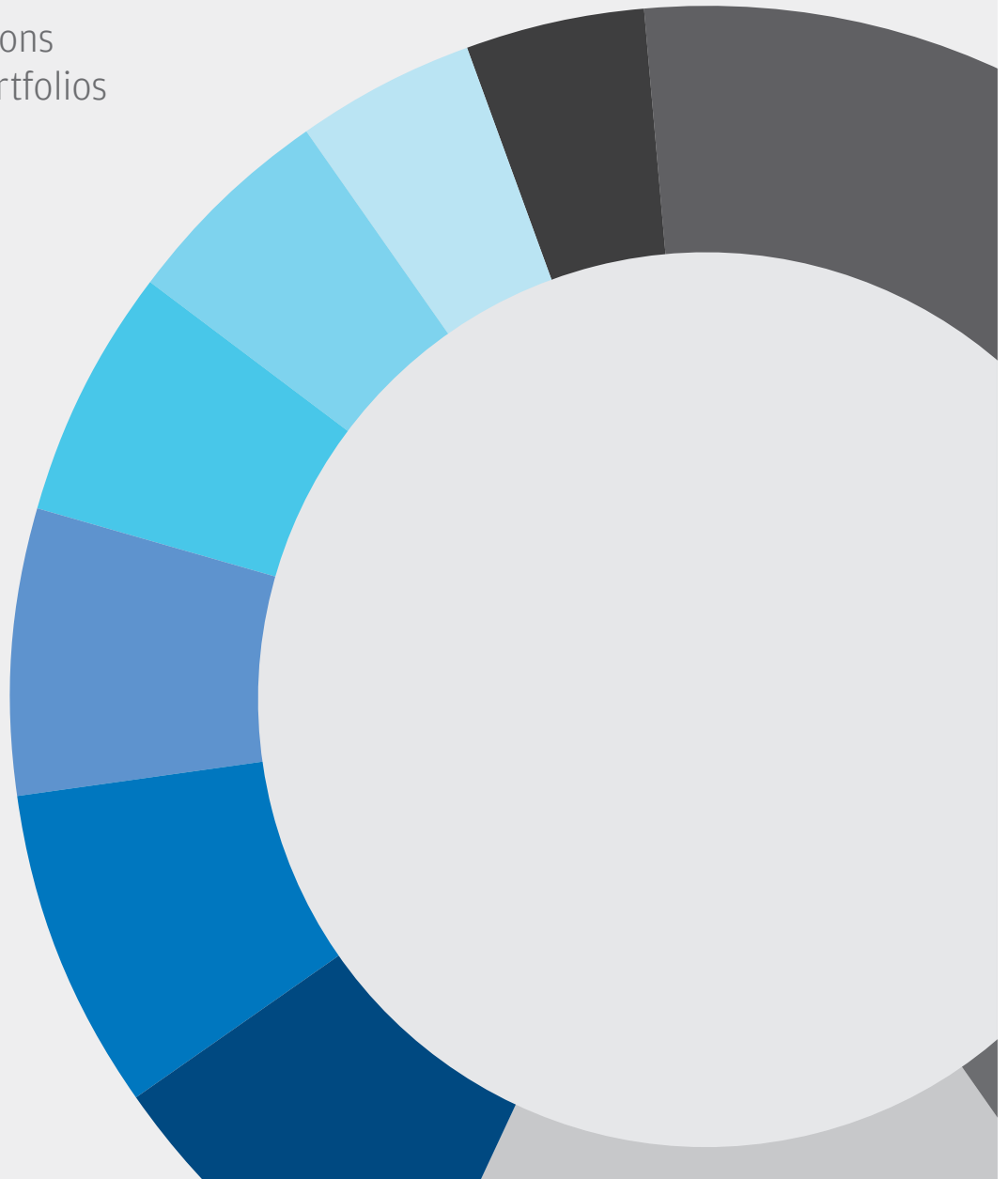


# 2022 Long-Term Capital Market Assumptions

26<sup>th</sup> Annual Edition | Assumptions matrix: Brazilian real

Time-tested projections  
to build stronger portfolios



BRAZILIAN REAL ASSUMPTIONS

COMPOUND RETURN 2021 (%)				Brazilian Inflation	Brazilian Cash	Brazilian Local Govt Bonds	Brazilian Inflation-Linked Bonds	Brazilian Floating Rate Credit	Global Aggregate Bonds hedged	U.S. Long Corporate Bonds	U.S. High Yield Bonds	Emerging Markets Sovereign Debt	Emerging Markets Local Currency Debt	Emerging Markets Corporate Bonds	Brazilian Equity	U.S. Large Cap	European Large Cap	Japanese Equity	Chinese Domestic Equity	AC World Equity	AC Asia ex-Japan Equity	Emerging Markets Equity	Private Equity	U.S. REITs	Brazilian Hedge Funds (Multimercado)	Diversified Hedge Funds	Commodities	Gold		
ANNUALIZED VOLATILITY (%)																														
ARITHMETIC RETURN 2022 (%)																														
COMPOUND RETURN 2022 (%)																														
Brazilian Inflation	4.30	4.31	1.03	4.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Brazilian Cash	7.10	7.10	0.97	5.80	0.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Brazilian Local Govt Bonds	10.10	10.15	3.18	8.40	-0.14	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Brazilian Inflation-Linked Bonds	9.40	9.61	6.84	7.80	0.02	0.13	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Brazilian Floating Rate Credit	8.10	8.11	1.73	6.80	0.04	0.26	0.71	0.81	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Global Aggregate Bonds hedged	8.10	8.14	2.98	6.50	-0.13	0.04	0.35	0.31	0.34	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
U.S. Long Corporate Bonds	3.10	4.42	16.73	1.10	-0.12	-0.03	-0.15	-0.23	-0.13	0.45	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
U.S. High Yield Bonds	4.60	5.40	13.09	3.80	-0.07	-0.09	-0.30	-0.33	-0.22	0.06	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Emerging Markets Sovereign Debt	5.90	6.85	14.35	4.20	-0.11	-0.03	-0.14	-0.23	-0.08	0.29	0.90	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Emerging Markets Local Currency Debt	6.60	7.10	10.38	4.20	-0.17	-0.04	0.02	-0.12	-0.02	0.30	0.72	0.68	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Emerging Markets Corporate Bonds	5.50	6.56	15.15	3.70	-0.09	-0.07	-0.24	-0.32	-0.19	0.19	0.89	0.91	0.97	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Brazilian Equity	9.00	11.09	21.87	7.10	-0.07	-0.09	0.36	0.53	0.38	0.05	-0.44	-0.32	-0.38	-0.19	-0.42	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
U.S. Large Cap	4.80	6.02	16.21	3.10	-0.05	-0.17	-0.32	-0.30	-0.20	-0.06	0.55	0.76	0.66	0.62	0.69	-0.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
European Large Cap	7.10	8.33	16.46	5.40	-0.06	-0.17	-0.18	-0.15	-0.07	0.01	0.40	0.60	0.51	0.59	0.51	0.17	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Japanese Equity	7.40	8.63	16.48	5.50	-0.04	-0.15	-0.26	-0.29	-0.20	-0.05	0.58	0.70	0.63	0.64	0.67	-0.14	0.77	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Chinese Domestic Equity	8.90	12.57	29.48	6.50	-0.07	-0.02	-0.07	-0.04	0.00	-0.01	0.25	0.34	0.32	0.29	0.34	0.10	0.39	0.36	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AC World Equity	5.70	6.70	14.71	4.10	-0.07	-0.18	-0.25	-0.21	-0.14	-0.02	0.50	0.72	0.61	0.63	0.63	0.08	0.96	0.94	0.80	0.43	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AC Asia ex-Japan Equity	7.70	8.86	15.99	6.10	-0.14	-0.16	-0.14	-0.04	-0.01	0.09	0.35	0.50	0.40	0.53	0.42	0.26	0.64	0.73	0.57	0.56	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Emerging Markets Equity	7.60	8.58	14.68	6.20	-0.12	-0.17	-0.09	0.04	0.04	0.06	0.24	0.41	0.32	0.49	0.32	0.44	0.62	0.75	0.52	0.50	0.77	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Private Equity	8.80	10.34	18.64	6.80	-0.01	-0.25	-0.45	-0.35	-0.17	-0.17	0.46	0.76	0.65	0.54	0.68	-0.04	0.84	0.77	0.68	0.44	0.84	0.69	0.66	1.00	1.00	1.00	1.00	1.00	1.00	1.00
U.S. REITs	6.40	7.75	17.23	5.50	-0.04	-0.07	-0.15	-0.14	-0.06	0.22	0.51	0.65	0.56	0.56	0.52	-0.05	0.74	0.65	0.54	0.14	0.72	0.49	0.47	0.57	1.00	1.00	1.00	1.00	1.00	1.00
Brazilian Hedge Funds (Multimercado)	10.50	10.52	2.17	8.90	-0.10	-0.18	-0.43	-0.52	-0.56	-0.09	0.11	0.07	0.08	0.04	0.10	-0.50	0.01	-0.14	0.00	-0.12	-0.09	-0.15	-0.23	-0.05	0.06	1.00	1.00	1.00	1.00	1.00
Diversified Hedge Funds	4.30	5.52	16.16	2.30	-0.03	-0.11	-0.44	-0.49	-0.34	-0.07	0.79	0.84	0.83	0.63	0.88	-0.53	0.69	0.46	0.68	0.33	0.60	0.34	0.24	0.75	0.42	0.17	1.00	1.00	1.00	1.00
Commodities	3.30	4.23	14.04	1.30	-0.02	-0.23	-0.33	-0.24	-0.23	-0.16	0.32	0.46	0.42	0.38	0.46	-0.11	0.48	0.44	0.39	0.22	0.50	0.38	0.39	0.56	0.27	0.03	0.48	1.00	1.00	
Gold	3.70	5.45	19.43	1.90	-0.10	-0.03	0.01	-0.08	-0.04	0.26	0.56	0.42	0.57	0.53	0.56	-0.28	0.21	0.11	0.23	0.22	0.18	0.15	0.10	0.25	0.16	0.05	0.50	0.46	1.00	

Note: All estimates on this page are in Brazilian real terms. Given the complex risk-reward trade-offs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations to all of these asset classes and strategies. Please note that all information shown is based on qualitative analysis. Exclusive reliance on this information is not advised. This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise of future performance. Note that these asset class and strategy assumptions are passive only—they do not consider the impact of active management. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. Assumptions, opinions and estimates are provided for illustrative purposes only. They should not be relied upon as recommendations to buy or sell securities. Forecasts of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. This material has been prepared for information purposes only and is not intended to provide, and should not be relied on for, accounting, legal or tax advice.

Source: J.P. Morgan Asset Management; as of September 30, 2021. Alternative asset classes (including hedge funds, private equity, real estate, direct lending, transportation and infrastructure) are unlike other asset categories shown above in that there is no underlying investible index. The return estimates for these alternative asset classes and strategies are estimates of the industry average, net of manager fees. The dispersion of return among managers of these asset classes and strategies is typically significantly wider than that of traditional asset classes. Correlations of value-added and core real estate in their local currencies are identical since value-added local returns are scaled versions of their corresponding core real estate local returns. For equity and fixed income assumptions we assume current index regional weight in composite indices with multiple countries/regions. All returns are nominal. The return forecasts of composite and hedged assets are computed using unrounded return and rounded to the nearest 10bp at the final stage. In some cases this may lead to apparent differences in hedging impact across assets, but this is purely due to rounding. For the full opportunity set, please contact your J.P. Morgan representative.

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