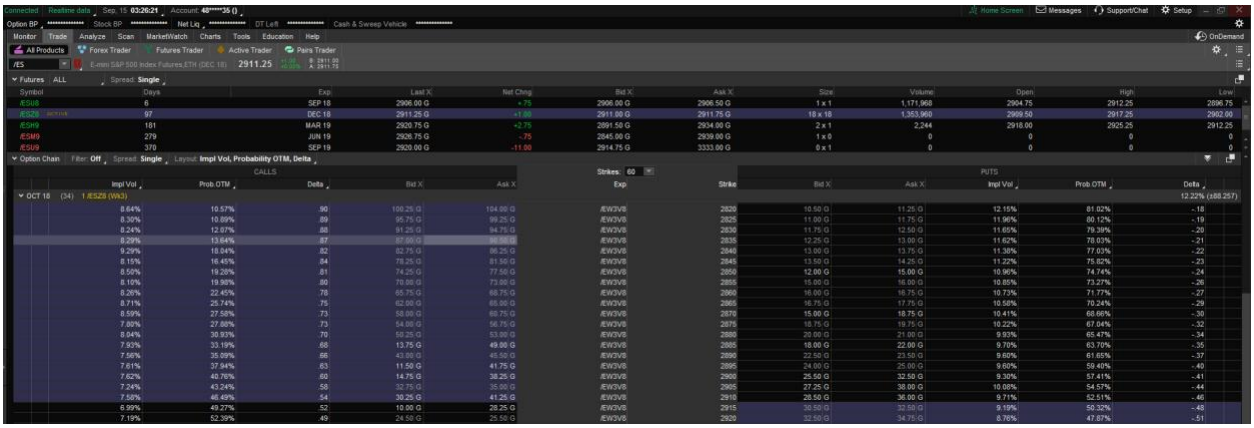
The Greeks & Expected Move

The Option Greeks

The Greeks are complicated and I can take easily take a few hours to explain but I would rather concentrate on only 2 of the Greeks and define them as simple as possible based on how we will use them.

Delta: Measure the amount that an option will move relative to the stock movement.

e.g.: A delta .70 option will theoretically move 70C for each $1 move of the security.



We will also use delta to estimate the probability of an option expiring in the money.

e.g.: Delta 20 option has approximate 20% probability of expiring in the money or more importantly 80% probability of expiring out of the money.

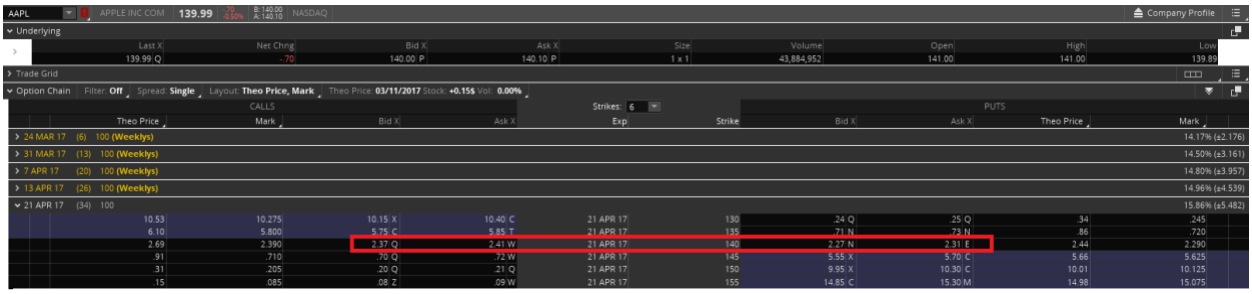
Theta: measure the amount that an option price will decrease with each passing day.

e.g.: An option with a -0.1 value will theoretically decrease by 10c daily if the price and volatility remain constant. Hence, after 5 days the value of the option will decrease by .50C. This often referred to as time decay.

Probability in the Money:

Probability in the money: or market maker **expected move** is calculated by adding “at the money call” to “at the money put” in the same expiration cycle. This represent 67.7% probability that the security will be within this range at the option expiration of the same cycle.

- Is one standard deviation up or down so it is **not directional.**
- One standard deviation gives us the probability of 67.7% to close inside that range within a specific period of time.
- It is greatly affected by implied volatility (IV) since IV effect option prices.
- The higher the IV the higher the expected move.



In the above example AAPL closed at 139.99 or almost 140 so we are going to calculate the above numbers for April 21, 17 option cycle expiring in 34 days.

Probability in the Money = 2.39 + 2.44 = 4.83

The range will be 140 plus or minus 4.83. So there is a 67% probability that AAPL will be within the range of 135.17 to 144.83 in 34 days.

Expected move defines levels that are used by institutional investors to sell options below and above these level and constantly defend them which makes them extremely important and powerful levels for option traders.

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