

Market commentary

U.S. ECONOMICS

- Headline CPI rose +0.2% in September, bringing year-over-year inflation lower to 2.4%, closer to the Fed's 2% target. Core CPI increased to 3.3% year-over-year, exceeding estimates of 3.2%. Higher-than-expected inflation data likely contributed to the market bracing for a slower path of interest rate cuts.
- October nonfarm payrolls significantly missed expectations, coming in at 12,000, which was 88,000 below expectations of 100,000 new additions. The BLS outlined two contributing factors to the sharp decline: the impact of the Boeing strike on transportation equipment manufacturing, and hurricanes Helene and Milton shortening the collection period for the survey.
- The ISM Services Survey rose +1.1% to 56, the highest reading since 2022, while the ISM Manufacturing Survey fell -0.7% to 46.5.

U.S. EQUITIES

- The S&P 500 reversed course from the prior month, falling -0.9%. Equities posted slow but steady gains in the first few days of the month as weakening employment data and strong earnings from big banks appeared to add to investor excitement around a *soft landing*. However, on the last day of the month the index fell -1.9% and pushed returns into the red.
- The Magnificent 7 continued to move markets throughout October. On the final day of the month, Meta and Microsoft reported capital expenditures above analyst expectations, largely driven by spending on artificial intelligence. These high expenditures, along with low returns (so far) from AI investments, were received poorly by markets.
- Implied volatility (VIX) spiked from 19 to 23 on October 31st marking the highest end of day implied volatility level since August 8th.

U.S. FIXED INCOME

- Market expectations for rate cuts changed materially during the month. In early October, investors were assuming two Federal Reserve rate cuts by the end of 2024—one in November and another in December. However, by the end of the month investors remained confident in a November rate cut but expected rates to remain steady in December. Shifting rate expectations appear to have been fueled by stronger-than-expected U.S. economic growth trends, stickier inflation, and shifting odds around the U.S. election outcome.
- Yields increased as interest rate expectations shifted. Yields for 10- and 2-year treasuries ended the month +47 bps and +50 bps higher, respectively. Yield curve shape remained upward sloping.
- Fixed income indexes fell as yields rose. Longer-dated treasuries, considered to be more sensitive to yield changes, performed the worst. The only major fixed income asset class to gain ground in October was cash (Bloomberg U.S. Treasury Bills Index), which returned +0.4%.

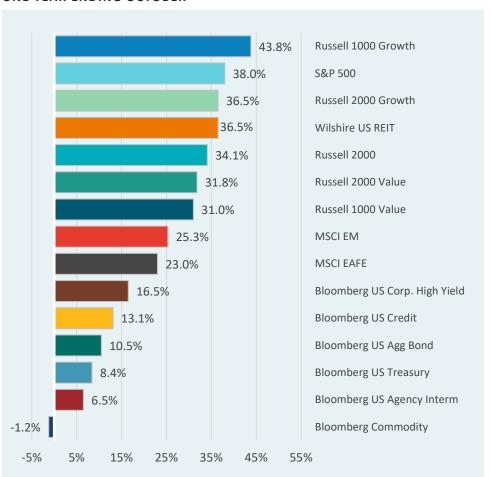
INTERNATIONAL MARKETS

- The European Central bank cut rates by -25 bps to 3.25%. This cut happened amid the drop in Eurozone inflation to 1.7%. ECB policymakers predict that inflation will pick up during the fourth quarter before neutralizing to 2.0% next year.
- The Bank of Japan held its benchmark interest rate unchanged at 0.25%. Governor Kazuo Ueda stated that the political situation in Japan would not prevent him from hiking rates if economic and price growth remained in line with forecasts.
- China's Ministry of Finance announced a series of government stimulus packages aimed at alleviating the country's disinflationary trends.
 Despite an initial jump in sentiment, investors appear skeptical.

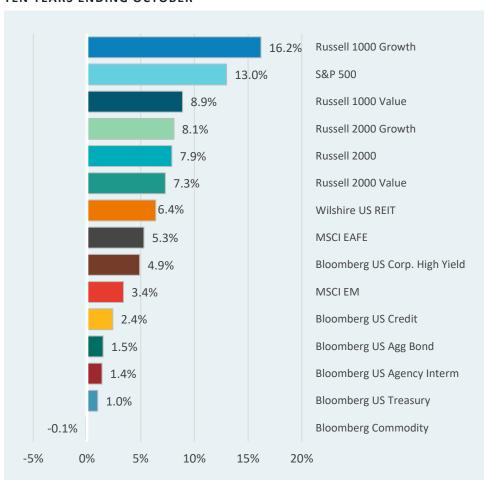


Major asset class returns

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 10/31/24

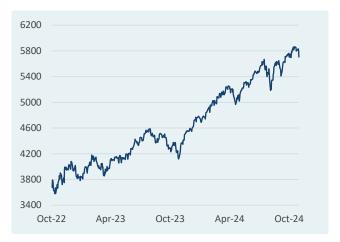
Source: Morningstar, as of 10/31/24



U.S. large cap equities

- The S&P 500 (-0.9%) ended October slightly negative, bringing year-to-date returns to +21.0%. Early in the month, investors brushed off a hotter-than-expected September inflation print and continued to favor the Magnificent 7. On the last day of October, investors pulled back from certain big tech names, perhaps less impressed by high capital expenditures and low returns from AI investments so far. This left Magnificent 7 performance roughly in line with the broader index return of -0.9%.
- As of November 8th, 91% of S&P 500 companies had reported earnings. In aggregate, reported numbers were above estimates by +4.3%, but below the 5-year earnings growth average of 8.5%.
- S&P sector performance was broadly negative by month end, following five consecutive months of gains. Financials were the top performing sector (+2.7%), boosted by big bank earnings that beat expectations. Healthcare (-4.6%), Materials (-3.5%) and Real Estate (-3.3%) lagged the index.

S&P 500 PRICE INDEX



IMPLIED VOLATILITY (VIX INDEX)



Source: Choe, based on closing price, as of 10/31/24

S&P 500 VALUATION SNAPSHOT



Source: S&P, as of 10/31/24



Source: S&P, as of 10/31/24

Domestic equity size and style

- Large caps (Russell 1000 -0.7%) outperformed small caps (Russell 2000 -1.4%). Year-to-date, large cap indexes (+20.3%) have returned more than double that of small cap indexes (+9.6%), primarily led by trending mega cap names.
- For the second month in a row, large growth indexes (Russell 1000 Growth -0.3%) have outperformed all other styles across *size* and *value*. Year-over-year large growth indexes have returned +43.8%.
- Valuations for large caps fell in October but remained well above long-term averages. The forward price-to-earnings ratio of the Russell 1000 Growth decreased to 28.1x still 23% above the 10-year average and 46% above the 20-year average. The Russell 1000 Value ended the month 9% above the 10-year average of 15.2x forward earnings and 20% above the 20-year average of 13.8x forward earnings.
- The difference in year-to-date performance between the cap-weighted and equal-weighted S&P 500 index grew to 7.7% in October.

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE Russell, as of 10/31/24

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE Russell, as of 10/31/24

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	31.0%	38.1%	43.8%
Mid Cap	34.0%	35.4%	38.7%
Small Cap	31.8%	34.1%	36.5%

Source: FTSE Russell, as of 10/31/24



Fixed income

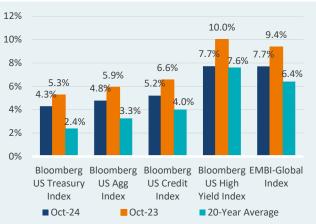
- Yields rose sharply across the curve in October on strong reported third quarter GDP growth, slightly hotter-than-expected inflation, and uncertainty surrounding the outcome of the U.S. election. In a reversal of the past five months, U.S. core bonds fell in value (Bloomberg U.S. Aggregate Index -2.5%).
- Investor expectations for the path of interest rates changed throughout the month. At the beginning of October, markets predicted that the Federal Reserve would cut rates twice by the end of 2024. Later in the month, the market was pricing in one full cut at the November meeting and a rate hold in December.
- As interest rate expectations shifted, the higher for longer narrative appeared to gain traction among investors. The 2-year yield climbed +66 bps from September lows to end the month at 4.15%. The 10-year yield bottomed at 3.63% in September but rose to 4.28% by the end of October. The 10/2 curve remains uninverted, with the 10-year yield +12 bps higher than the 2-year yield.
- Option-adjusted spreads and default rates for high yield corporate debt remain low. Spreads fell to 2.88% in October, 8 bps above the past 10-year low. The annual default rate fell 39 bps to 0.55%, well below the 10-year median of 1.89%.

U.S. TREASURY YIELD CURVE



Source: U.S. Treasury, as of 10/31/24

NOMINAL YIELDS



Source: Morningstar, as of 10/31/24

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



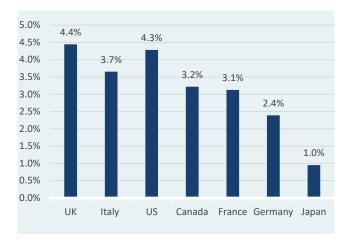
Source: BofA, as of 10/31/24



Global markets

- International equities (MSCI ACWI ex U.S. -4.9%)
 underperformed the MSCI ACWI by -2.7%. The United Kingdom (-5.5%), Europe (-6.1%), and Latin America (-5.1%) were top detractors of the index.
- MSCI Japan (-3.9%) outperformed the MSCI EAFE index by +1.5%. Markets gained momentum anticipating expansionary policy direction amid the results of a general election. The Bank of Japan chose to hold interest rates at 0.25% at their October meeting. Rate hikes could be on the horizon if economic growth conditions continue to match forecasts.
- At the October meeting, the ECB cut interest rates by 25 bps, in line with market expectations. ECB policy makers expressed confidence in the path to 2% inflation, amidst sluggish economic growth in Germany and France, and an already achieved +1.7% inflation print in September. MSCI Europe ended the month down -6.1%.
- Chinese equities rallied early in the month as the Chinese Communist Party announced government stimulus totaling two trillion yuan (\$284 billion USD). Equity markets fell later in the month as investor skepticism around underlying economic issues made an impact. The MSCI China Index closed the month -5.9%.

GLOBAL SOVEREIGN 10-YEAR YIELDS



Source: Bloomberg, as of 10/31/24

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 10/31/24

MSCI VALUATION METRICS (3-MONTH AVG)



Source: MSCI, as of 10/31/24



U.S Economic Review

Period	Prior	Estimate	Actual
Oct	223,000	100,000	12,000
Oct	4.1%	4.1%	4.1%
Oct	0.2%	0.1%	0.2%
Oct	2.5%	2.3%	2.4%
Oct	0.3%	0.2%	0.3%
Oct	47	48	47
Oct	55	54	56
Oct	99	100	109
Oct	48	48	49
Oct	54	54	54
Oct	55	55	55
Oct	69	69	71
	Oct	Oct 223,000 Oct 4.1% Oct 0.2% Oct 2.5% Oct 0.3% Oct 47 Oct 55 Oct 99 Oct 48 Oct 54 Oct 55	Oct 223,000 100,000 Oct 4.1% 4.1% Oct 0.2% 0.1% Oct 2.5% 2.3% Oct 0.3% 0.2% Oct 47 48 Oct 55 54 Oct 99 100 Oct 48 48 Oct 54 54 Oct 55 55

LABOR MARKET METRICS



Source: FRED, as of 10/31/24

Labor Market

— October's jobs report may suggest a slight weakening of the labor economy. Nonfarm payroll jobs increased but came in far below expectations. Much of the sharp decline was driven by extreme weather events and ongoing strike activity. Analysts underscored the temporary distortion these events can have on labor data, pointing to the steady unemployment rate of 4.1% and the upward trends in healthcare and government employment as supportive metrics.

Consumers

— Consumer confidence figures increased to 108.7. The Conference Board reported that all five components of the index had improved. University of Michigan Consumer Sentiment Index was 70.5, the highest reading since April 2024. Survey analysis indicates that consumers welcomed the recent rate cuts and its moderate effect on buying conditions for durable goods, but the concern over high prices remained at the forefront of their minds.

Looking Ahead

 Investors remain very focused on the labor market for signs of notable weakness. Further labor deterioration could lead to a faster pace of interest rate cuts while stabilization and continued economic strength could lead the Fed to slow their path to lower rates.



Appendix



Periodic table of returns

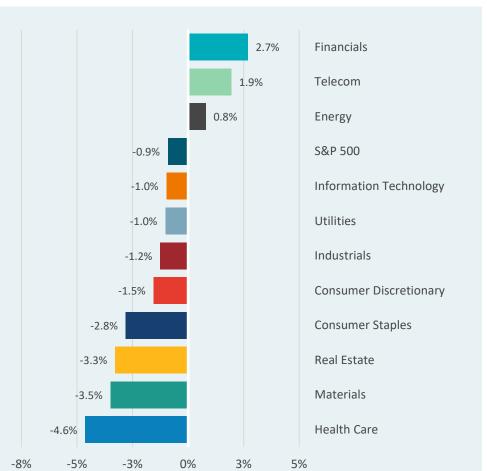
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD	5-Yea	r 10-Yeaı
Large Cap Growth	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	42.7	24.1	19.0	16.2
Large Cap Equity	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	26.5	20.3	15.0	12.8
Large Cap Value	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	18.7	15.4	10.1	8.9
Small Cap Growth	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	18.2	11.7	8.5	8.1
Emerging Markets Equity	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	16.9	11.7	8.4	7.9
Small Cap Equity	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	15.4	9.6	7.9	7.3
60/40 Global Portfolio	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	14.6	9.4	7.0	5.9
Small Cap Value	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	11.5	7.5	6.2	5.7
International Equity	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	9.8	6.8	6.1	5.3
Hedge Funds of Funds	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	6.3	6.4	5.2	3.7
Cash	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	5.5	4.4	3.9	3.4
Commodities	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	5.0	3.9	3.3	1.7
US Bonds	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	-7.9	1.9	2.3	1.5
Real Estate	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	-7.9	-0.5	-0.2	-0.1
	Lar	ge Cap	Equity	у				Small (Cap Gro	owth				Commodities									
	Lar	ge Cap	Value					International Equity				Real Estate											
	Lar	ge Cap	Grow	rowth Emerging Markets Equity							Hedge Funds of Funds												
	Sm	all Cap	Equity	y				US Bon	ds					60% MSCI ACWI/40% Bloomberg Global Bond									
	Sm	all Cap	Value					Cash															

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 Value, Russell 2000, Russell 2000 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 9/30/24.

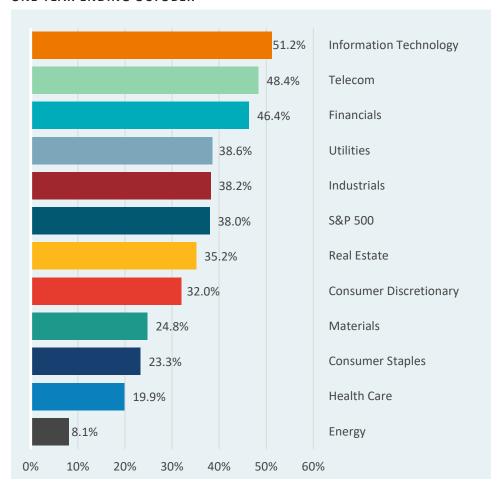


S&P 500 sector returns

QTD



ONE YEAR ENDING OCTOBER



Source: Morningstar, as of 10/31/24

Source: Morningstar, as of 10/31/24



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	(0.9)	(0.9)	21.0	38.0	9.1	15.3	13.0	Bloomberg US TIPS	(1.8)	(1.8)	3.0	8.6	(1.5)	2.2	2.3
S&P 500 Equal Weighted	(1.6)	(1.6)	13.3	32.1	5.7	12.2	10.6	Bloomberg US Treasury Bills	0.4	0.4	4.5	5.5	3.6	2.4	1.7
DJ Industrial Average	(1.3)	(1.3)	12.5	28.9	7.4	11.4	11.7	Bloomberg US Agg Bond	(2.5)	(2.5)	1.9	10.5	(2.2)	(0.2)	1.5
Russell Top 200	(0.7)	(0.7)	22.4	38.9	9.7	16.4	13.8	Bloomberg US Universal	(2.3)	(2.3)	2.5	11.2	(1.8)	0.2	1.8
Russell 1000	(0.7)	(0.7)	20.3	38.1	8.1	15.0	12.8	Duration							
Russell 2000	(1.4)	(1.4)	9.6	34.1	(0.0)	8.5	7.9	Bloomberg US Treasury 1-3 Yr	(0.6)	(0.6)	3.5	5.8	1.2	1.3	1.3
Russell 3000	(0.7)	(0.7)	19.7	37.9	7.6	14.6	12.4	Bloomberg US Treasury Long	(5.2)	(5.2)	(2.9)	15.1	(10.5)	(5.1)	0.3
Russell Mid Cap	(0.5)	(0.5)	14.0	35.4	3.5	10.9	9.8	Bloomberg US Treasury	(2.4)	(2.4)	1.4	8.4	(2.5)	(0.7)	1.0
Style Index								Issuer							
Russell 1000 Growth	(0.3)	(0.3)	24.1	43.8	8.8	19.0	16.2	Bloomberg US MBS	(2.8)	(2.8)	1.5	11.4	(2.1)	(0.6)	1.0
Russell 1000 Value	(1.1)	(1.1)	15.4	31.0	6.8	10.1	8.9	Bloomberg US Corp. High Yield	(0.5)	(0.5)	7.4	16.5	3.0	4.5	4.9
Russell 2000 Growth	(1.3)	(1.3)	11.7	36.5	(2.3)	7.9	8.1	Bloomberg US Agency Interm	(0.9)	(0.9)	3.3	6.5	0.3	0.8	1.4
Russell 2000 Value	(1.6)	(1.6)	7.5	31.8	1.9	8.4	7.3	Bloomberg US Credit	(2.4)	(2.4)	2.7	13.1	(2.0)	0.5	2.4
INTERNATIONAL EQUITY	,							OTHER							
Broad Index								Index							
MSCI ACWI	(2.2)	(2.2)	16.0	32.8	5.5	11.1	9.1	Bloomberg Commodity	(1.9)	(1.9)	3.9	(1.2)	2.1	7.0	(0.1)
MSCI ACWI ex US	(4.9)	(4.9)	8.6	24.3	1.6	5.8	4.8	Wilshire US REIT	(2.5)	(2.5)	12.0	36.5	1.1	4.7	6.4
MSCI EAFE	(5.4)	(5.4)	6.8	23.0	2.7	6.2	5.3	CS Leveraged Loans	0.8	0.8	7.5	10.5	6.5	5.9	4.9
MSCI EM	(4.4)	(4.4)	11.7	25.3	(1.4)	3.9	3.4	S&P Global Infrastructure	(1.3)	(1.3)	16.5	33.3	7.8	6.3	6.0
MSCI EAFE Small Cap	(6.3)	(6.3)	4.1	23.0	(3.0)	4.1	5.7	Alerian MLP	(1.2)	(1.2)	18.5	22.4	22.7	13.7	1.9
Style Index								Regional Index							
MSCI EAFE Growth	(6.2)	(6.2)	5.3	23.3	(1.3)	5.6	6.0	JPM EMBI Global Div	(1.7)	(1.7)	6.8	18.2	(1.0)	0.5	2.9
MSCI EAFE Value	(4.7)	(4.7)	8.4	22.8	6.6	6.5	4.3	JPM GBI-EM Global Div	(4.6)	(4.6)	0.1	8.8	(0.5)	(0.9)	(0.1)
Regional Index								Hedge Funds							
MSCI UK	(5.5)	(5.5)	9.1	21.6	6.3	6.1	3.8	HFRI Composite	(0.7)	(0.7)	6.5	12.7	3.0	7.0	5.0
MSCI Japan	(3.9)	(3.9)	8.0	22.3	2.5	5.3	6.1	HFRI FOF Composite	0.4	0.4	6.4	11.0	1.9	5.2	3.7
MSCI Euro	(6.1)	(6.1)	5.8	23.1	3.0	7.0	5.4	Currency (Spot)							
MSCI EM Asia	(4.6)	(4.6)	16.0	28.9	(1.2)	5.3	5.0	Euro	(2.7)	(2.7)	(1.7)	2.7	(2.1)	(0.5)	(1.4)
MSCI EM Latin American	(5.1)	(5.1)	(17.0)	2.4	7.2	0.1	0.1	Pound Sterling	(4.2)	(4.2)	0.9	5.9	(2.1)	(0.1)	(2.2)
								Yen	(6.1)	(6.1)	(7.4)	(0.6)	(9.2)	(6.6)	(3.0)

Source: Morningstar, HFRI, as of 10/31/24



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	2.7	7.4	14.9	12.4
MSCI World Index (PME)	25.2	9.0	12.4	9.1
Global Private Equity Direct Funds ¹	4.9	6.9	15.3	14.0
MSCI World Index (PME)	25.1	9.2	12.4	9.6
U.S. Private Equity Direct Funds ¹	6.2	8.3	17.0	15.3
Russell 3000 Index (PME)	29.2	10.4	14.6	12.5
Europe Private Equity Direct Funds ¹	4.3	8.2	14.8	12.5
MSCI Europe Index (PME)	14.4	7.0	8.6	4.8
Asia Private Equity Direct Funds 1,4	(1.1)	(0.7)	8.2	11.1
MSCI AC Asia Pacific Index (PME)	11.7	(1.9)	4.4	4.9

Private Credit Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Debt ^{2,4}	8.0	12.1	12.2	10.8
Moringstar LSTA U.S. Leveraged Loan 100 Index (PME)	12.1	5.9	5.6	4.8
Private Real Estate Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Real Estate	(4.0)	8.4	7.6	10.3
FTSE NAREIT Equity REIT Index (PME)	10.8	5.2	5.0	7.6
Private Real Assets Pooled IRRs	1 Year	3 Year	5 Year	10 Year
Global Natural Resources ^{3,4}	6.6	17.9	6.1	3.4
S&P Global Natural Resources Index (PME)	4.6	9.1	8.5	5.7
Global Infrastructure ⁴	8.2	10.3	10.2	10.2
S&P Global Infrastructure Index (PME)	3.5	4.6	4.3	4.6

Source: Pooled IRRs and Public Market Equivalents (PMEs) are both from Refinitiv C/A, as of March 31st, 2024. All returns in U.S. dollars.

- 1. Includes Buyout, Growth Equity and Venture Capital.
- 2. Includes Control-Oriented Distressed, Credit Opportunities, Senior Debt and Subordinated Capital.
- 3. Includes Private Equity Energy, Timber and Upstream Energy & Royalties.
- 4. Due to limited history of the PMEs, only the funds with the same vintage years as PMEs are included.



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