

Options on Futures

Very similar to options on Stocks.

Think Coupons and Car Insurance

Call (Coupon) – You pay for the right to buy something at a discount

Put (Insurance) – You pay a premium for the right to sell your car for the value before you wrecked it

Options are a Derivative – Value of the security is derived from something else

You trade Options on an Underlying Security

Underlying Security: Stock, ETF's, Indexes, Futures Contracts



Main difference: Stocks vs Futures, there is an extra expiration date. You must choose the expiration of both the option itself and the expiration of the futures contract.

Volatility:

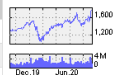
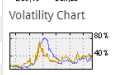






Historical Volatility (HV), also referred to as Statistical Volatility (SV) – Chart, it is the past price movement

Implied Volatility (IV) – Expected price movement for the future

Are Options Cheap or Expensive? IV compared to last 52 week HV high vs Low

Symbol: GOOGL ALL  Symbol Lookup: Alphabet Inc [class A]
Options Root: 

Price	Change (%)	52 wk High	52 wk Low	Stock volume	1WK Avg Opt Volume	1WK Avg Opt OI	EOD Opt Volume	EOD Opt OI	
1,762.50	+16.65 (+0.95%)	1,762.50 11/05/2020	1,054.13 03/23/2020	1,978,772	42,550	257,100	30,630	273,796	
Current		HISTORICAL VOLATILITY		1 MO AGO		52 wk HI/Date		52 wk Low/Date	
10 days	52.10%	36.38%	29.02%			107.97% - 17-Mar		6.75% - 23-Dec	
20 days	40.18%	33.79%	29.18%			80.61% - 08-Apr		11.56% - 31-Dec	
30 days	35.24%	IMPLIED VOLATILITY							
IV Index call	30.63%	42.99%	40.06%			73.71% - 16-Mar		14.00% - 16-Dec	
IV Index mean	30.34%	42.16%	39.52%			75.57% - 16-Mar		13.41% - 16-Dec	
		42.58%	39.79%			74.64% - 16-Mar		13.71% - 16-Dec	
30 days	73.86%	30-DAYS CORRELATION AGAINST S&P 500 Index (SPX)				97.15% - 24-Mar		45.87% - 18-Feb	
		89.10%	89.33%						

Implied Vola (%)	Call Delta	Option Value	Change (%)	Call Bid/Ask Mean	Expiry	Strike	Days	Put Bid/Ask Mean	Change (%)	Option Value	Put Delta	Implied Vola (%)	Price Chart
32.59%	54.50%	37.7500	N/A (7)	37.750	Nov 13, 2020	1755.0	8	29.550	N/A (7)	29.5500	-45.45%	31.93%	
31.98%	52.16%	34.5500	5.55 (19.14)	34.550	Nov 13, 2020	1760.0	8	31.300	-10.75 (-25.56)	31.3000	-47.84%	31.26%	
31.60%	49.74%	31.7000	N/A (7)	31.700	Nov 13, 2020	1765.0	8	34.150	N/A (7)	34.1500	-50.26%	31.56%	
31.20%	47.28%	28.9500	4.75 (19.63)	28.950	Nov 13, 2020	1770.0	8	36.150	-12.10 (-25.08)	36.1500	-52.77%	30.94%	
31.89%	57.43%	54.5500	N/A (7)	54.550	Nov 20, 2020	1745.0	15	36.050	N/A (7)	36.0500	-42.46%	31.19%	
31.71%	55.71%	51.6000	7.25 (16.35)	51.600	Nov 20, 2020	1750.0	15	39.200	-8.85 (-18.42)	39.2000	-44.30%	31.82%	
31.17%	52.19%	45.7000	6.35 (16.14)	45.700	Nov 20, 2020	1760.0	15	43.500	-9.25 (-17.54)	43.5000	-47.82%	31.41%	
30.81%	48.56%	40.4000	5.65 (16.26)	40.400	Nov 20, 2020	1770.0	15	47.400	-10.90 (-18.70)	47.4000	-51.48%	30.49%	

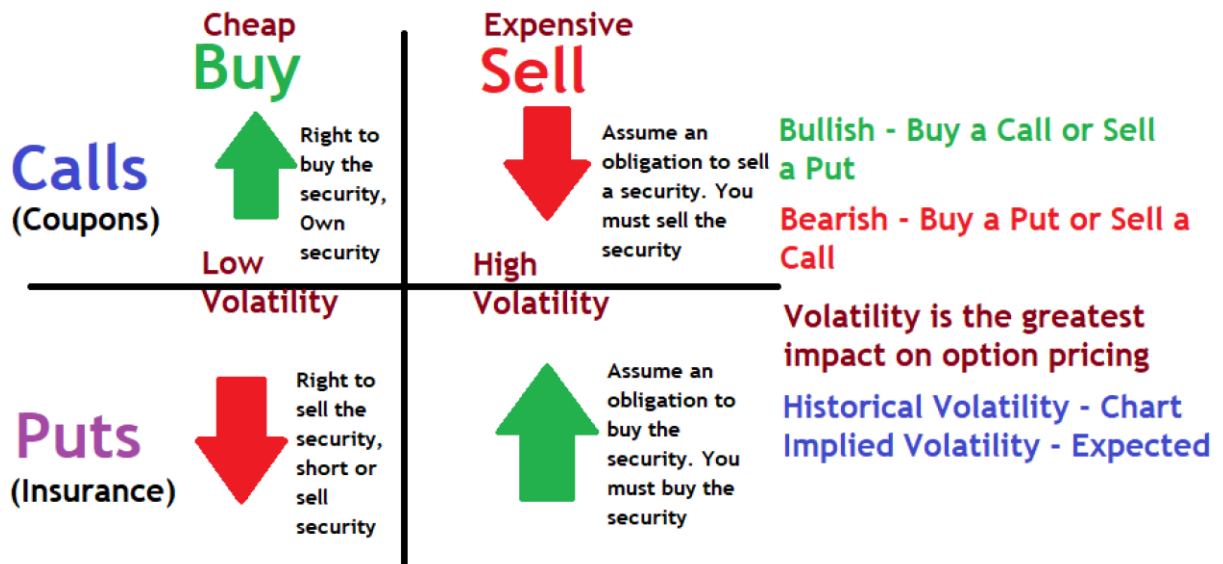
HV Range = 107.97 to 6.75

Divide into 5ths $107.97 - 6.75 = 102.22 / 5 = 20.244$

- IV Range 5 – 87.827 to 107.97 Very Expensive Options, look to sell
- IV Range 4 – 67.483 to 87.826 Expensive Options, look to sell or use spreads
- IV Range 3 – 47.239 to 67.482 Neutral
- IV Range 2 – 26.995 to 47.238 Cheap Options, look to buy or use spreads
- IV Range 1 – 6.75 to 26.994 Cheapest Options Look to Buy

Gimmie Three Steps:

1. Are You Bullish, Bearish or Neutral on the Underlying Security
 - a. Lets you know direction to play
2. Are Options Cheap or Expensive?
 - a. Tells you whether to be a buyer or seller
3. Choose and implement the correct strategy



Options on Futures

You are buying the Right to buy or sell a futures contract.

American Style – You can exercise your right whenever prior to expiration (Stocks & ETF's)

European Style – Only exercise it at expiration (Index and Futures)

Regardless of style, you can buy and/or sell the option whenever you would like.

Example: Today is 11/6/2020, /ES you can trade options on /ESZ20 that expire in Nov.

NOV 20	(14)	1 /ESZ20 (Wk3)											
			.54	.00	-2.11	2.82	69.25 G	69.75 G	/EW3X20	3490	55.50 G	56.25 G	
			.53	.00	-2.09	2.82	66.00 G	66.75 G	/EW3X20	3495	57.50 G	58.25 G	
			.52	.00	-2.08	2.83	63.00 G	63.75 G	/EW3X20	3500	59.50 G	60.25 G	
			.50	.00	-2.06	2.83	60.00 G	60.75 G	/EW3X20	3505	61.50 G	62.25 G	
			.49	.00	-2.05	2.83	57.25 G	57.75 G	/EW3X20	3510	63.50 G	64.25 G	
			.48	.00	-2.03	2.83	54.25 G	55.00 G	/EW3X20	3515	65.75 G	66.50 G	

Buying the 3500 Call Option Expires on Nov 20th, the Future Expires Dec 18th. You cannot buy the future early. European style means you cannot exercise your right before Nov 20th to own the ESZ20

At Expiration, if the Option is ITM (has value) you will receive the futures contract and must have the initial margin for it. If you don't have enough money in your account for the initial margin of the future, the future will sold and you get either a profit or a loss.

If your option is OTM, you lose your premium. The option expires worthless.

If you buy an option that expires the same day as the futures contract:

DEC 20	(42)	1 /ESZ20											
			.55	.00	-1.24	4.76	119.75 G	120.25 G	/ESZ20	3480			
			.54	.00	-1.23	4.78	113.25 G	114.00 G	/ESZ20	3490			
			.52	.00	-1.22	4.79	107.00 G	107.75 G	/ESZ20	3500			
			.51	.00	-1.21	4.80	101.00 G	101.50 G	/ESZ20	3510			
			.49	.00	-1.19	4.80	95.00 G	95.50 G	/ESZ20	3520			
			.48	.00	-1.18	4.79	89.25 G	89.75 G	/ESZ20	3530			

If the Option is ITM or ATM (has value) at expiration of both the option and futures, you get cash

If the Option is OTM, (you lose) at the expiration, you pay the winner the amount lost (premium paid)

Exercise/Assignment

When you are a buyer of options, you can choose to exercise the option

1. Call exercise, your right to buy the underlying futures contract
 - a. If the futures contract is not expiring, you can buy it
 - b. If the futures contract is expiring, you receive cash value for the profit
2. Put exercise, your right to sell the underlying futures contract
 - a. If the futures contract is not expiring, you can sell it
 - b. If the futures contract is expiring, you receive cash value for the profit
3. You cannot exercise European style options until they expire, but you can sell them whenever you want to close your position.
4. American style options can be exercised or sold whenever you want

When you are a seller of an option, you may be assigned

1. Call assignment, you must sell the underlying futures contract at the strike price
 - a. If the futures contract is not expiring, you must sell it
 - b. If the futures contract is expiring, you pay the cash value of the loss
2. Put assignment, you must buy the underlying futures contract at the strike price
 - a. If the futures contract is not expiring, you must buy it
 - b. If the futures contract is expiring, you pay cash value of the loss

How much is it?

Premiums are listed Bid for selling and Ask for buying in the option chain

Actual cost is listed premium x point value (multiplier)

Calls listed 1st, puts on the right

▼ DEC 20 (42) 1 /ESZ20										26.96% (±259.052)			
.55	.00	-1.24	4.76	119.25 G	120.00 G	/ESZ20	3480	272.75 G	275.25 G	-.45	.00	-3.32	4.75
.54	.00	-1.23	4.78	112.75 G	113.50 G	/ESZ20	3490	97.25 G	98.00 G	-.46	.00	-1.23	4.78
.52	.00	-1.22	4.79	106.50 G	107.25 G	/ESZ20	3500	101.00 G	101.75 G	-.48	.00	-1.22	4.79
.51	.00	-1.21	4.80	100.50 G	101.25 G	/ESZ20	3510	105.00 G	105.75 G	-.49	.00	-1.21	4.80
.49	.00	-1.19	4.80	94.50 G	95.25 G	/ESZ20	3520	109.00 G	109.75 G	-.51	.00	-1.19	4.80
.48	.00	-1.17	4.79	88.75 G	89.50 G	/ESZ20	3530	113.25 G	114.00 G	-.52	.00	-1.18	4.79

We want to buy Dec 3500 Call @107.25

Dec is option expiration, 3500 (Strike Price) the price you want to get the futures contract at. (buying a 3500 coupon that expires in Dec). Premium = 107.25 x \$50/pt. for ES. = \$5362.50 total premium

Premium is the margin when buying options.