</b>								
Bloomberg 1-3-Month T-Bill	1.1%	1.1%	2.6%	0.9%	1.4%	1.2%	0.8%	0.7%
Bloomberg U.S. TIPS	3.3%	3.3%	-6.1%	1.8%	2.9%	2.4%	1.5%	2.9%
Bloomberg Municipal Bond (5 Year)	1.9%	1.9%	1.8%	0.7%	1.7%	1.4%	1.6%	2.8%
Bloomberg High Yield Municipal Bond	2.7%	2.7%	-4.5%	2.7%	3.1%	3.7%	3.6%	4.8%
Bloomberg U.S. Aggregate	3.0%	3.0%	-4.8%	-2.8%	0.9%	0.9%	1.4%	2.7%
Bloomberg U.S. Corporate High Yield	3.6%	3.6%	-3.3%	5.9%	3.2%	5.1%	4.1%	6.6%
Bloomberg Global Aggregate ex-U.S. Hedged	2.9%	2.9%	-3.3%	-1.8%	0.9%	1.3%	2.3%	3.1%
Bloomberg Global Aggregate ex-U.S. Unhedged	3.1%	3.1%	-10.7%	-4.1%	-3.2%	-1.3%	-1.0%	0.1%
Bloomberg U.S. Long Gov / Credit	5.8%	5.8%	-13.4%	-6.3%	0.6%	1.3%	2.3%	4.7%
JPMorgan GBI-EM Global Diversified	5.2%	5.2%	-0.7%	0.9%	-2.4%	0.8%	-1.5%	1.7%
<b>Global Equity Markets</b>								
S&P 500	7.5%	7.5%	-7.7%	18.6%	11.2%	12.4%	12.2%	10.1%
Dow Jones Industrial Average	0.9%	0.9%	-2.0%	17.3%	9.0%	12.0%	11.1%	9.6%
NASDAQ Composite	17.0%	17.0%	-13.3%	17.6%	12.6%	15.2%	15.3%	13.0%
Russell 3000	7.2%	7.2%	-8.6%	18.5%	10.5%	12.0%	11.7%	9.9%
Russell 1000	7.5%	7.5%	-8.4%	18.6%	10.9%	12.2%	12.0%	10.0%
Russell 1000 Growth	14.4%	14.4%	-10.9%	18.6%	13.7%	15.0%	14.6%	12.1%
Russell 1000 Value	1.0%	1.0%	-5.9%	17.9%	7.5%	9.0%	9.1%	7.7%
Russell Mid Cap	4.1%	4.1%	-8.8%	19.2%	8.1%	9.9%	10.1%	9.5%
Russell Mid Cap Growth	9.1%	9.1%	-8.5%	15.2%	9.1%	11.2%	11.2%	10.1%
Russell Mid Cap Value	1.3%	1.3%	-9.2%	20.7%	6.5%	8.3%	8.8%	8.7%
Russell 2000	2.7%	2.7%	-11.6%	17.5%	4.7%	8.6%	8.0%	8.1%
Russell 2000 Growth	6.1%	6.1%	-10.6%	13.4%	4.3%	8.7%	8.5%	8.7%
Russell 2000 Value	-0.7%	-0.7%	-13.0%	21.0%	4.5%	7.9%	7.2%	7.2%
MSCI ACWI	7.3%	7.3%	-7.4%	15.4%	6.9%	9.2%	8.1%	6.0%
MSCI ACWI ex. U.S.	6.9%	6.9%	-5.1%	11.8%	2.5%	5.9%	4.2%	2.6%
MSCI EAFE	8.5%	8.5%	-1.4%	13.0%	3.5%	6.2%	5.0%	3.0%
MSCI EAFE Growth	11.1%	11.1%	-2.8%	11.0%	4.9%	7.0%	6.0%	3.9%
MSCI EAFE Value	5.9%	5.9%	-0.3%	14.6%	1.7%	5.1%	3.7%	1.9%
MSCI EAFE Small Cap	4.9%	4.9%	-9.8%	12.1%	0.9%	5.3%	5.9%	4.6%
MSCI Emerging Markets	4.0%	4.0%	-10.7%	7.8%	-0.9%	4.9%	2.0%	1.7%
<b>Alternatives</b>								
Consumer Price Index*	0.9%	0.9%	6.0%	5.2%	3.9%	3.5%	2.6%	2.4%
FTSE NAREIT Equity REITs	2.7%	2.7%	-19.2%	12.1%	6.0%	4.1%	6.0%	6.3%
S&P Real Assets	1.9%	1.9%	-9.7%	10.5%	3.9%	4.8%	3.4%	4.1%
FTSE EPRA NAREIT Developed	1.0%	1.0%	-20.6%	7.6%	1.8%	2.1%	3.4%	3.4%
FTSE EPRA NAREIT Developed ex U.S.	-1.5%	-1.5%	-22.4%	1.8%	-2.5%	0.4%	0.9%	1.2%
Bloomberg Commodity Total Return	-5.4%	-5.4%	-12.5%	20.8%	5.4%	5.6%	-1.7%	-3.5%
HFRI Fund of Funds Composite*	1.7%	1.7%	-0.6%	4.7%	3.2%	4.1%	3.4%	1.9%
HFRI Asset Weighted Composite*	1.2%	1.2%	2.4%	4.7%	3.5%	4.4%	3.9%	3.5%
Alerian MLP	4.1%	4.1%	14.7%	47.1%	7.4%	5.6%	0.6%	6.2%

Sources: Morningstar, FactSet. As of March 31, 2023. \*Consumer Price Index and HFRI indexes as of February 28, 2023.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Indices cannot be invested in directly.



## Portfolio & Manager Review

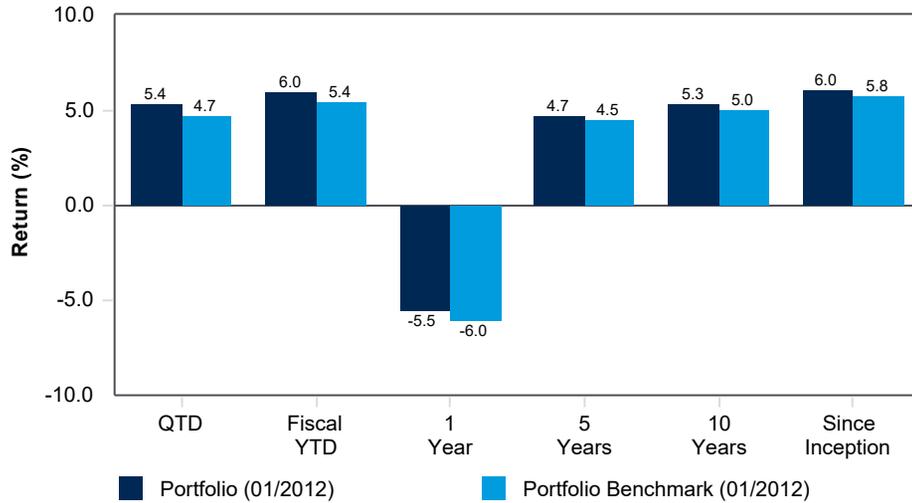


# Portfolio Dashboard

Town of Ledyard Pension Plan

As of March 31, 2023

## Historical Performance



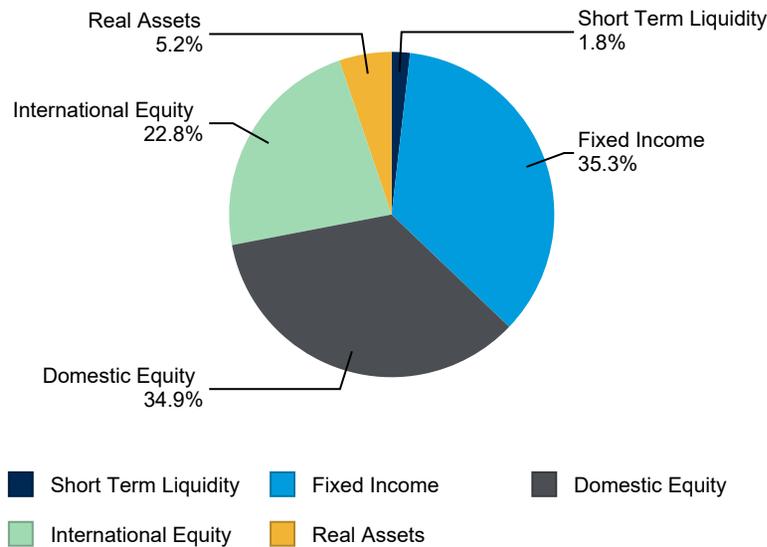
## Summary of Cash Flows

	QTD	Fiscal YTD	1 Year	Since Inception
Beginning Market Value	26,338,323	27,120,509	29,645,329	11,303,089
Net Contributions	709,464	-223,047	482,160	3,525,522
Gain/Loss	1,409,199	1,559,524	-1,670,503	13,628,374
Ending Market Value	28,456,986	28,456,986	28,456,986	28,456,986

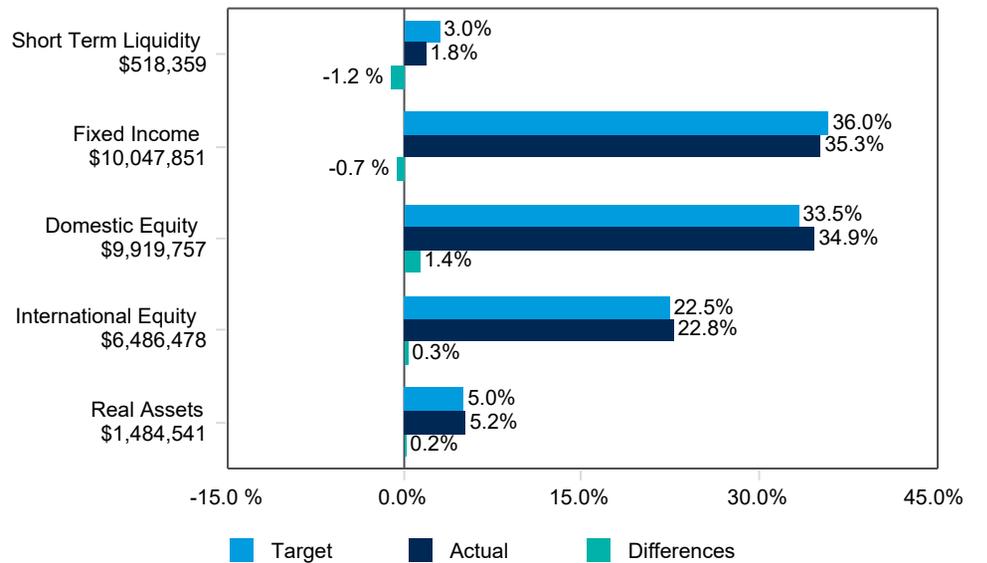
## Current Benchmark Composition

From Date	To Date	Composition
04/2022	Present	3.00% 90 Day U.S. Treasury Bill, 36.00% Blmbg. U.S. Aggregate, 21.50% S&P 500, 12.00% Russell 2000 Index, 8.50% MSCI AC World ex USA (Net), 7.50% MSCI EAFE (Net), 6.50% MSCI Emerging Markets (Net), 5.00% S&P Real Assets

## Portfolio Allocation



## Actual vs. Target Allocations



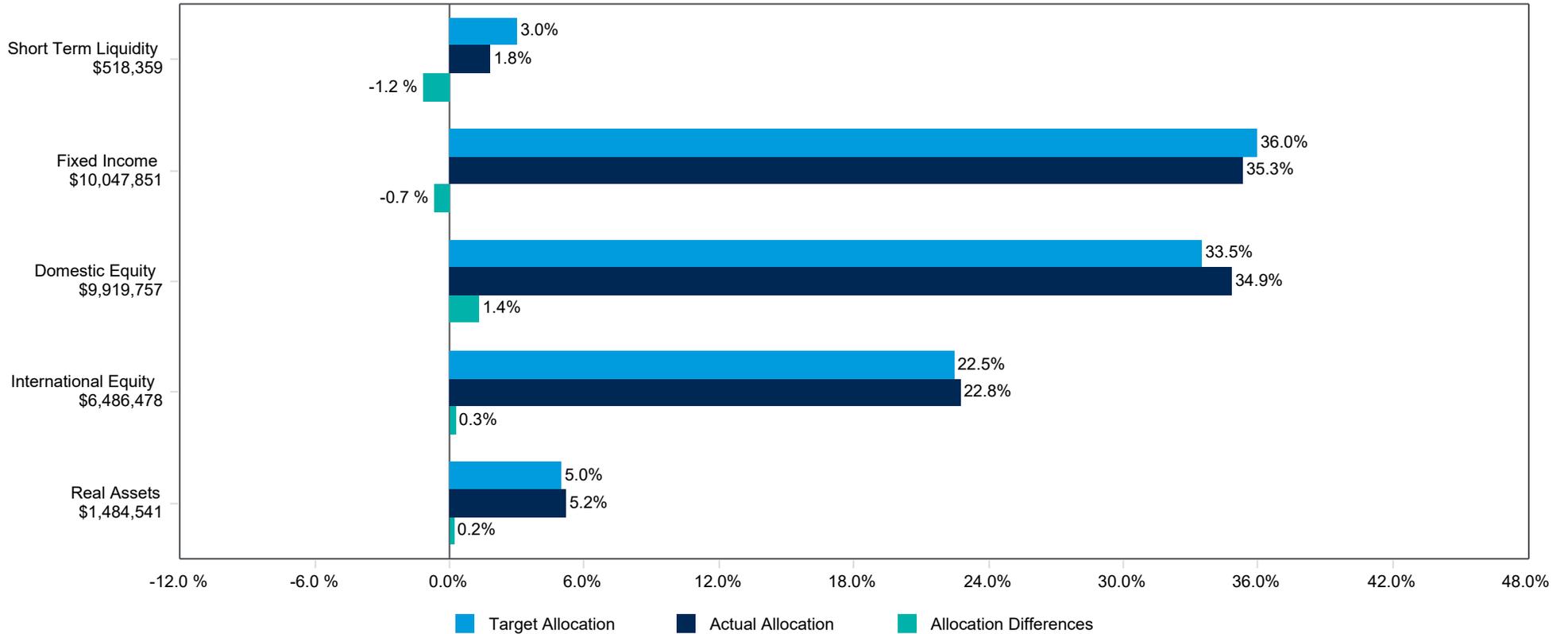


# Asset Allocation

Town of Ledyard Pension Plan

As of March 31, 2023

## Actual vs. Target



	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
Short Term Liquidity	518,359	1.8	3.0	-1.2
Fixed Income	10,047,851	35.3	36.0	-0.7
Domestic Equity	9,919,757	34.9	33.5	1.4
International Equity	6,486,478	22.8	22.5	0.3
Real Assets	1,484,541	5.2	5.0	0.2
<b>Town of Ledyard Pension Plan</b>	<b>28,456,986</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>



# Asset Allocation

Town of Ledyard Pension Plan

As of March 31, 2023

	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
<b>Town of Ledyard Pension Plan</b>	<b>28,456,986</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>
<b>Short Term Liquidity</b>	<b>518,359</b>	<b>1.8</b>	<b>3.0</b>	<b>-1.2</b>
Dreyfus Treasury Securities Cash Management	518,359	1.8	3.0	-1.2
<b>Fixed Income</b>	<b>10,047,851</b>	<b>35.3</b>	<b>36.0</b>	<b>-0.7</b>
Vanguard Total Bond Market Index Adm	2,361,524	8.3	8.5	-0.2
Metropolitan West Total Return Bond PI	3,158,035	11.1	11.3	-0.2
PGIM Total Return Bond R6	3,146,151	11.1	11.3	-0.2
BlackRock Strategic Income Opportunities Class K	1,382,141	4.9	5.0	-0.1
<b>Domestic Equity</b>	<b>9,919,757</b>	<b>34.9</b>	<b>33.5</b>	<b>1.4</b>
Vanguard Institutional Index Fund Instl	4,253,937	14.9	14.5	0.4
Touchstone Large Cap Focused Fund Instl	2,113,918	7.4	7.0	0.4
Neuberger Berman Genesis R6	1,757,701	6.2	6.0	0.2
William Blair Small Cap Value R6	919,353	3.2	3.0	0.2
Hood River Small Cap Growth R	874,847	3.1	3.0	0.1
<b>International Equity</b>	<b>6,486,478</b>	<b>22.8</b>	<b>22.5</b>	<b>0.3</b>
Vanguard Total International Stock Index Adm	2,414,017	8.5	8.5	0.0
T. Rowe Price Overseas Stock Instl	2,164,065	7.6	7.5	0.1
Invesco Developing Markets R6	1,908,396	6.7	6.5	0.2
<b>Real Assets</b>	<b>1,484,541</b>	<b>5.2</b>	<b>5.0</b>	<b>0.2</b>
DWS RREEF Real Assets R6	1,484,541	5.2	5.0	0.2



## Performance Overview

Town of Ledyard Pension Plan

As of March 31, 2023

Trailing Performance Summary									
	QTD	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Town of Ledyard Pension Plan</b>	<b>5.4</b>	<b>6.0</b>	<b>-5.5</b>	<b>8.9</b>	<b>4.7</b>	<b>6.2</b>	<b>5.3</b>	<b>6.0</b>	<b>01/2012</b>
<i>Blended Benchmark</i>	4.7	5.4	-6.0	8.6	4.5	5.9	5.0	5.8	01/2012

Calendar Year Performance Summary										
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Town of Ledyard Pension Plan</b>	<b>-16.2</b>	<b>10.6</b>	<b>14.9</b>	<b>19.0</b>	<b>-6.3</b>	<b>13.1</b>	<b>10.0</b>	<b>-3.1</b>	<b>2.3</b>	<b>13.2</b>
<i>Blended Benchmark</i>	-15.2	9.8	13.6	18.4	-6.0	12.9	9.1	-3.5	3.6	12.3

Plan Reconciliation									
	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
<b>Town of Ledyard Pension Plan</b>									<b>01/2012</b>
Beginning Market Value	26,338,323	27,120,509	29,645,329	23,243,293	23,608,144	15,784,080	11,303,089		
Net Contributions	709,464	-223,047	482,160	-1,468,012	-1,185,423	1,065,645	3,525,522		
Gain/Loss	1,409,199	1,559,524	-1,670,503	6,681,705	6,034,264	11,607,260	13,628,374		
Ending Market Value	28,456,986	28,456,986	28,456,986	28,456,986	28,456,986	28,456,986	28,456,986		

Benchmark Composition		Weight (%)
<b>Apr-2022</b>		
90 Day U.S. Treasury Bill		3.0
Blmbg. U.S. Aggregate		36.0
S&P 500		21.5
Russell 2000 Index		12.0
MSCI AC World ex USA (Net)		8.5
MSCI EAFE (Net)		7.5
MSCI Emerging Markets (Net)		6.5
S&P Real Assets		5.0

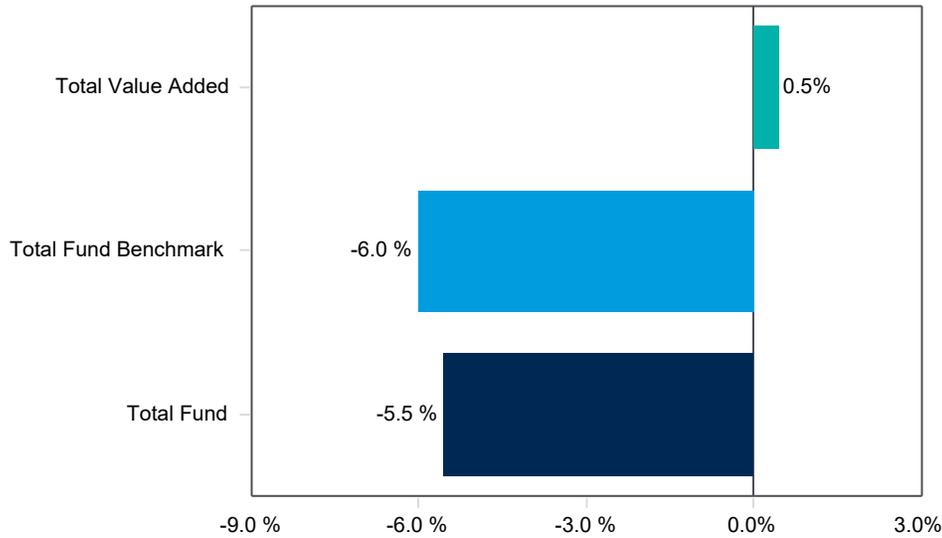


# Performance Attribution

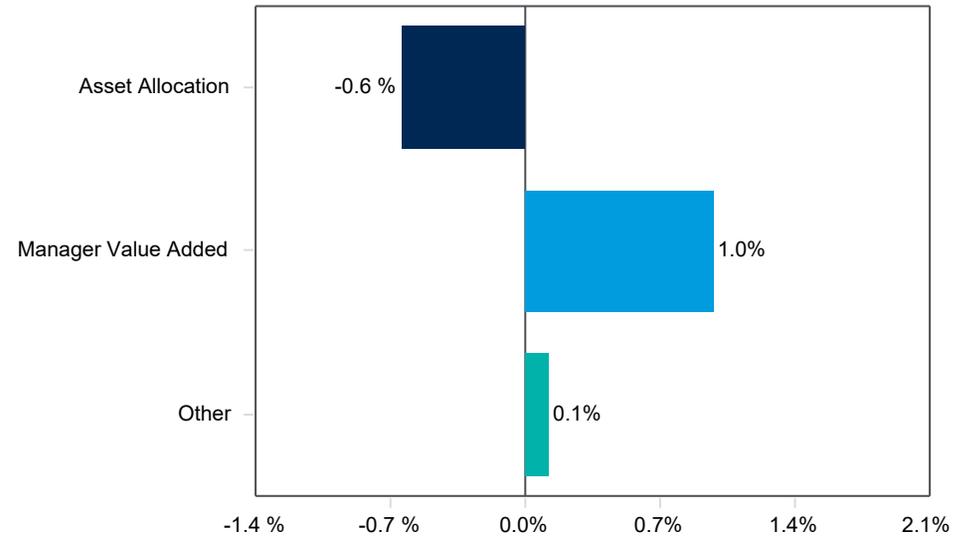
Town of Ledyard Pension Plan vs. Attribution Blended Benchmark

1 Year Ending March 31, 2023

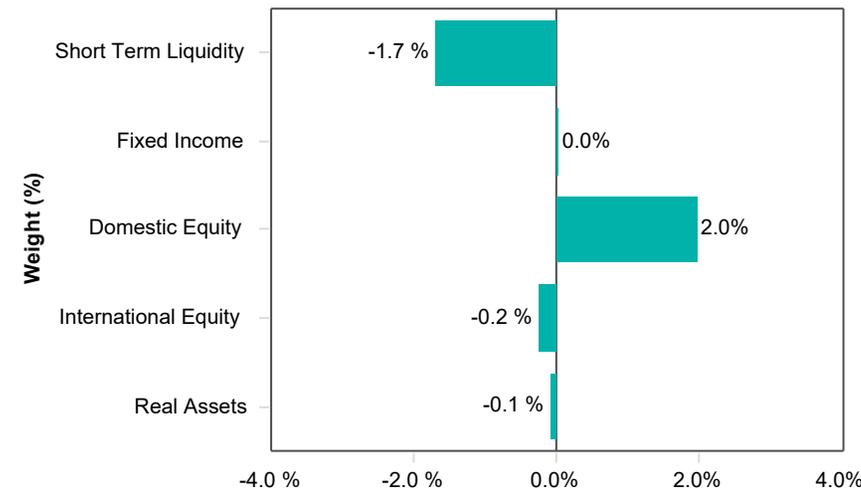
## Total Fund Performance



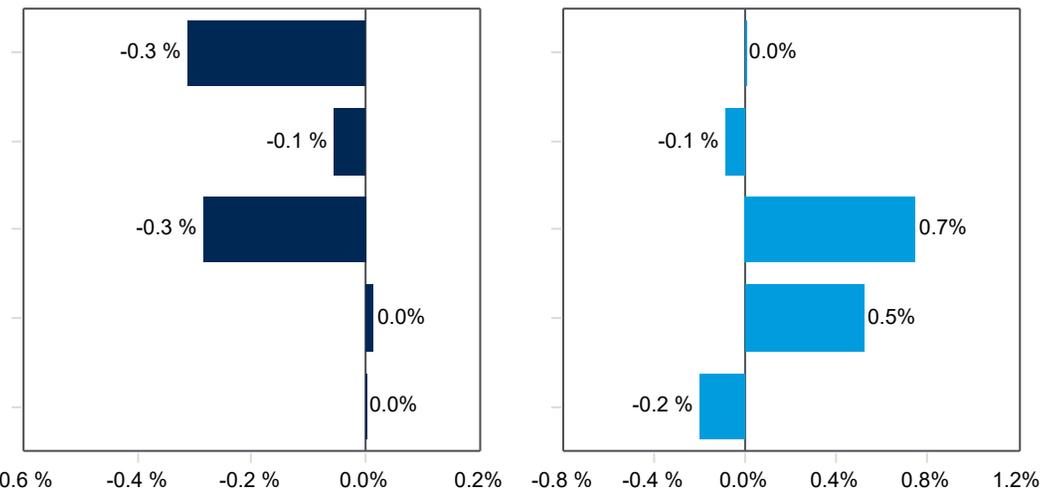
## Total Value Added:0.5%



## Total Asset Allocation:-0.6%



## Total Manager Value Added:1.0%



Average Active Weight

Asset Allocation Value Added

Manager Value Added



# Manager Status Commentary

As of March 31, 2023

Manager	Recommendation	Comments
Vanguard Total Bond Market Index Adm	Maintain	
Metropolitan West Total Return Bond PI	Maintain	
PGIM Total Return Bond R6	Maintain	
BlackRock Strategic Income Opportunities Class K	Maintain	
Vanguard Institutional Index Fund Instl	Maintain	
Touchstone Large Cap Focused Fund Instl	Maintain	
Neuberger Berman Genesis R6	Maintain	
William Blair Small Cap Value R6	Maintain	
Hood River Small Cap Growth R	Maintain	
Vanguard Total International Stock Index Adm	Maintain	
T. Rowe Price Overseas Stock Instl	Maintain	
Invesco Developing Markets R6	Maintain	
DWS RREEF Real Assets R6	Maintain	

Commentary produced upon change of status.



# Manager Performance

Town of Ledyard Pension Plan

As of March 31, 2023

	Allocation		Performance(%)								Manager Status
	Market Value (\$)	%	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
<b>Town of Ledyard Pension Plan</b>	<b>28,456,986</b>	<b>100.0</b>	<b>5.4</b>	<b>6.0</b>	<b>-5.5</b>	<b>8.9</b>	<b>4.7</b>	<b>5.3</b>	<b>6.0</b>	<b>01/2012</b>	
<i>Blended Benchmark</i>			4.7	5.4	-6.0	8.6	4.5	5.0	5.8		
<b>Short Term Liquidity</b>	<b>518,359</b>	<b>1.8</b>	<b>1.0</b>	<b>2.3</b>	<b>2.4</b>	<b>0.8</b>	<b>1.3</b>	<b>0.7</b>	<b>0.7</b>	<b>01/2012</b>	
<i>90 Day U.S. Treasury Bill</i>			1.1	2.4	2.5	0.9	1.4	0.9	0.8		
<b>Dreyfus Treasury Securities Cash Management</b>	<b>518,359</b>	<b>1.8</b>	<b>1.0</b>	<b>2.3</b>	<b>2.4</b>	<b>0.8</b>	<b>1.3</b>	<b>0.7</b>	<b>0.7</b>	<b>01/2012</b>	
<i>90 Day U.S. Treasury Bill</i>			1.1	2.4	2.5	0.9	1.4	0.9	0.8		
<b>Fixed Income</b>	<b>10,047,851</b>	<b>35.3</b>	<b>3.1</b>	<b>0.4</b>	<b>-5.0</b>	<b>-1.9</b>	<b>1.0</b>	<b>1.7</b>	<b>2.2</b>	<b>01/2012</b>	
<i>Blmbg. U.S. Aggregate</i>			3.0	-0.1	-4.8	-2.8	0.9	1.4	1.6		
<b>Vanguard Total Bond Market Index Adm</b>	<b>2,361,524</b>	<b>8.3</b>	<b>3.2</b>	<b>0.0</b>	<b>-4.7</b>	<b>-2.8</b>	<b>0.9</b>	<b>1.3</b>	<b>1.5</b>	<b>01/2012</b>	<b>Maintain</b>
<i>Blmbg. U.S. Aggregate</i>			3.0	-0.1	-4.8	-2.8	0.9	1.4	1.6		
IM U.S. Broad Market Core Fixed Income (MF) Median			3.1	0.0	-5.3	-1.9	0.8	1.3	1.7		
Vanguard Total Bond Market Index Adm Rank			46	49	19	87	42	50	64		
<b>Metropolitan West Total Return Bond PI</b>	<b>3,158,035</b>	<b>11.1</b>	<b>3.5</b>	<b>-0.1</b>	<b>-5.8</b>	<b>-2.3</b>	<b>1.1</b>	<b>1.6</b>	<b>2.3</b>	<b>04/2012</b>	<b>Maintain</b>
<i>Blmbg. U.S. Aggregate</i>			3.0	-0.1	-4.8	-2.8	0.9	1.4	1.6		
IM U.S. Broad Market Core+ Fixed Income (MF) Median			3.2	0.5	-5.5	-1.1	1.1	1.5	1.9		
Metropolitan West Total Return Bond PI Rank			20	68	59	85	44	41	27		
<b>PGIM Total Return Bond R6</b>	<b>3,146,151</b>	<b>11.1</b>	<b>3.2</b>	<b>0.7</b>	<b>-6.0</b>	<b>-1.1</b>	<b>1.0</b>	<b>2.1</b>	<b>1.6</b>	<b>04/2015</b>	<b>Maintain</b>
<i>Blmbg. U.S. Aggregate</i>			3.0	-0.1	-4.8	-2.8	0.9	1.4	1.0		
IM U.S. Broad Market Core+ Fixed Income (MF) Median			3.2	0.5	-5.5	-1.1	1.1	1.5	1.2		
PGIM Total Return Bond R6 Rank			57	40	66	54	53	18	22		
<b>BlackRock Strategic Income Opportunities Class K</b>	<b>1,382,141</b>	<b>4.9</b>	<b>1.5</b>	<b>1.4</b>	<b>-1.3</b>	<b>3.4</b>	<b>2.1</b>	<b>2.4</b>	<b>-1.3</b>	<b>04/2022</b>	<b>Maintain</b>
<i>Blmbg. U.S. Aggregate</i>			3.0	-0.1	-4.8	-2.8	0.9	1.4	-4.8		
IM Alternative Credit Focus (MF) Median			2.3	3.2	-2.3	3.8	1.4	1.3	-2.3		
BlackRock Strategic Income Opportunities Class K Rank			72	68	37	57	28	23	37		

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



# Manager Performance

Town of Ledyard Pension Plan

As of March 31, 2023

	Allocation		Performance(%)								Manager Status
	Market Value (\$)	%	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
<b>Domestic Equity</b>	<b>9,919,757</b>	<b>34.9</b>	<b>7.0</b>	<b>10.2</b>	<b>-7.0</b>	<b>18.4</b>	<b>10.6</b>	<b>11.6</b>	<b>12.8</b>	<b>01/2012</b>	
<i>Domestic Equity Benchmark</i>			5.9	8.9	-9.0	18.4	9.3	11.0	12.3		
<b>Vanguard Institutional Index Fund Instl</b>	<b>4,253,937</b>	<b>14.9</b>	<b>7.5</b>	<b>9.9</b>	<b>-7.8</b>	<b>18.6</b>	<b>11.2</b>	<b>12.2</b>	<b>13.3</b>	<b>01/2012</b>	<b>Maintain</b>
<i>S&amp;P 500</i>			7.5	10.0	-7.7	18.6	11.2	12.2	13.3		
IM U.S. Large Cap Core Equity (MF) Median			6.6	9.3	-7.8	17.5	10.3	11.3	12.4		
Vanguard Institutional Index Fund Instl Rank			31	39	50	19	23	16	16		
<b>Touchstone Large Cap Focused Fund Instl</b>	<b>2,113,918</b>	<b>7.4</b>	<b>8.3</b>	<b>11.3</b>	<b>-6.7</b>	<b>19.3</b>	<b>12.2</b>	<b>12.5</b>	<b>15.2</b>	<b>01/2019</b>	<b>Maintain</b>
<i>S&amp;P 500</i>			7.5	10.0	-7.7	18.6	11.2	12.2	14.3		
IM U.S. Large Cap Core Equity (MF) Median			6.6	9.3	-7.8	17.5	10.3	11.3	13.4		
Touchstone Large Cap Focused Fund Instl Rank			15	18	32	9	5	10	7		
<b>Neuberger Berman Genesis R6</b>	<b>1,757,701</b>	<b>6.2</b>	<b>7.1</b>	<b>11.5</b>	<b>-2.7</b>	<b>17.6</b>	<b>9.2</b>	<b>10.3</b>	<b>10.6</b>	<b>04/2012</b>	<b>Maintain</b>
<i>Russell 2000 Index</i>			2.7	6.8	-11.6	17.5	4.7	8.0	8.8		
IM U.S. Small Cap Core Equity (MF) Median			2.7	7.5	-8.3	21.2	5.5	8.0	8.7		
Neuberger Berman Genesis R6 Rank			5	15	12	84	4	3	4		
<b>William Blair Small Cap Value R6</b>	<b>919,353</b>	<b>3.2</b>	<b>1.8</b>	<b>6.7</b>	<b>-5.8</b>	<b>22.8</b>	<b>5.8</b>	<b>9.0</b>	<b>-3.1</b>	<b>12/2021</b>	<b>Maintain</b>
<i>Russell 2000 Value Index</i>			-0.7	2.7	-13.0	21.0	4.5	7.2	-8.8		
IM U.S. Small Cap Value Equity (MF) Median			0.7	6.7	-7.1	25.7	5.7	7.6	-3.7		
William Blair Small Cap Value R6 Rank			38	50	37	77	45	17	43		
<b>Hood River Small Cap Growth R</b>	<b>874,847</b>	<b>3.1</b>	<b>6.3</b>	<b>10.3</b>	<b>-13.6</b>	<b>25.5</b>	<b>11.7</b>	<b>13.0</b>	<b>-16.4</b>	<b>12/2021</b>	<b>Maintain</b>
<i>Russell 2000 Growth Index</i>			6.1	10.7	-10.6	13.4	4.3	8.5	-16.6		
IM U.S. Small Cap Growth Equity (MF) Median			6.2	9.5	-11.4	15.4	6.9	9.1	-16.6		
Hood River Small Cap Growth R Rank			49	41	73	3	4	1	48		

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



# Manager Performance

Town of Ledyard Pension Plan

As of March 31, 2023

	Allocation		Performance(%)								Manager Status
	Market Value (\$)	%	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
<b>International Equity</b>	<b>6,486,478</b>	<b>22.8</b>	<b>8.1</b>	<b>11.0</b>	<b>-2.9</b>	<b>11.4</b>	<b>2.0</b>	<b>3.9</b>	<b>4.1</b>	<b>03/2012</b>	
<i>International Equity Benchmark</i>			6.6	9.1	-5.4	11.2	1.9	3.9	4.0		
<b>Vanguard Total International Stock Index Adm</b>	<b>2,414,017</b>	<b>8.5</b>	<b>6.7</b>	<b>9.5</b>	<b>-4.6</b>	<b>12.7</b>	<b>2.5</b>	<b>4.4</b>	<b>4.8</b>	<b>04/2012</b>	<b>Maintain</b>
<i>FTSE Global All Cap ex US Spliced Index</i>			6.4	9.7	-5.7	12.5	2.6	4.5	4.9		
IM International Large Cap Core Equity (MF) Median			8.5	14.1	-1.2	12.5	3.0	4.3	4.8		
Vanguard Total International Stock Index Adm Rank			82	86	81	48	64	46	52		
<b>T. Rowe Price Overseas Stock Instl</b>	<b>2,164,065</b>	<b>7.6</b>	<b>6.9</b>	<b>12.1</b>	<b>-3.4</b>	<b>13.9</b>	<b>3.1</b>	<b>5.3</b>	<b>3.3</b>	<b>06/2018</b>	<b>Maintain</b>
<i>MSCI EAFE (Net)</i>			8.5	15.4	-1.4	13.0	3.5	5.0	3.7		
IM International Large Cap Core Equity (MF) Median			8.5	14.1	-1.2	12.5	3.0	4.3	3.1		
T. Rowe Price Overseas Stock Instl Rank			78	67	70	37	45	16	43		
<b>Invesco Developing Markets R6</b>	<b>1,908,396</b>	<b>6.7</b>	<b>11.3</b>	<b>11.9</b>	<b>-0.8</b>	<b>5.8</b>	<b>-0.5</b>	<b>2.7</b>	<b>3.0</b>	<b>04/2012</b>	<b>Maintain</b>
<i>MSCI Emerging Markets (Net)</i>			4.0	0.8	-10.7	7.8	-0.9	2.0	2.0		
IM Emerging Markets Equity (MF) Median			5.0	2.8	-9.3	7.9	-1.1	1.8	1.9		
Invesco Developing Markets R6 Rank			1	4	3	81	37	28	26		
<b>Real Assets</b>	<b>1,484,541</b>	<b>5.2</b>	<b>-0.3</b>	<b>-3.0</b>	<b>-13.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-13.6</b>	<b>04/2022</b>	
<i>S&amp;P Real Assets</i>			1.9	0.9	-9.7	10.5	3.8	3.4	-9.7		
<b>DWS RREEF Real Assets R6</b>	<b>1,484,541</b>	<b>5.2</b>	<b>-0.3</b>	<b>-3.0</b>	<b>-13.6</b>	<b>12.2</b>	<b>6.6</b>	<b>4.1</b>	<b>-13.6</b>	<b>04/2022</b>	<b>Maintain</b>
<i>S&amp;P Real Assets</i>			1.9	0.9	-9.7	10.5	3.8	3.4	-9.7		

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



# Calendar Year Performance

Town of Ledyard Pension Plan

As of March 31, 2023

	Performance(%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Town of Ledyard Pension Plan</b>	<b>-16.2</b>	<b>10.6</b>	<b>14.9</b>	<b>19.0</b>	<b>-6.3</b>	<b>13.1</b>	<b>10.0</b>	<b>-3.1</b>	<b>2.3</b>	<b>13.2</b>
<i>Blended Benchmark</i>	-15.2	9.8	13.6	18.4	-6.0	12.9	9.1	-3.5	3.6	12.3
<b>Short Term Liquidity</b>	<b>1.3</b>	<b>0.0</b>	<b>0.4</b>	<b>2.0</b>	<b>1.8</b>	<b>0.6</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<i>90 Day U.S. Treasury Bill</i>	1.5	0.0	0.7	2.3	1.9	0.9	0.3	0.0	0.0	0.0
<b>Dreyfus Treasury Securities Cash Management</b>	<b>1.3</b>	<b>0.0</b>	<b>0.4</b>	<b>2.0</b>	<b>1.8</b>	<b>0.6</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<i>90 Day U.S. Treasury Bill</i>	1.5	0.0	0.7	2.3	1.9	0.9	0.3	0.0	0.0	0.0
<b>Fixed Income</b>	<b>-13.5</b>	<b>-1.3</b>	<b>8.3</b>	<b>9.1</b>	<b>0.0</b>	<b>4.6</b>	<b>4.6</b>	<b>-0.2</b>	<b>5.2</b>	<b>-0.2</b>
<i>Blmbg. U.S. Aggregate</i>	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0
<b>Vanguard Total Bond Market Index Adm</b>	<b>-13.2</b>	<b>-1.7</b>	<b>7.7</b>	<b>8.7</b>	<b>0.0</b>	<b>3.6</b>	<b>2.6</b>	<b>0.4</b>	<b>5.9</b>	<b>-2.1</b>
<i>Blmbg. U.S. Aggregate</i>	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0
IM U.S. Broad Market Core Fixed Income (MF) Median	-13.7	-1.3	8.2	8.8	-0.6	3.6	2.9	0.0	5.5	-2.0
Vanguard Total Bond Market Index Adm Rank	27	66	65	53	20	54	64	30	32	59
<b>Metropolitan West Total Return Bond PI</b>	<b>-14.7</b>	<b>-1.1</b>	<b>9.2</b>	<b>9.2</b>	<b>0.3</b>	<b>3.5</b>	<b>2.6</b>	<b>0.2</b>	<b>6.2</b>	<b>0.4</b>
<i>Blmbg. U.S. Aggregate</i>	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0
IM U.S. Broad Market Core+ Fixed Income (MF) Median	-13.7	-0.9	8.6	9.3	-1.0	4.5	4.1	-0.3	5.1	-1.1
Metropolitan West Total Return Bond PI Rank	75	58	36	55	11	79	86	26	25	16
<b>PGIM Total Return Bond R6</b>	<b>-14.9</b>	<b>-1.2</b>	<b>8.1</b>	<b>11.1</b>	<b>-0.6</b>	<b>6.7</b>	<b>4.8</b>	<b>0.1</b>	<b>7.3</b>	<b>-0.9</b>
<i>Blmbg. U.S. Aggregate</i>	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0
IM U.S. Broad Market Core+ Fixed Income (MF) Median	-13.7	-0.9	8.6	9.3	-1.0	4.5	4.1	-0.3	5.1	-1.1
PGIM Total Return Bond R6 Rank	78	60	60	11	36	2	30	35	8	44
<b>BlackRock Strategic Income Opportunities Class K</b>	<b>-5.6</b>	<b>1.0</b>	<b>7.3</b>	<b>7.8</b>	<b>-0.5</b>	<b>5.0</b>	<b>3.6</b>	<b>-0.6</b>	<b>3.6</b>	<b>3.0</b>
<i>Blmbg. U.S. Aggregate</i>	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0
IM Alternative Credit Focus (MF) Median	-7.6	1.9	3.9	7.3	-1.9	4.5	4.9	-1.6	1.0	-0.1
BlackRock Strategic Income Opportunities Class K Rank	41	58	17	43	29	43	64	25	21	31
<b>Domestic Equity</b>	<b>-18.2</b>	<b>25.1</b>	<b>21.7</b>	<b>30.7</b>	<b>-5.1</b>	<b>19.7</b>	<b>13.9</b>	<b>1.1</b>	<b>9.0</b>	<b>34.0</b>
<i>Domestic Equity Benchmark</i>	-18.8	24.4	19.2	29.8	-6.3	19.5	15.1	-0.5	10.8	34.5
<b>Vanguard Institutional Index Fund Instl</b>	<b>-18.1</b>	<b>28.7</b>	<b>18.4</b>	<b>31.5</b>	<b>-4.4</b>	<b>21.8</b>	<b>11.9</b>	<b>1.4</b>	<b>13.7</b>	<b>32.3</b>
<i>S&amp;P 500</i>	-18.1	28.7	18.4	31.5	-4.4	21.8	12.0	1.4	13.7	32.4
IM U.S. Large Cap Core Equity (MF) Median	-18.7	26.9	18.4	30.6	-5.4	21.4	9.7	0.5	11.5	31.8
Vanguard Institutional Index Fund Instl Rank	46	26	50	37	32	45	20	35	18	38



# Calendar Year Performance

Town of Ledyard Pension Plan

As of March 31, 2023

	Performance(%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Touchstone Large Cap Focused Fund Instl</b>	<b>-17.3</b>	<b>25.6</b>	<b>24.2</b>	<b>30.6</b>	<b>-2.4</b>	<b>23.6</b>	<b>11.6</b>	<b>0.9</b>	<b>10.6</b>	<b>31.0</b>
<i>S&amp;P 500</i>	-18.1	28.7	18.4	31.5	-4.4	21.8	12.0	1.4	13.7	32.4
IM U.S. Large Cap Core Equity (MF) Median	-18.7	26.9	18.4	30.6	-5.4	21.4	9.7	0.5	11.5	31.8
Touchstone Large Cap Focused Fund Instl Rank	37	67	10	51	16	25	25	44	65	61
<b>Neuberger Berman Genesis R6</b>	<b>-19.0</b>	<b>18.5</b>	<b>25.2</b>	<b>29.8</b>	<b>-6.4</b>	<b>15.9</b>	<b>18.4</b>	<b>0.5</b>	<b>0.0</b>	<b>37.2</b>
<i>Russell 2000 Index</i>	-20.4	14.8	20.0	25.5	-11.0	14.6	21.3	-4.4	4.9	38.8
IM U.S. Small Cap Core Equity (MF) Median	-15.8	25.1	9.9	23.9	-12.7	12.1	21.7	-4.3	4.7	36.9
Neuberger Berman Genesis R6 Rank	79	83	5	7	5	15	79	3	86	47
<b>William Blair Small Cap Value R6</b>	<b>-11.1</b>	<b>29.5</b>	<b>2.8</b>	<b>26.2</b>	<b>-14.0</b>	<b>13.1</b>	<b>31.4</b>	<b>-3.2</b>	<b>2.9</b>	<b>36.2</b>
<i>Russell 2000 Value Index</i>	-14.5	28.3	4.6	22.4	-12.9	7.8	31.7	-7.5	4.2	34.5
IM U.S. Small Cap Value Equity (MF) Median	-11.1	32.0	3.6	21.1	-16.1	8.5	26.7	-7.0	3.4	36.5
William Blair Small Cap Value R6 Rank	52	66	57	9	32	14	18	12	59	55
<b>Hood River Small Cap Growth R</b>	<b>-27.9</b>	<b>23.9</b>	<b>60.8</b>	<b>24.2</b>	<b>-6.8</b>	<b>20.8</b>	<b>13.5</b>	<b>0.8</b>	<b>8.6</b>	<b>43.9</b>
<i>Russell 2000 Growth Index</i>	-26.4	2.8	34.6	28.5	-9.3	22.2	11.3	-1.4	5.6	43.3
IM U.S. Small Cap Growth Equity (MF) Median	-27.5	10.5	36.5	27.7	-5.6	20.7	10.1	-2.4	2.8	42.5
Hood River Small Cap Growth R Rank	53	9	10	73	57	50	27	17	4	40
<b>International Equity</b>	<b>-18.0</b>	<b>5.2</b>	<b>12.5</b>	<b>23.0</b>	<b>-13.8</b>	<b>28.6</b>	<b>4.1</b>	<b>-7.3</b>	<b>-5.2</b>	<b>13.5</b>
<i>International Equity Benchmark</i>	-16.6	5.9	12.0	20.6	-14.1	29.8	5.6	-7.2	-3.6	11.4
<b>Vanguard Total International Stock Index Adm</b>	<b>-16.0</b>	<b>8.6</b>	<b>11.3</b>	<b>21.5</b>	<b>-14.4</b>	<b>27.6</b>	<b>4.7</b>	<b>-4.3</b>	<b>-4.2</b>	<b>15.1</b>
<i>FTSE Global All Cap ex US Spliced Index</i>	-16.1	8.8	11.2	21.8	-14.6	27.4	4.7	-4.3	-3.4	15.8
IM International Large Cap Core Equity (MF) Median	-15.1	10.7	9.1	22.1	-15.0	25.0	0.0	-1.9	-6.0	20.4
Vanguard Total International Stock Index Adm Rank	61	72	34	61	41	25	12	70	19	75
<b>T. Rowe Price Overseas Stock Instl</b>	<b>-15.4</b>	<b>12.4</b>	<b>9.3</b>	<b>23.0</b>	<b>-14.8</b>	<b>27.2</b>	<b>3.0</b>	<b>-2.5</b>	<b>-4.5</b>	<b>21.8</b>
<i>MSCI EAFE (Net)</i>	-14.5	11.3	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8
IM International Large Cap Core Equity (MF) Median	-15.1	10.7	9.1	22.1	-15.0	25.0	0.0	-1.9	-6.0	20.4
T. Rowe Price Overseas Stock Instl Rank	56	28	47	37	47	25	14	59	23	29
<b>Invesco Developing Markets R6</b>	<b>-24.8</b>	<b>-7.1</b>	<b>17.7</b>	<b>24.5</b>	<b>-11.8</b>	<b>35.3</b>	<b>7.4</b>	<b>-13.7</b>	<b>-4.4</b>	<b>8.9</b>
<i>MSCI Emerging Markets (Net)</i>	-20.1	-2.5	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6
IM Emerging Markets Equity (MF) Median	-22.4	-1.6	17.7	20.2	-16.5	35.7	8.3	-13.7	-3.0	-1.5
Invesco Developing Markets R6 Rank	68	81	51	26	12	52	54	50	68	15



# Calendar Year Performance

Town of Ledyard Pension Plan

As of March 31, 2023

	Performance(%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Real Assets</b>	-	-	-	-	-	-	-	-	-	-
<i>S&amp;P Real Assets</i>	-9.9	15.4	1.2	17.2	-5.9	11.2	10.8	-10.1	5.4	4.2
<b>DWS RREEF Real Assets R6</b>	<b>-9.6</b>	<b>23.9</b>	<b>3.9</b>	<b>21.8</b>	<b>-5.1</b>	<b>15.0</b>	<b>4.4</b>	<b>-9.5</b>	<b>3.5</b>	<b>1.2</b>
<i>S&amp;P Real Assets</i>	-9.9	15.4	1.2	17.2	-5.9	11.2	10.8	-10.1	5.4	4.2



## Investment Gain/Loss Summary

Town of Ledyard Pension Plan

1 Quarter Ending March 31, 2023

	Market Value as of 01/01/2023	Net Contributions	Gain/Loss	Market Value As of 03/31/2023
<b>Town of Ledyard Pension Plan</b>	<b>26,338,323</b>	<b>709,464</b>	<b>1,409,199</b>	<b>28,456,986</b>
<b>Short Term Liquidity</b>	<b>505,544</b>	<b>9,464</b>	<b>3,351</b>	<b>518,359</b>
Dreyfus Treasury Securities Cash Management	505,544	9,464	3,351	518,359
<b>Fixed Income</b>	<b>9,506,160</b>	<b>250,000</b>	<b>291,691</b>	<b>10,047,851</b>
Vanguard Total Bond Market Index Adm	2,216,019	75,000	70,505	2,361,524
Metropolitan West Total Return Bond PI	2,977,059	75,000	105,976	3,158,035
PGIM Total Return Bond R6	2,951,930	100,000	94,220	3,146,151
BlackRock Strategic Income Opportunities Class K	1,361,152	-	20,989	1,382,141
<b>Domestic Equity</b>	<b>9,040,862</b>	<b>250,000</b>	<b>628,895</b>	<b>9,919,757</b>
Vanguard Institutional Index Fund Instl	3,767,756	200,000	286,182	4,253,937
Touchstone Large Cap Focused Fund Instl	1,952,316	-	161,602	2,113,918
Neuberger Berman Genesis R6	1,594,242	50,000	113,459	1,757,701
William Blair Small Cap Value R6	903,379	-	15,975	919,353
Hood River Small Cap Growth R	823,169	-	51,678	874,847
<b>International Equity</b>	<b>6,001,050</b>	<b>-</b>	<b>485,428</b>	<b>6,486,478</b>
Vanguard Total International Stock Index Adm	2,263,294	-	150,722	2,414,017
T. Rowe Price Overseas Stock Instl	2,023,733	-	140,332	2,164,065
Invesco Developing Markets R6	1,714,023	-	194,374	1,908,396
<b>Real Assets</b>	<b>1,284,706</b>	<b>200,000</b>	<b>-165</b>	<b>1,484,541</b>
DWS RREEF Real Assets R6	1,284,706	200,000	-165	1,484,541



## Portfolio Statistics

Town of Ledyard Pension Plan

As of March 31, 2023

	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Return	5.4	-5.5	8.9	4.7	5.3	6.0	01/2012
Standard Deviation	3.6	16.5	12.9	12.3	9.7	9.4	
Upside Risk	3.7	3.2	10.5	9.0	7.4	7.3	
Downside Risk	1.6	12.3	8.0	8.4	6.5	6.3	
<b>vs. Blended Benchmark</b>							
Alpha	0.2	0.9	0.1	0.1	0.2	0.2	
Beta	1.0	1.0	1.0	1.0	1.0	1.0	
Information Ratio	1.6	0.6	0.3	0.2	0.3	0.3	
Tracking Error	0.1	1.1	1.3	1.1	1.0	1.0	
<b>vs. 90 Day U.S. Treasury Bill</b>							
Sharpe Ratio	0.4	-0.4	0.7	0.3	0.5	0.6	

Calculation based on monthly periodicity.



## Estimated Fee Analysis

Town of Ledyard Pension Plan

As of March 31, 2023

	Market Value (\$)	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
<b>Town of Ledyard Pension Plan</b>	<b>28,456,986</b>	<b>124,646</b>	<b>0.44</b>
<b>Short Term Liquidity</b>	<b>518,359</b>	<b>-</b>	<b>-</b>
Dreyfus Treasury Securities Cash Management	518,359	-	-
<b>Fixed Income</b>	<b>10,047,851</b>	<b>32,974</b>	<b>0.33</b>
Vanguard Total Bond Market Index Adm	2,361,524	1,181	0.05
Metropolitan West Total Return Bond PI	3,158,035	11,369	0.36
PGIM Total Return Bond R6	3,146,151	12,270	0.39
BlackRock Strategic Income Opportunities Class K	1,382,141	8,155	0.59
<b>Domestic Equity</b>	<b>9,919,757</b>	<b>45,125</b>	<b>0.45</b>
Vanguard Institutional Index Fund Instl	4,253,937	1,489	0.04
Touchstone Large Cap Focused Fund Instl	2,113,918	14,797	0.70
Neuberger Berman Genesis R6	1,757,701	13,007	0.74
William Blair Small Cap Value R6	919,353	7,171	0.78
Hood River Small Cap Growth R	874,847	8,661	0.99
<b>International Equity</b>	<b>6,486,478</b>	<b>33,185</b>	<b>0.51</b>
Vanguard Total International Stock Index Adm	2,414,017	2,655	0.11
T. Rowe Price Overseas Stock Instl	2,164,065	14,499	0.67
Invesco Developing Markets R6	1,908,396	16,031	0.84
<b>Real Assets</b>	<b>1,484,541</b>	<b>13,361</b>	<b>0.90</b>
DWS RREEF Real Assets R6	1,484,541	13,361	0.90

The figures on this page have been obtained from sources we deem to be reliable. Fiducient Advisors has not independently verified this information.

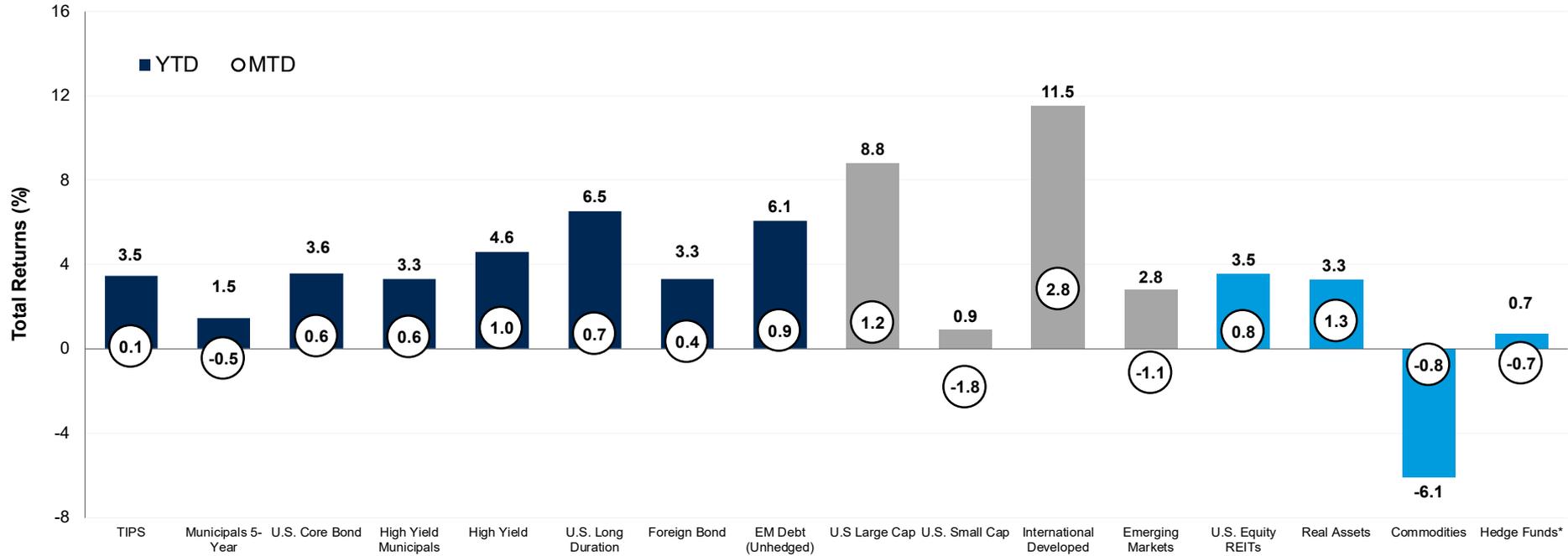
Fee calculations for mutual funds represent fees at the net expense level. Fee calculations for commingled funds and/or alternative investments reflect base management fees and exclude underlying fund expenses captured at the NAV level, any applicable performance-based fees, or incentive fees. Fees for fund of funds are shown at the fund of fund level and do not include fees charged by underlying investment managers/funds.



## April Flash Report



# Asset Class Performance



Source: Morningstar Direct. As of April 30, 2023. \*Hedge fund returns are as of March 31, 2023.

## Fixed Income (April)

+ Bond markets saw modest gains in the month. Rates were rangebound within the U.S. in April, and the 10-year Treasury ended the month essentially where it began.

+ Higher coupons within the spread segments helped riskier areas of the market, such as High Yield, outperform Treasuries.

+ Interest rate movement abroad was also muted. EM Debt outperformed Foreign Bonds and a falling U.S. dollar was an added tailwind for non-U.S. investments.

## Equity (April)

+ U.S. Large Cap and International Developed equities outperformed on muted volatility and strong value sector performance.

- U.S. small cap continued to lag in April with technology dragging sharply lower amid disappointing earnings.

- Emerging markets posted negative returns with consumer discretionary dragging lower and a weak month for the Chinese equity market.

## Real Asset / Alternatives (April)

+ REITs posted positive performance on resiliency from the residential sector.

- Commodities declined modestly with energy and industrial metals dragging the asset class lower.

- Hedge funds, reported on a month lag, were negative in March, with Macro strategies dragging the segment lower.

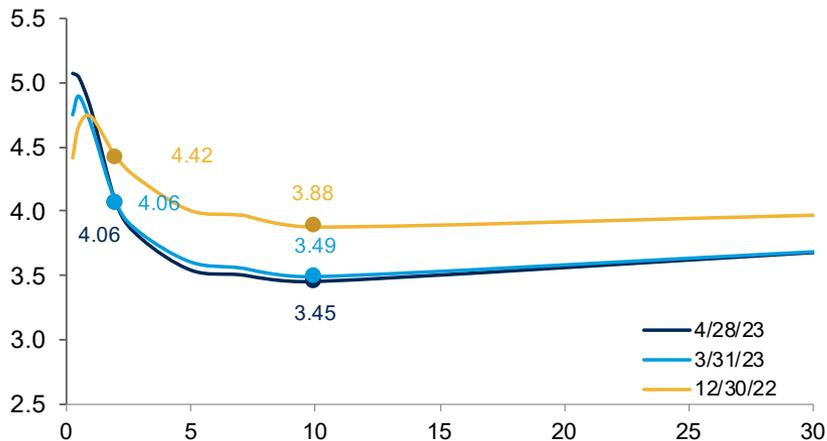
See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. 37  
Indices cannot be invested in directly.



# Fixed Income Market Update

## U.S. Treasury Yield Curve

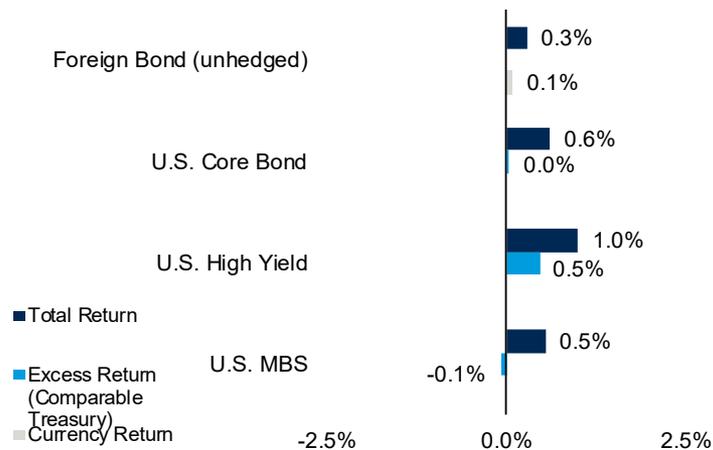
Rates traded rangebound for the quarter and essentially ended where they started. However, yields on the very front end of the curve rose as market expectations for a 25 basis point rate hike in May took hold.



Source: FactSet. As of April 30, 2023.

## Index Performance Attribution (April 2023)

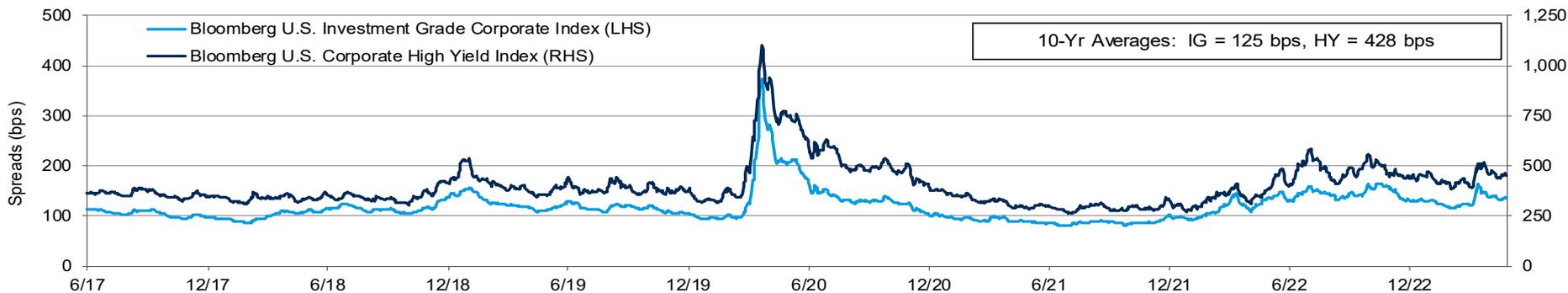
Spread sectors generally outpaced Treasuries for the month. Most of this outperformance was driven by the additional yield investors receive to compensate for the added credit risk.



Source: FactSet. As of April 30, 2023.

## Credit Market Spreads – Trailing 5 Years

After a volatile March, fixed income markets were calmer in April. Credit spreads ended the period every so slightly lower with investment grade spreads narrowing by two basis points and high yield spreads tighter by three basis points.



Source: FactSet. As of April 30, 2023.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

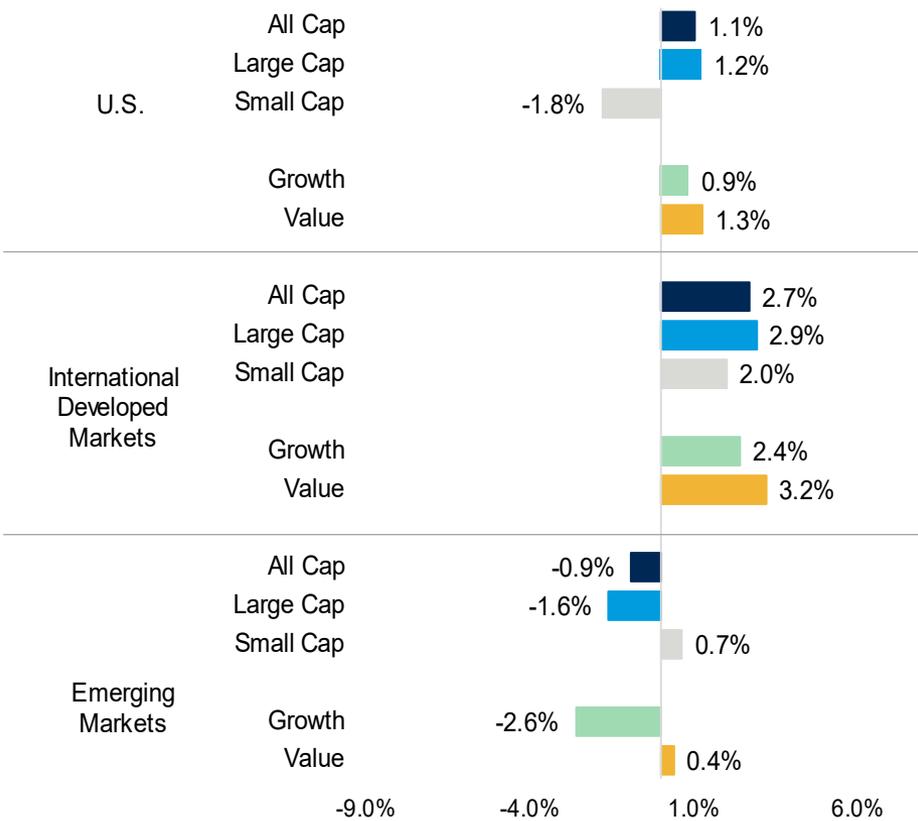
Indices cannot be invested in directly.



# Equity Market Update

## Market Capitalization & Style Performance (April 2023)

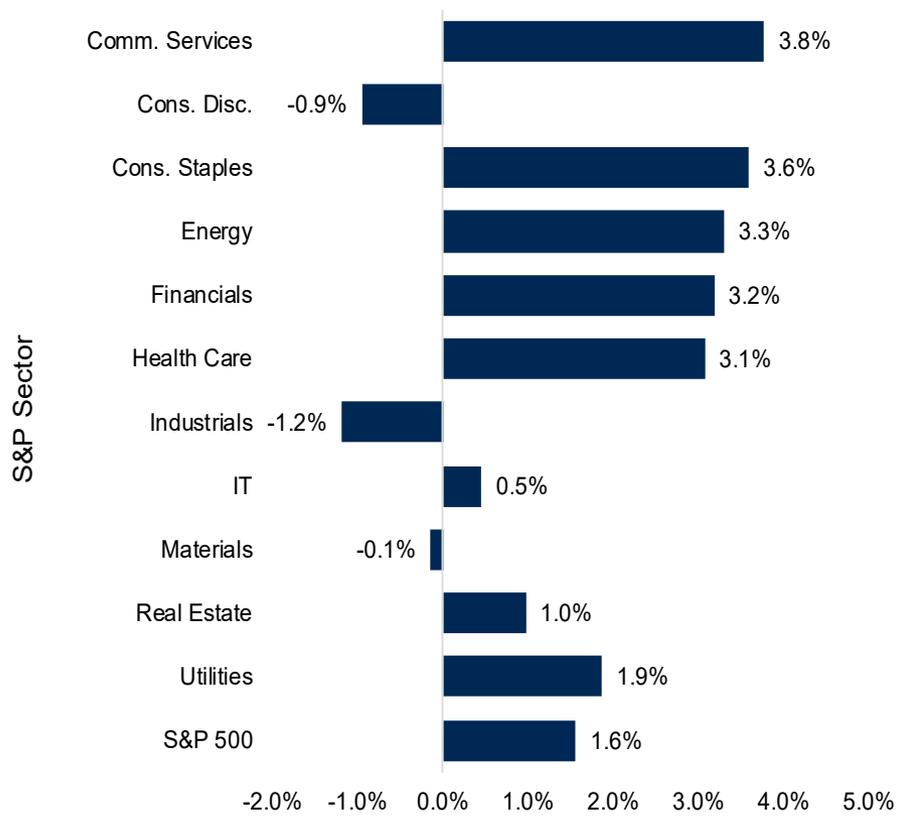
Across regions, value stocks modestly outpaced their growth stock peers. In developed markets, both U.S. and abroad, large cap outpaced small. Most G10 countries outpaced the United States during the month and a tough quarter for China weighed on the emerging markets asset class.



Source: Morningstar Direct. As of April 30, 2023.

## U.S. Equities – Returns by Sector (April 2023)

Most sectors were positive during April. First quarter earnings season has started and while overall earnings growth is trending negative, there has been favorable earnings surprises for those companies that have reported so far; the financials sector benefited from better than expected results.



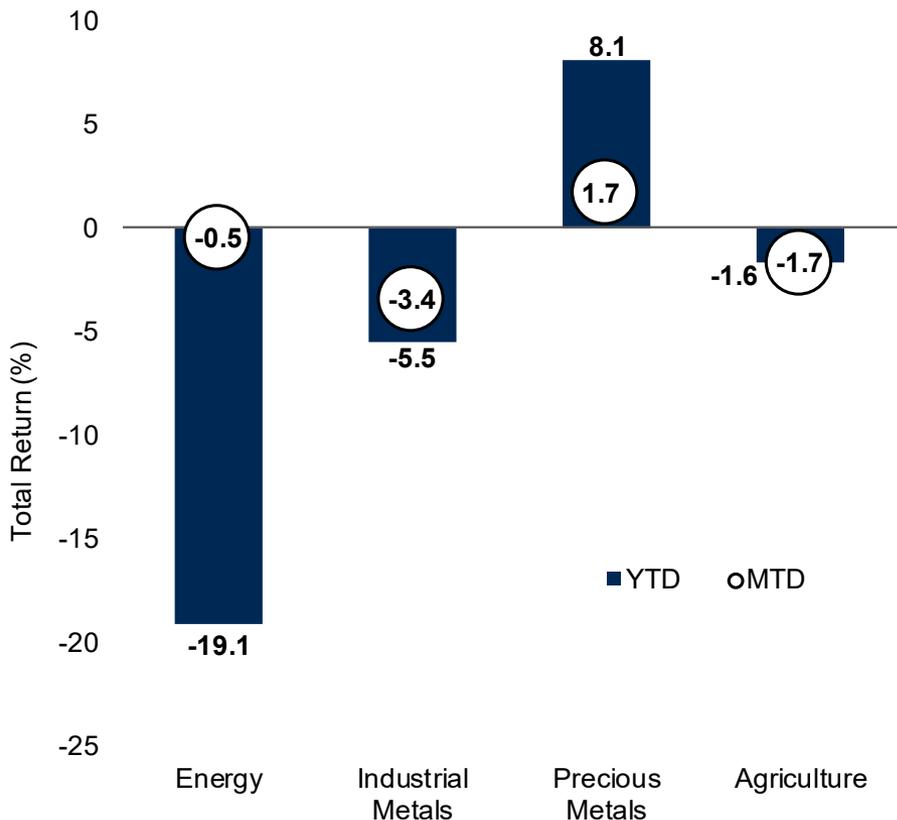
Source: Morningstar Direct. As of April 30, 2023.



# Real Asset Market Update

## Real Assets Performance (April 2023)

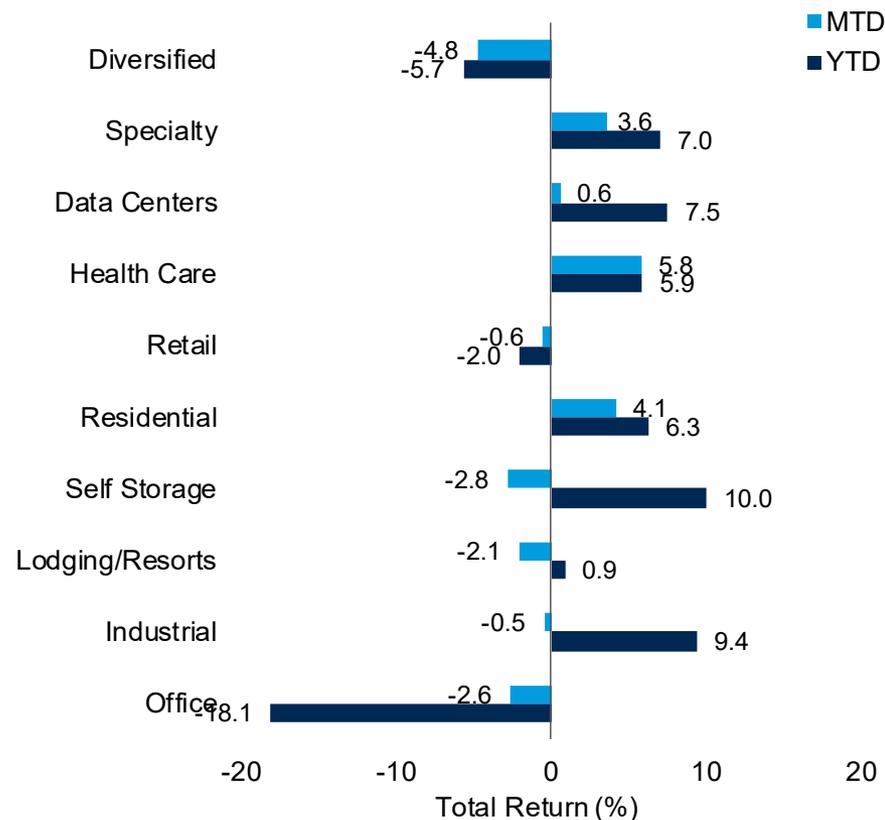
Commodities were slightly negative during April. Precious metals benefited from a fall in real interest rates and continued market volatility, driving demand for the save-haven asset. Industrial metals was the weakest segment given concerns around the global economic outlook and weaker than expected demand from the China reopening.



Source: FactSet. As of April 30, 2023.

## REIT Sector Performance (April 2023)

REITs ended April with a modestly positive monthly return. The office sector continues to struggle in the face of tight credit conditions and waning demand. Meanwhile, health care REITs, a traditionally defensive segment, performed best amidst a cloudy outlook for commercial real estate.



Source: FactSet. As of April 30, 2023.



# Financial Markets Performance

## Financial Markets Performance

Total Return as of April 30, 2023

Periods greater than one year are annualized

All returns are in U.S. dollar terms

Global Fixed Income Markets	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Bloomberg 1-3-Month T-Bill	0.4%	1.5%	3.0%	1.0%	1.4%	1.2%	0.9%	0.7%
Bloomberg U.S. TIPS	0.1%	3.5%	-4.0%	0.9%	3.0%	2.4%	1.4%	3.1%
Bloomberg Municipal Bond (5 Year)	-0.5%	1.5%	3.0%	0.6%	1.7%	1.2%	1.5%	2.7%
Bloomberg High Yield Municipal Bond	0.6%	3.3%	-0.4%	4.1%	3.1%	3.7%	3.5%	4.8%
Bloomberg U.S. Aggregate	0.6%	3.6%	-0.4%	-3.1%	1.2%	0.9%	1.3%	2.8%
Bloomberg U.S. Corporate High Yield	1.0%	4.6%	1.2%	4.7%	3.3%	4.7%	4.0%	6.3%
Bloomberg Global Aggregate ex-U.S. Hedged	0.4%	3.3%	-1.0%	-2.1%	1.0%	1.4%	2.2%	3.1%
Bloomberg Global Aggregate ex-U.S. Unhedged	0.3%	3.4%	-3.9%	-4.7%	-2.7%	-1.5%	-1.1%	0.4%
Bloomberg U.S. Long Gov / Credit	0.7%	6.5%	-3.9%	-7.5%	1.2%	1.2%	2.0%	4.7%
JPMorgan GBI-EM Global Diversified	0.9%	6.1%	6.6%	-0.1%	-1.6%	0.6%	-1.8%	1.7%
Global Equity Markets	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
S&P 500	1.6%	9.2%	2.7%	14.5%	11.4%	12.6%	12.2%	9.8%
Dow Jones Industrial Average	2.6%	3.5%	5.6%	14.2%	9.5%	12.3%	11.2%	9.4%
NASDAQ Composite	0.1%	17.1%	0.0%	12.1%	12.6%	15.5%	15.1%	12.6%
Russell 3000	1.1%	8.3%	1.5%	14.1%	10.6%	12.1%	11.7%	9.6%
Russell 1000	1.2%	8.8%	1.8%	14.2%	11.1%	12.3%	12.0%	9.8%
Russell 1000 Growth	1.0%	15.5%	2.3%	13.6%	13.8%	15.3%	14.5%	11.8%
Russell 1000 Value	1.5%	2.5%	1.2%	14.4%	7.7%	8.9%	9.1%	7.4%
Russell Mid Cap	-0.5%	3.5%	-1.7%	13.8%	8.0%	9.6%	9.9%	9.0%
Russell Mid Cap Growth	-1.4%	7.6%	1.6%	9.2%	9.0%	11.0%	10.8%	9.5%
Russell Mid Cap Value	0.0%	1.3%	-3.5%	15.8%	6.4%	8.0%	8.7%	8.3%
Russell 2000	-1.8%	0.9%	-3.6%	11.9%	4.2%	8.0%	7.9%	7.7%
Russell 2000 Growth	-1.2%	4.8%	0.7%	7.8%	4.0%	8.4%	8.4%	8.2%
Russell 2000 Value	-2.5%	-3.1%	-8.0%	15.4%	3.7%	7.2%	7.0%	6.8%
MSCI ACWI	1.4%	8.8%	2.1%	12.1%	7.0%	9.2%	7.9%	5.7%
MSCI ACWI ex. U.S.	1.7%	8.7%	3.0%	9.7%	2.5%	5.7%	4.0%	2.3%
MSCI EAFE	2.8%	11.5%	8.4%	11.7%	3.6%	6.2%	4.8%	2.8%
MSCI EAFE Growth	2.4%	13.8%	8.2%	9.2%	5.1%	7.0%	5.8%	3.8%
MSCI EAFE Value	3.2%	9.3%	8.4%	13.8%	1.8%	5.0%	3.4%	1.7%
MSCI EAFE Small Cap	2.0%	7.0%	-1.2%	9.2%	1.0%	5.2%	5.7%	4.6%
MSCI Emerging Markets	-1.1%	2.8%	-6.5%	4.3%	-1.0%	4.7%	1.8%	1.1%
Alternatives	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Consumer Price Index*	0.1%	0.9%	5.0%	5.3%	3.9%	3.4%	2.7%	2.3%
FTSE NAREIT Equity REITs	0.8%	3.5%	-14.8%	9.4%	5.9%	4.6%	5.4%	5.9%
S&P Real Assets	1.3%	3.3%	-5.0%	8.6%	3.9%	4.5%	3.3%	4.1%
FTSE EPRA NAREIT Developed	1.9%	3.0%	-14.4%	5.8%	1.8%	2.4%	2.8%	3.1%
FTSE EPRA NAREIT Developed ex U.S.	3.8%	2.3%	-13.5%	1.1%	-2.3%	0.5%	0.5%	1.0%
Bloomberg Commodity Total Return	-0.8%	-6.1%	-16.6%	21.2%	4.7%	4.3%	-1.5%	-3.8%
HFRI Fund of Funds Composite*	-0.7%	0.7%	-1.9%	7.2%	3.1%	3.9%	3.2%	2.1%
HFRI Asset Weighted Composite*	-1.8%	-0.6%	-1.7%	7.5%	3.2%	4.0%	3.6%	3.5%
Alerian MLP	1.7%	5.9%	16.8%	29.4%	6.1%	4.3%	0.6%	5.8%

Sources: Morningstar, FactSet. As of April 30, 2023. \*Consumer Price Index and HFRI indexes as of March 31, 2023.

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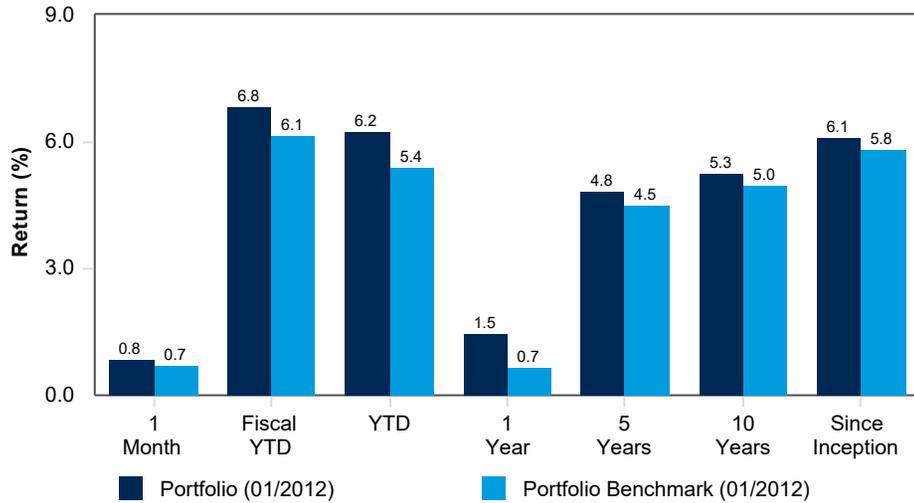


# Portfolio Dashboard

Town of Ledyard Pension Plan

As of April 30, 2023

## Historical Performance



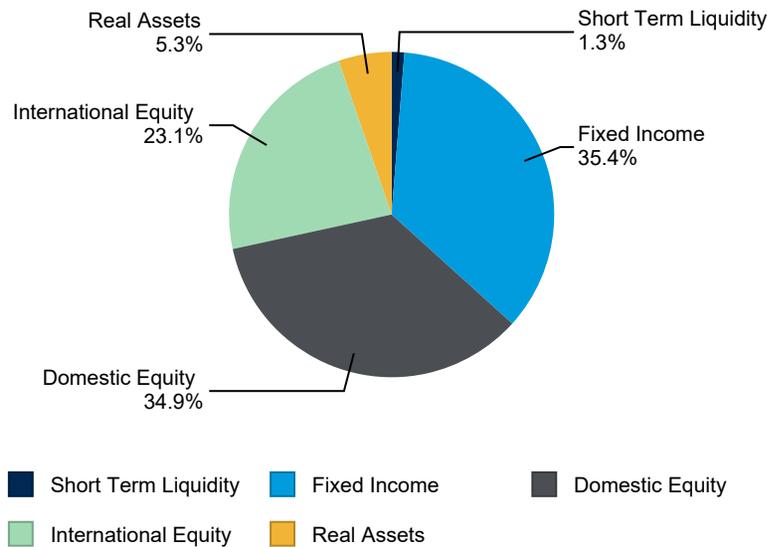
## Summary of Cash Flows

	1 Month	Fiscal YTD	YTD	1 Year
Beginning Market Value	28,456,986	27,120,509	26,338,323	27,647,468
Net Contributions	-160,500	-383,546	548,964	511,594
Gain/Loss	237,700	1,797,223	1,646,899	375,124
Ending Market Value	28,534,186	28,534,186	28,534,186	28,534,186

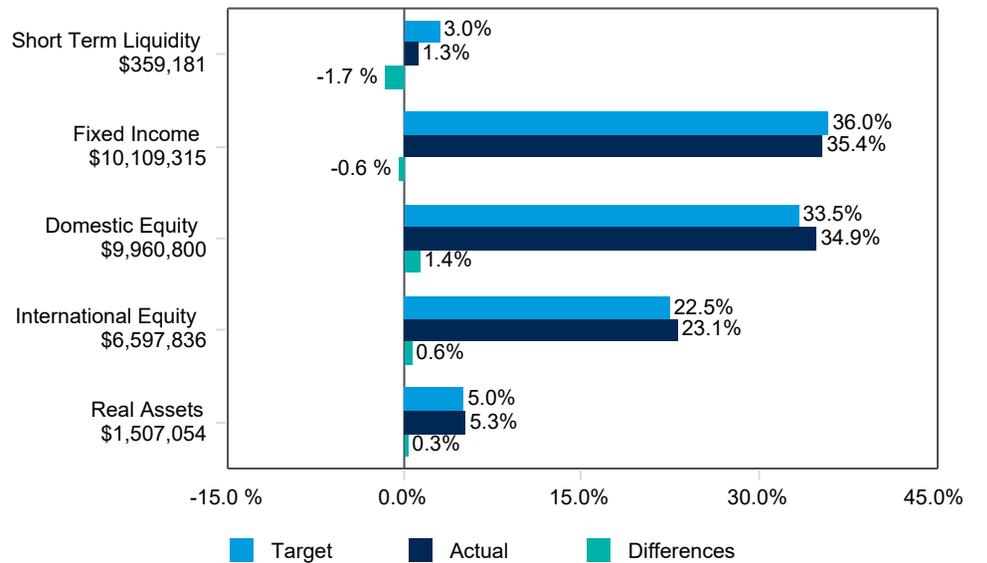
## Current Benchmark Composition

From Date	To Date	Composition
04/2022	Present	3.00% 90 Day U.S. Treasury Bill, 36.00% Blmbg. U.S. Aggregate, 21.50% S&P 500, 12.00% Russell 2000 Index, 8.50% MSCI AC World ex USA (Net), 7.50% MSCI EAFE (Net), 6.50% MSCI Emerging Markets (Net), 5.00% S&P Real Assets

## Portfolio Allocation



## Actual vs. Target Allocations





# Asset Allocation

Town of Ledyard Pension Plan

As of April 30, 2023

	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
<b>Town of Ledyard Pension Plan</b>	<b>28,534,186</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>
<b>Short Term Liquidity</b>	<b>359,181</b>	<b>1.3</b>	<b>3.0</b>	<b>-1.7</b>
Dreyfus Treasury Securities Cash Management	359,181	1.3	3.0	-1.7
<b>Fixed Income</b>	<b>10,109,315</b>	<b>35.4</b>	<b>36.0</b>	<b>-0.6</b>
Vanguard Total Bond Market Index Adm	2,374,587	8.3	8.5	-0.2
Metropolitan West Total Return Bond PI	3,175,893	11.1	11.3	-0.1
PGIM Total Return Bond R6	3,171,362	11.1	11.3	-0.1
BlackRock Strategic Income Opportunities Class K	1,387,473	4.9	5.0	-0.1
<b>Domestic Equity</b>	<b>9,960,800</b>	<b>34.9</b>	<b>33.5</b>	<b>1.4</b>
Vanguard Institutional Index Fund Instl	4,320,172	15.1	14.5	0.6
Touchstone Large Cap Focused Fund Instl	2,175,286	7.6	7.0	0.6
Neuberger Berman Genesis R6	1,713,947	6.0	6.0	0.0
William Blair Small Cap Value R6	889,686	3.1	3.0	0.1
Hood River Small Cap Growth R	861,708	3.0	3.0	0.0
<b>International Equity</b>	<b>6,597,836</b>	<b>23.1</b>	<b>22.5</b>	<b>0.6</b>
Vanguard Total International Stock Index Adm	2,456,353	8.6	8.5	0.1
T. Rowe Price Overseas Stock Instl	2,221,306	7.8	7.5	0.3
Invesco Developing Markets R6	1,920,177	6.7	6.5	0.2
<b>Real Assets</b>	<b>1,507,054</b>	<b>5.3</b>	<b>5.0</b>	<b>0.3</b>
DWS RREEF Real Assets R6	1,507,054	5.3	5.0	0.3



# Manager Performance

Town of Ledyard Pension Plan

As of April 30, 2023

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Month	Fiscal YTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Town of Ledyard Pension Plan</b>	<b>28,534,186</b>	<b>100.0</b>	<b>0.8</b>	<b>6.8</b>	<b>6.2</b>	<b>1.5</b>	<b>6.7</b>	<b>4.8</b>	<b>5.3</b>	<b>6.1</b>	<b>01/2012</b>
<i>Blended Benchmark</i>			0.7	6.1	5.4	0.7	6.3	4.5	5.0	5.8	
<b>Dreyfus Treasury Securities Cash Management</b>	<b>359,181</b>	<b>1.3</b>	<b>0.4</b>	<b>2.7</b>	<b>1.4</b>	<b>2.7</b>	<b>0.9</b>	<b>1.3</b>	<b>0.8</b>	<b>0.7</b>	<b>01/2012</b>
<i>90 Day U.S. Treasury Bill</i>			0.3	2.7	1.4	2.8	1.0	1.4	0.9	0.8	
<b>Fixed Income</b>	<b>10,109,315</b>	<b>35.4</b>	<b>0.6</b>	<b>1.0</b>	<b>3.7</b>	<b>-0.9</b>	<b>-2.5</b>	<b>1.2</b>	<b>1.7</b>	<b>2.2</b>	<b>12/2011</b>
<i>Blmbg. U.S. Aggregate</i>			0.6	0.5	3.6	-0.4	-3.1	1.2	1.3	1.7	
<b>Vanguard Total Bond Market Index Adm</b>	<b>2,374,587</b>	<b>8.3</b>	<b>0.6</b>	<b>0.6</b>	<b>3.7</b>	<b>-0.4</b>	<b>-3.2</b>	<b>1.2</b>	<b>1.3</b>	<b>1.6</b>	<b>01/2012</b>
<i>Blmbg. U.S. Aggregate</i>			0.6	0.5	3.6	-0.4	-3.1	1.2	1.3	1.6	
IM U.S. Broad Market Core Fixed Income (MF) Median			0.6	0.5	3.7	-1.0	-2.5	1.1	1.3	1.7	
Vanguard Total Bond Market Index Adm Rank			67	49	54	18	81	40	48	64	
<b>Metropolitan West Total Return Bond PI</b>	<b>3,175,893</b>	<b>11.1</b>	<b>0.6</b>	<b>0.5</b>	<b>4.2</b>	<b>-1.3</b>	<b>-2.9</b>	<b>1.4</b>	<b>1.5</b>	<b>2.4</b>	<b>04/2012</b>
<i>Blmbg. U.S. Aggregate</i>			0.6	0.5	3.6	-0.4	-3.1	1.2	1.3	1.6	
IM U.S. Broad Market Core+ Fixed Income (MF) Median			0.6	1.1	3.8	-1.2	-1.8	1.3	1.4	1.9	
Metropolitan West Total Return Bond PI Rank			54	68	18	53	86	44	41	28	
<b>PGIM Total Return Bond R6</b>	<b>3,171,362</b>	<b>11.1</b>	<b>0.8</b>	<b>1.5</b>	<b>4.0</b>	<b>-1.1</b>	<b>-1.8</b>	<b>1.3</b>	<b>2.0</b>	<b>1.7</b>	<b>04/2015</b>
<i>Blmbg. U.S. Aggregate</i>			0.6	0.5	3.6	-0.4	-3.1	1.2	1.3	1.1	
IM U.S. Broad Market Core+ Fixed Income (MF) Median			0.6	1.1	3.8	-1.2	-1.8	1.3	1.4	1.2	
PGIM Total Return Bond R6 Rank			10	30	33	47	52	47	18	20	
<b>BlackRock Strategic Income Opportunities Class K</b>	<b>1,387,473</b>	<b>4.9</b>	<b>0.4</b>	<b>1.8</b>	<b>1.9</b>	<b>-0.4</b>	<b>2.6</b>	<b>2.3</b>	<b>2.4</b>	<b>-0.9</b>	<b>04/2022</b>
<i>Blmbg. U.S. Aggregate</i>			0.6	0.5	3.6	-0.4	-3.1	1.2	1.3	-3.9	
IM Alternative Credit Focus (MF) Median			0.6	3.8	2.9	0.0	3.1	1.5	1.2	-1.6	
BlackRock Strategic Income Opportunities Class K Rank			70	70	74	61	59	27	23	40	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



# Manager Performance

Town of Ledyard Pension Plan

As of April 30, 2023

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Month	Fiscal YTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Domestic Equity</b>	<b>9,960,800</b>	<b>34.9</b>	<b>0.4</b>	<b>10.7</b>	<b>7.4</b>	<b>2.4</b>	<b>13.9</b>	<b>10.7</b>	<b>11.6</b>	<b>12.7</b>	<b>12/2011</b>
<i>Domestic Equity Benchmark</i>			0.4	9.3	6.2	0.5	13.7	9.2	10.9	12.2	
<b>Vanguard Institutional Index Fund Instl</b>	<b>4,320,172</b>	<b>15.1</b>	<b>1.6</b>	<b>11.7</b>	<b>9.2</b>	<b>2.6</b>	<b>14.5</b>	<b>11.4</b>	<b>12.2</b>	<b>13.3</b>	<b>01/2012</b>
<i>S&amp;P 500</i>			1.6	11.7	9.2	2.7	14.5	11.4	12.2	13.3	
IM U.S. Large Cap Core Equity (MF) Median			1.5	11.1	8.2	2.2	13.6	10.6	11.3	12.5	
Vanguard Institutional Index Fund Instl Rank			49	35	27	42	24	24	18	16	
<b>Touchstone Large Cap Focused Fund Instl</b>	<b>2,175,286</b>	<b>7.6</b>	<b>2.9</b>	<b>14.5</b>	<b>11.4</b>	<b>4.9</b>	<b>15.7</b>	<b>12.7</b>	<b>12.7</b>	<b>15.7</b>	<b>01/2019</b>
<i>S&amp;P 500</i>			1.6	11.7	9.2	2.7	14.5	11.4	12.2	14.4	
IM U.S. Large Cap Core Equity (MF) Median			1.5	11.1	8.2	2.2	13.6	10.6	11.3	13.5	
Touchstone Large Cap Focused Fund Instl Rank			5	7	7	12	6	5	8	6	
<b>Neuberger Berman Genesis R6</b>	<b>1,713,947</b>	<b>6.0</b>	<b>-2.5</b>	<b>8.7</b>	<b>4.4</b>	<b>4.3</b>	<b>12.2</b>	<b>8.7</b>	<b>10.1</b>	<b>10.3</b>	<b>04/2012</b>
<i>Russell 2000 Index</i>			-1.8	4.8	0.9	-3.6	11.9	4.2	7.9	8.5	
IM U.S. Small Cap Core Equity (MF) Median			-1.9	5.2	0.6	-2.2	15.3	5.0	7.9	8.4	
Neuberger Berman Genesis R6 Rank			64	18	11	5	81	4	3	5	
<b>William Blair Small Cap Value R6</b>	<b>889,686</b>	<b>3.1</b>	<b>-3.2</b>	<b>3.3</b>	<b>-1.5</b>	<b>-3.8</b>	<b>16.7</b>	<b>4.9</b>	<b>8.8</b>	<b>-5.1</b>	<b>12/2021</b>
<i>Russell 2000 Value Index</i>			-2.5	0.2	-3.1	-8.0	15.4	3.7	7.0	-9.9	
IM U.S. Small Cap Value Equity (MF) Median			-2.3	4.1	-1.7	-3.0	19.0	4.8	7.3	-5.1	
William Blair Small Cap Value R6 Rank			84	56	50	59	81	48	16	51	
<b>Hood River Small Cap Growth R</b>	<b>861,708</b>	<b>3.0</b>	<b>-1.5</b>	<b>8.6</b>	<b>4.7</b>	<b>-2.4</b>	<b>19.6</b>	<b>11.5</b>	<b>12.8</b>	<b>-16.4</b>	<b>12/2021</b>
<i>Russell 2000 Growth Index</i>			-1.2	9.4	4.8	0.7	7.8	4.0	8.4	-16.4	
IM U.S. Small Cap Growth Equity (MF) Median			-1.4	8.0	4.6	-2.2	9.8	6.6	9.2	-16.4	
Hood River Small Cap Growth R Rank			53	44	49	52	2	3	1	50	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



# Manager Performance

Town of Ledyard Pension Plan

As of April 30, 2023

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Month	Fiscal YTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>International Equity</b>	<b>6,597,836</b>	<b>23.1</b>	<b>1.7</b>	<b>12.9</b>	<b>9.9</b>	<b>6.0</b>	<b>9.1</b>	<b>2.3</b>	<b>3.8</b>	<b>4.2</b>	<b>03/2012</b>
<i>International Equity Benchmark</i>			1.3	10.5	7.9	2.1	8.9	1.9	3.7	4.0	
<b>Vanguard Total International Stock Index Adm</b>	<b>2,456,353</b>	<b>8.6</b>	<b>1.8</b>	<b>11.4</b>	<b>8.5</b>	<b>3.6</b>	<b>10.5</b>	<b>2.7</b>	<b>4.2</b>	<b>4.9</b>	<b>04/2012</b>
<i>FTSE Global All Cap ex US Spliced Index</i>			1.7	11.6	8.2	2.3	10.2	2.6	4.3	5.0	
IM International Large Cap Core Equity (MF) Median			2.5	17.0	11.2	8.0	11.1	3.2	4.1	5.0	
Vanguard Total International Stock Index Adm Rank			82	84	85	82	62	64	44	55	
<b>T. Rowe Price Overseas Stock Instl</b>	<b>2,221,306</b>	<b>7.8</b>	<b>2.6</b>	<b>15.1</b>	<b>9.8</b>	<b>6.3</b>	<b>12.0</b>	<b>3.4</b>	<b>5.1</b>	<b>3.8</b>	<b>06/2018</b>
<i>MSCI EAFE (Net)</i>			2.8	18.6	11.5	8.4	11.7	3.6	4.8	4.2	
IM International Large Cap Core Equity (MF) Median			2.5	17.0	11.2	8.0	11.1	3.2	4.1	3.6	
T. Rowe Price Overseas Stock Instl Rank			43	69	74	66	41	46	14	43	
<b>Invesco Developing Markets R6</b>	<b>1,920,177</b>	<b>6.7</b>	<b>0.6</b>	<b>12.6</b>	<b>12.0</b>	<b>8.5</b>	<b>3.3</b>	<b>-0.1</b>	<b>2.7</b>	<b>3.0</b>	<b>04/2012</b>
<i>MSCI Emerging Markets (Net)</i>			-1.1	-0.3	2.8	-6.5	4.3	-1.0	1.8	1.9	
IM Emerging Markets Equity (MF) Median			-0.8	1.8	4.0	-4.0	4.5	-0.9	1.5	1.8	
Invesco Developing Markets R6 Rank			20	4	1	3	67	36	25	23	
<b>Real Assets</b>	<b>1,507,054</b>	<b>5.3</b>	<b>1.5</b>	<b>-1.5</b>	<b>1.2</b>	<b>-9.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-11.4</b>	<b>04/2022</b>
<i>S&amp;P Real Assets</i>			1.3	2.2	3.3	-5.1	8.6	3.9	3.3	-7.8	
<b>DWS RREEF Real Assets R6</b>	<b>1,507,054</b>	<b>5.3</b>	<b>1.5</b>	<b>-1.5</b>	<b>1.2</b>	<b>-9.6</b>	<b>10.5</b>	<b>6.5</b>	<b>4.2</b>	<b>-11.4</b>	<b>04/2022</b>
<i>S&amp;P Real Assets</i>			1.3	2.2	3.3	-5.1	8.6	3.9	3.3	-7.8	

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## Portfolio Analysis



# Executive Summary

- This analysis serves as additional insight into the Town of Ledyard's pension portfolio regarding asset allocation on a go forwarded basis, fixed income portfolio observations and real assets.
- **Asset Allocation** – 2023 Capital Market Assumptions & Asset Allocation .
  - Fixed income remains an important part of a broadly diversified portfolio and can serve to temper portfolio volatility.
  - **The restoration of higher interest rates in 2022** is expected to generate higher returns for the portfolio's fixed income allocation.
  - Given the plan's 6.25% discount rate and strong funded status, the Pension Board may want to revisit the portfolio's allocation to fixed income in light of higher rates and expected returns. Based on Fiducient's modeling, a 10% increase in the portfolio's allocation to fixed income serves to deliver attractive risk adjusted returns.
- **Fixed Income Portfolio** – Stepping into Duration & Quality
  - Traditional core fixed income strategies while introducing exposure to dynamic fixed income.
    - *We would suggest further consideration to reducing the allocation to the BlackRock Strategic Income Opportunities to 2.5% and reallocating those funds to the intermediate strategies to get duration and higher credit exposure.*
- Given the current environment of inflation both domestically and abroad as well as the likelihood of Fed rate cuts portfolio **allocations to broad real assets will be important.**
  - *From a target standpoint, we would suggest modestly reducing the allocation target from 5.0% to 2.5% and using the proceeds to increase the portfolio's allocation to fixed income given the return/risk tradeoff.*

# 2023-2042 Twenty-Year Outlook



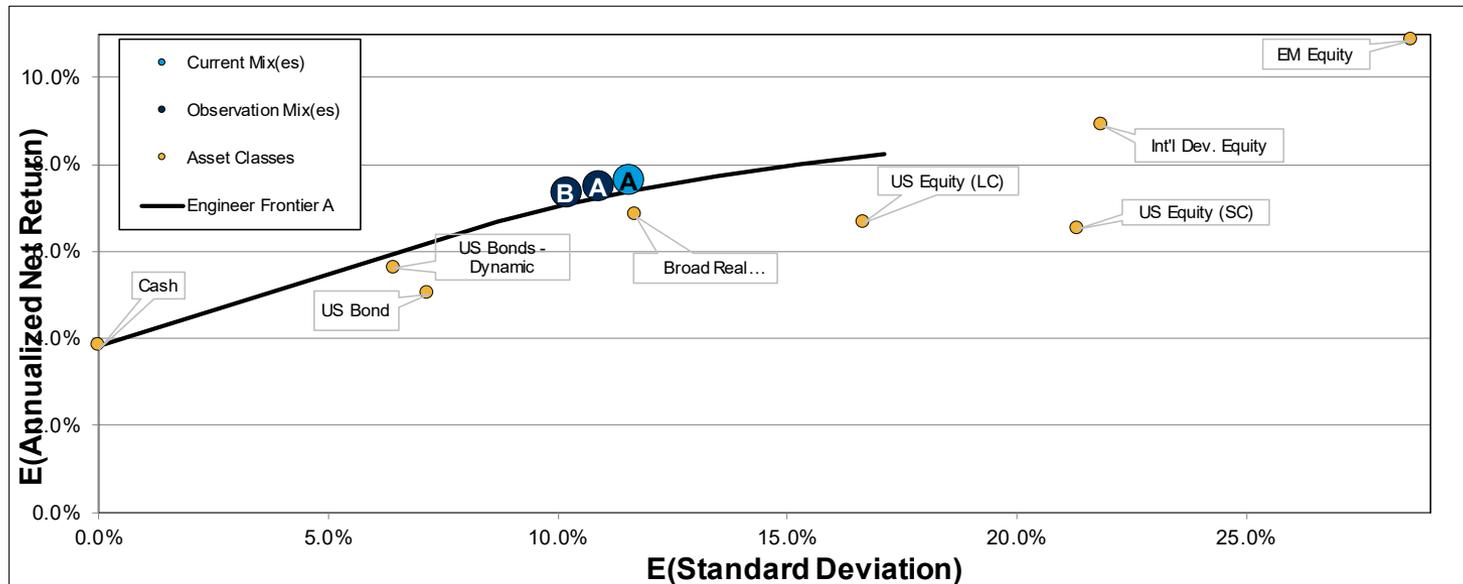
		2023	2022	Y / Y Change	
Fixed Income	<p>The 2022 pull back in fixed income was painful, but it has also sowed the seeds for opportunity going forward. Yields across many fixed income sectors are multiple times higher from year-end 2021 producing greater opportunity for meaningfully higher returns in the years to come.</p> <p>Additionally, the diversifying principles of fixed income with recharged yields makes owning fixed income and duration more compelling than it was in 2022 and doing so may add to portfolio resiliency going forward.</p>	U.S. Bonds	5.0%	2.4%	2.6%
		TIPS	4.6%	2.1%	2.5%
		Dynamic Bonds <sup>1</sup>	5.6%	2.8%	2.8%
		High Yield Bonds	7.1%	5.6%	1.5%
		Global Bonds	5.1%	2.2%	2.9%
		Muni Bond <sup>2</sup>	5.8%	2.1%	3.7%
		Muni High Yield	9.9%	5.6%	4.3%
Global Equity	<p>Our global equity outlook has improved, bolstered by more attractive valuations. U.S. valuations are near averages relative to history while International and Emerging Markets remains more attractive, but with elevated risks.</p>	U.S. All Cap	6.7%	6.8%	-0.1%
		Intl Developed Equity	8.9%	8.6%	0.3%
		Emerging Markets	10.8%	10.5%	0.3%
Real Assets & Alternatives	<p>A continued bid for inflationary assets and more attractive valuations across some subsets of assets contributed to higher forecasts.</p> <p>The opportunity set for marketable alternatives rose with more attractive valuations in both global equities and fixed income.</p>	Real Estate	6.4%	6.3%	0.1%
		Broad Real Assets <sup>3</sup>	6.8%	5.6%	1.2%
		Marketable Alts	8.1%	6.8%	1.3%
		Private Equity	9.7%	9.8%	-0.1%

1) Dynamic bonds are a blend of 33% Cash, 33% Corp HY, and 34% Global Bonds. 2) Tax Equivalent yield based on highest marginal Federal tax rate (37%). 3) Broad Real Assets is 20% REITS, 20% Global Infrastructure, 20% Commodities, 20% US Bonds, 15% Corp High Yield, 5% TIPS Outputs and opinions are as of the date referenced and are subject to change based on market or economic conditions. Information is intended for general information purposes only and does not represent any specific investment recommendation. Please consult with your advisor, attorney and accountant, as appropriate, regarding specific advice. There is no guarantee that any of these expectations will become actual results. For additional information on forecast methodologies, please speak with your advisor. Please see Index Proxy Summary slide at the end of this presentation for summary of indices used to represent each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information.



# Frontier Engineer® Analysis – Pension Discount Rate 6.25%

12/31/2022	Asset Allocation											Forecasts				Past (1/88-12/22)	
	Fixed Income	Equity	Real Assets	Cash	US Bond	US Bonds - Dynamic	US Equity (LC)	US Equity (SC)	Int'l Dev. Equity	EM Equity	Broad Real Assets	Annualized Net Return	Annualized Volatility	Normal 100 Year Flood*	Non-Normal 100 Year Flood**	Annualized Net Return	Annualized Volatility
Current Mix (A)	39%	56%	5%	3.0%	31.0%	5.0%	21.5%	12.0%	14.3%	8.3%	5.0%	7.6%	11.5%	-19%	-25%	8.0%	9.4%
Observation Mix (A)	44%	52%	4%	3%	33%	8%	21%	9%	15%	7%	4%	7.5%	10.9%	-17%	-23%	7.8%	8.7%
Observation Mix (B)	49%	47%	4%	3%	37%	9%	19%	8%	13%	6%	4%	7.3%	10.2%	-16%	-21%	7.7%	8.1%



\*The expected one in a hundred worst case calendar year return based on normally distributed capital market assumptions. Greater losses are possible (1% expected likelihood).

\*\*The expected one in a hundred worst case calendar year return based on non-normally distributed capital market assumptions (factoring in skewness & kurtosis). Greater losses are possible (1% expected likelihood).

Historical Returns and Risk Metrics for each Mix represent back-tested calculations developed with the benefit of hindsight. Return calculations use an asset-weighted methodology based on the target asset allocation of each mix and the total return of index proxies used to represent each asset class and are net of fees. Historical returns are hypothetical and do not represent returns earned by a client. It is not possible to invest in an index. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information, including index proxies used to represent each asset class. Please ask for a copy of Fiducient Advisors' white paper titled 10-Year Capital Market Forecasts. Past performance does not indicate future performance and it is possible to lose money when investing. Please refer to the Capital Markets Assumptions Slide for the hypothetical alpha and hypothetical fee inputs used in the calculation methodology.

# Town of Ledyard Pension Portfolio



Ledyard Balances				
Investment Name	Ticker	Unreconciled Balance As of: 4/30/2023	Current Allocation	Target Allocation
<i>Actual Portfolio Cash Balance</i>		\$232,319		
<i>Cash</i>				
Cash	CASH	\$357,859	1.3%	3.0%
<i>Fixed Income</i>				
		\$10,098,216	35.4%	36.0%
Vanguard Total Bond Market Index Fund Admiral Sh	VBTLX	\$2,368,820	8.3%	8.5%
Metropolitan West Total Return Bond Fund Plan	MWTSX	\$3,175,893	11.1%	11.3%
PGIM Total Return Bond Fund - Class R6	PTROX	\$3,171,362	11.1%	11.3%
BlackRock Strategic Income Opportunities K	BSIKX	\$1,382,141	4.8%	5.0%
<i>Domestic Equity</i>				
		\$9,960,800	34.9%	33.5%
Touchstone Large Cap Focused Fund CI I	SCRLX	\$2,175,286	7.6%	7.0%
Vanguard Institutional Index Fund I	VINIX	\$4,320,172	15.1%	14.5%
William Blair Small Cap Value Fund Class R6	WBVRX	\$889,686	3.1%	3.0%
Hood River Small-Cap Growth Fund	HRSIX	\$861,708	3.0%	3.0%
Neuberger Berman Equity Fds Genesis CI R6	NRGSX	\$1,713,947	6.0%	6.0%
<i>International Equity</i>				
		\$6,597,836	23.1%	22.5%
Vanguard Total International Stock Index Fund Adm	VTIAX	\$2,456,353	8.6%	8.5%
Invesco Developing Markets Fund Class R6	ODVIX	\$1,920,177	6.7%	6.5%
T. Rowe Price Overseas Stock Fund I Class	TROIX	\$2,221,306	7.8%	7.5%
<i>Real Assets</i>				
		\$1,507,054	5.3%	5.0%
DWS RREEF Real Assets R6	AAAVX	\$1,507,054	5.3%	5.0%
<b>Investment Portfolio Total</b>		<b>\$28,521,766</b>	<b>100.0%</b>	<b>100.0%</b>

Balances as of April 30<sup>th</sup>, 2023

The portfolio's fixed income allocation includes two **core plus managers** and a position in the **Vanguard Total Bond Markets Index Fund**. This is augmented with a position in **BlackRock Strategic Income Opportunities**.

The fixed income allocation will tend to reflect similar characteristics (duration, yield, credit quality) to the **Barclays Aggregate Bond Index**

The portfolio's equity allocation consists of exposure to domestic and international equities through a combination of active and passive strategies complimented by a position in **Broad Real Assets**.



# Town of Ledyard Pension Portfolio – Fixed Income Allocation

	Yield/7day yield (%)	Duration (yrs)	Target Weight	Fixed Weight	As of
Dreyfus Treasury Securities Cash Mgmt	4.43	0.04	3.0%	7.7%	31-Mar
MetWest Total Return	4.98	6.90	11.3%	28.8%	31-Mar
PGIM Total Return	6.49	6.30	11.3%	28.8%	31-Mar
Vanguard Total Bond Market	4.35	6.60	8.5%	21.8%	31-Mar
BlackRock SIO	6.10	2.95	5.0%	12.8%	31-Mar
<b>Weighted Average/Totals</b>	<b>5.38</b>	<b>5.63</b>	<b>39.00%</b>	<b>100.0%</b>	
Bloomberg Agg	4.40	6.33			

- **Fixed Income Portfolio**

- Portfolio of consists of core and core plus fixed income strategies with an allocation to dynamic fixed income which can serve to hedge against rising interest rates.
- Going forward, we would maintain the current roster of managers but suggest a modest tilt back to longer duration, intermediate core plus managers and higher credit quality within the Aggregate Bond Index.
  - *We would suggest further consideration to reducing the allocation to the BlackRock Strategic Income Opportunities to 2.5% and reallocating those funds to the intermediate duration strategies.*

# Town of Ledyard Pension Portfolio – Cash Flow Worksheet



## Ledyard

### Trade Recommendation Worksheet

Objective : 1. Reduce the allocation to BlackRock from 5% - 2.5% and reduce real asset exposure from 5% - 2.5% and reallocate proceeds to Met West, Vanguard, and PGIM.  
2. Initiate a 4 quarter reallocation reducing equities by 10% to fixed income.

Investment Name	Account Number	Ticker	CUSIP	Liquidity	Unreconciled Balance As of: 5/10/2023	Current Allocation	Target Allocation	Proposed Target Allocation	Trade Amount Initial Reallocation	DCA Step 1 Trade Amount June 2023	DCA Step 2 Trade Amount September 2023	DCA Step 3 Trade Amount December 2023	DCA Step 4 Trade Amount March 2024	Resulting Balances	Resulting Allocation
<i>Actual Portfolio Cash Balance</i>					\$232,319			0.0%							
<i>Cash</i>					\$232,319	0.8%	3.0%	3.0%	\$0	\$150,000	\$150,000	\$150,000	\$150,000	\$832,319	3.0%
Cash	WTC520800	CASH			\$232,319	0.8%	3.0%	3.0%	\$0	\$150,000	\$150,000	\$150,000	\$150,000	\$832,319	3.0%
<i>Fixed Income</i>					\$10,045,171	35.6%	36.0%	48.5%	\$775,000	\$710,000	\$710,000	\$710,000	\$710,000	\$13,660,171	48.4%
Vanguard Total Bond Market Index Fund Admiral Shares	WTC520800	VBTLX	921937603	T+1	\$2,357,521	8.4%	8.5%	13.0%	\$475,000	\$210,000	\$210,000	\$210,000	\$210,000	\$3,672,521	13.0%
Metropolitan West Total Return Bond Fund Plan	WTC520800	MWTSX	592905764	T+1	\$3,154,040	11.2%	11.3%	16.5%	\$500,000	\$250,000	\$250,000	\$250,000	\$250,000	\$4,654,040	16.5%
PGIM Total Return Bond Fund - Class R6	WTC520800	PTRQX	744408884	T+1	\$3,147,636	11.2%	11.3%	16.5%	\$500,000	\$250,000	\$250,000	\$250,000	\$250,000	\$4,647,636	16.5%
BlackRock Strategic Income Opportunities K	WTC520800	BSIKX	092608374	T+1	\$1,385,973	4.9%	5.0%	2.5%	(\$700,000)	\$0	\$0	\$0	\$0	\$685,973	2.4%
<i>Domestic Equity</i>					\$9,827,248	34.8%	33.5%	28.0%	\$0	(\$480,000)	(\$480,000)	(\$480,000)	(\$480,000)	\$7,907,248	28.0%
Touchstone Large Cap Focused Fund Cl I	WTC520800	SCRLX	89154Q273	T+1	\$2,144,602	7.6%	7.0%	6.0%	\$0	(\$110,000)	(\$110,000)	(\$110,000)	(\$110,000)	\$1,704,602	6.0%
Vanguard Institutional Index Fund I	WTC520800	VINIX	922040100	T+1	\$4,269,194	15.1%	14.5%	12.0%	\$0	(\$220,000)	(\$220,000)	(\$220,000)	(\$220,000)	\$3,389,194	12.0%
William Blair Small Cap Value Fund Class R6	WTC520800	WBVRX	969251461	T+1	\$865,235	3.1%	3.0%	2.5%	\$0	(\$40,000)	(\$40,000)	(\$40,000)	(\$40,000)	\$705,235	2.5%
Hood River Small-Cap Growth Fund	WTC520800	HRSIX	56170L505	T+1	\$857,504	3.0%	3.0%	2.5%	\$0	(\$40,000)	(\$40,000)	(\$40,000)	(\$40,000)	\$697,504	2.5%
Neuberger Berman Equity Fds Genesis Cl R6	WTC520800	NRGSX	64122Q531	T+1	\$1,690,712	6.0%	6.0%	5.0%	\$0	(\$70,000)	(\$70,000)	(\$70,000)	(\$70,000)	\$1,410,712	5.0%
<i>International Equity</i>					\$6,602,912	23.4%	22.5%	18.0%	\$0	(\$380,000)	(\$380,000)	(\$380,000)	(\$380,000)	\$5,082,912	18.0%
Vanguard Total International Stock Index Fund Admiral Shs	WTC520800	VTIAX	921909818	T+1	\$2,460,424	8.7%	8.5%	7.0%	\$0	(\$120,000)	(\$120,000)	(\$120,000)	(\$120,000)	\$1,980,424	7.0%
Invesco Developing Markets Fund Class R6	WTC520800	ODVIX	00143W859	T+1	\$1,913,796	6.8%	6.5%	5.0%	\$0	(\$125,000)	(\$125,000)	(\$125,000)	(\$125,000)	\$1,413,796	5.0%
T. Rowe Price Overseas Stock Fund I Class	WTC520800	TROIX	77956H435	T+1	\$2,228,692	7.9%	7.5%	6.0%	\$0	(\$135,000)	(\$135,000)	(\$135,000)	(\$135,000)	\$1,688,692	6.0%
<i>Real Assets</i>					\$1,492,486	5.3%	5.0%	2.5%	(\$775,000)	\$0	\$0	\$0	\$0	\$717,486	2.5%
DWS RREEF Real Assets R6	WTC520800	AAAVX	25159K713	T+1	\$1,492,486	5.3%	5.0%	2.5%	(\$775,000)	\$0	\$0	\$0	\$0	\$717,486	2.5%
<b>Investment Portfolio Total</b>					<b>\$28,200,136</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$28,200,136</b>	<b>100.0%</b>

# Definitions & Disclosures

Please note: Due to rounding methodologies of various data providers, certain returns in this report might differ slightly when compared to other sources

## REGULATORY DISCLOSURES

**Offer of ADV Part 2A:** Rule 204-3 under the Investment Advisers Act of 1940 requires that we make an annual offer to clients to send them, without charge, a written disclosure statement meeting the requirements of such rule. We will be glad to send a copy of our ADV Part 2A to you upon your written request to [compliance@fiducient.com](mailto:compliance@fiducient.com).

## INDEX DEFINITIONS

- **Citigroup 3 Month T-Bill** measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.
- **Ryan 3 Yr. GIC** is an arithmetic mean of market rates of \$1 million Guaranteed Interest Contracts held for three years.
- **Bloomberg Treasury U.S. T-Bills-1-3 Month Index** includes aged U.S. Treasury bills, notes and bonds with a remaining maturity from 1 up to (but not including) 3 months. It excludes zero coupon strips.
- **Bloomberg Capital US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg Muni 1 Year Index** is the 1-year (1-2) component of the Municipal Bond index.
- **Bloomberg Muni 3 Year Index** is the 3-year (2-4) component of the Municipal Bond index.
- **Bloomberg Muni 5 Year Index** is the 5-year (4-6) component of the Municipal Bond index.
- **Bloomberg Muni 7 Year Index** is the 7-year (6-8) component of the Municipal Bond index.
- **Bloomberg Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- **Bloomberg U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **JP Morgan Government Bond Index-Emerging Market (GBI-EM) Index** is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.
- **The S&P 500** is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **The Dow Jones Industrial Index** is a price-weighted average of 30 blue-chip stocks that are generally the leaders in their industry.
- **The NASDAQ** is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
- **Russell 3000** is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 1000** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2500** consists of the 2,500 smallest U.S. companies in the Russell 3000 index.
- **Russell 2500 Growth** measures the performance of the Russell 2500 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2500 Value** measures the performance of those Russell 2500 companies with lower P/B ratios and lower forecasted growth values.
- **MSCI World** captures large and mid-cap representation across 23 Developed Markets countries. With 1,645 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across 22 of 23 Developed Markets countries (excluding the United States) and 23 Emerging Markets countries. With 1,859 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.
- **MSCI ACWI (All Country World Index) ex. U.S. Small Cap Index** captures small cap representation across 22 of 23 Developed Markets countries (excluding the US) and 23 Emerging Markets countries. With 4,368 constituents, the index covers approximately 14% of the global equity opportunity set outside the US.
- **MSCI EAFE** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. With 930 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

- **MSCI EAFE Value** captures large and mid-cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. With 507 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI EAFE Growth** captures large and mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend. With 542 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI Emerging Markets** captures large and mid-cap representation across 23 Emerging Markets countries. With 836 constituents, the index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **Consumer Price Index** is a measure of prices paid by consumers for a market basket of consumer goods and services. The yearly (or monthly) growth rates represent the inflation rate.
- **FTSE NAREIT Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- **S&P Developed World Property** defines and measures the investable universe of publicly traded property companies domiciled in developed markets. The companies in the index are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **S&P Developed World Property x U.S.** defines and measures the investable universe of publicly traded property companies domiciled in developed countries outside of the U.S. The companies included are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **Fund Specific Broad Real Asset Benchmarks:**
  - **DWS Real Assets:** 30%: Dow Jones Brookfield Infrastructure Index, 30%: FTSE EPRA/NAREIT Developed Index, 15%: Bloomberg Commodity Index, 15%: S&P Global Natural Resources Index, 10%: U.S. Treasury Inflation Notes Total Return Index
  - **PIMCO Inflation Response Multi Asset Fund:** 45% Bloomberg U.S. TIPS, 20% Bloomberg Commodity Index, 15% JP Morgan Emerging Local Markets Plus, 10% Dow Jones Select REIT, 10% Bloomberg Gold Subindex Total Return
  - **Principal Diversified Real Assets:** 35% BbgBarc U.S. Treasury TIPS Index, 20% S&P Global Infrastructure Index NTR, 20% S&P Global Natural Resources Index NTR, 15% Bloomberg Commodity Index, and 10% FTSE EPRA/NAREIT Developed Index NTR
  - **Wellington Diversified Inflation H:** 50% MSCI ACWI Commodity Producers Index, 25% Bloomberg Commodity Index, and 25% Bloomberg Bloomberg US TIPS 1 – 10 Year Index
- **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- **HFRI Fund Weighted Composite Index** is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
- **The Alerian MLP Index** is the leading gauge of energy Master Limited Partnerships (MLPs). The float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.
- **The Adjusted Alerian MLP Index** is commensurate with 65% of the monthly returns of the Alerian MLP Index to incorporate the effect of deferred tax liabilities incurred by MLP entities.
- **Cambridge Associates U.S. Private Equity Index** is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.
- **Cambridge Associates U.S. Venture Capital Index** is based on data compiled from over 1,600 institutional-quality venture capital funds formed between 1986 and 2015.
- **Vanguard Spliced Bloomberg US1-5Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 1–5 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 1–5 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US5-10Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 5–10 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 5–10 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Agg Flt Adj Index:** Bloomberg U.S. Aggregate Bond Index through December 31, 2009; Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Long Gov/Cr Flt Adj Index:** Bloomberg U.S. Long Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. Long Government/Credit Float Adjusted Index thereafter.
- **Vanguard Balanced Composite Index:** Made up of two unmanaged benchmarks, weighted 60% Dow Jones U.S. Total Stock Market Index (formerly the Dow Jones Wilshire 5000 Index) and 40% Bloomberg U.S. Aggregate Bond Index through May 31, 2005; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Bond Index through December 31, 2009; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index through January 14, 2013; and 60% CRSP US Total Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Intermediate-Term Tax-Exempt Index:** Bloomberg 1–15 Year Municipal Bond Index.
- **Vanguard Spliced Extended Market Index:** Dow Jones Wilshire 4500 Index through June 17, 2005; S&P Transitional Completion Index through September 16, 2005; S&P Completion Index thereafter.
- **Vanguard Spliced Value Index:** S&P 500 Value Index (formerly the S&P 500/Barra Value Index) through May 16, 2003; MSCI US Prime Market Value Index through April 16, 2013; CRSP US Large Cap Value Index thereafter.
- **Vanguard Spliced Large Cap Index:** Consists of MSCI US Prime Market 750 Index through January 30, 2013, and the CRSP US Large Cap Index thereafter.
- **Vanguard Spliced Growth Index:** S&P 500 Growth Index (formerly the S&P 500/Barra Growth Index) through May 16, 2003; MSCI US Prime Market Growth Index through April 16, 2013; CRSP US Large Cap Growth Index thereafter.
- **Vanguard Spliced Mid Cap Value Index:** MSCI US Mid Cap Value Index through April 16, 2013; CRSP US Mid Cap Value Index thereafter.
- **Vanguard Spliced Mid Cap Index:** S&P MidCap 400 Index through May 16, 2003; the MSCI US Mid Cap 450 Index through January 30, 2013; and the CRSP US Mid Cap Index thereafter.
- **Vanguard Spliced Mid Cap Growth Index:** MSCI US Mid Cap Growth Index through April 16, 2013; CRSP US Mid Cap Growth Index thereafter.
- **Vanguard Spliced Total Stock Market Index:** Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.
- **Vanguard Spliced Small Cap Value Index:** SmallCap 600 Value Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Value Index through April 16, 2013; CRSP US Small Cap Value Index thereafter.

- **Vanguard Spliced Small Cap Index:** Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index through January 30, 2013; and the CRSP US Small Cap Index thereafter.
- **Vanguard Spliced Small Cap Growth Index:** S&P SmallCap 600 Growth Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Growth Index through April 16, 2013; CRSP US Small Cap Growth Index thereafter.
- **Vanguard Spliced Total International Stock Index:** Consists of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index through December 15, 2010; the MSCI ACWI ex USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Developed Markets Index:** MSCI EAFE Index through May 28, 2013; FTSE Developed ex North America Index through December 20, 2015; FTSE Developed All Cap ex US Transition Index through May 31, 2016; FTSE Developed All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Emerging Markets Index:** Select Emerging Markets Index through August 23, 2006; MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; and FTSE Emerging Markets All Cap China A Transition Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard REIT Spliced Index:** MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

#### **Additional:**

- Equity sector returns are calculated by Russell and MSCI for domestic and international markets, respectively. MSCI sector definitions correspond to the MSCI GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country returns are calculated by MSCI and are free float-adjusted market capitalization indices that are designed to measure equity market performance in each specific country.
- Currency returns are calculated using Bloomberg's historical spot rate indices and are calculated using the U.S. dollar as the base currency.
- The Index of Leading Economic Indicators, calculated by The Conference Board, is used as a barometer of economic activity over a range of three to six months. The index is used to determine the direction and stability of the economy. The composite index of leading indicators, which is derived from 10 leading indicators, helps to signal turning points in the economy and forecast economic cycles. The leading indicators are the following: average weekly hours, average weekly initial claims, manufacturers' new orders, both consumer and non-defense capital goods, vendor performance, building permits, stock prices, money supply (M2), the interest rate spread and the index of consumer expectations.
- S&P Target Date Indexes are constructed using a survey method of current target date investments with \$100 million or more in assets under management. Allocations for each vintage are comprised of exchange-traded funds that represent respective asset classes used in target date portfolios. The indexes are designed to represent a market consensus glide path.

#### **DEFINITION OF KEY STATISTICS AND TERMS**

- **Returns:** A percentage figure used when reporting historical average compounded rate of investment return. All returns are annualized if the period for which they are calculated exceeds one year.
- **Universe Comparison:** The universe compares the fund's returns to a group of other investment portfolios with similar investment strategies. The returns for the fund, the index and the universe percentiles are displayed. A percentile ranking of 1 is the best, while a percentile ranking of 100 is the worst. For example, a ranking of 50 indicates the fund outperformed half of the universe. A ranking of 25 indicates the fund was in the top 25% of the universe, outperforming 75%.
- **Returns In Up/Down Markets:** This measures how the fund performed in both up and down markets. The methodology is to segregate the performance for each time period into the quarters in which the market, as defined by the index, was positive and negative. Quarters with negative index returns are treated as down markets, and quarters with positive index returns are treated as up markets. Thus, in a 3 year or 12 quarter period, there might be 4 down quarters and 8 up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the down quarters. The up market capture ratio is the ratio of the fund's return in up markets to the index. The down market capture ratio is the ratio of the fund's return in down markets to the index. Ideally, the fund would have a greater up market capture ratio than down market capture ratio.
- **Standard Deviation:** Standard deviation is a statistical measure of the range of performance within which the total returns of a fund fall. When a fund has a high standard deviation, the range of performance is very wide, meaning there is a greater volatility. Approximately 68% of the time, the total return of any given fund will differ from the average total return by no more than plus or minus the standard deviation figure. Ninety-five percent of the time, a fund's total return will be within a range of plus or minus two times the standard deviation from the average total return. If the quarterly or monthly returns are all the same the standard deviation will be zero. The more they vary from one another, the higher the standard deviation. Standard deviation can be misleading as a risk indicator for funds with high total returns because large positive deviations will increase the standard deviation without a corresponding increase in the risk of the fund. While positive volatility is welcome, negative is not.
- **R-Squared:** This reflects the percentage of a fund's movements that are explained by movements in its benchmark index. An R-squared of 100 means that all movements of a fund are completely explained by movements in the index. Conversely, a low R-squared indicates very few of the fund's movements are explained by movements in the benchmark index. R-squared can also be used to ascertain the significance of a particular beta. Generally, a higher R-squared will indicate a more reliable beta figure. If the R-squared is lower, then the beta is less relevant to the fund's performance. A measure of diversification, R-squared indicates the extent to which fluctuations in portfolio returns are explained by market. An R-squared = 0.70 implies that 70% of the fluctuation in a portfolio's return is explained by the fluctuation in the market. In this instance, overweighting or underweighting of industry groups or individual securities is responsible for 30% of the fund's movement.
- **Beta:** This is a measure of a fund's market risk. The beta of the market is 1.00. Accordingly, a fund with a 1.10 beta is expected to perform 10% better than the market in up markets and 10% worse than the market in down markets. It is important to note, however, a low fund beta does not imply the fund has a low level of volatility; rather, a low beta means only that the fund's market-related risk is low. Because beta analyzes the market risk of a fund by showing how responsive the fund is to the market, its usefulness depends on the degree to which the markets determine the fund's total risk (indicated by R-squared).
- **Alpha:** The Alpha is the nonsystematic return, or the return that can't be attributed to the market. It can be thought of as how the manager performed if the market's return was zero. A positive alpha implies the manager added value to the return of the portfolio over that of the market. A negative alpha implies the manager did not contribute any value over the performance of the market.
- **Sharpe Ratio:** The Sharpe ratio is the excess return per unit of total risk as measured by standard deviation. Higher numbers are better, indicating more return for the level of risk experienced. The ratio is a fund's return minus the risk-free rate of return (30-day T-Bill rate) divided by the fund's standard deviation. The higher the Sharpe ratio, the more reward you are receiving per unit of total risk. This measure can be used to rank the performance of mutual funds or other portfolios.
- **Treynor Ratio:** The Treynor ratio measures returns earned in excess of that which could have been earned on a riskless investment per each unit of market risk. The ratio relates excess return over the risk-free rate to the additional risk taken; however, systematic risk is used instead of total risk. The Treynor ratio is similar to the Sharpe ratio, except in the fact that it uses the beta to evaluate the returns rather than the standard deviation of portfolio returns. High values mean better return for risk taken.

- **Tracking Error:** Tracking error measures the volatility of the difference in annual returns between the manager and the index. This value is calculated by measuring the standard deviation of the difference between the manager and index returns. For example, a tracking error of +/- 5 would mean there is about a 68% chance (1 standard deviation event) that the manager's returns will fall within +/- 5% of the benchmark's annual return.
- **Information Ratio:** The information ratio is a measure of the consistency of excess return. This value is determined by taking the annualized excess return over a benchmark (style benchmark by default) and dividing it by the standard deviation of excess return.
- **Consistency:** Consistency shows the percent of the periods the fund has beaten the index and the percent of the periods the index has beat the fund. A high average for the fund (e.g., over 50) is desirable, indicating the fund has beaten the index frequently.
- **Downside Risk:** Downside risk is a measure similar to standard deviation but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the product.
- **M-Squared:** M-squared, or the Modigliani risk-adjusted performance measure is used to characterize how well a portfolio's return rewards an investor for the amount of risk taken, relative to that of some benchmark portfolio and to the risk-free rate.

#### DEFINITION OF KEY PRIVATE EQUITY TERMS

- **PIC (Paid in Capital):** The amount of committed capital that has been transferred from the limited partner to the general partner.
- **TVPI (Total Value to Paid in Capital):** Money returned to limited partners plus the fund's unrealized investments, divided by money paid-in to the partnership. The TVPI should equal RVPI plus DPI.
- **DPI (Distribution to Paid In Capital):** Money returned (distributions) to limited partners divided by money paid in to the partnership. Also called cash-on-cash multiple.
- **RVPI (Residual Value to Paid In Capital):** The value of a fund's unrealized investments divided by money paid-in to the partnership.
- **Internal rate of return (IRR):** This is the most appropriate performance benchmark for private equity investments. It is a time-weighted return expressed as a percentage. IRR uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount.
- **Commitment:** Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time. The fund records this as the limited partnership's capital commitment. The sum of capital commitments is equal to the size of the fund.
- **Capital Distribution:** These are the returns that an investor in a private equity fund receives. It is the income and capital realized from investments less expenses and liabilities. Once a limited partner has had their cost of investment returned, further distributions are actual profit. The partnership agreement determines the timing of distributions to the limited partner. It will also determine how profits are divided among the limited partners and general partner.
- **Carried Interest:** The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund.
- **Co-Investment:** Co-Investments are minority investments made alongside a private equity investor in an LBO, a recapitalization, or an expansion capital transaction. It is a passive, non-controlling investment, as the private equity firm involved will typically exercise control and perform monitoring functions.
- **General Partner (GP):** This can refer to the top-ranking partners at a private equity firm as well as the firm managing the private equity fund.
- **GP Commitments:** It is normal practice for the GP managing a private equity fund to also make a financial commitment to the fund on the same basis as the LPs in the fund, and this is seen as an important factor driving the alignment of GP and LP interests. The historic benchmark for GP commitments has been 1% of the total fund size, but this is by no means universal, and many GPs commit significantly larger amounts. Furthermore, there has been a marked trend towards GPs making larger commitments to their funds over recent years.
- **Leveraged Buy-Out (LBO):** The acquisition of a company using debt and equity finance.
- **Limited Partner (LP):** Institutions or high-net-worth individuals/sophisticated investors that contribute capital to a private equity fund.
- **Public Market Equivalent (PME):** Performance measure used to evaluate performance relative to the market. It is calculated as the ratio of the discounted value of the LP's inflows divided by the discounted value of outflows, with the discounting performed using realized market returns.
- **Primaries:** An original investment vehicle that invests directly into a company or asset.

#### VALUATION POLICY

Fiducient Advisors does not engage an independent third-party pricing service to value securities. Our reports are generated using the security prices provided by custodians used by our clients. Our custodial pricing hierarchy is available upon request. If a client holds a security not reported by the first custodian within the hierarchy, the valuation is generated from the next custodian within the hierarchy, and so forth. Each custodian uses pricing services from outside vendors, where the vendors may generate nominally different prices. Therefore, this report can reflect minor valuation differences from those contained in a custodian's report. In rare instances where FA overrides a custodial price, prices are taken from Bloomberg.

#### REPORTING POLICY

This report is intended for the exclusive use of the client listed within the report. Content is privileged and confidential. Any dissemination or distribution is strictly prohibited. Information has been obtained from a variety of sources believed to be reliable though not independently verified. Any forecast represents median expectations and actual returns, volatilities and correlations will differ from forecasts. Please note each client has customized investment objectives and constraints and the investment strategy for each portfolio is based on a client-specific asset allocation model. Past performance does not indicate future performance and there is a possibility of a loss. Performance calculated net of investment fees. Certain portfolios presented may be gross of Fiducient Advisors' fees and actual performance would be reduced by investment advisory fees. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice.

Custodian reports are the reports that govern the account. There will be different account values between Fiducient Advisors' reports and the custodian reports based on whether the report utilizes trade date or settlement date to calculate value. Additionally, difference between values contained on reports may be caused by different accrued income values. Any forecasts represent future expectations and actual returns, volatilities and correlations will differ from forecasts. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice. Past performance does not indicate future performance and there is a possibility of a loss.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Unless specified otherwise, all returns are net of individual manager fees, represent total returns and are annualized for periods greater than one year. The deduction of fees produces a compounding effect that reduces the total rate of return over time. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) \$1,000,000 investment, (c) portfolio return of 8% a year, and (d) 0.50% annual investment advisory fee would be \$5,228 in the first year, and cumulative effects of \$30,342 over five years and \$73,826 over ten years. Additional information on advisory fees charged by Fiducient Advisors are described in Part 2 of the Form ADV.

## **MATERIAL RISKS & LIMITATIONS**

**Fixed Income** securities are subject to interest rate risks, the risk of default and liquidity risk. U.S. investors exposed to non-U.S. fixed income may also be subject to currency risk and fluctuations.  
-Liability Driven Investing (LDI) Assets

**Cash** may be subject to the loss of principal and over longer period of time may lose purchasing power due to inflation.  
-Short Term Liquidity

**Domestic Equity** can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry factors, or other macro events. These may happen quickly and unpredictably.

**International Equity** can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry impacts, or other macro events. These may happen quickly and unpredictably. International equity allocations may also be impact by currency and/or country specific risks which may result in lower liquidity in some markets.

**Real Assets** can be volatile and may include asset segments that may have greater volatility than investment in traditional equity securities. Such volatility could be influenced by a myriad of factors including, but not limited to overall market volatility, changes in interest rates, political and regulatory developments, or other exogenous events like weather or natural disaster.

**Private Equity** involves higher risk and is suitable only for sophisticated investors. Along with traditional equity market risks, private equity investments are also subject to higher fees, lower liquidity and the potential for leverage that may amplify volatility and/or the potential loss of capital.

**Private Credit** involves higher risk and is suitable only for sophisticated investors. These assets are subject to interest rate risks, the risk of default and limited liquidity. U.S. investors exposed to non-U.S. private credit may also be subject to currency risk and fluctuations.

**Private Real Estate** involves higher risk and is suitable only for sophisticated investors. Real estate assets can be volatile and may include unique risks to the asset class like leverage and/or industry, sector or geographical concentration. Declines in real estate value may take place for a number of reasons including, but are not limited to economic conditions, change in condition of the underlying property or defaults by the borrow.

**Marketable Alternatives** involves higher risk and is suitable only for sophisticated investors. Along with traditional market risks, marketable alternatives are also subject to higher fees, lower liquidity and the potential for leverage that may amplify volatility or the potential for loss of capital. Additionally, short selling involved certain risks including, but not limited to additional costs, and the potential for unlimited loss on certain short sale positions.

## **OTHER**

By regulation, closed-end funds utilizing debt for leverage must report their interest expense, as well as their income tax expense, as part of their total expense ratio. To make for a useful comparison between closed-end funds and both open-end funds and exchange-traded funds, adjusted expense ratios excluding interest and income tax expenses are utilized for closed-end funds within this report. See disclosure on closed-end fund fact sheets for information regarding the total expense ratio of each closed-end fund.

Please advise us of any changes in your objectives or circumstances.

## **CUSTODIAN STATEMENTS**

Please remember to review the periodic statements you receive from you custodian. If you do not receive periodic statements from your custodian or notice issues with the activity reported in those statements, please contact FA or your custodian immediately.