

Ledyard, CT

Quarterly Investment Review - Fourth 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

- Blog: Trends in Corporate Retirement Plan Offerings
- Blog: Public Plans Rally in Fiscal Year 2023

Coming Soon

- Pension Pulse Newsletter
- Plan Sponsor Newsletter
- Annual Target Date Update

Endowments & Foundations

Featured Insights

 Nonprofit Investment Stewards Podcast

Coming Soon

- Cultural Institutions Study
- Steward Newsletter
- Mission-Aligned Investing Update

The Wealth Office®

Featured Insights

- 2024 Financial Planning Guide
- Blog: 10 Crucial Steps to Take After Identity Theft
- Blog: Take Control of Your Finances:
 Essential Year-End Planning Opportunities

Coming Soon

Financial Planning Considerations
 Webcast

Research Insights

- Monthly Market Recaps
- Monthly Market Updates
- 2024 Outlook Prepare Not Predict
- Essential Economic Update Webcast
- Fiducient Speaker Series: Private Markets Update

Firm News

- On December 19, 2023, Fiducient Advisor's joint-venture partner, NFP, signed an agreement to be acquired by Aon. Post close, NFP will be a wholly owned subsidiary and an independent but connected platform within Aon.
- We anticipate no changes in services or service team.
- The transaction is subject to customary regulatory approvals.





2024 Investor Conference

Chicago Marriott Downtown
Magnificent Mile
September 26

New Associates – Welcome!

Catherine GuanciConsulting Analyst

Liam McLaughlin Consulting Analyst **Zhee Sarabia**Consultant

BethAnn Woolcock Senior RFP Specialist

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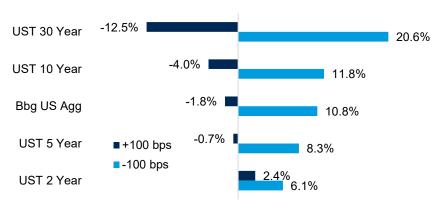
Capital Markets Overview



- The "Recession of 2023" that was widely forecasted failed to materialize. This does not mean we are out of the woods on recession, but trying to time it is a fool's errand. A focus on constructing a resilient portfolio is one of the most effective ways to prepare.
- 2. Inflation has moderated, but likely remains in a "messy middle" range of 2% to 5%. Softer inflation and the current environment affords some room for a pause or even easing by the Fed if warranted.
- 3. The narrow market leadership of U.S. technology stocks during 2023 has created potential opportunities in other segments such as U.S. small cap and non-U.S. equities.

Potential Impact of +/- 1% Move in Interest Rates

Rangebound inflation increases the probability of rates moving lower. This creates an attractive risk/reward for intermediate duration fixed income.



Source: FactSet as of December 31, 2023. Total potential return based on a parallel move in interest rates up or down by 100 basis points. Data based on respective Bloomberg Bellwether Treasury Indices and Bloomberg US Agg Bond Index.

Indices cannot be invested in directly.

Preparing Not Predicting - Frequency of Market Events Since 1950

Market volatility and recessions are a normal part of investing. Recessions, on average, since 1980 occur every six and a half years. As long-term investors we should not seek to predict and avoid them, but prepare for their inevitable arrival.

Environment	-5% or more	-10% or more	-15% or more	-20% or more	Recession ¹
Average Frequency	About 3 times per year	About 1 time per year	About every 3 years	About every 6 years	About every 6.5 years
Average Length	43 days	109 days	251 days	370 days	317 days

Source: Capital Group. 1) National Bureau of Economic Research as of May 2022.

S&P 500 vs S&P 500 Equal Weight Valuations

Concentrated leadership of the Magnificent 7, which on average were up over 100% in 2023, was the driver of U.S. large cap returns and pushed valuations higher. The valuation spread between the market cap and equal weight S&P 500 is one of the highest seen in the last 15 years.



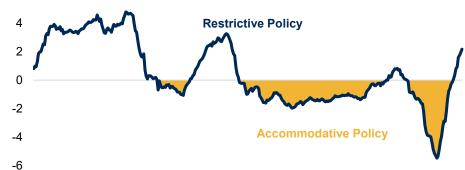
Source: FactSet. As of December 31, 2023.

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.

Economic Review

Real U.S. Federal Funds Rate

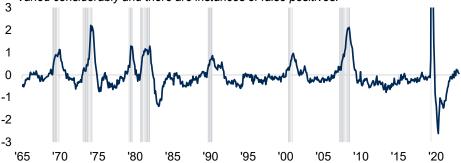
On a real basis, the Fed moved into restrictive policy territory in April 2023. Even with the market implied rate cuts this year, at current inflation levels, the central bank's policy rate would remain restrictive.



Sources: FactSet, Federal Reserve, BEA. As of November 30, 2023. Real federal funds rate is the effective rate minus the 12-month core PCE inflation rate.

U.S. Unemployment vs. 12-Month Moving Average

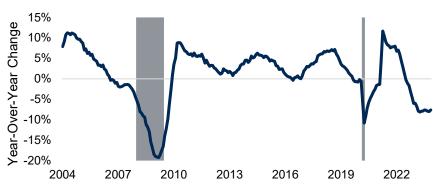
The U.S. labor market remains on solid foundation. However, the current level of unemployment is above the 12-month moving average. This has historically preceded a period of economic weakness; however, the timing of the onset has varied considerably and there are instances of false positives.



Sources: FactSet, BLS. As of December 31, 2023. Data is monthly U.S. unemployment rate less the 12 month moving average of the U.S. unemployment rate. Note, axis scale cuts off the extreme values in April and May of 2020,10.3 and 7.9 respectively. Grey bars indicate U.S. recession.

U.S. Leading Economic Indicator Index

While some economic data remains positive the LEI Index has remained in negative territory since July 2022 signaling the potential for an economic slowdown.



Sources: FactSet, Conference Board, ECRI. As of November 30, 2023. Grey bars indicate recession period.

U.S. Manufacturing and Services PMI Levels

While the manufacturing sector has been in contraction territory (below 50), the services sector has remained resilient. Personal consumption expenditures on services represent 45% of GDP, while goods account for just 23%.

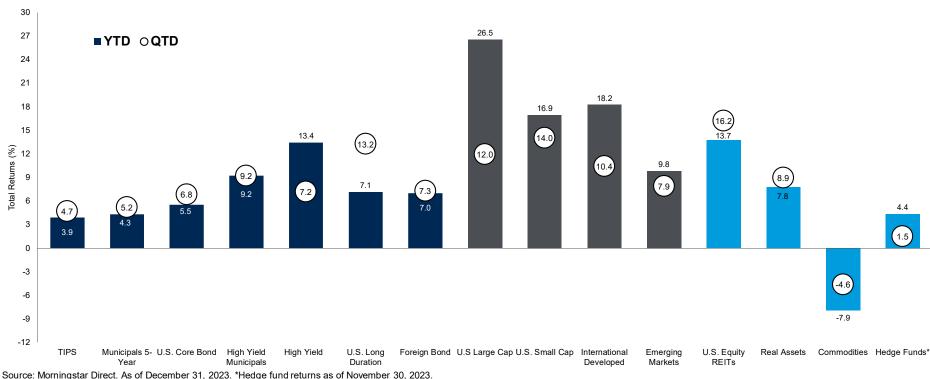


A level over 50 indicates expansion.

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





Fixed Income (4Q)

- + It was a strong quarter for fixed income as interest rates continued to move lower and the Federal Reserve's tone became more dovish on moderating inflation. The year-to-date return for the Bloomberg Agg moved into positive territory.
- + The high yield market was a standout for both the quarter and the year. Investor appetite for riskier segments of fixed income persist as corporate fundamentals remain favorable.
- + Long duration, the most interest rate sensitive fixed income sector, posted a double digit gain in the quarter.

Equity (4Q)

- + Equity markets were widely positive in the fourth quarter. The "risk-on" environment was fueled by the prospect that the "higher for longer" environment may moderate in 2024. U.S. small cap was a particular benefactor and was a standout in the quarter.
- + Developed non-U.S. had a double digit return in the quarter. Europe was particularly strong and a falling U.S. dollar was an added benefit.
- + Emerging markets equity produced a positive return but lagged developed regions. China continues to be a drag on the segment.

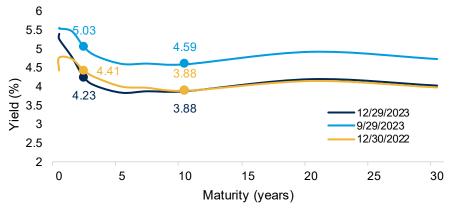
Real Asset / Alternatives (4Q)

- + REITs were one of the top performing areas in the quarter, benefitting from the sharp decline in interest rates.
- Commodities were weak in the fourth quarter and ended the year as one of the few asset classes in negative territory. Falling commodity prices were the primary source of weakness.
- + Hedge funds (reported on a month lag) posted a modest return for the first two months of the guarter. Relative value strategies were a top segment in the period.

Fixed Income Market Update

U.S. Treasury Yield Curve

Interest rates fell across the yield curve during the quarter, maintaining an inverted curve, with short maturities ending slightly lower than in 2022. Notably, the 10-year contracted 71 basis points during the guarter. Signs of slowing inflation fueled expectations of 2024 rate cuts which relieved pressure on rates.



Source: FactSet. As of December 29, 2023.

Corporate Market Spreads – Trailing 5 Years

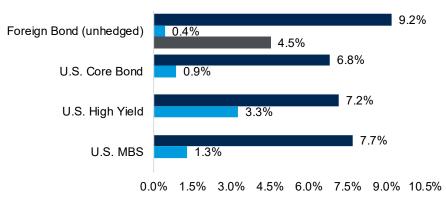
Credit spreads continued tightening during the guarter and are well below their 10-year averages. This was driven by continued resilience in fundamentals.



Index Performance Attribution (4Q 2023)

Fixed income markets rose across the board, with narrowing credit spreads and declining rates causing all sectors to surpass U.S. Treasuries on a durationadjusted basis. Foreign bonds had strong additional tailwinds from a declining U.S. Dollar.

■ Total Return ■ Excess Return (Comp. Treasury) ■ Currency Return



Source: FactSet. As of December 29, 2023.

Current Yield-to-Worst vs. 1 Year Ago

Short dated yields ended the year higher while other sectors ended the year lower than where they began. High Yield was a notable standout as spreads contracted.



Source: FactSet. As of December 29, 2023. Based on respective Bloomberg Index.

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.

Equity Market Update

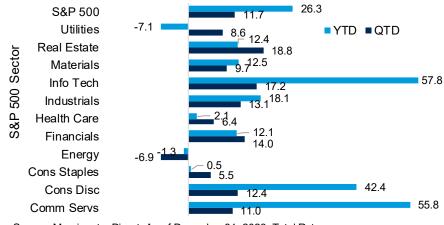
Equity Valuations (Trailing PE – Last 15 Years)

Strong results in the fourth quarter propelled valuations higher across regions. The U.S. trades around one standard deviation above average. Much of the move higher over the course of the year can be attributed to the "Mag 7" stocks.



U.S. Equities – Return by Sector

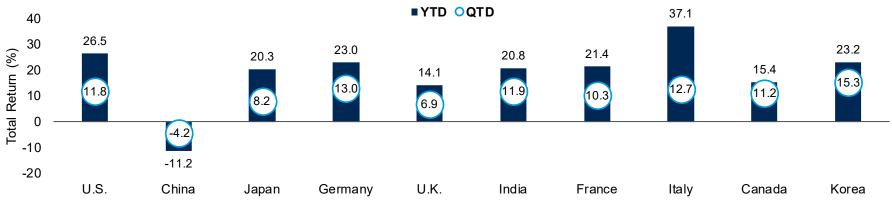
Domestic equity markets had both a strong quarter and calendar year 2023. The notable standouts of technology, consumer discretionary, and communication services was driven by the narrow market leadership of the "Magnificent 7".



Source: Morningstar Direct. As of December 31, 2023. Total Returns.

Country Total Returns (%) – Select Largest Economies

Most global equity markets saw positive returns during the fourth quarter, and still remain positive year to date. A moderating interest rate environment prompted much of the gains for developed markets as investors weighed the possibility of falling rates in 2024. However, China continues to struggle amid growing geopolitical tensions between Taiwan.

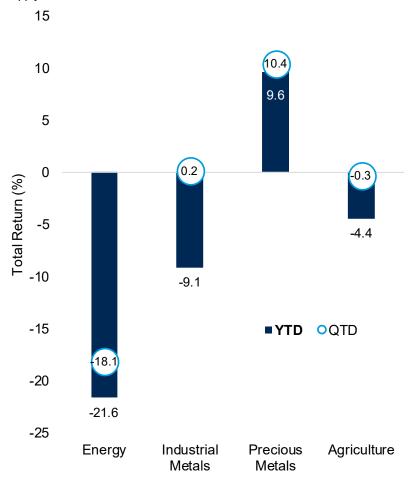


Source: Morningstar Direct. As of December 31, 2023.

Real Assets Market Update

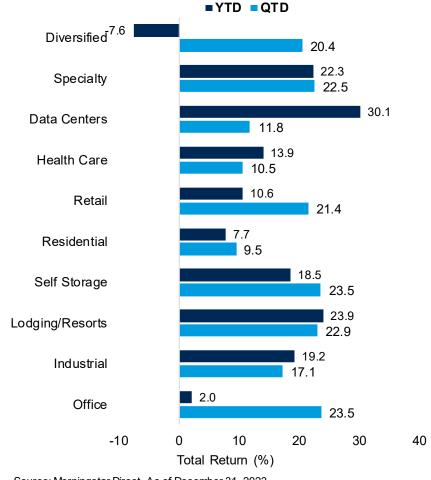
Commodity Performance

Commodities underperformed during the quarter, primarily driven by a sharply falling energy sector. The persistent decline in oil prices had a negative impact on overall performance, influenced by weakening demand and increased supply.



REIT Sector Performance

REITs broadly benefitted from declining rates during the quarter. Office space rebounded sharply off of prior lows and ended the year on a modestly positive note. Despite these gains, vacancy rates and payment delinquencies persist at historically high levels.



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

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

Financial Markets Performance

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

Global Fixed Income Markets	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Bloomberg 1-3-Month T-Bill	1.4%	5.1%	5.1%	2.2%	1.9%	1.7%	1.2%	0.8%
Bloomberg U.S. TIPS	4.7%	3.9%	3.9%	-1.0%	3.2%	2.5%	2.4%	3.5%
Bloomberg Municipal Bond (5 Year)	5.2%	4.3%	4.3%	-0.3%	1.7%	1.9%	1.9%	2.7%
Bloomberg High Yield Municipal Bond	9.2%	9.2%	9.2%	0.8%	3.5%	4.5%	5.0%	7.2%
Bloomberg U.S. Aggregate	6.8%	5.5%	5.5%	-3.3%	1.1%	1.3%	1.8%	2.7%
Bloomberg U.S. Corporate High Yield	7.2%	13.4%	13.4%	2.0%	5.4%	4.6%	4.6%	9.2%
Bloomberg Global Aggregate ex-U.S. Hedged	5.4%	8.3%	8.3%	-1.2%	1.5%	1.9%	2.8%	3.1%
Bloomberg Global Aggregate ex-U.S. Unhedged	9.2%	5.7%	5.7%	-7.2%	-1.6%	0.0%	-0.8%	0.6%
Bloomberg U.S. Long Gov / Credit	13.2%	7.1%	7.1%	-8.7%	1.1%	1.6%	3.2%	4.3%
Global Equity Markets	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
S&P 500	11.7%	26.3%	26.3%	10.0%	15.7%	13.4%	12.0%	14.0%
Dow Jones Industrial Average	13.1%	16.2%	16.2%	9.4%	12.5%	12.1%	11.1%	12.9%
NASDAQ Composite	13.8%	44.6%	44.6%	6.0%	18.8%	16.9%	14.8%	17.4%
Russell 3000	12.1%	26.0%	26.0%	8.5%	15.2%	12.8%	11.5%	13.8%
Russell 1000	12.0%	26.5%	26.5%	9.0%	15.5%	13.2%	11.8%	14.0%
Russell 1000 Growth	14.2%	42.7%	42.7%	8.9%	19.5%	17.7%	14.9%	16.7%
Russell 1000 Value	9.5%	11.5%	11.5%	8.9%	10.9%	8.3%	8.4%	11.1%
Russell Mid Cap	12.8%	17.2%	17.2%	5.9%	12.7%	10.1%	9.4%	13.6%
Russell Mid Cap Growth	14.5%	25.9%	25.9%	1.3%	13.8%	12.5%	10.6%	14.7%
Russell Mid Cap Value	12.1%	12.7%	12.7%	8.4%	11.2%	7.8%	8.3%	12.4%
Russell 2000	14.0%	16.9%	16.9%	2.2%	10.0%	7.3%	7.2%	11.3%
Russell 2000 Growth	12.7%	18.7%	18.7%	-3.5%	9.2%	8.1%	7.2%	12.1%
Russell 2000 Value	15.3%	14.6%	14.6%	7.9%	10.0%	6.1%	6.8%	10.3%
MSCI ACWI	11.0%	22.2%	22.2%	5.8%	11.7%	10.0%	7.9%	10.2%
MSCI ACWI ex. U.S.	9.8%	15.6%	15.6%	1.5%	7.1%	6.3%	3.8%	6.7%
MSCI EAFE	10.4%	18.2%	18.2%	4.0%	8.2%	6.9%	4.3%	6.9%
MSCI EAFE Growth	12.7%	17.6%	17.6%	0.3%	8.8%	8.0%	5.2%	7.6%
MSCI EAFE Value	8.2%	19.0%	19.0%	7.6%	7.1%	5.5%	3.2%	6.0%
MSCI EAFE Small Cap	11.1%	13.2%	13.2%	-0.7%	6.6%	6.0%	4.8%	9.2%
MSCI Emerging Markets	7.9%	9.8%	9.8%	-5.1%	3.7%	5.0%	2.7%	6.6%
Alternatives	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Consumer Price Index*	0.1%	3.0%	3.1%	5.7%	4.0%	3.5%	2.8%	2.5%
FTSE NAREIT Equity REITs	16.2%	13.7%	13.7%	7.2%	7.4%	5.3%	7.6%	10.5%
S&P Real Assets	8.9%	7.8%	7.8%	3.9%	5.9%	4.8%	3.9%	6.9%
FTSE EPRA NAREIT Developed	15.6%	10.9%	10.9%	2.2%	3.8%	3.6%	4.5%	8.2%
FTSE EPRA NAREIT Developed ex U.S.	15.1%	7.1%	7.1%	-3.9%	0.2%	2.0%	1.6%	6.1%
Bloomberg Commodity Total Return	-4.6%	-7.9%	-7.9%	10.8%	7.2%	3.6%	-1.1%	-0.2%
HFRI Fund of Funds Composite*	1.5%	4.4%	4.7%	2.9%	4.4%	4.0%	3.2%	3.6%
HFRI Asset Weighted Composite*	-0.4%	3.1%	3.3%	4.9%	4.0%	4.0%	3.5%	4.9%

Sources: Morningstar, FactSet. As of December 31, 2023. *Consumer Price Index and HFRI indexes as of November 30, 2023.



Portfolio Performance & Considerations



Asset Allocation

Town of Ledyard Pension Plan

As of December 31, 2023

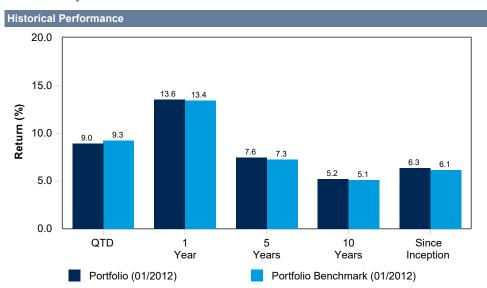
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	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
wn of Ledyard Pension Plan	29,163,734	100.0	100.0	0.0
Short Term Liquidity	536,876	1.8	3.0	-1.2
Dreyfus Treasury Securities Cash Management	536,876	1.8	3.0	-1.2
Fixed Income	11,172,174	38.3	38.5	-0.2
Vanguard Total Bond Market Index Adm	2,911,423	10.0	10.0	0.0
Metropolitan West Total Return Bond Pl	3,727,181	12.8	13.0	-0.2
PGIM Total Return Bond R6	3,785,593	13.0	13.0	0.0
BlackRock Strategic Income Opportunities Class K	747,976	2.6	2.5	0.1
Domestic Equity	10,000,360	34.3	33.5	0.8
Vanguard Institutional Index Fund Instl	4,220,911	14.5	14.5	0.0
Touchstone Large Cap Focused Fund Instl	2,075,568	7.1	7.0	0.1
Neuberger Berman Genesis R6	1,800,432	6.2	6.0	0.2
William Blair Small Cap Value R6	952,561	3.3	3.0	0.3
Hood River Small Cap Growth R	950,889	3.3	3.0	0.3
International Equity	6,717,489	23.0	22.5	0.5
Vanguard Total International Stock Index Adm	2,558,037	8.8	8.5	0.3
T. Rowe Price Overseas Stock Instl	2,247,569	7.7	7.5	0.2
Invesco Developing Markets R6	1,911,883	6.6	6.5	0.1
Real Assets	736,835	2.5	2.5	0.0
DWS RREEF Real Assets R6	736,835	2.5	2.5	0.0



Portfolio Dashboard

Town of Ledyard Pension Plan

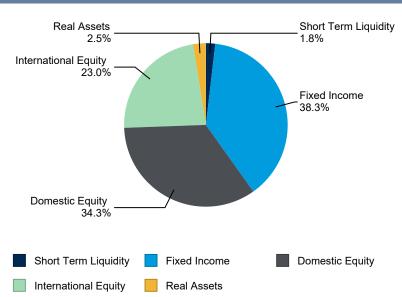
As of December 31, 2023



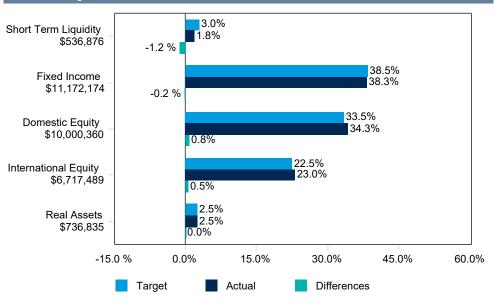
Summary of Cash Flows			
	QTD	1 Year	Since Inception
Beginning Market Value	27,246,622	26,338,323	11,303,089
Net Contributions	-494,459	-706,241	2,109,818
Gain/Loss	2,411,570	3,531,652	15,750,827
Ending Market Value	29,163,734	29,163,734	29,163,734

Current Benchmark	Composition	
From Date	To Date	
06/2023	Present	3.00% 90 Day U.S. Treasury Bill, 38.50% 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), 2.50% S&P Real Assets

Portfolio Allocation



Actual vs. Target Allocations



Client portfolio performance is presented net of underlying investment manager fees but gross of Fiducient Advisors' fees.



Performance Overview

Town of Ledyard Pension Plan

As of December 31, 2023

Trailing Performance Summary								
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Town of Ledyard Pension Plan	9.0	13.6	1.7	7.6	6.2	5.2	6.3	01/2012
Blended Benchmark	9.3	13.4	1.8	7.3	6.0	5.1	6.1	01/2012

Calendar Year Performance Sumn	nary									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Town of Ledyard Pension Plan	-16.2	10.6	14.9	19.0	-6.3	13.1	10.0	-3.1	2.3	13.2
Blended Benchmark	-15.2	9.8	13.6	18. 4	-6.0	12.9	9.1	-3.5	3.6	12.3

Plan Reconciliation							
	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Town of Ledyard Pension Plan							01/2012
Beginning Market Value	27,246,622	26,338,323	29,528,424	21,777,031	17,359,888	11,303,089	
Net Contributions	-494,459	-706,241	-1,805,604	-2,094,187	-548,771	2,109,818	
Gain/Loss	2,411,570	3,531,652	1,440,914	9,480,889	12,352,616	15,750,827	
Ending Market Value	29,163,734	29,163,734	29,163,734	29,163,734	29,163,734	29,163,734	

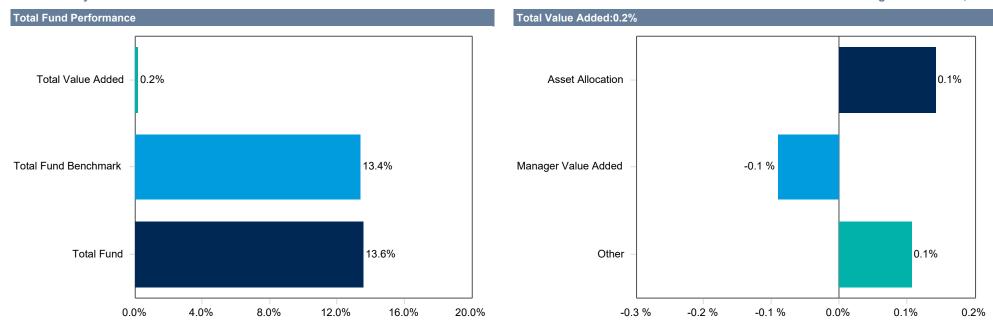
Weight (%)	
3.0	
38.5	
21.5	
12.0	
8.5	
7.5	
6.5	
2.5	
	3.0 38.5 21.5 12.0 8.5 7.5 6.5

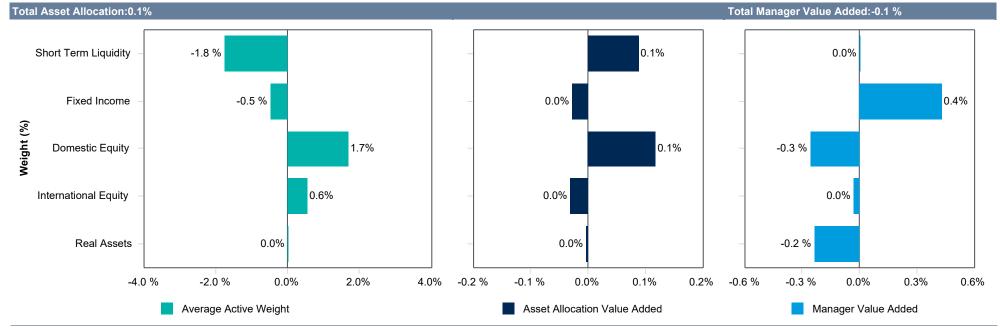
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Performance Attribution



1 Year Ending December 31, 2023







Manager Status Commentary

As of December 31, 2023

Manager	Recommendation	Comments
Vanguard Total Bond Market Index Adm	Maintain	
Metropolitan West Total Return Bond PI	Watch 3Q 2023	TCW announced long-time Generalist Portfolio Managers, Laird Landmann and Stephen Kane, will be retiring at the end of 2023 and no earlier than 2024, respectively. Bryan Whalen, who currently serves as co-CIO and Generalist Portfolio Manager alongside Mr. Kane, will remain in his role and will become the sole CIO at the end of 2023. Mr. Kane will continue to serve as a Generalist Portfolio Manager until his retirement. Ruben Hovhannisyan and Jerry Cudzil will join the Generalist Portfolio Manager team, effective immediately. Mr. Hovhannisyan has worked directly in support of the Generalist team for 16 years, while Mr. Cudzil has been with the firm for over 10 years and previously served as Co-Head of Credit and Head of Credit Trading.
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 December 31, 2023

	Allocati	on		Performance(%)						
	Market Value (\$)	<u></u> -	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Manage Status
Town of Ledyard Pension Plan	29,163,734	100.0	9.0	13.6	1.7	7.6	5.2	6.3	01/2012	
Blended Benchmark			9.3	13.4	1.8	7.3	5.1	6.1		
Short Term Liquidity	536,876	1.8	1.2	4.7	2.0	1.7	1.1	0.9	01/2012	
90 Day U.S. Treasury Bill			1.4	5.0	2.2	1.9	1.2	1.0		
Dreyfus Treasury Securities Cash Management	536,876	1.8	1.2	4.7	2.0	1.7	1.1	0.9	01/2012	
90 Day U.S. Treasury Bill			1.4	5.0	2.2	1.9	1.2	1.0		
Fixed Income	11,172,174	38.3	7.1	6.6	-3.1	1.5	2.1	2.4	01/2012	
Blmbg. U.S. Aggregate			6.8	5.5	-3.3	1.1	1.8	1.7		
Vanguard Total Bond Market Index Adm	2,911,423	10.0	6.7	5.7	-3.4	1.1	1.8	1.6	01/2012	Maintain
Vanguard Spliced Bloomberg U.S. Agg Flt Adj			6.7	5.6	-3.3	1.2	1.8	1.7		
IM U.S. Broad Market Core Fixed Income (MF) Median			6.8	5.8	-3.4	1.2	1.8	1.8		
Vanguard Total Bond Market Index Adm Rank			61	54	42	57	49	64		
Metropolitan West Total Return Bond PI	3,727,181	12.8	7.5	6.1	-3.6	1.3	1.9	2.4	04/2012	Watch
Blmbg. U.S. Aggregate			6.8	5.5	-3.3	1.1	1.8	1.7		
IM U.S. Broad Market Core+ Fixed Income (MF) Median			6.9	6.3	-3.3	1.6	1.9	2.1		
Metropolitan West Total Return Bond Pl Rank			12	62	66	66	51	33		
PGIM Total Return Bond R6	3,785,593	13.0	7.2	7.8	-3.2	1.7	2.7	2.0	04/2015	Maintain
Blmbg. U.S. Aggregate			6.8	5.5	-3.3	1.1	1.8	1.2		
IM U.S. Broad Market Core+ Fixed Income (MF) Median			6.9	6.3	-3.3	1.6	1.9	1.4		
PGIM Total Return Bond R6 Rank			32	6	45	42	12	15		
BlackRock Strategic Income Opportunities Class K	747,976	2.6	5.5	7.4	0.8	3.5	2.8	2.5	04/2022	Maintain
Blmbg. U.S. Aggregate			6.8	5.5	-3.3	1.1	1.8	-1.4		
IM Alternative Credit Focus (MF) Median			4.6	7.3	0.3	2.5	1.8	2.1		
BlackRock Strategic Income Opportunities Class K Rank			37	49	40	31	19	43		



Manager Performance

Town of Ledyard Pension Plan

As of December 31, 2023

	Allocation	on			F	erformance(%	%)			M
	Market Value (\$)	%	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Manager Status
Domestic Equity	10,000,360	34.3	11.3	22.4	7.8	14.8	11.0	13.2	01/2012	
Domestic Equity Benchmark			12.6	23.1	7.5	14.0	10.6	12.9		
Vanguard Institutional Index Fund Instl	4,220,911	14.5	11.7	26.2	10.0	15.7	12.0	13.9	01/2012	Maintain
S&P 500			11.7	26.3	10.0	15.7	12.0	13.9		
IM U.S. Large Cap Core Equity (MF) Median			11.7	24.8	8.8	14.6	10.9	13.0		
Vanguard Institutional Index Fund Instl Rank			52	38	26	26	14	17		
Touchstone Large Cap Focused Fund Instl	2,075,568	7.1	10.1	25.4	9.2	16.1	12.3	16.1	01/2019	Maintain
S&P 500			11.7	26.3	10.0	15.7	12.0	15.7		
IM U.S. Large Cap Core Equity (MF) Median			11.7	24.8	8.8	14.6	10.9	14.6		
Touchstone Large Cap Focused Fund Instl Rank			82	46	39	16	9	16		
Neuberger Berman Genesis R6	1,800,432	6.2	9.2	15.9	3.6	12.5	8.8	10.7	04/2012	Maintain
Russell 2000 Index			14.0	16.9	2.2	10.0	7.2	9.4		
IM U.S. Small Cap Core Equity (MF) Median			12.9	16.0	7.3	10.9	7.2	9.3		
Neuberger Berman Genesis R6 Rank			95	52	80	18	7	11		
William Blair Small Cap Value R6	952,561	3.3	11.1	11.0	8.5	10.6	7.8	2.2	12/2021	Maintain
Russell 2000 Value Index			15.3	14.6	7.9	10.0	6.8	1.0		
IM U.S. Small Cap Value Equity (MF) Median			13.3	16.6	11.3	11.6	6.8	4.3		
William Blair Small Cap Value R6 Rank			86	89	86	72	25	81		
Hood River Small Cap Growth R	950,889	3.3	15.6	21.6	2.8	16.7	11.7	-4.9	12/2021	Maintain
Russell 2000 Growth Index			12.7	18.7	-3.5	9.2	7.2	-6.1		
IM U.S. Small Cap Growth Equity (MF) Median			11.3	16.5	-2.3	10.5	7.6	-6.7		
Hood River Small Cap Growth R Rank			4	12	20	2	1	32		



Manager Performance

Town of Ledyard Pension Plan

As of December 31, 2023

	Allocation	on			F	Performance(%	%)			M
	Market Value (\$)	%	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Managei Status
International Equity	6,717,489	23.0	9.1	14.7	-0.3	6.5	3.3	4.4	03/2012	
International Equity Benchmark			9.4	14.8	0.5	6.5	3.7	4.4		
Vanguard Total International Stock Index Adm	2,558,037	8.8	10.0	15.5	1.8	7.3	4.1	5.2	04/2012	Maintain
Vanguard Spliced Total Int'l Stock Index (Net)			9.8	15.8	1.9	7.5	4.2	5.3		
IM International Large Cap Core Equity (MF) Median			10.4	17.2	3.0	7.9	3.4	5.2		
Vanguard Total International Stock Index Adm Rank			62	77	75	65	30	50		
Г. Rowe Price Overseas Stock InstI	2,247,569	7.7	9.9	16.6	3.5	8.3	4.5	4.4	06/2018	Maintain
MSCI EAFE (Net)			10.4	18.2	4.0	8.2	4.3	4.8		
IM International Large Cap Core Equity (MF) Median			10.4	17.2	3.0	7.9	3.4	4.1		
T. Rowe Price Overseas Stock Instl Rank			63	62	43	40	15	40		
nvesco Developing Markets R6	1,911,883	6.6	7.0	11.5	-8.0	2.7	1.9	2.8	04/2012	Maintain
MSCI Emerging Markets (Net)			7.9	9.8	-5.1	3.7	2.7	2.3		
IM Emerging Markets Equity (MF) Median			7.7	10.9	-5.6	4.0	2.4	2.3		
Invesco Developing Markets R6 Rank			69	44	67	78	68	36		
Real Assets	736,835	2.5	8.3	2.6	-	-	-	-6.5	04/2022	
S&P Real Assets			8.9	7.8	3.9	5.8	3.9	-2.6		
DWS RREEF Real Assets R6	736,835	2.5	8.3	2.6	4.8	7.8	4.5	-6.5	04/2022	Maintain
S&P Real Assets			8.9	7.8	3.9	5.8	3.9	-2.6		



Calendar Year Performance

Town of Ledyard Pension Plan

As of December 31, 2023

	Performance(%) 2022 2021 2020 2019 2018 2017 2016 2015 -16.2 10.6 14.9 19.0 -6.3 13.1 10.0 -3.1 -15.2 9.8 13.6 18.4 -6.0 12.9 9.1 -3.5 1.3 0.0 0.4 2.0 1.8 0.6 0.2 0.0 1.5 0.0 0.7 2.3 1.9 0.9 0.3 0.0 1.3 0.0 0.4 2.0 1.8 0.6 0.2 0.0 1.5 0.0 0.7 2.3 1.9 0.9 0.3 0.0 1.5 0.0 0.7 2.3 1.9 0.9 0.3 0.0 -13.5 -1.3 8.3 9.1 0.0 4.6 4.6 -0.2 -13.5 -1.3 8.3 9.1 0.0 4.6 4.6 -0.2 -13.2 -1.7 7.7 8.7 0.0 3.6 2.6 0.4										
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	
Town of Ledyard Pension Plan	-16.2	10.6	14.9	19.0	-6.3	13.1	10.0	-3.1	2.3	13.2	
Blended Benchmark	-15.2	9.8	13.6	18.4	-6.0	12.9	9.1	-3.5	3.6	12.3	
Short Term Liquidity	1.3	0.0	0.4	2.0	1.8	0.6	0.2	0.0	0.0	0.0	
90 Day U.S. Treasury Bill	1.5	0.0	0.7	2.3	1.9	0.9	0.3	0.0	0.0	0.0	
Dreyfus Treasury Securities Cash Management	1.3	0.0	0.4	2.0	1.8	0.6	0.2	0.0	0.0	0.0	
90 Day U.S. Treasury Bill	1.5	0.0	0.7	2.3	1.9	0.9	0.3	0.0	0.0	0.0	
Fixed Income	-13.5	-1.3	8.3	9.1	0.0	4.6	4.6	-0.2	5.2	-0.2	
Blmbg. U.S. Aggregate	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	
Vanguard Total Bond Market Index Adm	-13.2	-1.7	7.7	8.7	0.0	3.6	2.6	0.4	5.9	-2.1	
Vanguard Spliced Bloomberg U.S. Agg Flt Adj	-13.1	-1.6	7.7	8.9	-0.1	3.6	2.8	0.4	5.9	-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	28	66	65	53	20	54	64	30	32	59	
Metropolitan West Total Return Bond PI	-14.7	-1.1	9.2	9.2	0.3	3.5	2.6	0.2	6.2	0.4	
Blmbg. U.S. Aggregate	-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 Pl Rank	73	57	36	55	11	79	86	26	25	16	
PGIM Total Return Bond R6	-14.9	-1.2	8.1	11.1	-0.6	6.7	4.8	0.1	7.3	-0.9	
Blmbg. U.S. Aggregate	-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	76	60	60	11	36	2	30	35	8	44	
BlackRock Strategic Income Opportunities Class K	-5.6	1.0	7.3	7.8	-0.5	5.0	3.6	-0.6	3.6	3.0	
Blmbg. U.S. Aggregate	-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	



Calendar Year Performance

Town of Ledyard Pension Plan

As of December 31, 2023

					Perform	ance(%)					
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	
Domestic Equity	-18.2	25.1	21.7	30.7	-5.1	19.7	13.9	1.1	9.0	34.0	
Domestic Equity Benchmark	-18.8	24.4	19.2	29.8	-6.3	19.5	15.1	-0.5	10.8	34.5	
Vanguard Institutional Index Fund Instl	-18.1	28.7	18.4	31.5	-4.4	21.8	11.9	1.4	13.7	32.3	
S&P 500	-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	30.7	-5.4	21.5	9.7	0.5	11.5	31.8	
Vanguard Institutional Index Fund Instl Rank	46	26	50	37	32	45	20	35	18	38	
Touchstone Large Cap Focused Fund Insti	-17.3	25.6	24.2	30.6	-2.4	23.6	11.6	0.9	10.6	31.0	
S&P 500	-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	30.7	-5.4	21.5	9.7	0.5	11.5	31.8	
Touchstone Large Cap Focused Fund Instl Rank	37	67	10	52	16	25	25	44	65	61	
Neuberger Berman Genesis R6	-19.0	18.5	25.2	29.8	-6.4	15.9	18.4	0.5	0.0	37.2	
Russell 2000 Index	-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	36.8	
Neuberger Berman Genesis R6 Rank	79	83	5	7	5	14	79	3	86	47	
William Blair Small Cap Value R6	-11.1	29.6	2.8	26.2	-14.0	13.1	31.4	-3.2	2.9	36.2	
Russell 2000 Value Index	-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	49	66	57	9	32	13	18	11	59	55	
Hood River Small Cap Growth R	-27.9	23.9	60.8	24.2	-6.8	20.8	13.5	0.8	8.6	43.9	
Russell 2000 Growth Index	-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	36.6	27.6	-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	
International Equity	-18.0	5.2	12.5	23.0	-13.8	28.6	4.1	-7.3	-5.2	13.5	
International Equity Benchmark	-16.6	5.9	12.0	20.6	-14.1	29.8	5.6	-7.2	-3.6	11.4	
Vanguard Total International Stock Index Adm	-16.0	8.6	11.3	21.5	-14.4	27.6	4.7	-4.3	-4.2	15.1	
Vanguard Spliced Total Int'l Stock Index (Net)	-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	62	72	34	61	41	25	12	70	19	75	



Calendar Year Performance

Town of Ledyard Pension Plan

As of December 31, 2023

					Perform	ance(%)				
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
T. Rowe Price Overseas Stock Instl	-15.4	12.4	9.3	23.0	-14.8	27.2	3.0	-2.5	-4.5	21.8
MSCI EAFE (Net)	-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	27	47	37	47	25	14	59	23	29
Invesco Developing Markets R6	-24.8	-7.1	17.7	24.5	-11.8	35.3	7.4	-13.7	-4.4	8.9
MSCI Emerging Markets (Net)	-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	-22.5	-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	14
Real Assets	-	-	-	-	-	-	-	-	-	-
S&P Real Assets	-9.9	15.4	1.2	17.2	-5.9	11.2	10.8	-10.1	5.4	4.2
DWS RREEF Real Assets R6	-9.6	23.9	3.9	21.8	-5.1	15.0	4.4	-9.5	3.5	1.2
S&P Real Assets	-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 December 31, 2023

	Market Value as of 10/01/2023	Net Contributions	Gain/Loss	Market Value As of 12/31/2023
Town of Ledyard Pension Plan	27,246,622	-494,459	2,411,570	29,163,734
Short Term Liquidity	128,424	405,541	2,911	536,876
Dreyfus Treasury Securities Cash Management	128,424	405,541	2,911	536,876
Fixed Income	10,436,317	-	735,857	11,172,174
Vanguard Total Bond Market Index Adm	2,728,860	-	182,563	2,911,423
Metropolitan West Total Return Bond Pl	3,466,008	-	261,173	3,727,181
PGIM Total Return Bond R6	3,532,651	-	252,942	3,785,593
BlackRock Strategic Income Opportunities Class K	708,798	-	39,179	747,976
Domestic Equity	9,692,454	-750,000	1,057,905	10,000,360
Vanguard Institutional Index Fund Instl	4,154,084	-400,000	466,827	4,220,911
Touchstone Large Cap Focused Fund Instl	2,028,246	-150,000	197,321	2,075,568
Neuberger Berman Genesis R6	1,742,312	-100,000	158,120	1,800,432
William Blair Small Cap Value R6	902,075	-50,000	100,487	952,561
Hood River Small Cap Growth R	865,738	-50,000	135,151	950,889
nternational Equity	6,309,275	-150,000	558,214	6,717,489
Vanguard Total International Stock Index Adm	2,377,498	-50,000	230,539	2,558,037
T. Rowe Price Overseas Stock Instl	2,145,600	-100,000	201,968	2,247,569
nvesco Developing Markets R6	1,786,177	-	125,707	1,911,883
Real Assets	680,152	-	56,682	736,835
DWS RREEF Real Assets R6	680,152	-	56,682	736,835

Client portfolio performance is presented net of underlying investment manager fees but gross of Fiducient Advisors' fees. 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.



Estimated Fee Analysis

Town of Ledyard Pension Plan

As of December 31, 2023

	Market Value (\$)	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Town of Ledyard Pension Plan	29,163,734	121,670	0.42
Short Term Liquidity	536,876	-	-
Dreyfus Treasury Securities Cash Management	536,876	-	-
Fixed Income	11,172,174	34,648	0.31
Vanguard Total Bond Market Index Adm	2,911,423	1,456	0.05
Metropolitan West Total Return Bond Pl	3,727,181	13,791	0.37
PGIM Total Return Bond R6	3,785,593	14,764	0.39
BlackRock Strategic Income Opportunities Class K	747,976	4,637	0.62
Domestic Equity	10,000,360	46,459	0.46
Vanguard Institutional Index Fund Instl	4,220,911	1,477	0.04
Touchstone Large Cap Focused Fund Instl	2,075,568	14,529	0.70
Neuberger Berman Genesis R6	1,800,432	13,323	0.74
William Blair Small Cap Value R6	952,561	7,716	0.81
Hood River Small Cap Growth R	950,889	9,414	0.99
International Equity	6,717,489	33,932	0.51
Vanguard Total International Stock Index Adm	2,558,037	2,814	0.11
T. Rowe Price Overseas Stock Instl	2,247,569	15,059	0.67
Invesco Developing Markets R6	1,911,883	16,060	0.84
Real Assets	736,835	6,632	0.90
DWS RREEF Real Assets R6	736,835	6,632	0.90

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.

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

Underling Portfolio Manager Structure Considerations

- Fixed Income
 - Eliminate Metropolitan West Total Return
 - Allocate Met West position to Baird and Harbor as investment grade core manager
 - Both Baird and Harbor complement the PGIM Total Return Bond strategy as a core plus manager
- Domestic Equity
 - No proposed changes
- International Equity
 - No proposed changes

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Ledyard

Trade Recommendation Worksheet

Investment Name	Account Number	Ticker	CUSIP	Liquidity	Unreconciled Balance As of: 2/13/2024	Current Allocation	Target Allocation	Trade Amount	Resulting Balances	Resulting Allocation
Cash					\$207,104	0.7%	3.0%	\$223,920	\$431,024	1.5%
Cash Cash	WTC520800	CASH			\$207,104	0.7%	3.0%	\$223,920	\$431,024	1.5%
	VV1C320800	CASIT			\$207,10 4	0.770	3.070	7223,320	7431,024	1.570
Fixed Income					\$10,922,925	38.3%	38.5%	\$76,080	\$10,999,005	38.5%
/anguard Total Bond Market Index Fund Adm Shares	WTC520800	VBTLX	921937603	Daily T+1	\$2,841,617	10.0%	10.0%	4 - 2 /2 - 2	\$2,841,617	10.0%
Baird Aggregate Bond Fund Instl	WTC520800	BAGIX	057071854	Daily T+1	\$0	0.0%	6.5%	\$1,850,000	\$1,850,000	6.5%
Harbor Core Bond Fund Retirement	WTC520800	HCBRX	411512197	, Daily T+1	\$0	0.0%	6.5%	\$1,850,000	\$1,850,000	6.5%
Metropolitan West Total Return Bond Fund Plan	WTC520800	MWTSX	592905764	Daily T+1	\$3,623,920	12.7%	0.0%	(\$3,623,920)	\$0	0.0%
PGIM Total Return Bond Fund - Class R6	WTC520800	PTRQX	74440B884	Daily T+1	\$3,716,157	13.0%	13.0%		\$3,716,157	13.0%
BlackRock Strategic Income Opportunities K	WTC520800	BSIKX	09260B374	Daily T+1	\$741,231	2.6%	2.5%		\$741,231	2.6%
Domestic Equity					\$10,182,094	35.7%	33.5%	(\$300,000)	\$9,882,094	34.6%
Touchstone Large Cap Focused Fund Cl I	WTC520800	SCRLX	89154Q273	Daily T+1	\$2,143,504	7.5%	7.0%	(\$100,000)	\$2,043,504	7.2%
/anguard Institutional Index Fund I	WTC520800	VINIX	922040100	Daily T+1	\$4,389,112	15.4%	14.5%	(\$200,000)	\$4,189,112	14.7%
Neuberger Berman Equity Fds Genesis Cl R6	WTC520800	NRGSX	64122Q531	Daily T+1	\$1,764,736	6.2%	6.0%		\$1,764,736	6.2%
Villiam Blair Small Cap Value Fund Class R6	WTC520800	WBVRX	969251461	Daily T+1	\$915,715	3.2%	3.0%		\$915,715	3.2%
Hood River Small Cap Growth Fund	WTC520800	HRSIX	56170L505	Daily T+1	\$969,028	3.4%	3.0%		\$969,028	3.4%
International Equity					\$6,539,201	22.9%	22.5%	\$0	\$6,539,201	22.9%
'anguard Total International Stock Index Fund Admiral Sh	WTC520800	VTIAX	921909818	Daily T+1	\$2,507,090	8.8%	8.5%		\$2,507,090	8.8%
nvesco Developing Markets Fund Class R6	WTC520800	ODVIX	00143W859	Daily T+1	\$1,843,973	6.5%	6.5%		\$1,843,973	6.5%
. Rowe Price Overseas Stock Fund I Class	WTC520800	TROIX	77956H435	Daily T+1	\$2,188,138	7.7%	7.5%		\$2,188,138	7.7%
Real Assets					\$703,461	2.5%	2.5%	\$0	\$703,461	2.5%
WS RREEF Real Assets R6	WTC520800	AAAVX	25159K713	Daily T+1	\$703,461	2.5%	2.5%		\$703,461	2.5%
nvestment Portfolio Total					\$28,554,785	100.0%	100.0%	\$0	\$28,554,785	100.0%

Manager Due Diligence

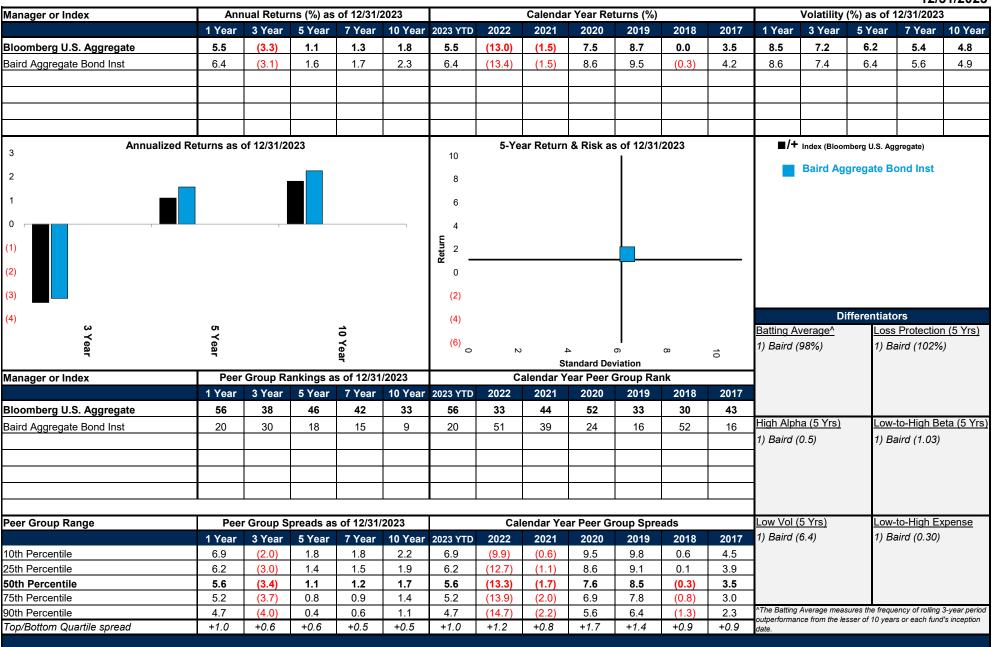
U.S. Core Fixed Income

U.S. Core Fixed Income	
Fund / Manager	Baird Aggregate Bond Inst
Status	Maintain
Manager (Tenure in Years) Net Assets (\$ Millions)	Team (23.3) \$42,865
Firm	- Baird Advisors was founded in 2000 by the fixed income team from FIRMCO; it i the fixed income management group of Robert W. Baird & Co. - The firm remains employee-owned and is based in Milwaukee, WI.
Team	Mary Ellen Stanek serves as the CIO of the firm and oversees all strategies. A team of portfolio managers oversees the strategy; they are supported by Baird's team of fixed income analysts.
Philosophy/Process	- Baird places significant emphasis on risk management and believes that markets are efficient at pricing interest rates and market risks, thus taking a duration-neutral stance in all their portfolios. - The team has a preference for companies and structured products with predictable cash flows, robust collateral or senior tranches. - A relative value framework combines a quantitative model with fundamental analysis to identify individual securities for inclusion in the portfolio.
Portfolio Construction	- The portfolio aims to match the Bloomberg US Aggregate index's duration and will hold at least 250 securities, exhibiting low turnover The portfolio can only invest in US Dollar-denominated cash bonds and will primarily invest in investment grade securities; it will not hold derivatives Sectors are limited to 25% of the portfolio in terms of contribution to duration, with non-investment grade deb capped at 10% of the portfolio.
Expense Ratio Redemption Fee	0.30 N.A.



U.S. Core Fixed Income Return, Standard Deviation and Peer Group Comparisons

12/31/2023





U.S. Core Fixed Income MPT and Other Quantitative Risk and Return Metrics

12/31/2023

		Past	10-Year	Metrics a	s of 12/31/	2023			Pas		Max Drawdowns (10 yrs)						
Managers vs. Bloomberg U.S. Aggregate	Correl /	Beta	Alpha (%)	Sharpe Ratio (%)	Track. Error / Info. Ratio (%)	UP Capture	DOWN Capture	Correl / R2	Beta	Alpha (%)	Sharpe Ratio (%)	Track. Error / Info. Ratio (%)		DOWN Capture	8/2020 - 10/2022	8/2016 - 11/2016	9/2017 10/2018
Bloomberg U.S. Aggregate	1/1	1	0	0.12	0/0	100%	100%	1/1	1	0	(0.12)	0/0	100%	100%	-17.2%	-3.3%	-2.5%
Baird Aggregate Bond Inst	0.99 / 0.98	1.02	0.4	0.21	0.7 / 0.62	107%	101%	0.99 / 0.98	1.03	0.5	(0.05)	1 / 0.49	108%	102%	-17.3%	-3.0%	-2.5%
	Monthly				g averages v		oerg U.S.										
lanagers vs. Bloomberg U.S. Aggregate	1 Month		e for 10 Ye	ars (or ma	nager incept	% + 36	Return Start			Baird /	Aggrega	ate Bond	d Inst				
	Periods	% + Months	periods	Months	Periods	Months	Date			Dana	199.090		u 1110t				
Baird Aggregate Bond Inst	120	66%	109	76%	85	98%	Dec-13										
		Pall	ina 36-l	Month (Outperfo	rmanc	o Vorsi	is the Ri	loombe	ralls	Aggree	ıato					
1.0%		- IXOII	g 50-1	***************************************	Juiperre	, illianc	- 10130			g 0.0.	Aggice	jato					
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	Dec-17	Jun-18	Dec-	18 Jı	ın-19	Dec-19	Jun-	20 De	ec-20	Jun-21	Dec-	21 Ju	ın-22	Dec-22	Jun-2	23 De	ec-23

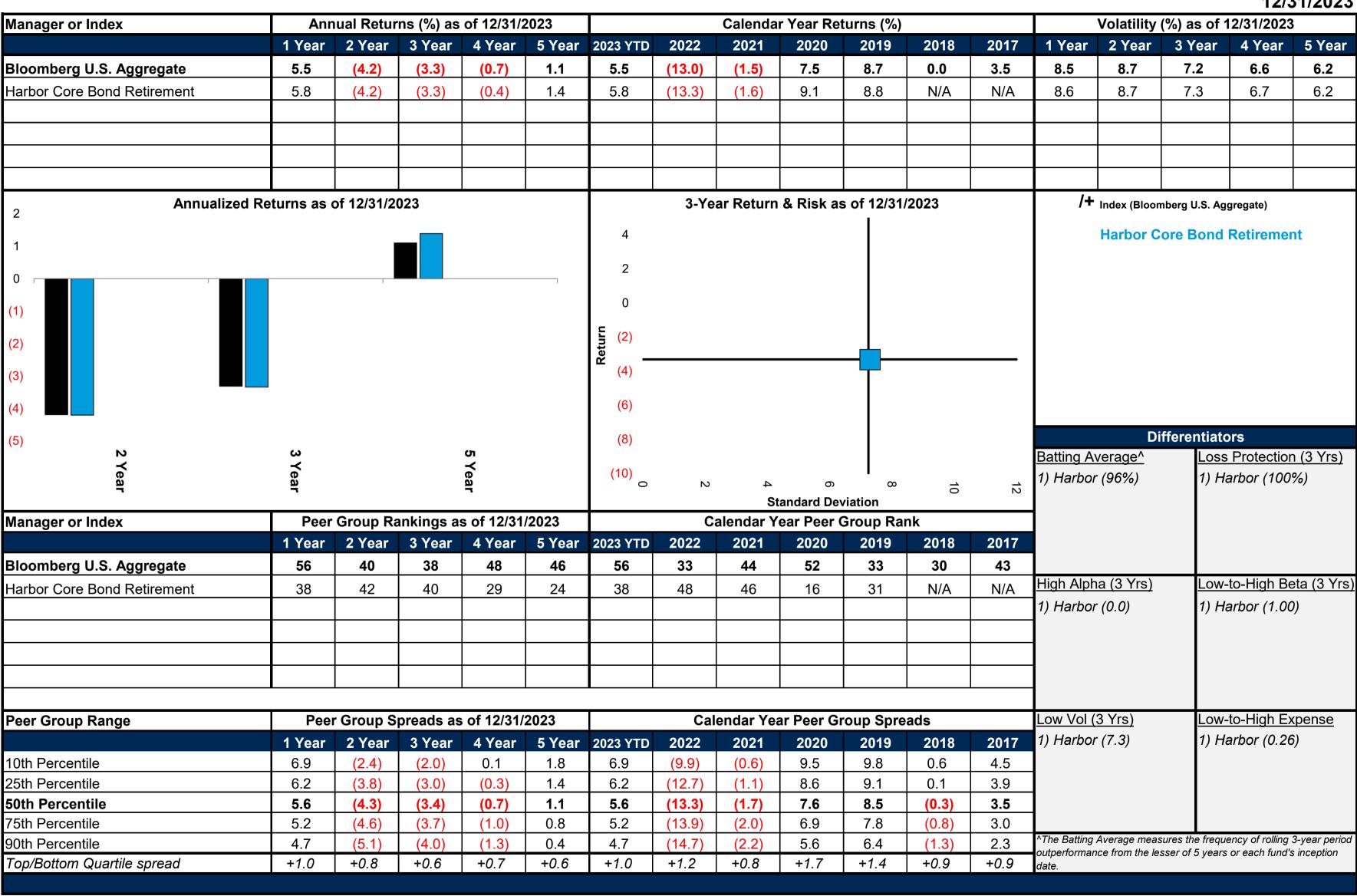
U.S. Core Fixed Income

Fund / Manager	Harbor Core Bond Retirement
Status	Maintain
Manager (Tenure in Years) Net Assets (\$ Millions)	Team (5.6) \$208
Firm	 The strategy is sub-advised by Income Research and Management. □ IR+M is a fixed income asset manager based in Boston, MA. The employee-owned firm provides investment grade fixed income solutions across the taxable and municipal asset classes and duration spectrum.
Team	- The strategy is managed using a team of portfolio managers, led by Bill O'Malley, CEO and CO-CIO and Jim Gubitosi, CO-CIO. The portfolio management team is supported by a seasoned team of research analysts and traders responsible for the underlying bottom-up credit research.
Philosophy/Process	- IR+M believes that careful security selection and higher portfolio income can provide superior returns over the long term. The team strives to add value through security selection. □ - The strategy is run in a duration neutral manner and credit analysis is the main driver of the investment process. Credit, structure, and price are the three fundamental areas of analysis. Ideas are developed by conducting industry analysis, reviewing company reports, talking to management, and using third party sources. Securities and industries are also analyzed by assessing relative value along the yield curve, potential volatility, and potential unquantifiable risk. Senior portfolio managers make all final buy and sell decisions.
Portfolio Construction	- Portfolios are constructed using a disciplined, bottom-up investment approach to select attractive securities from the investment grade universe. The portfolio is typically underweight Treasuries overweight spread sectors of the investment grade market such as corporate bonds, ABS and CMBS. The strategy is managed in a duration neutral fashion and typically stays within 5% of the benchmark.
Expense Ratio	0.26



U.S. Core Fixed Income Return, Standard Deviation and Peer Group Comparisons

12/31/2023





U.S. Core Fixed Income MPT and Other Quantitative Risk and Return Metrics

12/31/2023

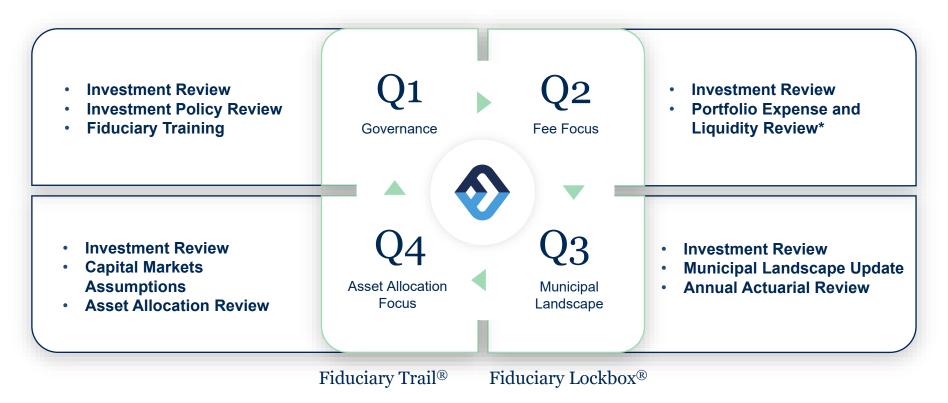
		Pas	t 5-Year N	letrics as	of 12/31/2	2023			Pas	st 3-Year I	Metrics as	of 12/31/2	2023		Max Dr	awdowns	(5 yrs)
Managers vs. Bloomberg U.S. Aggregate	Correl /	Beta	Alpha (%)	Sharpe Ratio (%)	Track. Error / Info. Ratio (%)		DOWN Capture	Correl / R2	Beta	Alpha (%)	Sharpe Ratio (%)	Track. Error / Info. Ratio (%)	UP Capture	DOWN Capture	8/2020 - 10/2022	3/2020 - 3/2020	9/2019 9/2019
Bloomberg U.S. Aggregate	1/1	1	0	(0.12)	0/0	100%	100%	1/1	1	0	(0.76)	0/0	100%	100%	-17.2%	-0.6%	-0.5%
Harbor Core Bond Retirement	0.99 / 0.99	1.01	0.3	(80.0)	0.6 / 0.45	104%	101%	1 / 0.99	1.00	(0.0)	(0.76)	0.5 / -0.05	99%	100%	-17.1%	-1.3%	-0.5%
Managers vs. Bloomberg U.S. Aggregate	Monthly				g averages v ager incept		perg U.S.					Graph	Legend				
managoro vo. Bioomborg o.o. Aggrogate	1 Month Periods	% + Months	12 Month periods	% + 12- Months	36 Month Periods	% + 36 Months	Return Start Date		_	Harbo	r Core E	Bond Re	tiremeı	nt			
Harbor Core Bond Retirement	60	55%	49	67%	25	96%	Jun-18]									
								1									
		Pall	ing 26 N	Month () utporte		o Vorou	o the Di	loombo	ra II C	Vaakoe	voto					
0.7%		Koli	ing so-r	wioniin (Dutperfo	rmanc	e versu	is the bi		erg U.S.	Aggreç	jal e					
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0.2%																	
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-0.1% Dec-21			un-22				Dec-					Jun-23				Dec-	

Fiduciary Governance Calendar

Fiduciary Governance Calendar



The fiduciary governance calendar is designed to create a disciplined framework around governance, which helps ensure that over the course of a calendar year key fiduciary obligations and responsibilities are being met.



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

2024 Allocation Updates

		Y/Y Change	Context
	U.S. Bonds	A A	Increased yields, attractive return potential relative to global equity and a Fed policy path that has increasing potential to moderate or move lower makes intermediate investment-grade bonds more attractive.
	TIPS	▼	High real yields and inflation forecasts above the Fed's target of 2% make TIPS compelling, but higher yields and less overall interest rate risk make U.S. Bonds more so, therefore we are reducing TIPS modestly year over year.
Fixed Income	Dynamic Bonds		Given broader interest rate volatility and the potential for more credit relative events in the future, flexibility remains an attractive trait but we are not compelled to shift allocations at this time.
	High Yield Bonds	•	While yields are high relative to recent history, spreads (the yield above Treasuries) are modest. Coupled with our view that credit risk will rise in the coming years, we are reducing our allocation to credit risk broadly.
	Global Bonds	▼	The outlook for global bonds remains attractive, but on a risk-adjusted basis slightly less than U.S. Therefore, we are modestly reducing the position.
	U.S. Large Cap	A	We remain underweight U.S. large cap stocks based on the relative opportunity to U.S. small and international equities. However, we have reduced that underweight based on the significant percentage increase in U.S. equities in global indices.
Global Equity	U.S. Mid/Small Cap	▼	We remain overweight U.S. small cap securities. The dispersion between U.S. large and small cap stocks driven by a handful of securities has produced near-all time relative valuation differences. Additionally, small cap securities may benefit from easing rate policies. However, we have reduced that overweight based on the significant percentage increase in U.S. large cap equities in U.S. indices.
	Int'l Developed Equity	V	Non-U.S. equity remains attractive and an overweight within portfolios, but risk management compels us to temper how far to extend that view. Therefore, we are reducing
	Emerging Markets	V	our overweight slightly to non-U.S. equities. Valuations remain compelling both relative to both the U.S. and their own 20-year history. However, geopolitical risks remain elevated and in some way have expanded over the course of 2023.
Real Assets	Real Estate	V	Our overall level to real assets will remain the same year over year give our view of inflation remaining in the "messy middle". A 2% - 5% range offers compelling opportunities within
& Alternatives	Broad Real Assets	A	the overall category. However, our mix is shifting away modestly from real estate and toward assets that can benefit from a wider variety of factors.

2024-2033 Ten-Year Outlook

			2024	2023	Y / Y Change
	The Federal Reserve continued its battle with inflation in	U.S. Bonds	5.7%	5.0%	0.6%
	2023 and the market began to believe the rhetoric of "higher for longer". Yields rose across much of fixed income,	TIPS	5.2%	4.6%	0.6%
	improving forward long-term return assumptions.	Dynamic Bonds ¹	6.5%	5.6%	0.9%
Fixed	Credit, specifically high yield, was one of the best performing	High Yield Bonds	7.7%	7.1%	0.6%
Income	fixed income asset classes in 2023. 2024 projections rose solely based on higher Treasury rates as spreads (the additional yield aboveTreasuries) fell over the year.	Global Bonds	5.6%	5.1%	0.5%
	Municipal bond forecasts rose as well based on higher rates, but so did interest rate risk given the structure of the	Muni Bond²	6.3%	5.8%	0.5%
	market.	Muni High Yield²	10.2%	9.9%	0.3%
CL L L	U.S. equity forecasts are nearly flat year over year driven by higher valuations and very modest earnings growth for 2023. International forecasts fell on a similar accord, but to	U.S. All Cap	6.5%	6.7%	-0.2%
Global Equity	a larger degree also driven by higher anticipated volatility	Intl Developed Equity	8.2%	8.9%	-0.7%
Equity	outside of the U.S. Valuations outside the U.S. remain below their 20-year averages while U.S. valuations remain above 20-year averages.	Emerging Markets	10.1%	10.8%	-0.7%
	Real assets broadly struggled to keep up with equity markets as inflation fell throughout 2023. On the backs of lower	Real Estate	7.0%	6.4%	0.6%
	prices and inflation remaining elevated, forecasts across real asset categories rose.	Broad Real Assets ³	7.5%	6.8%	0.7%
Real Assets & Alternatives	Marketable alternatives forecasts benefited from higher base rates of returns earned in Treasuries and higher expected volatility within and across asset classes.	Marketable Alts	8.4%	8.1%	0.3%
	Private equity forecasts are largely flat year over year based on the offsetting factors of improving private equity valuations and more modest earnings growth outlook.	Private Equity	9.5%	9.7%	-0.2%

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.

Portfolio Implications

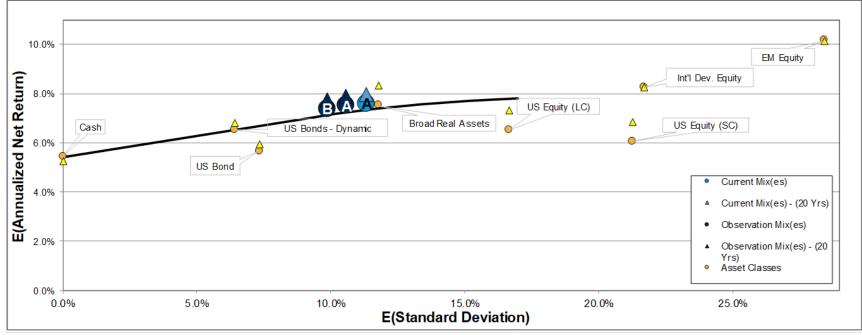
- Our 10-year return forecasts show increased opportunity across fixed income and real assets with a modest reduction in equity return expectations.
 - This makes for one of the more attractive risk-adjusted returns for fixed income relative to equity we have seen in several years.
- We believe range-bound inflation opens multiple paths to lower rates, creating opportunities for tailwinds in fixed income and more rate-sensitive assets.
- Narrow market leadership in U.S. equities creates fragility within, and opportunity outside of, U.S. technology stocks.
 - Exposure to large cap U.S. equity remains appropriate, but we also believe long-term investors will benefit from exposure to U.S. small and mid capitalization and non-U.S. stocks.
- The most predicted recession in history has not yet come to pass. We believe investor mindsets should shift from **predict** to **prepare**, as risks remain acute and market timing futile.
 - The best way to prepare for uncertainty is by building a well-diversified portfolio.

Asset Allocation Analysis

- We believe Asset Allocation is the primary determinant of long-term investment results.
- Our propriety Frontier Engineer® system is the cornerstone of asset allocation decisions.
- Our Capital Markets Group develops Capital Market Assumptions (CMAs) for each major asset class at least annually.
 - √ The Capital Markets Group considers and analyzes a wide variety of factors that we believe will have the
 greatest impact on future returns and risks for each asset class studied.
 - ✓ Our CMAs are not intended to predict the future return in any single year, but rather to reflect our median expected outcome over the next ten years.
 - ✓ Our forecasting efforts center on a ten-year horizon. Any adjustments made to extend the forecast horizon to twenty years or beyond are grounded in our expectation that asset classes ultimately mean revert towards longer term historical averages.
 - ✓ Fiducient Advisors' Capital Markets Team develop our CMAs based on a "building block" approach outlined in our white paper "Capital Market Forecasts". (Copies are available upon requested.)
- Correlations (how asset classes behave in reference to one another) also significantly impact asset allocation analysis.
- Fat Tails (non-normal return elements of skewness & kurtosis) also meaningfully impact our asset allocation analysis.

Frontier Engineer® Analysis

12/31/2023		·	Α	sset	Alloc	ation							F	orecast	S		Past (1/8	38-12/23)
	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 (20 Years)	Annualized Return (10 Years)	Annualized Volatility	Normal 100 Year Flood*	Non-Normal 100 Year Flood**	Annualized Net Retum	Annualized Volatility
Ledyard Current Mix (A)	41.5%	56.0%	2.5%	3.0%	36.0%	2.5%	21.5%	12.0%	16.0%	6.5%	2.5%	8.0%	7.6%	11.3%	-18.1%	-23.6%	8.1%	9.2%
+5% Fixed Income	46.5%	51.0%	2.5%	3.0%	34.5%	9.0%	25.0%	6.5%	13.5%	6.0%	2.5%	7.9%	7.5%	10.6%	-16.5%	-20.8%	8.0%	8.5%
+10% Fixed Income	51.5%	46.0%	2.5%	3.0%	37.5%	11.0%	23.5%	5.5%	12.0%	5.0%	2.5%	7.7%	7.4%	9.9%	-15%	-19%	7.8%	7.8%



^{*}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	
	7/1/2023	7/1/2022
Actuarial Value of Assets	\$30,367,826	\$28,700,912
Total Accrued Liability	\$34,234,228	\$32,850,603
Funded Ratio	88.7%	87.4%
Actuarial Return Assumption	6.25%	6.25%





Historical Annual Total Return

Annualized net returns as of 12/31/2023	Fixed Income	Equity	Real Assets	Alternatives	Past 3 Months (Not Annualized)	1-Year Return	3-Year Return	5-Year Return	7-Year Return	10-Year Return	15-Year Return	20-Year Return	25-Year Return	30-Year Return	36-Year Return
Ledyard Current Mix (A)	42%	56%	3%	0%	9.3%	14.2%	2.3%	7.5%	6.6%	5.8%	7.9%	6.6%	6.4%	7.1%	8.1%
Observation Mix (A)	47%	50%	4%	0%	8.8%	13.9%	2.5%	7.3%	6.5%	5.8%	7.7%	6.5%	6.2%	7.0%	8.0%
Cash	100%				1.4%	5.3%	2.2%	1.9%	1.8%	1.3%	0.9%	1.4%	1.8%	2.4%	3.0%
TIPS	100%				4.7%	3.9%	-1.0%	3.2%	2.5%	2.4%	3.5%	3.6%	4.8%	4.8%	5.8%
US Bond	100%				6.8%	5.5%	-3.3%	1.1%	1.3%	1.8%	2.7%	3.2%	3.9%	4.4%	5.4%
US Bonds - Dynamic	100%				4.9%	8.6%	0.8%	3.0%	2.7%	2.8%	4.4%	3.9%	4.1%	4.6%	5.6%
For. Dev. Bond	100%				7.9%	6.9%	-6.1%	-1.0%	0.3%	0.7%	1.4%	2.4%	3.0%	4.0%	4.7%
Global Bonds	100%				8.1%	5.7%	-5.5%	-0.3%	0.6%	0.4%	1.5%	2.4%	3.0%	3.9%	5.0%
HY Bond	100%				7.2%	13.4%	2.0%	5.4%	4.6%	4.6%	9.2%	6.6%	6.3%	6.7%	7.6%
EM Bond	100%				8.1%	12.7%	-3.2%	1.1%	1.9%	0.1%	2.7%	4.7%	6.6%	6.7%	7.7%
Global Equity		100%			11.1%	22.8%	6.2%	12.3%	10.6%	8.5%	10.8%	8.1%	6.4%	7.8%	8.1%
US Equity (AC)		100%			12.1%	26.0%	8.5%	15.2%	12.8%	11.5%	13.8%	9.7%	7.7%	10.0%	10.9%
US Equity (LC)		100%			11.7%	26.3%	10.0%	15.7%	13.4%	12.0%	14.0%	9.7%	7.6%	10.1%	10.9%
US Equity (MC)		100%			12.8%	17.2%	5.9%	12.7%	10.1%	9.4%	13.6%	9.8%	9.3%	10.6%	11.6%
US Equity (SC)		100%			14.0%	16.9%	2.2%	10.0%	7.3%	7.2%	11.3%	8.1%	7.9%	8.6%	9.7%
Non-US Equity (ACWI)		100%			9.8%	16.2%	2.0%	7.6%	6.8%	4.3%	7.2%	6.2%	5.2%	5.7%	5.9%
Int'l Dev. Equity		100%			10.5%	18.9%	4.5%	8.7%	7.4%	4.8%	7.4%	6.1%	4.9%	5.6%	5.8%
EM Equity		100%			7.9%	10.3%	-4.7%	4.1%	5.4%	3.0%	6.9%	7.2%	7.9%	4.8%	9.5%
Real Estate			100%		18.0%	11.4%	5.7%	7.6%	6.0%	8.0%	10.9%	8.3%	9.5%	9.5%	9.9%
Broad Real Assets			100%		8.9%	7.8%	3.9%	5.9%	4.8%	3.9%	6.9%	6.5%	8.4%	7.6%	6.6%
Marketable Alternatives				100%	3.1%	6.0%	2.1%	5.1%	4.1%	3.2%	3.8%	3.3%	4.4%	4.7%	6.9%
Private Equity				100%	0.0%	-0.2%	6.8%	13.3%	13.6%	12.6%	13.4%	13.0%	13.0%	15.1%	14.6%

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

²The 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.



Calendar Year Total Return

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Calendar Net Year Returns	Fixed Income	Equity	Real Assets	Alternatives	YTD 12/31/2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988
Ledyard Current Mix (A)	42%	56%	3%	0%	14%	-14%	9%	13%	19%	-5%	15%	8%	-1%	5%	14%	12%	0%	13%	23%	-23%	9%	15%	8%	12%	24%	-6%	-2%	-1%	15%	11%	13%	11%	21%	0%	18%	6%	25%	-4%	21%	17%
Observation Mix (A)	47%	50%	4%		14%	-14%	9%	12%	18%	-4%	14%	7%	-1%	6%	12%	11%	1%	12%	22%	-22%	9%	14%	7%	11%	21%	-4%	-2%	-1%	14%	11%	14%	11%	20%	0%	17%	6%	23%	-2%	21%	16%
Cash	100%				5%	2%	0%	1%	2%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	5%	3%	1%	1%	2%	4%	6%	5%	5%	5%	5%	6%	4%	3%	4%	6%	8%	9%	7%
TIPS	100%				4%																					17%														
US Bond	100%				6%	-13%	-2%	8%	9%	0%	4%	3%	1%	6%	-2%	4%	8%	7%	6%	5%	7%	4%	2%	4%	4%	10%	8%	12%	-1%	9%	10%	4%	18%	-3%	10%	7%	16%	9%	15%	8%
US Bonds - Dynamic	100%				9%	-7%	1%	5%	8%	1%	4%	7%	-1%	3%	2%	7%	4%	7%	19%	-7%	4%	7%	3%	6%	10%	3%	6%	3%	3%	6%	9%	8%	14%	0%	10%	9%	21%	1%	15%	8%
For. Dev. Bond	100%				7%	-18%	-6%	8%	7%	1%	6%	3%	-2%	4%	-2%	4%	5%	4%	3%	9%	8%	5%	-2%	9%	10%	14%	1%	4%	-1%	15%	3%	8%	19%	1%	14%	6%	14%	9%	0%	6%
Global Bonds	100%				6%	-16%	-5%	9%	7%	-1%	7%	2%	-3%	1%	-3%	4%	6%	6%	7%	5%	9%	7%	-4%	9%	13%	17%	2%	3%	-5%	14%	4%	5%	20%	0%	11%	6%	16%	11%	15%	8%
HY Bond	100%				13%	-11%	5%	7%	14%	-2%	8%	17%	-4%	2%	7%	16%	5%	15%	58%	-26%	2%	12%	3%	11%	29%	-1%	5%	-6%	2%	2%	13%	11%	19%	-1%	17%	16%	46%	-10%	1%	13%
EM Bond	100%				13%	-12%	-9%	3%	13%	-6%	15%	10%	-15%	-6%	-9%	17%	-2%	16%	22%	-5%	18%	15%	6%	23%	17%	14%	10%	13%	20%	-8%	11%	38%	27%	-19%	17%	16%	46%	-10%	1%	13%
Global Equity		100%			23%						25%			•												-19%		-14%											18%	24%
US Equity (AC)		100%			26%	-19%	26%	21%	31%	-5%	21%	13%	0%	13%	34%	16%	1%	17%	28%	-37%	5%	16%	6%	12%	31%	-22%	-11%	-7%	21%	24%	32%	22%	37%	0%	11%	10%	34%	-5%	29%	18%
US Equity (LC)		100%			26%	-18%	29%	18%	31%	-4%	22%	12%	1%	14%	32%	16%	2%	15%	26%	-37%	5%	16%	5%	11%	29%	-22%	-12%	-9%	21%	29%	33%	23%	38%	1%	10%	8%	30%	-3%	32%	17%
US Equity (MC)		100%			17%	-17%	23%	17%	31%	-9%	19%	14%	-2%	13%	35%	17%	-2%	25%	40%	-41%	6%	15%	13%	20%	40%	-16%	-6%	8%	18%	10%	29%	19%	34%	-2%	14%	16%	42%	-11%	26%	20%
US Equity (SC)		100%			17%	-20%	15%	20%	26%	-11%	15%	21%	-4%	5%	39%	16%	-4%	27%	27%	-34%	-2%	18%	5%	18%	47%	-20%	2%	-3%	21%	-3%	22%	16%	28%	-2%	19%	18%	46%	-19%	16%	25%
Non-US Equity (ACWI)		100%			16%	-16%	8%	11%	22%	-14%	28%	5%	-5%	-3%	16%	17%										-15%		-15%									14%	-23%	12%	28%
Int'l Dev. Equity		100%			19%	-14%	12%	8%	23%	-13%	26%	2%	0%	-4%	23%	18%	-12%	8%	32%	-43%	12%	27%	14%	21%	39%	-16%	-21%	-14%	27%	20%	2%	6%	12%	8%	33%	-12%	12%	-23%	11%	29%
EM Equity		100%			10%	-20%	-2%	19%	19%	-14%	38%	12%	-15%	-2%	-2%	19%	-18%	19%	79%	-53%	40%	33%	35%	26%	56%	-6%	-2%	-31%	66%	-25%	-12%	6%	-5%	-7%	75%	11%	60%	-11%	65%	40%
Real Estate			100%		11%	-25%	41%	-5%	29%	-4%	9%	9%	3%	28%	3%	20%	8%	28%	28%	-38%	-16%	35%	12%	32%	37%	4%	14%	26%	-5%	-18%	20%	35%	15%	3%	20%	15%	36%	-15%	9%	13%
Broad Real Assets			100%		8%		15%	. , .		-							-									25%												-6%	2%	3%
Marketable Alternatives				100%	6%	-5%	6%	11%	8%	-4%	8%	1%	0%	3%	9%	5%	-6%	6%	11%	-21%	10%	10%	7%	7%	12%	1%	3%	4%	26%	-5%	16%	14%	11%	-3%	26%	12%	14%	18%	23%	19%
Private Equity				100%	0%	-12%	40%	32%	16%	13%	16%	9%	8%	15%	23%	12%	12%	18%	10%	-20%	18%	25%	21%	22%	14%	-16%	-21%	10%	125%	21%	32%	33%	32%	14%	23%	14%	14%	4%	9%	9%

Historical Returns for each Mix based on back-tested return 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 used 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. For additional information on forecast methodologies, 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.

Capital Market Assumptions

Return & Risk Assumptions (Forecasts)	Arithmetic Return	Geometric Return	Standard Deviation	Skewness	Kurtosis
Cash	5.4%	5.4%	0.0%	0	0
US Bond	5.9%	5.7%	7.3%	-0.50	1.68
US Bonds - Dynamic	6.7%	6.5%	6.4%	-0.96	6.34
US Equity (LC)	7.9%	6.5%	16.6%	-0.55	0.79
US Equity (SC)	8.3%	6.0%	21.3%	-0.44	1.10
Int'l Dev. Equity	10.6%	8.2%	21.7%	-0.52	1.25
EM Equity	14.2%	10.1%	28.4%	-0.61	1.96
Broad Real Assets	8.2%	7.5%	11.8%	-1.53	8.15

Correlation Assumptions (Forecasts)	Cash	US Bond	US Bonds - Dynamic	US Equity (LC)	US Equity (SC)	Int'l Dev. Equity	EM Equity	Broad Real Assets
Cash	1	0	0	0	0	0	0	0
US Bond	0	1.00	0.57	0.22	0.13	0.19	0.11	0.38
US Bonds - Dynamic	0	0.57	1.00	0.61	0.59	0.56	0.57	0.75
US Equity (LC)	0	0.22	0.61	1.00	0.84	0.70	0.66	0.64
US Equity (SC)	0	0.13	0.59	0.84	1.00	0.63	0.66	0.64
Int'l Dev. Equity	0	0.19	0.56	0.70	0.63	1.00	0.71	0.61
EM Equity	0	0.11	0.57	0.66	0.66	0.71	1.00	0.59
Broad Real Assets	0	0.38	0.75	0.64	0.64	0.61	0.59	1.00

October 31, 2023 Ten-Year Forecasted CMAs

^{*}Historical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hyperical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hyperical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hyperical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hyperical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hyperical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hyperical mix return assumption of 0.5% with a Fiducient Advisors' hyperical mix return assumption of 0.5% with a Fiducient Advisors' hyperical mix return assumption of 0.5% with a Fiducient Advisors' hyperical mix return assumption of 0.5% with a Fiducient Advisors' hyperical mix return assumption of 0.5% with a Fiducient Advisors' hyperical mix return assumption of 0.5% with a Fiducient Advisors' hyperical mix return assumption of 0.5% with a Fiducient Advisor hyperical mix return assumption of 0.5% with a Fiducient Advisor hyperical mix return assumption as a fiducient Advisor hyperical mix return as a fiducient Advisor hyperical mix return as a fiducient and fiducient Advisor hyperical mix return as a fiducient and fiducient hyperical mix return as a fiducient hyperical mix return

Indices for Past Return & Risk Metrics

Indices used to generate historical risk and return metrics	Most Recent Index		dex ates	Linked Index 1		dex ates	Linked Index 2		idex ates	Linked Index 2		dex ates
Cash	FTSE Treasury Bill 3 Mon USD	12/23	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.
US Bond	Bloomberg US Agg Bond TR USD	12/23	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.
US Bonds - Dynamic	*Custom Blend of Indices	12/23	- 2/90	Bloomberg US Agg Bond TR USD	1/90	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.
US Equity (LC)	S&P 500 TR USD	12/23	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.
US Equity (SC)	Russell 2000 TR USD	12/23	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.
Int'l Dev. Equity	MSCI EAFE GR USD	12/23	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.
EM Equity	MSCI EM GR USD	12/23	- 1/88	MSCI EAFE GR USD	12/87	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.
Broad Real Assets	S&P Real Asset TR USD	12/23	- 5/05	*Custom Real Assets Index	4/05	- 1/79	N.A.	N.A.	- N.A.	N.A.	N.A.	- N.A.

^{*}US Bonds - Dynamic Index - 1/3 Bloomberg Gbl Agg Ex USD TR Hdg USD, 1/3 FTSE Treasury Bill 3 Mon USD & 1/3 Bloomberg US Corporate High Yield TR USD 0.25%.

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.

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 Fit 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 U.S. 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 interestrate 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 that 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 <u>manager</u> performed if the market's return was zero. A <u>positive</u> 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 aloss.

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 riskof 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.