



Cliffwater Q1 2023 Long Term (10 Year) Capital Market Assumptions

(See Cliffwater's 2023 Asset Allocation Report for detailed explanation of assumptions)

The following table of Capital Market Assumptions shows forward-looking return and risk expectations as estimated by Cliffwater for asset classes that compose Cliffwater's investment universe. The table also shows estimated forward-looking correlations among the various asset classes. Cliffwater uses these Capital Market Assumptions to inform its process for determining asset allocation recommendations.

	Annual Risk (%)			U.S. Stocks	Non-US Developed	Emerging Markets	Global Equity	Core U.S. Bonds	IG Corporate	10-yr Treasury	3M SOFR (Cash)	10-yr TIPS	High Yield Bonds	Bank Loans	Emerging Market Debt	Private Real Estate (UL)	Public REITs	Private RE Partnerships	Diversified Private Equity	Diversified Hedge Funds	Energy Funds	Farmland	
	Average Return (%)																						
	Compound Return (%)																						
	U.S. Stocks	Non-US Developed	Emerging Markets																				
Stocks																							
U.S. Stocks	7.25	8.70	17.00	1.00																			
Non-US Developed	7.25	8.87	18.00	0.85	1.00																		
Emerging Markets	7.25	10.63	26.00	0.85	0.80	1.00																	
Global Equity	7.25	8.82	17.70	0.90	0.90	0.85	1.00																
Fixed Income																							
Core U.S. Bonds	4.70	4.83	5.00	0.20	0.15	0.15	0.15	1.00															
IG Corporate	5.40	5.58	6.00	0.45	0.25	0.30	0.25	0.87	1.00														
10-yr Treasury	3.85	4.17	8.00	0.20	0.20	0.20	0.20	0.85	0.65	1.00													
3M SOFR (Cash)	2.50	2.52	2.00	0.00	0.00	0.05	0.00	0.05	0.05	0.00	1.00												
10-yr TIPS	3.85	4.10	7.00	0.30	0.25	0.25	0.25	0.80	0.70	0.65	-0.05	1.00											
High Yield Bonds	6.90	7.51	11.00	0.65	0.60	0.60	0.60	0.19	0.50	-0.15	-0.15	0.30	1.00										
Bank Loans	6.20	6.45	7.00	0.55	0.10	0.40	0.40	0.05	0.30	-0.20	0.20	0.30	0.80	1.00									
Emerging Market Debt	6.80	7.05	7.00	0.55	0.60	0.60	0.60	0.55	0.75	0.30	-0.15	0.55	0.70	0.40	1.00								
Alternatives																							
Private Real Estate (UL)	6.00	7.13	15.00	0.50	0.45	0.40	0.45	0.00	0.15	0.00	0.00	0.30	0.65	0.40	0.25	1.00							
Public REITs	6.45	8.87	22.00	0.70	0.65	0.65	0.65	0.15	0.15	0.00	-0.15	0.20	0.65	0.40	0.50	0.75	1.00						
Private RE Partnerships	8.00	12.50	30.00	0.50	0.45	0.40	0.45	0.00	0.05	0.05	0.00	0.00	0.70	0.50	0.10	0.75	0.65	1.00					
Diversified Private Equity	10.25	12.25	20.00	0.80	0.70	0.60	0.70	0.00	0.25	0.20	0.00	0.30	0.65	0.50	0.25	0.70	0.60	0.60	1.00				
Diversified Hedge Funds	5.15	5.25	4.40	0.70	0.70	0.65	0.70	0.00	0.30	0.00	-0.10	0.15	0.70	0.80	0.55	0.20	0.55	0.20	0.30	1.00			
Energy Funds	10.25	15.06	31.00	0.60	0.20	0.40	0.45	0.40	0.25	0.30	0.30	0.10	0.00	0.00	0.10	0.30	0.60	0.50	0.80	0.30	1.00		
Farmland	6.50	7.11	11.00	0.10	0.10	0.10	0.10	-0.10	-0.10	-0.10	0.00	0.10	-0.10	-0.10	-0.10	0.05	0.05	0.05	0.35	0.00	0.00	1.00	
Commodity Futures	2.50	4.12	18.00	0.35	0.50	0.55	0.45	0.05	0.25	-0.05	-0.10	0.35	0.35	0.30	0.35	0.10	0.25	0.10	0.20	0.60	0.20	0.00	
Infrastructure	7.25	7.97	12.00	0.70	0.65	0.55	0.50	0.00	0.10	0.00	0.00	0.40	0.60	0.60	0.25	0.70	0.60	0.60	0.65	0.50	0.80	0.00	
MLPs	7.60	10.48	24.00	0.50	0.50	0.54	0.51	-0.05	0.20	-0.20	0.00	0.15	0.65	0.65	0.40	0.35	0.35	0.35	0.50	0.60	0.80	0.00	
Private Debt (UL)	7.05	7.13	4.00	0.65	0.60	0.60	0.60	0.19	0.50	-0.15	-0.15	0.30	0.80	0.80	0.70	0.65	0.65	0.70	0.80	0.70	0.00	-0.10	
Private Debt (L:1.0)	9.25	9.57	8.00	0.65	0.60	0.60	0.60	0.19	0.50	-0.15	-0.15	0.30	0.80	0.80	0.70	0.65	0.65	0.70	0.80	0.70	0.00	-0.10	
Public BDCs	10.10	12.10	20.00	0.80	0.75	0.70	0.80	0.00	0.30	-0.10	0.00	0.10	0.75	0.50	0.40	0.70	0.70	0.70	0.80	0.75	0.00	-0.10	
Sub-strategies																							
Buyouts	9.30	11.30	20.00	0.80	0.70	0.60	0.70	0.00	0.25	-0.20	0.00	0.00	0.65	0.50	0.25	0.70	0.60	0.60	0.90	0.30	0.80	0.00	
Venture Capital	11.75	16.25	30.00	0.80	0.70	0.60	0.70	0.00	0.25	-0.20	0.00	0.00	0.65	0.50	0.25	0.70	0.60	0.60	0.90	0.30	0.80	0.00	
Enhanced Lending	13.50	13.82	8.00	0.50	0.45	0.45	0.45	0.19	0.40	-0.15	-0.15	0.30	0.70	0.70	0.60	0.55	0.55	0.60	0.70	0.60	0.00	-0.10	
Absolute Return HFs	4.44	4.49	3.34	0.42	0.42	0.42	0.42	0.00	0.30	-0.14	0.10	-0.02	0.35	0.35	0.25	0.22	0.22	0.22	0.20	0.71	0.35	0.00	
Market Neutral HFs	3.63	3.69	3.63	0.40	0.40	0.40	0.40	0.00	0.20	-0.10	0.00	0.00	0.20	0.20	0.10	0.30	0.30	0.30	0.00	0.50	0.30	0.00	
Credit/ Distressed HFs	5.69	5.86	5.86	0.60	0.60	0.60	0.60	0.00	0.50	-0.30	0.00	-0.10	0.80	0.80	0.60	0.30	0.30	0.30	0.50	0.70	0.60	0.00	
Event Driven HFs	6.25	6.51	7.26	0.75	0.75	0.75	0.75	0.00	0.40	-0.30	0.00	-0.10	0.60	0.60	0.40	0.40	0.30	0.30	0.60	0.80	0.80	0.00	
Equity L/S HFs	6.18	6.47	7.64	0.85	0.85	0.85	0.85	0.00	0.40	-0.30	0.00	-0.10	0.40	0.40	0.40	0.40	0.30	0.30	0.70	0.70	0.65	0.00	
Macro (Discretionary) HFs	4.90	5.01	4.84	0.10	0.10	0.10	0.10	0.00	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	
Macro (Trend) HFs	3.79	4.13	8.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	
Multi Strategy HFs	4.87	4.97	4.49	0.50	0.50	0.50	0.50	0.00	0.40	-0.20	0.00	0.00	0.50	0.50	0.40	0.20	0.20	0.20	0.40	0.50	0.50	0.00	
CPI	2.30	2.32	2.20	-0.10	-0.05	0.40	0.00	-0.20	-0.15	-0.25	0.70	0.80	-0.05	0.30	0.00	0.35	0.35	0.35	-0.10	0.50	0.50	0.30	

Notes: Compound Return refers to the long term (10 year) expected geometric average return. Average Return refers the long term (10 year) expected arithmetic average return.



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