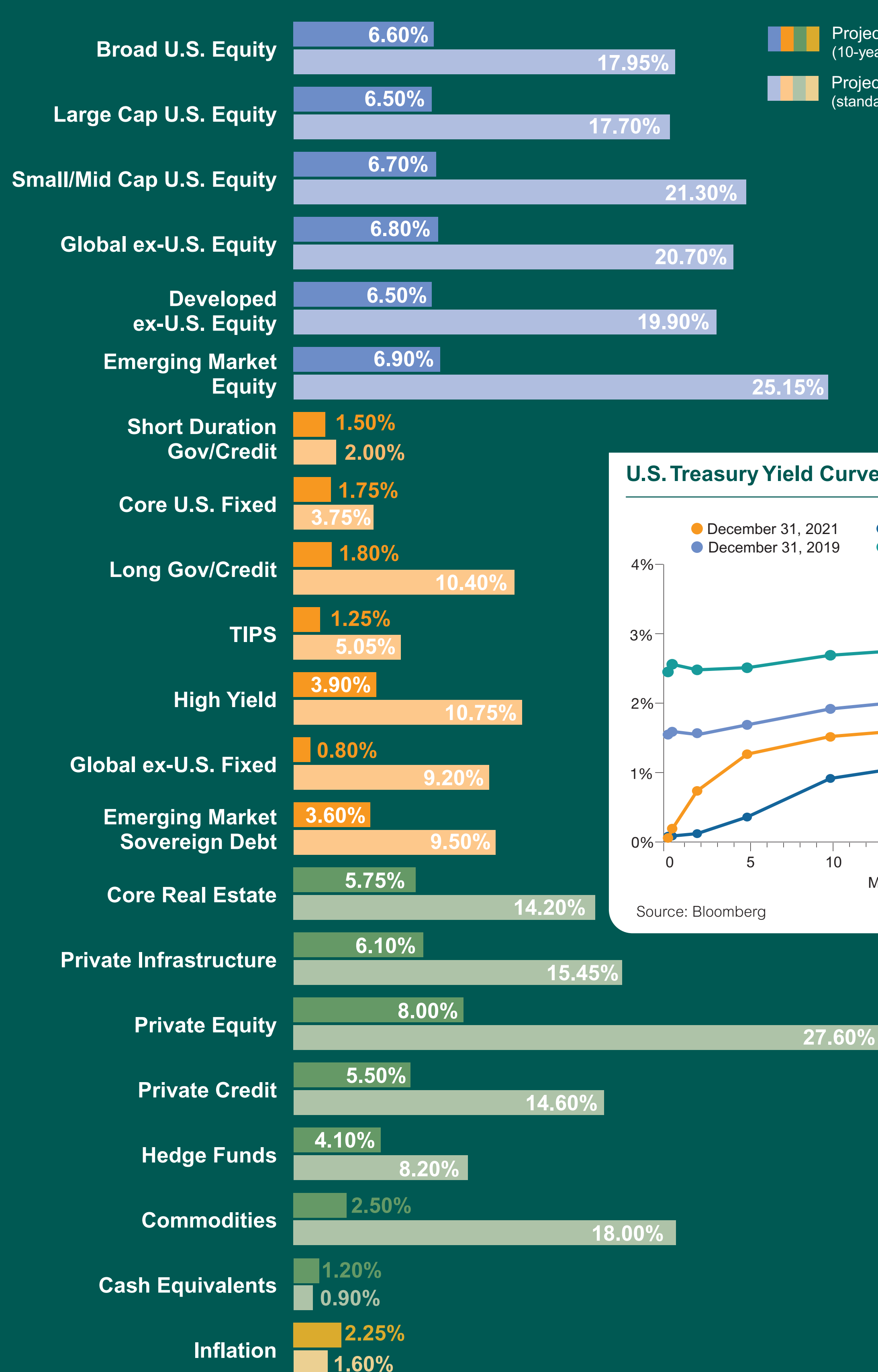
Capital Markets Assumptions: 2022-2031

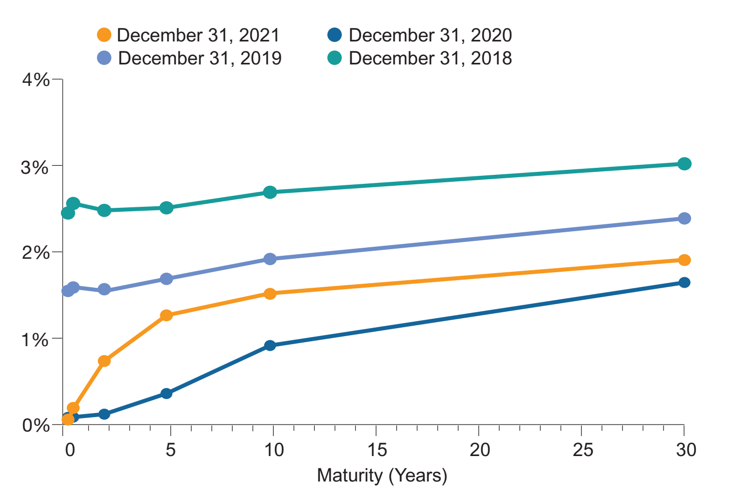
Each year, Callan develops long-term capital markets assumptions, detailing expected returns, standard deviations, and correlations for major asset classes. These forecasts are the cornerstone for strategic planning. This charticle summarizes key figures from Callan's 2022-2031 capital markets assumptions.

10-Year Return and Risk Projections



Source: Callan

U.S. Treasury Yield Curves



Source: Bloomberg

Callan's 10-Year Return Expectations

Broad U.S. Equity 6.60% Earnings growth is not sufficiently strong enough to support starting valuations, leading to muted capital gains and subdued dividend yields.

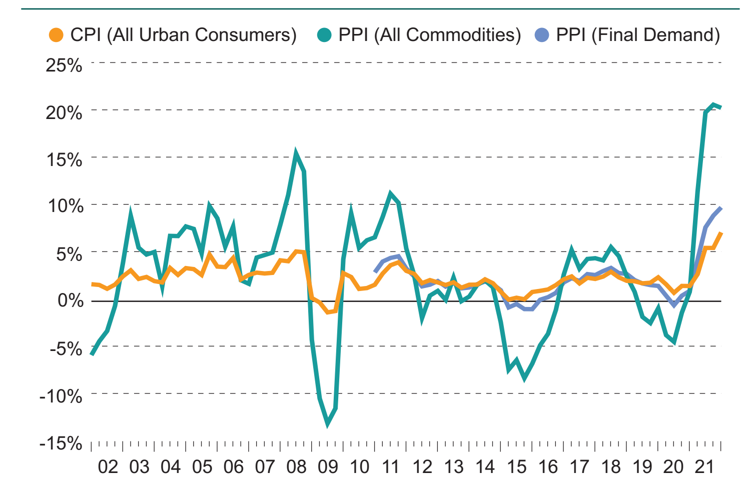
Global ex-U.S. Equity 6.80% Sustainable initial valuations along with monetary policy should undergird returns in spite of slightly diminished dividends in developed markets. Emerging markets expected to slightly outperform developed markets even in the face of economic headwinds.

Core U.S. Fixed Income 1.75% Low starting yields provide minimal carry to counteract capital losses from our rising rate forecast. However, higher yields in later years will enable higher fixed income returns.

Core Real Estate 5.75% Low interest rates should help real estate garner interest from investors, supporting returns. Weak expectations for office and retail are offset by growth in industrial and residential.

Private Equity 8.00% Private equity performance expectations are unchanged relative to last year. The projection for standard deviation for private equity is consistent with risk of loss rather than a measure of observed volatility.

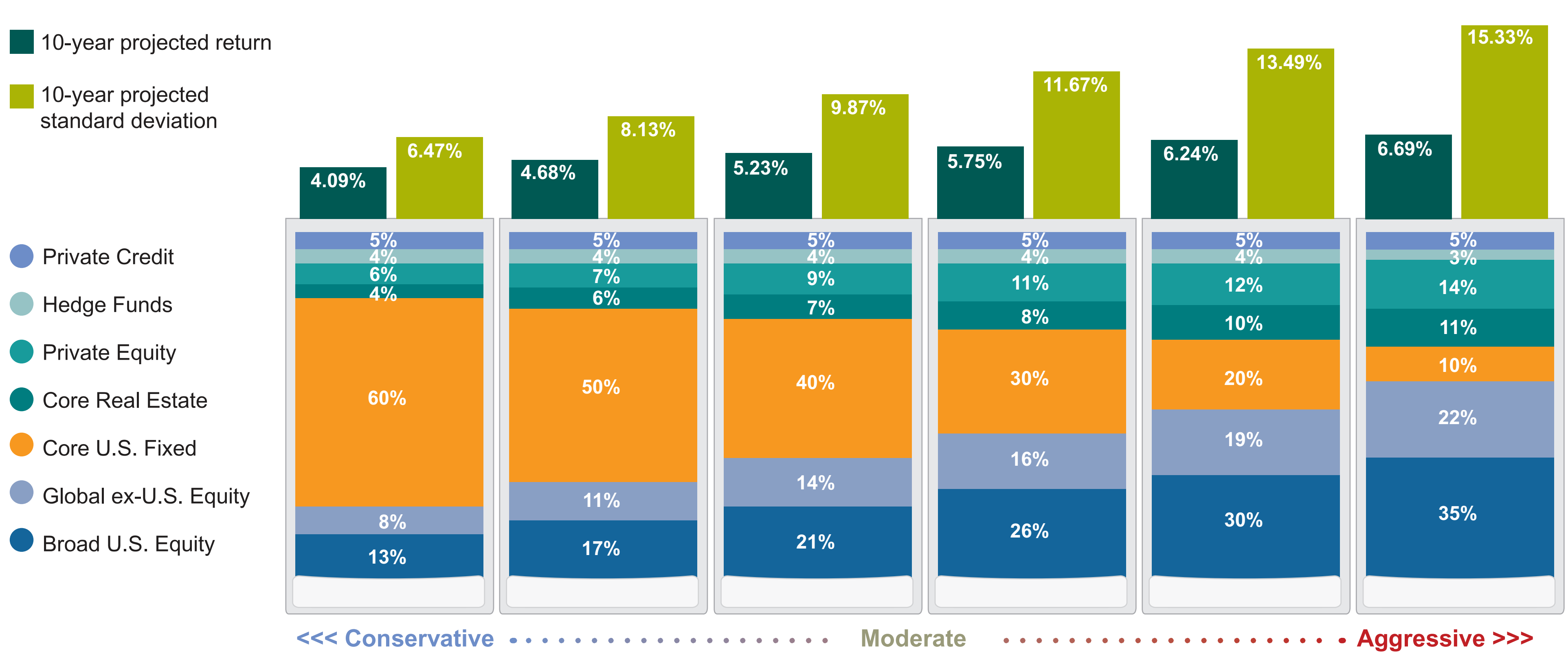
Inflation Year-Over-Year



Source: Bureau of Labor Statistics

Projected Risk and Return of Different Asset Mixes

This exhibit uses Callan's assumptions to create a range of efficient portfolios on a spectrum from conservative to aggressive.



Note: Charts may not sum to 100% due to rounding.
Source: Callan

About These Assumptions

Callan's assumptions consist of three primary figures for each asset class: a mean rate of return, a corresponding range defined by standard deviation, and the correlations to other asset classes. These figures represent our best thinking for long-term expectations and establish a mid-point within a wider range of potential outcomes. We use the assumptions to model portfolios for our clients.

Multiple elements of the capital markets influence the assumptions: returns relative to inflation, equity valuations, risk premiums, GDP growth, and many other factors. These expectations incorporate advanced quantitative modeling as well as qualitative feedback and the economic expertise of Callan's consulting professionals. Our 2022 numbers reflect our outlook for the economy, for inflation, and for the capital markets.

Correlation Expectations (10 Years)

	Lg Cap	Sm/Mid Cap	Global ex-U.S. Eq	Dev ex-U.S. Eq	Em Mkt Equity	Sht Dur	Core Fixed Income	Long Gov/Credit	TIPS	High Yield	Global ex-U.S. Fixed	EMD	Core Real Estate	Private Infra	Private Equity	Private Credit	Hedge Funds	Comm	Cash	Inflation
Large Cap U.S. Eq	1.00																			
Small/Mid Cap Eq	0.90	1.00																		
Global ex-U.S. Eq	0.81	0.80	1.00																	
Dev. ex-U.S. Eq	0.77	0.77	0.98	1.00																
Emerging Market Eq	0.79	0.76	0.93	0.84	1.00															
Short Duration	-0.06	-0.08	-0.08	-0.06	-0.10	1.00														
Core U.S. Fixed	-0.10	-0.12	-0.12	-0.11	-0.14	0.78	1.00													
Long Gov/Credit	0.09	0.07	0.09	0.09	0.07	0.71	0.88	1.00												
TIPS	-0.08	-0.08	-0.09	-0.09	-0.10	0.56	0.70	0.57	1.00											
High Yield	0.71	0.68	0.71	0.69	0.69	-0.01	0.00	0.20	0.06	1.00										
Global ex-U.S. Fixed	0.01	0.00	0.06	0.05	0.08	0.48	0.50	0.50	0.45	0.12	1.00									
EM Sovereign Debt	0.56	0.54	0.59	0.55	0.61	0.08	0.14	0.24	0.18	0.60	0.15	1.00								
Core Real Estate	0.64	0.60	0.61	0.60	0.56	-0.01	-0.04	0.10	-0.02	0.53	-0.02	0.33	1.00							
Private Infrastructure	0.65	0.60	0.62	0.61	0.58	0.00	0.01	0.15	-0.02	0.50	0.03	0.35	0.76	1.00						
Private Equity	0.77	0.73	0.76	0.73	0.72	-0.10	-0.19	-0.01	-0.14	0.59	0.06	0.40	0.50	0.62	1.00					
Private Credit	0.68	0.65	0.67	0.65	0.64	0.00	-0.06	0.12	-0.09	0.63	0.06	0.48	0.47	0.52	0.65	1.00				
Hedge Funds	0.79	0.74	0.77	0.75	0.74	0.10	0.13	0.27	0.09	0.64	0.05	0.53	0.45	0.47	0.57	0.61	1.00			
Commodities	0.28	0.27	0.28	0.27	0.27	-0.10	-0.10	-0.04	0.10	0.15	0.15	0.19	0.21	0.18	0.23	0.17	0.23	1.00		
Cash Equivalents	-0.06	-0.08	-0.10	-0.10	-0.10	0.30	0.15	0.01	0.12	-0.11	0.00	-0.07	0.00	-0.07	0.00	-0.06	-0.04	-0.02	1.00	
Inflation	-0.02	0.02	0.01	0.00	0.03	-0.21	-0.25	-0.26	0.08	0.05	-0.10	0.00	0.10	0.06	0.06	0.06	0.15	0.29	0.05	1.00

Source: Callan

Relationships between asset classes are as important as standard deviation. In the past, particularly in stressed markets, correlations between asset classes have risen.

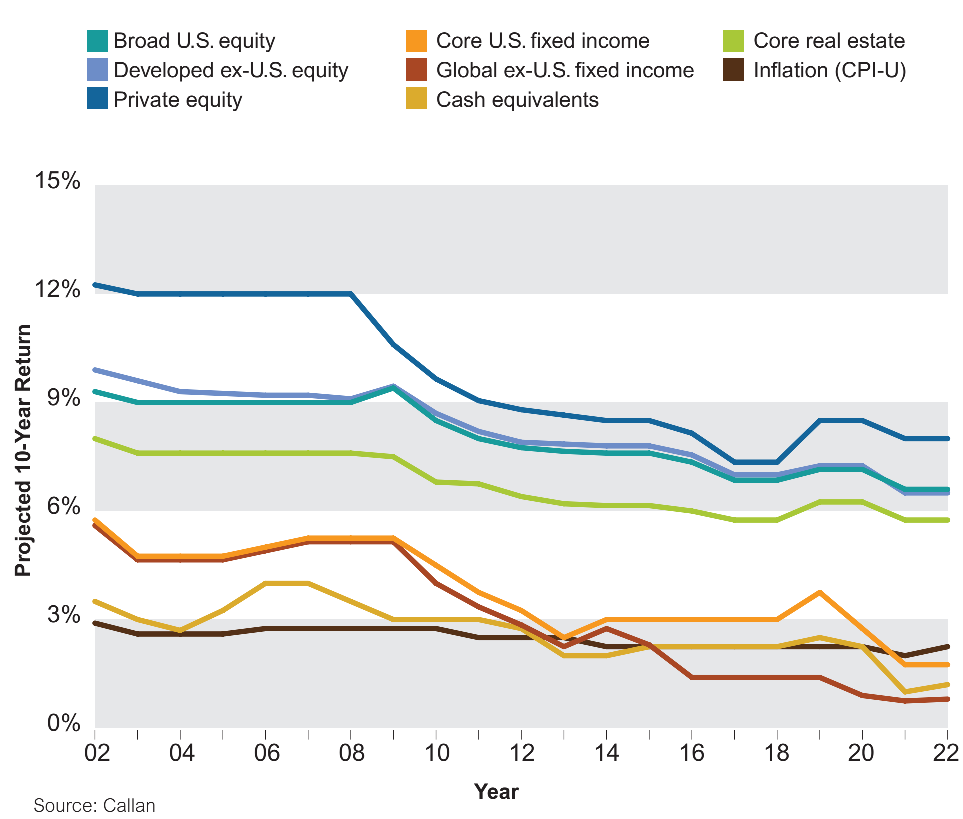
Callan revisits and adjusts our correlation expectations annually. Among the risky asset classes, correlations are high and will remain high. Interestingly, stocks and bonds have exhibited tremendous negative correlation over time. Other uncorrelated asset classes have been commodities, TIPS, and to some extent many absolute return strategies. We believe real estate will maintain a diversification benefit, but it is harder to measure given the valuation process.

Then and Now: Comparing Historical Returns to Historical Projections

	Annualized Returns for periods ended 12/31/2021 10 Years	15 Years	25 Years
Broad U.S. Stock Market			
Russell 3000	16.30	10.59	9.81
Large Cap U.S. Stocks			
S&P 500	16.55	10.66	9.76
Small/Mid Cap U.S. Stocks			
Russell 2500	14.15	9.67	10.30
Global ex-U.S. Stock Markets			
MSCI World ex USA	7.84	3.70	5.39
MSCI Emerging Markets	5.49	4.45	--
Fixed Income			
Bloomberg Aggregate	2.90	4.09	4.94
Bloomberg Global Agg ex-US	0.82	2.65	3.40
Bloomberg Long Gov/Credit	5.72	7.03	7.31
Real Estate			
NFI-ODCE (value weight net)	9.44	5.80	8.18
Hedge Funds			
Callan Hedge FOF Database*	5.58	4.65	6.80
Private Equity			
Cambridge Private Equity*	17.17	14.23	15.72
Commodities			
Bloomberg Commodity	-2.85	-2.59	1.13
Cash Market			
90-Day T-Bill	0.63	0.91	2.06
Inflation			
CPI-U	2.14	2.18	2.28

* Private equity and hedge fund data are for periods ended 09/30/21.
Sources: Bloomberg, Bureau of Labor Statistics, Callan, Cambridge, FTSE Russell, MSCI, NCREIF, and S&P Dow Jones Indices.

How Callan's 10-Year Return Projections Have Changed



Source: Callan

About Callan

Founded in 1973, Callan is one of the largest independently owned investment consulting firms in the country. Headquartered in San Francisco, CA, the firm provides research, education, decision support, and advice to a broad array of institutional investors.

For more information, please contact your Callan consultant.

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