

Market commentary

U.S. ECONOMICS

- Real U.S. GDP grew at a quarterly annualized rate of 2.0% in Q3, falling short of consensus estimates of 2.6%. A slowdown in consumer spending drove the deceleration in GDP as spending for durable goods namely motor vehicles and parts fell 26.2%.
- The Establishment Survey showed that 531,000 jobs were added to non-farm payrolls in October. The report beat expectations for 450,000 job additions. Food services and drinking places contributed 119,000 jobs to the overall increase coinciding with a sharp decline in Covid cases that reduced pandemic-related layoffs.
- The headline unemployment rate fell to 4.6% in October, dropping below the median rate of 4.8% expected by Fed officials for the end of the year as per the latest Fed Summary of Expectations. However, the labor force participation rate remained at 61.6% – below the prepandemic level of 63.4% -- as labor supply remained low.

U.S. EQUITIES

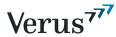
- The S&P 500 Index (+7.0%) rebounded sharply in October and closed above the 4600 price level for the first-time. Strong earnings helped the market shake off concerns surrounding the deceleration of the economic recovery.
- Of the 89% of S&P 500 companies which had reported quarterly results by November 5th, 81% reported stronger-than-expected earnings and 75% beat expectations on reported revenues.
- If all remaining company financials are reported in-line with expectations, net income will have grown 39.1% year-over-year and revenue growth will be 17.3% year-over-year. Net profit margins fell from 13.1% the quarter before to 12.9% in Q3, though they remain elevated relative to their level last year (10.9%).

U.S. FIXED INCOME

- Fed Chairman Powell, speaking at the 2021 Bank for International Settlements Conference, exhibited a hawkish tone and expressed increased concern over inflation being more persistent than expected. Powell stated, "the risks are clearly now to longer and more-persistent [supply] bottlenecks, and thus to higher inflation."
- The probability of at least one 25-basis point rate hike by July 2022 increased from 28% to 75% based on the CME FedWatch Tool which extrapolates the market's fed funds rate expectations from 30-day federal fund futures contracts. The probability that the fed funds rate would increase 50 basis points by the end of 2022 increased from 32% to 75%.
- The Federal Open Market Committee announced it would begin tapering its asset purchases of \$120 billion per month in mid-November. The taper will include \$10 billion in Treasuries and \$5 billion in mortgage-backed securities, per month.

INTERNATIONAL MARKETS

- The MSCI Asia Pacific Index's 12-month forward EPS estimates have dropped to 12-year lows relative to the MSCI AC World Index. The decreased expectations were led by Australia, South Korea and countries in Southeast Asia such as Malaysia.
- Chinese equities recovered (MSCI China +3.1%) in October but other equity markets in Asia (MSCI EM Asia ex China -0.2%) moved mostly sideways over the month.
- The Japanese Yen fell -2.1% relative to the U.S. Dollar in October and hurt those that invested in Japanese equities without a local currency hedge (MSCI Japan -3.4% unhedged vs MSCI Japan 100% hedged to USD -1.2%).

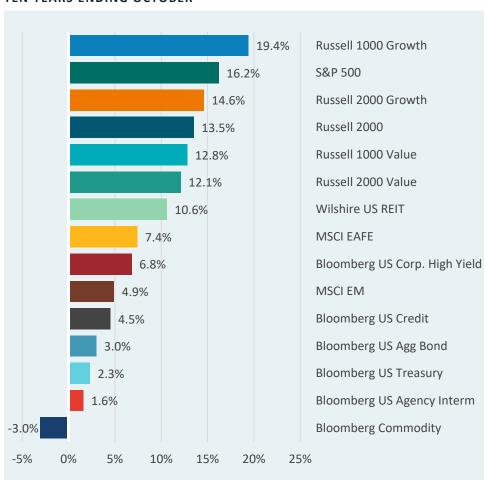


Major asset class returns

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 10/31/21

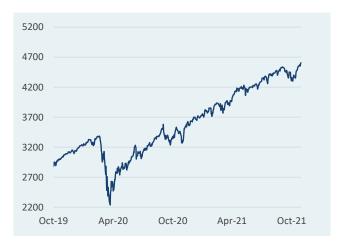
Source: Morningstar, as of 10/31/21



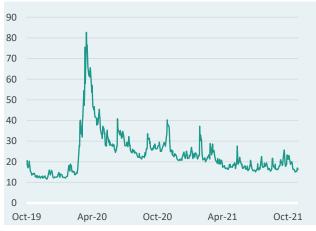
U.S. large cap equities

- The S&P 500 Index climbed 7.0% in October. The Consumer Discretionary (+10.9%) sector led the gains for the overall index. The gains in Consumer Discretionary were largely driven by a +42.6% advance in Tesla stock that contributed to 63.4% of the sector's total return.
- All 11 S&P 500 GICS sectors had positive returns in October, led by the Consumer Discretionary (+10.9%), Energy (+10.4%) and Information Technology (+8.2%) sectors. The Utilities (+4.7%), Consumer Staples (+3.9%), and Telecommunication (+2.8%) sectors lagged the broader index.
- The Energy sector's (+10.4%) performance was driven by strong earnings from large oil companies which posted \$24.9 billion in Q3 earnings growth. Chevron and Exxon Mobile accounted for \$13 billion of the \$26.9 billion in year-over-year earnings growth. The Energy sector is now up 111.3% over the last year.
- The Cboe VIX Index of implied volatility ended the month at 16.3 and dropped to an intra-month low of 15.0, the lowest level since February 2020. Strong earnings and increased certainty surrounding the coming Fed taper seemed to have reduced volatility expectations over the month.

S&P 500 PRICE INDEX



IMPLIED VOLATILITY (VIX INDEX)



Source: Choe, as of 10/31/21

S&P 500 VALUATION SNAPSHOT



Source: Bloomberg, as of 10/31/21



Domestic equity size and style

- The Russell 3000 Growth (+8.4%) rebounded in October and outperformed the Russell 3000 Value (+5.0%). Risk assets performed well despite interest rate increases which can apply pressure to steep valuation levels.
- Large cap companies (Russell 1000 +6.9%)
 outperformed small cap companies (Russell 2000 +4.3%). The rebound in large-cap equities from
 September expanded the year-to-date relative
 outperformance of large cap stocks to +6.0% from
 +2.8% a month prior.
- The S&P 500 High Beta Index measures the performance of the 100 constituents most sensitive to changes in overall S&P 500 returns. The S&P High Beta Index (+7.4%), outperformed the S&P 500 Index (+7.0%).
- Performance within the large-cap space was largely attributable to only six names, which made up 43% of the returns over the month. The concentration in returns limited breadth in the market and the capweighted index (S&P 500 +7.0%) outperformed the equal-weighted Index (S&P 500 Equal Weight +5.3%).

VALUE VS. GROWTH RELATIVE VALUATIONS



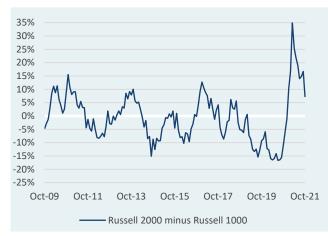
Source: FTSE, Bloomberg, as of 10/31/21

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, Bloomberg, as of 10/31/21

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE





Fixed income

- The Consumer Price Index rose 6.2% year-over-year in October, the fastest pace since 1990 and above the median expectation of 5.9%. Price increases were broad-based and exacerbated by supply chain bottlenecks and the tightness in the labor market.
- Breakeven inflation rates measure the market's expectations for inflation rates over a period. The fiveyear breakeven inflation rate reached 3.0% intramonth, the highest level since 2004. The 10-year breakeven inflation rate reached 2.7% intra-month, the highest level since 2006.
- The yield curve flattened over the month as markets priced in a 25-basis point rate hike in July 2022 and the short end of the curve shifted higher. The spread between the 30- and 5-year U.S. Treasury yields decreased 35 basis points in October to just 0.75%.
- The 30-year U.S. Treasury yield fell 15 basis points over the month to 2.08%. At the long end of the curve, the 30-year yield ended the month five basis points lower than the 20-year yield, a sign of uncertainty in the market and potential concern the Fed may take more aggressive rate action to combat inflation.

U.S. TREASURY YIELD CURVE



Source: Bloomberg, as of 10/31/21

NOMINAL YIELDS



Source: Morningstar, as of 10/31/21

BREAKEVEN INFLATION RATES

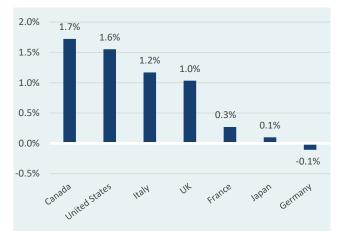




Global markets

- Global equity performance (MSCI ACWI +5.1%) was driven in part by strong equity returns in U.S. markets (S&P 500 +7.0%). The global equity benchmark was weighed down by developed (MSCI EAFE +2.5%) and emerging market (MSCI EM +1.0%) equities.
- Returns in European markets (MSCI Euro +4.4%) were not able to offset losses in other developed countries such as Japan (MSCI Japan -3.4%) which weighed on developed markets in October. Japan has experienced a lackluster economic reopening and equities declined despite the lifting of its state of emergency at the start of the month.
- Emerging markets (MSCI EM +1.0%) remained a laggard over the month. Weakness in Latin America (MSCI Latin America -5.3%) was a headwind for emerging markets. Brazilian equities (MSCI Brazil -9.1%) dropped to their lowest level in six months. Soaring consumer prices and a widening fiscal deficit has forced Brazilian policy makers to raise rates by 5.75% since March 2021.
- Domestic mid-cap equities (MSCI USA Mid Cap Index +6.4%) recovered more from the September pullback as compared to international equities in the mid-cap space (MSCI ACWI ex US Mid Cap +1.5%).

GLOBAL SOVEREIGN 10-YEAR YIELDS



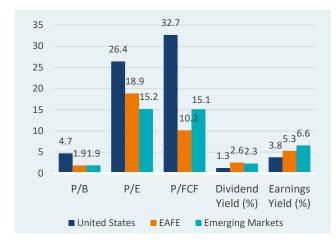
Source: Bloomberg, as of 10/31/21

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 10/31/21

MSCI VALUATION METRICS (3-MONTH AVG)





Commodities

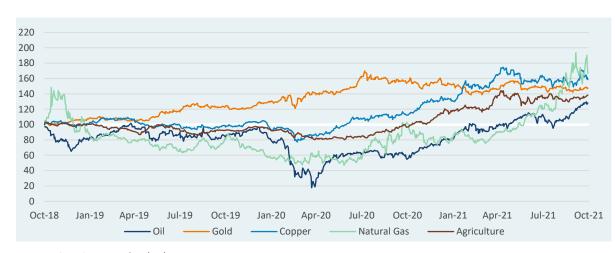
- The Bloomberg Commodity Index saw a positive 2.6% return over the month. Gains in the broad commodity basket were led by Petroleum (+8.7%), Industrial Metals (+4.5%) and Grains (+3.8%).
- The Bloomberg Petroleum Sub-Index (+8.7%) was the top performing sub-index within the broad commodities basket. The domestic demand for crude oil has returned to pre-pandemic levels and has largely outpaced supply.
 Production of domestic crude oil remains 10% below 2019 average levels of production.
- The Industrial Metals Sub-Index (+4.5%) experienced tailwinds from zinc (+15.8%) a metal used in the process of galvanizing steel. The spike followed announcements that European smelters would cut zinc production amid high energy costs, with the cuts amounting to 11% of global production.
- The Precious Metals Sub-Index (+3.0%) was also able to help the broad commodity basket higher. The price of silver retraced +7.8% back toward recent moving averages reversing the trend of losses seen over the last 4 months totaling -20.9%.

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	2.6	2.6	32.5	43.9	8.6	5.2	(3.0)
Bloomberg Agriculture	2.9	2.9	22.7	43.3	12.5	1.8	(2.4)
Bloomberg Energy	2.1	2.1	78.5	83.5	(3.5)	1.7	(9.5)
Bloomberg Grains	3.8	3.8	17.6	37.9	11.8	2.4	(2.5)
Bloomberg Industrial Metals	4.5	4.5	25.4	39.1	14.7	11.2	0.7
Bloomberg Livestock	(1.8)	(1.8)	4.7	8.6	(8.6)	(2.0)	(4.7)
Bloomberg Petroleum	8.7	8.7	73.1	132.6	(0.2)	6.6	(6.0)
Bloomberg Precious Metals	3.0	3.0	(7.3)	(4.6)	13.0	5.4	(1.6)
Bloomberg Softs	1.9	1.9	38.8	56.1	10.4	(2.4)	(5.9)

Source: Morningstar, as of 10/31/21

COMMODITY PERFORMANCE



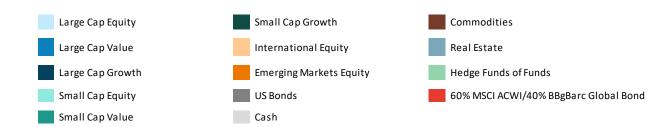


Appendix



Periodic table of returns

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD	5-Year	10-Year
Commodities	66.4	31.8	14.0	25.9	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	32.5	25.5	19.4
Small Cap Value	43.1	22.8	8.4	10.3	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	19.2	16.3
Large Cap Growth	33.2	12.2	7.3	6.7	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	24.2	17.9	14.6
Large Cap Equity	27.3	11.6	3.3	1.6	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	23.2	15.5	13.5
Large Cap Value	26.5	7.0	2.8	1.0	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	22.0	12.6	12.8
Small Cap Equity	21.3	4.1	-2.4	-6.0	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	22.4	14.0	17.2	12.4	12.1
International Equity	24.3	6.0	2.5	-5.9	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	22.0	10.3	11.0	9.8	9.0
Real Estate	20.9	-3.0	-5.6	-11.4	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	10.9	9.8	7.4
Small Cap Growth	13.2	-7.3	-9.1	-15.5	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	7.6	9.4	6.9
Hedge Funds of Funds	11.4	-7.8	-9.2	-15.7	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	7.2	6.8	4.9
60/40 Global Portfolio	7.3	-14.0	-12.4	-20.5	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	6.0	6.2	4.5
Cash	4.8	-22.4	-19.5	-21.7	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	5.2	3.0
Emerging Markets Equity	-0.8	-22.4	-20.4	-27.9	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	-0.3	3.1	0.6
US Bonds	-1.5	-30.6	-21.2	-30.3	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	-1.6	1.1	-3.0

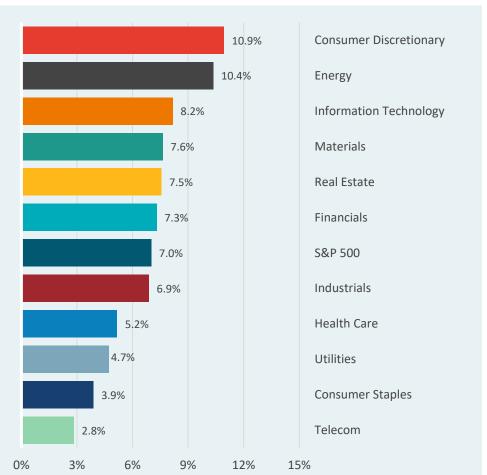


Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 9/30/21.

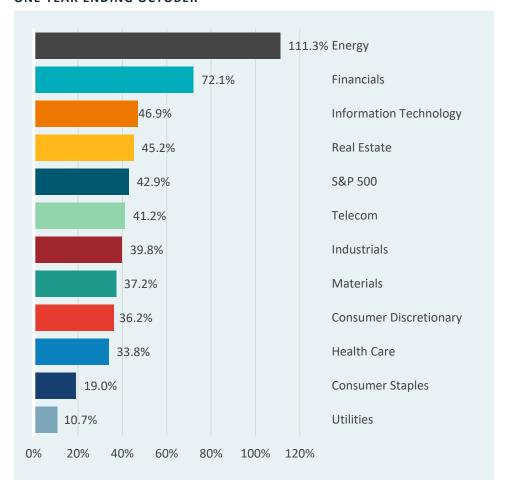


S&P 500 sector returns

QTD



ONE YEAR ENDING OCTOBER



Source: Morningstar, as of 10/31/21

Source: Morningstar, as of 10/31/21



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	7.0	7.0	24.0	42.9	21.5	18.9	16.2	Bloomberg US TIPS	1.1	1.1	4.7	7.1	8.4	4.7	3.1
S&P 500 Equal Weighted	5.3	5.3	25.2	49.3	19.2	16.4	15.2	Bloomberg US Treasury Bills	(0.0)	(0.0)	0.0	0.1	1.2	1.2	0.7
DJ Industrial Average	5.9	5.9	18.8	37.7	15.1	17.2	14.3	Bloomberg US Agg Bond	(0.0)	(0.0)	(1.6)	(0.5)	5.6	3.1	3.0
Russell Top 200	7.3	7.3	23.6	42.9	22.8	20.2	16.9	Bloomberg US Universal	(0.1)	(0.1)	(1.2)	0.5	5.8	3.4	3.4
Russell 1000	6.9	6.9	23.2	43.5	22.0	19.2	16.3	Duration							
Russell 2000	4.3	4.3	17.2	50.8	16.5	15.5	13.5	Bloomberg US Treasury 1-3 Yr	(0.3)	(0.3)	(0.4)	(0.3)	2.5	1.6	1.1
Russell 3000	6.8	6.8	22.8	43.9	21.6	18.9	16.1	Bloomberg US Treasury Long	1.9	1.9	(5.8)	(5.8)	11.0	4.6	5.0
Russell Mid Cap	5.9	5.9	22.0	45.4	19.9	16.5	14.8	Bloomberg US Treasury	(0.1)	(0.1)	(2.6)	(2.5)	5.0	2.4	2.3
Style Index								Issuer							
Russell 1000 Growth	8.7	8.7	24.2	43.2	29.4	25.5	19.4	Bloomberg US MBS	(0.2)	(0.2)	(0.9)	(0.6)	4.0	2.2	2.4
Russell 1000 Value	5.1	5.1	22.0	43.8	13.9	12.4	12.8	Bloomberg US Corp. High Yield	(0.2)	(0.2)	4.4	10.5	7.4	6.4	6.8
Russell 2000 Growth	4.7	4.7	7.6	38.5	18.6	17.9	14.6	Bloomberg US Agency Interm	(0.5)	(0.5)	(1.0)	(0.7)	3.0	1.9	1.6
Russell 2000 Value	3.8	3.8	27.6	64.3	13.4	12.6	12.1	Bloomberg US Credit	0.2	0.2	(1.1)	1.9	7.7	4.6	4.5
INTERNATIONAL EQUITY								OTHER							
Broad Index								Index							
MSCI ACWI	5.1	5.1	16.8	37.3	17.5	14.7	11.3	Bloomberg Commodity	2.6	2.6	32.5	43.9	8.6	5.2	(3.0)
MSCI ACWI ex US	2.4	2.4	8.4	29.7	12.0	9.8	6.7	Wilshire US REIT	8.0	8.0	34.7	52.8	14.4	9.9	10.6
MSCI EAFE	2.5	2.5	11.0	34.2	11.5	9.8	7.4	CS Leveraged Loans	0.2	0.2	4.9	8.5	4.2	4.5	4.8
MSCI EM	1.0	1.0	(0.3)	17.0	12.3	9.4	4.9	Alerian MLP	5.0	5.0	46.3	85.7	(0.9)	(1.7)	0.8
MSCI EAFE Small Cap	1.6	1.6	11.7	35.8	13.4	11.4	10.1	Regional Index							
Style Index								JPM EMBI Global Div	0.0	0.0	(1.3)	4.4	6.4	4.2	5.4
MSCI EAFE Growth	3.3	3.3	10.4	30.0	16.8	13.1	9.4	JPM GBI-EM Global Div	(1.3)	(1.3)	(7.6)	0.8	3.9	2.0	0.4
MSCI EAFE Value	1.6	1.6	11.4	38.3	6.0	6.2	5.2	Hedge Funds							
Regional Index								HFRI Composite	1.6	1.6	11.4	23.4	10.2	7.7	5.7
MSCI UK	4.0	4.0	16.7	43.7	6.2	6.8	4.6	HFRI FOF Composite	1.4	1.4	7.2	15.6	8.1	6.2	4.5
MSCI Japan	(3.4)	(3.4)	2.3	19.9	9.5	8.3	8.0	Currency (Spot)							
MSCI Euro	4.4	4.4	15.4	44.8	12.7	10.5	7.4	Euro	(0.1)	(0.1)	(5.4)	(0.7)	0.7	1.1	(1.8)
MSCI EM Asia	1.3	1.3	(2.9)	11.7	14.8	11.3	7.4	Pound Sterling	1.7	1.7	0.3	6.0	2.4	2.3	(1.6)
MSCI EM Latin American	(5.3)	(5.3)	(10.6)	21.9	(4.2)	(1.2)	(3.2)	Yen	(2.1)	(2.1)	(9.5)	(8.3)	(0.3)	(1.6)	(3.7)

Source: Morningstar, HFRI, as of 10/31/21



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	61.1	22.6	18.7	13.1
Global Private Equity Direct Funds *	61.3	25.9	22.3	15.6
U.S. Private Equity Direct Funds *	66.0	28.0	23.3	17.2
Europe Private Equity Direct Funds *	61.5	24.9	23.3	12.9
Asia Private Equity Direct Funds *	45.4	20.8	19.0	14.9
Public Index Time-weighted Returns				
MSCI World	39.0	15.0	14.8	10.7
S&P 500	40.8	18.7	17.6	14.8
MSCI Europe	35.1	8.7	10.3	5.6
MSCI AC Asia Pacific	34.3	10.3	12.6	7.0

Private Real Estate Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Real Estate	19.5	8.4	9.4	11.9
Public Index Time-weighted Returns				
FTSE NAREIT Equity REIT	38.0	10.1	6.3	9.4

Private Credit Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Debt **	34.1	12.1	12.6	11.1
Public Index Time-weighted Returns				
S&P / LSTA U.S. Leveraged Loan 100 Index	9.4	4.3	4.7	4.1

Private Real Assets Pooled IRRs	1 Year	3 Year	5 Year	10 Year
Global Nature Resources ***	26.6	(3.0)	2.5	1.4
Global Infrastructure	16.8	10.3	11.2	9.8
Public Index Time-weighted Returns				
S&P Global Natural Resources	49.3	6.1	11.4	2.3
S&P Global Infrastructure	23.2	5.6	6.2	6.2

Source: Pooled IRRs are from Thompson Reuters C|A and Time-weighted Returns are from Investment Metrics, as of June 30th, 2021. 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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