

Market commentary

U.S. ECONOMICS

- The labor market cooled off slightly as job adds were lower than expected and the unemployment rate ticked higher. The Bureau of Labor Statistics reported a 3.9% unemployment rate, a minor increase in the number of unemployed Americans. However, since the April lows, U.S. unemployment rate has increased by 0.5% and total unemployment has risen by 849,000, suggesting further gradual slowing in the job market in the months ahead.
- The ISM Manufacturing PMI Index reversed course and fell -2.3 to 46.7, once again becoming a concern for market participants. While all components of index fell, the New Orders and Employment sub-indexes fell most, off by -3.7 and -4.4, respectively.
- While leading indicators like consumer sentiment and manufacturing demand are slowing on the margins, a combination of strong September retail sales and Q3 GDP growth reinforced the narrative of a resilient U.S economy. Annualized third quarter GDP came in at 4.9% and month-over-month September retail sales (+0.7%) continued to beat expectations.

U.S. EQUITIES

- As third quarter earnings season kicked off, investors have had mixed reactions to reporting. From one angle, the economy continues to show strength and S&P 500 Q3 earnings beat expectations, growing 4.1% year-over-year despite expectations for slightly negative growth (FactSet). However, some companies gave cautious forward guidance, which has tempered expectations.
- The Dow Jones Industrial Average (DJIA) outperformed the S&P 500, falling -1.3% vs. -2.1%, but trails the S&P 500 on a year-to-date basis by -9.3%. DJIA constituents generally fared better than S&P companies as they reported better than expected earnings and outlook.

U.S. FIXED INCOME

- Volatility in fixed income markets continued due in part to a combination of higher for longer investor sentiment and anticipation of the November 1st FOMC meeting. As narratives shifted in the month, U.S. Treasury yields rose to their highest levels in 15 years. Yields then dropped again following the November 1st message that the Federal Funds rate would remain unchanged, long tenor yields fell sharply.
- Shorter duration bonds were a bright spot amid a slew of negative performance. Yields on the short end of the curve were mostly unchanged as the Bloomberg 1-3 Year U.S. Treasury Index posted a positive return of +0.3%.
- A relatively stagnant short end of the yield curve coupled with a sharply higher long end resulted in a noticeably flatter curve. The 10yr/2yr Treasury yield curve inversion decreased to as little as -13 bps and settled at -19 bps to end the month. Inverted spreads this narrow had not been seen since the yield curve first inverted in July 2022.

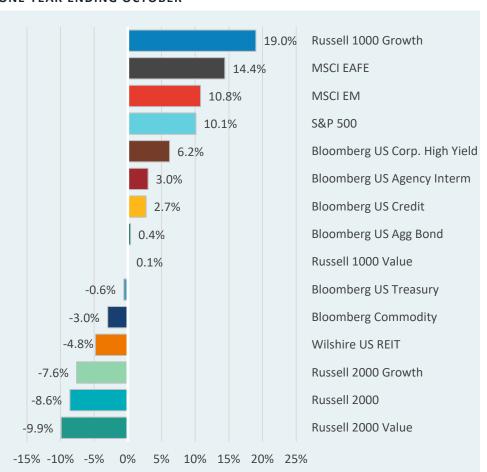
INTERNATIONAL MARKETS

- The China consumer price index print came in at -0.2%, slightly worse than the expected -0.1%. The print is indicative of a deflationary environment, which signals that domestic demand might be struggling to recover. Investors await sales figures from the Singles Day Shopping Festival – a multi-week period of promotions and sales across online platforms – for additional insight into the strength of the Chinese consumer.
- The Bank of Japan left short term rates unchanged at -0.1% but announced a more flexible yield curve control policy. This means the yield on 10-year Japanese government bonds (JGB) will have room to rise as high as 1% without intervention. Following the announcement, 10-Year JGB yields rose to 0.9%.

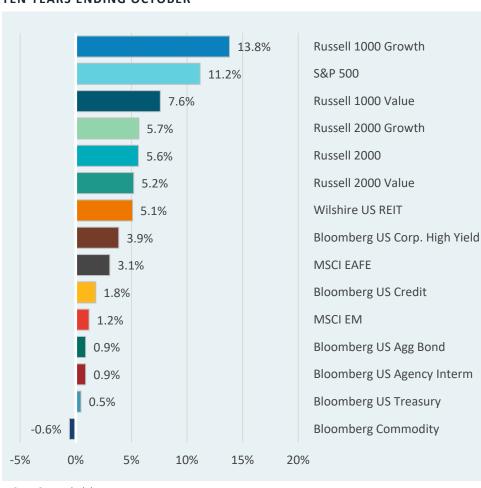


Major asset class returns

ONE YEAR ENDING OCTOBER



TEN YEARS ENDING OCTOBER



*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 10/31/23

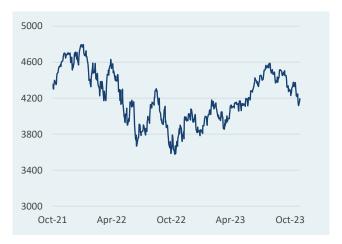
Source: Morningstar, as of 10/31/23



U.S. large cap equities

- A -2.1% return in October marked three consecutive months of decline for the S&P 500 index, down -8.3% since July 31st. Timid forward guidance from companies combined with a growing *higher for longer* interest rate narrative contributed to the losses.
- Despite 81% of companies reporting a positive earnings per share surprise, the market reaction to earnings appeared unusually pessimistic (FactSet). Earnings growth year-over-year was 4.1%, with almost all constituents done reporting.
- 10 out of 11 S&P 500 sectors declined in September.
 Utilities (+1.3%) outperformed while a sharp decline in oil prices contributed to Energy (-6.0%) being the worst performing sector, followed by Consumer Discretionary (-4.5%) and Health Care (-3.2%).
- U.S. equity volatility reached its highest intramonth level since March, peaking at 23.1, alongside climbing U.S. Treasury yields and the kickoff of earnings season. Despite the intramonth move, the VIX Index ended October relatively flat at 18.1.

S&P 500 PRICE INDEX

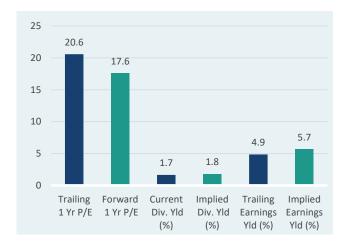


IMPLIED VOLATILITY (VIX INDEX)



Source: Choe, as 10/31/23

S&P 500 VALUATION SNAPSHOT



Source: Bloomberg, as of 10/31/23



Domestic equity size and style

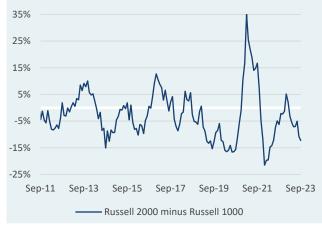
- Although all size and style categories posted declines, small-cap equities (Russell 2000 -6.8%) were hit the hardest, underperforming large-cap by 4.4% (Russell 1000 -2.4%). Higher rates are expected to have a greater impact on small-cap companies, which have an outsized portion of debt maturing sooner.
- Large-cap growth (Russell 1000 Growth -1.4%)
 outperformed large-cap value (Russell 1000 Value 3.5%). Performance was driven in part by mega-cap
 companies such as Amazon and Microsoft beating on
 revenue and earnings, as well as providing stronger
 forward guidance.
- Performance between value and growth saw an opposite trend in the small-cap space, where riskier small-cap growth stocks (Russell 2000 Growth -7.7%) underperformed small-cap value (Russell 2000 Value -6.0%).
- Following the sharp declines in small-cap amid debt maturity concerns, the Russell 2000 is trading at 17.7x forward earnings, a -25.3% discount to the 10-year average. In comparison, the S&P 500 is trading at 17.3x earnings, just a -1.1% discount to the 10-year average.

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, Bloomberg, as of 10/31/23

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, Bloomberg, as of 10/31/23

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	0.1%	9.5%	19.0%
Mid Cap	-3.6%	-1.0%	3.3%
Small Cap	-9.9%	-8.6%	-7.6%



Fixed income

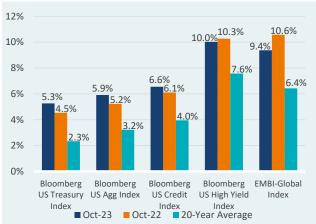
- Higher for longer rate expectations continued to influence Treasury yield movements – which were most volatile on the long end. 10- and 30-year Treasury yields rose +29 and +31 bps to end the month at 4.88% and 5.06%, respectively.
- The sharp rise in yields translated to long-dated Treasuries being the worst performers of the fixed income complex (Bloomberg U.S. Treasury Long -4.9%), amidst higher government borrowing and continued quantitative tightening as the Federal Reserve continues to shrink the size of its balance sheet.
- High Yield and Bank Loan spreads increased 39 bps and 30 bps to 442 bps and 544 bps, respectively. Despite this move, the Bloomberg U.S. Corporate High Yield Index (-1.2%) and CS Leveraged Loan Index (+0.0%) outperformed the Bloomberg U.S. Aggregate Index (-1.6%).
- Mortgage-Backed Securities (Bloomberg U.S. MBS Index 2.7%) also underperformed the Bloomberg U.S.
 Aggregate Index in October. Underperformance comes as 30-year Mortgage rates surged to 7.8%. This has been partly driven by high treasury rates, as well as the fed reducing their portfolio of Mortgage-Backed Securities.

U.S. TREASURY YIELD CURVE



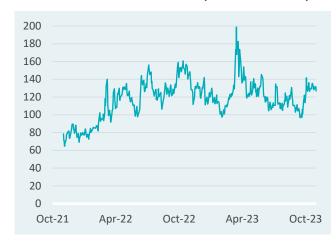
Source: Bloomberg, as of 10/31/23

NOMINAL YIELDS



Source: Morningstar, as of 10/31/2023

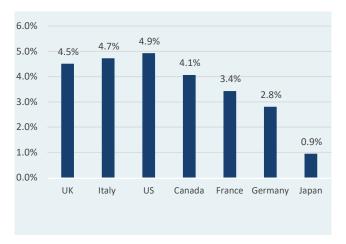
U.S. TREASURY IMPLIED VOL ("MOVE" INDEX)



Global markets

- International equities (MSCI ACWI ex-US -4.1%) underperformed U.S. equities. While performance was negative across all regions, the losses were primarily driven by the MSCI Japan Index (-4.5%) and the MSCI EM Latin America Index (-4.8%).
- Japanese equities posted a difficult month amid uncertainty surrounding potential changes in the Bank of Japan (BOJ) monetary policy. Late in the month, the BOJ announced it would allow long-term interest rates to rise above 1%. This could help reverse the weakening Yen, as Japanese and American interest rates have continued to diverge over the last year.
- European equities (MSCI Euro -3.0%) fell with a poor economic outlook in focus. While inflation persists, the ECB opted not to raise rates in October. Rates are now expected to hold steady through the first half of 2024. At the same time, Eurozone GDP decreased 0.1% in Q3. PMI also fell deeper into contractionary territory (46.5), its lowest level since November 2020.
- Chinese stocks also fell (MSCI China -4.3%) as the U.S. announced a ban on some AI chip exports. While Q3 GDP came in at 4.9% YoY, the outlook is poor with an ongoing real estate crisis and slowing manufacturing.

GLOBAL SOVEREIGN 10-YEAR YIELDS

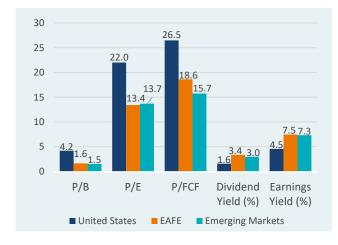


U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 10/31/23

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 10/31/23

Commodities

- The Bloomberg Commodity Index (+0.3%) fared better than equities and fixed income indexes. Commodity subindexes posted mixed results, but strong performance from precious metals and softs helped mitigate the steeper losses seen in the petroleum (-7.0%) and energy (-2.7%) sub-indexes.
- The Bloomberg Precious Metals sub-index gained +6.3%. Performance was largely driven by a rally in gold (+6.9%), which finished on a high note after a bleak start to the month. Silver (+2.2%) also posted modest gains as investors moved away from higher risk assets.

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	0.3	0.3	(3.2)	(3.0)	15.8	6.7	(0.6)
Bloomberg Agriculture	2.3	2.3	(1.9)	(0.6)	18.8	10.8	0.3
Bloomberg Energy	(2.7)	(2.7)	(6.9)	(18.9)	25.6	(0.6)	(7.1)
Bloomberg Grains	1.0	1.0	(12.9)	(14.1)	13.4	8.1	(2.0)
Bloomberg Industrial Metals	(4.1)	(4.1)	(13.0)	1.9	7.1	5.9	1.6
Bloomberg Livestock	(1.2)	(1.2)	6.5	8.7	8.8	(1.9)	(2.5)
Bloomberg Petroleum	(7.0)	(7.0)	9.8	4.5	51.8	8.4	(2.7)
Bloomberg Precious Metals	6.3	6.3	5.6	20.9	0.7	9.1	2.3
Bloomberg Softs	5.1	5.1	25.0	34.6	25.0	11.0	1.0

Source: Morningstar, as of 10/31/23

- Although energy and petroleum faced headwinds, natural gas prices soared +22.1%. Prices rallied on updated expectations for colder fall and winter weather while increased overseas demand pushed exports higher throughout the month. The rally helped pull back year to date losses to -20.1%.
- WTI Crude (-10.8%) sharply reversed course, erasing September's gains and falling to its lowest in two months. Investors now anticipate weaker demand than was previously expected which lessened the impact of Russia and Saudi Arabia's extension of supply cuts through year end.

COMMODITY PERFORMANCE





Appendix



Periodic table of returns

Small Cap Value

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	5-Year	10-Year
Large Cap Growth	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	23.2	14.2	13.8
Large Cap Equity	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	10.3	10.7	10.9
International Equity	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	1.5	4.1	6.7	7.6
Small Cap Growth	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-4.7	2.7	6.6	7.4
60/40 Global Portfolio	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-7.5	2.7	5.3	5.7
Cash	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.4	14.0	17.7	-13.0	1.8	4.1	5.6
Hedge Funds of Funds	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.0	10.3	14.8	-14.5	-1.8	4.0	5.2
Small Cap Equity	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-14.5	-2.1	3.8	4.0
Emerging Markets Equity	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-17.3	-2.8	3.3	3.1
Large Cap Value	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-19.1	-2.9	3.3	3.0
Small Cap Value	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-20.1	-3.2	2.7	1.2
US Bonds	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-20.4	-4.5	1.7	1.1
Commodities	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-26.4	-5.1	1.6	0.9
Real Estate	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-29.1	-6.5	-0.1	-0.6
	Large Cap Equity Small Cap Grov					owth		Commodities															
	Large Cap Value						International Equity				Real Estate												
	Large Cap Growth					Emerging Markets Equity				Hedge Funds of Funds													
	Small Cap Equity						US Bonds				60% MSCI ACWI/40% Bloomberg Global Bond												

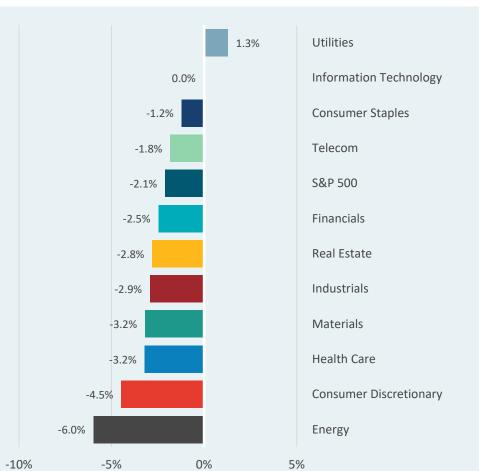
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 9/30/23.

Cash

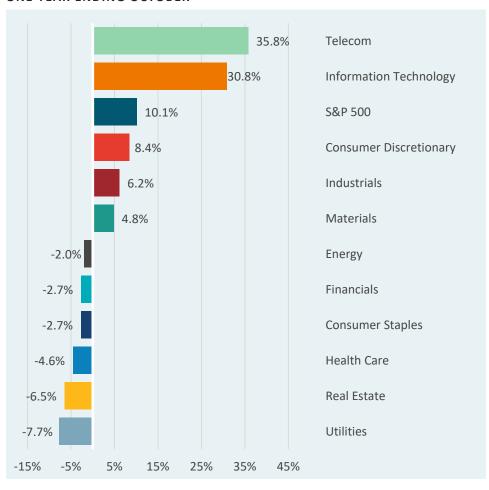


S&P 500 sector returns

QTD



ONE YEAR ENDING OCTOBER



Source: Morningstar, as of 10/31/23

Source: Morningstar, as of 10/31/23



Detailed index returns

DOMESTIC EQUITY								FIXED INCOME							
	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year		Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index								Broad Index							
S&P 500	(2.1)	(2.1)	10.7	10.1	10.4	11.0	11.2	Bloomberg US TIPS	(0.7)	(0.7)	(1.5)	(0.7)	(2.0)	2.3	1.6
S&P 500 Equal Weighted	(4.1)	(4.1)	(2.4)	(0.7)	10.1	8.7	9.3	Bloomberg US Treasury Bills	0.5	0.5	4.1	4.9	1.8	1.8	1.2
DJ Industrial Average	(1.3)	(1.3)	1.4	3.2	9.8	8.0	10.3	Bloomberg US Agg Bond	(1.6)	(1.6)	(2.8)	0.4	(5.6)	(0.1)	0.9
Russell Top 200	(1.6)	(1.6)	14.4	13.2	10.7	12.0	11.9	Bloomberg US Universal	(1.5)	(1.5)	(2.1)	1.2	(5.0)	0.2	1.2
Russell 1000	(2.4)	(2.4)	10.3	9.5	9.5	10.7	10.9	Duration							
Russell 2000	(6.8)	(6.8)	(4.5)	(8.6)	3.9	3.3	5.6	Bloomberg US Treasury 1-3 Yr	0.3	0.3	2.0	2.9	(0.8)	1.1	0.8
Russell 3000	(2.7)	(2.7)	9.4	8.4	9.2	10.2	10.5	Bloomberg US Treasury Long	(4.9)	(4.9)	(13.1)	(8.5)	(16.3)	(3.2)	0.1
Russell Mid Cap	(5.0)	(5.0)	(1.3)	(1.0)	6.0	7.1	8.1	Bloomberg US Treasury	(1.2)	(1.2)	(2.7)	(0.6)	(5.9)	(0.2)	0.5
Style Index								Issuer							
Russell 1000 Growth	(1.4)	(1.4)	23.2	19.0	8.7	14.2	13.8	Bloomberg US MBS	(2.1)	(2.1)	(4.3)	(8.0)	(5.7)	(1.1)	0.3
Russell 1000 Value	(3.5)	(3.5)	(1.8)	0.1	10.2	6.6	7.6	Bloomberg US Corp. High Yield	(1.2)	(1.2)	4.6	6.2	1.2	3.1	3.9
Russell 2000 Growth	(7.7)	(7.7)	(2.9)	(7.6)	(1.8)	2.7	5.7	Bloomberg US Agency Interm	0.0	0.0	1.7	3.0	(2.0)	0.7	0.9
Russell 2000 Value	(6.0)	(6.0)	(6.5)	(9.9)	9.7	3.3	5.2	Bloomberg US Credit	(1.8)	(1.8)	(1.7)	2.7	(5.3)	0.8	1.8
INTERNATIONAL EQUITY								OTHER							
Broad Index								Index							
MSCI ACWI	(3.0)	(3.0)	6.7	10.5	6.7	7.5	6.8	Bloomberg Commodity	0.3	0.3	(3.2)	(3.0)	15.8	6.7	(0.6)
MSCI ACWI ex US	(4.1)	(4.1)	1.0	12.1	3.0	3.5	2.5	Wilshire US REIT	(4.5)	(4.5)	(4.7)	(4.8)	5.0	2.5	5.1
MSCI EAFE	(4.1)	(4.1)	2.7	14.4	5.7	4.1	3.1	CS Leveraged Loans	0.0	0.0	9.9	11.6	5.9	4.3	4.3
MSCI EM	(3.9)	(3.9)	(2.1)	10.8	(3.7)	1.6	1.2	S&P Global Infrastructure	(3.0)	(3.0)	(6.6)	(1.3)	6.6	4.3	4.4
MSCI EAFE Small Cap	(5.9)	(5.9)	(4.2)	6.5	0.3	1.6	3.4	Alerian MLP	(0.3)	(0.3)	19.8	15.7	41.2	8.1	1.4
Style Index								Regional Index							
MSCI EAFE Growth	(3.7)	(3.7)	0.5	10.8	0.5	4.5	3.8	JPM EMBI Global Div	(1.4)	(1.4)	0.4	8.4	(5.0)	(0.2)	2.1
MSCI EAFE Value	(4.4)	(4.4)	5.1	18.1	11.0	3.3	2.1	JPM GBI-EM Global Div	(0.5)	(0.5)	3.7	13.5	(3.0)	0.3	(1.2)
Regional Index								Hedge Funds							
MSCI UK	(4.2)	(4.2)	2.3	12.9	12.4	3.4	1.8	HFRI Composite	(1.4)	(1.4)	2.4	3.3	6.2	5.3	4.2
MSCI Japan	(4.5)	(4.5)	6.2	16.8	1.8	2.9	3.9	HFRI FOF Composite	(1.0)	(1.0)	1.8	3.1	3.3	3.8	3.0
MSCI Euro	(3.0)	(3.0)	7.6	21.6	8.7	4.9	2.9	Currency (Spot)							
MSCI EM Asia	(4.0)	(4.0)	(3.0)	14.2	(5.8)	2.5	2.9	Euro	(0.6)	(0.6)	0.9	5.4	(2.1)	(1.0)	(2.8)
MSCI EM Latin American	(4.8)	(4.8)	7.5	3.7	13.6	1.1	(0.7)	Pound Sterling	(0.2)	(0.2)	(1.0)	7.0	(3.2)	(1.4)	(2.5)
								Yen	(1.5)	(1.5)	(12.9)	(1.9)	(11.6)	(5.7)	(4.3)

Source: Morningstar, HFRI, as of 10/31/23.



Detailed private market returns

Comparison to public market index returns

Private Equity Pooled IRRs	1 Year	3 Year	5 Year	10 Year
Global Private Equity FoFs & Secondary Funds	(6.4)	22.9	16.0	13.9
MSCI World Index (PME)	(6.7)	17.5	8.3	9.2
Global Private Equity Direct Funds ¹	(5.6)	23.6	17.1	15.9
MSCI World Index (PME)	(6.1)	15.6	8.0	9.0
U.S. Private Equity Direct Funds ¹	(6.1)	25.9	19.2	17.3
Russell 3000 Index (PME)	(7.7)	17.9	10.4	12.0
Europe Private Equity Direct Funds ¹	(2.4)	22.7	15.7	14.7
MSCI Europe Index (PME)	2.7	13.8	5.0	5.9
Asia Private Equity Direct Funds 1,4	(4.2)	14.1	10.1	12.7
MSCI AC Asia Pacific Index (PME)	(7.3)	7.4	1.2	4.0

Private Credit Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Debt ^{2,4}	4.9	20.0	12.6	11.5
Moringstar LSTA U.S. Leveraged Loan 100 Index (PME)	2.6	6.2	3.5	3.5
Private Real Estate Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Real Estate	(0.7)	14.6	10.3	12.4
FTSE NAREIT Equity REIT Index (PME)	(18.4)	13.6	6.9	6.8
Private Real Assets Pooled IRRs	1 Year	3 Year	5 Year	10 Year
Global Nature Resources 3,4	8.5	21.6	4.9	3.5
S&P Global Natural Resources Index (PME)	(7.0)	28.9	7.1	5.7
Global Infrastructure ⁴	6.7	13.4	10.3	11.1
S&P Global Infrastructure Index (PME)	(2.8)	14.6	6.0	6.3

Source: Pooled IRRs are from Thompson Reuters C/A and Time-weighted Returns are from Investment Metrics, as of March 31st, 2023. All returns in U.S. dollars.

^{***} Includes Private Equity Energy, Timber and Upstream Energy & Royalties.



^{*} Includes Buyout, Growth Equity and Venture Capital.

^{**} Includes Control-Oriented Distressed, Credit Opportunities, Senior Debt and Subordinated Capital.

Notices & disclosures

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