

CUATS Challenge - Two-Seven Capital

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Strategy adopted: Exponential-moving average (EMA) signal with trailing stop loss and diversification through bonds.

Methodology: The trading instrument used is SPY. The trading signal to buy is created when the 10-hour EMA exceeds the 50-hour EMA. When this happens, we allocate all our capital to SPY. Meanwhile, a trailing stop order is imposed at the 90% of the maximum price attained by SPY since purchase. When the stop order is triggered, we liquidate all SPY shares and rotate our position to iShares 1-3 Year Treasury Bond ETF, SHY. The reason is because SPY and SHY were known to have a negative correlation of -0.23. [1] Hence, when we liquidate SPY when it is falling, SHY will hopefully be taking an opposite trend. We continue holding SHY until we obtain the buy signal from the EMA.

The parameters are chosen according to backtesting results. We limit trades to at most 1 per day to control transaction costs. We have chosen an hourly resolution for EMA to reduce slippage.

A 90% trailing stop loss is implemented to limit downside risk to a maximum amount of 10% in the event of unfavourable price movement.

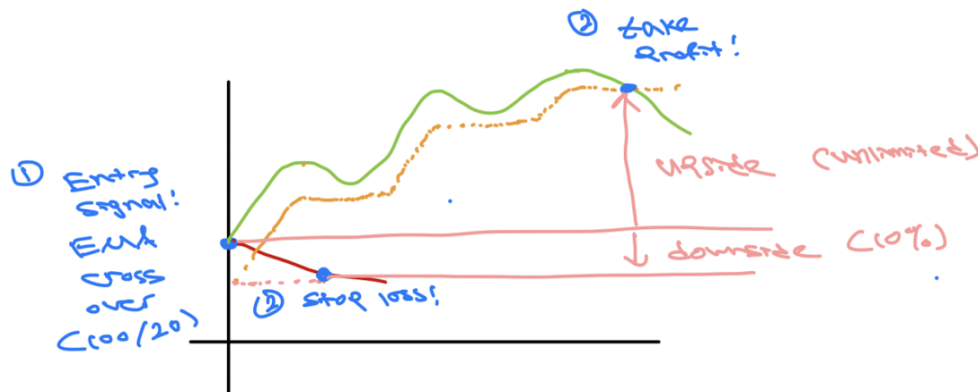


Figure 1: A Diagram showing mechanism of the strategy.

The strategy was inspired from “Leveraged ETF with systematic risk management” by Shile Wen [2].

References:

[1] <https://portfolioslab.com/tools/stock-comparison/SHY/SPY>

[2] <https://www.quantconnect.com/research/15351/leveraged-etfs-with-systematic-risk-management/p1>