

Capital Market Assumptions

September 2022



CAPTRUST

2022 CMA Highlights

Inflation

In 2021, we significantly increased our 10-year inflation assumption to reflect the magnitude of near-term pricing pressures. In 2022, we continued to move modestly higher in our forecast as near-term inflation pressures are projected to remain elevated before normalizing over the latter-half of our 10-year assumption period.

Assumption	2020	2021	2022
U.S. Inflation (CPI)	1.75%	2.30%	2.60%

The timing of inflation normalization is uncertain. As a result, we have also increased the inflation volatility assumption by 0.25%. This could impact the output of simulated real values.

Fixed Income

The positive side of the extreme losses by bonds in 2022 is a more attractive forward return environment. With yields rising across the curve, expected returns on all fixed income asset classes increased by more than 100 basis points.

U.S. Equity

Despite a significant improvement in valuations, we are increasingly concerned about future earnings growth. Consequently, we have left implied returns for U.S. equity markets unchanged. This reflects an improvement in valuations offset by lower expected forward earnings growth.

We are maintaining a slightly elevated but unchanged expected risk profile for equities reflecting our view of a wide range of potential outcomes.

2022 CMA Highlights (continued)

Foreign Equity

We lowered our expected return assumption for foreign equities by 0.50%. While this counters many of our competitors, we believe foreign equity markets have been a value trap for the last decade. Valuations are currently low but were arguably lower 10 years ago. The problem has been the lack of growth. Over the last 10 years, earnings growth for the S&P 500 has been approximately 112%, or 7.8% annually. Over the same period, earnings growth for the MSCI All-Country World ex-U.S. Index has been just 19%, or 1.8% annually. This lower growth stems from several long-term problems, including poor demographics, economies heavily skewed toward cyclical sectors, an underdeveloped and fragmented technology sector, and a European Central Bank tasked with managing 19 different economies.

For U.S.-based investors, one potential tailwind for investing in foreign markets is currency. The dollar remains exceptionally strong. Any weakening could be a contributor to returns on non-dollar-denominated assets. However, given the ongoing growth challenges outlined above, we have a difficult time predicting a significant, sustained decline in the value of the dollar.

Alternatives

We have provided more granular assumptions across the alternative investment landscape, specifically for private equity and hedged strategy investments. We separated private equity into the broadly diversified fund of funds and a program of direct fund investments. For hedged strategies, we separated low volatility from hedged equity.

We have also adjusted our approach to risk. Historically, we focused on volatility. In order to provide a more comprehensive risk estimate, this year we broadened our focus to incorporate other types of risk, including liquidity, manager dispersion, vintage year, and valuation.

2022 Capital Market Assumptions

	RETURN			RISK		
	2021	2022	Change	2021	2022	Change
U.S. ECONOMY						
U.S. Economic Growth (Nominal GDP)	4.5%	4.7%	0.2%	2.5%	2.7%	0.2%
U.S. Economic Growth (Real GDP)	2.2%	2.1%	-0.1%	2.5%	2.7%	0.2%
U.S. Inflation (CPI)	2.3%	2.6%	0.3%	1.0%	1.25%	0.25%
EQUITY MARKETS						
U.S. Large-Cap Equity	7.25%	7.25%	-	15.5%	15.5%	-
U.S. Mid-Cap Equity	7.5%	7.5%	-	17.8%	17.8%	-
U.S. Small-Cap Equity	7.5%	7.5%	-	19.8%	19.8%	-
International Stocks-Developed Markets	6.75%	6.25%	-0.5%	17.0%	17.0%	-
International Stocks-Emerging Markets	7.75%	7.25%	-0.5%	22.0%	22.0%	-
FIXED INCOME						
U.S. Short-Term T-Bills (Cash)	1.6%	2.3%	0.7%	0.6%	1.0%	0.4%
U.S. Short-Term Govt/Credit		3.0%			1.5%	
U.S. Intermediate-Term Govt/Credit		3.3%			3.1%	
U.S. Core Fixed Income	2.0%	3.7%	1.7%	3.6%	3.7%	0.1%
U.S. Intermediate-Term Treasury Bonds	1.7%	3.2%	1.5%	3.0%	3.0%	0.0%
U.S. Long-Term Treasury Bonds	1.9%	3.9%	2.0%	12.1%	12.3%	0.2%
U.S. Investment Grade Corporate Bonds	2.3%	4.1%	1.8%	5.4%	5.6%	0.2%
U.S. Long-Term Corporate Bonds	3.1%	4.9%	1.8%	8.9%	9.3%	0.4%
U.S. High Yield Corporate Bonds	3.1%	5.7%	2.6%	8.3%	8.4%	0.1%
U.S. Municipal Bonds	1.9%	3.5%	1.6%	4.2%	4.4%	0.2%
Global Bonds	1.5%	2.9%	1.4%	5.3%	5.4%	0.1%
Treasury Inflated-Protected (TIPS)	2.0%	3.5%	1.5%	5.8%	5.4%	-0.4%
Floating Rate Bonds	3.1%	4.1%	1.0%	6.2%	6.1%	-0.1%
REAL ASSETS						
U.S. Public Real Estate	5.75%	6.5%	0.75%	18.4%	18.6%	0.2%
Core Private Real Estate	5.75%	6.0%	0.25%	9.2%	11.0%	1.8%
Private Real Estate – Opportunistic/Value-add		8.5%			22.3%	
Commodities	2.3%	2.6%	0.3%	14.6%	15.0%	0.4%
Core Private Real Assets	5.0%	6.5%	1.5%	6.65%	13.4%	6.75%
OTHER ALTERNATIVES						
Private Equity – Fund of Funds		8.75%			15.5%	
Private Equity – Direct		10.25%			18.6%	
Hedged Strategies – Low Volatility		4.0%			5.2%	
Hedged Strategies – Hedged Equity		5.4%			11.6%	
Core Private Credit	7.0%	7.1%	0.1%	7.4%	10.0%	2.6%

Correlation Assumptions

Correlation Table	U.S. Large-Cap Equity	U.S. Mid-Cap Equity	U.S. Small-Cap Equity	Intl. Developed Equity	Emerging Markets	U.S. T-Bills (Cash)	U.S. Short-Term Govt/Credit	U.S. Intern. Govt/Credit	U.S. Core Fixed Income	U.S. Intern. Treasury Bonds	U.S. Long Treasury Bonds	U.S. I.G. Bonds	U.S. Long Corporate Bonds	U.S. High Yield	U.S. Municipal Bonds	Global Bonds	TIPS	Floating Rate Bonds	U.S. Public Real Estate	Core Private Real Estate	Private Real Estate O/VA	Commodities	Core Private Real Assets	Private Equity	Hedged Strat. - Low Vol.	Hedged Strat. - H.E.	Core Private Credit	U.S. Inflation	U.S. Nominal GDP
U.S. Large-Cap Equity	1.00																												
U.S. Mid-Cap Equity	0.96	1.00																											
U.S. Small-Cap Equity	0.91	0.96	1.00																										
Intl. Developed Equity	0.88	0.91	0.87	1.00																									
Emerging Markets	0.78	0.84	0.77	0.89	1.00																								
U.S. T-Bills (Cash)	-0.14	-0.13	-0.13	-0.01	0.10	1.00																							
U.S. Short-Term Govt/Credit	-0.33	-0.29	-0.29	-0.17	-0.05	0.43	1.00																						
U.S. Intern. Govt/Credit	-0.27	-0.24	-0.28	-0.14	-0.06	0.15	0.87	1.00																					
U.S. Core Fixed Income	-0.26	-0.24	-0.29	-0.17	-0.08	0.11	0.77	0.96	1.00																				
U.S. Intern. Treasury Bonds	-0.58	-0.59	-0.57	-0.50	-0.41	0.24	0.81	0.87	0.85	1.00																			
U.S. Long Treasury Bonds	-0.52	-0.55	-0.56	-0.51	-0.48	0.05	0.47	0.70	0.78	0.83	1.00																		
U.S. I.G. Corp. Bonds	0.30	0.34	0.23	0.38	0.41	-0.10	0.48	0.73	0.74	0.32	0.34	1.00																	
U.S. Long Corporate Bonds	0.25	0.27	0.18	0.29	0.31	-0.11	0.40	0.70	0.76	0.35	0.50	0.96	1.00																
U.S. High Yield	0.77	0.82	0.74	0.77	0.80	-0.14	-0.10	-0.02	-0.02	-0.45	-0.49	0.54	0.42	1.00															
U.S. Municipal Bonds	-0.01	0.04	-0.07	0.09	0.17	-0.06	0.43	0.69	0.73	0.45	0.42	0.72	0.69	0.28	1.00														
Global Bonds	0.03	0.06	0.01	0.25	0.25	0.11	0.63	0.72	0.69	0.53	0.37	0.66	0.61	0.18	0.55	1.00													
TIPS	-0.10	-0.04	-0.14	-0.03	0.11	0.04	0.51	0.67	0.69	0.52	0.35	0.55	0.48	0.21	0.68	0.56	1.00												
Floating Rate Bonds	0.66	0.73	0.64	0.67	0.69	-0.15	-0.23	-0.19	-0.17	-0.58	-0.61	0.37	0.23	0.90	0.23	0.02	0.18	1.00											
U.S. Public Real Estate	0.73	0.76	0.74	0.70	0.60	-0.08	-0.11	0.00	0.03	-0.30	-0.27	0.42	0.37	0.69	0.24	0.21	0.13	0.61	1.00										
Core Private Real Estate	0.14	0.09	0.08	0.09	-0.03	0.17	-0.29	-0.22	-0.19	-0.10	0.00	-0.24	-0.18	-0.15	-0.23	-0.12	-0.05	-0.12	0.19	1.00									
Private Real Estate O/VA	0.00	-0.05	-0.04	-0.02	-0.09	0.32	-0.17	-0.16	-0.14	0.03	0.07	-0.31	-0.26	-0.34	-0.18	-0.12	-0.02	-0.29	-0.07	0.80	1.00								
Commodities	0.45	0.52	0.44	0.54	0.57	0.05	-0.08	-0.10	-0.13	-0.36	-0.43	0.24	0.14	0.57	0.07	0.21	0.31	0.58	0.40	0.17	0.09	1.00							
Core Private Real Assets	0.45	0.49	0.48	0.46	0.48	0.14	-0.10	-0.09	-0.08	-0.23	-0.22	0.14	0.14	0.39	0.06	0.10	0.07	0.31	0.39	0.18	0.11	0.30	1.00						
Private Equity	0.58	0.57	0.55	0.59	0.52	0.02	-0.19	-0.15	-0.16	-0.37	-0.34	0.22	0.18	0.47	-0.02	0.10	0.03	0.42	0.44	0.18	0.09	0.43	0.48	1.00					
Hedged Strat. - Low Vol.	0.82	0.89	0.83	0.90	0.86	-0.01	-0.23	-0.21	-0.24	-0.61	-0.61	0.37	0.23	0.81	0.19	0.07	0.07	0.79	0.58	0.04	-0.01	0.68	0.44	0.58	1.00				
Hedged Strat. - H.E.	0.87	0.93	0.89	0.92	0.89	-0.06	-0.22	-0.22	-0.25	-0.58	-0.61	0.33	0.22	0.80	0.07	0.09	0.01	0.75	0.62	0.03	-0.05	0.63	0.44	0.59	0.96	1.00			
Core Private Credit	0.70	0.75	0.67	0.66	0.64	-0.07	-0.39	-0.31	-0.29	-0.61	-0.60	0.20	0.09	0.75	0.11	-0.09	0.13	0.78	0.58	0.30	0.16	0.65	0.43	0.55	0.79	0.72	1.00		
U.S. Inflation	0.22	0.23	0.16	0.22	0.21	0.11	-0.31	-0.36	-0.32	-0.39	-0.42	-0.18	-0.23	0.28	-0.10	-0.09	0.20	0.44	0.27	0.35	0.20	0.61	0.15	0.19	0.38	0.28	0.51	1.00	
U.S. Nominal GDP	0.07	0.04	0.02	0.08	0.07	0.04	-0.28	-0.27	-0.25	-0.19	-0.13	-0.26	-0.20	0.00	-0.11	-0.10	-0.04	0.02	0.12	0.36	0.21	0.23	0.06	0.11	0.11	0.07	0.27	0.42	1.00

Sources: Bloomberg, Pitchbook, CAPTRUST Research; Data from 12/2001–12/2021 (where available).