



# Options Fundamentals

## Ep 8

# Demystifying the Greeks

## Rho & Wrap up

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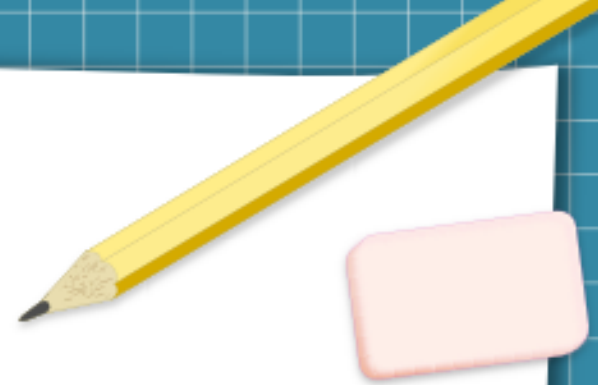


# Disclaimer

**This presentation is for educational purposes only. Nothing in this presentation is intended to be trading or financial advice.**

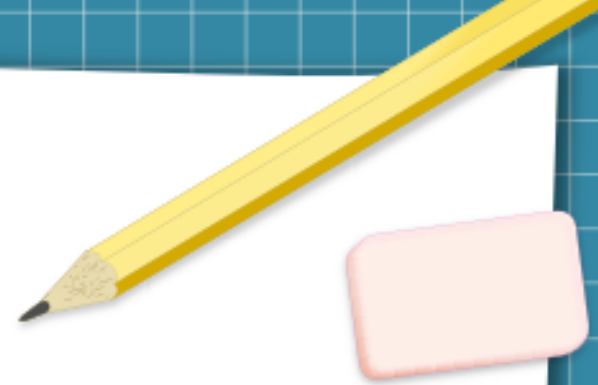
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# Cost to Carry



- **Any time you put money somewhere, you have to measure the cost of not putting it somewhere (i.e. interest)**
  - **By putting money (or margin) into an option, you are giving up the potential interest you could be earning on that money**
  - **This is a cost to carry and it can be quantified**

# What is Rho?



- **Rho is the Greek that quantifies the cost to carry of an options contract**
- **Calls have positive Rho while puts have negative Rho**
  - This is because call options tend to go up with interest rates while put options tend to go down
- **Rho is higher ITM than OTM**
- **Rho is higher as you go further out in time**

# Rho @ 9 days

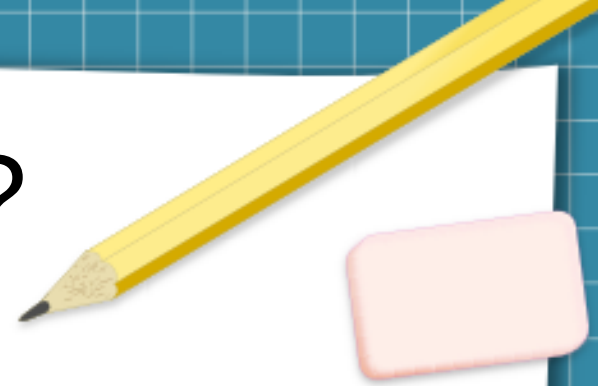
SPX												S&P 500 INDEX		2792.67		+17.79		B: 2757.10		+0.64%		A: 2810.54					
Underlying												Last X		Net Chng		Bid X		Ask X		Size							
												2792.67		+17.79		2757.10		2810.54		0 x 0							
Option Chain												Filter: Off		Spread: Single		Layout: Last X, Net Change, Impl Vol, Delta, Vega, Rho, Bid X, Ask X											
CALLS												Strikes: 30		Exp		Strike											
												Last X		Net C...		Impl Vol		Delta		Vega		Rho		Bid X		Ask X	
4 MAR 19 (9) 100 (Weeklys)												74.95 C		+47.00		--		1.00		.00		.82		73.10 C		75.70 C	
												52.10 C		0		7.01%		.98		.22		.80		68.50 C		71.00 C	
												57.45 C		0		7.78%		.96		.43		.79		63.90 C		66.40 C	
												60.35 C		+16.25		8.14%		.94		.60		.77		59.40 C		61.80 C	
												51.55 C		+4.05		8.38%		.91		.76		.75		55.00 C		57.30 C	
												49.80 C		+9.50		8.49%		.89		.92		.73		50.60 C		52.90 C	
												41.90 C		+4.41		8.55%		.86		1.07		.71		46.40 C		48.50 C	
												40.50 C		+12.20		8.53%		.83		1.21		.69		42.20 C		44.20 C	
												36.50 C		+9.20		8.50%		.80		1.35		.66		38.10 C		40.10 C	
												35.00 C		+8.10		8.44%		.77		1.48		.64		34.20 C		36.00 C	
												30.28 C		+8.90		8.36%		.73		1.60		.61		30.40 C		32.10 C	
												26.58 C		+8.93		8.25%		.69		1.71		.57		26.80 C		28.30 C	
												23.20 C		+5.60		8.18%		.65		1.80		.54		23.40 C		24.80 C	
												21.40 C		+4.25		8.09%		.60		1.87		.50		20.20 C		21.50 C	
												18.40 C		+7.40		8.00%		.55		1.92		.46		17.30 C		18.40 C	
												15.50 C		+6.55		8.00%		.50		1.93		.41		14.90 C		15.60 C	
												12.55 C		+4.40		7.83%		.45		1.92		.37		12.40 C		12.80 C	
												10.30 C		+3.65		7.82%		.39		1.87		.33		10.20 C		10.80 C	
												8.93 C		+3.69		7.72%		.34		1.78		.29		8.20 C		8.80 C	
												7.18 C		+2.03		7.64%		.29		1.67		.24		6.50 C		7.10 C	
												5.48 C		+1.98		7.57%		.25		1.53		.21		5.10 C		5.60 C	
												4.95 C		+1.85		7.46%		.20		1.37		.17		3.90 C		4.30 C	
												3.71 C		+1.67		7.43%		.17		1.21		.14		3.00 C		3.30 C	
												2.45 C		+.65		7.36%		.13		1.03		.11		2.25 C		2.45 C	
												1.73 C		+.38		7.34%		.10		.87		.09		1.65 C		1.85 C	
												1.25 C		+.25		7.30%		.08		.72		.07		1.20 C		1.35 C	
												.90 C		+.10		7.29%		.06		.58		.05		.85 C		1.00 C	
												.65 C		+.09		7.25%		.05		.46		.04		.60 C		.70 C	
												.50 C		+.05		7.29%		.03		.37		.03		.40 C		.55 C	
												.50 C		0		7.36%		.03		.29		.02		.30 C		.40 C	

# Rho @ 327 days

SPX S&P 500 INDEX 2792.67 +17.79 +0.64% B: 2757.10 A: 2810.54												
Underlying												
		Last X	Net Chng		Bid X		Ask X		Size			
		2792.67	+17.79		2757.10		2810.54		0 x 0			
Option Chain Filter: Off Spread: Single Layout: Last X, Net Change, Impl Vol, Delta, Vega, Rho, Bid X, Ask X												
CALLS											Strikes: 30	
	Last X	Net C...	Impl Vol	Delta	Vega	Rho	Bid X	Ask X	Exp	Strike		
17 JAN 20 (327) 100												
	0	0	13.16%	.91	4.22	19.06	429.30 C	433.10 C	17 JAN 20	2425		
	322.00 C	0	13.40%	.89	4.83	18.81	408.90 C	412.50 C	17 JAN 20	2450		
	272.36 C	0	13.55%	.88	5.39	18.55	388.60 C	392.20 C	17 JAN 20	2475		
	367.42 C	-.83	13.63%	.86	5.92	18.28	368.60 C	372.10 C	17 JAN 20	2500		
	287.35 C	0	13.68%	.84	6.43	17.99	348.90 C	352.30 C	17 JAN 20	2525		
	318.00 C	0	13.68%	.82	6.92	17.68	329.40 C	332.80 C	17 JAN 20	2550		
	252.25 C	0	13.66%	.80	7.38	17.35	310.30 C	313.60 C	17 JAN 20	2575		
	287.50 C	+9.50	13.59%	.78	7.83	17.01	291.40 C	294.60 C	17 JAN 20	2600		
	268.32 C	0	13.49%	.76	8.24	16.64	272.80 C	275.90 C	17 JAN 20	2625		
	253.92 C	+2.62	13.38%	.74	8.64	16.25	254.60 C	257.60 C	17 JAN 20	2650		
	236.70 C	0	13.25%	.71	9.01	15.83	236.70 C	239.70 C	17 JAN 20	2675		
	217.50 C	+6.50	13.09%	.69	9.35	15.38	219.20 C	222.10 C	17 JAN 20	2700		
	193.50 C	0	12.93%	.67	9.66	14.90	202.60 C	204.60 C	17 JAN 20	2725		
	185.50 C	+4.90	12.74%	.64	9.93	14.39	185.90 C	187.90 C	17 JAN 20	2750		
	171.02 C	+10.02	12.54%	.61	10.16	13.84	169.80 C	171.70 C	17 JAN 20	2775		
	150.80 C	+8.00	12.33%	.58	10.34	13.27	154.20 C	155.90 C	17 JAN 20	2800		
	139.30 C	0	12.11%	.55	10.48	12.65	139.20 C	140.80 C	17 JAN 20	2825		
	125.55 C	+1.70	11.89%	.52	10.56	12.01	124.80 C	126.40 C	17 JAN 20	2850		
	108.70 C	+5.16	11.67%	.49	10.57	11.33	111.20 C	112.70 C	17 JAN 20	2875		
	97.04 C	+2.44	11.44%	.46	10.51	10.62	98.30 C	99.70 C	17 JAN 20	2900		
	87.00 C	0	11.21%	.42	10.38	9.89	86.20 C	87.50 C	17 JAN 20	2925		
	74.98 C	+5.78	11.01%	.39	10.17	9.14	75.10 C	76.40 C	17 JAN 20	2950		
	64.85 C	-1.15	10.80%	.36	9.88	8.38	64.80 C	66.00 C	17 JAN 20	2975		
	55.37 C	-3.78	10.61%	.32	9.52	7.62	55.60 C	56.80 C	17 JAN 20	3000		
	47.51 C	-1.81	10.43%	.29	9.08	6.87	47.30 C	48.40 C	17 JAN 20	3025		
	42.40 C	0	10.27%	.26	8.57	6.14	40.00 C	41.00 C	17 JAN 20	3050		
	24.90 C	0	10.14%	.23	8.03	5.45	33.60 C	34.70 C	17 JAN 20	3075		
	31.50 C	0	10.03%	.20	7.45	4.81	28.20 C	29.20 C	17 JAN 20	3100		
	22.80 C	0	9.93%	.18	6.86	4.21	23.50 C	24.40 C	17 JAN 20	3125		
	18.95 C	0	9.87%	.15	6.27	3.67	19.60 C	20.50 C	17 JAN 20	3150		

# Why Do We Care?

- **Most of the time, we don't**
- **When would we care?**
  - **High interest rate environment**
  - **Trading LEAPS (>1 yr options)**



# Summary of Greeks



- **Delta / Gamma**
  - Helps us determine the price risk of our position
- **Theta**
  - Helps us determine the time risk of our position
- **Vega**
  - Helps us determine the volatility risk of our position
- **Rho**
  - Helps us determine the cost to carry risk of our position



# Putting It All Together



- **Understand the goals of your trade**
  - How does your trade make money?
- **Are the assumptions of your position still valid?**
  - Do you need to adjust?
  - Do you need to exit?
  - Is the risk still worth the reward?
- **All of this leads to the creation of a trade plan!**

# Greeks as Physics

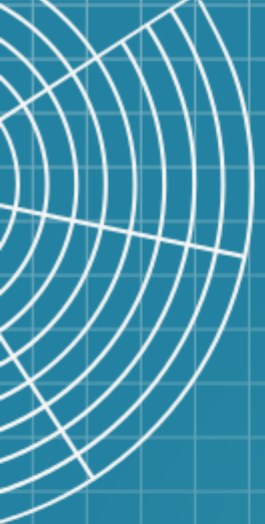


- **Some Greeks will work against each other at certain times**
  - **Delta/Gamma may make your trade explode if it moves in the right direction**
  - **But Theta is highest near expiration as well**
  - **Delta may benefit you if a stock goes up, but Vega may push back against that**
- **Sometimes the Greeks work together and can really help you in one direction, but really hurt you in the opposite direction**
- **Successful traders understand these forces and build trade plans to account for them**

# Anatomy of a Trade Plan



- **Initial Setup**
  - Underlying, DTE, which options to buy/sell
  - When do you put this trade on? (Market conditions, timing, etc)
  - Initial Greeks
- **Profit Goal / Max Loss**
- **Adjustment Points (if any)**
  - How do you respond when the market conditions change the assumptions of your trade?
  - Where and when should you adjust?
- **How long should you stay in?**
- **All of these things are based on the Greeks!**



Thank you for your time. Let's keep talking!  
Gab: Finance Group  
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BitChute: MidwayTrades

