

Getting To Know The Greeks

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Hey Traders,

The other day, I was having a conversation about “intuitive trading.”

I said that the best traders are *intuitive* – but I don’t mean in the “they were born with it” way.

I mean in the “they have a solid and deep enough foundation of knowledge that they don’t have to *think* about it anymore.”

This kind of intuition isn’t easy to develop, I’ll admit.

It takes many, many hours and years of trading, practicing, reading, learning ...

If you want to be a good trader, you’re going to have to be a lifelong student. That’s just the fact of the matter.

But judging by the fact that you’re reading this ... I assume you’re up to the challenge!

So today I want to go over some of the most crucial pieces of the trading “puzzle” to understand.

They’re not easy ... but once you grasp them, you will be a far, far better trader than the majority of retail traders out there.

Ready? We’re going Greek!

It’s All Greek To Me!

You probably already know that the price of an option is dependent on and affected by many factors, including the price of the underlying, the strike price of the option, time to expiration, the cost of carry, and volatility.

But how is the *price sensitivity* of an option measured?

Or rather, how can you know what to expect the option to do as the pricing factors inevitably change?

If the underlying stock goes up \$1, how much will the option move? How can we estimate time decay as we get closer to expiration? If implied volatility goes up or down, what will happen to the value of the option?

These may sound like very complex questions, but they’re crucial to know if you want to be able to manage your risk while trading.

Luckily ... that’s what the Greeks are for!

An incomplete understanding of the Greeks, and how they affect option pricing, could get you in a world of trouble, if you aren’t careful!

And a thorough understanding of how the Greeks affect options pricing is one of the key ways to improve your trading, and get closer to trading “intuitively.”

Alpha To Omega? Not Quite.

There are four main Greeks you’ll hear referred to by options traders: delta, gamma, vega, and theta.

We’ll start with **delta**.

An option’s delta tells you how much the price of the option will change with a \$1 change in the underlying.

In other words, if you have Option A on Stock XYZ, if the price of XYZ rises \$1, what will happen to the price of Option A?

That’s what Delta tells us.

Call options have delta that range from 0 to 1.00, while put deltas range from -1.00 – 0. (It’s not uncommon to hear the delta referred to as a whole integer, however – so a delta of 0.25 may be called a “25 delta.”)

An at-the-money call option typically has a delta of 0.50 – so if the underlying rises \$1, the option will gain \$0.50. Conversely, since puts have negative deltas, an at-the-money put with a delta of -.50 will lose \$0.50 if the underlying rallies \$1, but gain \$0.50 if the underlying falls \$1.

The deeper in-the-money an option gets, the closer to 1.00 (or -1.00) the delta.

One useful tip about delta: an option's delta can be used as a loose interpretation of the chances that option ends up in-the-money. So an option with a delta of 0.25 has roughly a 25% chance of ending up in the money!

▽ cDELTA	cMIDIV	cBID	cASK	STRIKE	pBID	pASK	pMI_	▽ pDELTA
0.82	66.64	3.20	4.80	M Sep17 16.00	0.41	0.43	66.94	0.18
0.74	63.96	2.52	3.90	M Sep17 17.00	0.64	0.68	64.00	0.26
0.64	61.63	1.91	1.97	M Sep17 18.00	0.99	1.02	62.62	0.36
0.53	61.28	1.38	1.57	M Sep17 19.00	1.47	1.50	61.88	0.47
0.42	61.67	0.97	1.04	M Sep17 20.00	2.05	2.13	62.56	0.57
0.33	62.73	0.71	0.73	M Sep17 21.00	2.76	2.83	63.09	0.67
0.25	63.08	0.50	0.51	M Sep17 22.00	3.55	4.85	63.89	0.75

In the example above, the delta of the at-the-money Macy's calls are 0.53 and 0.64, while the at-the-money puts are -0.47 and -0.36.

Easy enough, right?

Well buckle up, because here comes **gamma** ...

Now, the delta of an option is dynamic – it's constantly changing.

Gamma measures the rate of change in delta per \$1 movement in the underlying.

Gamma allows you to evaluate the *risk of movement* of a position – how much the option's value will change as the underlying moves. Gamma is complex, but critical to know.

If the position has a positive gamma, delta will increase if the underlying rallies, and fall if the underlying drops. Negative gamma positions will see delta fall if the underlying rallies, and rise if the underlying falls.

At-the-money options have the highest gamma – so delta is the most sensitive to changes in the underlying in at-the-money strikes. The farther in-the-money or out-of-the-money an option gets, the smaller the gamma value.

Think of gamma as indicating the stability of an option's delta. The delta of an option that is super far out-of-the-money or super in-the-money is less sensitive to a change in the price of the underlying stock, thus has a smaller gamma. A delta that is at or near the money is more sensitive to changes in the price of the underlying.

So if you hold a 50-strike option on \$50 XYZ stock, XYZ moving \$1 can really affect the value of your option – after all, a \$1 move lower means you're out-of-the-money! Your at-the-money option's delta will be more sensitive to price changes, which means its gamma is higher.

However, if you hold a 100-strike option on a \$50 XYZ stock, XYZ moving from \$50 to \$51 doesn't really change much in terms of the value of your option. You're still pretty far out of the money either way. Hence a \$1 change in the price of the underlying doesn't have a large effect on your option's delta, so your option has a smaller gamma.

cGAMMA	▽ cDELTA	cMIDIV	cBID	cASK	STRIKE	pBID	pASK	pMI_	▽ pDELTA	pGAMMA
0.07	0.82	66.64	3.20	4.80	M Sep17 16.00	0.41	0.43	66.94	0.18	0.07
0.09	0.74	63.96	2.52	3.90	M Sep17 17.00	0.64	0.68	64.00	0.26	0.09
0.10	0.64	61.63	1.91	1.97	M Sep17 18.00	0.99	1.02	62.62	0.36	0.10
0.11	0.53	61.28	1.38	1.57	M Sep17 19.00	1.47	1.50	61.88	0.47	0.11
0.11	0.42	61.67	0.97	1.04	M Sep17 20.00	2.05	2.13	62.56	0.57	0.11
0.10	0.33	62.73	0.71	0.73	M Sep17 21.00	2.76	2.83	63.09	0.67	0.10
0.09	0.25	63.08	0.50	0.51	M Sep17 22.00	3.55	4.85	63.89	0.75	0.09

Vega tracks how the price of an option moves with a change in implied volatility (IV).

It's similar to delta – but it's affected by a change in implied volatility, rather than a change in the price of the underlying.

Now, to be clear: vega is not volatility.

Volatility is a measurement of *changes in the underlying*.

Vega is a measurement of the *sensitivity of the price of an option* to changes in *anticipated* volatility (IV).

Now, long options (options you purchase) benefit from an increase in IV. That's pretty basic; the price of an option goes up if IV goes up. Therefore, long options have long vega. Conversely, short options (options you've sold) have a negative vega.

A long vega position will lose value if IV decreases, while a short vega position will increase in value if the IV decreases.

At-the-money options have a higher vega than out-of-the-money or in-the-money strikes, which you can see on the chart of M options below.

cVEGA	▽ cDELTA	cMIDIV	cBID	cASK	STRIKE	pBID	pASK	pMI...	▽ pDELTA	pVEGA
0.01	0.88	68.73	3.35	5.90	M Sep17 15.00	0.26	0.28	70.84	0.12	0.01
0.02	0.82	66.64	3.20	4.80	M Sep17 16.00	0.41	0.43	66.94	0.18	0.02
0.02	0.74	63.96	2.52	3.90	M Sep17 17.00	0.64	0.68	64.00	0.26	0.02
0.02	0.64	61.63	1.91	1.97	M Sep17 18.00	0.99	1.02	62.62	0.36	0.02
0.02	0.53	61.28	1.38	1.57	M Sep17 19.00	1.47	1.50	61.88	0.47	0.02
0.02	0.42	61.67	0.97	1.04	M Sep17 20.00	2.05	2.13	62.56	0.57	0.02
0.02	0.33	62.73	0.71	0.73	M Sep17 21.00	2.76	2.83	63.09	0.67	0.02
0.02	0.25	63.08	0.50	0.51	M Sep17 22.00	3.55	4.85	63.89	0.75	0.02
0.02	0.19	64.05	0.35	0.37	M Sep17 23.00	3.45	6.10	73.73	0.77	0.02
0.01	0.14	65.47	0.25	0.26	M Sep17 24.00	3.70	7.10	72.17	0.83	0.01
0.01	0.11	67.07	0.18	0.19	M Sep17 25.00	4.40	8.10	89.34	0.81	0.02

Finally, we have **theta** – how an option's value changes time passes, or the measurement of an option's time decay.

As an option nears expiration, it's time value erodes. The theta measures the change in price of an option for each day of time value the option loses.

For a single long option, theta is always negative – since whether you're buying a call or a put, expiration is always drawing nearer, and time value is decaying out of the option.

cTHETA	▽ cDELTA	cMIDIV	cBID	cASK	STRIKE	pBID	pASK	pMI...	▽ pDELTA	pTHETA
-0.01	0.88	68.73	3.35	5.90	M Sep17 15.00	0.26	0.28	70.84	0.12	-0.01
-0.01	0.82	66.64	3.20	4.80	M Sep17 16.00	0.41	0.43	66.94	0.18	-0.01
-0.02	0.74	63.96	2.52	3.90	M Sep17 17.00	0.64	0.68	64.00	0.26	-0.02
-0.02	0.64	61.63	1.91	1.97	M Sep17 18.00	0.99	1.02	62.62	0.36	-0.02
-0.02	0.53	61.28	1.38	1.57	M Sep17 19.00	1.47	1.50	61.88	0.47	-0.02
-0.02	0.42	61.67	0.97	1.04	M Sep17 20.00	2.05	2.13	62.56	0.57	-0.02
-0.02	0.33	62.73	0.71	0.73	M Sep17 21.00	2.76	2.83	63.09	0.67	-0.02
-0.02	0.25	63.08	0.50	0.51	M Sep17 22.00	3.55	4.85	63.89	0.75	-0.02

In the example above, the M September 19-strike call and put both lose \$0.02 of time value per day.

Theta tends to increase as expiration draws nearer. Take a look at the M August 19-strike options:

cTHETA	▽ cDELTA	cMIDIV	cBID	cASK	STRIKE	pBID	pASK	pMI...	▽ pDELTA	pTHETA
-0.05	0.81	94.44	2.17	2.45	M Aug20 17.00	0.27	0.30	95.22	0.19	-0.05
-0.05	0.75	90.39	1.79	1.84	M Aug20 17.50	0.39	0.41	92.81	0.25	-0.06
-0.06	0.68	89.47	1.44	1.49	M Aug20 18.00	0.53	0.56	92.33	0.32	-0.06
-0.06	0.60	88.25	1.14	1.19	M Aug20 18.50	0.73	0.76	91.05	0.40	-0.07
-0.07	0.51	89.54	0.91	0.93	M Aug20 19.00	0.98	1.01	91.37	0.49	-0.07
-0.07	0.43	89.15	0.68	0.72	M Aug20 19.50	1.27	1.30	92.41	0.57	-0.07
-0.06	0.35	90.18	0.50	0.54	M Aug20 20.00	1.60	1.65	93.09	0.64	-0.06

The theta of these options is more than three times the theta of the September options – but that's because they only have a single week left to trade.

This is a very, very basic overview of the Greeks. If you want to get serious about trading, I suggest you do some research to learn more on the particulars of each, and how each of the Greeks relates to the factors of the options pricing model.

Or, of course, you can always let me do the Greek management for you by **joining me here!** (https://options.clickfunnels.com/order-form1628808898894/?utm_source=iopmslil&utm_medium=e&utm_campaign=lilregche&utm_content=fpit081621getting-to-know-the-greeks&utm_term=ms).

Your Only Option,

Mark Sebastian

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