

Quarterly Considerations

Q4 2024

Market Themes

The Impact from Concentration

As market concentration has grown, so have the risks associated with it. If the top-10 stocks experience a flat return and the remainder of constituents achieve a more typical long-term return of 7%, the overall index would return less than 5%. The “law of large numbers” comes into play as the mega cap companies try to maintain growth metrics to support price and valuations but, if history rhymes, many may find it hard to sustain these levels in the future.

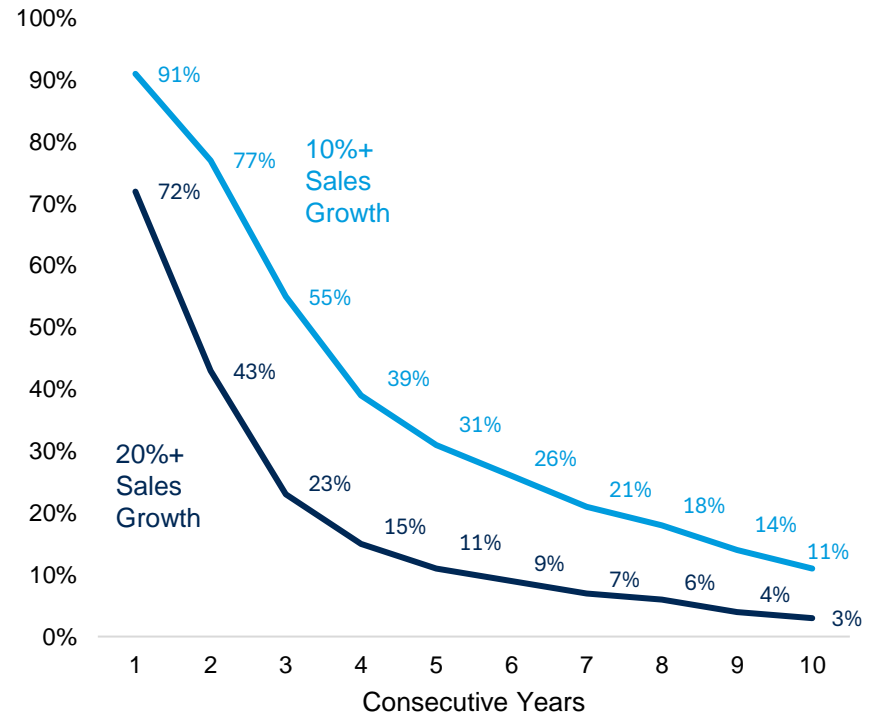
		Flat Top 10	Top 10	Top 5	Top 3
	Top X Return	0%	-13%	-19%	-28%
	Remainder Return	7%	7%	7%	7%
	Overall Return	4.5%	0.00%	0.00%	0.00%
Name	Weight (%)				
NVIDIA CORP	7.2%	0%	-13%	-19%	-28%
APPLE INC	6.7%	0%	-13%	-19%	-28%
MICROSOFT CORP	6.2%	0%	-13%	-19%	-28%
AMAZON COM INC	3.9%	0%	-13%	-19%	7%
META PLATFORMS INC CLASS A	2.5%	0%	-13%	-19%	7%
ALPHABET INC CLASS A	2.1%	0%	-13%	7%	7%
TESLA INC	1.8%	0%	-13%	7%	7%
ALPHABET INC CLASS C	1.7%	0%	-13%	7%	7%
BERKSHIRE HATHAWAY INC CLASS B	1.7%	0%	-13%	7%	7%
BROADCOM INC	1.6%	0%	-13%	7%	7%
JPMORGAN CHASE & CO	1.3%	7%	7%	7%	7%
ELI LILLY	1.3%	7%	7%	7%	7%
UNITEDHEALTH GROUP INC	1.1%	7%	7%	7%	7%
REMAINING CONSTITUENTS	60.9%	7%	7%	7%	7%

For illustrative purposes only. Source: FactSet as of October 31, 2024.

Can the Party Keep Going?

Large-cap U.S. equities had another banner year as the S&P 500 returned over 25%. Valuation and concentration have increased within the index as the “Mag 7” accounted for over 50% of the Index’s return in 2024¹. Historically it has been extremely difficult for companies to sustain high levels of growth for consecutive years and a reversion of these darling stocks may lead to higher volatility and offer opportunities in other areas of the market.

Share of Individual S&P 500 Companies with Sustained High Sales Growth (1985-Present)



Sources: Goldman Sachs as of October 18, 2024.

1) Morningstar as of December 31, 2024.

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Market Themes

Stubborn Inflation and Potential for Reignition?

Substantial progress has been made on the inflation front, but levels remain stubbornly above the Fed's 2% target, now sitting at 2.7%¹. Technological and productivity advancements help price stability, but a host of other factors are increasing the risks of inflation potentially reigniting. Shifting expectations away from an easing Fed or moderating inflation may impact price and volatility and warrants monitoring.

Inflationary

- Deglobalization/ onshoring
- Political factors (e.g., potential tariffs, immigration policy, etc.)
- Growing deficits
- Money supply
- Decarbonization

Disinflationary

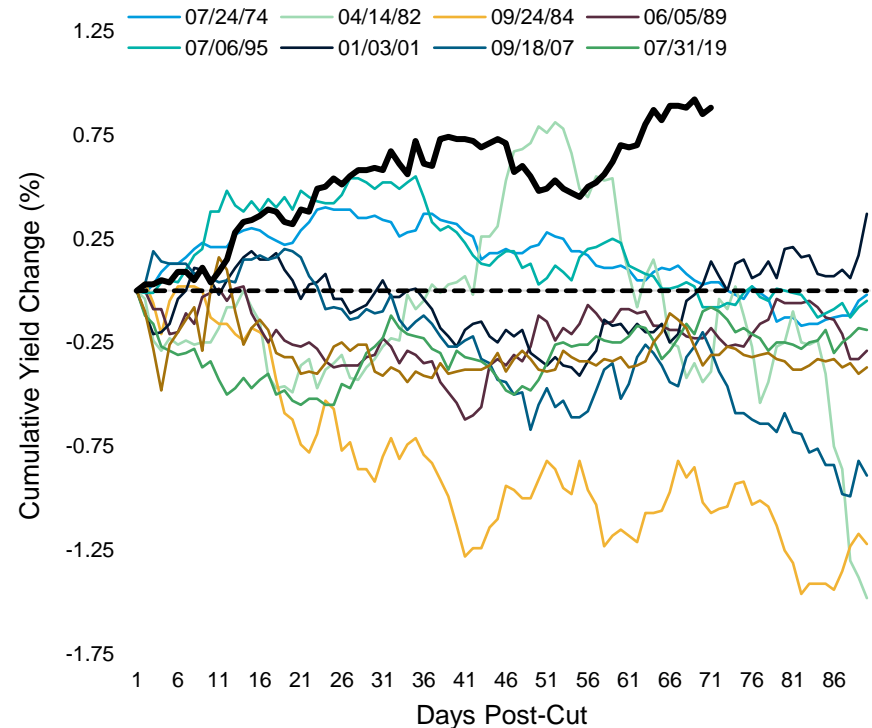
- Slowing population growth
- Technology
- AI productivity enhancement

1) FactSet, Bureau of Labor Statistics. As of November 30, 2024.

Rates Cut, Markets Split

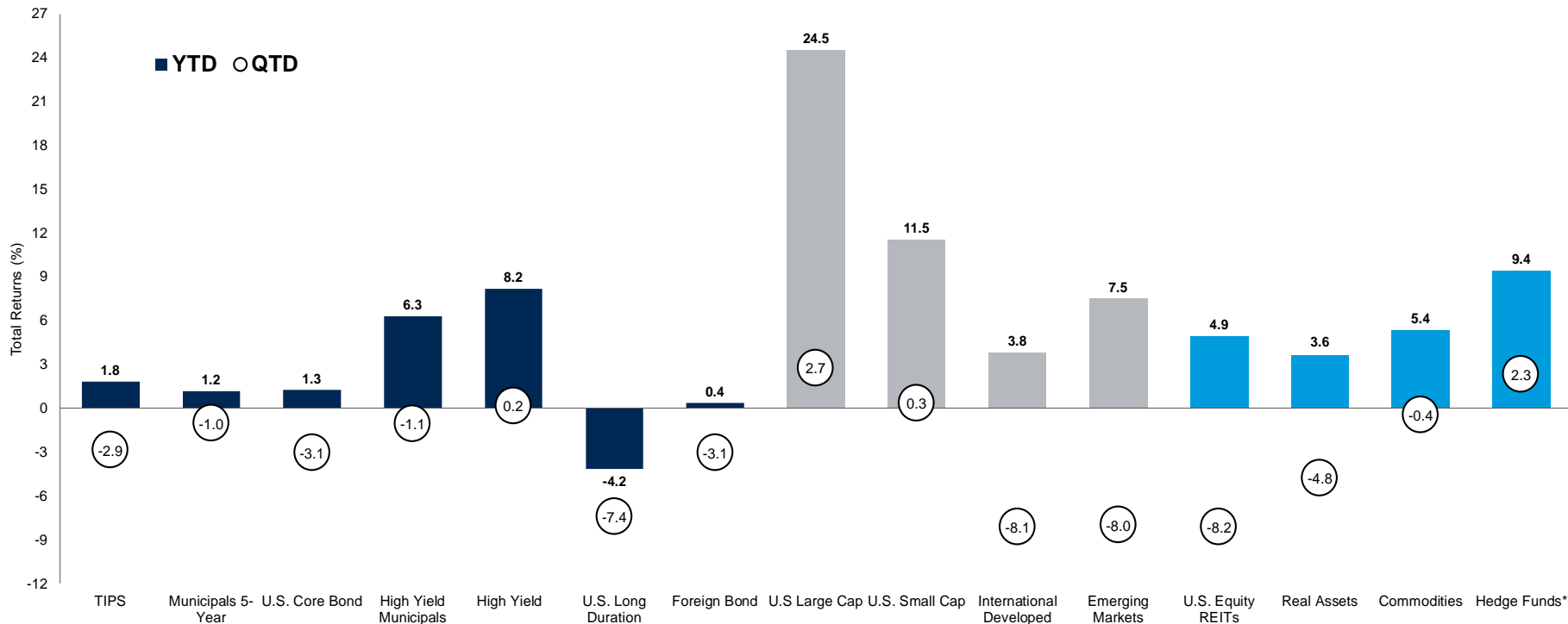
After the Fed's first rate cut of the year, the 10-year U.S. Treasury yield soared by over 75 basis points—a rare event not seen since 1982. This unexpected reaction could indicate resistance from the bond market, fueled by increased concerns of more persistent inflation and uncertainty around the impact of potential policy changes regarding tariffs and immigration, high deficits, and deglobalization.

Cumulative Change of 10-Year U.S. Treasury Yield 90 Trading Days After First Fed Cut



Source: FactSet. As of December 31, 2024.

Asset Class Returns



Source: Morningstar Direct. As of December 31, 2024. *Hedge fund returns as of November 30, 2024.

Fixed Income (4Q 2024)

- Fixed income markets broadly struggled, even as the Federal Reserve cut its target rate by another 50 bps during the quarter. A resilient economy and concerns surrounding persistent inflation pushed interest rates higher.

+ High yield eked out a modest gain in the quarter and was a standout for the year. Spreads compressed modestly in the quarter as fundamentals remain solid and the asset class continues to have strong demand.

- Long duration assets struggled with the move higher in rates.

Equity (4Q 2024)

+ U.S. equities ended the year with modest positive returns in the fourth quarter despite elevated volatility. Mega cap names concentrated at the top of the market continue to dominate the asset class.

- International developed markets took a large step back in the quarter amid signs of economic weakness, geopolitical uncertainty and concerns over potential tariffs by the upcoming administration in Washington.

- Emerging markets struggled as well in the face of potential tariffs from the U.S. and weaker currencies.

Real Asset / Alternatives (4Q 2024)

- Rising interest rates were a large headwind for REITs in the fourth quarter.

- Rising energy prices were not enough to offset weakness in metals and agriculture and commodities were modestly negative in the quarter.

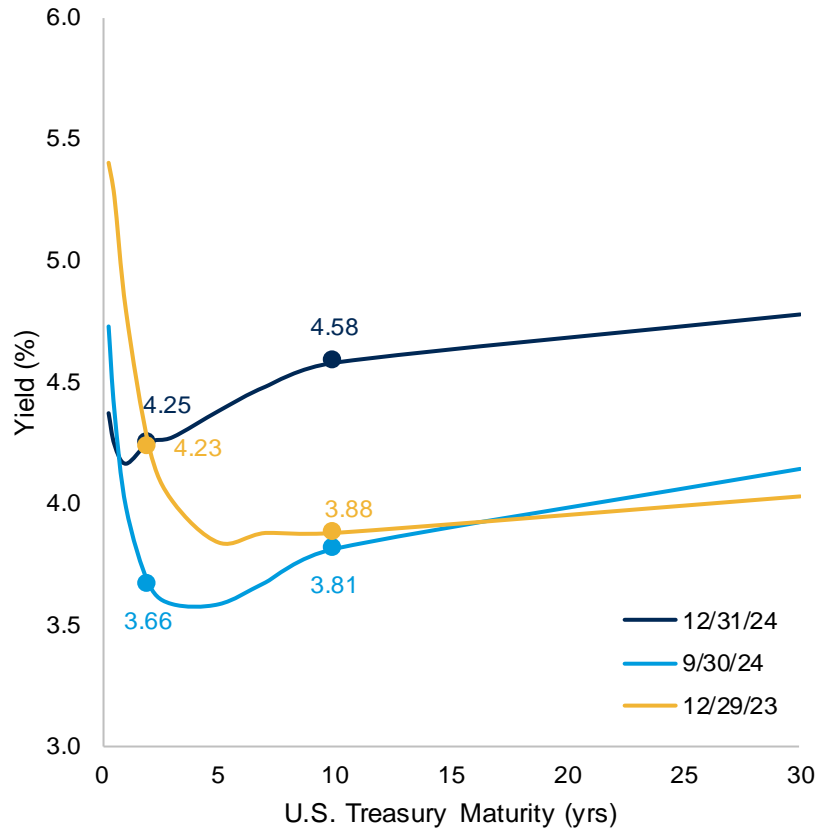
+ Hedge funds (reported as of November) had a strong two months to start the quarter. Heightened market volatility provided a boost to the space, offering favorable trading opportunities throughout the period.

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Fixed Income Market Update

U.S. Treasury Yield Curve

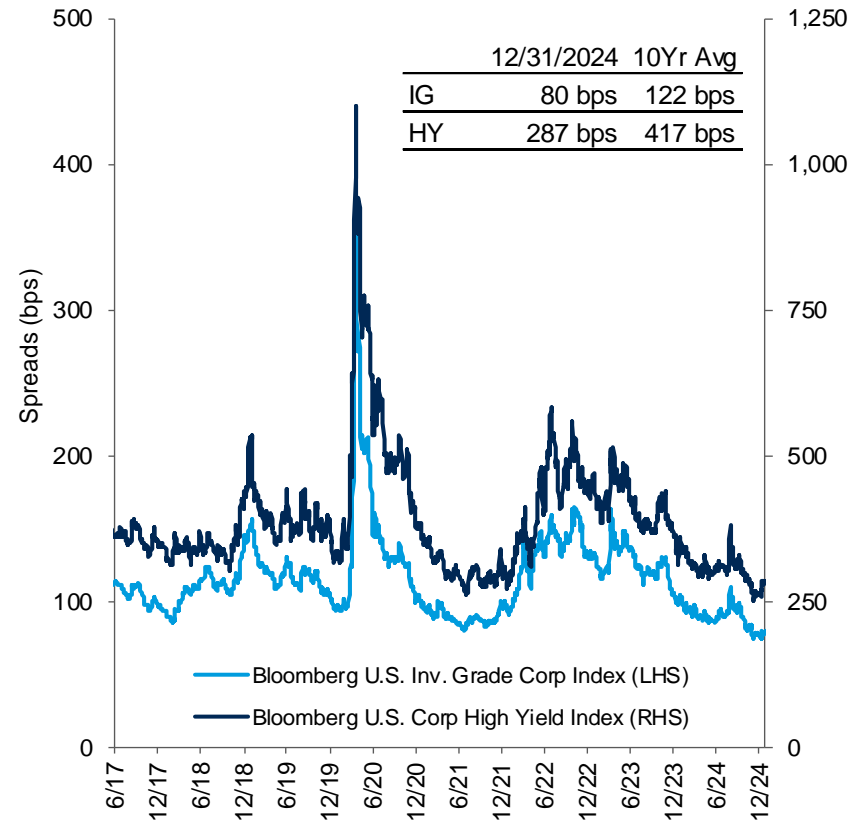
Interest rates climbed even as the Fed slashed its target rate by another 50 basis points during the quarter. Concerns about persistent inflation and uncertainty surrounding future fiscal policy have kept market tensions elevated.



Source: FactSet. As of December 31, 2024.

Corporate Credit Spreads – Trailing 5 Years

Overall risk-off posture in fixed income markets was a headwind for returns in corporate credit. However, the high yield asset class was an outperformer during the quarter, as credit spreads tightened slightly. Spreads continue to remain well below long-term averages reflecting strong fundamentals.



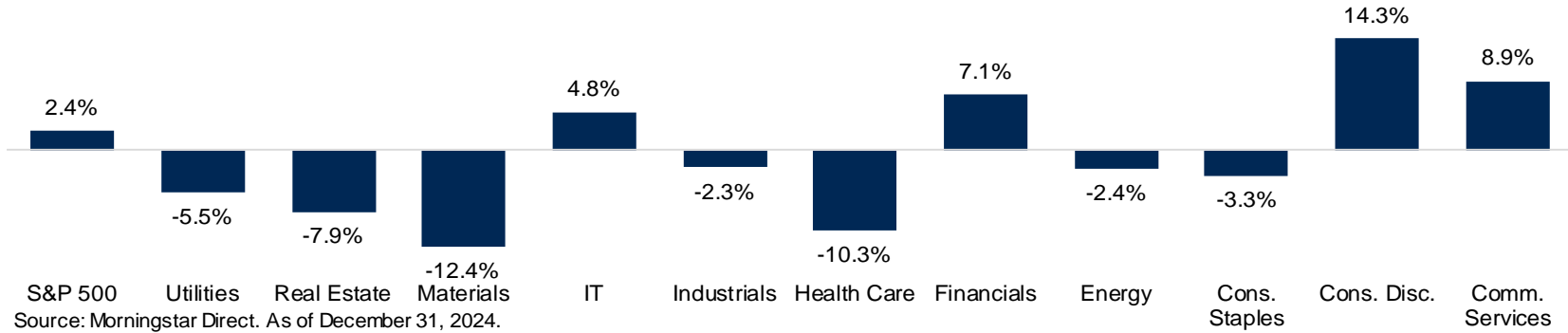
Source: FactSet. As of December 31, 2024.

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Equity Market Update

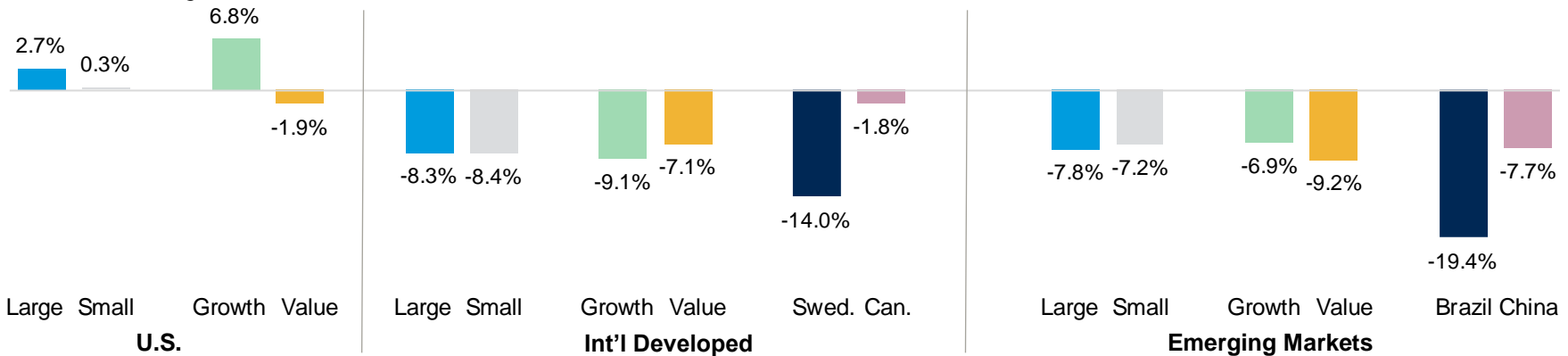
U.S. Equities – Returns by Sector (4Q 2024)

U.S. equities were modestly positive in the quarter, rounding out a strong year for U.S. large-cap stocks. The S&P 500 finished back-to-back years above 20% for the first time since 1998. Despite a positive overall return for the index for in the quarter, most underlying sectors were negative, with the concentration of select tech, consumer and communications stocks driving results. Valuations within the U.S. remain elevated both on an absolute basis and relative to other areas such as international equities.



Market Capitalization, Style, and Select Country Performance (4Q 2024)

There was a large disparity between domestic equities and non-U.S. equities during the fourth quarter. A stronger economic backdrop helped drive U.S. markets. However, worries on the impact of potential tariffs that the upcoming administration has been discussing coupled with weaker economic data abroad weighed on investor confidence for non-U.S. markets.

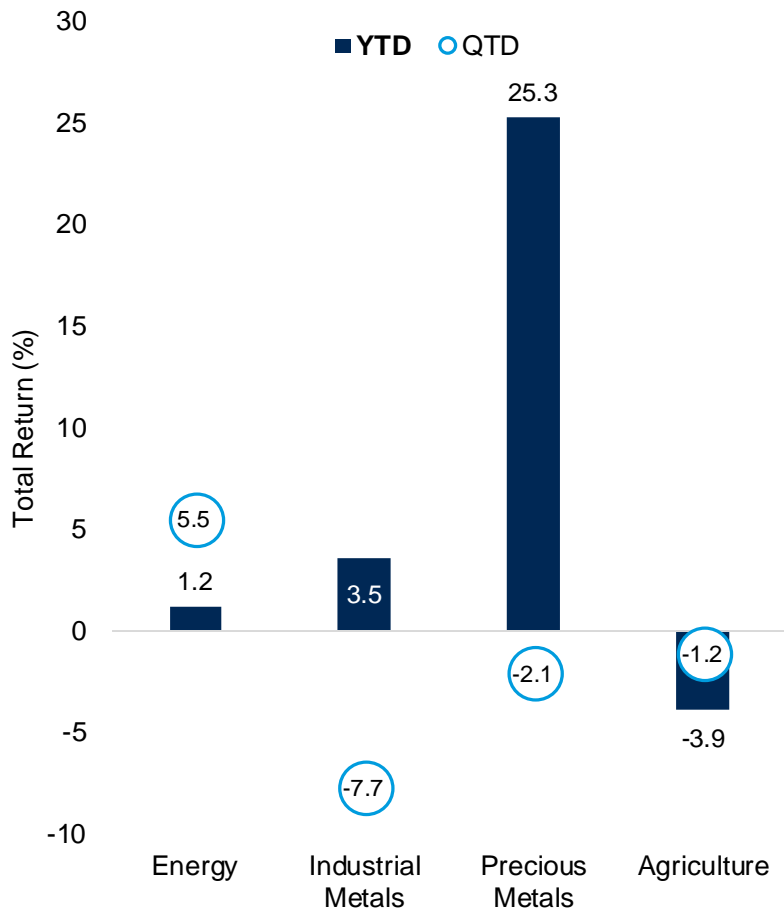


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Real Assets Market Update

Commodity Performance (4Q 2024)

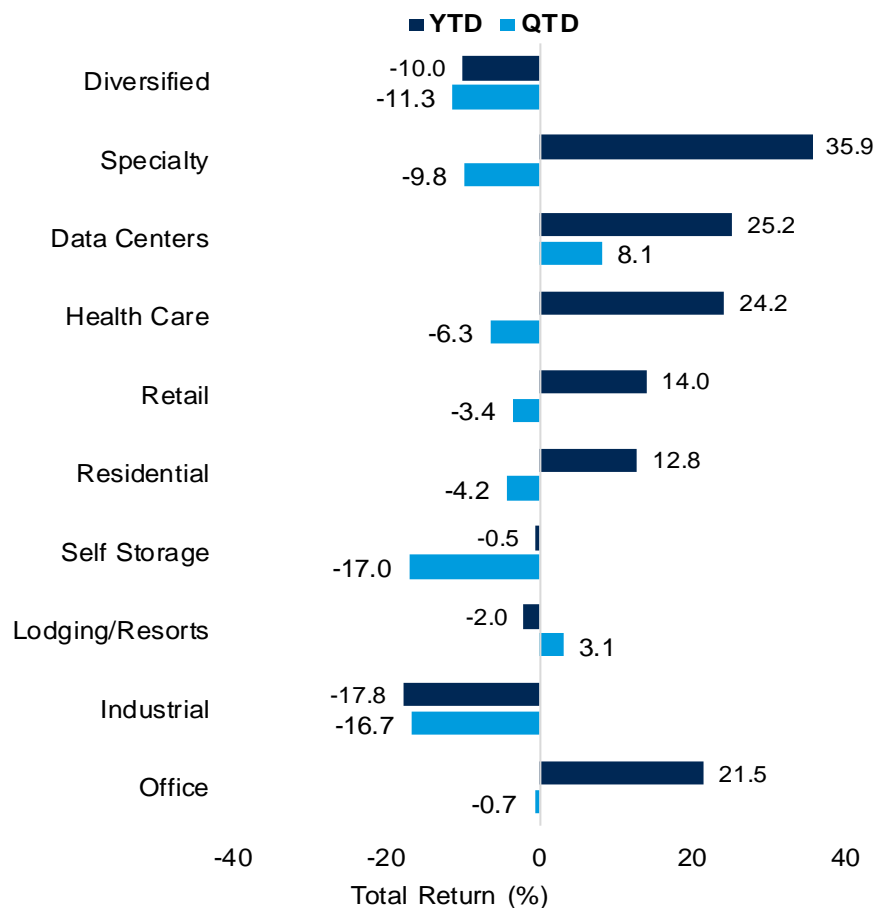
Commodities were modestly negative during the fourth quarter, with mixed results from underlying sub-sectors. Energy was the leader as oil prices moved higher on concerns over tighter supply due to escalating geopolitical tensions.



Source: Morningstar Direct. As of December 31, 2024.

REIT Sector Performance (4Q 2024)

REITs struggled in the rising interest rate environment this quarter. Data Centers continued to outperform on continued demand for data storage. Meanwhile, Industrial and Self Storage underperformed on slowing manufacturing and post-pandemic occupancy, respectively.



Source: Morningstar Direct. As of December 31, 2024.

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The Case for Diversification

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10 Years (Ann)
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 24.5	U.S. Large Cap 12.9
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. Small Cap 11.5	U.S. Small Cap 7.8
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	Hedge Funds 9.4	U.S. Equity REITs 5.8
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 8.2	High Yield 5.2
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 7.5	International Developed 5.2
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	Emerging Markets 7.5	Balanced 5.0
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	High Yield Municipals 6.3	High Yield Municipals 4.3
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	Commodities 5.4	Hedge Funds 3.9
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	U.S. Equity REITs 4.9	Emerging Markets 3.6
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	International Developed 3.8	TIPS 2.2
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	TIPS 1.8	Municipals 5-Year 1.7
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 1.3	Commodities 1.3
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	Municipals 5-Year 1.2	U.S. Core Bond 1.3
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	Foreign Bond 0.4	Foreign Bond 0.8
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	EM Debt (unhedged) -2.4	EM Debt (unhedged) 0.4

Sources: Morningstar, FactSet. As of December 31, 2024. *Periods greater than one year are annualized. Total returns in U.S. dollars. Hedge Funds as of November 30, 2024.

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Financial Markets Performance

Total Return as of December 31, 2024
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	1.2%	5.3%	5.3%	4.0%	2.5%	2.4%	1.8%	1.2%
Bloomberg U.S. TIPS	-2.9%	1.8%	1.8%	-2.3%	1.9%	2.3%	2.2%	2.9%
Bloomberg Municipal Bond (5 Year)	-1.0%	1.2%	1.2%	0.0%	0.9%	1.7%	1.7%	2.3%
Bloomberg High Yield Municipal Bond	-1.1%	6.3%	6.3%	0.3%	2.7%	4.1%	4.3%	5.6%
Bloomberg U.S. Aggregate	-3.1%	1.3%	1.3%	-2.4%	-0.3%	1.0%	1.3%	2.4%
Bloomberg U.S. Corporate High Yield	0.2%	8.2%	8.2%	2.9%	4.2%	4.7%	5.2%	6.4%
Bloomberg Global Aggregate ex-U.S. Hedged	0.7%	5.0%	5.0%	0.9%	1.0%	2.2%	2.4%	3.2%
Bloomberg Global Aggregate ex-U.S. Unhedged	-6.8%	-4.2%	-4.2%	-6.3%	-3.4%	-2.0%	-0.9%	-0.1%
Bloomberg U.S. Long Gov / Credit	-7.4%	-4.2%	-4.2%	-9.2%	-3.3%	-0.5%	1.0%	3.8%
Global Equity Markets	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
S&P 500	2.4%	25.0%	25.0%	8.9%	14.5%	13.8%	13.1%	13.9%
Dow Jones Industrial Average	0.9%	15.0%	15.0%	7.6%	10.5%	10.4%	11.6%	12.4%
NASDAQ Composite	6.3%	29.6%	29.6%	8.1%	17.5%	16.8%	16.2%	16.5%
Russell 3000	2.6%	23.8%	23.8%	8.0%	13.9%	13.2%	12.5%	13.6%
Russell 1000	2.7%	24.5%	24.5%	8.4%	14.3%	13.6%	12.9%	13.8%
Russell 1000 Growth	7.1%	33.4%	33.4%	10.5%	19.0%	18.1%	16.8%	16.5%
Russell 1000 Value	-2.0%	14.4%	14.4%	5.6%	8.7%	8.4%	8.5%	10.8%
Russell Mid Cap	0.6%	15.3%	15.3%	3.8%	9.9%	9.6%	9.6%	12.1%
Russell Mid Cap Growth	8.1%	22.1%	22.1%	4.0%	11.5%	12.1%	11.5%	13.3%
Russell Mid Cap Value	-1.7%	13.1%	13.1%	3.9%	8.6%	7.7%	8.1%	11.1%
Russell 2000	0.3%	11.5%	11.5%	1.2%	7.4%	6.9%	7.8%	10.3%
Russell 2000 Growth	1.7%	15.2%	15.2%	0.2%	6.9%	7.2%	8.1%	10.9%
Russell 2000 Value	-1.1%	8.1%	8.1%	1.9%	7.3%	6.1%	7.1%	9.5%
MSCI ACWI	-1.0%	17.5%	17.5%	5.4%	10.1%	9.2%	9.2%	9.2%
MSCI ACWI ex. U.S.	-7.6%	5.5%	5.5%	0.8%	4.1%	3.5%	4.8%	4.7%
MSCI EAFE	-8.1%	3.8%	3.8%	1.6%	4.7%	4.1%	5.2%	5.2%
MSCI EAFE Growth	-9.1%	2.0%	2.0%	-2.6%	4.0%	4.5%	5.8%	6.0%
MSCI EAFE Value	-7.1%	5.7%	5.7%	5.9%	5.1%	3.4%	4.3%	4.3%
MSCI EAFE Small Cap	-8.4%	1.8%	1.8%	-3.2%	2.3%	2.0%	5.5%	6.6%
MSCI Emerging Markets	-8.0%	7.5%	7.5%	-1.9%	1.7%	1.4%	3.6%	3.0%
Alternatives	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Consumer Price Index*	0.6%	2.5%	2.7%	4.3%	4.2%	3.6%	2.9%	2.5%
FTSE NAREIT All Equity REITs	-8.2%	4.9%	4.9%	-4.3%	3.3%	5.5%	5.8%	9.4%
S&P Real Assets	-4.8%	3.6%	3.6%	0.2%	3.3%	3.8%	3.7%	5.1%
FTSE EPRA NAREIT Developed	-9.5%	2.0%	2.0%	-5.1%	0.0%	2.3%	3.2%	6.1%
FTSE EPRA NAREIT Developed ex U.S.	-15.1%	-7.8%	-7.8%	-9.0%	-5.2%	-1.9%	0.4%	3.0%
Bloomberg Commodity Total Return	-0.4%	5.4%	5.4%	4.1%	6.8%	4.1%	1.3%	-1.0%
HFRI Fund of Funds Composite*	2.3%	9.4%	11.7%	3.3%	5.6%	4.5%	3.9%	3.7%
HFRI Asset Weighted Composite*	1.7%	8.3%	9.2%	4.9%	4.7%	4.2%	3.8%	4.5%

Sources: Morningstar, FactSet. As of December 31, 2024. *Consumer Price Index and HFRI indexes as of November 30, 2024.

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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 All 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.

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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.

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.

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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.
- **Ibbotson US Large Cap Stock Index** is comprised of the same components as the S&P 500 from 1957 to present. For years prior to 1957, the index has the same components as the S&P 90 (the S&P 90 was the original S&P index created in 1928 – it didn't start tracking 500 companies until 1957).

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 All Equity REITs Index** is a free-float adjusted, market capitalization-weighted index of U.S. equity REITs. Constituents of the index include all tax-qualified REITs with more than 50 percent of total assets in qualifying real estate assets other than mortgages secured by real property.
- **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.

Disclosures – Index & Benchmark Definitions

- **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
- **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.
- **U.S. Dollar Index** measures the value of the dollar relative to a basket of U.S. trade partners' currencies. It is a weighted geometric mean of the dollar's value relative to other currencies.

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.