

**20<sup>th</sup>** Anniversary  
Edition

**The Periodic Table Collection**

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The Periodic Tables of Investment Returns depict annual returns for various asset classes, ranked from best to worst. Each asset class is color-coded for easy tracking. Well-known, industry-standard market indices are used as proxies for each asset class. The Periodic Table of Investment Returns—a play on the Periodic Table of the Elements—was authored by Jay Kloepfer, Director of Callan’s Capital Markets Research, in 1999. Mr. Kloepfer’s vision of illustrating the importance of diversification resulted in a table of returns, similar to the Mendeleev creation. Callan’s first Periodic Table of Investment Returns was distributed in 1999, for returns 1979 – 1998.

# The Callan Periodic Table of Investment Returns

## Annual Returns for Key Indices Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Non-U.S. Equity	Real Estate Funds	U.S. Fixed	Non-U.S. Fixed	Emerging Markets	U.S. Fixed	Emerging Markets	Small Cap	Real Estate Funds	Emerging Markets	Small Cap	Large Cap	Real Estate Funds	Small Cap	Emerging Markets	Real Estate Funds				
27.92%	13.19%	8.43%	22.37%	55.82%	25.55%	34.00%	32.17%	39.38%	5.24%	78.51%	26.85%	14.96%	18.23%	38.82%	13.69%	13.95%	21.31%	37.28%	7.36%
Hedge Funds	U.S. Fixed	High Yield	U.S. Fixed	Small Cap	Non-U.S. Equity	Real Estate Funds	Non-U.S. Equity	Real Estate Funds	Non-U.S. Fixed	High Yield	Emerging Markets	U.S. Fixed	Non-U.S. Equity	Large Cap	Real Estate Funds	Large Cap	High Yield	Non-U.S. Equity	Cash Equivalent
23.43%	11.63%	5.28%	10.26%	47.25%	20.38%	20.15%	25.71%	14.84%	4.39%	58.21%	18.88%	7.84%	16.41%	32.39%	11.46%	1.38%	17.13%	24.21%	1.87%
Small Cap	Cash Equivalent	Real Estate Funds	Real Estate Funds	Non-U.S. Equity	Small Cap	Non-U.S. Equity	Small Cap	Hedge Funds	Cash Equivalent	Non-U.S. Equity	Real Estate Funds	High Yield	Small Cap	Non-U.S. Equity	U.S. Fixed	U.S. Fixed	Large Cap	Large Cap	U.S. Fixed
21.26%	6.19%	4.64%	4.57%	39.42%	18.33%	14.47%	18.37%	12.56%	2.06%	33.67%	15.26%	4.98%	16.35%	21.02%	5.97%	0.55%	11.96%	21.83%	0.01%
Large Cap	Hedge Funds	Cash Equivalent	Hedge Funds	High Yield	Non-U.S. Fixed	Hedge Funds	Large Cap	Non-U.S. Equity	Real Estate Funds	Small Cap	High Yield	Non-U.S. Fixed	Large Cap	Real Estate Funds	Small Cap	Cash Equivalent	Emerging Markets	Small Cap	High Yield
21.04%	4.85%	4.42%	3.04%	28.97%	12.54%	7.61%	15.79%	12.44%	-10.70%	27.17%	15.12%	4.36%	16.00%	12.90%	4.89%	0.05%	11.19%	14.65%	-2.08%
Real Estate Funds	Small Cap	Hedge Funds	Cash Equivalent	Large Cap	Real Estate Funds	Large Cap	Real Estate Funds	Non-U.S. Fixed	Hedge Funds	Large Cap	Large Cap	Large Cap	High Yield	Hedge Funds	Hedge Funds	Hedge Funds	Real Estate Funds	Non-U.S. Fixed	Non-U.S. Fixed
12.05%	-3.02%	4.42%	1.78%	28.68%	12.00%	4.91%	15.27%	11.03%	-19.07%	26.47%	15.06%	2.11%	15.81%	9.73%	4.13%	-0.71%	7.79%	10.51%	-2.15%
Cash Equivalent	Non-U.S. Fixed	Small Cap	High Yield	Non-U.S. Fixed	High Yield	Small Cap	Hedge Funds	U.S. Fixed	High Yield	Hedge Funds	Hedge Funds	Cash Equivalent	Real Estate Funds	High Yield	High Yield	Non-U.S. Equity	Non-U.S. Equity	High Yield	Hedge Funds
4.85%	-3.91%	2.49%	-1.37%	19.36%	11.13%	4.55%	13.86%	6.97%	-26.16%	18.57%	10.95%	0.10%	9.79%	7.44%	2.45%	-3.04%	2.75%	7.50%	-3.19%
High Yield	High Yield	Emerging Markets	Emerging Markets	Hedge Funds	Large Cap	Cash Equivalent	High Yield	Large Cap	Small Cap	Non-U.S. Fixed	Non-U.S. Equity	Hedge Funds	Hedge Funds	Cash Equivalent	Cash Equivalent	Small Cap	U.S. Fixed	Hedge Funds	Large Cap
2.39%	-5.86%	-2.61%	-6.16%	15.44%	10.88%	3.06%	11.85%	5.49%	-33.79%	7.53%	8.95%	-2.52%	7.67%	0.07%	0.04%	-4.41%	2.65%	7.12%	-4.38%
U.S. Fixed	Large Cap	Non-U.S. Fixed	Non-U.S. Equity	Real Estate Funds	Hedge Funds	High Yield	Non-U.S. Fixed	Cash Equivalent	Large Cap	U.S. Fixed	U.S. Fixed	Small Cap	U.S. Fixed	U.S. Fixed	Emerging Markets	High Yield	Non-U.S. Fixed	Real Estate Funds	Small Cap
-0.83%	-9.11%	-3.75%	-15.80%	8.28%	9.64%	2.74%	8.16%	5.00%	-37.00%	5.93%	6.54%	-4.18%	4.21%	-2.02%	-2.19%	-4.47%	1.49%	6.66%	-11.01%
Non-U.S. Fixed	Non-U.S. Equity	Large Cap	Small Cap	U.S. Fixed	U.S. Fixed	U.S. Fixed	Cash Equivalent	High Yield	Non-U.S. Equity	Cash Equivalent	Non-U.S. Fixed	Non-U.S. Equity	Non-U.S. Fixed	Emerging Markets	Non-U.S. Fixed	Non-U.S. Fixed	Hedge Funds	U.S. Fixed	Non-U.S. Equity
-8.83%	-13.37%	-11.89%	-20.48%	4.10%	4.34%	2.43%	4.86%	1.87%	-43.56%	0.21%	4.95%	-12.21%	4.09%	-2.60%	-3.09%	-6.02%	1.25%	3.54%	-14.09%
		Non-U.S. Equity	Large Cap	Cash Equivalent	Cash Equivalent	Non-U.S. Fixed	U.S. Fixed	Small Cap	Emerging Markets	Real Estate Funds	Cash Equivalent	Emerging Markets	Cash Equivalent	Non-U.S. Fixed	Non-U.S. Equity	Emerging Markets	Cash Equivalent	Cash Equivalent	Emerging Markets
		-21.40%	-22.10%	1.15%	1.33%	-8.65%	4.33%	-1.57%	-53.33%	-30.40%	0.13%	-18.42%	0.11%	-3.08%	-4.32%	-14.92%	0.33%	0.86%	-14.58%

- Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US ● Bloomberg Barclays US Aggregate
- Credit Suisse Hedge Fund ● ICE BofAML US 3-Month Treasury Bill ● MSCI Emerging Markets ● MSCI World ex USA
- NFI-ODCE (value-weighted net) ● Russell 2000 ● S&P 500





# Callan Periodic Table of Investment Returns (Relative to Inflation)

## Annual Returns for Key Indices Ranked in Order of Performance (2009–2018)

	Small Cap Equity 26.85%		Emerging Markets 18.23%					Emerging Markets 37.28%		
	Emerging Markets 78.51%	Emerging Markets 18.88%	Non-U.S. Equity 16.41%					Non-U.S. Equity 24.21%		
	High Yield 58.21%	Real Estate Funds 15.26%	Small Cap Equity 16.35%					Small Cap Equity 21.31%	Large Cap Equity 21.83%	
	Non-U.S. Equity 33.67%	High Yield 15.12%	Large Cap Equity 16.00%	Small Cap Equity 38.82%	Large Cap Equity 13.69%			High Yield 17.13%	Small Cap Equity 14.65%	
	Small Cap Equity 27.17%	Large Cap Equity 15.06%	High Yield 15.81%	Large Cap Equity 32.39%	Real Estate Funds 11.46%			Large Cap Equity 11.96%	Non-U.S. Fixed 10.51%	
	Large Cap Equity 26.47%	Hedge Funds 10.95%	Real Estate Funds 14.96%	Real Estate Funds 9.79%	Non-U.S. Equity 21.02%	U.S. Fixed 5.97%		Emerging Markets 11.19%	High Yield 7.50%	
	Hedge Funds 18.57%	Non-U.S. Equity 8.95%	U.S. Fixed 7.84%	Hedge Funds 7.67%	Real Estate Funds 12.90%	Small Cap Equity 4.89%		Real Estate Funds 7.79%	Hedge Funds 7.12%	
	Non-U.S. Fixed 7.53%	U.S. Fixed 6.54%	High Yield 4.98%	U.S. Fixed 4.21%	Hedge Funds 9.73%	Hedge Funds 4.13%	Real Estate Funds 13.95%	Non-U.S. Equity 2.75%	Real Estate Funds 6.66%	
	U.S. Fixed 5.93%	Non-U.S. Fixed 4.95%	Non-U.S. Fixed 4.36%	Non-U.S. Fixed 4.09%	High Yield 7.44%	High Yield 2.45%	Large Cap Equity 1.38%	U.S. Fixed 2.65%	U.S. Fixed 3.54%	Real Estate Funds 7.36%
<b>CPI-U →</b>	<b>2009: 2.72%</b>	<b>2010: 1.50%</b>	<b>2011: 2.96%</b>	<b>2012: 1.74%</b>	<b>2013: 1.50%</b>	<b>2014: 0.76%</b>	<b>2015: 0.73%</b>	<b>2016: 2.07%</b>	<b>2017: 2.11%</b>	<b>2018: 1.91%</b>
	Cash Equivalent 0.21%	Cash Equivalent 0.13%	Large Cap Equity 2.11%	Cash Equivalent 0.11%	Cash Equivalent 0.07%	Cash Equivalent 0.04%	U.S. Fixed 0.55%	Non-U.S. Fixed 1.49%	Cash Equivalent 0.86%	Cash Equivalent 1.87%
	Real Estate Funds -30.40%		Cash Equivalent 0.10%		U.S. Fixed -2.02%	Emerging Markets -2.19%	Cash Equivalent 0.05%	Hedge Funds 1.25%		U.S. Fixed 0.01%
			Hedge Funds -2.52%		Emerging Markets -2.60%	Non-U.S. Fixed -3.09%	Hedge Funds -0.71%	Cash Equivalent 0.33%		High Yield -2.08%
			Small Cap Equity -4.18%		Non-U.S. Fixed -3.08%	Non-U.S. Equity -4.32%	Non-U.S. Equity -3.04%			Non-U.S. Fixed -2.15
			Non-U.S. Equity -12.21%				Small Cap Equity -4.41%			Hedge Funds -3.19
			Emerging Markets -18.42%				High Yield -4.47%			Large Cap Equity -4.38%
							Non-U.S. Fixed -6.02%			Small Cap Equity -11.01
							Emerging Markets -14.92%			Non-U.S. Equity -14.09%
										Emerging Markets -14.57

Inflation is represented by the Consumer Price Index. Indices: ● Bloomberg Barclays Corp High Yield

● Bloomberg Barclays Global Aggregate ex US ● Bloomberg Barclays US Aggregate ● Credit Suisse Hedge Fund

● ICE BofAML US 3-Month Treasury Bill ● MSCI Emerging Markets ● MSCI World ex USA ● NFI-ODCE (value-weighted net) ● Russell 2000 ● S&P 500

# Callan Periodic Table of Real Asset Returns (Relative to Inflation)

## Annual Returns Ranked in Order of Performance (2009–2018)

								MLPs 18.31%		
								Global Infrastructure 12.52%		
								Commodities 11.40%	Global Infrastructure 15.79%	
								Property 7.97%	Developed 11.42%	
								Real Estate Funds 7.79%	Property 6.96%	
								Farmland 7.09%	Real Estate Funds 6.66%	Real Estate Funds 7.36%
								Developed 4.99%	Farmland 6.19%	Farmland 6.74%
								U.S. TIPS 4.68%	Timberland 3.63%	Property 6.72%
								Timberland 2.59%	U.S. TIPS 3.01%	Timberland 3.44%
<b>CPI-U →</b>	<b>2009: 2.72%</b>	<b>2010: 1.50%</b>	<b>2011: 2.96%</b>	<b>2012: 1.74%</b>	<b>2013: 1.50%</b>	<b>2014: 0.76%</b>	<b>2015: 0.73%</b>	<b>2016: 2.07%</b>	<b>2017: 2.11%</b>	<b>2018: 1.91%</b>
	Timberland -4.76%	Timberland -0.16%	Timberland 1.58%	Commodities -1.14%	U.S. TIPS -8.61%	Commodities -17.04%	Developed 0.05%		Commodities 0.75%	U.S. TIPS -1.26%
	Property -16.86%		Developed -5.82%		Commodities -9.58%		U.S. TIPS -1.44%		MLPs -6.52%	Developed -4.74%
	Real Estate Funds -30.40%		Commodities -13.37%				Global Infrastructure -14.40%			Global Infrastructure -7.84%
							Commodities -24.70%			MLPs -12.42%
							MLPs -32.59%			Commodities -12.99%

Inflation is represented by the Consumer Price Index. Indices: ● Alerian MLP ● Bloomberg Barclays US TIPS ● Bloomberg Commodity ● DJB Global Infrastructure ● EPRA Nareit Developed ● NCREIF Farmland ● NCREIF Property ● NCREIF Timberland ● NFI-ODCE (value-weighted net)

# Callan Periodic Table of Fund Sponsor Database Returns

## Annual Returns Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Callan Large Fund Sponsor 15.4%	Callan Taft-Hartley 2.8%	Callan Taft-Hartley -1.7%	Callan Taft-Hartley -7.9%	Callan Large Fund Sponsor 22.6%	Callan Large Fund Sponsor 11.7%	Callan Large Fund Sponsor 8.0%	Callan Large Fund Sponsor 14.0%	Callan Large Fund Sponsor 8.9%	Callan Taft-Hartley -23.4%	Callan Endowment/Foundation 21.2%	Callan Large Fund Sponsor 13.4%	Callan Corporate Funds 2.0%	Callan Large Fund Sponsor 13.1%	Callan Taft-Hartley 17.3%	Callan Large Fund Sponsor 7.1%	Callan Taft-Hartley 1.3%	Callan Taft-Hartley 7.9%	Callan Endowment/Foundation 15.8%	Callan Taft-Hartley -3.3%
Callan Corporate Funds 14.1%	Callan Small Fund Sponsor 2.7%	Callan Small Fund Sponsor -2.2%	Callan Public Funds -8.1%	Callan Corporate Funds 22.3%	Callan Corporate Funds 11.2%	Callan Endowment/Foundation 7.5%	Callan Public Funds 13.5%	Callan Endowment/Foundation 8.7%	Callan Corporate Funds -24.7%	Callan Small Fund Sponsor 20.8%	Callan Corporate Funds 13.1%	Callan Large Fund Sponsor 1.6%	Callan Corporate Funds 13.0%	Callan Public Funds 15.7%	Callan Corporate Funds 7.0%	Callan Public Funds 0.1%	Callan Large Fund Sponsor 7.8%	Callan Corporate Funds 15.5%	Callan Large Fund Sponsor -3.8%
Callan Endowment/Foundation 13.9%	Callan Endowment/Foundation 1.8%	Callan Mid Fund Sponsor -2.8%	Callan Mid Fund Sponsor -8.8%	Callan Endowment/Foundation 22.3%	Callan Public Funds 11.2%	Callan Public Funds 7.4%	Callan Endowment/Foundation 13.5%	Callan Total Fund Sponsor 8.1%	Callan Small Fund Sponsor -24.8%	Callan Corporate Funds 20.6%	Callan Public Funds 13.0%	Callan Taft-Hartley 1.5%	Callan Public Funds 12.7%	Callan Small Fund Sponsor 15.6%	Callan Taft-Hartley 6.9%	Callan Large Fund Sponsor -0.1%	Callan Public Funds 7.7%	Callan Mid Fund Sponsor 15.5%	Callan Public Funds -4.1%
Callan Public Funds 13.8%	Callan Total Fund Sponsor 1.8%	Callan Total Fund Sponsor -3.0%	Callan Small Fund Sponsor -8.9%	Callan Mid Fund Sponsor 21.9%	Callan Endowment/Foundation 11.2%	Callan Mid Fund Sponsor 7.3%	Callan Mid Fund Sponsor 13.2%	Callan Corporate Funds 8.0%	Callan Mid Fund Sponsor -25.1%	Callan Public Funds 20.3%	Callan Total Fund Sponsor 12.9%	Callan Mid Fund Sponsor 1.1%	Callan Mid Fund Sponsor 12.6%	Callan Total Fund Sponsor 14.9%	Callan Mid Fund Sponsor 6.1%	Callan Mid Fund Sponsor -0.6%	Callan Mid Fund Sponsor 7.7%	Callan Public Funds 15.5%	Callan Mid Fund Sponsor -4.5%
Callan Mid Fund Sponsor 13.4%	Callan Mid Fund Sponsor 1.7%	Callan Public Funds -3.1%	Callan Total Fund Sponsor -8.9%	Callan Total Fund Sponsor 21.6%	Callan Mid Fund Sponsor 11.0%	Callan Total Fund Sponsor 7.2%	Callan Corporate Funds 13.1%	Callan Mid Fund Sponsor 8.0%	Callan Total Fund Sponsor -25.1%	Callan Total Fund Sponsor 20.2%	Callan Mid Fund Sponsor 12.9%	Callan Public Funds 0.9%	Callan Total Fund Sponsor 12.6%	Callan Endowment/Foundation 14.7%	Callan Public Funds 6.0%	Callan Total Fund Sponsor -0.7%	Callan Corporate Funds 7.7%	Callan Total Fund Sponsor 15.3%	Callan Total Fund Sponsor -4.6%
Callan Total Fund Sponsor 13.2%	Callan Corporate Funds 1.5%	Callan Endowment/Foundation -3.3%	Callan Large Fund Sponsor -9.1%	Callan Public Funds 21.4%	Callan Total Fund Sponsor 11.0%	Callan Corporate Funds 7.1%	Callan Total Fund Sponsor 13.1%	Callan Public Funds 8.0%	Callan Public Funds -25.4%	Callan Mid Fund Sponsor 20.2%	Callan Taft-Hartley 12.8%	Callan Total Fund Sponsor 0.8%	Callan Endowment/Foundation 12.3%	Callan Mid Fund Sponsor 14.7%	Callan Total Fund Sponsor 6.0%	Callan Small Fund Sponsor -1.0%	Callan Total Fund Sponsor 7.5%	Callan Large Fund Sponsor 15.3%	Callan Small Fund Sponsor -5.0%
Callan Small Fund Sponsor 11.6%	Callan Public Funds 1.4%	Callan Corporate Funds -3.6%	Callan Corporate Funds -9.4%	Callan Small Fund Sponsor 20.4%	Callan Small Fund Sponsor 10.4%	Callan Taft-Hartley 6.8%	Callan Small Fund Sponsor 12.5%	Callan Small Fund Sponsor 7.8%	Callan Large Fund Sponsor -26.0%	Callan Large Fund Sponsor 19.4%	Callan Small Fund Sponsor 12.6%	Callan Small Fund Sponsor 0.2%	Callan Small Fund Sponsor 12.2%	Callan Large Fund Sponsor 14.3%	Callan Small Fund Sponsor 5.4%	Callan Corporate Funds -1.2%	Callan Small Fund Sponsor 7.3%	Callan Small Fund Sponsor 15.3%	Callan Corporate Funds -5.1%
Callan Taft-Hartley 8.9%	Callan Large Fund Sponsor 0.1%	Callan Large Fund Sponsor -4.1%	Callan Endowment/Foundation -9.7%	Callan Taft-Hartley 18.8%	Callan Taft-Hartley 9.8%	Callan Small Fund Sponsor 6.6%	Callan Taft-Hartley 11.8%	Callan Taft-Hartley 7.6%	Callan Endowment/Foundation -26.5%	Callan Taft-Hartley 15.3%	Callan Endowment/Foundation 12.6%	Callan Endowment/Foundation -0.4%	Callan Taft-Hartley 12.0%	Callan Corporate Funds 12.8%	Callan Endowment/Foundation 4.8%	Callan Endowment/Foundation -1.4%	Callan Endowment/Foundation 7.0%	Callan Taft-Hartley 14.4%	Callan Endowment/Foundation -5.2%

Source: Callan

# Callan Periodic Table of U.S. Equity Investment Returns

## Annual Returns Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Russell 2500	S&P 400	S&P 600	S&P 400	Russell 2000	S&P 600	Russell Midcap	Russell 2000	S&P 400	S&P 600	Russell Midcap	Russell 2000	S&P 500	S&P 400	S&P 600	S&P 500	S&P 500	S&P 600	S&P 500	S&P 500
24.14%	17.50%	6.54%	-14.51%	47.25%	22.65%	12.65%	18.37%	7.98%	-31.07%	40.48%	26.85%	2.11%	17.88%	41.31%	13.69%	1.38%	26.56%	21.83%	-4.38%
Russell 2000	S&P 1000	Russell 2000	S&P 1000	Russell 2500	Russell Midcap	S&P 400	Russell 2500	Russell 1000	Russell 2000	S&P 400	Russell 2500	S&P 1500	Russell 2500	Russell 2000	Russell 1000	S&P 1500	S&P 1000	Russell 1000	Russell 1000
21.26%	15.86%	2.49%	-14.54%	45.51%	20.22%	12.56%	16.17%	5.77%	-33.79%	37.38%	26.71%	1.75%	17.88%	38.82%	13.24%	1.01%	22.49%	21.69%	-4.78%
S&P 500	S&P 600	S&P 1000	S&P 600	Russell Midcap	S&P 1000	S&P 1000	S&P 500	Russell Midcap	S&P 1000	Russell 2500	S&P 400	Russell 1000	S&P 1000	Russell 2500	Russell Midcap	Russell 1000	Russell 2000	S&P 1500	S&P 1500
21.04%	11.80%	1.45%	-14.63%	40.06%	18.39%	10.93%	15.79%	5.60%	-34.67%	34.39%	26.64%	1.50%	17.40%	36.80%	13.22%	0.92%	21.31%	21.13%	-4.96%
Russell 1000	Russell Midcap	Russell 2500	Russell Midcap	S&P 600	Russell 2000	Russell 2500	Russell 3000	S&P 500	S&P 400	S&P 1000	S&P 1000	Russell 3000	Russell Midcap	S&P 1000	S&P 1500	Russell 3000	S&P 400	Russell 3000	Russell 3000
20.91%	8.25%	1.22%	-16.19%	38.79%	18.33%	8.11%	15.72%	5.49%	-36.23%	33.48%	26.55%	1.03%	17.28%	35.87%	13.08%	0.48%	20.74%	21.13%	-5.24%
Russell 3000	Russell 2500	S&P 400	Russell 2500	S&P 1000	Russell 2500	S&P 600	Russell 1000	S&P 1500	S&P 1500	Russell 1000	S&P 600	S&P 600	Russell 1000	Russell Midcap	Russell 3000	S&P 600	Russell 2500	Russell Midcap	S&P 600
20.90%	4.27%	-0.60%	-17.80%	36.61%	18.29%	7.68%	15.46%	5.47%	-36.72%	28.43%	26.31%	1.02%	16.42%	34.76%	12.56%	-1.97%	17.59%	18.52%	-8.48%
S&P 1500	Russell 2000	Russell Midcap	Russell 2000	S&P 400	S&P 400	Russell 1000	S&P 1500	S&P 1000	Russell 2500	Russell 3000	Russell Midcap	S&P 1000	Russell 3000	Russell 3000	S&P 400	S&P 1000	Russell Midcap	Russell 2500	Russell Midcap
20.26%	-3.02%	-5.62%	-20.48%	35.62%	16.48%	6.27%	15.34%	5.18%	-36.79%	28.34%	25.48%	-0.92%	16.42%	33.55%	9.77%	-2.11%	13.80%	16.81%	-9.06%
Russell Midcap	S&P 1500	S&P 1500	S&P 1500	Russell 3000	Russell 3000	Russell 3000	Russell Midcap	Russell 3000	S&P 500	S&P 1500	Russell 3000	Russell Midcap	Russell 2000	S&P 400	S&P 1000	S&P 400	S&P 1500	S&P 400	Russell 2500
18.23%	-6.98%	-10.64%	-21.31%	31.06%	11.95%	6.12%	15.26%	5.14%	-37.00%	27.25%	16.93%	-1.55%	16.35%	33.50%	8.54%	-2.18%	13.03%	16.24%	-10.00%
S&P 400	Russell 3000	Russell 3000	Russell 3000	Russell 1000	S&P 1500	S&P 1500	S&P 600	Russell 2500	Russell 3000	Russell 2000	S&P 1500	S&P 400	S&P 600	Russell 1000	Russell 2500	Russell Midcap	Russell 3000	S&P 1000	S&P 1000
14.73%	-7.46%	-11.46%	-21.54%	29.89%	11.78%	5.66%	15.11%	1.38%	-37.31%	27.17%	16.38%	-1.73%	16.33%	33.11%	7.07%	-2.44%	12.74%	15.33%	-10.30%
S&P 1000	Russell 1000	S&P 500	Russell 1000	S&P 1500	Russell 1000	S&P 500	S&P 1000	S&P 600	Russell 1000	S&P 500	Russell 1000	Russell 2500	S&P 1500	S&P 1500	S&P 600	Russell 2500	Russell 1000	Russell 2000	Russell 2000
14.11%	-7.79%	-11.89%	-21.65%	29.59%	11.40%	4.91%	11.89%	-0.30%	-37.60%	26.47%	16.10%	-2.51%	16.17%	32.59%	5.76%	-2.90%	12.05%	14.65%	-11.01%
S&P 600	S&P 500	Russell 1000	S&P 500	S&P 500	S&P 500	Russell 2000	S&P 400	Russell 2000	Russell Midcap	S&P 600	S&P 500	Russell 2000	S&P 500	S&P 500	Russell 2000	Russell 2000	S&P 500	S&P 600	S&P 400
12.40%	-9.11%	-12.45%	-22.10%	28.68%	10.88%	4.55%	10.31%	-1.57%	-41.46%	25.57%	15.06%	-4.18%	16.00%	32.39%	4.89%	-4.41%	11.96%	13.23%	-11.08%

Sources: FTSE Russell, Standard & Poor's

# Callan Periodic Table of Global Equity Investment Returns

## Annual Returns Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Japan	Europe	Emerging Markets	ACWI ex USA SC	ACWI ex USA SC	ACWI ex USA SC	Emerging Markets	Europe	Emerging Markets	Japan	Emerging Markets	ACWI ex USA SC	World	Pacific ex Japan	Japan	World	Japan	Emerging Markets	Emerging Markets	World
61.53%	-8.39%	-2.61%	-5.69%	57.72%	29.10%	34.00%	33.72%	39.38%	-29.21%	78.51%	25.20%	-5.54%	24.57%	27.16%	4.94%	9.57%	11.19%	37.28%	-8.71%
Pacific	World	Pacific ex Japan	Emerging Markets	Emerging Markets	Pacific ex Japan	Japan	Emerging Markets	Pacific ex Japan	Pacific	Pacific ex Japan	Emerging Markets	ACWI	Europe	World	ACWI	Pacific	ACWI	ACWI ex USA SC	ACWI
57.64%	-13.17%	-9.88%	-6.16%	55.82%	28.46%	25.52%	32.17%	30.73%	-36.42%	72.81%	18.88%	-7.35%	19.12%	26.68%	4.16%	2.96%	7.86%	31.65%	-9.42%
Pacific ex Japan	World ex USA	ACWI ex USA SC	Pacific ex Japan	Pacific ex Japan	Emerging Markets	ACWI ex USA SC	Pacific ex Japan	ACWI ex USA	World	ACWI ex USA SC	Pacific ex Japan	Europe	ACWI ex USA SC	Europe	Pacific ex Japan	ACWI ex USA SC	Pacific ex Japan	ACWI ex USA	Pacific ex Japan
42.58%	-13.37%	-14.40%	-6.42%	45.77%	25.55%	22.97%	32.02%	16.65%	-40.71%	62.91%	16.91%	-11.06%	18.52%	25.23%	-0.47%	2.60%	7.85%	27.19%	-10.30%
ACWI ex USA SC	Pacific ex Japan	ACWI	Pacific	ACWI ex USA	ACWI ex USA	Pacific	ACWI ex USA SC	Europe	ACWI	ACWI ex USA	Pacific	World ex USA	Emerging Markets	ACWI	Emerging Markets	World	World	Pacific ex Japan	Pacific
32.26%	-15.57%	-16.21%	-9.29%	40.83%	20.91%	22.64%	26.70%	13.86%	-42.20%	41.45%	15.92%	-12.21%	18.23%	22.80%	-2.19%	-0.87%	7.51%	25.88%	-12.02%
World ex USA	ACWI ex USA SC	World	Japan	World ex USA	Europe	ACWI ex USA	ACWI ex USA	World ex USA	World ex USA	Europe	Japan	Pacific ex Japan	ACWI ex USA	World ex USA	Pacific	ACWI	ACWI ex USA	Europe	Japan
27.92%	-18.24%	-16.82%	-10.28%	39.42%	20.88%	16.62%	26.65%	12.44%	-43.56%	35.83%	15.44%	-12.79%	16.83%	21.02%	-2.70%	-2.36%	4.50%	25.51%	-12.88%
World	Pacific	ACWI ex USA	ACWI ex USA	Europe	World ex USA	World ex USA	World ex USA	ACWI	ACWI ex USA	ACWI	ACWI	ACWI ex USA	World ex USA	ACWI ex USA SC	ACWI ex USA	Europe	Pacific	Pacific	World ex USA
24.94%	-25.77%	-19.73%	-14.95%	38.54%	20.38%	14.47%	25.71%	11.66%	-45.53%	34.63%	12.67%	-13.71%	16.41%	19.73%	-3.87%	-2.84%	4.18%	24.64%	-14.09%
Europe	Japan	Europe	World ex USA	Pacific	Pacific	Pacific ex Japan	ACWI	ACWI ex USA SC	Europe	World ex USA	World	Pacific	ACWI	Pacific	Japan	World ex USA	ACWI ex USA SC	World ex USA	ACWI ex USA
15.90%	-28.16%	-19.90%	-15.80%	38.48%	18.98%	13.81%	20.95%	10.74%	-46.42%	33.67%	11.76%	-13.74%	16.13%	18.27%	-4.02%	-3.04%	3.91%	24.21%	-14.20%
	World ex USA	Europe	Japan	Japan	ACWI	World	World	ACWI ex USA SC	World	ACWI ex USA	Japan	World	ACWI ex USA	ACWI ex USA SC	ACWI ex USA	ACWI ex USA	World ex USA	Japan	Emerging Markets
	-21.40%	-18.38%	35.91%	15.86%	10.84%	20.07%	9.04%	-50.23%	29.99%	11.15%	-14.33%	15.83%	15.29%	-4.03%	-5.66%	2.75%	23.99%	-14.58%	
	Pacific	ACWI	ACWI	ACWI	World	Pacific	Pacific	Pacific ex Japan	Pacific	World ex USA	Emerging Markets	Pacific	Pacific ex Japan	World ex USA	Pacific ex Japan	Japan	ACWI	Europe	
	-25.40%	-19.32%	33.99%	15.23%	9.49%	12.20%	5.30%	-50.50%	24.18%	8.95%	-18.42%	14.42%	5.49%	-4.32%	-8.47%	2.38%	23.97%	-14.86%	
	Japan	World	World	World	Europe	Japan	Japan	Emerging Markets	Japan	Europe	ACWI ex USA SC	Japan	Emerging Markets	Europe	Emerging Markets	Europe	World	ACWI ex USA SC	
	-29.40%	-19.89%	33.11%	14.72%	9.42%	6.24%	-4.23%	-53.33%	6.25%	3.88%	-18.50%	8.18%	-2.60%	-6.18%	-14.92%	-0.40%	22.40%	-18.20%	

All Indices are MSCI.

# Callan Periodic Table of Alternative Investment Returns (Relative to Key Indices)

## Annual Returns Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Private Equity	Commodity	U.S. Fixed Income	Commodity	Emerging Markets	Emerging Markets	Emerging Markets	Private Equity	Emerging Markets	U.S. Fixed Income	Emerging Markets	Private Equity	Real Estate Funds	Emerging Markets	Broad U.S. Equity	Broad U.S. Equity	Real Estate Funds	High Yield	Emerging Markets	Real Estate Funds
90.47%	24.21%	8.43%	23.86%	55.82%	25.55%	34.00%	32.38%	39.38%	5.24%	78.51%	19.18%	14.96%	18.23%	32.39%	13.69%	13.95%	17.13%	37.28%	7.36%
Hedge Funds	Real Estate Funds	U.S. TIPS	U.S. TIPS	Non-U.S. Equity	Private Equity	Private Equity	Emerging Markets	Private Equity	Cash Equivalent	High Yield	Emerging Markets	U.S. TIPS	Non-U.S. Equity	Private Equity	Private Equity	Private Equity	Broad U.S. Equity	Non-U.S. Equity	Cash Equivalent
23.43%	13.19%	7.90%	16.57%	40.83%	24.78%	21.49%	32.17%	22.39%	2.06%	58.21%	18.88%	13.56%	16.83%	21.25%	11.93%	8.60%	11.96%	27.19%	1.87%
Broad U.S. Equity	U.S. TIPS	High Yield	U.S. Fixed Income	High Yield	Non-U.S. Equity	Real Estate Funds	Non-U.S. Equity	Non-U.S. Equity	U.S. TIPS	Non-U.S. Equity	Commodity	U.S. Fixed Income	Broad U.S. Equity	Non-U.S. Equity	Real Estate Funds	Broad U.S. Equity	Commodity	Broad U.S. Equity	U.S. Fixed Income
21.04%	13.17%	5.28%	10.26%	28.97%	20.91%	20.15%	26.65%	16.65%	-2.35%	41.45%	16.67%	7.84%	16.00%	15.29%	11.46%	1.38%	11.40%	21.83%	0.01%
Commodity	Private Equity	Real Estate Funds	Real Estate Funds	Broad U.S. Equity	Real Estate Funds	Commodity	Broad U.S. Equity	Real Estate Funds	Real Estate Funds	Broad U.S. Equity	Real Estate Funds	Private Equity	High Yield	Real Estate Funds	U.S. Fixed Income	U.S. Fixed Income	Emerging Markets	Private Equity	U.S. TIPS
18.60%	11.75%	4.64%	4.57%	28.68%	12.00%	17.54%	15.79%	14.84%	-10.70%	26.47%	15.26%	7.13%	15.81%	12.90%	5.97%	0.55%	11.19%	19.55%	-1.26%
Real Estate Funds	U.S. Fixed Income	Cash Equivalent	Hedge Funds	Commodity	High Yield	Non-U.S. Equity	Real Estate Funds	Hedge Funds	Hedge Funds	Commodity	High Yield	High Yield	Private Equity	Hedge Funds	Hedge Funds	Cash Equivalent	Private Equity	High Yield	High Yield
12.05%	11.63%	4.42%	3.04%	22.66%	11.13%	16.62%	15.27%	12.56%	-19.07%	18.72%	15.12%	4.98%	13.67%	9.73%	4.13%	0.05%	9.34%	7.50%	-2.08%
Cash Equivalent	Cash Equivalent	Hedge Funds	Cash Equivalent	Private Equity	Broad U.S. Equity	Hedge Funds	Hedge Funds	U.S. TIPS	High Yield	Hedge Funds	Broad U.S. Equity	Broad U.S. Equity	Real Estate Funds	High Yield	U.S. TIPS	Hedge Funds	Real Estate Funds	Hedge Funds	Hedge Funds
4.85%	6.18%	4.42%	1.78%	18.27%	10.88%	7.61%	13.86%	11.63%	-26.16%	18.57%	15.06%	2.11%	9.79%	7.44%	3.64%	-0.71%	7.79%	7.12%	-3.19%
U.S. TIPS	Hedge Funds	Emerging Markets	High Yield	Hedge Funds	Hedge Funds	Broad U.S. Equity	High Yield	Commodity	Private Equity	Private Equity	Non-U.S. Equity	Cash Equivalent	Hedge Funds	Cash Equivalent	High Yield	U.S. TIPS	U.S. TIPS	Real Estate Funds	Broad U.S. Equity
2.40%	4.85%	-2.61%	-1.37%	15.44%	9.64%	4.91%	11.85%	11.08%	-26.70%	17.35%	11.15%	0.10%	7.67%	0.07%	2.45%	-1.44%	4.68%	6.66%	-4.38%
High Yield	High Yield	Broad U.S. Equity	Emerging Markets	U.S. TIPS	U.S. TIPS	Cash Equivalent	Cash Equivalent	U.S. Fixed Income	Commodity	U.S. TIPS	Hedge Funds	Hedge Funds	U.S. TIPS	U.S. Fixed Income	Cash Equivalent	High Yield	Non-U.S. Equity	U.S. Fixed Income	Commodity
2.39%	-5.86%	-11.89%	-6.16%	8.40%	8.46%	3.07%	4.85%	6.97%	-36.61%	11.41%	10.95%	-2.52%	6.98%	-2.02%	0.03%	-4.47%	4.50%	3.54%	-12.99%
U.S. Fixed Income	Broad U.S. Equity	Non-U.S. Equity	Private Equity	Real Estate Funds	Commodity	U.S. TIPS	U.S. Fixed Income	Broad U.S. Equity	Broad U.S. Equity	U.S. Fixed Income	U.S. Fixed Income	Commodity	U.S. Fixed Income	Emerging Markets	Emerging Markets	Non-U.S. Equity	U.S. Fixed Income	U.S. TIPS	Non-U.S. Equity
-0.83%	-9.11%	-19.73%	-10.84%	8.28%	7.64%	2.84%	4.33%	5.49%	-37.00%	5.93%	6.54%	-13.37%	4.21%	-2.60%	-2.19%	-5.66%	2.65%	3.01%	-14.20%
	Private Equity	Non-U.S. Equity	U.S. Fixed Income	U.S. Fixed Income	High Yield	U.S. TIPS	Cash Equivalent	Non-U.S. Equity	Cash Equivalent	U.S. TIPS	Non-U.S. Equity	Cash Equivalent	U.S. TIPS	Non-U.S. Equity	Emerging Markets	Hedge Funds	Cash Equivalent	Emerging Markets	Emerging Markets
	-19.84%	-14.95%	4.10%	4.34%	2.74%	0.41%	5.00%	-45.53%	0.21%	6.31%	-13.71%	0.11%	-8.61%	-3.87%	-14.92%	1.25%	0.86%	-14.58%	
	Commodity	Broad U.S. Equity	Cash Equivalent	Cash Equivalent	U.S. Fixed Income	Commodity	High Yield	Emerging Markets	Real Estate Funds	Cash Equivalent	Emerging Markets	Commodity	Commodity	Commodity	Commodity	Commodity	Cash Equivalent	Commodity	Commodity
	-22.32%	-22.10%	1.15%	1.33%	2.43%	-2.71%	1.87%	-53.33%	-30.40%	0.13%	-18.42%	-1.14%	-9.58%	-17.04%	-24.70%	0.33%	0.75%		

- Bloomberg Barclays Corp High Yield ● Bloomberg Barclays US Aggregate ● Bloomberg Barclays US TIPS ● Bloomberg Commodities ● Cambridge Private Equity
- Credit Suisse Hedge Fund ● ICE BofAML US 3-Month Treasury Bill ● MSCI Emerging Markets ● MSCI World ex USA ● NFI-ODCE (value-weighted net) ● Russell 3000

Cambridge Private Equity Index full year 2018 performance unavailable at time of reporting.

# Callan Periodic Table of Real Estate Investment Returns (Relative to Key Indices)

## Annual Returns Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Non-U.S. Equity	Equity REITs	Equity REITs	U.S. Fixed Income	Emerging Markets	Developed	Emerging Markets	Developed	Emerging Markets	U.S. Fixed Income	Emerging Markets	Equity REITs	Real Estate Funds	Developed	Small Cap Equity	Equity REITs	Real Estate Funds	Small Cap Equity	Emerging Markets	Real Estate Funds
27.92%	26.37%	13.93%	10.26%	55.82%	37.96%	34.00%	42.35%	39.38%	5.24%	78.51%	27.96%	14.96%	28.65%	38.82%	30.14%	13.95%	21.31%	37.28%	7.36%
Small Cap Equity	Developed	U.S. Fixed Income	Private Real Estate	Small Cap Equity	Equity REITs	Real Estate Funds	Equity REITs	Private Real Estate	Private Real Estate	High Yield	Small Cap Equity	Private Real Estate	Emerging Markets	Large Cap Equity	Developed	Private Real Estate	High Yield	Non-U.S. Equity	Private Real Estate
21.26%	13.84%	8.43%	6.74%	47.25%	31.58%	20.15%	35.06%	15.85%	-6.46%	58.21%	26.85%	14.26%	18.23%	32.39%	15.89%	13.33%	17.13%	24.21%	6.72%
Large Cap Equity	Real Estate Funds	Private Real Estate	Real Estate Funds	Developed	Emerging Markets	Private Real Estate	Emerging Markets	Real Estate Funds	Real Estate Funds	Developed	Developed	Equity REITs	Equity REITs	Non-U.S. Equity	Large Cap Equity	Equity REITs	Large Cap Equity	Large Cap Equity	U.S. Fixed Income
21.04%	13.19%	7.28%	4.57%	40.69%	25.55%	20.06%	32.17%	14.84%	-10.70%	38.26%	20.40%	8.29%	18.06%	21.02%	13.69%	3.20%	11.96%	21.83%	0.01%
Real Estate Funds	Private Real Estate	High Yield	Equity REITs	Non-U.S. Equity	Non-U.S. Equity	Developed	Non-U.S. Equity	Non-U.S. Equity	High Yield	Non-U.S. Equity	Emerging Markets	U.S. Fixed Income	Non-U.S. Equity	Real Estate Funds	Private Real Estate	Large Cap Equity	Emerging Markets	Small Cap Equity	High Yield
12.05%	12.24%	5.28%	3.82%	39.42%	20.38%	15.35%	25.71%	12.44%	-26.16%	33.67%	18.88%	7.84%	16.41%	12.90%	11.82%	1.38%	11.19%	14.65%	-2.08%
Private Real Estate	U.S. Fixed Income	Real Estate Funds	Developed	Equity REITs	Small Cap Equity	Non-U.S. Equity	Small Cap Equity	U.S. Fixed Income	Small Cap Equity	Equity REITs	Real Estate Funds	High Yield	Small Cap Equity	Private Real Estate	Real Estate Funds	U.S. Fixed Income	Equity REITs	Developed	Large Cap Equity
11.36%	11.63%	4.64%	2.82%	37.14%	18.33%	14.47%	18.37%	6.97%	-33.79%	27.99%	15.26%	4.98%	16.35%	10.98%	11.46%	0.55%	8.52%	11.42%	-4.38%
Developed	Small Cap Equity	Small Cap Equity	High Yield	High Yield	Private Real Estate	Equity REITs	Private Real Estate	Large Cap Equity	Large Cap Equity	Small Cap Equity	High Yield	Large Cap Equity	Large Cap Equity	High Yield	U.S. Fixed Income	Developed	Private Real Estate	High Yield	Equity REITs
8.87%	-3.02%	2.49%	-1.37%	28.97%	14.48%	12.16%	16.59%	5.49%	-37.00%	27.17%	15.12%	2.11%	16.00%	7.44%	5.97%	0.05%	7.97%	7.50%	-4.62%
High Yield	High Yield	Emerging Markets	Emerging Markets	Large Cap Equity	Real Estate Funds	Large Cap Equity	Large Cap Equity	High Yield	Equity REITs	Large Cap Equity	Large Cap Equity	Small Cap Equity	High Yield	Developed	Small Cap Equity	Non-U.S. Equity	Real Estate Funds	Private Real Estate	Developed
2.39%	-5.86%	-2.61%	-6.16%	28.68%	12.00%	4.91%	15.79%	1.87%	-37.72%	26.47%	15.06%	-4.18%	15.81%	4.43%	4.89%	-3.04%	7.79%	6.96%	-4.74%
U.S. Fixed Income	Large Cap Equity	Developed	Non-U.S. Equity	Private Real Estate	High Yield	Small Cap Equity	Real Estate Funds	Small Cap Equity	Non-U.S. Equity	U.S. Fixed Income	Private Real Estate	Developed	Private Real Estate	Equity REITs	High Yield	Small Cap Equity	Developed	Real Estate Funds	Small Cap Equity
-0.83%	-9.11%	-3.81%	-15.80%	8.99%	11.13%	4.55%	15.27%	-1.57%	-43.56%	5.93%	13.11%	-5.82%	10.54%	2.47%	2.45%	-4.41%	4.99%	6.66%	-11.01%
Equity REITs	Non-U.S. Equity	Large Cap Equity	Small Cap Equity	Real Estate Funds	Large Cap Equity	High Yield	High Yield	Developed	Developed	Private Real Estate	Non-U.S. Equity	Non-U.S. Equity	Real Estate Funds	U.S. Fixed Income	Emerging Markets	High Yield	Non-U.S. Equity	Equity REITs	Non-U.S. Equity
-4.62%	-13.37%	-11.89%	-20.48%	8.28%	10.88%	2.74%	11.85%	-6.96%	-47.72%	-16.86%	8.95%	-12.21%	9.79%	-2.02%	-2.19%	-4.47%	2.75%	5.23%	-14.09%
	Non-U.S. Equity	Large Cap Equity	U.S. Fixed Income	Equity REITs	Emerging Markets	Real Estate Funds	U.S. Fixed Income	Emerging Markets	U.S. Fixed Income	Emerging Markets	Non-U.S. Equity	Emerging Markets	U.S. Fixed Income	U.S. Fixed Income	Emerging Markets				
	-21.40%	-22.10%	4.10%	4.34%	2.43%	4.33%	-15.69%	-53.33%	-30.40%	6.54%	-18.42%	4.21%	-2.60%	-4.32%	-14.92%	2.65%	3.54%	-14.58%	

- Bloomberg Barclays Corp High Yield ● Bloomberg Barclays US Aggregate ● FTSE Nareit Developed ● FTSE Nareit Equity REITs ● MSCI Emerging Markets
- MSCI World ex USA ● NFI-ODCE (value-weighted net) ● NCREIF Property ● Russell 2000 ● S&P 500

# Callan Periodic Table of Fixed Income Investment Returns

## Annual Returns Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
JPM EMBI Global Diversified 19.56%	Long Treasury 20.28%	Long Credit 12.16%	Long Treasury 16.79%	High Yield 28.97%	JPM EMBI Global Diversified 11.62%	JPM EMBI Global Diversified 10.25%	High Yield 11.85%	Long Treasury 9.81%	Long Treasury 24.03%	High Yield 58.21%	High Yield 15.12%	Long Treasury 29.93%	JPM EMBI Global Diversified 17.44%	High Yield 7.44%	Long Treasury 25.07%	JPM EMBI Global Diversified 1.18%	High Yield 17.13%	Long Credit 12.21%	Global Fixed (hdg) 1.76%
CS Leveraged Loans 4.69%	JPM EMBI Global Diversified 12.68%	Intermediate Credit 9.76%	Global Fixed Income 16.53%	JPM EMBI Global Diversified 22.21%	High Yield 11.13%	Long Treasury 6.50%	JPM EMBI Global Diversified 9.86%	Global Fixed Income 9.48%	Global Fixed (hdg) 5.58%	CS Leveraged Loans 44.86%	JPM EMBI Global Diversified 12.24%	Long Credit 17.13%	High Yield 15.81%	CS Leveraged Loans 6.12%	Long Credit 16.39%	Global Fixed (hdg) 1.02%	Long Credit 10.22%	JPM EMBI Global Diversified 10.26%	Gov/Credit 1-3 Yr 1.60%
Gov/Credit 1-3 Yr 3.16%	U.S. Fixed Income 11.63%	JPM EMBI Global Diversified 9.70%	JPM EMBI Global Diversified 13.65%	Global Fixed Income 12.51%	Long Credit 9.38%	CS Leveraged Loans 5.69%	CS Leveraged Loans 7.33%	U.S. Fixed Income 6.97%	U.S. Fixed Income 5.24%	JPM EMBI Global Diversified 29.82%	Long Credit 10.69%	U.S. Fixed Income 7.84%	Long Credit 12.73%	Gov/Credit 1-3 Yr 0.64%	Global Fixed (hdg) 7.59%	Intermediate Credit 0.90%	JPM EMBI Global Diversified 10.15%	Long Treasury 8.53%	CS Leveraged Loans 1.14%
High Yield 2.39%	Global Fixed (hdg) 10.34%	Gov/Credit 1-3 Yr 8.78%	Long Credit 11.92%	CS Leveraged Loans 11.02%	Global Fixed Income 9.27%	Global Fixed (hdg) 4.28%	Global Fixed Income 6.64%	Gov/Credit 1-3 Yr 6.83%	Gov/Credit 1-3 Yr 4.97%	Long Credit 16.80%	CS Leveraged Loans 9.99%	JPM EMBI Global Diversified 7.35%	CS Leveraged Loans 8.74%	Global Fixed (hdg) -0.14%	JPM EMBI Global Diversified 7.43%	Gov/Credit 1-3 Yr 0.65%	CS Leveraged Loans 9.88%	High Yield 7.50%	Intermediate Credit 0.01%
Global Fixed (hdg) 0.79%	Intermediate Credit 9.45%	U.S. Fixed Income 8.43%	U.S. Fixed Income 10.26%	Long Credit 10.43%	Long Treasury 7.70%	Long Credit 3.76%	Intermediate Credit 4.49%	JPM EMBI Global Diversified 6.15%	Global Fixed Income 4.79%	Intermediate Credit 15.93%	Long Treasury 9.38%	Global Fixed Income 5.64%	Intermediate Credit 8.10%	Intermediate Credit -0.17%	U.S. Fixed Income 5.97%	U.S. Fixed Income 0.55%	Global Fixed (hdg) 3.95%	Global Fixed Income 7.39%	U.S. Fixed Income 0.01%
Intermediate Credit 0.17%	Long Credit 9.19%	Global Fixed (hdg) 7.24%	Intermediate Credit 10.14%	Intermediate Credit 6.91%	CS Leveraged Loans 5.60%	High Yield 2.74%	U.S. Fixed Income 4.33%	Intermediate Credit 5.60%	Intermediate Credit -2.76%	Global Fixed Income 6.93%	Intermediate Credit 7.76%	Global Fixed (hdg) 5.40%	Global Fixed (hdg) 5.72%	U.S. Fixed Income -2.02%	Intermediate Credit 4.16%	CS Leveraged Loans -0.39%	Intermediate Credit 3.68%	CS Leveraged Loans 4.25%	Global Fixed Income -1.20%
U.S. Fixed Income -0.83%	Gov/Credit 1-3 Yr 8.08%	High Yield 5.28%	Global Fixed (hdg) 8.45%	U.S. Fixed Income 4.10%	Global Fixed (hdg) 4.89%	U.S. Fixed Income 2.43%	Gov/Credit 1-3 Yr 4.25%	Global Fixed (hdg) 5.32%	Long Credit -3.92%	U.S. Fixed Income 5.93%	U.S. Fixed Income 6.54%	Intermediate Credit 5.37%	Global Fixed Income 4.32%	Global Fixed Income -2.60%	High Yield 2.45%	Long Treasury -1.21%	U.S. Fixed Income 2.65%	Intermediate Credit 3.67%	Long Treasury -1.84%
Global Fixed Income -5.17%	CS Leveraged Loans 4.94%	Long Treasury 4.21%	Gov/Credit 1-3 Yr 6.28%	Global Fixed (hdg) 3.11%	U.S. Fixed Income 4.34%	Gov/Credit 1-3 Yr 1.77%	Global Fixed (hdg) 3.64%	Long Credit 3.60%	JPM EMBI Global Diversified -12.03%	Global Fixed (hdg) 5.09%	Global Fixed Income 5.54%	High Yield 4.98%	U.S. Fixed Income 4.21%	JPM EMBI Global Diversified -5.24%	CS Leveraged Loans 2.05%	Global Fixed Income -3.15%	Global Fixed Income 2.09%	U.S. Fixed Income 3.54%	High Yield -2.08%
Long Credit -5.76%	Global Fixed Income 3.18%	CS Leveraged Loans 2.65%	CS Leveraged Loans 1.11%	Gov/Credit 1-3 Yr 2.82%	Intermediate Credit 4.08%	Intermediate Credit 1.42%	Long Credit 3.47%	CS Leveraged Loans 1.88%	High Yield -26.16%	Gov/Credit 1-3 Yr 3.83%	Global Fixed (hdg) 4.61%	CS Leveraged Loans 1.82%	Long Treasury 3.56%	Long Credit -6.62%	Gov/Credit 1-3 Yr 0.77%	High Yield -4.47%	Long Treasury 1.33%	Global Fixed (hdg) 3.04%	JPM EMBI Global Diversified -4.26%
Long Treasury -8.74%	High Yield -5.86%	Global Fixed Income 1.57%	High Yield -1.37%	Long Treasury 2.48%	Gov/Credit 1-3 Yr 1.30%	Global Fixed Income -4.49%	Long Treasury 1.85%	High Yield 1.87%	CS Leveraged Loans -28.75%	Long Treasury -12.92%	Gov/Credit 1-3 Yr 2.80%	Gov/Credit 1-3 Yr 1.59%	Gov/Credit 1-3 Yr 1.26%	Long Treasury -12.66%	Global Fixed Income 0.59%	Long Credit -4.56%	Gov/Credit 1-3 Yr 1.28%	Gov/Credit 1-3 Yr 0.84%	Long Credit -6.76%

All indices are Bloomberg Barclays unless otherwise indicated.

Sources: Bloomberg Barclays, Credit Suisse, JPMorgan Chase

# Callan Periodic Table of Global Fixed Investment Returns

## Annual Returns Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
JPM EMBI Global Diversified	JPM EMBI Global Diversified	JPM EMBI Global Diversified	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global High Yield	JPM GBI-EM Global Diversified	JPM EMBI Global Diversified	JPM GBI-EM Global Diversified	JPM GBI-EM Global Diversified	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global High Yield	JPM GBI-EM Global Diversified	JPM EMBI Global Diversified	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate (hdg)	JPM EMBI Global Diversified	Bloomberg Barclays Global High Yield	JPM GBI-EM Global Diversified	Bloomberg Barclays Global Aggregate (hdg)
19.56%	12.68%	9.70%	22.37%	32.42%	22.97%	10.25%	15.22%	18.11%	5.58%	59.40%	15.68%	7.35%	19.60%	7.33%	7.59%	1.18%	14.27%	15.21%	1.76%
Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Aggregate	JPM EMBI Global Diversified	Bloomberg Barclays Global High Yield	JPM CEMBI	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Aggregate	JPM CEMBI	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate	JPM EMBI Global Diversified	Bloomberg Barclays Global Aggregate (hdg)	JPM EMBI Global Diversified	Bloomberg Barclays Global Aggregate (hdg)	JPM CEMBI	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Aggregate
10.43%	10.34%	7.24%	16.53%	22.21%	13.17%	6.62%	13.69%	11.03%	4.79%	41.73%	14.82%	5.64%	17.44%	-0.14%	7.43%	1.02%	11.11%	10.51%	-1.20%
Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global High Yield	JPM CEMBI	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Agg ex US	JPM GBI-EM Global Diversified	JPM EMBI Global Diversified	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global Agg ex US	JPM EMBI Global Diversified	JPM CEMBI	Bloomberg Barclays Global Aggregate (hdg)	JPM GBI-EM Global Diversified	JPM CEMBI	JPM CEMBI	JPM CEMBI	JPM EMBI Global Diversified	Bloomberg Barclays Global High Yield	JPM CEMBI
0.79%	3.18%	2.26%	15.64%	19.36%	12.54%	6.27%	9.86%	9.48%	4.39%	29.82%	13.07%	5.40%	16.76%	-2.37%	4.14%	0.99%	10.15%	10.43%	-1.51%
Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate	JPM EMBI Global Diversified	JPM GBI-EM Global Diversified	JPM EMBI Global Diversified	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Agg ex US	JPM EMBI Global Diversified	JPM GBI-EM Global Diversified	JPM GBI-EM Global Diversified	JPM EMBI Global Diversified	Bloomberg Barclays Global Agg ex US	JPM CEMBI	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global High Yield	JPM GBI-EM Global Diversified	JPM EMBI Global Diversified	Bloomberg Barclays Global Agg ex US
-5.17%	1.04%	1.57%	13.65%	16.92%	11.62%	4.28%	8.16%	6.15%	-5.22%	21.98%	12.24%	4.36%	16.74%	-2.60%	0.59%	-2.72%	9.94%	10.26%	-2.15%
Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Aggregate	JPM CEMBI	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global Aggregate (hdg)	JPM EMBI Global Diversified	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Aggregate	JPM CEMBI	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global Aggregate (hdg)	JPM CEMBI	Bloomberg Barclays Global High Yield
-8.83%	-3.91%	-3.75%	8.45%	12.51%	9.77%	3.59%	6.64%	5.32%	-12.03%	7.53%	5.54%	3.49%	5.72%	-3.08%	0.01%	-3.15%	3.95%	7.91%	-4.06%
			Bloomberg Barclays Global High Yield	JPM CEMBI	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global Aggregate	JPM CEMBI	JPM CEMBI	JPM CEMBI	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate	JPM EMBI Global Diversified	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Aggregate	Bloomberg Barclays Global Aggregate	JPM EMBI Global Diversified
			4.14%	11.88%	9.27%	-4.49%	6.63%	3.77%	-16.24%	6.93%	4.95%	3.12%	4.32%	-5.24%	-3.09%	-6.02%	2.09%	7.39%	-4.26%
			Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global High Yield	Bloomberg Barclays Global Aggregate (hdg)	Bloomberg Barclays Global Aggregate (hdg)	JPM GBI-EM Global Diversified	Bloomberg Barclays Global Agg ex US	JPM GBI-EM Global Diversified	JPM GBI-EM Global Diversified	JPM GBI-EM Global Diversified	Bloomberg Barclays Global Agg ex US	Bloomberg Barclays Global Aggregate (hdg)	JPM GBI-EM Global Diversified
			3.11%	4.89%	-8.65%	3.64%	3.16%	-26.88%	5.09%	4.61%	-1.75%	4.09%	-8.98%	-5.72%	-14.92%	1.49%	3.04%	-6.21%	

Sources: Bloomberg Barclays, JPMorgan Chase

# Callan Periodic Table of Hedge Fund Strategy Returns

Annual Returns for Credit Suisse Hedge Fund Sub-Strategies Ranked in Order of Performance (1999–2018)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Long/Short Equity	Convertible Arb	Distressed	Managed Futures	Emerging Markets	Distressed	Emerging Markets	Emerging Markets	Emerging Markets	Managed Futures	Convertible Arb	Event-Driven Multi	Global Macro	Distressed	Long/Short Equity	Managed Futures	Multi Strategy	Convertible Arb	Emerging Markets	Fixed Income Arb
47.23%	25.64%	20.01%	18.33%	28.75%	15.62%	17.39%	20.49%	20.26%	18.33%	47.35%	14.36%	6.44%	11.77%	17.73%	18.36%	3.84%	6.60%	16.87%	1.10%
Emerging Markets	Market Neutral Eq.	Global Macro	Global Macro	Distressed	Event-Driven Multi	Distressed	Event-Driven Multi	Global Macro	Risk Arb	Emerging Markets	Global Macro	Fixed Income Arb	Multi Strategy	Distressed	Multi Strategy	Long/Short Equity	Distressed	Long/Short Equity	Risk Arb
44.82%	14.99%	18.38%	14.66%	25.12%	14.04%	11.74%	16.38%	17.36%	-3.27%	30.03%	13.47%	4.69%	11.19%	16.00%	6.09%	3.56%	6.38%	13.41%	0.17%
Event-Driven Multi	Risk Arb	Convertible Arb	Market Neutral Eq.	Global Macro	Emerging Markets	Long/Short Equity	Distressed	Event-Driven Multi	Global Macro	Fixed Income Arb	Fixed Income Arb	Market Neutral Eq.	Fixed Income Arb	Event-Driven Multi	Long/Short Equity	Market Neutral Eq.	Risk Arb	Market Neutral Eq.	Global Macro
23.00%	14.69%	14.58%	7.42%	17.99%	12.49%	9.68%	15.58%	16.82%	-4.62%	27.41%	12.51%	4.49%	11.04%	15.28%	5.54%	1.69%	5.89%	8.45%	-0.11%
Distressed	Event-Driven Multi	Market Neutral Eq.	Emerging Markets	Long/Short Equity	Long/Short Equity	Global Macro	Multi Strategy	Long/Short Equity	Event-Driven Multi	Multi Strategy	Managed Futures	Multi Strategy	Emerging Markets	Multi Strategy	Fixed Income Arb	Convertible Arb	Emerging Markets	Distressed	Multi Strategy
22.18%	11.84%	9.31%	7.36%	17.27%	11.56%	9.25%	14.54%	13.66%	-16.25%	24.62%	12.22%	1.83%	10.28%	11.23%	4.37%	0.81%	4.47%	7.27%	-1.05%
Convertible Arb	Global Macro	Fixed Income Arb	Multi Strategy	Event-Driven Multi	Global Macro	Multi Strategy	Long/Short Equity	Multi Strategy	Long/Short Equity	Distressed	Emerging Markets	Convertible Arb	Event-Driven Multi	Market Neutral Eq.	Global Macro	Fixed Income Arb	Multi Strategy	Multi Strategy	Distressed
16.04%	11.67%	8.04%	6.31%	17.19%	8.49%	7.54%	14.38%	10.10%	-19.76%	20.95%	11.34%	1.13%	10.14%	9.27%	3.11%	0.59%	4.41%	6.83%	-1.59%
Market Neutral Eq.	Multi Strategy	Event-Driven Multi	Fixed Income Arb	Multi Strategy	Multi Strategy	Event-Driven Multi	Convertible Arb	Market Neutral Eq.	Distressed	Event-Driven Multi	Convertible Arb	Risk Arb	Long/Short Equity	Emerging Markets	Distressed	Risk Arb	Fixed Income Arb	Fixed Income Arb	Convertible Arb
15.33%	11.18%	6.79%	5.75%	15.04%	7.53%	7.21%	14.30%	9.27%	-20.48%	19.94%	10.95%	0.80%	8.21%	8.81%	2.55%	0.41%	4.29%	6.52%	-2.26%
Risk Arb	Fixed Income Arb	Emerging Markets	Convertible Arb	Managed Futures	Fixed Income Arb	Market Neutral Eq.	Global Macro	Risk Arb	Multi Strategy	Long/Short Equity	Distressed	Managed Futures	Convertible Arb	Convertible Arb	Emerging Markets	Global Macro	Global Macro	Event-Driven Multi	Long/Short Equity
13.23%	6.29%	5.84%	4.05%	14.13%	6.86%	6.14%	13.53%	8.77%	-23.63%	19.47%	10.26%	-4.19%	7.82%	6.03%	1.52%	0.17%	3.58%	5.85%	-4.62%
Fixed Income Arb	Managed Futures	Risk Arb	Event-Driven Multi	Convertible Arb	Market Neutral Eq.	Risk Arb	Market Neutral Eq.	Distressed	Fixed Income Arb	Risk Arb	Multi Strategy	Distressed	Global Macro	Risk Arb	Event-Driven Multi	Emerging Markets	Event-Driven Multi	Risk Arb	Market Neutral Eq.
12.11%	4.24%	5.68%	1.22%	12.90%	6.48%	3.08%	11.15%	8.35%	-28.82%	12.00%	9.29%	-4.24%	4.58%	4.89%	1.14%	-0.22%	1.25%	5.80%	-5.00%
Multi Strategy	Long/Short Equity	Multi Strategy	Distressed	Risk Arb	Managed Futures	Fixed Income Arb	Fixed Income Arb	Managed Futures	Emerging Markets	Global Macro	Long/Short Equity	Emerging Markets	Risk Arb	Global Macro	Market Neutral Eq.	Managed Futures	Long/Short Equity	Convertible Arb	Event-Driven Multi
9.38%	2.08%	5.50%	-0.69%	8.98%	5.96%	0.63%	8.66%	6.01%	-30.41%	11.55%	9.28%	-6.68%	2.82%	4.32%	-1.20%	-0.93%	-3.43%	5.01%	-5.19%
Global Macro	Distressed	Managed Futures	Long/Short Equity	Fixed Income Arb	Risk Arb	Managed Futures	Risk Arb	Convertible Arb	Convertible Arb	Market Neutral Eq.	Risk Arb	Long/Short Equity	Market Neutral Eq.	Fixed Income Arb	Risk Arb	Distressed	Market Neutral Eq.	Managed Futures	Managed Futures
5.81%	1.95%	1.90%	-1.60%	7.97%	5.45%	-0.11%	8.15%	5.17%	-31.59%	4.05%	3.17%	-7.31%	0.85%	3.80%	-1.32%	-5.30%	-4.58%	3.29%	-6.67%
Managed Futures	Emerging Markets	Long/Short Equity	Risk Arb	Market Neutral Eq.	Convertible Arb	Convertible Arb	Managed Futures	Fixed Income Arb	Market Neutral Eq.	Managed Futures	Market Neutral Eq.	Event-Driven Multi	Managed Futures	Managed Futures	Convertible Arb	Event-Driven Multi	Managed Futures	Global Macro	Emerging Markets
-4.69%	-5.52%	-3.65%	-3.46%	7.07%	1.98%	-2.55%	8.05%	3.83%	-40.32%	-6.57%	-0.85%	-11.96%	-2.93%	-2.56%	-1.67%	-6.67%	-6.84%	2.14%	-10.16%
CS Hedge Fund Index																			
23.43%	4.85%	4.42%	3.04%	15.44%	9.64%	7.61%	13.86%	12.56%	-19.07%	18.57%	10.95%	-2.52%	7.67%	9.73%	4.13%	-0.71%	1.25%	7.12%	-3.19%

Source: Credit Suisse Hedge Index

# Index Descriptions

## Equity Indices

**Russell 3000 Index** measures the performance of the largest 3,000 U.S. companies representing approximately 98% of the investable U.S. equity market. The index is market-value-weighted, making each company's influence on the Index performance directly proportional to that company's market value. These securities are traded on the NYSE, NYSE MKT, and Nasdaq.

**Russell 2000 Index** measures the performance of small capitalization U.S. stocks. The Russell 2000 is a market-value-weighted index of the 2,000 smallest stocks (#1,001–3,000) in the broad-market Russell 3000 Index.

**Russell Midcap Index** measures the performance of mid capitalization U.S. stocks and includes companies #201–1,000 in the broad-market Russell 3000 Index.

**Russell 2500 Index** measures the performance of small/mid capitalization U.S. stocks and includes the smallest 2500 companies (#501–3,000) in the broad-market Russell 3000 Index.

**Russell 1000 Index** measures the performance of large capitalization U.S. stocks. The Russell 1000 is a market-value-weighted index of the 1,000 largest stocks (#1–1,000) in the broad-market Russell 3000 Index.

**S&P 1500 Index** is designed to track the performance of large, mid, and small cap U.S. equities representing approximately 91% of the available U.S. market cap and includes the **S&P 500** (large cap), **S&P MidCap 400**, and the **S&P SmallCap 600**.

**S&P 1000 Index** measures the performance of small/mid capitalization U.S. stocks and includes the **S&P SmallCap 600** and the **S&P MidCap 400**.

**S&P 500 Index** measures the performance of large capitalization U.S. stocks. It is a market-value-weighted index of 500 stocks that are traded on the NYSE, NYSE MKT, and Nasdaq.

**MSCI ACWI Index** is a free float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of 23 developed market countries and 24 emerging market countries.

**MSCI ACWI ex USA Index** captures large and mid cap representation across 22 of 23 developed market countries (excluding the U.S.) and 24 emerging market countries covering approximately 85% of the global equity opportunity set outside the U.S.

**MSCI ACWI ex USA Small Cap Index** captures small cap representation across 22 of 23 developed market countries (excluding the U.S.) and 24 emerging market countries.

**MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance of 24 emerging market countries.

**MSCI Europe Index** is a free float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of the 15 developed market country indices in Europe.

**MSCI Japan Index** is designed to measure the performance of the large and mid cap segments of the Japanese market and covers approximately 85% of the free float-adjusted market capitalization in Japan.

**MSCI Pacific Index** is a free float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of the developed markets in the Pacific region (Australia, Hong Kong, Japan, New Zealand, and Singapore).

**MSCI Pacific ex Japan Index** captures large and mid cap representation across four of five developed market countries in the Pacific region (excluding Japan) and covers approximately 85% of the free float-adjusted market capitalization in each country.

**MSCI World Index** is a free float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of 23 developed market country indices.

**MSCI World ex USA Index** captures large and mid cap representation across 22 of 23 developed market countries—excluding the United States. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

# Index Descriptions

## Fixed Income Indices

**Bloomberg Barclays US Aggregate Index** includes U.S. government, corporate, and mortgage-backed securities with maturities of at least one year.

**Bloomberg Barclays Corporate High Yield Index** measures the market of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below, excluding emerging market debt.

**Bloomberg Barclays Global Aggregate Index** provides a broad-based measure of the global investment-grade fixed income markets. The three major components of this index are the US Aggregate, the Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The index also includes eurodollar and euroyen corporate bonds, Canadian government, agency, and corporate securities, and U.S. dollar investment-grade 144A securities. **Bloomberg Barclays Global Aggregate (hedged)** hedges the currency back to the U.S. dollar.

**Bloomberg Barclays Global Aggregate ex US Index** is an unmanaged index that is comprised of several other Bloomberg Barclays indices that measure fixed income performance of regions around the world, excluding the U.S.

**Bloomberg Barclays Global High Yield Index** is an unmanaged index that provides a broad-based measure of global high yield fixed income markets and represents the union of the US High Yield, Pan-European High Yield, and

Emerging Markets Hard Currency High Yield indices. Until Jan. 1, 2011, it also included CMBS high yield securities.

**Bloomberg Barclays Intermediate Credit Index** is an unmanaged index measuring the performance of investment-grade corporate debt and agency bonds that are dollar-denominated and have a remaining maturity of greater than one year and less than ten years.

**Bloomberg Barclays Long Credit Index** is an unmanaged index measuring the performance of the long-term sector of the U.S. investment bond market, which as defined by the long credit index includes investment-grade corporate debt and sovereign, supranational, local authority, and non-U.S. agency bonds that are dollar-denominated and have a remaining maturity of greater than or equal to 10 years.

**Bloomberg Barclays Long Treasury Index** is an unmanaged index that includes all publicly issued U.S. Treasury securities that have a remaining maturity of 10 or more years, are rated investment grade, and have \$250 million or more of outstanding face value.

**Bloomberg Barclays Government/Credit 1-3 Year Index** is an unmanaged index that is a component of the US Government/Credit Bond Index, which includes Treasury and agency securities (US Government Bond Index) and publicly issued U.S. corporate and foreign debentures and secured notes (US Credit Bond Index). The bonds in the index are investment-grade with maturity between one and three years.

**Bloomberg Barclays US TIPS Index** consists of inflation-protection securities issued by the U.S. Treasury and must have at least one year until final maturity and at least \$250 million par amount outstanding. They must be fixed-rate, dollar-denominated, and non-convertible.

**Credit Suisse Leveraged Loan Index** is designed to mirror the investable universe of the U.S.-denominated leveraged loan market.

**J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)** is a market-capitalization-weighted index consisting of U.S. dollar-denominated emerging market corporate bonds.

**J.P. Morgan Emerging Markets Bond Global Diversified Index (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

**J.P. Morgan GBI-EM Global Diversified Index** tracks the performance of local currency debt issued by emerging market governments whose debt is accessible by most of the international investor base.

**ICE BofAML US 3-Month Treasury Bill Index** is an unmanaged index that measures returns of three-month T-bills.

# Index Descriptions

## Real Estate and Other/Alternative Indices

### Real Estate Indices

The **FTSE EPRA Nareit Developed Index** is designed to measure the stock performance of companies engaged in specific real estate activities of the North American, European, and Asian real estate markets. Relevant real estate activities are defined as the ownership, trading, and development of income-producing real estate.

**FTSE Nareit Equity REITs Index** measures the performance of real estate investment trust (REIT) stocks traded on the NYSE, NYSE MKT, and Nasdaq.

**NFI-ODCE**, short for NCREIF Fund Index-Open End Diversified Core Equity, represents historical and current returns for 36 open-end commingled funds pursuing a core investment strategy.

**NCREIF Farmland Index** is a quarterly time series composite return measure of investment performance of a large pool of individual farmland properties acquired in the private market for investment purposes only. All properties in the Farmland Index have been acquired, at least in part, on behalf of tax-exempt institutional investors—the great majority being pension funds. As such, all properties are held in a fiduciary environment.

**NCREIF Property Index (NPI)** measures the performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the NPI have been acquired, at least in part, on behalf of

tax-exempt institutional investors—the great majority being pension funds.

**NCREIF Timberland Index** is a quarterly time series composite return measure of investment performance of a large pool of individual timber properties acquired in the private market for investment purposes only. All properties in the Timberland Index have been acquired, at least in part, on behalf of tax-exempt institutional investors—the great majority being pension funds. As such, all properties are held in a fiduciary environment.

### Other/Alternative Indices

**Alerian MLP Index** is a gauge of energy master limited partnerships (MLPs). The float-adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis (AMZX).

The **Consumer Price Index-Urban (CPI-U)**, an inflation index produced by the Bureau of Labor Statistics, measures the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

**Bloomberg Commodity Index** (formerly DJ UBS Commodity Index) is a broadly diversified index composed of futures contracts on physical commodities traded on U.S. exchanges. It allows investors to track commodity futures through a single, simple measure.

**Cambridge Private Equity Index** is an end-to-end calculation based on data compiled from 1,468 U.S. private equity funds (buyout, growth equity, private equity energy, and mezzanine funds), including fully liquidated partnerships, formed between 1986 and 2018. Pooled end-to-end return, net of fees, expenses, and carried interest.

**Dow Jones Brookfield (DJB) Global Infrastructure Index** intends to measure the stock performance of pure-play infrastructure companies domiciled globally. The index covers all sectors of the infrastructure market required to have more than 70% of cash flows derived from infrastructure lines of business; must be domiciled in a country with a liquid listing and must meet minimum requirements for float-adjusted market capitalization and trading volume. The index is weighted by float-adjusted market capitalization.

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## Index Descriptions

### Credit Suisse Hedge Fund Index and Sub-Strategies

**Credit Suisse Hedge Fund Index** is an asset-weighted benchmark that measures hedge fund performance and seeks to provide the most accurate representation of the hedge fund universe.

#### Credit Suisse Hedge Fund Index Sub-Strategies

**Market Neutral Equity** – Funds that are typically long common stock of one company and short the equivalent dollar amount of another company or share class of the same company, based on underlying fundamental and/or technical factors.

**Convertible Arbitrage** – Funds that are typically long convertibles and short underlying stock, often benefiting from a positive carry (i.e., extra yield of the coupon income over the dividend expense).

**Emerging Markets** – Funds that typically invest in currencies, debt instruments, equities, and other instruments of countries with “emerging” or developing markets (typically measured by GDP per capita). Such countries are considered to be in a transitional phase between developing and developed status. Examples of emerging markets include China, India, Latin America, much of Southeast Asia, parts of Eastern Europe, and parts of Africa. The index has a number of subsectors, including arbitrage, credit and event driven, fixed income bias, and equity bias.

**Fixed Income Arbitrage** – Funds that are long fixed income securities offering excess returns from credit risk, prepayment risk, illiquidity risk, or capital structure risk (i.e., senior vs. junior debt) and short Treasuries or other similar overvalued securities.

**Distressed** – Funds that invest in defaulted bonds, bank loans, or other debt issues of companies in various stages of bankruptcy or financial distress.

**Risk Arbitrage** – Funds that are typically long stocks of targeted takeover candidates and short stocks of the acquiring company, in order to capture time premium that accrues to the date of a completed acquisition.

**Long/Short Equity** – Bottom-up stock-pickers that are long undervalued stocks and short overvalued stocks, with top-down views expressed with a net long or short bias. This group historically has had a net long, however variable, bias.

**Global Macro** – Top-down asset allocators investing across liquid markets of stocks, bonds, currencies, and commodities, profiting from structural imbalances or inefficiencies caused by central banks, governments, and other market participants.

**Managed Futures** – Often using trend-following techniques, these funds buy and sell liquid futures on physical commodities, interest rate, fixed income, and equity markets, typically profiting from momentum and other predictable price patterns.

**Event-Driven Multi** – Funds that typically invest in a combination of event-driven equities and credit, including special situations and value equities with hard or soft catalysts, taking advantage of shifts in economic cycles.

**Multi-Strategy** – Funds that typically allocate capital opportunistically across various hedge fund strategies including, but not limited to, convertible bond arbitrage, market neutral equity, fixed income arbitrage, and risk arbitrage