USEFUL RESOURCES

- **CBOE blog**: http://www.cboe.com/blogs
- **Options Industry Council**: https://www.optionseducation.org/
- **finviz.com:** Screening tool for the underlying stocks, including earnings announcement dates
    - https://www.earningswhispers.com/ for more details on earnings announcements, forecasts and results
- **Option Pit** (on Youtube): https://www.youtube.com/channel/UCvnM-OvQmMvJS2BnE39teZg
- **Fidelity option screener:** https://researchtools.fidelity.com/ftgw/mloptions/goto/optionChain
- **Tastytrade** (youtube channel): https://www.youtube.com/channel/UCLJiSMXJ9K-1AOTqlqdXJgQ

ACTIVE TRADING

- When to buy, when to sell
- Indicators?
- Directional versus volatility trading
- Sell: when your original rationale for trading has gone, or when the nature of the trade has fundamentally changed.

REVIEW OF GREEKS

- Delta: sensitivity of the option price to changes in the value of the underlying asset (stock/index)
- Theta: sensitivity of the option price to the passage of time
- Vega: sensitivity of the option price to changes in perception of volatility in the asset
- These are all *ceteris paribus* relationships!

  i.e. they're not perfect, but approximations.
- Gamma: change in delta when the stock/index price changes

AAPL @ 227.63 **October 19 2018 Calls** **49 Days to Exp**

Choose a Strategy ▼ | Trade | Get Quote | P&L Calc | Clear Selections

Strike	Bid	Ask	Last	Change	Volume	Open Int	Day High	Day Low	Delta	Gamma	Theta	Vega	Rho	Imp Vol
215.00	15.85	16.05	16.15	2.46	1,961	14,796	16.90	14.38	0.774	0.016	-0.070	0.251	0.215	23.21%
220.00	12.20	12.40	12.34	2.15	3,057	19,270	13.10	10.95	0.688	0.019	-0.078	0.295	0.194	22.70%
225.00	9.00	9.20	9.20	2.00	5,871	14,552	9.75	7.30	0.588	0.021	-0.082	0.324	0.168	22.16%
230.00	6.40	6.50	6.46	1.56	12,513	15,612	7.00	5.05	0.480	0.022	-0.081	0.332	0.139	21.72%
235.00	4.45	4.55	4.55	1.33	3,328	10,466	4.90	3.63	0.374	0.021	-0.076	0.316	0.109	21.78%
240.00	3.00	3.10	3.05	0.95	4,910	8,413	3.30	2.07	0.281	0.018	-0.067	0.281	0.082	21.91%

Highlighted options are in-the-money.
Rows marked in red are non-standard options.
Quotes in real-time

BASIC RULES

- Delta: call positive, put negative (flip sign for short positions!)
- Theta: always negative (unless short position)
- Vega: always positive (unless….)
- Gamma: always positive
  - Nice "market timing effect" for buying calls
  - Call option gets more sensitive to price movements of the stock/index in bull markets, less sensitive in bear markets ☺
- These are all based on some model of options prices, for example the Black-Scholes model. [Assumes symmetry in upside, downside. Always keep this in mind when interpreting vega!]

BASIC RULES

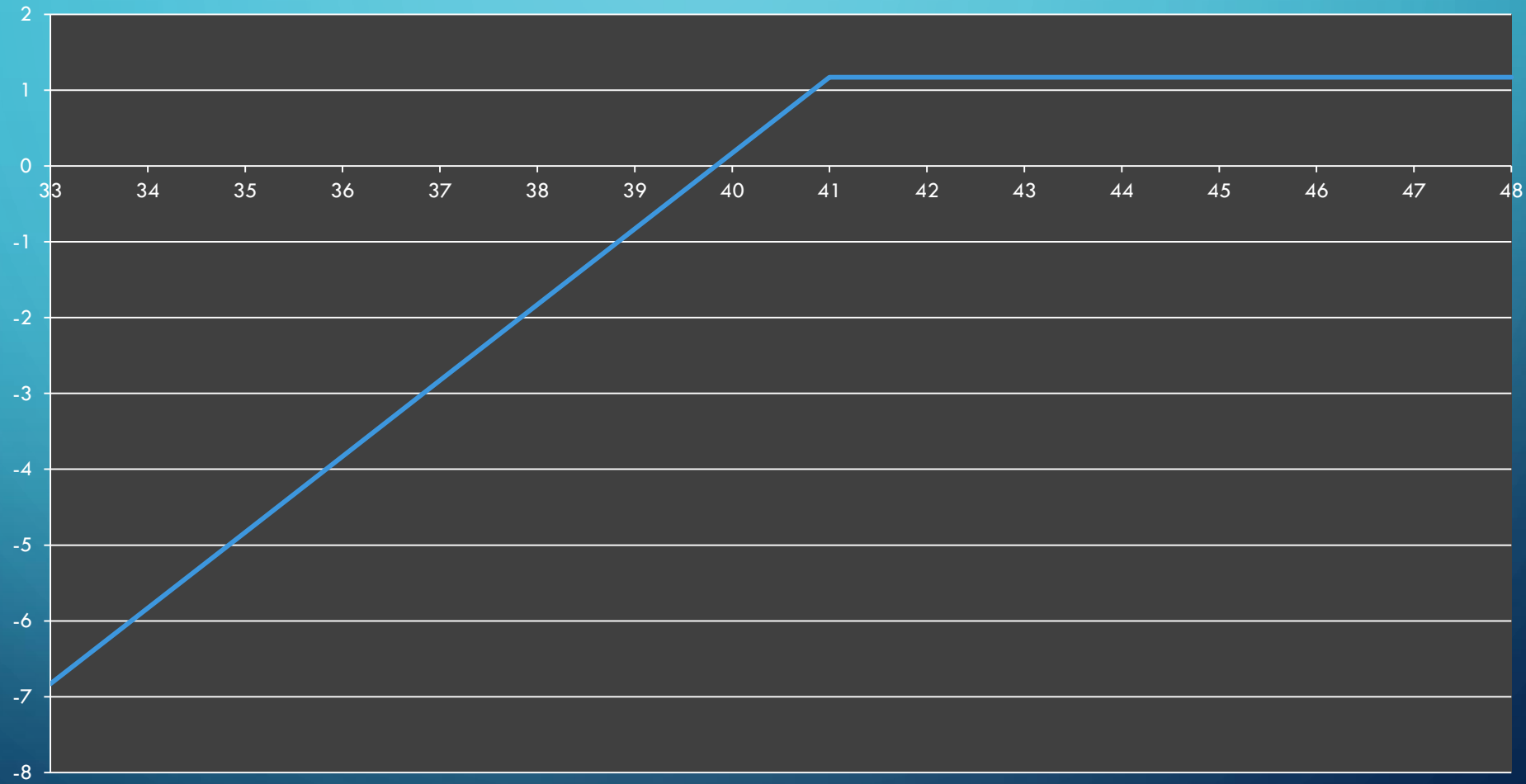
- The Greeks simply sum when you include more complex trades!
- This is what makes them a useful tool when implementing more complex strategies, or when valuing a portfolio of different option positions.
- Theta, for example, aggregates easily over all positions on your portfolio, meaning you can get one number that summarizes your entire portfolio.
- Other Greeks are a little different: delta and vega are stock specific, so they would only aggregate over all option positions on one stock/index.

COVERED CALL EXAMPLE

Stock		Short Call	
Delta:	1	Delta:	negative, less than 1
Gamma:	0	Gamma:	positive
Vega:	0	Vega:	negative
Theta:	0 (positive?)	Theta:	positive

Summary: initial setup is bullish on the stock, but large price movements are a net negative for us (upside capped to a much greater extent than downside). Time is on our side, generally (we benefit from time value decay in the option).

COVERED CALL EXAMPLE



COVERED CALL EXAMPLE

Following a large price increase to a price much higher than our call strike price:

Stock		Short Call	
Delta:	1	Delta:	close to -1
Gamma:	0	Gamma:	close to 0
Vega:	0	Vega:	negative
Theta:	0 (positive?)	Theta:	positive

Summary: this is no longer a directional trade. At this point we are just waiting to reap our maximum profit in option time decay. We can close out the option if we don't want the stock called away. Negative vega tells us large price movements are still a net negative.

COVERED CALL EXAMPLE

Following a large price *decrease*:

Stock		Short Call	
Delta:	1	Delta:	close to 0
Gamma:	0	Gamma:	small negative, close to 0
Vega:	0	Vega:	small negative, close to 0
Theta:	0 (positive?)	Theta:	small positive, close to 0

Summary: this is now a pure directional investment, not very different to just owning the stock. We could hold onto the option until expiry to squeeze the last few cents of time value out of it, or roll over into a call option with a lower strike price. NOTE: if we want to get out of the stock position we have to close the short call too (or else trigger some very severe margin requirements)

CASE STUDY: "BULL" SPREADS

- Long call positions in AMZN and S&P
- Added short positions in short-dated, OTM calls because the markets were calm, not doing much.
- Having included short positions in calls on Amazon and SPX and having had the markets rally and go well above those strike prices, I experienced some regret at having added those shorts.
- What to do now?

CASE STUDY: "BULL" SPREADS

- Well, the short positions were also expiring much sooner than my long positions so my decision, backed up by the Greeks, was to simply keep holding and benefit as much as possible from the greater time decay in the short positions compared to my long positions. I was still net positive delta on both AMZN and SPX

Symbol	Description	Qty	Price	Market Value	Implied Vol.	Delta	Gamma	Theta	Vega
AMZN	Amazon.Com Inc	—	$1,398.45	—	Position Totals:	26.27	-0.26	268.94	-11.95
FB	Facebook Inc	—	$188.12	—	Position Totals:	73.11	-9.39	143.70	212.64
IBB	Ishares Nasdaq	—	$117.87	—	Position Totals:	1,114.75	14.54	-24.35	70.84
SPX	S & P 500 Index	—	$2,859.43	—	Position Totals:	221.59	-3.17	302.52	1,641.04