The Verus logo is located in the top right corner. It consists of the word "Verus" in a black, sans-serif font, followed by three blue chevrons pointing to the right. The background of the entire slide is a scenic landscape featuring a field of purple lupine flowers in the foreground, a calm lake in the middle ground, and a range of jagged, rocky mountains under a blue sky with scattered white clouds. On the left side, there is a semi-transparent blue geometric pattern of overlapping triangles.

NOVEMBER 2024

2025 Capital Market Assumptions

A decorative graphic consisting of a white triangle pointing upwards, which is partially overlaid by a blue triangle pointing downwards. This graphic is positioned to the left of the main title text.

**PERSPECTIVES
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Summary

Methodology

SUMMARY OF THE VERUS APPROACH

- We use a fundamental building block approach to forecast asset class returns, based on several inputs. These include practitioner best-in-class thinking, historical data, and academic research. Each year Verus conducts an in-depth review of our methodology, analyzing new industry research findings and evaluating alternative forecasting approaches to determine whether an improvement to our methodology might be warranted. We maintain flexibility and openness to adjusting our approach if strong evidence suggests change is appropriate.
- For most asset classes, we use the long-term historical volatility after adjusting for autocorrelation.
- Correlations between asset classes are calculated based on the last 10 years. For illiquid assets, such as private equity and private real estate, we use BarraOne correlation estimates.

Asset	Return Methodology	Volatility Methodology*
Inflation	25% weight to the University of Michigan Survey 5-10 year ahead inflation expectation and the Survey of Professional Forecasters (Fed Survey), and the remaining 50% to the market's expectation for inflation as observed through the 10-year TIPS breakeven rate	-
Cash	$1/3 * \text{current federal funds rate} + 1/3 * \text{U.S. 10-year Treasury yield} + 1/3 * \text{Federal Reserve long-term interest rate target}$	Long-term volatility
Bonds	Nominal bonds: current yield; Real bonds: real yield + inflation forecast	Long-term volatility
International Bonds	Current yield	Long-term volatility
Credit	Current option-adjusted spread + U.S. 10-year Treasury – effective default rate	Long-term volatility
International Credit	Current option-adjusted spread + foreign 10-year Treasury – effective default rate	Long-term volatility
Private Credit	Levered gross return (SOFR + spread + original issuance discounts) – management fees – carried interest	Estimated volatility
Equity	Current yield + real earnings growth (historical average) + inflation on earnings (inflation forecast) + expected P/E change	Long-term volatility
Intl Developed Equity	Current yield + real earnings growth (historical average) + inflation on earnings (intl. inflation forecast) + expected P/E change	Long-term volatility
Private Equity**	US large cap domestic equity forecast * 1.85 beta adjustment	Implied annualized volatility, using actual historical private equity performance distribution
Commodities	Collateral return (cash) + spot return (inflation forecast) + roll return (assumed to be zero)	Long-term volatility
Hedge Funds	Return coming from traditional market betas + historical idiosyncratic/alpha return	Long-term volatility
Core Real Estate	Cap rate + real income growth – capex + inflation forecast	65% of REIT volatility
REITs	Core real estate	Long-term volatility
Value-Add Real Estate	Core real estate + 2%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Opportunistic Real Estate	Core real estate + 3%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Infrastructure	Current yield + real income growth + inflation on earnings (inflation forecast)	Long-term volatility
Risk Parity	Modeled as the 10-year return expectations of a <i>representative selection of Risk Parity strategies</i>	Target volatility

*Long-term historical volatility data is adjusted for autocorrelation (see Appendix)

**Private Equity is modeled assuming an 8.0% floor for expected return, and a 3% return premium ceiling over U.S. Large Cap Equity. These adjustments are in place to recognize that higher interest rates (cost of leverage) act as a drag on expected Private Equity returns but that this drag has had limits historically, and to recognize that future Private Equity total universe performance is likely to be more anchored to public equity performance than in past times, given a more competitive market environment

10-year return & risk assumptions

Asset Class	Index Proxy	Ten Year Return		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Forecast						
		Geometric	Arithmetic					
Equities								
U.S. Large	S&P 500	5.3%	6.4%	15.5%	0.10	0.17	0.77	0.80
U.S. Small	Russell 2000	6.3%	8.4%	21.3%	0.12	0.22	0.35	0.44
International Developed	MSCI EAFE	6.7%	8.1%	17.5%	0.17	0.25	0.27	0.33
International Small	MSCI EAFE Small Cap	8.8%	10.8%	21.4%	0.23	0.33	0.27	0.35
Emerging Markets	MSCI EM	7.0%	9.6%	24.2%	0.13	0.24	0.14	0.22
Global Equity	MSCI ACWI	6.0%	7.3%	16.7%	0.13	0.21	0.52	0.57
Global Equity ex USA	MSCI ACWI ex USA	7.0%	8.7%	19.3%	0.17	0.25	0.24	0.31
Private Equity	CA Private Equity	8.0%	10.9%	26.0%	0.16	0.27	-	-
Private Equity Direct	CA Private Equity	9.0%	11.9%	26.0%	0.20	0.31	-	-
Private Equity (FoF)	CA Private Equity	7.0%	10.0%	26.0%	0.12	0.23	-	-
Fixed Income								
Cash	30 Day T-Bills	3.8%	3.8%	1.1%	-	-	-	-
U.S. TIPS	Bloomberg U.S. TIPS 5-10	4.0%	4.2%	5.5%	0.04	0.07	0.18	0.20
Non-U.S. Inflation Linked Bonds	Bbg World Govt. Inflation Linked ex U.S.	3.4%	3.7%	7.4%	-0.05	-0.01	-0.03	0.01
U.S. Treasury	Bloomberg Treasury 7-10 Year	3.8%	4.0%	7.1%	0.00	0.03	-0.02	0.01
Long U.S. Treasury	Bloomberg Treasury 20+ Year	4.1%	4.9%	13.4%	0.02	0.08	-0.06	0.01
Global Sovereign ex U.S.	Bloomberg Global Treasury ex U.S.	2.2%	2.7%	10.0%	-0.16	-0.11	-0.30	-0.26
Global Aggregate	Bloomberg Global Aggregate	3.4%	3.6%	6.7%	-0.06	-0.03	-0.17	-0.14
Core Fixed Income	Bloomberg U.S. Aggregate Bond	4.3%	4.4%	4.7%	0.11	0.13	0.04	0.06
Core Plus Fixed Income	Bloomberg U.S. Universal	4.4%	4.5%	4.7%	0.13	0.15	0.10	0.13
Investment Grade Corp. Credit	Bloomberg U.S. Corporate IG	4.6%	4.9%	8.4%	0.10	0.13	0.19	0.22
Short-Term Gov't/Credit	Bloomberg U.S. Gov't/Credit 1-3 Year	3.9%	3.9%	3.6%	0.03	0.03	0.00	0.00
Short-Term Credit	Bloomberg Credit 1-3 Year	4.2%	4.3%	3.6%	0.11	0.14	0.28	0.29
Intermediate Credit	Bloomberg U.S. Intermediate Credit	4.3%	4.5%	5.9%	0.08	0.12	0.19	0.25
Long-Term Credit	Bloomberg Long U.S. Credit	4.6%	5.2%	11.1%	0.07	0.13	0.13	0.19
High Yield Corp. Credit	Bloomberg U.S. Corporate High Yield	5.6%	6.1%	10.8%	0.17	0.21	0.45	0.47
Bank Loans	S&P/LSTA Leveraged Loan	6.9%	7.3%	8.8%	0.35	0.40	0.58	0.59
Global Credit	Bloomberg Global Credit	4.1%	4.4%	7.8%	0.04	0.08	0.07	0.10
Emerging Markets Debt (Hard)	JPM EMBI Global Diversified	7.7%	8.2%	10.5%	0.37	0.42	0.18	0.22
Emerging Markets Debt (Local)	JPM GBI-EM Global Diversified	5.8%	6.5%	12.1%	0.17	0.22	-0.10	-0.04
Securitized Credit	Bloomberg U.S. Securitized	4.7%	4.8%	4.0%	0.23	0.25	-0.03	-0.01

Investors wishing to produce expected geometric return forecasts for their portfolios should use the arithmetic return forecasts provided here as inputs into that calculation, rather than the single-asset-class geometric return forecasts. This is the industry standard approach, but requires a complex explanation only a heavy quant could love, so we have chosen not to provide further details in this document – we will happily provide those details to any readers of this who are interested.

10-year return & risk assumptions

Asset Class	Index Proxy	Ten Year Return		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Forecast						
		Geometric	Arithmetic					
Fixed Income (continued)								
Private Credit	S&P LSTA Leveraged Loan Index	8.2%	8.8%	11.8%	0.37	0.42	-	-
Private Credit (Direct Lending - Unlevered)	S&P LSTA Leveraged Loan Index	7.1%	7.5%	8.8%	0.38	0.42	-	-
Private Credit (Direct Lending - Levered)	S&P LSTA Leveraged Loan Index	8.3%	8.9%	11.8%	0.38	0.43	-	-
Private Credit (Credit Opportunities)	S&P LSTA Leveraged Loan Index	8.8%	9.6%	13.4%	0.37	0.43	-	-
Private Credit (Junior Capital / Mezzanine)	S&P LSTA Leveraged Loan Index	8.6%	9.4%	12.9%	0.37	0.43	-	-
Private Credit (Distressed)	S&P LSTA Leveraged Loan Index	9.1%	12.7%	29.1%	0.18	0.31	-	-
Other								
Commodities	Bloomberg Commodity	6.3%	7.4%	16.0%	0.16	0.23	-0.11	-0.04
Hedge Funds	HFRI Fund Weighted Composite	5.0%	5.3%	7.5%	0.16	0.20	0.55	0.56
Hedge Fund of Funds	HFRI Fund of Funds Composite	4.0%	4.3%	7.5%	0.03	0.07	0.39	0.41
Hedge Funds (Equity Style)	Custom HFRI Benchmark Mix*	5.4%	6.3%	13.9%	0.12	0.18	0.37	0.42
Hedge Funds (Credit Style)	Custom HFRI Benchmark Mix*	5.2%	5.6%	9.2%	0.15	0.20	0.61	0.62
Hedge Funds (Assymmetric Style)	Custom HFRI Benchmark Mix*	5.4%	5.6%	6.3%	0.25	0.29	0.55	0.56
Real Estate Debt	Bloomberg CMBS IG	6.8%	7.1%	7.4%	0.41	0.45	0.20	0.22
Core Real Estate	NCREIF Property	7.2%	7.9%	12.5%	0.27	0.33	-	-
Value-Add Real Estate	NCREIF Property + 200bps	9.2%	10.3%	15.4%	0.35	0.42	-	-
Opportunistic Real Estate	NCREIF Property + 300bps	10.2%	12.1%	21.2%	0.30	0.39	-	-
REITs	Wilshire REIT	7.2%	8.8%	19.2%	0.18	0.26	0.34	0.41
Global Infrastructure	S&P Global Infrastructure	8.1%	9.4%	16.8%	0.26	0.33	0.24	0.31
Risk Parity**	S&P Risk Parity 10% Vol Index	6.3%	7.1%	10.0%	0.25	0.33	0.40	0.44
Currency Beta	MSCI Currency Factor Index	2.2%	2.3%	3.3%	-0.48	-0.45	-0.30	-0.28
Inflation		2.4%	-	-	-	-	-	-
60/40 Portfolio	MSCI ACWI / Bbg U.S. Agg	5.5%	6.0%	10.9%	0.16	0.20	0.50	0.53

Investors wishing to produce expected geometric return forecasts for their portfolios should use the arithmetic return forecasts provided here as inputs into that calculation, rather than the single-asset-class geometric return forecasts. This is the industry standard approach, but requires a complex explanation only a heavy quant could love, so we have chosen not to provide further details in this document – we will happily provide those details to any readers of this who are interested.

*To represent hedge fund styles, we use a combination of HFRI benchmarks: Equity Style = 33% HFRI Fundamental Growth, 33% HFRI Fundamental Value, 33% HFRI Activist. Credit Style = 20% HFRI Distressed/Restructuring, 20% HFRI Credit Arbitrage, 20% HFRI Fixed Income-Corporate, 20% HFRI Fixed Income-Convertible Arbitrage, 20% HFRI Fixed Income-Asset Backed. Asymmetric Style = 50% HFRI Relative Value, 50% HFRI Macro

**The Risk Parity forecast shown here assumes a 10% target volatility strategy. We recommend customizing this forecast to the target volatility specifications of the risk parity strategy that an investor wishes to model. Please speak with your Verus consultants for customization needs.

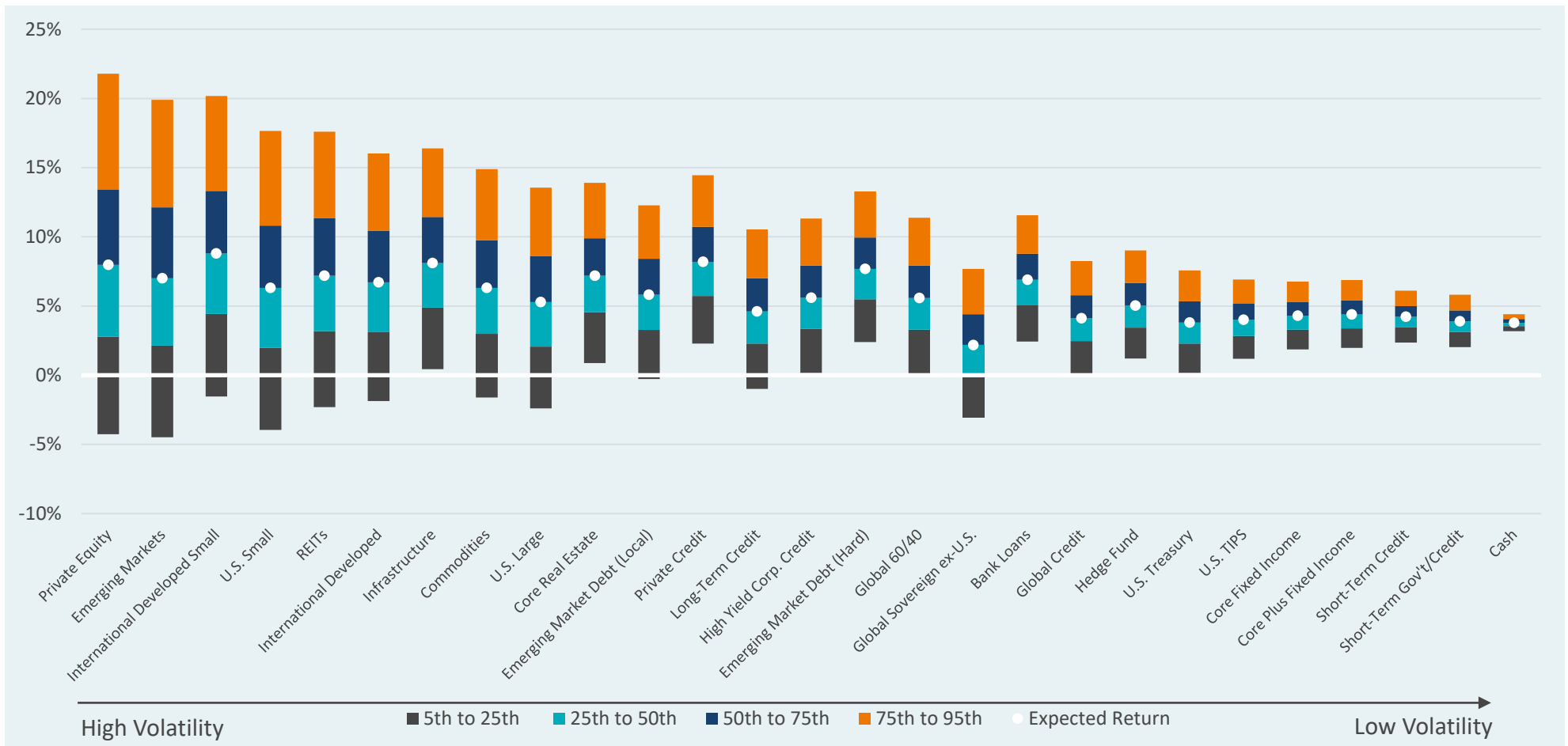
Correlation assumptions

	Cash	US Large	US Small	Intl Large	Intl Small	EM	Global Equity	PE	US TIPS	US Treasury	Global Sovereign ex-US	US Core	Core Plus	Short-Term Gov't/Credit	Short-Term Credit	Long-Term Credit	US HY	Bank Loans	Global Credit	EM Debt USD	EM Debt Local	Commodities	Hedge Funds	Real Estate	REITs	Infrastructure	Currency Beta	Risk Parity	
Cash	1.0																												
US Large	0.0	1.0																											
US Small	-0.1	0.9	1.0																										
Intl Large	0.0	0.9	0.8	1.0																									
Intl Small	0.0	0.9	0.8	1.0	1.0																								
EM	0.0	0.7	0.6	0.8	0.8	1.0																							
Global Equity	0.0	1.0	0.9	0.9	0.9	0.8	1.0																						
PE	-0.1	0.7	0.7	0.6	0.6	0.6	0.7	1.0																					
US TIPS	0.0	0.5	0.4	0.5	0.5	0.4	0.5	0.2	1.0																				
US Treasury	0.1	0.1	0.0	0.1	0.1	0.1	0.1	-0.1	0.8	1.0																			
Global Sovereign ex-US	0.2	0.4	0.3	0.5	0.5	0.5	0.5	0.1	0.7	0.6	1.0																		
US Core	0.1	0.4	0.3	0.4	0.4	0.4	0.4	0.0	0.8	0.9	0.8	1.0																	
Core Plus	0.2	0.5	0.4	0.5	0.5	0.5	0.5	0.1	0.8	0.9	0.8	1.0	1.0																
Short-Term Gov't/Credit	0.3	0.2	0.1	0.3	0.3	0.3	0.3	0.0	0.7	0.8	0.6	0.8	0.8	1.0															
Short-Term Credit	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.2	0.7	0.5	0.7	0.7	0.8	0.7	1.0														
Long-Term Credit	0.1	0.6	0.5	0.6	0.6	0.6	0.6	0.2	0.8	0.7	0.8	0.9	0.9	0.7	0.8	1.0													
US HY	0.0	0.8	0.8	0.8	0.8	0.7	0.8	0.5	0.6	0.2	0.5	0.5	0.6	0.4	0.6	0.7	1.0												
Bank Loans	0.0	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.3	-0.1	0.2	0.2	0.3	0.1	0.5	0.4	0.8	1.0											
Global Credit	0.1	0.7	0.6	0.7	0.8	0.7	0.7	0.3	0.8	0.6	0.8	0.8	0.9	0.7	0.8	0.9	0.8	0.6	1.0										
EMD USD	0.1	0.7	0.6	0.7	0.7	0.7	0.7	0.4	0.6	0.4	0.7	0.6	0.7	0.5	0.7	0.8	0.8	0.7	0.9	1.0									
EMD Local	0.1	0.5	0.4	0.7	0.7	0.8	0.7	0.4	0.5	0.3	0.7	0.5	0.6	0.4	0.5	0.6	0.7	0.5	0.8	0.8	1.0								
Commodities	-0.1	0.4	0.4	0.4	0.4	0.5	0.5	0.3	0.2	-0.2	0.2	-0.1	0.0	-0.1	0.1	0.1	0.5	0.5	0.3	0.3	0.4	1.0							
Hedge Funds	0.0	0.8	0.9	0.8	0.9	0.8	0.9	0.6	0.4	-0.1	0.3	0.2	0.4	0.1	0.5	0.5	0.8	0.8	0.7	0.7	0.6	0.5	1.0						
Real Estate	-0.2	0.6	0.5	0.5	0.5	0.4	0.6	0.4	0.2	0.0	-0.1	0.1	0.1	0.0	-0.1	0.2	0.4	0.4	0.3	0.4	0.3	0.2	0.5	1.0					
REITs	-0.1	0.8	0.7	0.7	0.7	0.5	0.7	0.6	0.6	0.4	0.4	0.5	0.6	0.3	0.4	0.7	0.7	0.5	0.7	0.7	0.5	0.3	0.7	0.6	1.0				
Infrastructure	0.0	0.8	0.7	0.8	0.8	0.7	0.8	0.6	0.5	0.2	0.5	0.4	0.5	0.3	0.5	0.6	0.8	0.7	0.8	0.8	0.7	0.5	0.8	0.5	0.7	1.0			
Currency Beta	-0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	0.1	-0.2	-0.1	-0.3	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	-0.1	-0.3	-0.2	-0.3	-0.1	-0.1	0.1	0.0	-0.1	1.0		
Risk Parity	0.1	0.7	0.7	0.8	0.7	0.6	0.8	0.4	0.7	0.4	0.7	0.6	0.7	0.4	0.7	0.7	0.8	0.5	0.8	0.7	0.6	0.5	0.7	0.1	0.7	0.7	-0.2	1.0	

Note: as of 9/30/24 - Correlation assumptions are based on the last ten years. Private Equity and Real Estate correlations are especially difficult to model due to appraisal-based pricing and lag problems that exist in the data – we have therefore used BarraOne correlation data to strengthen these correlation estimates.

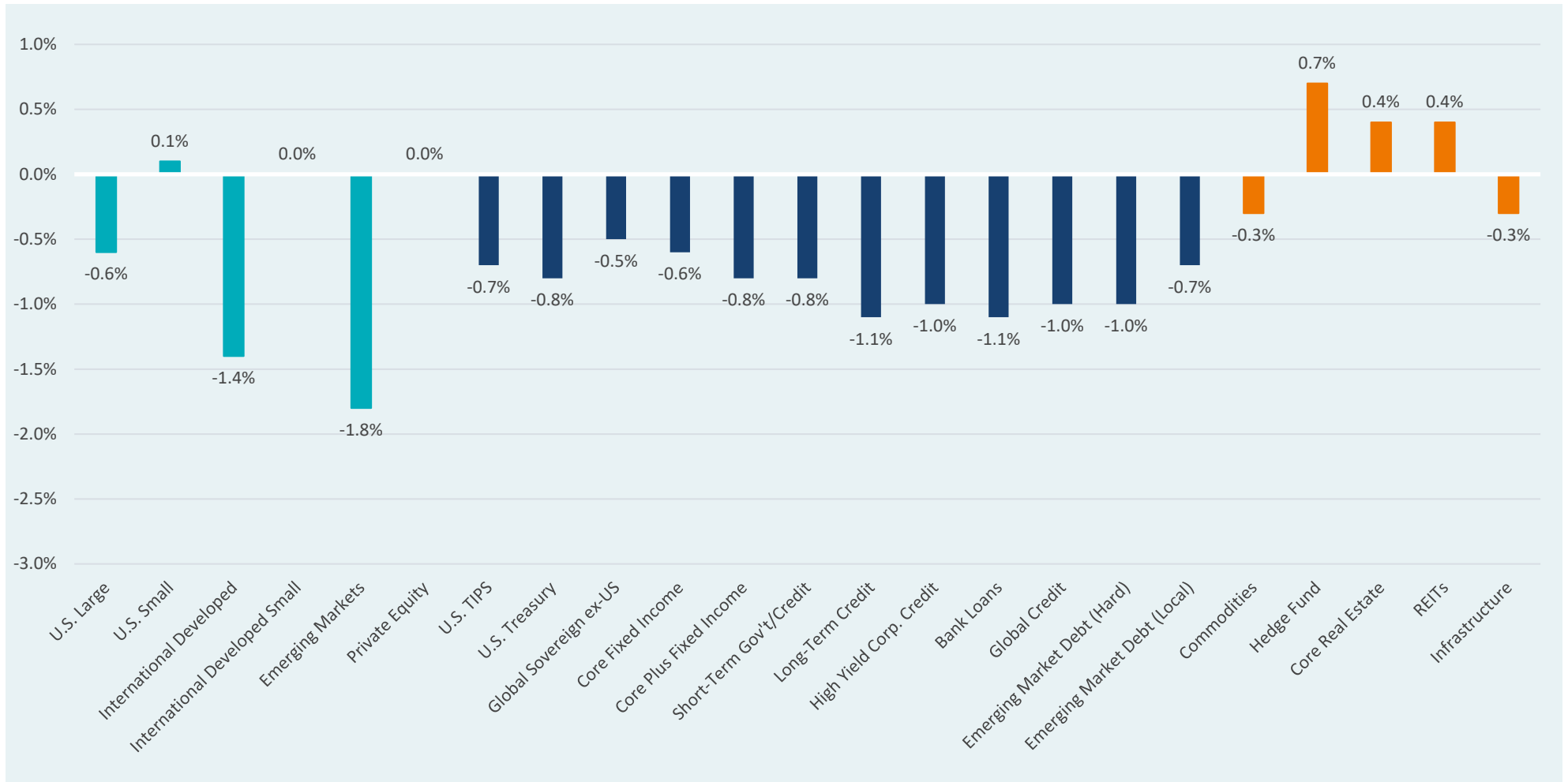
Range of likely 10-year outcomes

10-YEAR RETURN 90% CONFIDENCE INTERVAL



Source: Verus 2025 Capital Market Assumptions, MPI

2025 vs. 2024 return forecast



Source: Verus, as of 9/30/24

Market summary & forecast impacts

- A key theme of the 2025 Verus Capital Market Assumptions is falling interest rates, which has led to mildly lower fixed income forecasts. Despite a bumpy path along the way, the 10-year U.S. Treasury fell from 4.59% to 3.79% as domestic inflation has fallen towards the Federal Reserve's 2% target and the September 50 bps rate cut likely marked the first in a series of cuts to normalize the monetary environment. Readers will also notice that our cash forecast has fallen from 4.1% to 3.8%, which is a product of a lower current cash rate as well as lower longer-term bond yields which suggest a more muted interest rate environment in the future.
 - Equity markets delivered incredibly strong returns over the past year. The U.S. market generated a +36.4% return (S&P 500 Index), International developed equities delivered +24.8% (MSCI EAFE Index), and emerging markets were up +26.1% (MSCI EM Index). Much of this performance was possible due to heightened price-to-earnings multiples, which has negatively impacted the yield that investors now receive from these markets and suggests a greater likelihood of stable or lower multiples in the future (rather than further valuation upside).
- Readers will notice that our equity forecasts overall reflect lower return expectations relative to one year prior.
- Along with more richly valued equity markets, credit spreads of risky credit moved in a tighter direction. High yield contracted from 397 bps to 358 bps, and bank loans from 518 bps to 471 bps. Tighter credit spreads mean that investors are receiving less compensation from their credit portfolios—our forecasts appropriately reflect these changing conditions.
 - Despite the dramatic increase in inflation in recent years, and then a moderation of inflation back closer to the Federal Reserve's 2% target, inflation expectations have not changed much. Long term inflation expectations were mixed throughout the year. Household inflation expectations (University of Michigan) increased from 2.8% to 3.0%, the Survey of Professional Forecasters fell slightly, from 2.4% to 2.3%, while market-priced inflation expectations (U.S. TIPS Breakeven Rate) also fell slightly from 2.3% to 2.2%. Overall, our forecast for the rate of inflation over the next ten years moved from 2.5% to 2.4%.

All data cited above is as of 9/30/24

Inflation

Inflation

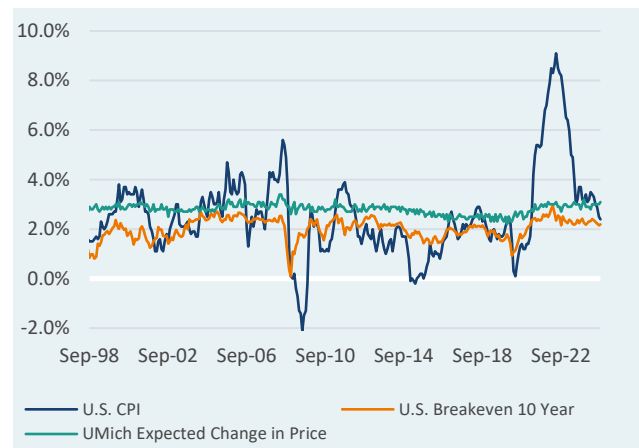
We use a weighted average of market expectations (50%), consumer expectations (25%), and professional forecasts (25%) to create a 10-year inflation forecast. The market's expectations for 10-year inflation can be inferred by taking the difference between the U.S. 10-year Treasury yield and the 10-year Treasury Inflation-Protected (TIPS) yield (referred to as the breakeven inflation rate).

slightly lower long-run inflation, declining from 2.4% to 2.3%, and market-priced inflation expectations (U.S. TIPS Breakeven Rate) also fell slightly from 2.3% to 2.2%.

Overall, our inflation forecast moved lower from 2.5% to 2.4%.

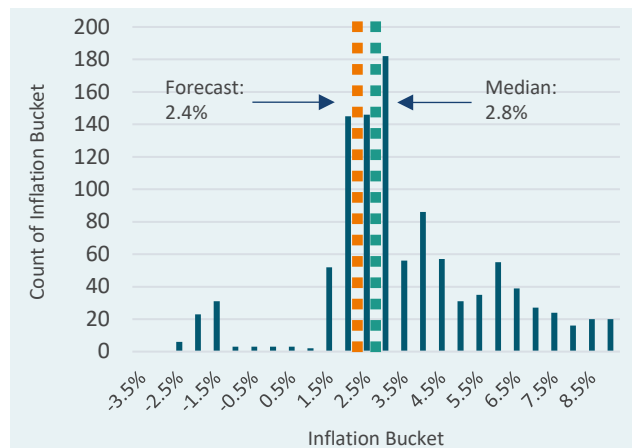
Long-term inflation expectations have been mixed throughout the year. Household inflation expectations (University of Michigan) increased from 2.8% to 3.0%, the Survey of Professional Forecasters suggested very

INFLATION EXPECTATIONS



Source: U. of Michigan, Philly Fed, as of 9/30/24

U.S. 10-YR ROLLING AVERAGE INFLATION



Source: Bloomberg, as of 9/30/24 – since 1923

FORECAST

	10-Year Forecast
University of Michigan Survey (25% weight)	+3.0%
Survey of Professional Forecasters (25% weight)	+2.3%
US 10-Year TIPS Breakeven Rate (50% weight)	+2.2%
Inflation Forecast	2.4%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

Fixed income

Cash

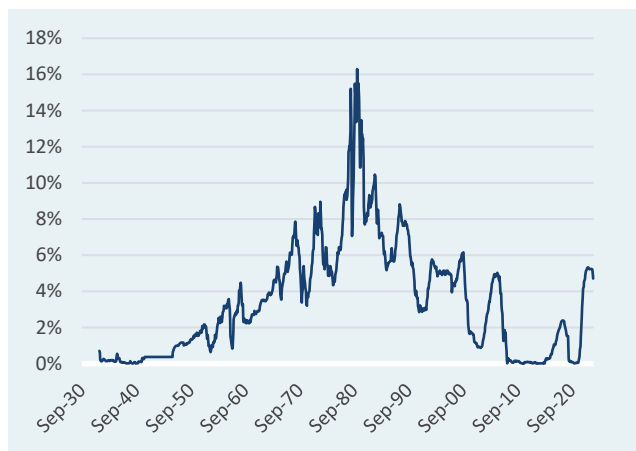
U.S. Treasury yields were volatile throughout 2024, as the outcome of the Federal Reserve’s fight to bring down inflation was uncertain. The Fed cut rates in September 2024 by a surprise 50 bps—much later than markets had anticipated. Rates were lowered from a target range of 5.25-5.50% to 4.75%-5.00%, with expectations for further cuts in late 2024 and 2025.

The yield curve remained inverted for most of 2024, until the lead-up to the first interest rate cut. Recent yield movements suggest the U.S. yield curve may soon be headed towards a more normal upward sloping shape.

The current federal funds rate, as well as longer-term U.S. Treasury yields, which are an indication of future short-term rates, provide guidance regarding the future longer-term cash return. We use both of these variables as components to our cash forecast. As a third component, we assume that the rate of cash over the long-term will drift towards the Federal Reserve’s long-term terminal interest rate expectation. We place a one-third forecasting weight to each of the three components.

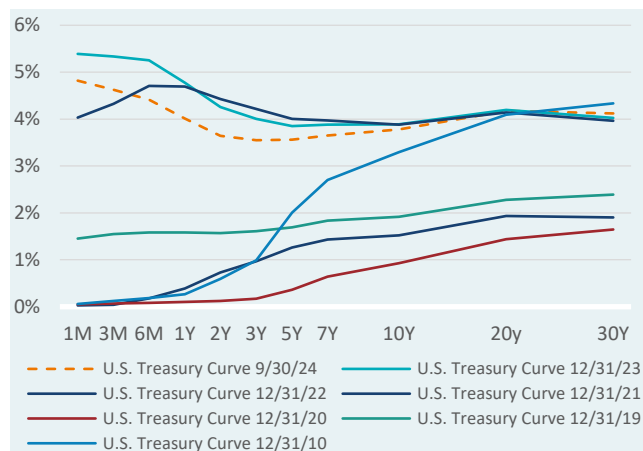
Applying these relationships results in a 10-year cash forecast of 3.8%.

CASH YIELD (3-MONTH T-BILL)



Source: FRED, as of 9/30/24

U.S. TREASURY YIELD CURVE



Source: Bloomberg, as of 9/30/24

FORECAST

	10-Year Forecast
Cash	3.8%
<i>Inflation Forecast</i>	-2.4%
<i>Real Return</i>	1.3%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

Rates

We forecast the return of 10-year and 30-year U.S. Treasuries based on the current yield of 10-year and 30-year U.S. Treasuries, assuming all cash flows are reinvested at the current yield. While the current yield of 10-year Treasuries has historically been a strong predictor of next ten-year performance, it is important to note that 30-year Treasury return is very dependent on the future path of interest rates, given the very high bond duration of this exposure. In other words, a ten-year forecast of 30-year U.S. Treasuries is accompanied by more forecasting uncertainty.

cuts to shorter-term rates, given ongoing economic strength, a stable labor market, and more benign inflation. In fact, medium- and longer-term rates jumped considerably during the month after the Federal Reserve’s 50 bps rate cut. The U.S. yield curve could soon return to a normal upward sloping shape as rate cuts continue.

Our 10-year U.S. Treasury expectations are for a 3.8% return over the next ten years, in line with the current bond yield.

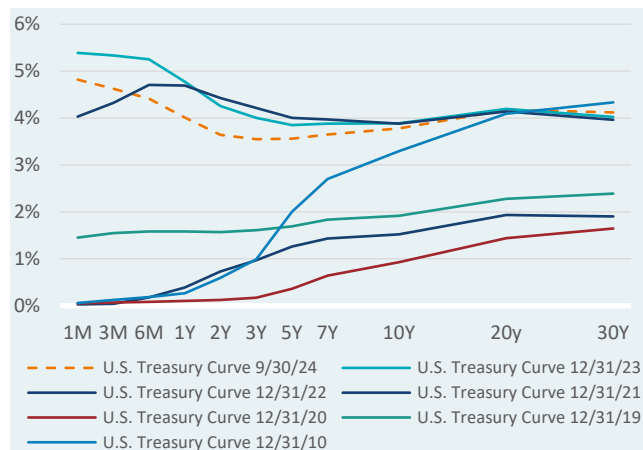
In September, the Federal Reserve kicked off the first of likely a series of rate cuts. It is not yet clear how longer-term bond yields will respond to

U.S. 10-YR TREASURY YIELD



Source: Bloomberg, as of 9/30/24

U.S. TREASURY YIELD CURVE



Source: Bloomberg, as of 9/30/24

FORECAST

	10-Year Forecast	U.S. 30-Year Treasury	10-Year Forecast
U.S. 10-Year Treasury	+3.8%	U.S. 30-Year Treasury	+4.1%
Inflation Forecast	-2.4%	Inflation Forecast	-2.4%
Real Return	+1.3%	Real Return	+1.7%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

Real rates

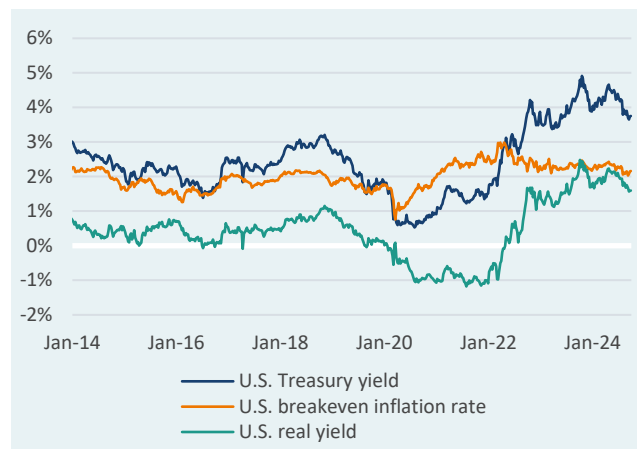
TIPS provide high sensitivity to duration (interest rate risk) over short periods and track inflation (CPI) fairly well over longer periods. Changing inflation expectations, demand for inflation protection, and rate movements contribute to the price movement of TIPS. Currently, investors appear to expect higher inflation to be temporary, but also expect that inflation will be higher in the next decade than the most recent decade.

The long end of the yield curve fell during 2024 as near-term inflation fears eased and economic conditions moderated. The 10-year treasury yield fell from 4.59% to 3.78%. Market-priced inflation expectations (U.S.

TIPS Breakeven Rate) fell slightly from 2.3% to 2.2%.

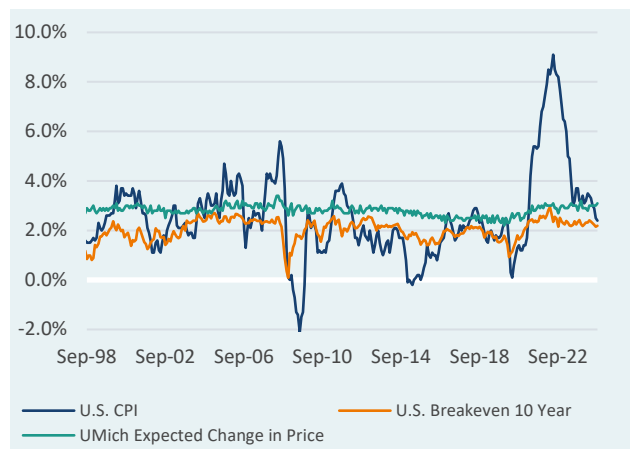
To arrive at a nominal 10-year forecast, we add the current real TIPS yield to our 10-year inflation forecast. Our real rates forecast has risen substantially with the higher interest rate environment.

NOMINAL YIELD VS. REAL



Source: Bloomberg, as of 9/30/24

INFLATION EXPECTATIONS



Source: Bloomberg, as of 9/30/24

FORECAST

	10-Year Forecast
U.S. 10-Year TIPS Real Yield	+1.6%
Inflation Forecast	+2.4%
Nominal Return	4.0%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

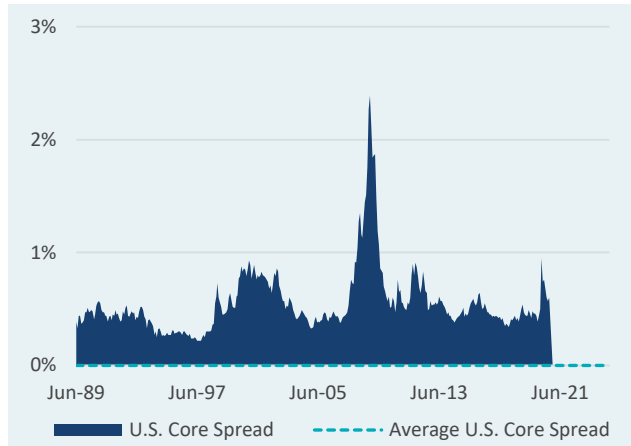
Core fixed

Credit fixed income return is composed of a bond term premium (duration) and credit spread. The bond term premium is represented by the 10-year U.S. Treasury yield.

We use default rates and credit spreads for each respective fixed income category to provide our 10-year return forecast. Our default rate assumption is derived from a variety of sources, including historical data and academic research. The effective default that is subtracted from the return forecast is based on our assumed default and recovery rates.

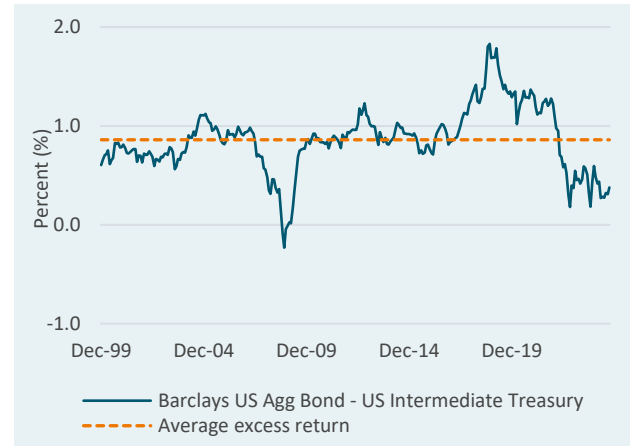
Core fixed income spreads remained near the 30-year average of 0.55%, despite elevated volatility in bond markets. Although spreads were relatively stable, falling interest rates led to a lower forecast. Our core fixed income forecast is for a 4.3% return over the next ten years.

U.S. CORE FIXED INCOME CREDIT SPREAD



Source: Bloomberg, as of 9/30/24

ROLLING EXCESS RETURN (10-YR)



Source: Bloomberg, as of 9/30/24

FORECAST

	10-Year Forecast
Bloomberg US Option-Adjusted Spread	+0.6%
Effective Default	-0.1%
U.S. 10-Year Treasury	+3.8%
Nominal Return	4.3%
<i>Inflation Forecast</i>	-2.4%
<i>Real Return</i>	<i>1.8%</i>

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

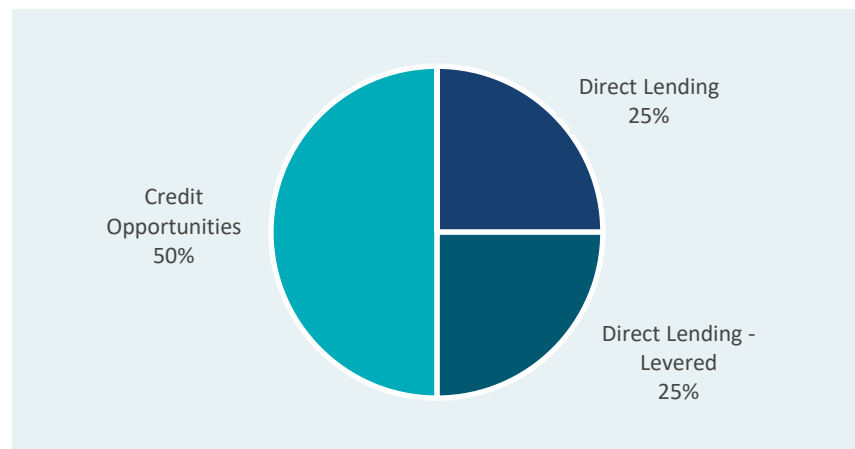
Private credit

The spectrum of private credit is broad and the types of investments in this asset class can differ considerably in terms of return expectations and risks involved. To reflect the disparate characteristics of this asset class, our private credit forecast assumes a diversified portfolio comprised of 25% direct lending, 25% direct lending with fund-level leverage, and 50% credit opportunities strategies. Our resulting private credit forecast is a result of our combined expectations for each of these exposure types.

We follow a building block approach to form return expectations. Direct lending expected return is a product of interest rates, a floating rate,

loss-adjusted credit spread above SOFR, plus original issuance discounts, minus management fees and carried interest. Direct lending with fund-level leverage includes these same building blocks but is adjusted for the added spread from leverage and the costs of that leverage. The expected return of credit opportunities strategies is a result of interest rates (U.S. Treasury yield), credit spread, original issuance discounts, minus management fees and carried interest, with an adjustment for added spread from leverage and the costs of that leverage. Further details of this methodology is provided on the next page.

PRIVATE CREDIT WEIGHTS



Source: Verus

FORECAST

	10-Year Forecast
Credit Opportunities (50% weight)	8.8%
Direct Lending – Unlevered (25% weight)	7.1%
Direct Lending – Levered (25% weight)	8.3%
Private Credit Weighted Return Forecast	8.2%
<i>Inflation Forecast</i>	2.4%
<i>Real Return</i>	5.8%

Source: Verus, as of 9/30/24 – assuming universe weights as indicated by left-hand chart

Please reach out to your Verus consultants for Private Credit universe forecast methodology

Figures may not sum due to rounding

Private credit

Below we illustrate the specific building blocks of our private credit forecasts. The build up method is used to calculate a gross investment level return, which is adjusted to account for fund level leverage, management fees, and carried interest.

	Direct Lending –Unlevered	Direct Lending – Levered		Credit Opportunities*		Junior Capital / Mezzanine	Distressed	
Base Interest Rate	3.8%	3.8%	Base Interest Rate	3.8%	Fixed Rate Coupon	7.0%	Return expectations for distressed have been developed on a range bound basis given the diversity of strategies included in the asset class:	
Spread	4.6%	4.6%	Spread	4.5% - 8.0%	Paid-In-Kind Coupon	4.5%		
Original Issuance Discount	1.5%	1.5%	Original Issuance Discount	2.0% - 2.5%	Annualized Equity Upside	0.8%		
Gross Return	9.0%	9.0%	Gross Return	9.2% - 14.0%	Gross Return	12.3%	Distressed strategies are highly opportunistic by nature and returns are primarily, if not entirely, driven by capital appreciation limiting the ability to use a build up method.	
Leverage Cost	NA	6.3%	Leverage Cost	6.3%	Leverage Cost	NA	Distressed strategies typically target 10%+ net returns, but market conditions often weigh heavily into the overall performance.	
Leverage Level	0.0x	0.8x	Leverage Level	0.3x – 0.5x	Leverage Level	0.0x		
Levered Gross Return	9.0%	10.9%	Levered Gross Return	10.3% - 14.5%	Levered Gross Return	12.3%	Periods of market volatility, dislocation, and economic downturns generally provide a more attractive investment environment for distressed strategies where outperformance may be expected.	
Effective Management Fees	0.9%	1.5%	Effective Management Fees	1.5% - 2.0%	Effective Management Fees	1.5%	Historically, median fund level net returns have ranged between 9-10% although top to bottom quartile dispersion is has been wide historically.	
Carried Interest	1.0%	1.2%	Carried Interest	1.3% - 2.5%	Carried Interest	2.2%		
Total Net Return	7.1%	8.3%	Total Net Return	8.8%	Total Net Return	8.6%	Total Net Return	9.1%

*Return expectations for credit opportunities have been developed on a range-bound basis given the diversity of strategies included in the asset class. Values represent the mid-point estimate of those ranges. For Credit Opportunities, our return assumption is the midpoint of the total net return range of 7.5% - 10.1%. Figures may not sum due to rounding

Source: Verus

Credit summary

	Core	Long-Term Credit	Global Credit*	High Yield*	Bank Loans*	EM Debt (USD)	EM Debt (Local)	Private Credit	Real Estate Debt
Index	Bloomberg US Aggregate	Bloomberg US Long Credit	Bloomberg Global Credit	Bloomberg US High Yield	Morningstar LSTA	JPM EMBI	JPM GBI-EM	N/A	N/A
Method	OAS + U.S. 10-Year	OAS + U.S. 10-Year	OAS + Global 10-Year Treasuries	OAS + U.S. 10-Year	SOFR + Spread	OAS + U.S. 10-Year	Current Yield	Build up method using Direct Lending (unlevered), Direct Lending (levered), Opportunistic Credit**	SOFR + Spread***
Spread to	Intermediate U.S. Treasury	Long-Term U.S. Treasury	Global Long-Term Treasuries	Intermediate U.S. Treasury	SOFR	Intermediate U.S. Treasury	-	-	SOFR
Default Assumption	-0.5%	-4.5%	-	-	-	-0.5%	-0.5%	-	-3.7%
Recovery Assumption	80%	95%	-	-	-	60%	40%	-	47%
Spread	0.6%	1.1%	1.3%	3.6%	4.7%	4.1%	-	-	4.0%
Yield	-	-	-	-	-	-	6.1%	-	-
Risk Free Yield	3.8%	3.8%	3.5%	3.8%	4.6%	3.8%	-	-	4.8%
Effective Default	-0.1%	-0.2%	-0.7%	-1.8%	-2.4%	-0.2%	-0.3%	-	-2.0%
Nominal Return	4.3%	4.6%	4.1%	5.6%	6.9%	7.7%	5.8%	8.2%	6.8%
<i>Inflation Forecast</i>	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
<i>Real Return</i>	1.8%	2.2%	1.7%	3.2%	4.5%	5.3%	3.4%	5.8%	4.4%

*We assume half of the spread of higher risk credit will be lost to defaults, as this has roughly been the case throughout history.

**We assume 25% Direct Lending (Unlevered), 25% Direct Lending (Levered), 50% Credit Opportunities – please refer to the previous page for more information.

***Spread is determined based on a survey of real estate debt managers

Equities

Equities

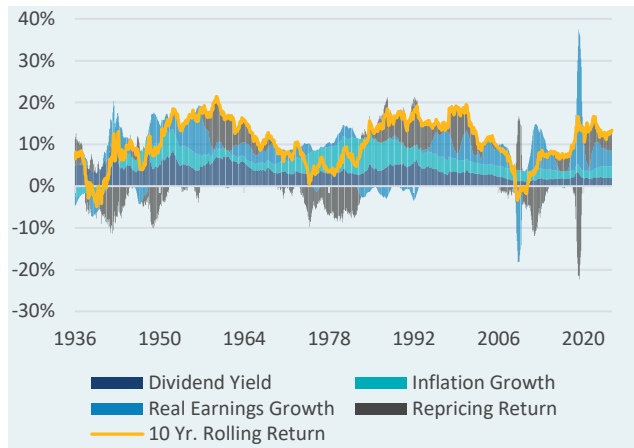
Investment returns in the equity space can be broken down into earnings growth, dividend yield, inflation, and repricing. Over the very long-term, repricing represents a small portion of return to equity investors, but over shorter time frames, the impacts on return can vary considerably.

If investors are willing to pay more for earnings, it could signal that investors are more confident in positive earnings growth going forward, while the opposite is true if investors pay less for earnings. However, unusually high or low multiples can also be the result of excessive investor exuberance or pessimism—more of an emotional effect than a forecasted earnings effect.

Investor confidence in earnings growth can be measured using both the Shiller P/E ratio and the trailing 12-month P/E ratio. We take an average of these two valuations metrics when determining our repricing assumption. In short, if the P/E ratio is too high (low) relative to history, we expect future returns to be lower (higher) than the long-term average. Implicit in this analysis is the assumption that P/E multiples will exhibit mild mean reversion over 10 years.

We make a conservative repricing estimate given how widely repricing can vary over time. We then skew the repricing adjustment because the percentage change in index price is larger with each incremental rise in valuations when P/E multiples are low, compared to when they are high.

TRAILING 10-YR S&P 500 RETURN COMPOSITION



Source: Shiller, Standard & Poor's, as of 9/30/24

U.S. LARGE SHILLER P/E



Source: Shiller, S&P 500, as of 9/30/24

P/E REPRICING ASSUMPTION

Average P/E Percentile Bucket	Lower P/E	Upper P/E	Repricing Assumption
Lower 10%	-	10	2.00%
10% - 20%	10	13	1.50%
20% - 30%	13	15	0.75%
30% - 45%	15	18	0.50%
45% - 55%	18	19	0.0%
55% - 70%	19	21	-0.25%
70% - 80%	21	22	-0.50%
80% - 90%	22	24	-0.75%
Top 10%	24	-	-1.00%

Source: Verus

Global equity

Global Equity is a combination of U.S. large, international developed, and emerging market equities. We can therefore combine our existing return forecasts for each of these asset classes to arrive at our global equity return forecast.

We use the MSCI ACWI Index as our benchmark for global equity and apply the country weights of this index to determine the weightings for our global equity return calculation. As with other equity asset classes, we use the historical standard deviation of the benchmark (MSCI ACWI Index) for our volatility forecast.

The valuation of global equities are driven by the richness/cheapness of the underlying markets, as indicated by the current price-to-earnings ratio.

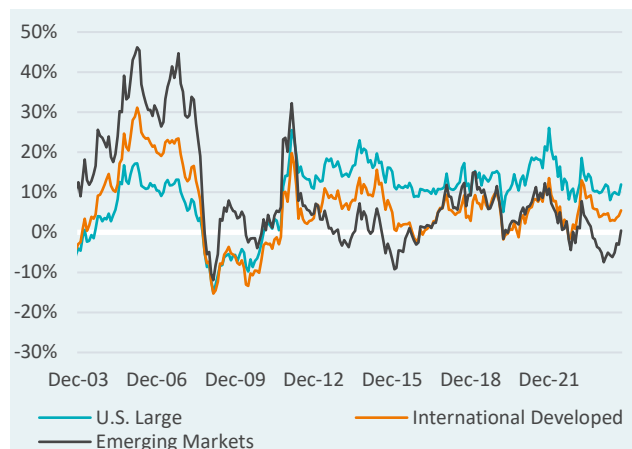
Our return building blocks produce a local return forecast for international equities. For investors who wish to incorporate market implied currency movements into the return forecast, please see the adjustments and explanation in the Appendix.

GLOBAL EQUITY P/E RATIO HISTORY



Source: MSCI, Verus, as of 9/30/24

MARKET PERFORMANCE (3-YR ROLLING)



Source: MSCI, Standard & Poor's, Verus, as of 9/30/24

FORECAST

Market	Weight	CMA return
U.S. Large	66%	5.3%
Developed Large	23%	6.7%
Emerging Markets	11%	7.0%
Global Equity Forecast		6.0%

Source: Verus, weights rescaled to equal 100%, as of 9/30/24
Figures may not sum due to rounding

Equity summary

	U.S. Large	U.S. Small	EAFE	EAFE Small	EM
Index	S&P 500	Russell 2000	MSCI EAFE Large	MSCI EAFE Small	MSCI EM
Method	Building Block Approach: current dividend yield + historical average real earnings growth + inflation on earnings + repricing				
Current Shiller P/E Ratio	35.9	47.3	18.1	-	13.7
Regular P/E Ratio	26.3	42.6	17.0	14.5	16.3
2024 Shiller P/E Change	+20.3%	+18.8%	+18.9%	-	+26.9%
2024 Regular P/E Change	+25.0%	+54.5%	+26.4%	-12.5%	+18.3%
Current Shiller P/E Percentile Rank	93%	90%	41%	-	55%
Current Regular P/E Percentile Rank	94%	89%	51%	6%*	77%
Average of P/E Methods' Percentile Rank (lower percentile = cheaper valuations)	94%	90%	46%	6%*	66%
2024 YTD Return	+22.1%	+11.2%	+13.0%	+11.1%	+16.9%
Shiller PE History	1982	1988	1982	Not Enough History	2005
Long-Term Average Shiller P/E	24.0	33.4	22.0	-	15.6
Current Dividend Yield	1.3%	2.2%	3.1%	3.2%	2.7%
Long-Term Average Real Earnings Growth	2.5%	2.5%**	1.5%	1.6%**	2.2%
Inflation on Earnings (Local Market Inflation)	2.4%	2.4%	2.0%	2.0%	2.4%
Repricing Effect (Estimate)	-1.0%	-0.8%	0.0%	2.0%	-0.3%
Nominal Return	5.3%	6.3%	6.7%	8.8%	7.0%
U.S. inflation Forecast	2.4%	2.4%	2.4%	2.4%	2.4%
Real Return	2.9%	3.9%	4.3%	6.4%	4.6%

Data as of 9/30/24 – figures may not sum due to rounding

*Average trailing P/E from previous 12 months (25% weight) and current P/E (75% weight) are blended into one P/E metric, which is then percentile ranked relative to long-term history. This is done to reduce reliance on a single price multiple, as insufficient data history is available to calculate Shiller P/E for this asset class.

**Due to data limitations, we assume small cap earnings growth will equal the earnings growth of large cap in each respective market

NOTE: For all equities, we exclude data prior to 1972, which allows for a more appropriate comparison between data sets

Private equity

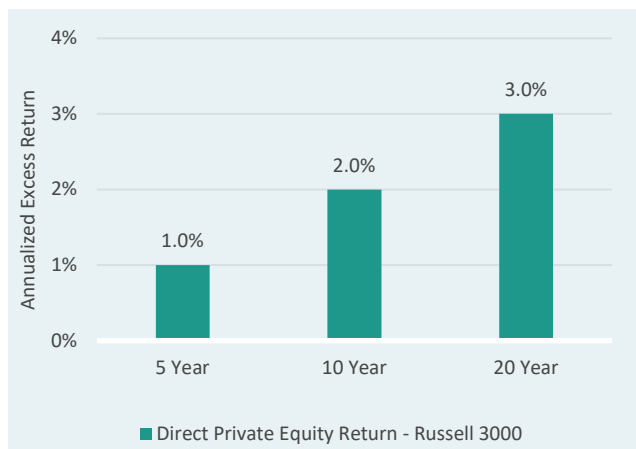
Private equity and public equity returns have been correlated historically because the underlying economic forces driving these asset class returns are quite similar. The return relationship between the two can vary in the short-term, but over the long-term investors have received a premium, driven by leverage, concentrated factor exposure (smaller and undervalued companies), skill, and possibly illiquidity. Historically, the beta of private equity relative to public equity has been high. We use a beta assumption of 1.85 to U.S. large cap equities in our forecast.

Our private equity return forecast was stable during the year. The cost of leverage has begun to fall, which should positively impact the performance of private equity strategies. But broadly higher equity

valuations have negatively impacted our public equity forecasts, which are a return building block of private equity.

Private equity performance typically differs based on the implementation approach. We provide a 10-year forecast for the entire private equity universe of 8.0%. Direct private equity programs have historically outperformed the broader universe by approximately 1.0%, so we add 1.0% to our direct private equity forecast to reflect this historical outperformance. Private equity fund-of-fund (FoF) programs have historically lagged the universe by 1.0%, so we subtract 1.0% from our forecast accordingly to arrive at this forecast.

PRIVATE EQUITY EXCESS RETURN (DIRECT PE – ALL CAP EQUITY)



Source: CA, FTSE, as of 3/31/24

Private Equity is modeled assuming an 8.0% return floor, and a 3% return premium ceiling over U.S. Large Cap. This is in place to recognize that higher cost of leverage acts as a drag on returns but that this drag has had limits historically, and to recognize that future performance is likely to be more anchored to public equity performance than in past times, given a more competitive market environment.

PRIVATE EQUITY IMPLEMENTATION FORECASTS*

	10-Year Forecast
Private Equity Universe Forecast	8.0%
Private Equity FoF Forecast*	7.0%
Private Equity Direct Forecast*	9.0%

Source: Verus, as of 9/30/24

PRIVATE EQUITY UNIVERSE FORECAST

	10-Year Forecast
U.S. Large Cap Forecast	+5.3%
1.85 Beta Adjustment	+2.7%
Nominal Return	8.0%
<i>Inflation Forecast</i>	-2.4%
<i>Real Return</i>	5.6%

Source: Verus, as of 9/30/24 - figures may not sum due to rounding

Real assets / alternatives

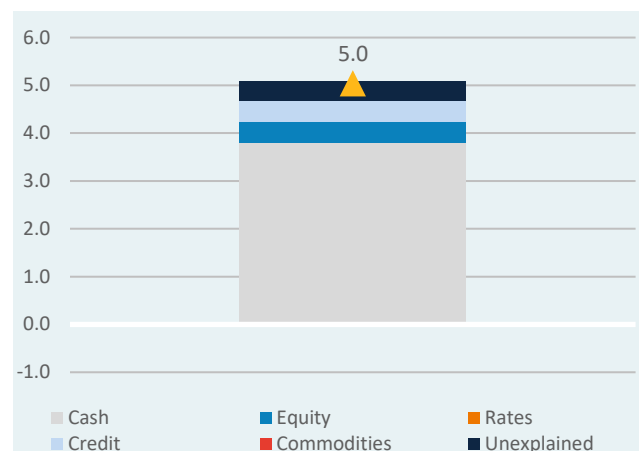
Hedge funds

The performance of a broadly diversified hedge fund portfolio can be fairly well described through time by a combination of 1) public market betas (ex: equity, rates, credit, etc.) embedded in these strategies, and 2) non-public sources of return (ex: alternative betas, skill/alpha, luck). Some hedge fund strategy returns are dominated by public market beta exposure while others are more differentiated, representative of difficult-to-replicate trading styles and investor skill. To forecast the ‘universe’ of hedge funds (a broadly diversified hedge fund portfolio of varying strategy types representing the aggregate universe of available funds), we first calculate the ‘explainable’ portion of returns by measuring the historical sensitivity of hedge funds to equity, rates, credit, and commodities. We then apply these market betas to our

current 10-year public market forecasts for those asset classes. Finally, we assume the historical portion of returns that are derived from non-public market sources will be consistent going forward and add that to the public market contributions.

We acknowledge that hedge funds are not an asset class, and that alpha should be a prominent part of an investor’s return from them. We recommend proper risk alignment when investing in hedge funds, using existing public market buckets for any funds with predominantly public market risk factors, such as equity or credit. Our forecasts for hedge fund styles are provided on the next slide, which we recommend for investors who share this functional approach to hedge fund investing.

HEDGE FUND UNIVERSE FORECAST



Source: Verus, as of 9/30/24

HEDGE FUND PUBLIC MARKET SOURCES OF RETURN (EXPLAINED RETURN)

Equity
Rates
Credit
Commodities

HEDGE FUND NON-PUBLIC SOURCES OF RETURN (UNEXPLAINED RETURN)

Alternative betas
Skill
Luck

Source: Ilmanen, Antii. Expected Returns

FORECAST

	10-Year Forecast
Nominal Return	+5.0%
<i>Inflation Forecast</i>	<i>+2.4%</i>
<i>Real Return</i>	<i>2.6%</i>

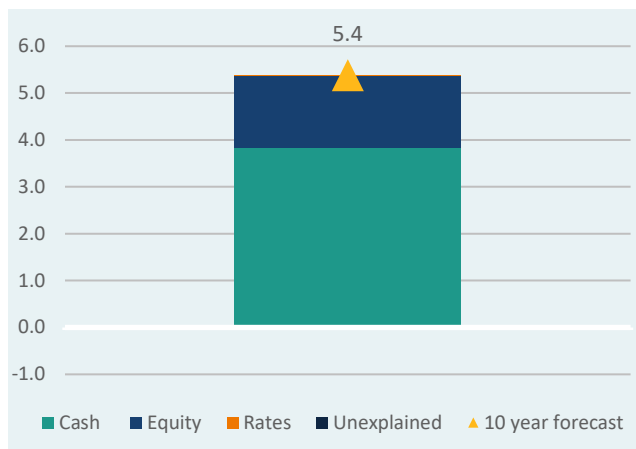
Source: Verus, as of 9/30/24 – figures may not sum due to rounding

Hedge fund styles

As mentioned, we do not believe hedge funds should be thought of as an asset class, and in most situations, we recommend benchmarking and modeling individual hedge funds in line with the underlying asset class exposure set. Consistent with this view, we forecast three broad hedge fund categories - equity hedge funds, credit hedge funds, and asymmetric hedge funds. To forecast hedge fund returns, we identified the portion of historical hedge fund performance that can be attributed to public market betas, and the portion of hedge fund returns that cannot be attributed to public market betas. This means our forecast involves two components: the public market return (explained return) and the non-public market return (unexplained return).

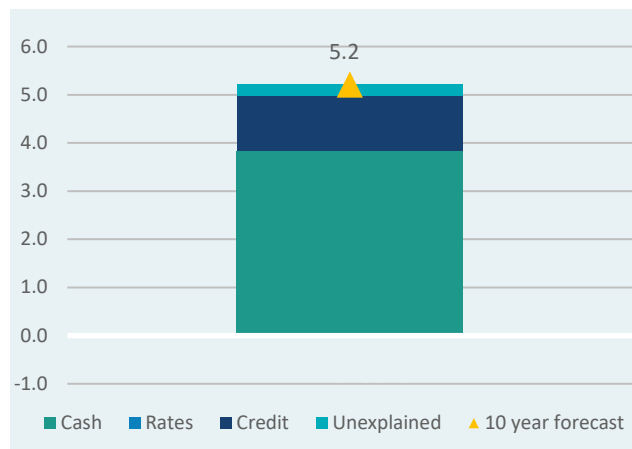
In practice, we believe hedge funds that have both identifiable core capabilities and persistent high correlations to equities fit in equity sleeves. We take a similar approach with credit hedge funds and fixed income sleeves. Funds designed to have little persistent relationship with public market exposures while exhibiting a high degree of tactical or opportunistic trading behaviors fall into a third category, which we call asymmetric hedge funds. Our forecast for hedge funds that we show here matches the use cases outlined above as opposed to a broad universe approach.

HEDGE FUND: EQUITY



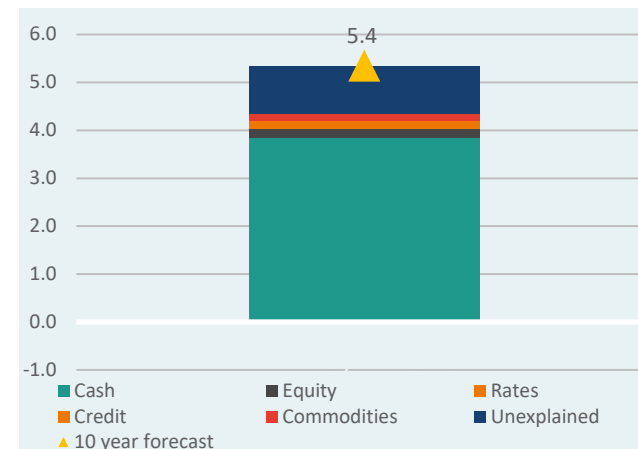
Source: Verus, as of 9/30/24

HEDGE FUND: CREDIT



Source: Verus, as of 9/30/24

HEDGE FUND: ASYMMETRIC



Source: Verus, as of 9/30/24

Private core real estate/REITS

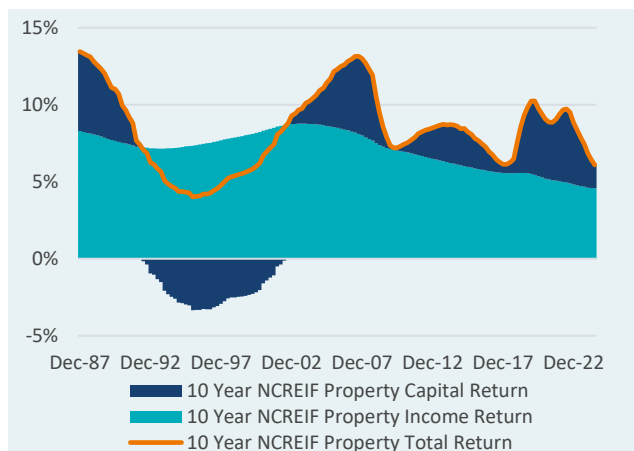
Performance of the NCREIF property index can be decomposed into an income return (cap rate) and capital return. The return coming from income has historically been more stable than the return derived from capital changes.

The cap rate is the ratio of *earnings less expenses* to *price* and does not include extraordinary expenses. A more accurate measure of the yield investors receive should include non-recurring capital expenditures; we assume a 2.0% capex expenditure. We also assume income growth will roughly equal the rate of broad economic growth, and we use GDP forecasts as an estimate of future income growth.

Private real estate and REITs have provided very similar returns over the long-term. Investors should be careful when comparing risk-adjusted returns of publicly traded assets to returns of appraisal priced assets due to data problems and smoothing effects. While private real estate appears to be less volatile than REITs, the true risks to investors are likely very similar.

We assume the effects of leverage and liquidity offset each other. Therefore, our return forecast is the same for private real estate and REITs.

TRAILING 10-YR NCREIF RETURN COMPOSITION



Source: NCREIF, as of 6/30/24

PRIVATE REAL ESTATE

	10-Year Forecast
Current Cap Rate	+4.7%
Real Income Growth	+2.1%
Capex Assumption	-2.0%
Inflation	+2.4%
Nominal Return	7.2%
<i>Inflation Forecast</i>	-2.4%
<i>Real Return</i>	4.8%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

REITS

	10-Year Forecast
Nominal Return Forecast	7.2%
<i>Inflation Forecast</i>	-2.4%
<i>Real Return</i>	4.8%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

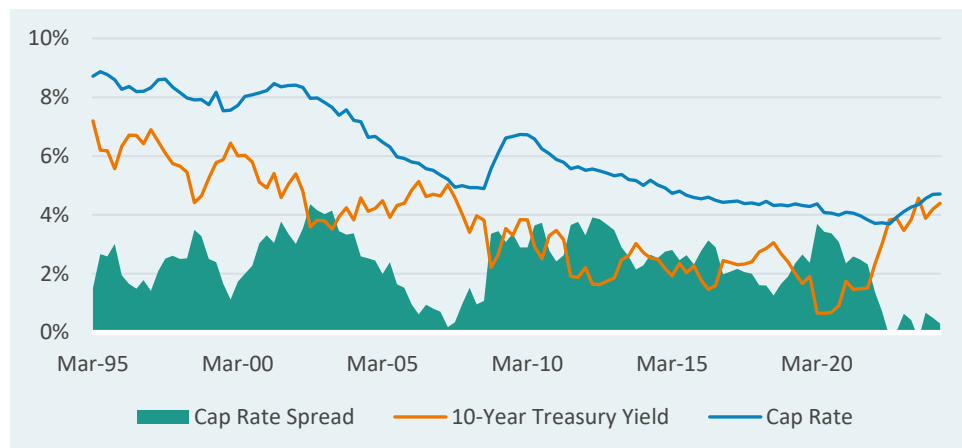
Value-add & opportunistic real estate

Value-add real estate includes properties which are in need of renovation, repositioning, and/or lease-up. Properties may also be classified as value-add due to their lower quality and/or location. Opportunistic real estate can include development and distressed or very complex transactions. A greater amount of leverage is usually employed within these strategies. Leverage increases beta (risk) by expanding the purchasing power of property managers via a greater debt load, which magnifies gains or losses. Increased debt also results in greater interest rate sensitivity. An increase/decrease in interest rates may result in a write-up/write-down of fixed rate debt, since debt holdings are typically marked-to-market.

Performance of value-add real estate is composed of the underlying private real estate market returns, plus a premium for additional associated risk, which is modeled here as 200 bps above our core real estate return forecast. Performance of opportunistic real estate strategies rests further out on the risk spectrum, and is modeled as 300 bps above the core real estate return forecast.

Additional expected returns above core real estate are justified by the higher inherent risk of properties which need improvement (operational or physical), price discounts built into properties located in non-core markets, illiquidity, and the ability of real estate managers to potentially source attractive deals in this less-than-efficient marketplace.

CAP RATE SPREADS



Source: NCREIF, Bloomberg, as of 6/30/24

FORECAST

	Value-Add 10-Year Forecast	Opportunistic 10-Year Forecast
Premium above core	+2.0%	+3.0%
Current Cap Rate	+4.7%	+4.7%
Real Income Growth	+2.1%	+2.1%
Capex Assumption	-2.0%	-2.0%
Inflation	+2.4%	+2.4%
Nominal Return	9.2%	10.2%
<i>Inflation Forecast</i>	-2.4%	-2.4%
<i>Real Return</i>	6.8%	7.8%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

Infrastructure

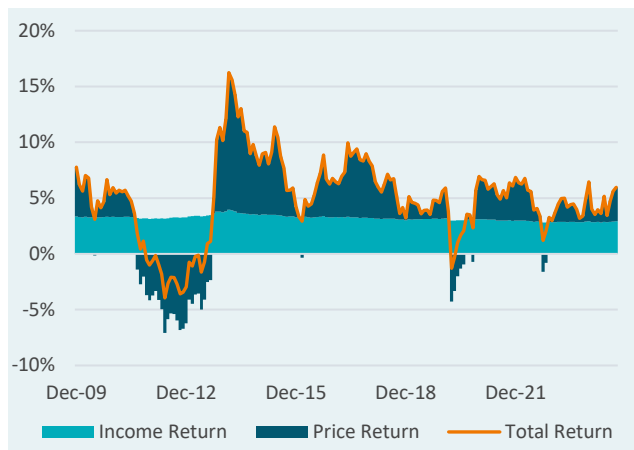
The infrastructure asset class includes a variety of investment types across a subset of industries. There is not one definition for what can be included within infrastructure. Due to the availability of data, we use publicly-traded infrastructure to build up an infrastructure forecast. We believe this forecast can reasonably be used for both private- and publicly-traded infrastructure investments.

The asset class has grown dramatically during the past decade or so as investors sought assets that might provide more attractive yield relative to fixed income, along with the potential for inflation protection.

Similar to real estate investment, income plays a significant role in generating returns for investors. Income yields jumped during 2023 as prices fell alongside the broad market selloff.

This asset class is generally believed to provide investors with exposure to broad economic growth. Therefore, we use past ten year developed economy real GDP growth as a proxy for future expected infrastructure income growth.

5-YR ROLLING RETURN COMPOSITION



Source: S&P Global Infrastructure Index, as of 9/30/24

ADVANCED ECONOMY REAL GDP GROWTH



Source: IMF, as of 9/30/24

FORECAST

	10-Year Forecast
Global Inflation	+2.3%
Yield	+3.9%
Income Growth	+2.0%
Nominal Return	8.1%
U.S. Inflation Forecast	-2.4%
Real Return	5.7%

Source: Verus, as of 9/30/24 – figures may not sum due to rounding

Commodities

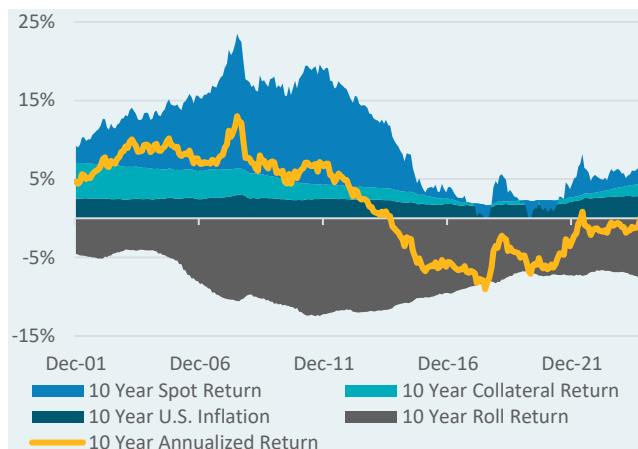
Commodity returns can be decomposed into three sources: collateral return (cash), spot changes (inflation), and roll yield.

Roll return is generated by either backwardation or contango present in futures markets. Backwardation occurs when the futures price is below the spot price, which results in positive yield. Contango occurs when the futures price is above the spot price, and this results in a loss to commodity investors, all else equal. Historically, futures markets have fluctuated between backwardation and contango but with a net-zero effect over the very long-term (since 1877). Therefore, roll return is

assumed to be zero in our forecast. Over the past 10-year period, roll return has been mostly negative, though this is likely the result of multiple commodity crises and a difficult market environment. In recent years, roll return has flipped, providing a materially positive impact on total return during that time.

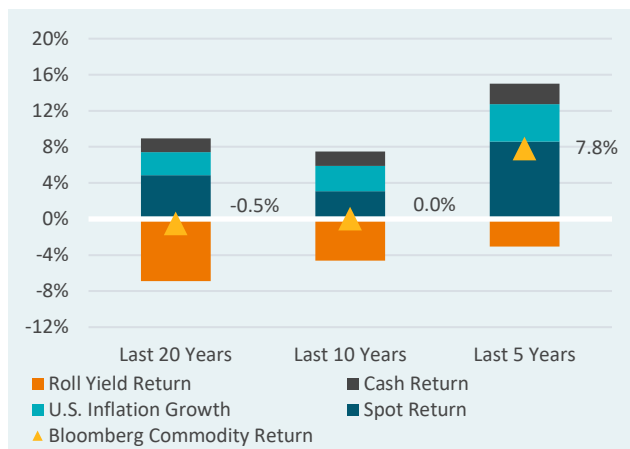
Our 10-year commodity forecast combines collateral (cash) return with spot return (inflation) to arrive at the nominal return, and subtracts inflation to arrive at the real return estimate.

TRAILING 10YR BLOOMBERG COMMODITY RETURN COMPOSITION (%)



Source: MPI, Bloomberg, as of 9/30/24

BLOOMBERG COMMODITY RETURN COMPOSITION (%)



Source: MPI, Bloomberg, as of 9/30/24

FORECAST

	10-Year Forecast
Collateral Return (Cash)	+3.8%
Roll Return	+0.0%
Spot Return (Inflation)	+2.4%
Nominal Return	6.3%
<i>Inflation Forecast</i>	-2.4%
<i>Real Return</i>	<i>3.8%</i>

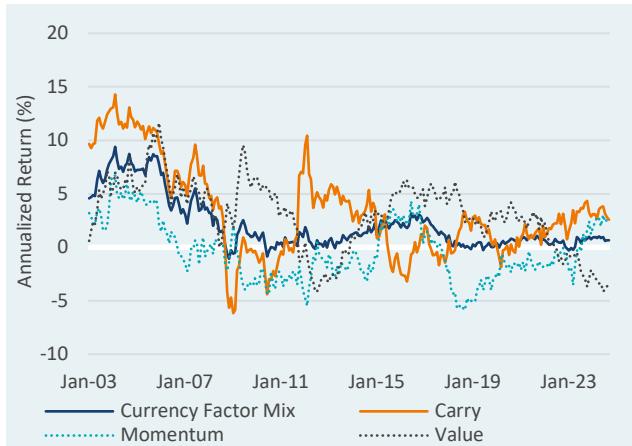
Source: Verus, as of 9/30/24 – figures may not sum due to rounding

Currency beta

Currency beta is a long-short portfolio of G10 currencies constructed by investing in three equally weighted factors: carry, momentum, and value. A significant amount of academic research has concluded that these factors demand a risk premium in the currency market. Studies have also shown that currency beta explains a high portion of active currency managers' returns, indicating it may be a good neutral starting point or benchmark for currency investing. Currency beta portfolios gain exposure to the carry, momentum, and value factors in a systematic and transparent manner. For more detailed information on currency beta, please contact your Verus consultants.

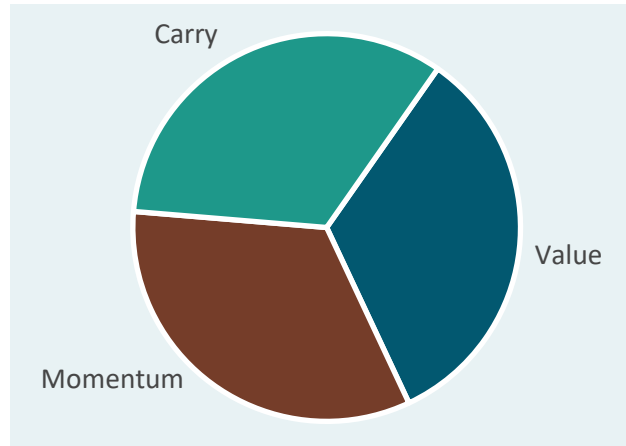
We model each factor in the currency beta portfolio separately, and then take a weighted average to arrive at an overall return forecast. For the carry portfolio, the main driver of returns is the yield an investor receives from holding currencies with relatively higher interest rates. We therefore use a 12-month average of the portfolio's yield as the expected return. For value, our return forecast assumes a certain level of mean reversion to *purchasing power parity* fair value based on historical data. Lastly, for momentum, we simply assume the average historical return due to lack of long-term fundamental return drivers. Short-term volatility levels typically drive returns in the momentum portfolio, which is difficult to model in a 10-year return forecast.

3-YEAR ROLLING PERFORMANCE



Source: MSCI, Verus, as of 9/30/24

CURRENCY BETA CONSTRUCTION



Source: Verus

RETURN FORECAST

Factor	Weight	Return Forecast
Carry	33.3%	3.7%
Momentum	33.3%	-0.3%
Value	33.3%	3.2%
Currency Beta		2.2%

Source: Verus, as of 9/30/24

Risk parity

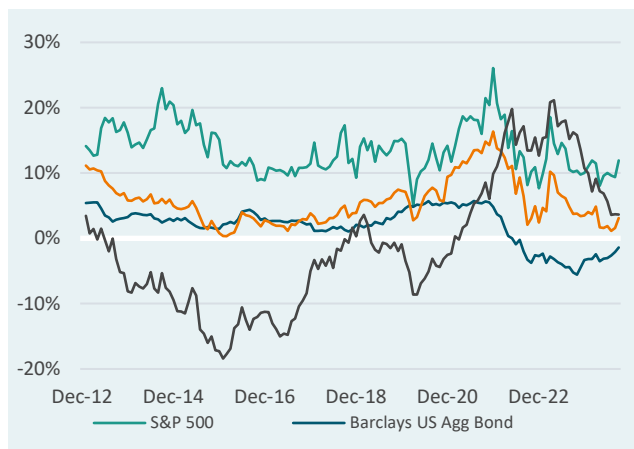
Risk parity is built upon the philosophy of allocating to risk premia rather than to asset classes. Because risk parity by definition aims to diversify risk, the actual asset allocation can appear very different from traditional asset class allocation.

We model risk parity using a representative set of risk parity strategy allocations, at a 10% target volatility level. This “typical” asset mix is then run through our asset allocation tools using our capital market assumptions for the underlying asset classes, including global equity, core fixed income, U.S. TIPS, commodities, as well as cash to represent the cost of leverage. Risk parity almost always involves explicit leverage. The amount of leverage will depend on the specific strategy implementation style, as well as expected correlations and volatility. As the leverage costs inherent in this type of fund structure have risen considerably (as the yield of cash has moved higher), the expected return

from risk parity strategies has fallen. We believe this is an important dynamic that investors should make sure to understand. It is important to note that because risk parity represents a *portfolio* of underlying assets that it will typically show a mildly higher Sharpe Ratio than a combination of the individual asset classes involved. This is due to the diversification effect.

We used the S&P Risk Parity 10% Volatility Index to represent risk parity correlations relative to the behaviors of each asset class. Risk parity funds are suggested to be better able to withstand various difficult economic environments - reducing volatility without sacrificing return, over longer periods. It is difficult to arrive at a single model for risk parity, since strategies can differ significantly across firms/strategies. With our methodology, assuming a 10% target volatility level, we arrive at an expected return of 6.3%.

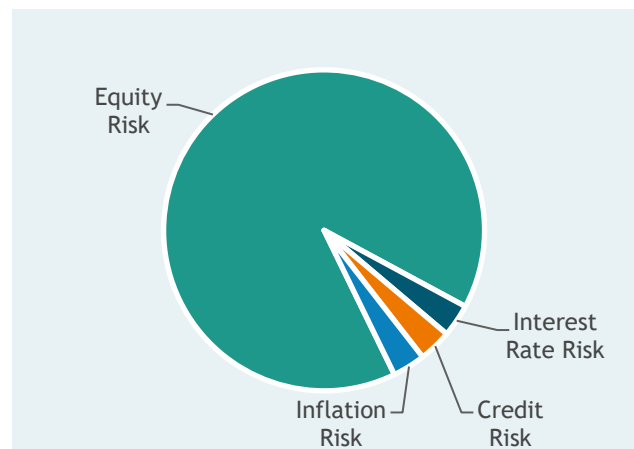
VS. TRADITIONAL ASSET CLASSES (3YR ROLLING)



Source: MPI, as of 9/30/24

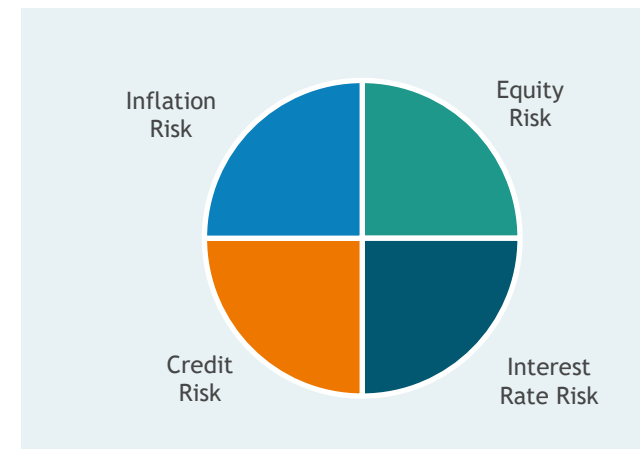
Note: Risk parity is modeled here as S&P Risk Parity 10% Vol Index

TRADITIONAL ASSET ALLOCATION



Source: Verus

RISK PARITY



Source: Verus

Appendix

30-year return & risk assumptions

- Occasionally investors may have a specific need for longer-term capital market forecasts. We have developed a set of 30-year assumptions to meet those needs.
- The return forecasts below have been constructed using our existing building block approach, but with longer-term inputs. Risks and correlations are estimated using the same approach as our 10-year forecasts, using full-history autocorrelation-adjusted realized risk and past 10 year realized correlations.
- These return figures must be thought of separately from our 10-year forecasts and are not meant to imply performance for the 20 years *beyond* our 10-year forecasts.
- Please reach out to your Verus consultant with questions regarding whether 30-year Capital Market Assumptions might be appropriate for your needs.

Asset Class	Index Proxy	Thirty Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)
		Geometric	Arithmetic			
Equities						
U.S. Large	S&P 500	5.7%	6.8%	15.5%	0.12	0.19
U.S. Small	Russell 2000	6.6%	8.6%	21.3%	0.13	0.22
International Developed	MSCI EAFE	6.7%	8.1%	17.5%	0.16	0.24
International Small	MSCI EAFE Small Cap	7.6%	9.6%	21.4%	0.17	0.27
Emerging Markets	MSCI EM	7.0%	9.6%	24.2%	0.13	0.24
Global Equity	MSCI ACWI	6.2%	7.4%	16.7%	0.14	0.21
Global Equity ex-US	MSCI ACWI ex-US	7.0%	8.5%	19.3%	0.16	0.24
Private Equity	Cambridge U.S. Private Equity	8.0%	10.9%	26.0%	0.16	0.27
Private Equity (Direct)	Cambridge U.S. Private Equity	9.0%	11.9%	26.0%	0.20	0.31
Private Equity (Fund of Funds)	Cambridge U.S. Private Equity	7.0%	10.0%	26.0%	0.12	0.23
Fixed Income						
Cash	30 Day T-Bills	3.9%	3.9%	1.1%	-	-
U.S. TIPS	Bloomberg U.S. TIPS 5 - 10	4.1%	4.2%	5.5%	0.04	0.05
Non-U.S. Inflation Linked Bonds	BBG World Govt. Inflation Linked Bond ex U.S.	3.4%	4.3%	7.4%	-0.07	0.05
U.S. Treasury	Bloomberg Treasury 7-10 Year	4.1%	4.3%	7.1%	0.03	0.06
Long U.S. Treasury	Bloomberg U.S. Treasury 20+ Year	4.1%	4.9%	13.4%	0.01	0.07
Global Sovereign ex U.S.	Bloomberg Global Treasury ex U.S.	3.0%	3.5%	10.0%	-0.09	-0.04
Global Aggregate	Bloomberg Global Aggregate	3.5%	3.7%	6.7%	-0.06	-0.03
Core Fixed Income	Bloomberg U.S. Aggregate Bond	4.9%	5.0%	4.7%	0.21	0.23
Core Plus Fixed Income	Bloomberg U.S. Universal	5.3%	5.4%	4.7%	0.30	0.32
Investment Grade Corp. Credit	Bloomberg U.S. Corporate Investment Grade	5.2%	5.5%	8.4%	0.15	0.19
Short-Term Gov't/Credit	Bloomberg U.S. Gov't/Credit 1 - 3 year	4.3%	4.4%	3.6%	0.11	0.14
Short-Term Credit	Bloomberg Credit 1-3 Year	4.9%	5.0%	3.6%	0.28	0.31
Intermediate Credit	Bloomberg U.S. Intermediate Credit	5.2%	5.4%	5.9%	0.22	0.25
Long-Term Credit	Bloomberg Long U.S. Credit	5.3%	5.9%	11.1%	0.13	0.18
High Yield Corp. Credit	Bloomberg U.S. Corporate High Yield	6.8%	7.3%	10.8%	0.27	0.31
Bank Loans	Morningstar Leveraged Loan	7.3%	7.7%	8.8%	0.39	0.43
Global Credit	Bloomberg Global Credit	3.1%	3.4%	7.8%	-0.10	-0.06
Emerging Markets Debt (Hard)	JPM EMBI Global Diversified	8.3%	8.8%	10.5%	0.42	0.47
Emerging Markets Debt (Local)	JPM GBI EM Global Diversified	5.8%	6.5%	12.1%	0.16	0.21
Securitized Credit	Bloomberg U.S. Securitized	5.3%	5.4%	4.0%	0.35	0.38

30-year return & risk assumptions

- Occasionally investors may have a specific need for longer-term capital market forecasts. We have developed a set of 30-year assumptions to meet those needs.
- The return forecasts below have been constructed using our existing building block approach, but with longer-term inputs. Risks and correlations are estimated using the same approach as our 10-year forecasts, using full-history autocorrelation-adjusted realized risk and past 10 year realized correlations.
- These return figures must be thought of separately from our 10-year forecasts and are not meant to imply performance for the 20 years *beyond* our 10-year forecasts.
- Please reach out to your Verus consultant with questions regarding whether 30-year Capital Market Assumptions might be appropriate for your needs.

Asset Class	Index Proxy	Thirty Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)
		Geometric	Arithmetic			
Fixed Income (Continued)						
Private Credit	Morningstar LSTA Leveraged Loan Index	8.2%	8.8%	11.8%	0.36	0.42
Private Credit (Direct Lending - Unlevered)	Morningstar LSTA Leveraged Loan Index	7.1%	7.5%	8.8%	0.36	0.41
Private Credit (Direct Lending - Levered)	Morningstar LSTA Leveraged Loan Index	8.3%	8.9%	11.8%	0.37	0.42
Private Credit (Credit Opportunities)	Morningstar LSTA Leveraged Loan Index	8.8%	9.6%	13.4%	0.37	0.43
Private Credit (Junior Capital / Mezzanine)	Morningstar LSTA Leveraged Loan Index	8.6%	9.4%	12.9%	0.36	0.43
Private Credit (Distressed)	Morningstar LSTA Leveraged Loan Index	9.1%	12.7%	29.1%	0.18	0.30
Other						
Commodities	Bloomberg Commodity	6.1%	7.3%	16.0%	0.14	0.21
Hedge Funds	HFRI Fund Weighted Composite	5.4%	5.7%	7.5%	0.20	0.24
Hedge Fund of Funds	HFRI Fund of Funds Composite	4.4%	4.7%	7.5%	0.07	0.11
Hedge Fund (Equity Style)	Custom HFRI Benchmark Mix*	5.5%	6.4%	13.9%	0.12	0.18
Hedge Fund (Credit Style)	Custom HFRI Benchmark Mix*	5.9%	6.3%	9.2%	0.22	0.26
Hedge Fund (Asymmetric Style)	Custom HFRI Benchmark Mix*	5.5%	5.7%	6.3%	0.25	0.29
Real Estate Debt	Bloomberg IG CMBS	6.9%	7.2%	7.4%	0.41	0.45
Core Real Estate	NCREIF Property	7.0%	7.7%	12.5%	0.25	0.30
Value-Add Real Estate	NCREIF Property + 200bps	9.0%	10.1%	15.4%	0.33	0.40
Opportunistic Real Estate	NCREIF Property + 400bps	10.0%	11.9%	21.2%	0.29	0.38
REITs	Wilshire REIT	7.0%	8.7%	19.2%	0.16	0.25
Global Infrastructure	S&P Global Infrastructure	8.1%	9.4%	16.8%	0.25	0.33
Risk Parity**	Risk Parity	6.8%	7.7%	10.0%	0.29	0.38
Currency Beta	MSCI Currency Factor Mix Index	2.2%	2.3%	3.3%	-0.52	-0.48
Inflation		2.2%	-	-	-	-

Investors wishing to produce expected geometric return forecasts for their portfolios should use the arithmetic return forecasts provided here as inputs into that calculation, rather than the single-asset-class geometric return forecasts. This is the industry standard approach, but requires a complex explanation only a heavy quant could love, so we have chosen not to provide further details in this document – we will happily provide those details to any readers of this who are interested.

*To represent hedge fund styles, we use a combination of HFRI benchmarks: Equity Style = 33% HFRI Fundamental Growth, 33% HFRI Fundamental Value, 33% HFRI Activist. Credit Style = 20% HFRI Distressed/Restructuring, 20% HFRI Credit Arbitrage, 20% HFRI Fixed Income-Corporate, 20% HFRI Fixed Income-Convertible Arbitrage, 20% HFRI Fixed Income-Asset Backed. Asymmetric Style = 50% HFRI Relative Value, 50% HFRI Macro

**The Risk Parity forecast shown here assumes a 10% target volatility strategy. We recommend customizing this forecast to the target volatility specifications of the risk parity strategy that an investor wishes to model. Please speak with your Verus consultant for customization needs.

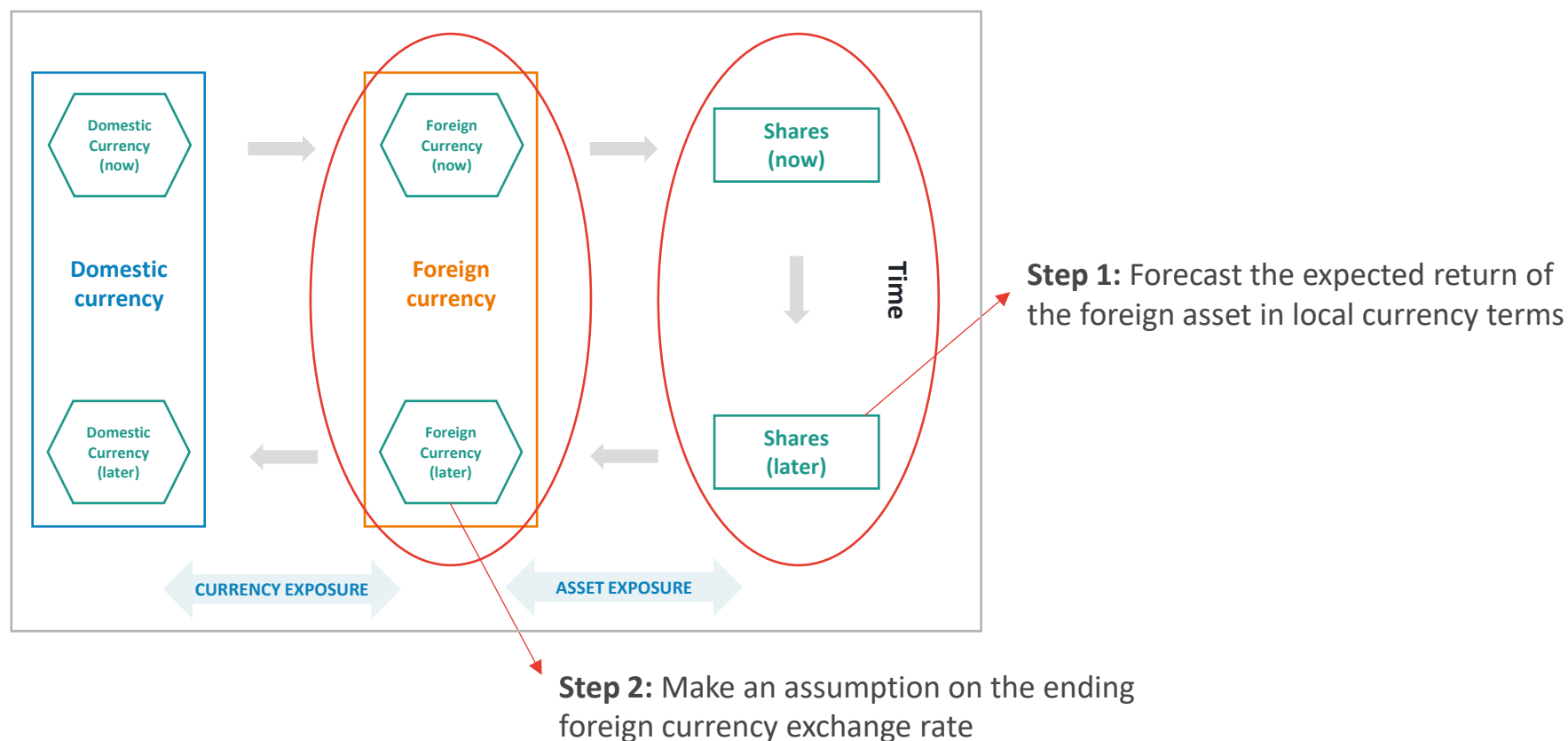
10-year return forecasts with currency adjustment

Asset Class	Index Proxy	Ten Year Return Forecast (Geometric)			Standard Deviation Forecast
		Pre-Currency Adjustment	Currency Adjustment	CMA Forecast	
Equities					
International Developed Equity Unhedged	MSCI EAFE	6.7%	1.6%	8.3%	17.5%
International Developed Equity Hedged	MSCI EAFE Hedged	6.7%	1.6%	8.3%	15.3%
International Small Equity Unhedged	MSCI EAFE Small Cap	8.8%	1.6%	10.4%	21.4%
International Small Equity Hedged	MSCI EAFE Small Cap Hedged	8.8%	1.6%	10.4%	18.3%
Fixed Income					
Global Sovereign ex U.S. Unhedged	Bloomberg Global Treasury ex U.S.	2.2%	1.6%	3.8%	10.0%
Global Sovereign ex U.S. Hedged	Bloomberg Global Treasury ex U.S. Hedged	2.2%	1.6%	3.8%	4.4%
Global Credit Unhedged	Bloomberg Global Credit	4.1%	0.3%	4.4%	7.8%
Global Credit Hedged	Bloomberg Global Credit Hedged	4.1%	0.3%	4.4%	5.5%

The currency adjustment is the market implied price change for major currency pairs based on forward contract pricing. Since the market implied spot price change and the cost/gain from hedging are both derived from pricing in the forward market, they are one and the same. Therefore, the currency adjustment is the same for both unhedged and hedged forecasts. See the following slides for the more detail on the currency adjustment methodology.

Explanation of the currency adjustment

Our fundamental building block approach produces a return forecast in local currency. In order to create useable forecasts for non-U.S. dollar-denominated assets, we must make an assumption about future foreign exchange rates.

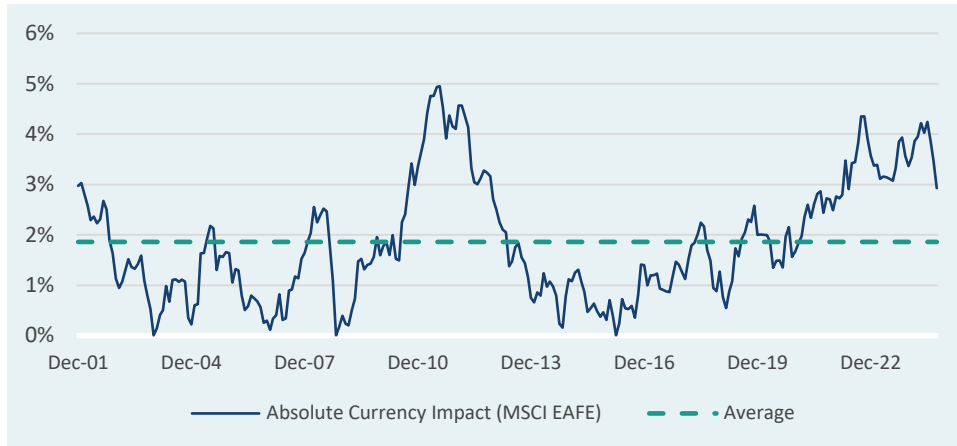


Explanation of the currency adjustment

- There are two options to adjust a local currency return forecast to a U.S. dollar forecast: make a specific exchange rate forecast or take market pricing based on the forward curve
 - It is important to note that ignoring currency is making a specific assumption that the current exchange rate will be unchanged over the next 10 years, which has rarely been the case throughout history
- Markets price future exchange rates in the forward market, which represents the SPOT currency price for FORWARD delivery
- Forward currency contracts are priced based on the interest rate differential between two currencies – interest rate differentials reflect a significant amount of information, including growth, inflation, and

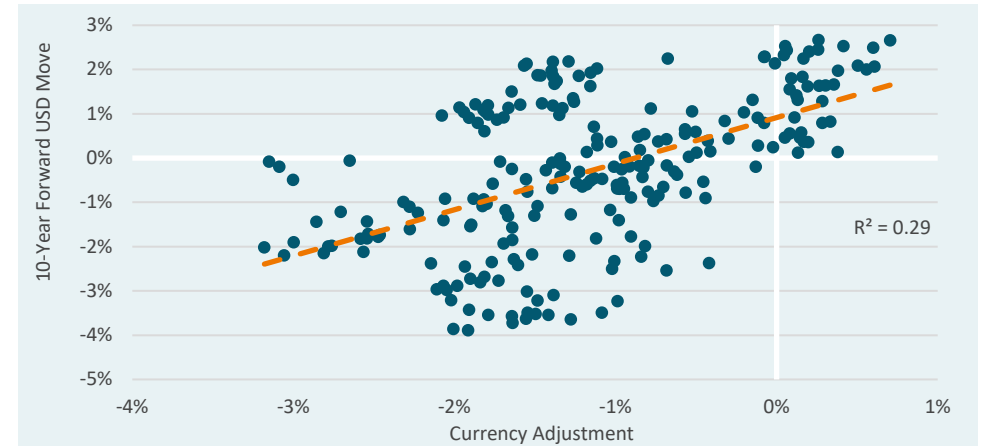
- monetary policy expectations
- A currency with a higher interest rate is priced to depreciate relative to a currency with a lower interest rate
- We adjust our local currency return forecasts based on forward market pricing because we believe this is the neutral, “no opinion” position, rather than making a specific forecast
- Historically, this currency adjustment has had a positive relationship with 10-year forward exchange rate movements

10-YEAR ROLLING ABSOLUTE CURRENCY PERFORMANCE IMPACT



Source: Verus, MSCI, as of 9/30/24

CURRENCY ADJUSTMENT VS. FORWARD USD MOVEMENT



Source: Verus, Bloomberg, using data since 1989, based on the MSCI EAFE Index

Autocorrelation adjustment

- We adjust all volatility forecasts that use the long-term historical volatility for autocorrelation.
- Autocorrelation occurs when the future returns of a time series are described (positively correlated) by past returns.
- Time series with positive autocorrelation exhibit artificially low volatility, while time series with negative autocorrelation exhibit artificially high volatility.
- Many asset classes that we tested showed positive autocorrelation, meaning the volatility forecasts that we use in the forecasting process are too low for those asset classes.
- The result of this process was that several asset classes have higher volatility forecasts than if we had made no adjustment for autocorrelation.

Autocorrelation has been shown to be statistically significant across many asset classes, which implies an adjustment is appropriate

Hedge fund style regression details

- We forecast hedge fund styles by assuming that historical exposure to market “betas” will hold in the future. Historical beta exposure was calculated using a 10-year regression, which is displayed below. The regression was performed against a combination of HFRI hedge fund indices that we believe appropriately represent each hedge fund trading style. The index weightings are also provided below.
- The “unexplained” component below is the portion of historical hedge fund returns that were not explained by public betas. This portion of return is likely comprised of a combination of unique/alternative betas, hedge fund alpha, and idiosyncratic return.

HEDGE FUND EQUITY

	<i>Beta Coefficients</i>
Equity Beta	0.76
Rates Beta	-0.17
Unexplained return	0.00

Regression based on equal-weighted basket of the following hedge fund indexes:

- HFRI Fundamental Growth
- HFRI Fundamental Value
- HFRI Activist

HEDGE FUND CREDIT

	<i>Beta Coefficients</i>
Rates Beta	0.25
Credit Beta	0.63
Unexplained	0.21

Regression based on equal-weighted basket of the following hedge fund indexes:

- HFRI Distressed / Restructuring
- HFRI Credit Arbitrage
- HFRI Relative Value Corporate,
- HFRI Convertible Arbitrage,
- HFRI Asset Backed

HEDGE FUND ASYMMETRIC

	<i>Beta Coefficients</i>
Equity Beta	0.09
Rates Beta	-0.03
Credit Spread Beta	0.09
Commodity Beta	0.06
Unexplained	1.00

Regression based on equal-weighted basket of the following hedge fund indexes:

- HFRI Relative Value
- HFRI Macro

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