



**FIDUCIENT**

Advisors

Helping Clients Prosper

# Quarterly Considerations

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Q4 2023



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# Market Themes

1. 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.

## Preparing Not Predicting - Frequency of Market Events Since 1950

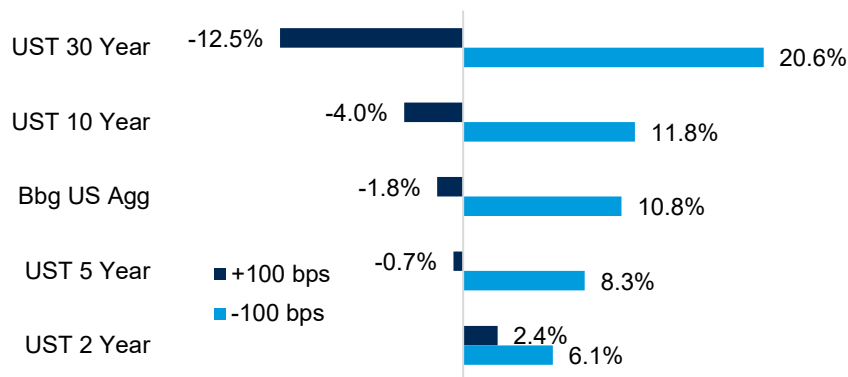
Market volatility and recessions are a normal part of investing. Recessions, on average, since 1980 occur every six and a half years. As long-term investors we should not seek to predict and avoid them, but prepare for their inevitable arrival.

Environment	-5% or more	-10% or more	-15% or more	-20% or more	Recession <sup>1</sup>
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.

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

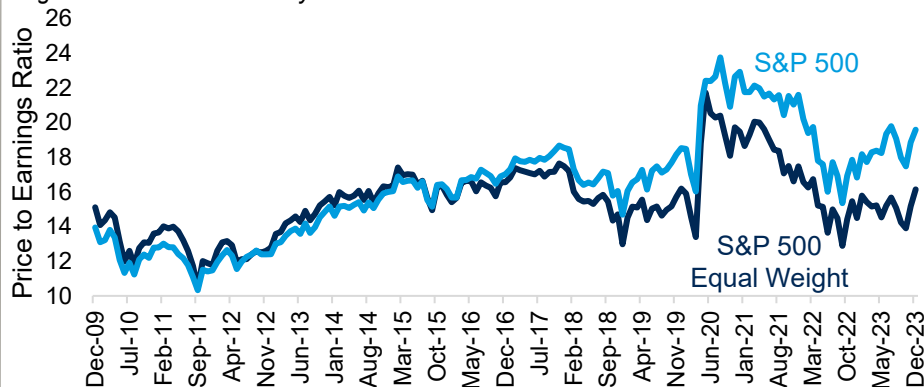
Rangebound inflation increases the probability of rates moving lower. This creates an attractive risk/reward for intermediate duration fixed income.



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.

## 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.

Indices cannot be invested in directly.



# Economic Review

## Real U.S. Federal Funds Rate

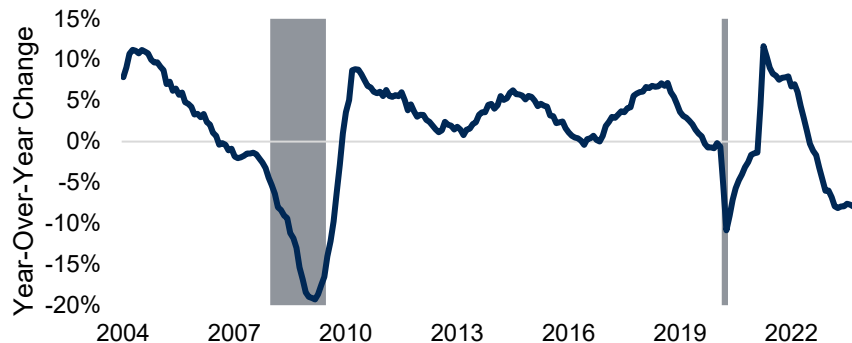
On a real basis, the Fed moved into restrictive policy territory in April 2023. Even with the market implied rate cuts this year, at current inflation levels, the central bank's policy rate would remain restrictive.



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. Leading Economic Indicator Index

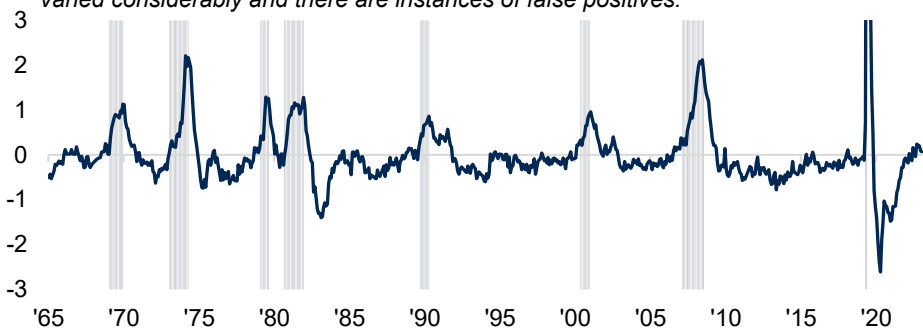
While some economic data remains positive the LEI Index has remained in negative territory since July 2022 signaling the potential for an economic slowdown.



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

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

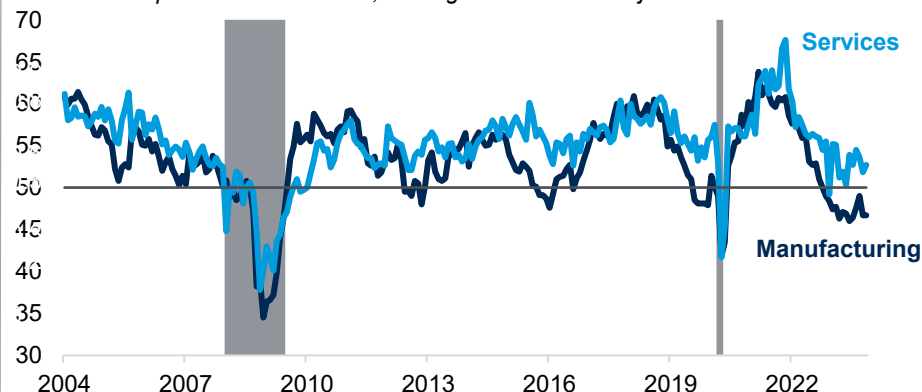
The U.S. labor market remains on solid foundation. However, the current level of unemployment is above the 12-month moving average. This has historically preceded a period of economic weakness; however, the timing of the onset has varied considerably and there are instances of false positives.



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. Manufacturing and Services PMI Levels

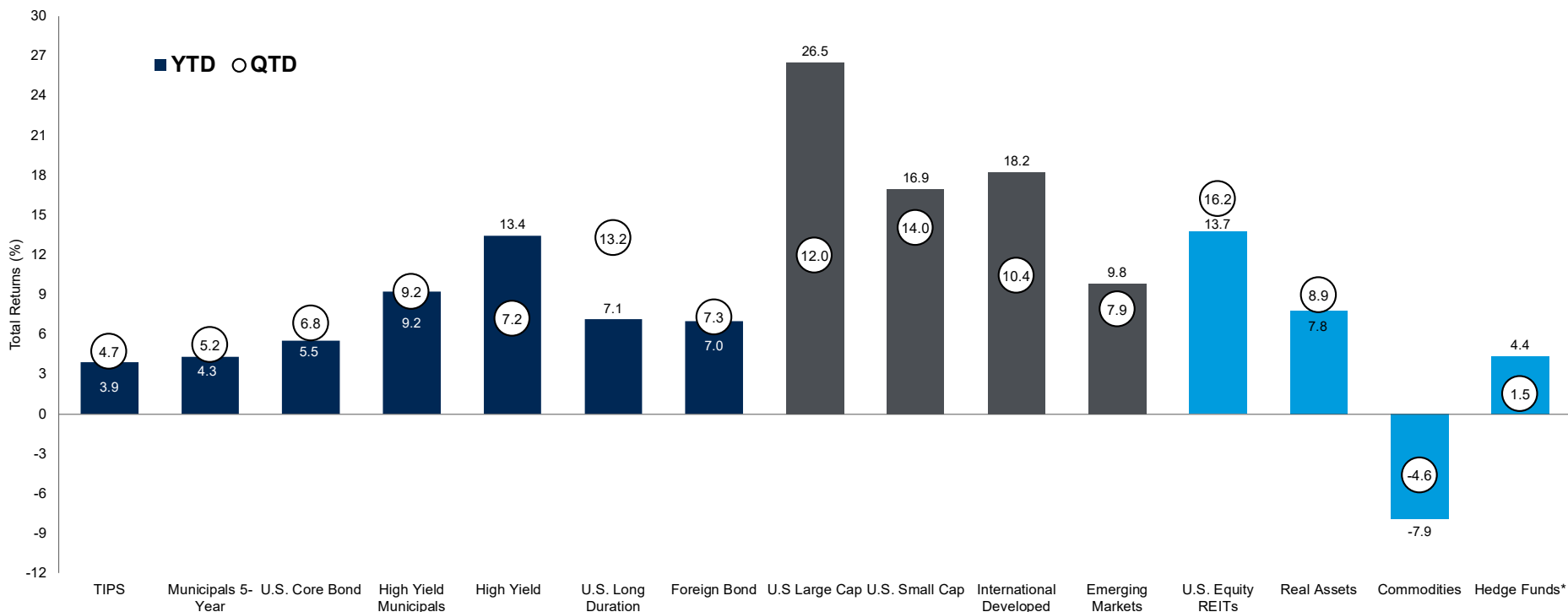
While the manufacturing sector has been in contraction territory (below 50), the services sector has remained resilient. Personal consumption expenditures on services represent 45% of GDP, while goods account for just 23%.



Sources: FactSet, ISM, ECRI. As of November 30, 2023. Grey bars indicate recession period. A level over 50 indicates expansion.



# Asset Class Returns



Source: Morningstar Direct. As of December 31, 2023. \*Hedge fund returns as of November 30, 2023.

## 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 quarter. Relative value strategies were a top segment in the period.

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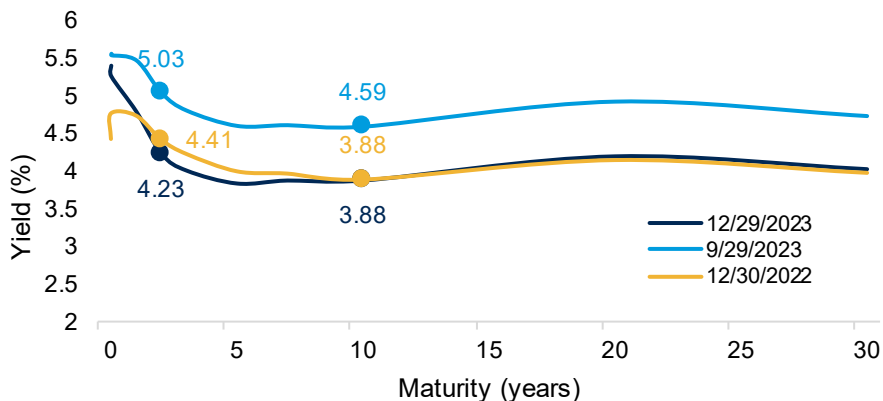
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# Fixed Income Market Update

## U.S. Treasury Yield Curve

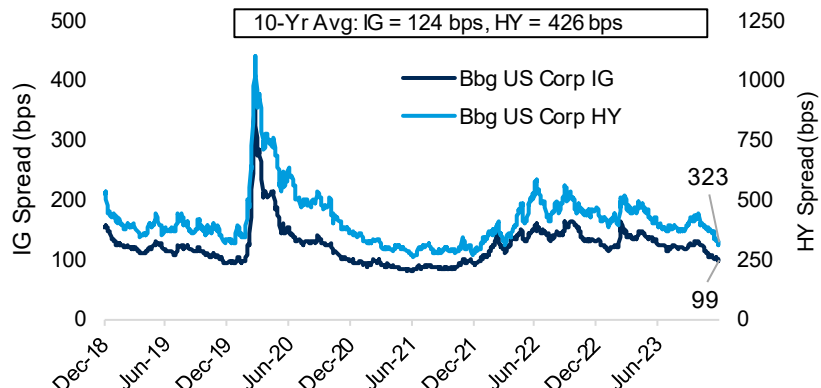
Interest rates fell across the yield curve during the quarter, maintaining an inverted curve, with short maturities ending slightly lower than in 2022. Notably, the 10-year contracted 71 basis points during the quarter. Signs of slowing inflation fueled expectations of 2024 rate cuts which relieved pressure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



Source: FactSet. As of December 29, 2023.

## Corporate Market Spreads – Trailing 5 Years

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

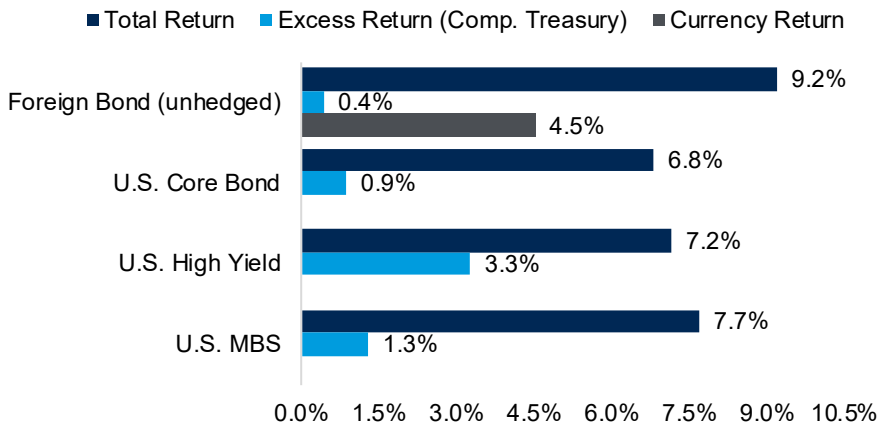


Source: FactSet. As of December 29, 2023.

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## Index Performance Attribution (4Q 2023)

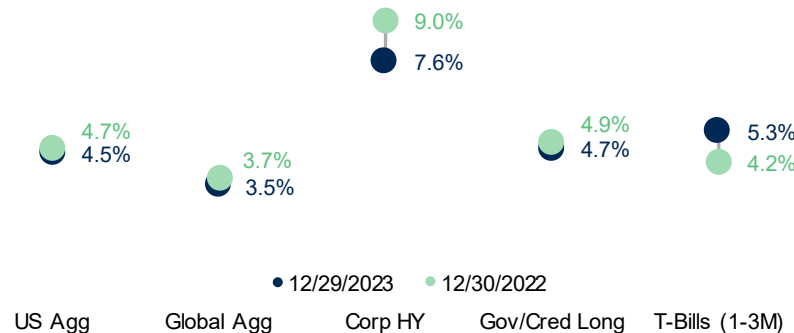
Fixed income markets rose across the board, with narrowing credit spreads and declining rates causing all sectors to surpass U.S. Treasuries on a duration-adjusted basis. Foreign bonds had strong additional tailwinds from a declining U.S. Dollar.



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.



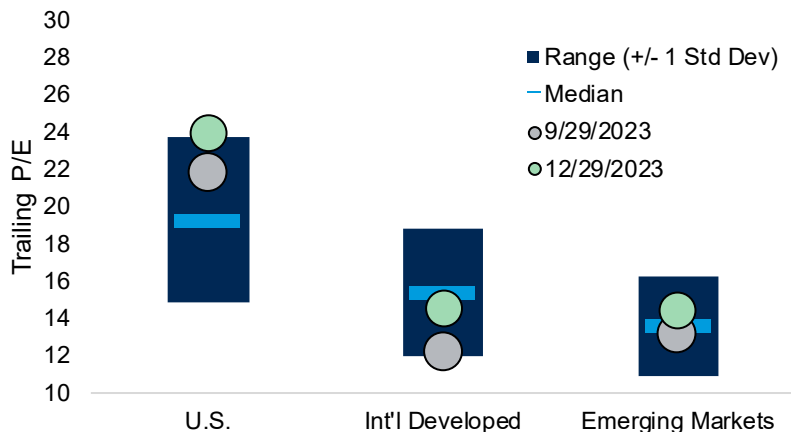
Source: FactSet. As of December 29, 2023. Based on respective Bloomberg Index.



# Equity Market Update

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

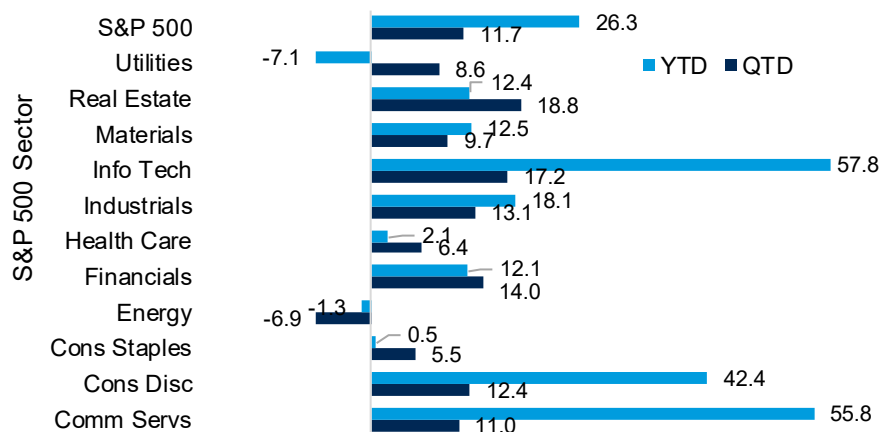
Strong results in the fourth quarter propelled valuations higher across regions. The U.S. trades around one standard deviation above average. Much of the move higher over the course of the year can be attributed to the “Mag 7” stocks.



Source: FactSet. As of December 29, 2023.

## U.S. Equities – Return by Sector

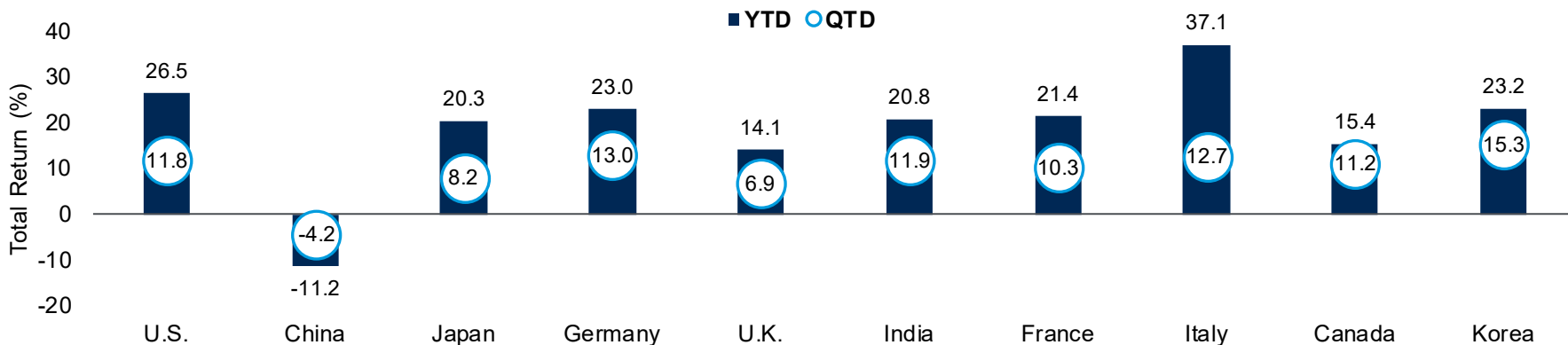
Domestic equity markets had both a strong quarter and calendar year 2023. The notable standouts of technology, consumer discretionary, and communication services was driven by the narrow market leadership of the “Magnificent 7”.



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.

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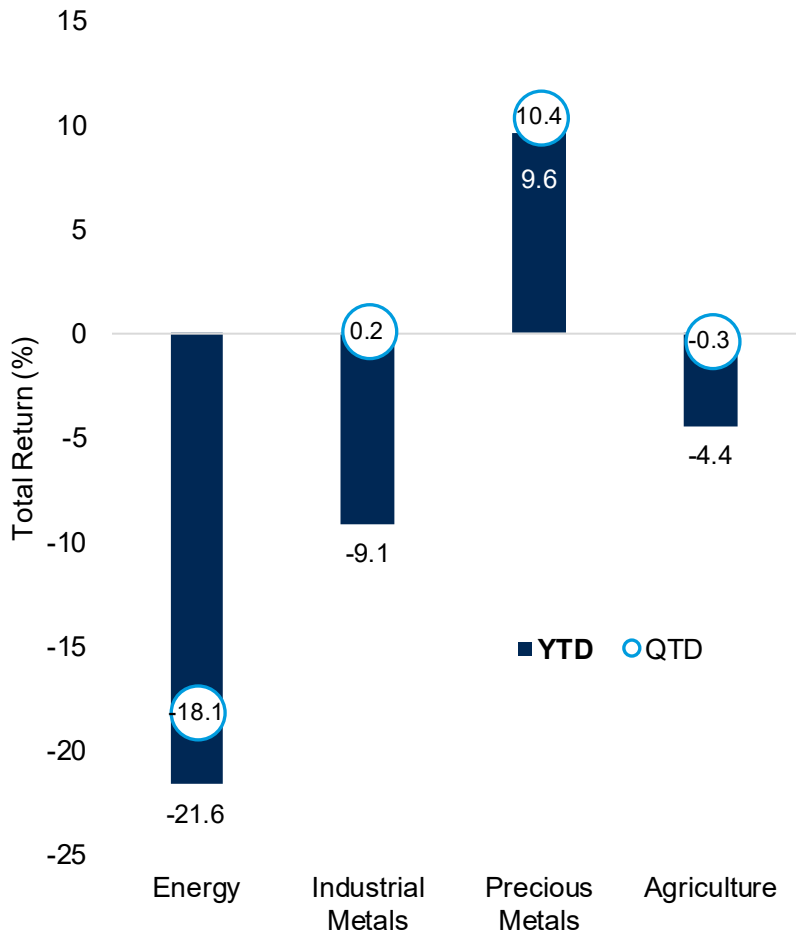
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# Real Assets Market Update

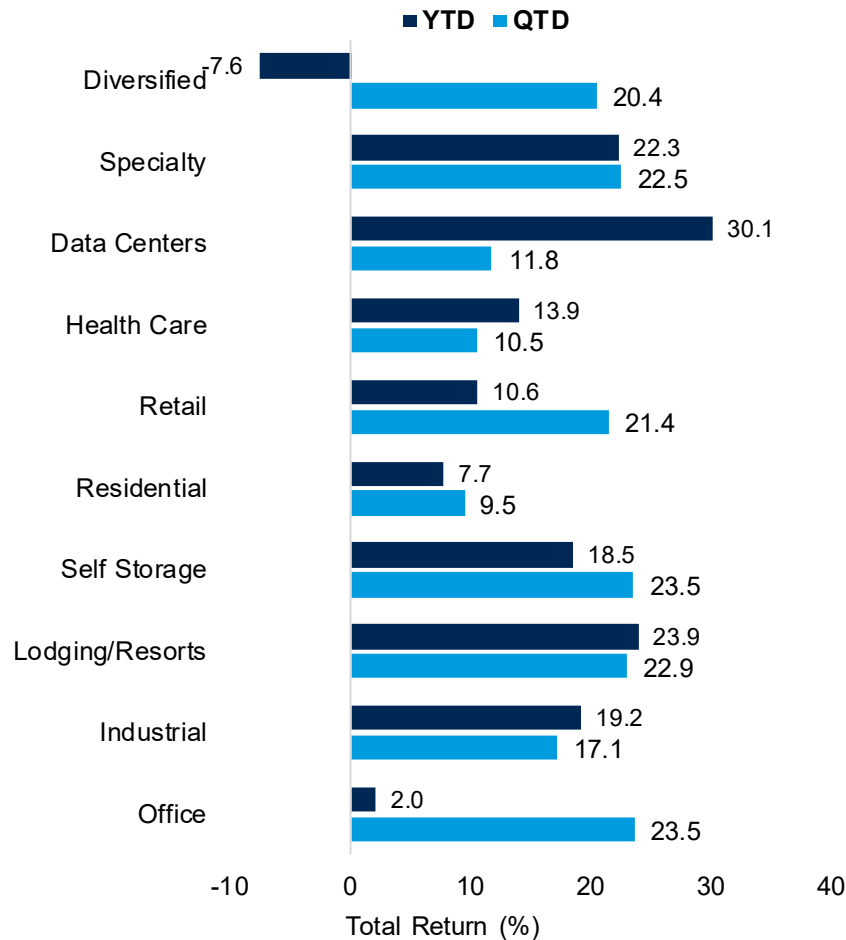
## Commodity Performance

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.

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# The Case for Diversification

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10 Years (Ann)
U.S. Small Cap 38.8	U.S. Equity REITs 30.1	U.S. Equity REITs 3.2	U.S. Small Cap 21.3	Emerging Markets 37.3	High Yield Munis 4.8	U.S. Large Cap 31.5	U.S. Small Cap 20.0	U.S. Equity REITs 43.2	Commodities 16.1	U.S. Large Cap 26.5	U.S. Large Cap 11.8
U.S. Large Cap 32.4	High Yield Munis 13.8	Municipals 5-Year 2.4	High Yield 17.1	International Dev. 25.0	Municipals 5-Year 1.7	U.S. Equity REITs 26.0	U.S. Large Cap 18.4	Commodities 27.1	Municipals 5-Year -5.3	International Developed 18.2	U.S. Equity REITs 7.6
International Dev. 22.8	U.S. Large Cap 13.7	High Yield Munis 1.8	U.S. Large Cap 12.0	U.S. Large Cap 21.8	Foreign Bond 0.5	U.S. Small Cap 25.5	Emerging Markets 18.3	US Large Cap 26.5	Hedge Funds -5.6	U.S. Small Cap 16.9	U.S. Small Cap 7.2
Balanced 12.2	Core Bond 6.0	U.S. Large Cap 1.4	Commodities 11.7	EM Debt (unhedged) 15.2	Core Bond 0.0	International Dev. 22.5	TIPS 11.0	US Small Cap 14.8	High Yield -11.2	U.S. Equity REITs 13.7	High Yield Municipals 5.0
Hedge Funds 9.0	Balanced 5.1	Core Bond 0.6	Emerging Markets 11.2	U.S. Small Cap 14.6	TIPS -1.3	Emerging Markets 18.4	Balanced 8.8	International Dev. 11.3	EM Debt (unhedged) -11.7	High Yield 13.4	Balanced 4.7
High Yield 7.4	U.S. Small Cap 4.9	Hedge Funds -0.3	EM Debt (unhedged) 9.9	Balanced 13.6	High Yield -2.1	Balanced 17.5	International Dev. 7.8	Balanced 9.8	TIPS -11.8	Balanced 12.8	High Yield 4.6
U.S. Equity REITs 2.5	TIPS 3.6	International Dev. -0.8	U.S. Equity REITs 8.5	High Yield Munis 9.7	Hedge Funds -4.0	High Yield 14.3	Core Bond 7.5	High Yield Munis 7.8	U.S. Core Bond -13.0	EM Debt (unhedged) 12.7	International Developed 4.3
Municipals 5-Year 0.8	Hedge Funds 3.4	TIPS -1.4	Balanced 7.6	Hedge Funds 7.8	U.S. Large Cap -4.4	EM Debt (unhedged) 13.5	Hedge Funds 7.1	TIPS 6.0	High Yield Municipals -13.1	Emerging Markets 9.8	Hedge Funds 3.2
Foreign Bond -1.0	Municipals 5-Year 3.2	Foreign Bond -2.3	TIPS 4.7	High Yield 7.5	U.S. Equity REITs -4.6	High Yield Munis 10.7	High Yield 7.1	Hedge Funds 5.7	Foreign Bond -14.2	High Yield Municipals 9.2	Emerging Markets 2.7
Core Bond -2.0	Foreign Bond 2.9	Balanced -3.3	Foreign Bond 3.2	Foreign Bond 6.5	Balanced -5.8	Core Bond 8.7	Foreign Bond 7.0	High Yield 5.3	International Dev. -14.5	Foreign Bond 7.0	TIPS 2.4
Emerging Markets -2.6	High Yield 2.5	U.S. Small Cap -4.4	High Yield Munis 3.0	U.S. Equity REITs 5.2	EM Debt (unhedged) -6.2	TIPS 8.4	High Yield Munis 4.9	Municipals 5-Year 0.3	Balanced -14.9	U.S. Core Bond 5.5	Municipals 5-Year 1.9
High Yield Munis -5.5	Emerging Markets -2.2	High Yield -4.5	Core Bond 2.6	Core Bond 3.5	U.S. Small Cap -11.0	Hedge Funds 7.8	Municipals 5-Year 4.3	Core Bond -1.5	U.S. Large Cap -19.1	Hedge Funds 4.4	U.S. Core Bond 1.8
TIPS -8.6	International Dev. -4.9	Emerging Markets -14.9	International Dev. 1.0	Municipals 5-Year 3.1	Commodities -11.2	Commodities 7.7	EM Debt (unhedged) 2.7	Emerging Markets -2.5	Emerging Markets -20.1	Municipals 5-Year 4.3	Foreign Bond 1.0
EM Debt (unhedged) -9.0	EM Debt (unhedged) -5.7	EM Debt (unhedged) -14.9	Hedge Funds 0.5	TIPS 3.0	International Dev. -13.8	Foreign Bond 6.3	Commodities -3.1	Foreign Bond -4.2	U.S. Small Cap -20.4	TIPS 3.9	EM Debt (unhedged) 0.1
Commodities -9.5	Commodities -17.0	Commodities -24.7	Municipals 5-Year -0.4	Commodities 1.7	Emerging Markets -14.6	Municipals 5-Year 5.4	U.S. Equity REITs -8.0	EM Debt (unhedged) -8.7	U.S. Equity REITs -24.4	Commodities -7.9	Commodities -1.1

Sources: Morningstar, FactSet. As of December 31, 2023. \*Periods greater than one year are annualized. Total returns in U.S. dollars. Hedge Funds as of November 30, 2023.

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# 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**

<b>Global Fixed Income Markets</b>	<b>QTD</b>	<b>YTD</b>	<b>1YR</b>	<b>3YR</b>	<b>5YR</b>	<b>7YR</b>	<b>10YR</b>	<b>15YR</b>
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%
<b>Global Equity Markets</b>	<b>QTD</b>	<b>YTD</b>	<b>1YR</b>	<b>3YR</b>	<b>5YR</b>	<b>7YR</b>	<b>10YR</b>	<b>15YR</b>
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%
<b>Alternatives</b>	<b>QTD</b>	<b>YTD</b>	<b>1YR</b>	<b>3YR</b>	<b>5YR</b>	<b>7YR</b>	<b>10YR</b>	<b>15YR</b>
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.

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

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When referencing asset class returns or statistics, the following indices are used to represent those asset classes, unless otherwise noted. Each index is unmanaged, and investors can not actually invest directly into an index:

- TIPS: Bloomberg US Treasury US TIPS TR USD
- Municipals 5-Year: Bloomberg Municipal Bond 5 Year (4-6) TR USD
- U.S. Core Bond: Bloomberg US Aggregate Bond TR USD
- High Yield Municipals: Bloomberg HY Muni TR USD
- High Yield: Bloomberg US Corporate High Yield TR USD
- U.S. Long Duration: Bloomberg U.S. Long Government/Credit TR USD
- Foreign Bond: Bloomberg Global Aggregate ex-USD TR USD (50/50 blend of hedged and unhedged)
- EM Debt (unhedged): J.P. Morgan GBI-EM Global Diversified Composite Unhedged TR USD
- U.S. Large Cap: Russell 1000 TR USD
- U.S. Small Cap : Russell 2000 TR USD
- International Developed: MSCI EAFE NR USD
- Emerging Markets: MSCI Emerging Markets NR USD
- U.S. Equity REITs: FTSE Nareit Equity REITs TR USD
- Real Assets: S&P Real Assets TR USD
- Commodities: Bloomberg Commodity TR USD
- Hedge Funds: Hedge Fund Research HFRI Fund of Funds Composite USD
- Foreign Bond Unhedged: Bloomberg Global Aggregate ex USD TR USD unhedged
- U.S. MBS: Bloomberg US MBS (30Y) TR USD
- Balanced: 18% U.S. Large Cap, 6% U.S. Small Cap, 5% U.S. Equity REITs, 16% International Developed, 4% High Yield, 8% Emerging Markets, 3% TIPS, 33% U.S. Core Bond, 4% Foreign Bond, 3% Commodities, 0% EM Debt (unhedged).

Equity valuations are based on trailing 12-month P/E ratios for S&P 500 Index (U.S.), MSCI EAFE Index (Int'l Developed), and MSCI EM Index (Emerging Markets)

S&P 500 sector performance based on the following indices: S&P 500 Sec/Commun Services TR USD, S&P 500 Sec/Financials TR USD, S&P 500 Sec/Energy TR USD, S&P 500 Sec/Industrials TR USD, S&P 500 TR USD, S&P 500 Sec/Health Care TR USD, S&P 500 Sec/Cons Disc TR USD, S&P 500 Sec/Utilities TR USD, S&P 500 Sec/Cons Staples TR USD, S&P 500 Sec/Materials TR USD, S&P 500 Sec/Information Technology TR USD, S&P 500 Sec/Real Estate TR USD

Equity country returns based on the following indices: U.S.: MSCI USA NR USD, China: MSCI CHINA NR USD, Japan: MSCI Japan NR USD, Germany: MSCI Germany NR USD, United Kingdom: MSCI NR USD, India: MSCI India NR USD, France: MSCI France NR USD, Italy: MSCI Italy NR USD, Canada: MSCI Canada NR USD, Korea: MSCI Korea NR USD, Energy:

Commodity Performance based on the following indices: Energy: Bloomberg Sub Energy TR USD, Industrial Metals: Bloomberg Sub Industrial Metals TR USD, Precious Metals: Bloomberg Sub Precious Metals TR USD, Agriculture: Bloomberg Sub Agriculture TR USD

REIT sector performance is based on the following indices: FTSE Nareit Equity Health Care TR, FTSE Nareit Equity Lodging/Resorts TR, FTSE Nareit Equity Office TR, FTSE Nareit Equity Data Centers TR, FTSE Nareit Equity Diversified TR, FTSE Nareit Equity Specialty TR, FTSE Nareit Equity Retail TR, FTSE Nareit Equity Residential TR, FTSE Nareit Equity Industrial TR, FTSE Nareit Equity Self Storage TR

Marketable Alternatives indices used include HFRI Fund of Funds Composite Index, HFRI Asset Weighted Composite Index, HFRI Equity Hedge (Total) Index – Asset Weighted, HFRI Event Driven (Total) Index – Asset Weighted, HFRI Macro (Total) Index – Asset Weighted, HFRI Relative Value (Total) Index – Asset Weighted. HFRI Fund of Funds Composite Index is not asset weighted.



# Material Risks & Limitations

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**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.

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

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

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

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

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

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

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

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



# Disclosures – Index & Benchmark Definitions

## Index & Benchmark Definitions

### Fixed Income

- **Bloomberg 1-3 Month U.S. Treasury Bill Index** is designed to measure the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than or equal to 1 month and less than 3 months.
- **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.
- **Bloomberg US Government/Credit 1-3 Year Index** is the 1-3 year 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 US Government/Credit Long Index** is the Long 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 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 High Yield Municipal Bond Index** covers the universe of fixed rate, non-investment grade debt.
- **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.
- **JPMorgan GBI-EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

### Equity

- **The S&P 500 Index** is a capitalization-weighted index designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **Russell 3000 Value Index** measures the performance of those Russell 3000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 3000 Index** 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 3000 Growth Index** measures the performance of those Russell 3000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value Index** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 1000 Index** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth Index** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value Index** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap Index** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth Index** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value Index** measures the performance of those Russell 2000 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 Index** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across Developed Markets countries (excluding the United States) and Emerging Markets countries. The index covers approximately 85% of the global equity opportunity set outside the U.S.
- **MSCI ACWI Index** captures large and mid cap representation across Developed Markets and Emerging Markets countries. The index covers approximately 85% of the global investable opportunity set.
- **MSCI EAFE IMI Index** is an equity index which captures large, mid and small cap representation across Developed Markets countries around the world, excluding the U.S. and Canada. The index covers approximately 99% of the free float-adjusted market capitalization in each country.
- **MSCI EAFE Value Index** 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.
- **MSCI EAFE Index** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the U.S. and Canada. The index covers approximately 85% of the free float-adjusted market capitalization in each country.



# Disclosures – Index & Benchmark Definitions

- **MSCI EAFE Growth Index** 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.
  - **MSCI EAFE Large Cap Index** is an equity index which captures large cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 70% of the free-float adjusted market capitalization in each country.
  - **MSCI EAFE Small Cap Index** is an equity index which captures small cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 14% of the free float adjusted market in each country.
  - **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across Developed Markets countries (excluding the United States) and Emerging Markets countries. The index covers approximately 85% of the global equity opportunity set outside the U.S.
  - **MSCI Emerging Markets IMI Index** captures large, mid and small cap representation across 24 Emerging Markets countries. The index covers approximately 99% of the free-float adjusted market capitalization in each country.
  - **MSCI Emerging Markets Value Index** captures large and mid-cap securities exhibiting overall value style characteristics across Emerging Markets countries. 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.
  - **MSCI Emerging Markets Index** captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country.
  - **MSCI Emerging Markets Growth Index** captures large and mid-cap representation across Emerging Markets countries. 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.
  - **MSCI Emerging Markets Index** captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country.
  - **MSCI Emerging Markets (EM) Small Cap Index** includes small cap representation across Emerging Markets countries. The index covers approximately 14% of the free float-adjusted market capitalization in each country. The small cap segment tends to capture more local economic and sector characteristics relative to larger Emerging Markets capitalization segments.
  - **The S&P 500® Equal Weight Index (EWI)** is the equal-weight version of the widely-used S&P 500. The index includes the same constituents as the capitalization weighted S&P 500, but each company in the S&P 500 EWI is allocated a fixed weight - or 0.2% of the index total at each quarterly rebalance.
- Alternatives & Miscellaneous*
- **S&P Real Asset Index** is designed to measure global property, infrastructure, commodities, and inflation-linked bonds using liquid and investable component indices that track public equities, fixed income, and futures. In the index, equity holds 50% weight, commodities 10%, and fixed income 40%.
  - **FTSE Nareit Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
  - **FTSE EPRA Nareit Developed Index** is designed to track the performance of listed real estate companies and REITs worldwide.
  - **FTSE EPRA Nareit Developed ex US Index** is a subset of the FTSE EPRA Nareit Developed Index and is designed to track the performance of listed real estate companies and REITs in developed markets excluding the US.
  - **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.
  - **The Alerian MLP Index** is a 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.
  - **HFRI Asset Weighted Composite Index** is a global, asset-weighted index comprised of 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 \$10 Million under management and a twelve (12) month track record of active performance. The HFRI Asset Weighted Composite Index does not include Funds of Hedge Funds. The constituent funds of the HFRI Asset Weighted Composite Index are weighted according to the AUM reported by each fund for the prior month.
  - **HFRI Fund of Funds Composite Index** is a global, equal-weighted index of all fund of hedge funds that report to the HFR Database. Constituent funds report monthly net of all fees performance in U.S. Dollars and have a minimum of \$50 million under management or a twelve (12) month track record of active performance.
  - **HFRI Equity Hedge Index** is an index of Investment Managers who maintain positions both long and short in primarily equity and equity derivative securities. Strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. EH managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or \$10 Million under management and a twelve (12) month track record of active performance.
  - **HFRI Event Driven Index** is an index of Investment Managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or \$10 Million under management and a twelve (12) month track record of active performance



# Disclosures – Index & Benchmark Definitions

- **HFRI Macro Index** is an index of investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or \$10 Million under management and a twelve (12) month track record of active performance.
- **HFRI Relative Value Index** is an index of Investment Managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or \$10 Million under management and a twelve (12) month track record of active performance.
- **US Private Equity Index** is a horizon calculation based on data compiled from 1,482 US private equity funds, including fully liquidated partnerships, formed between 1986 and 2022.
- **US Buyout Index** is a horizon calculation based on data compiled from 1,070 US buyout funds, including fully liquidated partnerships, formed between 1986 and 2022.
- **US Growth Equity Index** is a horizon calculation based on data compiled from 412 US growth equity funds, including fully liquidated partnerships, formed between 1986 and 2022.
- **US Venture Capital Index** is a horizon calculation based on data compiled from 2,322 US venture capital funds, including fully liquidated partnerships, formed between 1981 and 2022.
- **Real Estate Index** is a horizon calculation based on data compiled from 1,305 real estate funds, including fully liquidated partnerships, formed between 1986 and 2022.

## *Additional Information*

- Equity sector returns are calculated by S&P, Russell, and MSCI for domestic and international markets, respectively. S&P and MSCI sector definitions correspond to the GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country indices are free float-adjusted market capitalization indices that are designed to measure equity market performance of approximately 85% of the market capitalization in each specific country.
- Currency returns are calculated using FactSet's historical spot rates and are calculated using the U.S. dollar as the base currency.