Option Greeks

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1 Option Greeks

- In the previous videos we talked about the three factors which affected an Options premium, the price of the Underlying, the time of expiration, and the volatility of the underlying.
- In this section we will discuss the metric with which we measure how each of these factors affects the Option's premium.
- These measures are called the Option Greeks and are monitored very closely by professional traders. They are values that give you information on how the price of the Option is affected by the three different factors we saw before. They are also used for building complex trading strategies, not just individual trading opportunities.

1.1 Delta (Δ)

- Δ measures how sensative the Option is to movements in the price of the Underlying.
- It is always a probability, ie $\Delta \in [0, 1]$. Or in the case of Put Options $\Delta \in [-1, 0]$.
- For every one move in the price of the Underlying, the price of the Option will move Δ.
- If the Option has a Δ of 0.5, it means that for every dollar the Underlying moves up or down, the Option premium will move 0.5 dollars, or half of that.
- Generally, OTM Options will have a Δ below 0.5, ATM Ootions will have a Δ around 0.5, and ITM Options will have a Δ above 0.5. A Δ of 1 is typical of a very deep ITM Option.

1.2 Theta (Θ)

- Θ is the measure of an Option's time decay, it indicates how much the Option's premium will change every day that passes.
- Θ is always negative when buying an Option.
- If $\Theta = 2$ then everyday that Option's premium will decrease by \$2.
- Careful to take the Options premium into account when using Θ, as $\Theta = 2$ means a lot more for a stock with price \$5 than a stock with price \$100.

1.3 Vega

- Vega, unlike the first two, is a star and not a letter of the Greek alphabet.
- Vega measures the amount the Option's premium will change for every one point moved in the stocks IV.
- Vega will alwys be a positive number when buying Options.
- Higher Vega Options will be much more sensative to changes in implied volatility than lower Vega Options.