

SPY Trend-Following Swing/Long-Term Trading System

Developed by Leo Q.

Why? Because every trader aspires to “beat the market” in the long run. According to the Dow Theory, trends persist, so it is essential for every trader to have a trend-following system. This system simply assumes the trend to continue, with an attempt to profit during bear markets.

How? The system essentially follows the SPY during bull market, avoids trading during consolidation, and takes a short position during bear markets. Since our objective is to beat the market, we will play aggressive and use leveraged ETF (UPRO) during bull markets.

Strength: When the market is strongly trending. Long bull markets yield the best results. The system uses weekly chart to capture the macro move and reduce daily noise.

Weakness: When the market is consolidating, extremely choppy, or in a transition phase between bull and bear market. The system is bull-biased and may not perform as well as expected during bear markets.

We will characterize the market conditions as follows:

Bull Market Conditions: $20 \text{ weekly ema} > 50 \text{ weekly ema} > 100 \text{ weekly ema}$

Bear Market Conditions: $20 \text{ weekly ema} < 50 \text{ weekly ema} < 100 \text{ weekly ema}$

DO NOTHING: When $50 \text{ weekly ema} > 100 \text{ weekly ema} > 20 \text{ weekly ema}$

Or When $100 \text{ weekly ema} > 20 \text{ weekly ema} > 50 \text{ weekly ema}$

During Bull Market:

1.) When SPY weekly candle (Friday) closes below 20 weekly ema, above 50 weekly ema,
AND price is closer to 50 weekly ema than 20 weekly ema.

-Buy UPRO next week at the open on FIRST trading day (Monday)

-Set a 15% trailing stop loss



2.) When SPY 20 weekly ema crosses below 50 weekly ema.

*-Buy UPRO next week at the close on LAST trading day (Friday) IF AND ONLY IF 20 weekly ema is still below 50 weekly ema

*-Stop loss when SPY 20 weekly ema crosses below 100 weekly ema. Sell the next week at the close on LAST trading day (Friday)

IF AND ONLY IF 20 weekly ema is still below 100 weekly ema.

-Set a 15% trailing stop loss



3.) When SPY 50 weekly ema crosses below 100 weekly ema,

*-**Short sell** SPY next week at the close on LAST trading day (Friday) IF AND ONLY IF 50 weekly ema is still above 100 weekly ema

*-Stop loss when 20 weekly ema crosses above 100 weekly ema. Sell the next week at the close on LAST trading day (Friday)

IF AND ONLY IF 20 weekly ema is still above 100 weekly ema.

-Buy to cover at the close on LAST trading day (Friday) when SPY makes a new 52-week low



During Bear Market:

1.) When SPY daily candle crosses above 11 daily ema, and below 20 weekly ema,

- **Short sell** SPY next day at the open.

-Stop loss when 11 daily ema crosses above 20 weekly ema

-Exit after 5 days

-Set a 10% trailing stop loss



2.) When SPY 50 weekly ema crosses above 100 weekly ema.

*- **Buy** UPRO next week at the close on LAST trading day (Friday) IF AND ONLY IF 50 weekly ema is still above 100 weekly ema

*-Stop loss when SPY 20 weekly ema crosses below 100 weekly ema. Sell the next week at the close on LAST trading day (Friday)

IF AND ONLY IF 20 weekly ema is still below 100 weekly ema.

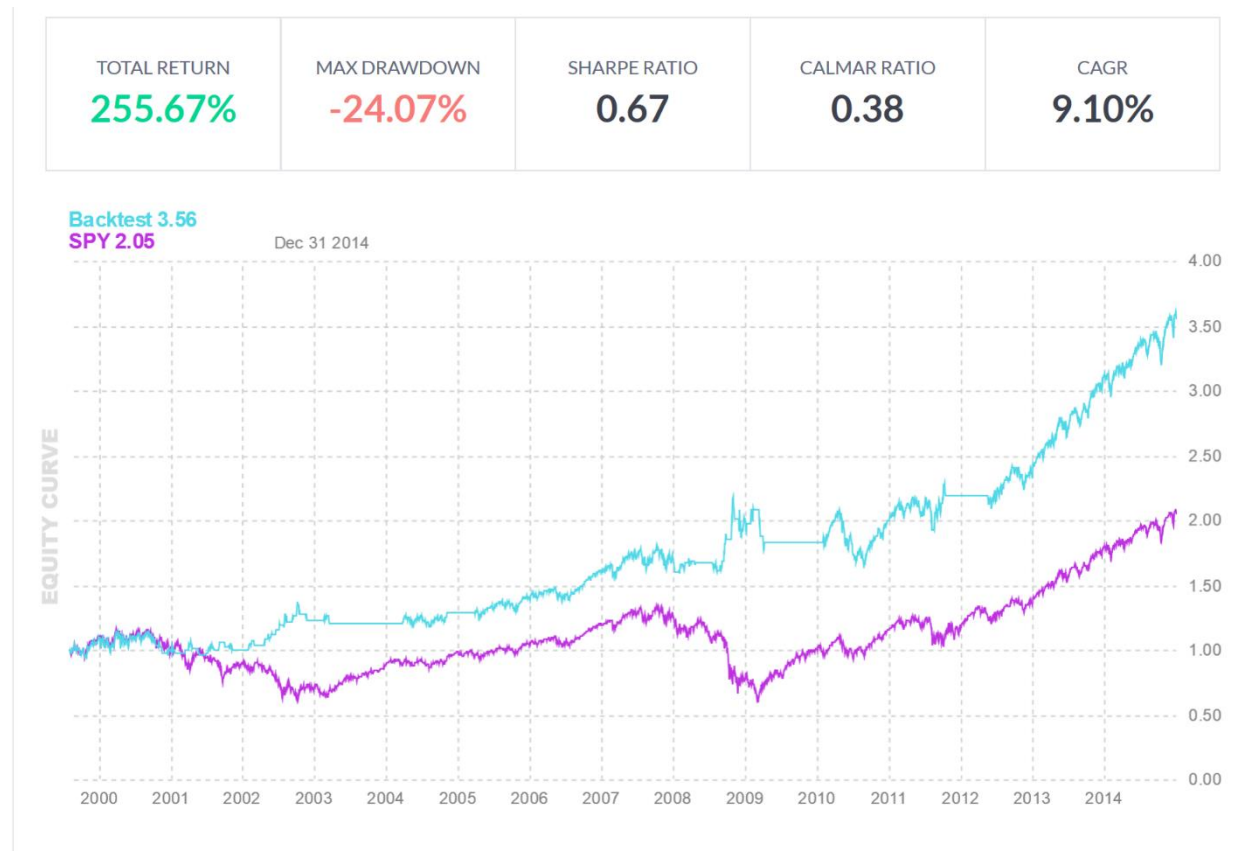
-Set a 15% trailing stop loss



*Note: To compensate for the EMA being a lagging indicator, we let the next weekly candle to finish after the crossing signal is detected. This is to reduce false signals when the ema simply bounce and not actually crossover.

Backtest Results

This is the result of a backtest done on SPY configured to be as close to this system.



Important Notes: The 50 weekly ema crossovers to 100 weekly ema, 20 weekly ema crossover to 50 weekly ema, and the UPRO usage are not accounted for in this backtest.

So theoretically if the system can successfully capture the bull market moves using UPRO, it shall gain exponentially greater yield than SPY. *However*, expect more volatility and amplified losses during bull markets' transition into bear markets. The short-selling component of this system shall offset the amplified losses.

Here are the actual configurations used in this backtest. The parameters are in daily timeframe, so the weekly parameters in this system is multiplied by 5 to get the equivalent daily.

- Long strategy

ENTRY WHEN

Indicator	Parameters	Compar.	Indicator
Exponential Moving Average	C, 100	>	Close

AND

Indicator	Parameters	Compar.	Indicator
Exponential Moving Average	C, 250	<	Close

AND

Indicator	Parameters	Compar.	Indicator
Exponential Moving Average	C, 500	<	Close

+ Add entry indicator

EXIT WHEN

Indicator	Parameters	Compar.	Indicator
Bollinger Upper Band	C, 50, 3, 3	cross<	Close

OR

Stop loss (%)	5
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+ Add exit indicator or add time based exit

- Short strategy

ENTRY WHEN

Indicator	Parameters	Compar.	Indicator
Exponential Moving Average	C, 11	cross<	Close

AND

Indicator	Parameters	Compar.	Indicator
Bollinger Lower Band	C, 50, 2, 2	<	Close

AND

Indicator	Parameters	Compar.	Indicator
Exponential Moving Average	C, 100	>	Close

+ Add entry indicator

EXIT WHEN

Indicator	Parameters	Compar.	Indicator
Bollinger Lower Band	C, 100, 2, 2	cross>	Close

OR

After (days)	5
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