

@TQT_UCSD



Triton Quantitative Trading GBM #2 + Seminar





TOMORROW!



TQT x ALPHA ANIMALS

IMC PROSPERITY

2ND PLACE NATIONWIDE WINNERS

ALPHA ANIMALS

Position	Shells
9TH	1.198.877

CSE B225

Thursday, 15 May 2025

4-5 PM

ALPHA ANIMALS

TQT

HIT THE BULL'S EYE

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Update on: TQT Research





Predicting Bitcoin Price Movements Using Whale Wallet Behavior

By: Leonard Malott



Static Hedging: An Alternative to the Limitations of Delta Hedging for Vanilla Options

By: Anurag Chaudhari

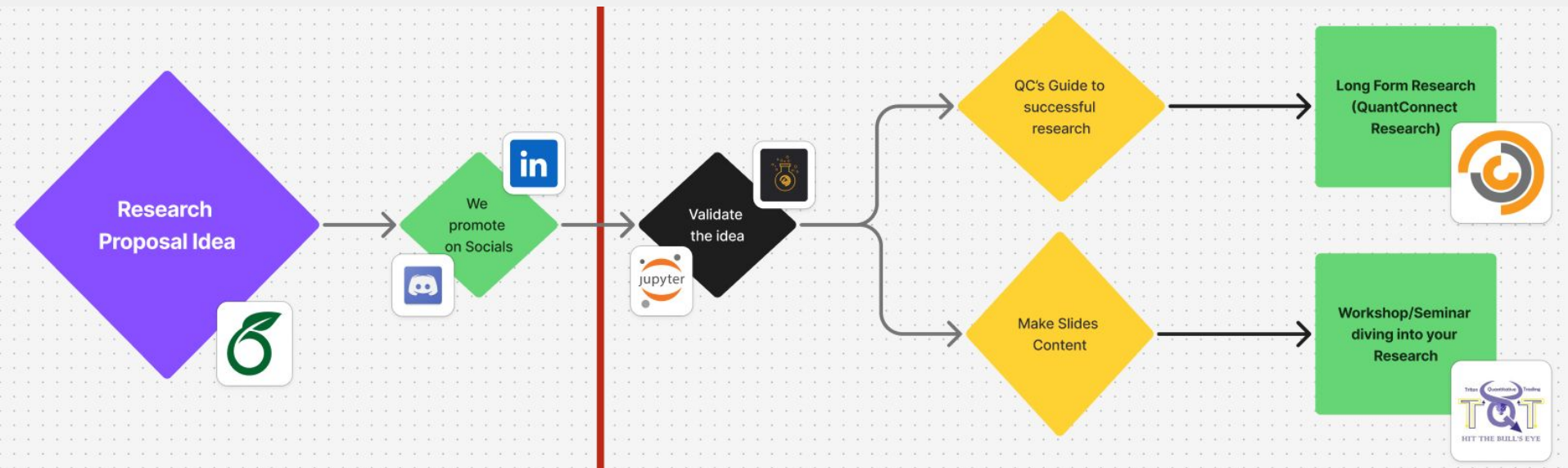


Keeping Slippage from Eating Your Profits

By: Rudraksh Bhandari



Pipeline:





TQT In House Competition!?





Terminology

- **Notional size:**
 - total dollar exposure you're controlling with a financial instrument, without actually owning that amount of the underlying asset.
- **Free-float shares:**
 - Shares available to public investors
- **Float-adjusted market cap:**
 - Share price \times free-float shares
 - S&P's?: ~40 Trillion
- **Weight in index (%):**
 - Float-adjusted market cap \div total S&P 500 float-adjusted market cap



S&P 500

- The S&P 500 is a market-capitalization-weighted index that tracks the performance of 500 of the largest publicly traded U.S. companies.
- Widely used as a benchmark for the overall U.S. stock market
- The index is rebalanced quarterly:
 - March, June, September, December
 - Exceptions for: bankruptcies, M&As, etc happen intra-quarterly

S&P 500 - Inner Workings



- Float-adjusted Market Cap:
- Goal?: Reflects what is actually available to investors on the open market.
 - Only publicly available shares (excludes insider holdings, government ownership, etc.)

Ex: \$AAPL if:

- Share price = \$200
- Float-adjusted shares = 16 billion
- Market cap = $\$200 \times 16\text{B} = \3.2 trillion

Total S&P 500 float-adjusted market cap = \$40 trillion

Then Apple's weight in the index is: $3.2\text{T}/40\text{T} * 100 \Rightarrow 8\%$

Why?



- **Pros:**
- Super Customizable: serves as a template or baseline to modify (tweak filters, alternative rebalancing schedules, implement weights)
- An equal-weight approach gives smaller stocks more influence, potentially improving diversification and returns during mid-cap rallies.
- **Cons:**
- Dividends are paid as cash into your portfolio, and not automatically reinvested (like SPY)
 - Transaction costs (as well as Commission)
 - Bid-ask spread (for illiquid) + Taxable event



Other Alternatives

SPY (S&P 500 ETF):

- Settlement: Physical (you own shares of the fund)
- Dividend taxed
- No 60/40 tax benefit

SPX (European-style cash-settled index option):

- 60/40 tax benefit
- High notional value
- Cash Settled (no shares) [no assignment risk]
- Only Regular Trading Hours

XSP (Mini-SPX):

- Same benefits SPX (1/10th size) but less liquid than SPX/SPY

Long Term?: VOO (0.03% + auto dividend reinvest) > SPY (0.09%) [EXPENSE RATIOS]



Extra

ES (E-mini S&P 500 Futures):

- Futures contract (no PDT)
- 50x SPX
- 60/40
- Trading Hours: Nearly 24/5

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SPY, SPLG (State Street) VOO (Vanguard), IVV (Blackrock), UPRO (ProShares 3x)



Thank You!

Takeaways:

- How Indexes work under the hood:
- Portfolio Construction
- Passive Strategies
- Real-World Tradeoffs of ETF design