

Case Question

Beginner:

As a Quantitative Trader devise and implement a trading algorithm which actively trades a single instrument which would be the benchmark index over a holding period from 1/01/2017-30/09/2020. The single instrument is specified by the “Investment Universe” ETF below.

Starting Capital: \$1,000,000 USD

Trading Frequency

- Once per day (intra-day data not required)

Note: the official closing price (standard) should be used rather than alternative price references such as the 1day VWAP price

Investment Universe

- SPDR S&P 500 ETF Trust (benchmark comparable)

Holding Period

- 1/01/2017- 30/09/2020

Performance Metrics

- Total Profit & Loss

Ensure your presentation includes a run through your technicals. It may be useful to use pseudocode in describing your algorithm function.

Restrictions/Considerations

- Long-only position
- Trading will be made assuming no fees
- Any public data can be used in creating your model

Time Restrictions

- *Preliminary Submission:* 6min video presentation (deck + voiceover will suffice)
- *Final Presentation:* 8min Presentation 4min Q&A

For more submission details, view [here](#).

For more guidelines, view [here](#).

Advanced

As a Quantitative Trader devise and implement a trading algorithm which can actively trade a single instrument which would be the benchmark index over a holding period from 1/01/2017-30/09/2020. The trading algorithm MUST also function when applied to two comparable indices, proving it has a broad practical use case. The single instrument is specified by the “Investment Universe” and “Comparative indices” ETFs below.

Note: The algorithm should NOT be trading a portfolio of the three indices.

Starting Capital: \$1,000,000 USD

Trading Frequency

- Once per day

Note: the official closing price (standard) should be used rather than alternative price references such as the 1day VWAP price

Investment Universe

- SPDR S&P 500 ETF Trust (NYSE.SPY) - *benchmark Index*

Comparable Indices

- Invesco QQQ (NASDAQ.QQQ)
- Energy Select Sector SPDR (NYSE.XLE)

Holding Period

- 1/01/2017- 30/09/2020

Performance Metrics

- Total Profit & Loss when applied to Benchmark Index
- Trading volume/quantity
- Risk and optimisation metrics of your choice – these *must* be considered

Ensure your presentation includes a run through your technicals. It may be useful to use pseudocode in describing your algorithm function.

Restrictions/Considerations

- Long-only position
- Trading will be made assuming no fees
- Any public data can be used in creating your model

Time Restrictions

- *Preliminary Submission:* 6min video presentation (deck + voiceover will suffice)
- *Final Presentation:* 8min Presentation 4min Q&A

For more submission details, view [here](#).

For more guidelines, view [here](#).

