



## Markovitz Strategy

### strategy description

The Markovitz strategy exploits the principles of Harry Markovitz’s modern portfolio theory to minimize volatility and drawdowns by building an internally diversified portfolio invested in a combination of our Bernoulli, Galton and Erdős strategies. All three are automatic, algorithmic strategies based on mathematical methods and artificial intelligence. The full portfolio is divided in two equal portions invested in the Bernoulli and Galton strategies. Since the Erdős strategy is an opportunistic strategy that is often out of the market, it is run as an additional 50% leverage in these infrequent occasions. The moderate correlations between these three components ensure steady, significant returns with diminished risk (volatility) and smaller maximum drawdowns.

### statistics (2018–2022)

<b>Average net return</b>	: 22.26%	(S&P500: 9.27%)
<b>Average volatility</b>	: 9.45%	(S&P500: 20.27%)
<b>Average Sharpe Ratio</b>	: 2.08	(S&P500: 0.64)
<b>Maximum draw-down</b>	: 7.03%	(S&P500: 33.92%)

### Key facts

<b>Currency</b>	: USD
<b>Instruments</b>	: SPY ETF (S&P 500), iShares S&P100 ETF, S&P500 stocks and VIX Futures
<b>Liquidity</b>	: daily
<b>Risk factors</b>	: long positions, short positions, no derivatives
<b>Trading</b>	: algorithmic, with human surveillance

### performance details

Year	Performance		Volatility		Max. draw-down	Sharpe ratio
	Strategy	S&P500	Strategy	S&P500		
2018	14.50%	-6.24%	8.77%	17.06%	3.33%	1.39
2019	10.92%	28.88%	6.90%	12.56%	4.09%	1.28
2020	40.26%	16.26%	14.62%	34.43%	7.03%	2.73
2021	18.40%	26.89%	7.96%	13.10%	4.48%	2.30
2022	27.24%	-19.44%	9.00%	24.17%	3.79%	2.72

