



Verus

NOVEMBER 2023

2024 Capital Market Assumptions



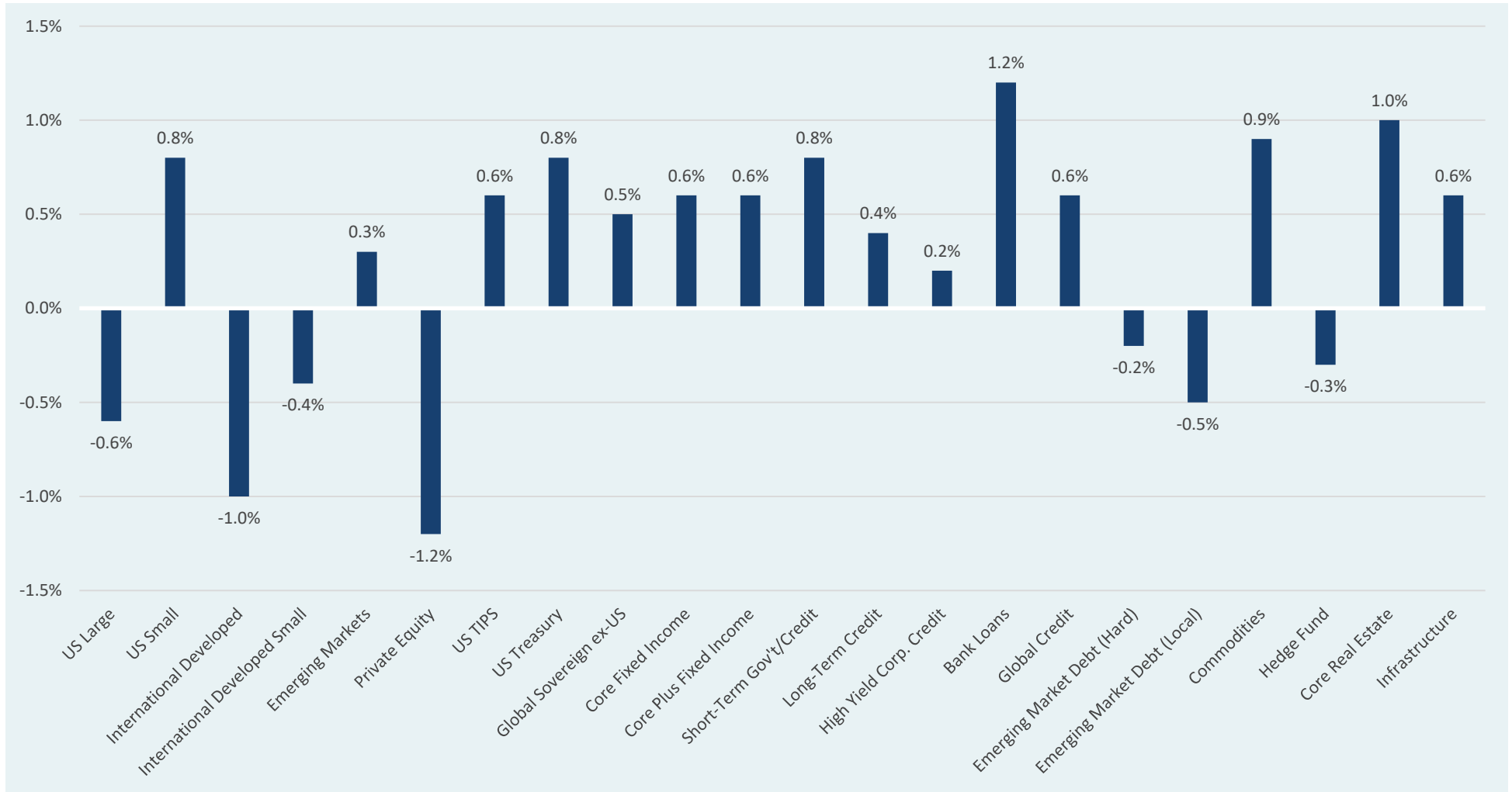
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THAT DRIVE
ENTERPRISE
SUCCESS**

Market summary & forecast impacts

- The trend of rising interest rates continued throughout 2023, and this is a key theme in the 2024 Verus Capital Market Assumptions. Readers will observe gains in the expected return of fixed income assets. The U.S. yield curve has been inverted for some time, and markets are pricing in a *higher for longer* interest rate environment for years to come, along with a relatively flat yield curve shape. Historically, higher interest rates have negatively impacted the price of equity. Domestic equities have however not materially repriced, with U.S. valuations remaining above-average. Higher bond yields and expensive equity markets have resulted in forecasts for fixed income markets being more competitive with U.S. equity.
- Long term inflation expectations were mixed throughout the year. Household inflation expectations (University of Michigan) increased slightly from 2.7% to 2.8%, the Survey of Professional Forecasters suggested moderately lower long-run inflation, declining from 2.8% to 2.4%, while market-priced inflation expectations (U.S. TIPS Breakeven Rate) increased slightly from 2.2% to 2.3%. Despite elevated inflation in the current environment, these indicators suggest more normal inflation of 2-3% for the next ten years.
- Credit spreads contracted slightly, despite a volatile bond environment. Credit default activity has picked up from very low levels, and is now fairly average based on a twelve-month lookback period. Although credit spreads are tight, broadly rising interest rates have resulted in bond markets offering more attractive long-term returns. Our forecast for high yield bonds and bank loans increased to 6.6% and 8.0%, respectively.
- The long end of the yield curve increased markedly, as the 10-year U.S. Treasury yield moved from 3.83% to 4.57%. The curve has remained flat for most of the year, and is priced to remain flat for years into the future.
- Emerging market hard and local currency debt forecasts were the only fixed income forecasts to move lower. Hard currency-denominated debt spreads to U.S. Treasury yields contracted from 523 bps to 437 bps, offsetting higher return expectations somewhat. The yield of local-denominated debt fell from 7.3% to 6.8%.

All data cited above is as of 9/30/23

2024 vs. 2023 return forecast



Source: Verus, as of 9/30/23

10-year return & risk assumptions

Asset Class	Index Proxy	Ten Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Equities								
U.S. Large	S&P 500	5.9%	7.0%	15.5%	0.12	0.19	0.72	0.75
U.S. Small	Russell 2000	6.2%	8.2%	21.4%	0.10	0.19	0.28	0.37
International Developed	MSCI EAFE	8.1%	9.5%	17.6%	0.23	0.31	0.18	0.25
International Small	MSCI EAFE Small Cap	8.8%	10.9%	21.7%	0.22	0.31	0.20	0.27
Emerging Markets	MSCI EM	8.8%	11.4%	24.6%	0.19	0.30	0.06	0.14
Global Equity	MSCI ACWI	6.9%	8.2%	16.7%	0.17	0.25	0.44	0.50
Global Equity ex USA	MSCI ACWI ex USA	8.5%	10.2%	19.5%	0.23	0.31	0.15	0.22
Private Equity	CA Private Equity	8.0%	10.9%	25.6%	0.15	0.27	-	-
Private Equity Direct	CA Private Equity	9.0%	11.8%	25.6%	0.19	0.30	-	-
Private Equity (FoF)	CA Private Equity	7.0%	9.9%	25.6%	0.11	0.23	-	-
Fixed Income								
Cash	30 Day T-Bills	4.1%	4.1%	1.1%	-	-	-	-
U.S. TIPS	Bloomberg U.S. TIPS 5-10	4.7%	4.8%	5.5%	0.11	0.13	0.13	0.15
Non-U.S. Inflation Linked Bonds	Bbg World Govt. Inflation Linked Bond ex U.S.	3.9%	4.2%	7.4%	(0.03)	0.01	(0.15)	(0.11)
U.S. Treasury	Bloomberg Treasury 7-10 Year	4.6%	4.8%	7.1%	0.07	0.10	(0.05)	(0.02)
Long U.S. Treasury	Bloomberg Treasury 20+ Year	4.7%	5.5%	13.2%	0.05	0.11	0.00	0.25
Global Sovereign ex U.S.	Bloomberg Global Treasury ex U.S.	2.7%	3.2%	9.9%	(0.14)	(0.09)	(0.40)	(0.36)
Global Aggregate	Bloomberg Global Aggregate	4.1%	4.3%	6.6%	0.00	0.03	(0.27)	(0.24)
Core Fixed Income	Bloomberg U.S. Aggregate Bond	4.9%	5.0%	4.8%	0.17	0.19	0.00	0.02
Core Plus Fixed Income	Bloomberg U.S. Universal	5.2%	5.3%	4.5%	0.24	0.27	0.07	0.09
Investment Grade Corp. Credit	Bloomberg U.S. Corporate Investment Grade	5.7%	6.0%	8.4%	0.19	0.23	0.17	0.20
Short-Term Gov't/Credit	Bloomberg U.S. Gov't/Credit 1-3 Year	4.7%	4.8%	3.6%	0.17	0.19	(0.07)	(0.07)
Short-Term Credit	Bloomberg Credit 1-3 Year	5.1%	5.2%	3.6%	0.28	0.31	0.23	0.24
Long-Term Credit	Bloomberg Long U.S. Credit	5.7%	6.3%	10.9%	0.15	0.20	0.15	0.20
High Yield Corp. Credit	Bloomberg U.S. Corporate High Yield	6.6%	7.2%	11.0%	0.23	0.28	0.42	0.44
Bank Loans	Morningstar LSTA Leveraged Loan	8.0%	8.4%	9.0%	0.43	0.48	0.58	0.59
Global Credit	Bloomberg Global Credit	5.1%	5.4%	7.7%	0.13	0.17	0.01	0.04
Emerging Markets Debt (Hard)	JPM EMBI Global Diversified	8.7%	9.2%	10.6%	0.43	0.48	0.15	0.20
Emerging Markets Debt (Local)	JPM GBI-EM Global Diversified	6.5%	7.2%	12.2%	0.20	0.25	(0.17)	(0.12)
Private Credit	Morningstar LSTA Leveraged Loan	9.2%	9.8%	11.9%	0.43	0.48	-	-
Private Credit (Direct Lending - Unlevered)	Morningstar LSTA Leveraged Loan	8.0%	8.4%	9.0%	0.43	0.48	-	-
Private Credit (Direct Lending - Levered)	Morningstar LSTA Leveraged Loan	9.5%	10.2%	12.6%	0.43	0.48	-	-
Private Credit (Credit Opportunities)	Morningstar LSTA Leveraged Loan	9.6%	10.3%	12.8%	0.43	0.48	-	-
Private Credit (Junior Capital / Mezzanine)	Morningstar LSTA Leveraged Loan	9.0%	9.6%	11.4%	0.43	0.48	-	-
Private Credit (Distressed)	Morningstar LSTA Leveraged Loan	9.1%	12.7%	29.1%	0.17	0.30	-	-

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 Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Other								
Commodities	Bloomberg Commodity	6.6%	7.8%	16.1%	0.16	0.23	(0.13)	(0.06)
Hedge Funds	HFRI Fund Weighted Composite	4.3%	4.6%	7.5%	0.03	0.07	0.48	0.49
Hedge Fund of Funds	HFRI Fund of Funds Composite	3.3%	3.6%	7.5%	(0.11)	(0.07)	-	-
Hedge Funds (Equity Style)	Custom HFRI Benchmark Mix*	7.2%	8.1%	14.1%	0.22	0.28	-	-
Hedge Funds (Credit Style)	Custom HFRI Benchmark Mix*	7.3%	7.7%	9.4%	0.34	0.38	-	-
Hedge Funds (Asymmetric Style)	Custom HFRI Benchmark Mix*	5.4%	5.6%	6.4%	0.20	0.23	-	-
Real Estate Debt	Bloomberg CMBS IG	7.4%	7.7%	7.5%	0.44	0.48	0.14	0.15
Core Real Estate	NCREIF Property	6.8%	7.5%	12.5%	0.22	0.27	-	-
Value-Add Real Estate	NCREIF Property + 200bps	8.8%	9.9%	15.4%	0.31	0.38	-	-
Opportunistic Real Estate	NCREIF Property + 300bps	9.8%	11.7%	21.1%	0.27	0.36	-	-
REITs	Wilshire REIT	6.8%	8.5%	19.2%	0.14	0.23	0.35	0.42
Global Infrastructure	S&P Global Infrastructure	8.4%	9.7%	16.9%	0.25	0.33	0.20	0.28
Risk Parity**	S&P Risk Parity 10% Vol Index	7.2%	7.8%	10.0%	0.31	0.37	-	-
Currency Beta	MSCI Currency Factor Index	2.3%	2.4%	3.4%	(0.52)	(0.49)	(0.06)	0.21
Inflation		2.5%	-	-	-	-	-	-

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*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.

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