

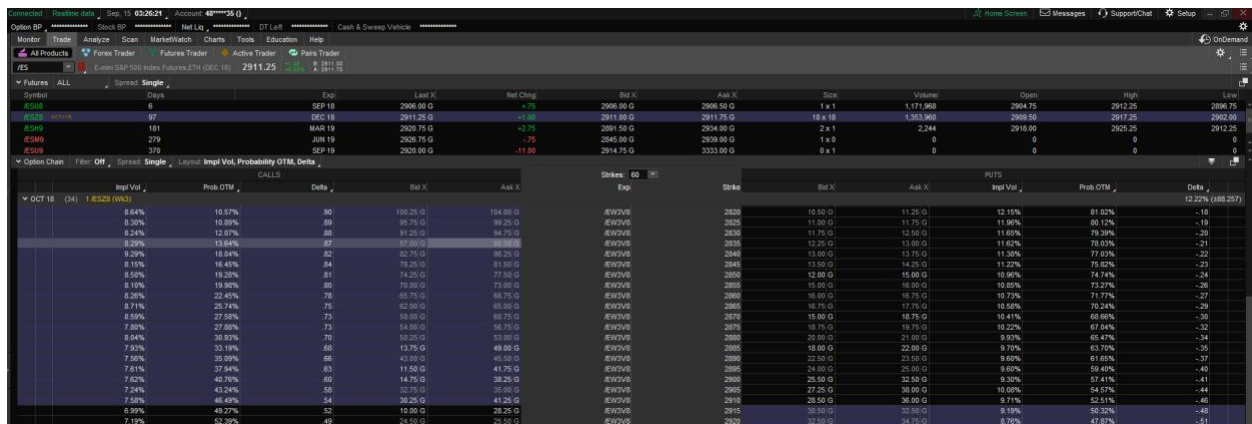
The Greeks & Expected Move

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.



The screenshot displays a trading platform interface with a focus on option chains and Greeks. The top section shows a summary of the account and market data. Below this, there are tabs for 'Futures', 'Options', and 'Puts'. The 'Options' tab is selected, showing a list of options with columns for Symbol, Days, Exp, Last X, Net Chg, Bid X, Ask X, Size, Volume, Open, High, and Low. The 'Puts' tab is also visible, showing a list of puts with columns for Symbol, Days, Exp, Last X, Net Chg, Bid X, Ask X, Size, Volume, Open, High, and Low. The bottom section shows a detailed view of the 'CALLS' and 'PUTS' chains, with columns for Implied Vol, Prob OTM, Delta, Bid X, Ask X, Exp, Strike, Implied Vol, Prob OTM, and Delta. The 'CALLS' chain is expanded, showing data for various strikes and their corresponding Greeks.

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.

AAPL INC. COM 139.99 -0.25 -0.18% B 140.00 A 140.15 NASDAQ									
Underlying									
Last X	Net Chg.	Bid X	Ask X	Size	Volume	Open	High	Low	
139.99 Q	-0.25	140.00 P	140.10 P	1 x 1	43,884,952	141.00	141.00	139.89	
Trade Grid									
Option Chain Filter: Off Spread: Single Layout: Theo Price, Mark Theo Price 03/11/2017 Stock +0.155 Vol 0.00%									
CALLS					PUTS				
Exp	Strike	Bid X	Ask X	Mark	Exp	Strike	Bid X	Ask X	Mark
24 MAR 17 (6)	100 (Weeklys)				24 MAR 17 (6)	100 (Weeklys)			
31 MAR 17 (13)	100 (Weeklys)				31 MAR 17 (13)	100 (Weeklys)			
7 APR 17 (20)	100 (Weeklys)				7 APR 17 (20)	100 (Weeklys)			
13 APR 17 (26)	100 (Weeklys)				13 APR 17 (26)	100 (Weeklys)			
21 APR 17 (34)	100				21 APR 17 (34)	100			
	10.53	10.275	10.15 X	10.40 C	21 APR 17	130	24 Q	25 Q	34
	6.10	5.860	5.75 C	5.85 P	21 APR 17	135	21 X	22 X	86
	2.69	2.390	2.32 Q	2.41 W	21 APR 17	140	2.27 Q	2.31 P	2.44
	.91	.710	.70 Q	.72 W	21 APR 17	145	5.55 X	5.76 C	5.66
	.31	.205	.20 Q	.21 Q	21 APR 17	150	9.95 X	10.30 C	10.01
	.15	.085	.08 Z	.09 W	21 APR 17	155	14.85 C	15.30 M	14.98

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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