Trading Options Around Earnings

OPTIONS WEBINAR: APRIL 28, 2022

What is on our agenda today?

Researching Earnings

How to find and screen for securities with upcoming earnings

Volatility

What are implied and historical volatility and how do they impact your trade

Options Strategies

Which strategies can be considered for a potential earnings trade

Expected move

How to estimate an expected move for earnings announcements

Volatility

Historical vs. Implied volatility

Historical volatility (HV)

- Uses *actual* pricing data over the specified period
- Measure of *realized* volatility
- Can be gauged by looking at a price chart
- Based on number of trading days – i.e. HV20 includes 20 trading days worth of data

Volatility

Historical vs. Implied volatility

Implied volatility (IV)

- Derived from the option contract prices on the given security
- Measure of future expected movement
- Based on calendar days for a theoretical option i.e. IV30 is for 30 calendar days

Volatility is both an input for, and an output from, option theoretical pricing models such as Black Scholes, Binomial, and others

- HV is considered when pricing the initial IV in the contract
- Estimate of IV can be derived by working backwards through the formula since the option's price and all other components are known

Volatility

Implied Volatility

- Measures what the market "expects" volatility of the security to be in the future, based on premiums for option contracts on that security
- Annualized percentage for future expected move
- Dynamic - will change with option prices based on supply and demand for contracts

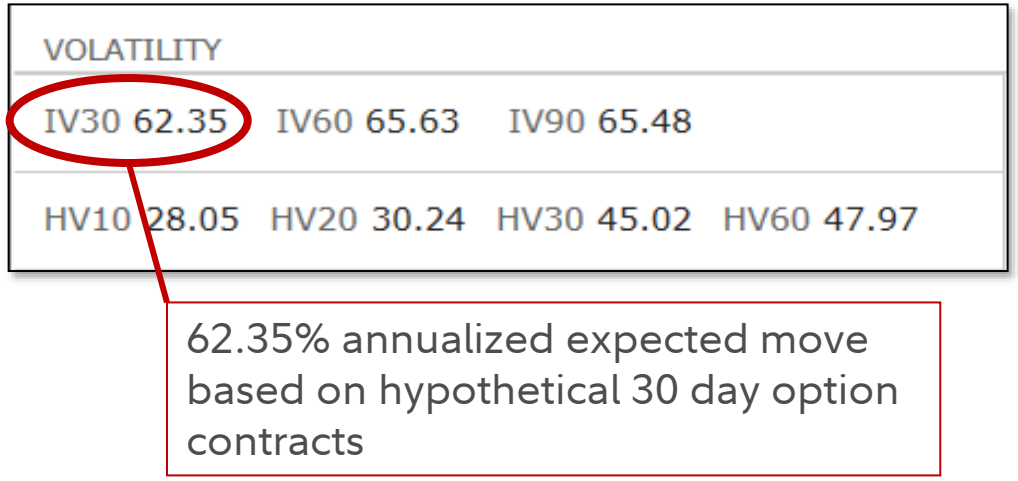


Image shows volatility data from the option statistics tool in Active Trader Pro

Volatility

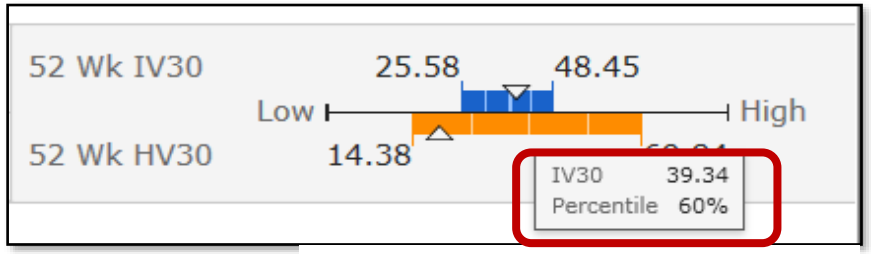
Implied Volatility

IV is a product of supply and demand for option contracts, and therefore has an affect on option prices. It can be a measure of relative expensiveness.

Higher expected move in the security → *Higher demand for option contracts* → *Higher implied volatility (IV)* → **$$$ More expensive premiums**

How can you determine whether a specific stock's IV is relatively expensive (or inexpensive?)

IV percentile shows where a specific stock's IV is compared to where it has been within the last 52 weeks.



IV percentile can be found in the option statistics feature on ATP.

Volatility

Implied Volatility

IV index chart compares historical volatility (HV) with implied volatility (IV) over the last year and can be found in the options research on Fidelity.com

How can you determine whether a specific stock's IV is relatively expensive (or inexpensive?)

- Helps to compare current volatility data with historical data to identify potentially high or low levels
- Allows traders to identify divergence and convergence between HV and IV
- Quick way to find when volatility measures could be at extremes and may revert to their mean values
  - Keep in mind that the mean could potentially change to that extreme level.

Expected move calculation

Many traders will convert the annualized expected move into daily expected move or expected move until expiration using the following formula:

$$\text{One standard deviation move} = \frac{\text{Stock Price} \times \text{Implied Volatility} \times \sqrt{\text{Days to expiry}}}{\sqrt{\text{Trading Days in a year}}}$$

Hypothetical example of how to calculate the daily expected move…

Stock price = $100
IV = 20%
Sq. root of trading days in a year = approx. 16

$$\frac{\$100 \times .20 \times 1}{16} \quad \textbf{+ or (-) \$1.25}$$

Something helpful to remember is 16% IV results in a 1% daily expected move

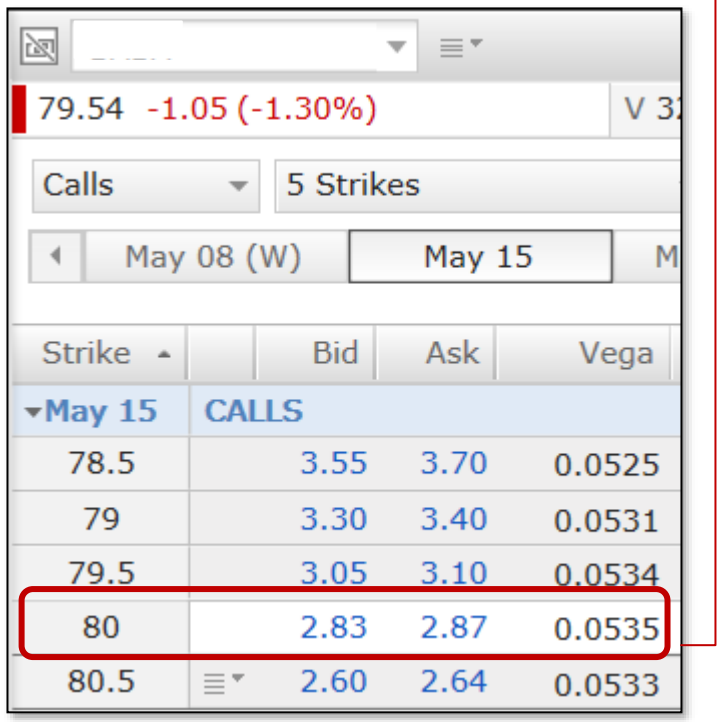
For example: Stock price = $100 IV = 16%
[$100 x .16 x 1]/16 = +/(-)$1

Impact on Option Prices

Q: Which option Greek measures the impact of implied volatility (IV) changes on an option contract's value?

A: Vega estimates the amount an option contract will change due to a 1% move in IV

Let's look at an example...



Vega = .0535
Theoretically, the option will make $5 per contract with each 1% move up in IV, and lose $5 per contract with each 1% move down in IV.

Example:
You are predicting a 8% drop in IV after an earnings announcement.

-8 x .0535 x 100 = **-$42.80 / contract**

You are expecting the contract price to go **from 2.83 to 2.40** (2.83 - .428) resulting in a **loss of $42.80 from the 8% IV drop**, if everything else remained constant.

Volatility Crush and Vega

Last	Chg	Bid	Ask	Volume	Open Int	Vega	IV Mid	Strike	Last	Chg	Bid	Ask	Volume	Open Int	Vega	IV Mid
						CALLS		Mar 24	PUTS							
2.34	0.01	2.30	2.40	1,896	1,337	0.0187	97.12 %	64	1.44	-0.15	1.29	1.40	3,548	471	0.0186	92.25 %
2.08	0.01	1.75	2.16	1,019	1,187	0.0192	90.50 %	64.5	1.59	-0.22	1.48	1.68	968	647	0.0191	92.67 %
1.81	-0.01	1.69	1.81	7,031	10,232	0.0193	92.88 %	65	1.88	-0.18	1.85	1.88	842	311	0.0193	94.38 %
1.55	-0.01	1.53	1.60	4,389	568	0.0192	94.91 %	65.5	2.05	-0.25	1.97	2.22	122	112	0.0192	92.21 %
1.29	-0.05	1.15	1.38	1,822	1,314	0.0189	90.13 %	66	2.38	-0.24	2.19	2.48	135	63	0.0188	89.35 %

Last	Chg	Bid	Ask	Volume	Open Int	Vega	IV Mid	Strike	Last	Chg	Bid	Ask	Volume	Open Int	Vega	IV Mid
						CALLS		Mar 24	PUTS							
0.07	-2.27	0.05	0.10	313	1,682	0.0068	40.97 %	64	1.98	0.54	1.85	2.02	2,569	3,606	0.0041	32.27 %
0.05	-2.03	0.05	0.10	143	1,299	0.0062	48.68 %	64.5	2.40	0.81	2.10	2.50	69	721	0.0063	41.39 %
0.05	-1.76	0.04	0.05	855	13,214	0.0044	49.69 %	65	2.67	0.79	2.77	2.99	134	878	0.0062	33.23 %
0.04	-1.51	0.03	0.04	140	4,364	0.0035	53.09 %	65.5	3.67	1.62	3.00	3.65	7	186	0.0077	58.22 %
0.04	-1.25	0.02	0.05	189	1,926	0.0033	58.95 %	66	3.90	1.52	3.55	4.00	7	159	0.0053	46.86 %

Volatility on the Calls:
IV Mid was 92.88% with Vega at $0.0193
IV Mid ended up at 49.69%
Option Value Lost due to Volatility = 92.88% - 49.69% = 43.19% * $0.0193 = **about $0.83**

Volatility on the Puts:
IV Mid was 94.38% with Vega at $0.0193
IV Mid ended up at 33.23%
Option Value Lost due to Volatility = 94.38% - 33.23% = 61.15% * $0.0193 = **about $1.18**

Key Takeaways

Fidelity.com offers research to help develop an outlook on an earnings report.

Know what you're trading: Implied Volatility and the Volatility Crush can have significant impacts on your trades.

No trade is perfect, every trade has a trade-off.

Have a plan: Understanding the risks that you are willing to take and the impacts of various factors, can help you to plan your trade more effectively and manage your overall expectations.

Visit the Fidelity Learning Center

Learn more about investing, trading, and personal finance

Read: Learn about a variety of topics with timely articles and viewpoints

Watch: Check out upcoming coaching sessions at www.fidelity.com/coaching

Attend: Register for monthly webinars at www.fidelity.com/webinar

Thank You

Please join us for our upcoming webinars

Download Active Trader Pro for free at
Fidelity.com/ATP

Questions? Call a trading specialist at
800-564-0211

Fidelity INVESTMENTS

Disclosures

Options trading entails significant risk and is not appropriate for all investors. Certain complex options strategies carry additional risk. Before trading options, please read Characteristics and Risks of Standardized Options. Supporting documentation for any claims, if applicable, will be furnished upon request.

Greeks are mathematical calculations used to determine the effect of various factors on options.

Any screenshots, charts, or company trading symbols mentioned are provided for illustrative purposes only and should not be considered an offer to sell, a solicitation of an offer to buy, or a recommendation for the security.

© 2022 FMR LLC. All rights reserved.
Fidelity Brokerage Services LLC, Member NYSE, SIPC, 900 Salem Street, Smithfield, RI 02917

1025119.1.0