OTS-01 Summary Document

This document summarizes the OTS-01 lecture on General Trading concepts. The lecture introduces you to the trading principles in option pricing, the edge and risk concepts, meta-risks, the efficient market hypothesis, types of trading edges and adverse selection.

The lecture covers the following topics -

- General option trading philosophy.
- Trading Principles
- Efficient Market Hypothesis
- Finding an edge
- Adverse selection

General option trading philosophy.

- Mathematics is a way to verify your idea quantitatively. Don't start with mathematics. Let the phenomena lead you.
- Trading is a performance-based activity, and, like any other, psychological attributes are required but not sufficient.
- Make money by identifying trades where we have an advantage, or edge.
- Keep money by managing risks.
- A good trade is one that we would repeat no matter the result. It requires positive expectations and an acceptable level of risk.

Trading principles

Expected Value: Expected value (EV) is the sum of the probability-weighted outcomes.

Edge: Edge refers to trades with a positive expected value.

Risk: Everything else that is not an edge is a risk. In other words, the probability of getting negative trade is a risk. Risk can be different for different participants because their edge can be different.

For example -

- Edge: direction prediction. Risks: interest rates, volatility, counterparty.
- Edge: the bid/ask spread. Risks: underlying direction, counterparty, inventory, execution, volatility.

Meta-risks: Unlike sports or casinos, we are exposed to stuff outside the direct confines of our market.

- Bankruptcies.
- Inflation.
- Fraud.
- Global economic events.

Black Swans: Events so unpredictable that they are beyond imagining. No one would ask "What is the chance of there being a black swan?", because the question would never occur to anyone.

- Somewhat personal (depends on imagination).
- Mine include:
    - ETF restructuring.
    - Index restructuring.
    - Covid.

Efficient Market Hypothesis

Formally, a market is efficient when all the information flows freely and is accessible to every participant simultaneously. EMH is an excellent approximation, but it isn't entirely true. Exceptions are either inefficiencies or risk premia.

Finding an edge

These are the two ways to find a trade with an edge.

- Model-driven: They always have a fair value based on a particular model.
- Event-driven: These are based on particular situations, not values.

Adverse Selection

The biggest problem in trading is that you might be the dumb one. The counterparty is doing the trade for a reason as well.

- It isn't as simple as saying "We have positive EV so we can just do all the trades and ride out the variance involved".
- We have implicitly assumed all of our trades are from the same true distribution.
- More likely that there is a "good" set of trades and a "bad" set of trades.
- In reality, we are much more likely to get the "bad" trades.
- The "good" trades are much more competitive.
- To avoid adverse selection, we should take all trades.
- Be aggressive when entering and conservative when rebalancing or hedging.