IBKRCampus

IBKRWebinars

www.ibkr.com/campus/webinars

www.ibkr.eu/campus/webinars

October 6, 2025

Options in Elevated Volatility Regimes: Adapting Strategies for Unsettled Markets

Mathew Cashman
Principal, OCC & Instructor, The Options Industry Council

Exchange and Industry Sponsored Webinars are presented by unaffiliated third parties. IBKR is not responsible for the content of these presentations. You should review the contents of each presentation and make your own judgment as to whether the content is appropriate for you. IBKR does not provide recommendations or advice. This presentation is not an advertisement or solicitation for new customers. It is intended only as an educational presentation.

IBKR CLASSIFICATION: INTERNAL

IBKRCampus

IBKRWebinars

www.ibkr.com/campus/webinars

www.ibkr.eu/campus/webinars

Disclosure:

Options involve risk and are not suitable for all investors. For information on the uses and risks of options, you can obtain a copy of the Options Clearing Corporation risk disclosure document titled Characteristics and Risks of Standardized Options or by calling (312) 542-6901.

Futures are not suitable for all investors. The amount you may lose may be greater than your initial investment. Before trading futures, please read the CFTC Risk Disclosure. For a copy visit your local Interactive Brokers Website.

Security futures involve a high degree of risk and are not suitable for all investors. The amount you may lose may be greater than your initial investment. Before trading security futures, please read the Security Futures Risk Disclosure Statement. For a visit copy your local Interactive Brokers Website.

There is a substantial risk of loss in foreign exchange trading. The settlement date of foreign exchange trades can vary due to time zone differences and bank holidays. When trading across foreign exchange markets, this may necessitate borrowing funds to settle foreign exchange trades. The interest rate on borrowed funds must be considered when computing the cost of trades across multiple markets.

The Order types available through Interactive Brokers Trader Workstation are designed to help you limit your loss and/or lock in a profit. Market conditions and other factors may affect execution. In general, orders guarantee a fill or guarantee a price, but not both. In extreme market conditions, an order may either be executed at a different price than anticipated or may not be filled in the marketplace.

There is a substantial risk of loss in trading futures and options. Past performance is not indicative of future results.

Any stock, options or futures symbols displayed are for illustrative purposes only and are not intended to portray recommendations.

IRS Circular 230 Notice: These statements are provided for information purposes only, are not intended to constitute tax advice which may be relied upon to avoid penalties under any federal, state, local or other tax statutes or regulations, and do not resolve any tax issues in your favor.

Interactive Brokers LLC is a member of NYSE FINRA SIPC

Interactive Brokers Canada Inc - Is a member of the Canadian Investment Regulatory Organization (CIRO) and Member - Canadian Investor Protection Fund

Interactive Brokers (U.K.) Limited is authorised and regulated by the Financial Conduct Authority. FCA Register Entry Number 208159

Interactive Brokers Ireland Limited is regulated by the Central Bank of Ireland. CBI, reference number C423427

Interactive Brokers Australia Pty. Ltd. - ABN 98 166 929 568 is licensed and regulated by the Australian Securities and Investments Commission AFSL: 453554

Interactive Brokers Singapore Pte. Ltd. - Is licensed and regulated by the Monetary Authority of Singapore. MAS, Licence No. CMS100917

Interactive Brokers Hong Kong Limited is regulated by the Hong Kong Securities and Futures Commission, and is a member of the SEHK and the HKFE

Interactive Brokers India Pvt. Ltd. member: NSE, BSE, SEBI. Regn. No. SEBI Registration No. INZ000217730; NSDL: IN-DP-NSDL-301-2008

As with all investments, your capital is at risk

IBKR CLASSIFICATION: INTERNAL

OIC The Options Industry Council®

Options in Elevated Volatility Regimes

Mat Cashman
Principal / Investor Education / OCC
Instructor / The Options Industry Council (OIC)

Disclaimer

Options involve risks and are not suitable for everyone. Individuals should not enter into options transactions until they have read and understood the options disclosure document, *Characteristics and Risks of Standardized Options*, available by visiting OptionsEducation.org or by contacting your broker, any exchange on which options are traded, or The Options Clearing Corporation at 125 S. Franklin St., #1200, Chicago, IL 60606.

In order to simplify the calculations used in the examples in these materials, commissions, fees, margin, interest and taxes have not been included. These costs will impact the outcome of any stock and options transactions and must be considered prior to entering into any transactions. Investors should consult their tax advisor about any potential tax consequences.

Any strategies discussed, including examples using actual securities and price data, are strictly for illustrative and educational purposes and should not be construed as an endorsement, recommendation, or solicitation to buy or sell securities. Past performance is not a guarantee of future results.

All content in this document is owned, or licensed, by The Options Clearing Corporation ('OCC'). Unauthorized use is prohibited without written permission of OCC. While reasonable efforts have been made to ensure that the contents of this document are accurate, the document is provided strictly "as is", and no warranties of accuracy are given concerning the contents of the information contained in this document, including any warranty that the document will be kept up to date. OCC reserves the right to change details in this document without notice. To the extent permitted by law no liability (including liability to any person by reason of negligence) will be accepted by OCC or its employees for any direct or indirect loss or damage caused by omissions from or inaccuracies in this document.

OCC makes no recommendation with respect to any firm or organization, nor does it endorse, warrant, or guarantee products, services or information described or offered by any such entity.

© 2025 The Options Clearing Corporation. All Rights Reserved.

Trademarks

The following trademarks, logos, and service marks displayed are owned by The Options Clearing Corporation:

The Options Clearing Corporation®	OCC®
The Options Industry Council®	OIC®

© 2025 The Options Clearing Corporation. All Rights Reserved.

About OIC

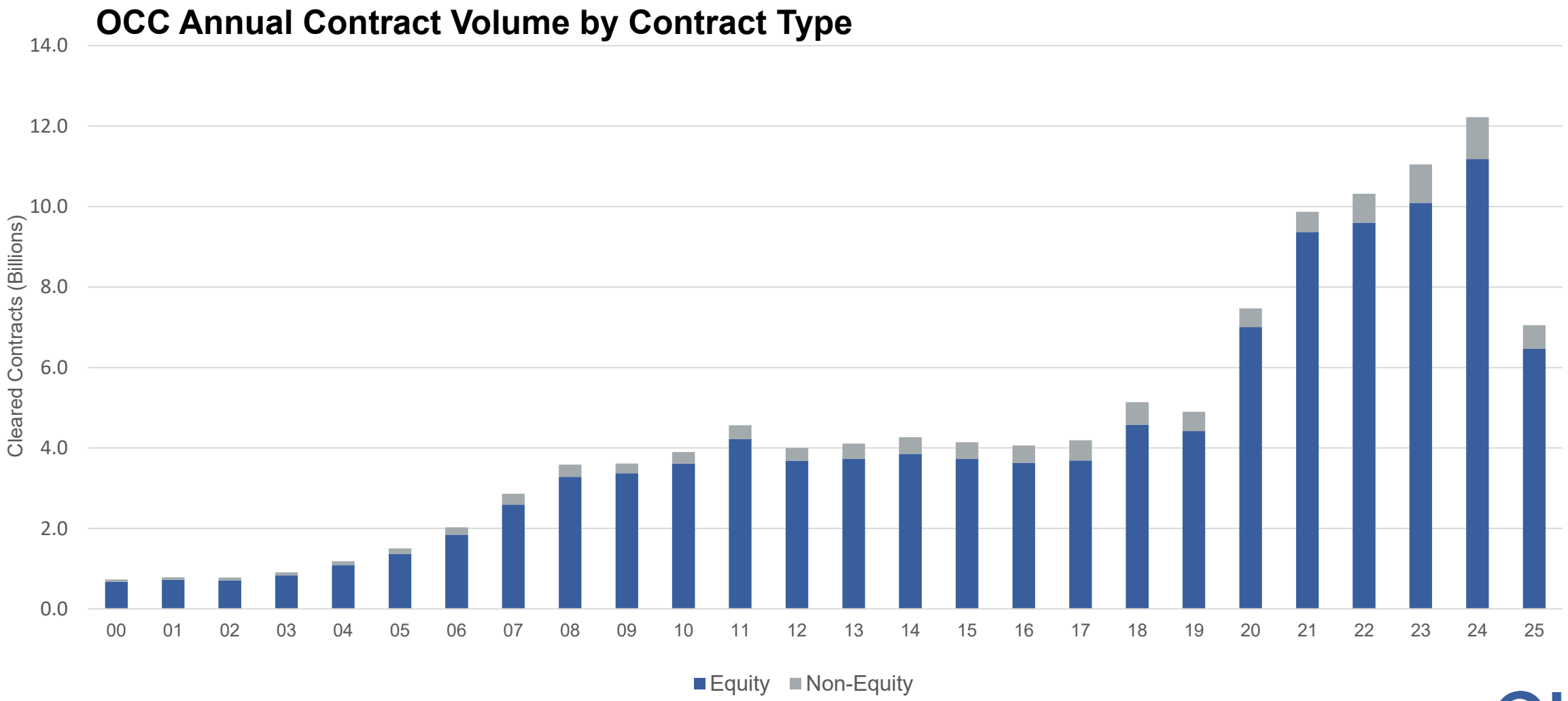
- **FREE** unbiased and professional options education
- OptionsEducation.org
- Online courses, podcasts, videos, & webinars
- Contact Investor Education at *options@theocc.com*

OIC The Options Industry Council®

OCC THE FOUNDATION FOR SECURE MARKETS®

© 2025 The Options Clearing Corporation. All Rights Reserved.

Annual Options Volume 2000-2025*



© 2025 The Options Clearing Corporation. All Rights Reserved.

Presentation Outline

- Framing Elevated Volatility
- When Elevated Volatility Becomes a Feature
- Strategy Shifts in Elevated Volatility
- Delta, Gamma, and Theta and Implied Vol
- Potential Term Structure Movement
- Building the Picture of Implied Vol vs Historical Vol
- Tail Risk in Elevated Volatility environments
- Q & A

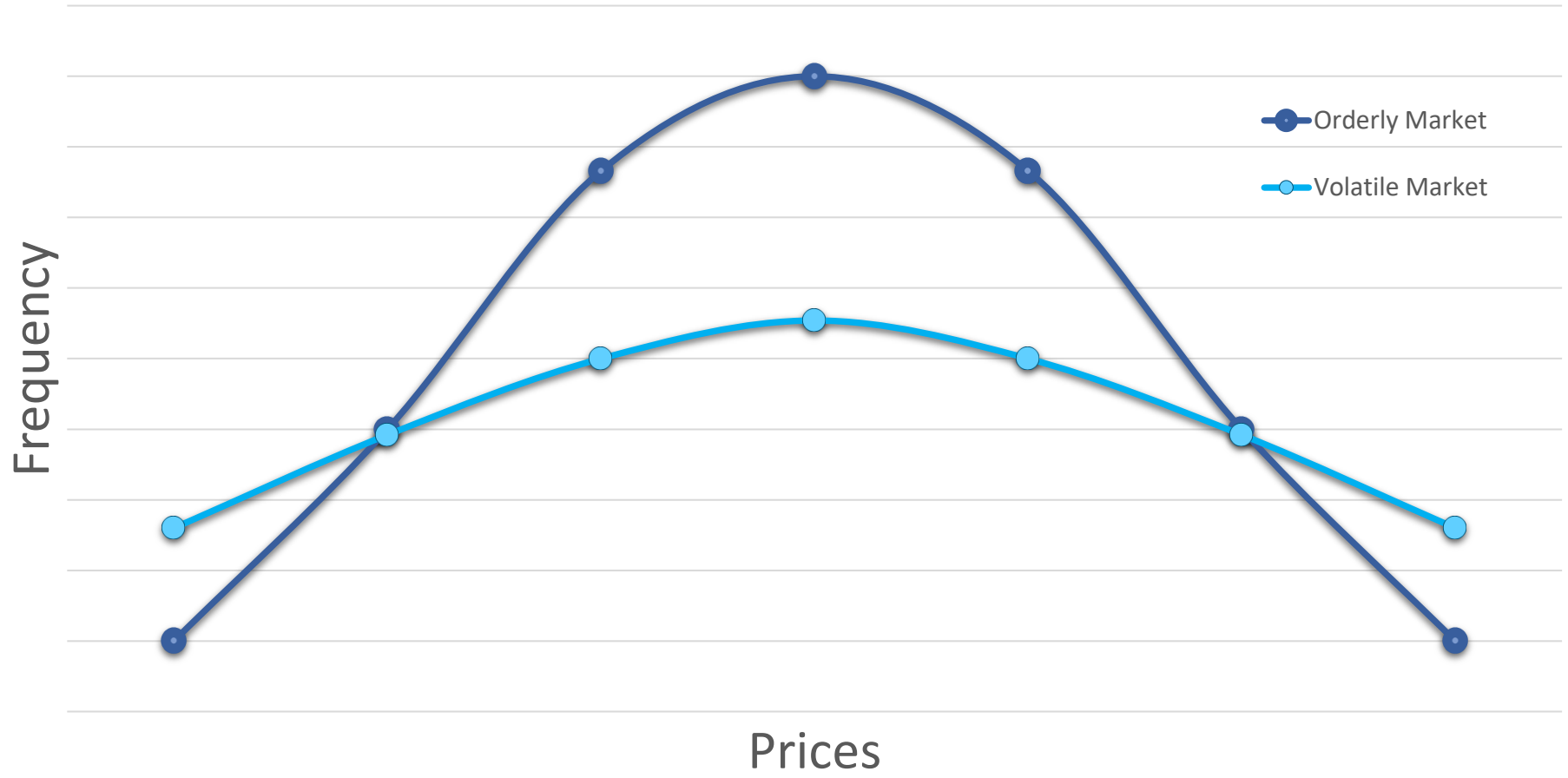
© 2025 The Options Clearing Corporation. All Rights Reserved.

Framing Elevated Volatility

Normal Distribution of Prices (Orderly Market)

© 2025 The Options Clearing Corporation. All Rights Reserved.

Normal Distribution of Prices (Orderly Market) with 'Fat Tail' Distribution of Prices (Volatile Market)



© 2025 The Options Clearing Corporation. All Rights Reserved.

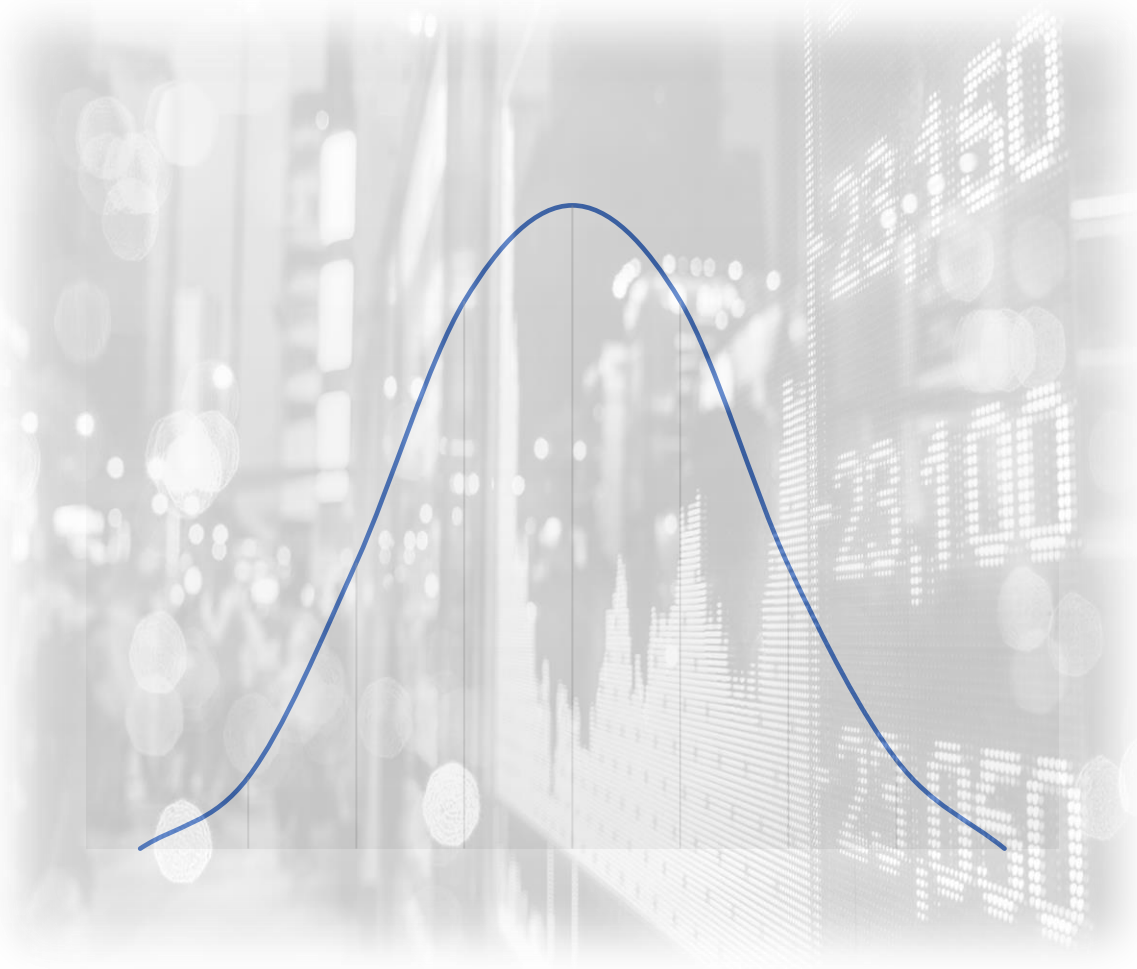
Public

When Elevated Volatility Becomes a Feature of the Landscape

OIC

Standard Deviation

- A Statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance
- Reflects the volatility of the underlying asset:
  - Higher Standard Deviations imply greater price variability
  - Can be helpful in gauging expected movement in the underlying
- Standard Deviations are directly correlated to Implied Volatility levels



© 2025 The Options Clearing Corporation. All Rights Reserved.

What is the Rule of 16?

- The Rule of 16 is a way to convert annual implied volatility metrics into an average daily expectation for underlying movement.
- It can simplify risk calculations by creating a daily standard deviation framework.
- You can think of a daily standard deviation as how much you might expect something to move on any normal trading day, based on the given Implied Volatility level - Here's the math:

$$\textbf{Daily Standard Deviation} = \frac{\textbf{Implied Volatility} \times \textbf{Stock Price}}{\sqrt{\textbf{Trading days}}}$$

© 2025 The Options Clearing Corporation. All Rights Reserved.

Converting to a Daily Standard Deviation

Assume a $100 dollar stock with a 20% Implied Volatility for a 30 DTE option, Let's find how much movement this Implied Volatility level forecasts for any average trading day during that 30 day duration:

$$\text{Daily Standard Deviation} = \frac{\boldsymbol{Implied\ Volatility} \times \boldsymbol{Stock\ Price}}{\sqrt{\boldsymbol{Trading\ days}}}$$

$$\text{Daily Standard Deviation} = \frac{.20 \times 100}{\sqrt{252}} = \frac{20}{16} = \$1.25$$

Daily Standard Deviation is $1.25 per trading day

© 2025 The Options Clearing Corporation. All Rights Reserved.

Real World Applications

Using Daily Standard Deviation expectations can provide a way to contextualize underlying movement when it happens – a framework for evaluation. Consider our previous example:

$100 Dollar stock
20% Implied Volatility
30 DTE Options
$1.25 Implied Daily Standard Deviation

One random day, the stock moves up $7.00 dollars on positive corporate news, such as a potential buyout, and is now trading $107.

© 2025 The Options Clearing Corporation. All Rights Reserved.

Real World Applications

Now let's suppose that during this move, the Implied Volatility of the options increases to 40%, as there is more demand from buyers of options over the course of the move. Now we have:

$107 Dollar stock
40% Implied Volatility
29 DTE Options
$2.67 Implied Daily Standard Deviation

Is this reflective of your expectations for average daily underlying movement going forward? These options are very different from the previous day's options.

© 2025 The Options Clearing Corporation. All Rights Reserved.

Real World Applications

From this previous example, the stock is trading up 7% on the day – a large move by all accounts. In terms of raw movement, the stock moved $7.00 dollars – but in terms of the forecasted movement from the option prices and Implied Volatility, there's 5.6x days worth of movement in one day of price action. You just witnessed a 5.6 Standard Deviation Move.

Does this change the way you think about the options going forward?

If you were long options in this situation, does it change your opinion?

How about if you were short options?

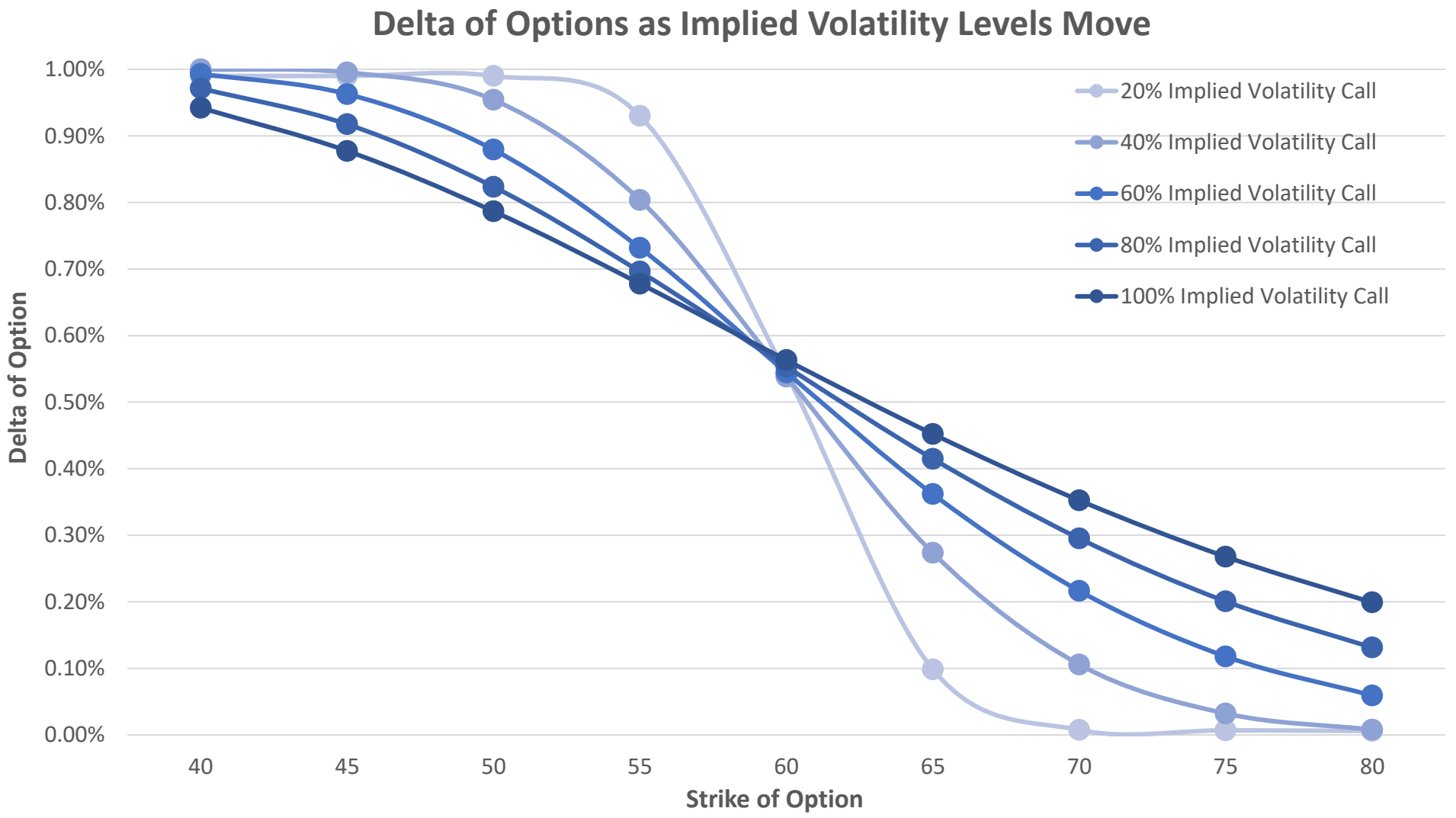
© 2025 The Options Clearing Corporation. All Rights Reserved.

Strategy Shifts in Elevated Volatility

Delta and Implied Volatility

OIC®

Delta as a Function of Implied Volatility

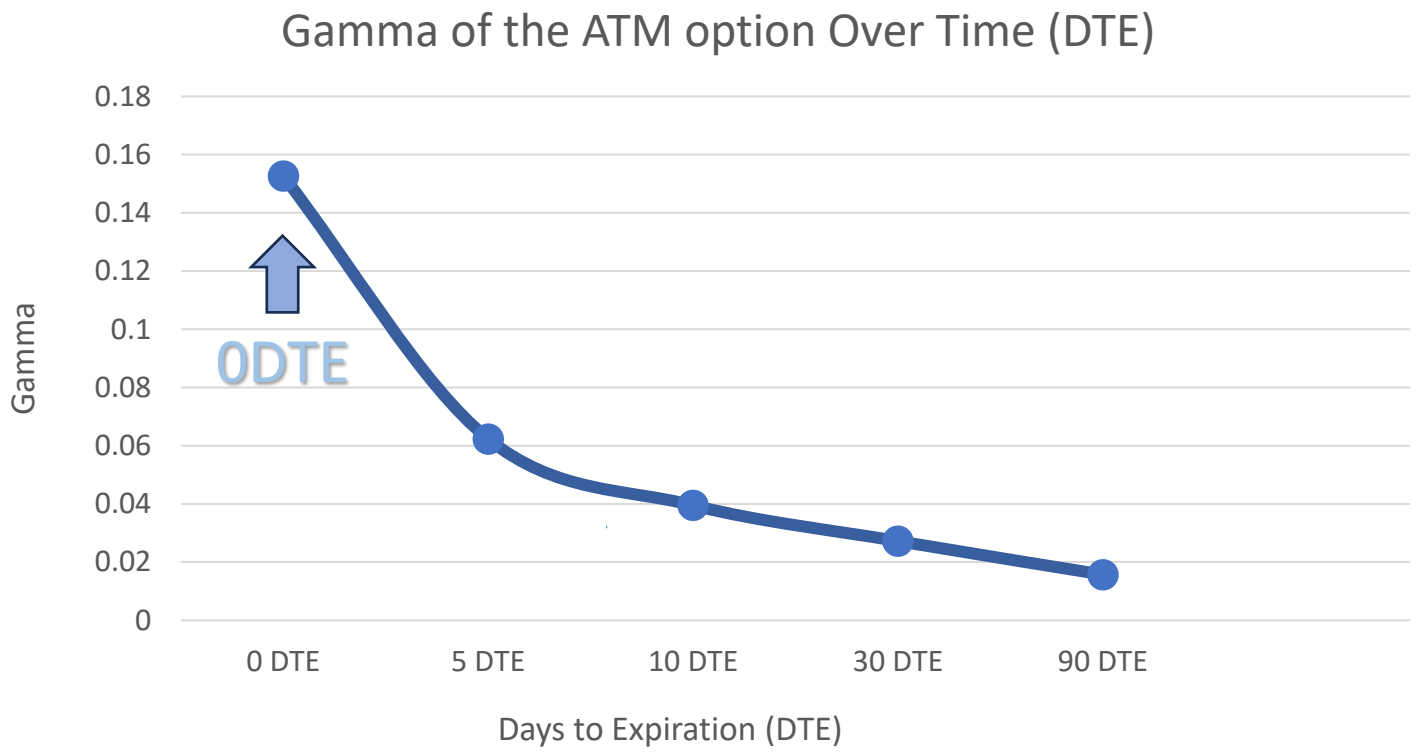


© 2025 The Options Clearing Corporation. All Rights Reserved.

Gamma and Implied Volatility

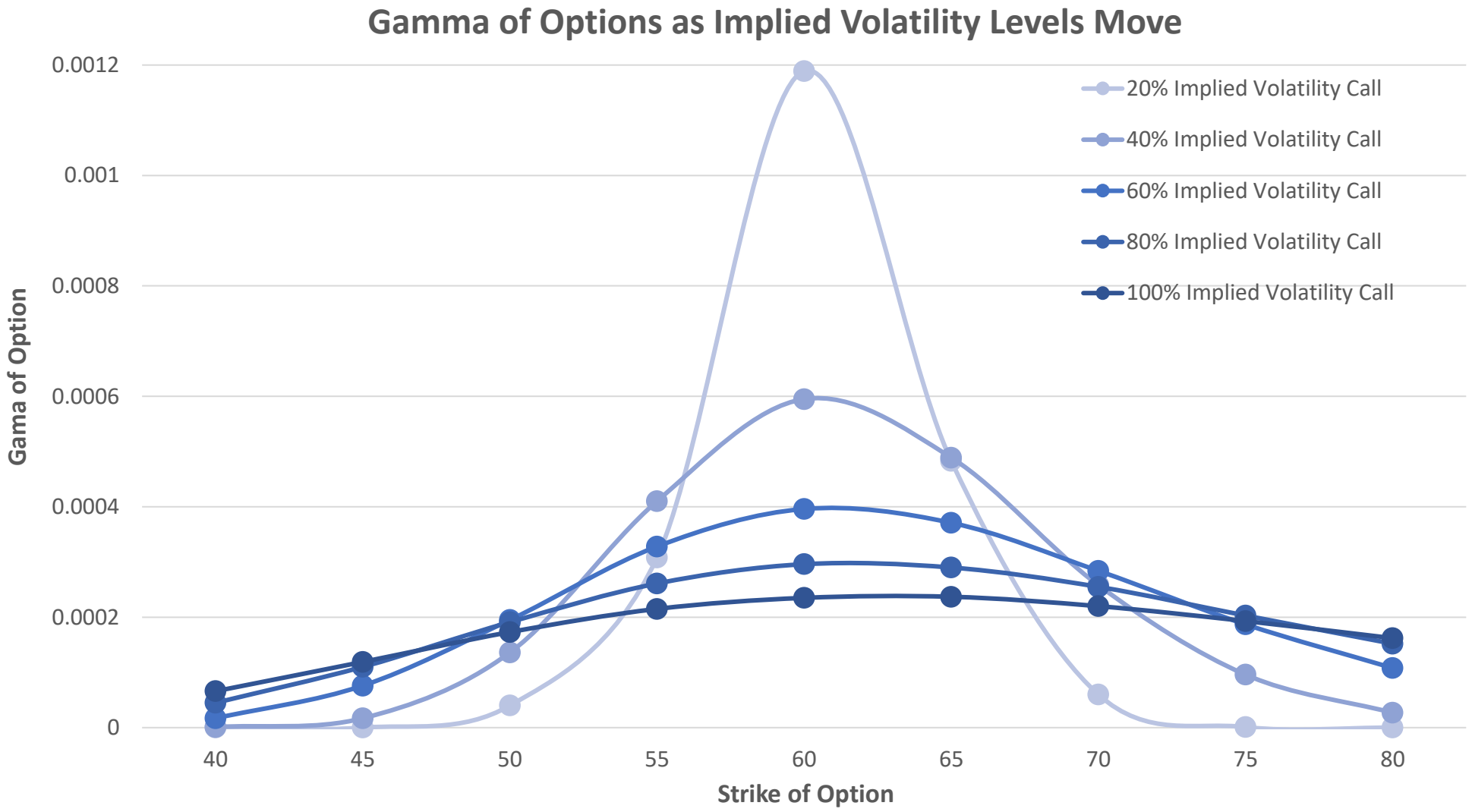
Gamma as a function of Time (Days to Expiration)

	0 DTE	5 DTE	10 DTE	30 DTE	90 DTE
Gamma of the ATM option	.1526	.0623	.0395	.0272	.0157



© 2025 The Options Clearing Corporation. All Rights Reserved.

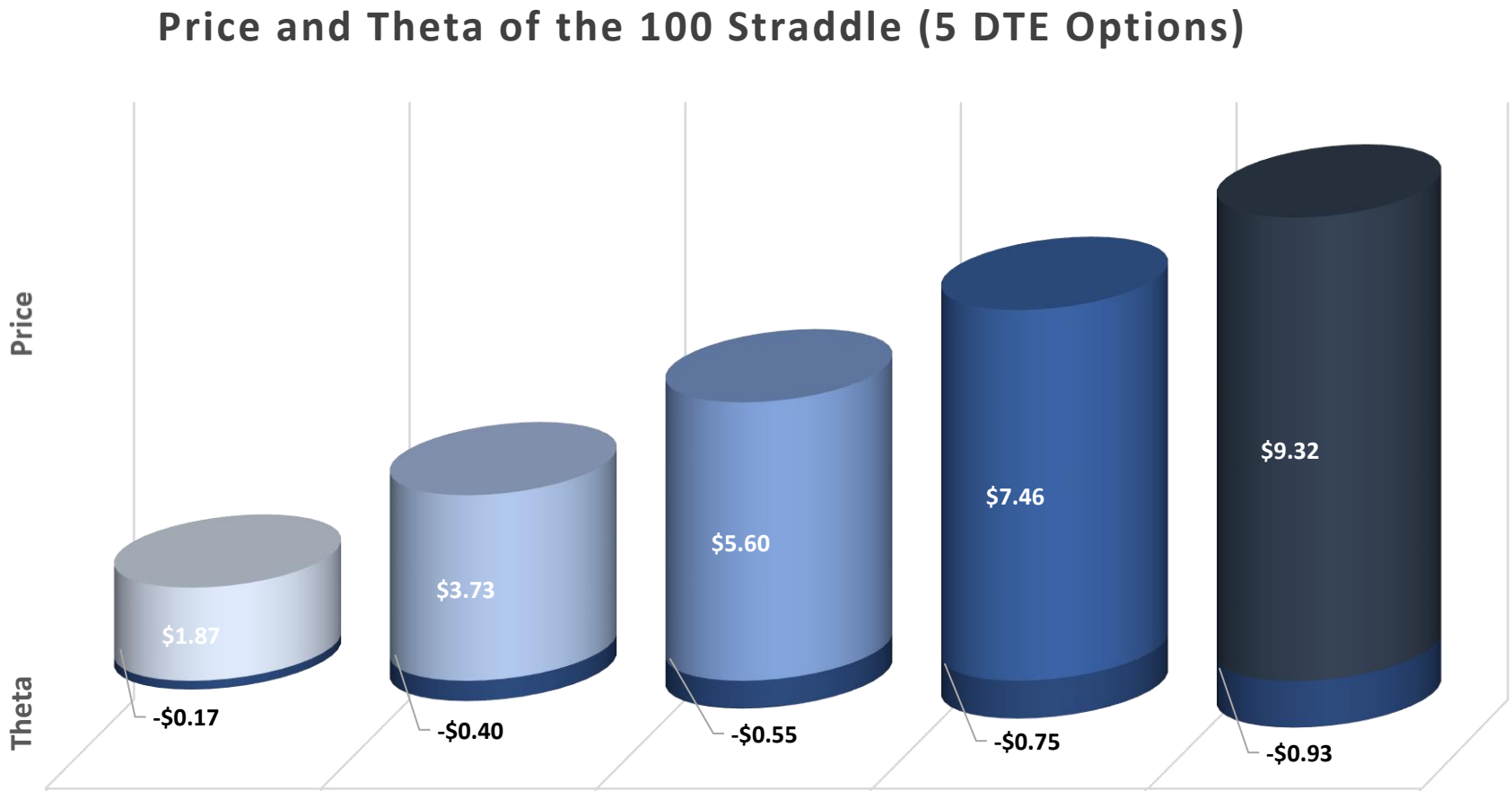
Gamma as a Function of Implied Volatility



© 2025 The Options Clearing Corporation. All Rights Reserved.

Price and Theta and Implied Volatility

Price and Theta as a Function of Implied Volatility



	20% Implied Vol	40% Implied Vol	60% Implied Vol	80% Implied Vol	100% Implied Vol
Theta of the 100 Straddle	-$0.17	-$0.40	-$0.55	-$0.75	-$0.93
Price of the 100 Straddle	$1.87	$3.73	$5.60	$7.46	$9.32

© 2025 The Options Clearing Corporation. All Rights Reserved.

Risks and Benefits of Movement and Theta

- **As Stock Fluctuates in Price**
  - Shares can be bought/sold against the changes in the Delta of the options held.
    - These changes in Delta are a function of the Gamma of that option.
    - Two-sided movement of underlying is optimal in this case, as Delta changes generated by the Gamma of the option allow for hedging opportunities on the buy-side and the sell-side of the underlying market.

HOWEVER

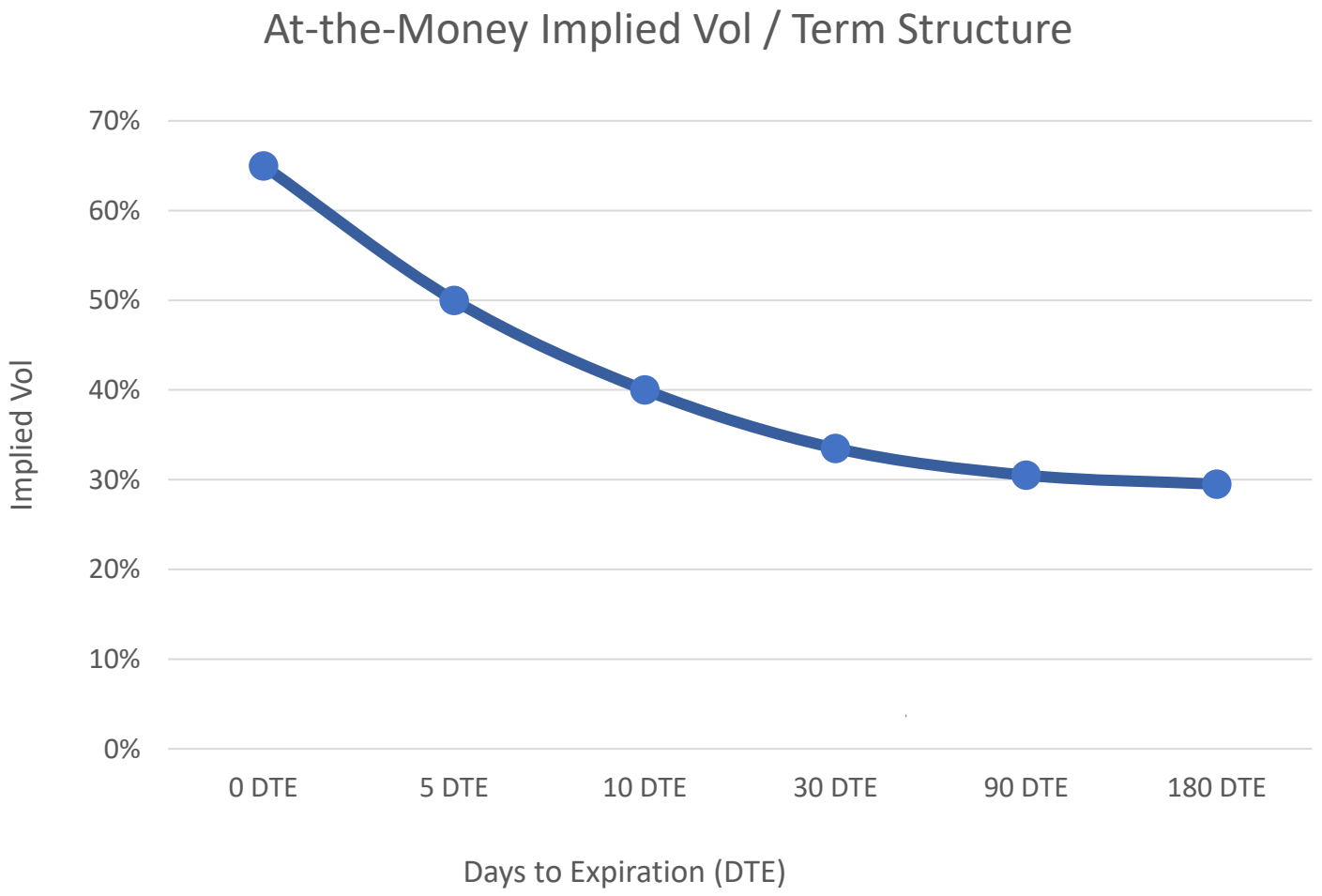
- **Theta of Options**
  - Theta theoretically continues to erode the value of the option as a function of time, irrespective of movement.
    - The underlying movement, if it creates enough Delta change can overwhelm the decay of the option, in price terms, if the move is large enough.

Investors must weigh both the forces of theta (decay) of the option over time vs. expected underlying movement and gauge whether those forces are balanced, or if one side of that equation presents a compelling value that aligns with their market view.

© 2025 The Options Clearing Corporation. All Rights Reserved.

Different Ways You Might See The Term Structure Move

Potentially Different Shapes of the Term Structure



The shape of an Implied Volatility term structure like the one on the left indicates an expectation of near-term movement, with that expectation tapering off over time.

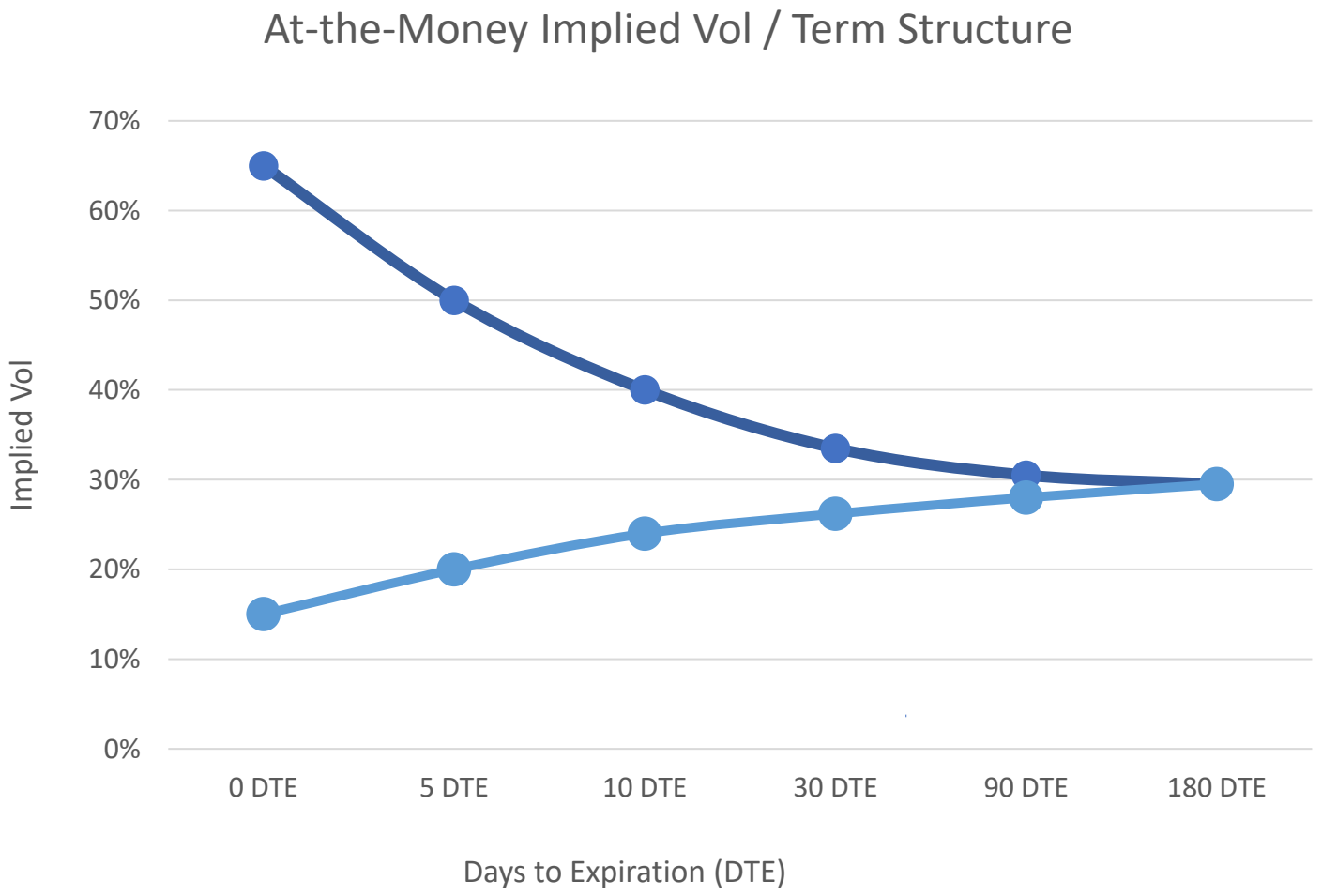
Can you think of some scenarios when this might happen?

What is the first thing that comes to mind as an options strategy when you see this term structure?

© 2025 The Options Clearing Corporation. All Rights Reserved.

Public

Potentially Different Shapes of the Term Structure



Now we see two different shapes with two clearly different expectations for movement.

The First, darker blue line from before suggests an elevated expectation for movement in the near term.

However…..

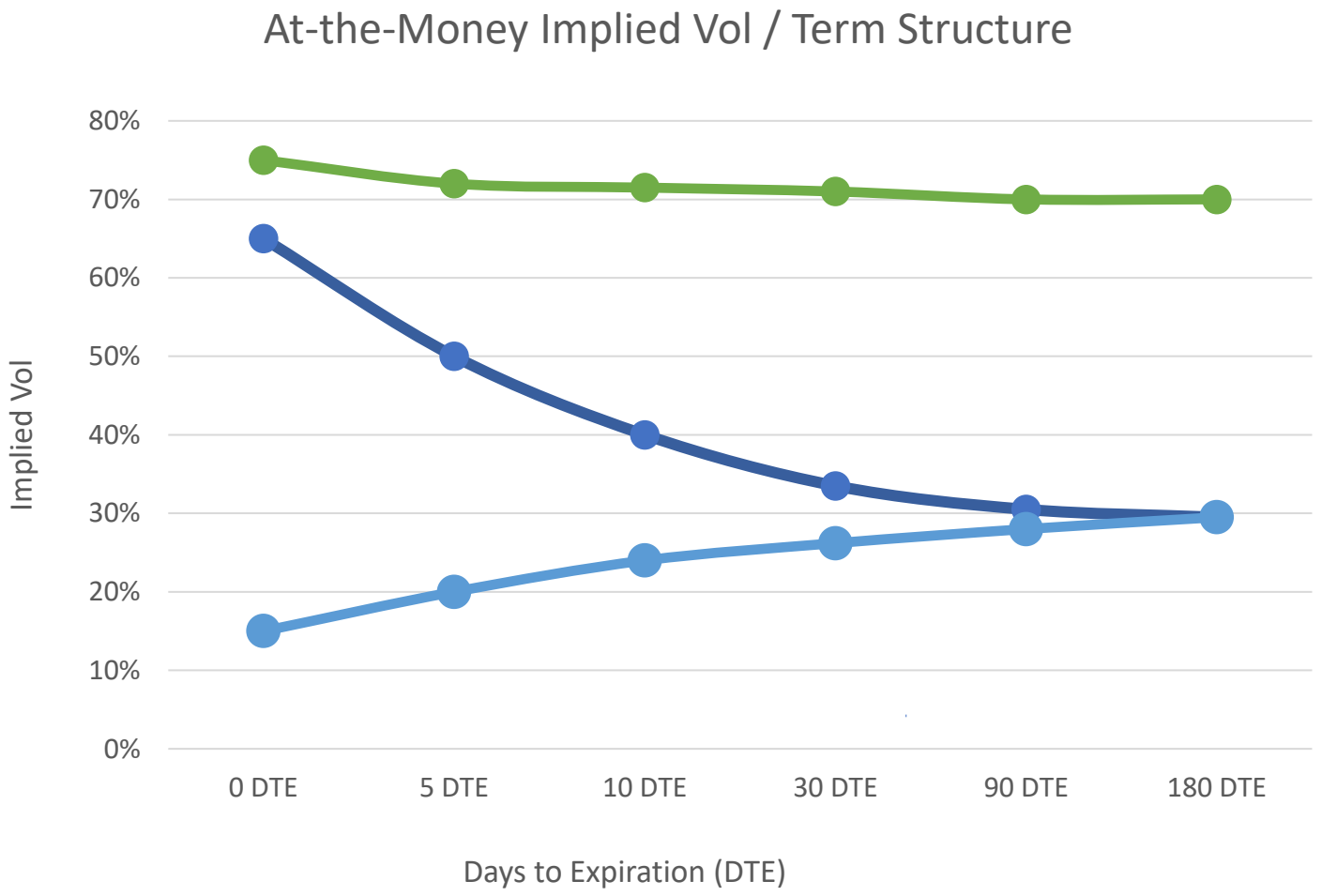
The lighter blue line suggests the opposite – that expectation for movement in the near term is muted, with that expectation rising as duration is added.

Can you think of some scenarios when this might happen?

© 2025 The Options Clearing Corporation. All Rights Reserved.

Public

Potentially Different Shapes of the Term Structure



Now we see three different shapes with three clearly different expectations for movement.

The Green line is indicative of a much higher level of anticipated movement, and for a much longer period of time.

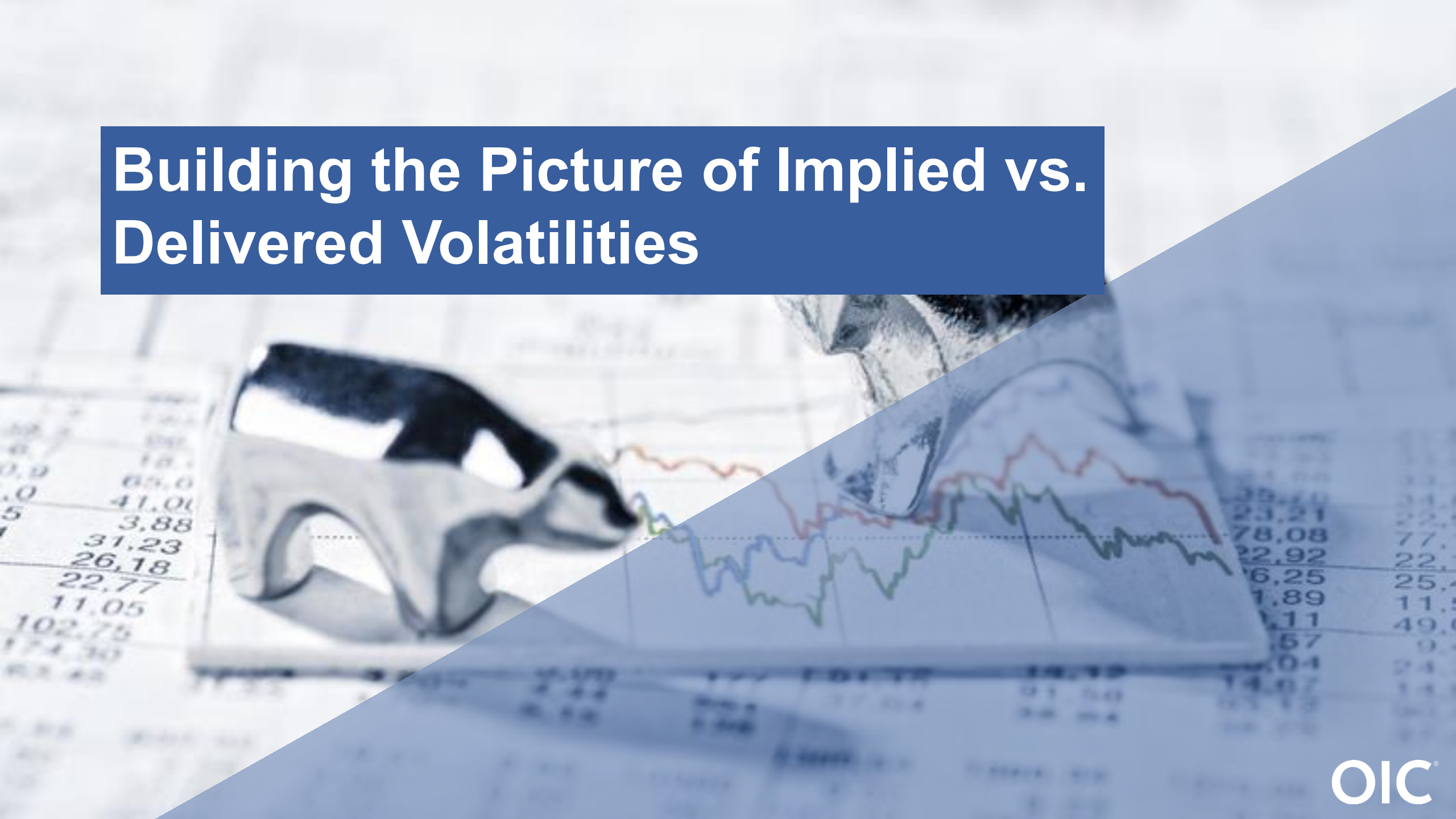
In these scenarios, markets generally begin to flatten their expectations across the board – expecting broadly the same landscape because of the lack of certainty.

Can you think of some scenarios when this might happen?

© 2025 The Options Clearing Corporation. All Rights Reserved.

Public

Building the Picture of Implied vs. Delivered Volatilities



Building a Picture of Forecasted and Actual Underlying Movement using Historical and Implied Volatility

Implied Volatility	10 – day Implied Volatility	30 – Day Implied Volatility	60 – Day Implied Volatility	90 – Day Implied Volatility
Stock #1	65.00%	35.25%	22.00%	17.00%
Stock #2	16.25%	16.50%	17.00%	17.25%

Historical Volatility	10 – day Historical Vol	30 – day Historical Vol	60 – day Historical Vol	90 – day Historical Vol
Stock #1	58.00%	30.25%	20.05%	12.00%
Stock #2	15.00%	16.25%	16.00%	15.50%

Implied/Historical Volatility Ratio	10 – day Ratio	30 – day Ratio	60 – day Ratio	90 – day Ratio
Stock #1	1.12	1.16	1.09	1.41
Stock #2	1.08	1.01	1.06	1.11

This suggests the Market is forecasting Stock #1 to have a very distinct curve to its Volatility profile (more movement now / less movement later)

While Stock #2 Implied Volatility Curve looks much more placid – forecasting a similar amount of movement throughout, regardless of duration.

The Historical Volatility numbers tell a similar story here – Stock #1 has much more movement in the 10 – day Historical Numbers than in the 90 – day set. Meaning it has been moving more lately than during it's longer duration set of data.

While Stock #2 has much less variance in its shape and a more narrow range of values.

When you express these volatility numbers as ratios, the ratios themselves start to tell their own story.

It's not always evident in looking at the individual volatility numbers on their own – What could a higher ratio value tell you vs. a lower ratio value?

© 2025 The Options Clearing Corporation. All Rights Reserved.

Interpreting the Ratios: What can they tell you?

Example #1	30 – day Implied Vol	30 – day Historical Vol	30 – day Implied / Historical Ratio
Stock #1	20.25%	15.00%	**1.35**
Stock #2	58.00%	42.9%	**1.35**

= 135 %

Implied Volatility is OVER Historical Volatility

Example #2	30 – day Implied Vol	30 – day Historical Vol	30 – day Implied / Historical Ratio
Stock #1	19.50%	25.00%	**0.78**
Stock #2	73.00%	93.00%	**0.78**

= 78 %

Implied Volatility is UNDER Historical Volatility

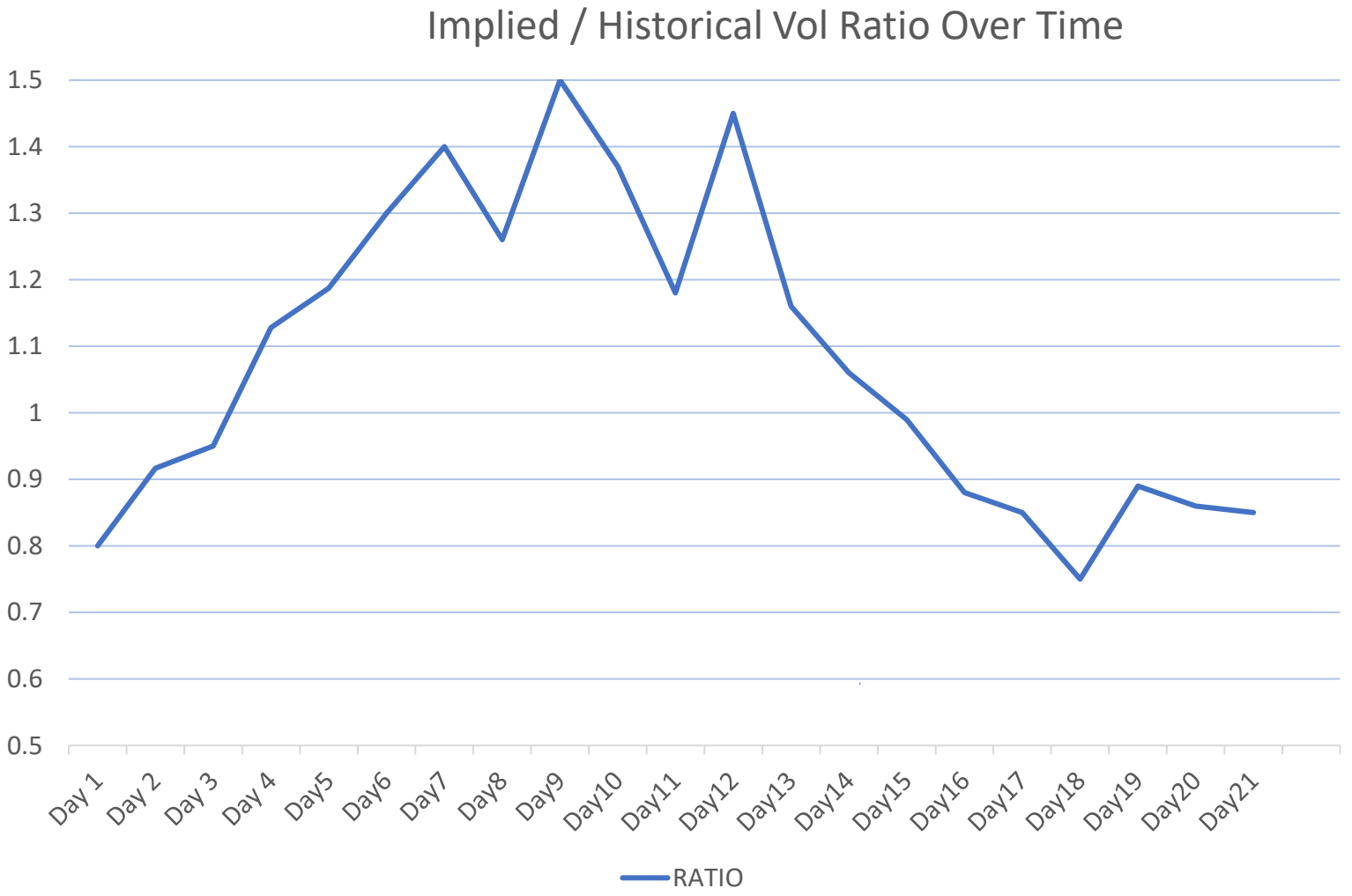
Example #3	30 – day Implied Vol	30 – day Historical Vol	30 – day Implied / Historical Ratio
Stock #1	15.50%	15.00%	**1.03**
Stock #2	75.00%	72.75%	**1.03**

= 103 %

Implied Volatility is roughly EQUAL to Historical Volatility

© 2025 The Options Clearing Corporation. All Rights Reserved.

How you can Track the Ratio Over Time



Just like any metric, you can graph these ratios and look at them over time.

What does this say about the last 20 days of Implied / Historical Vol?

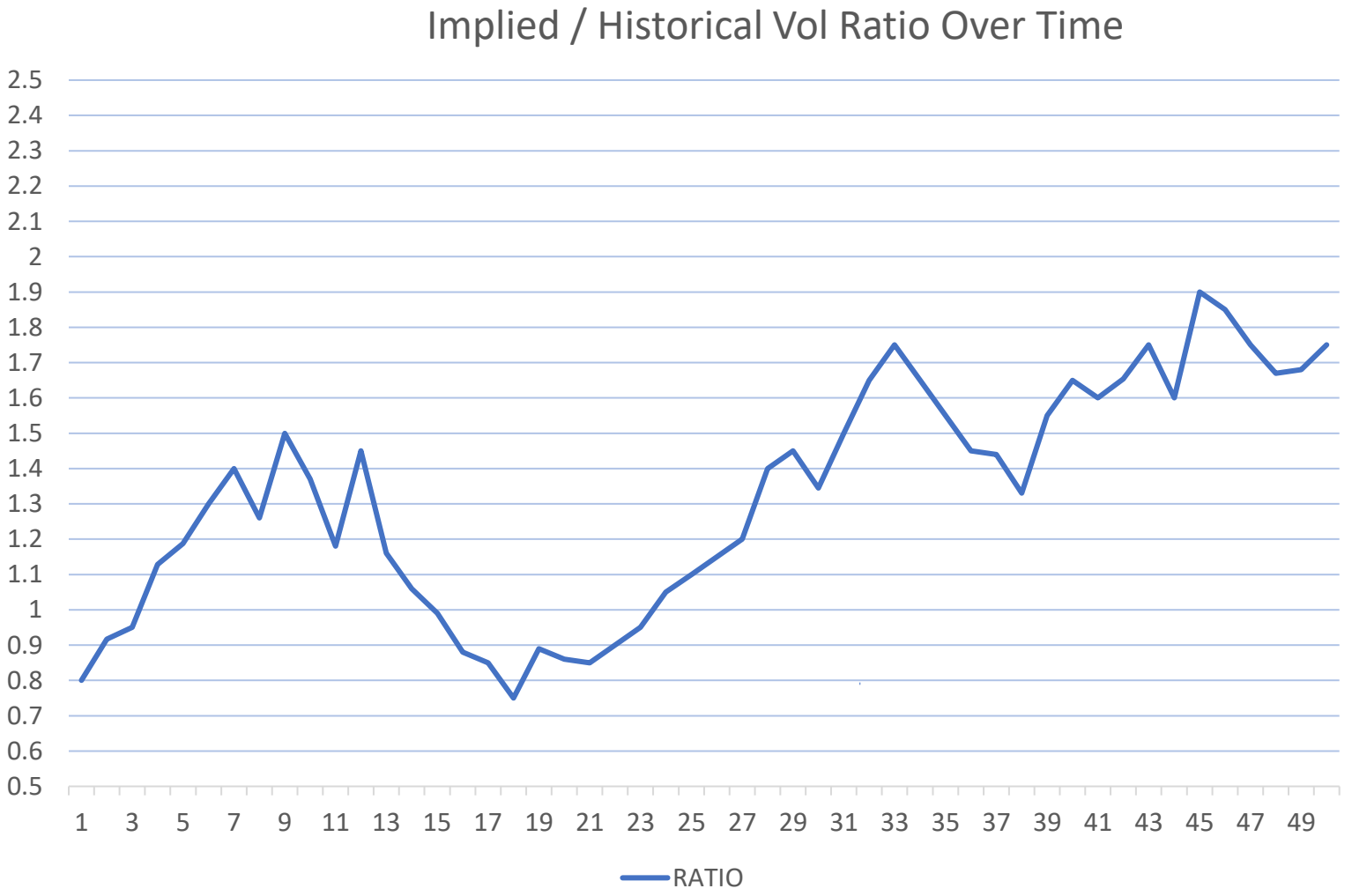
The ratio rallied for the first 10 days and sold off for the next 10 days, but how did it move? And Why?

Additionally, sometimes a little more perspective goes a long, long way…..

© 2025 The Options Clearing Corporation. All Rights Reserved.

Public

How you can Track the Ratio Over Time



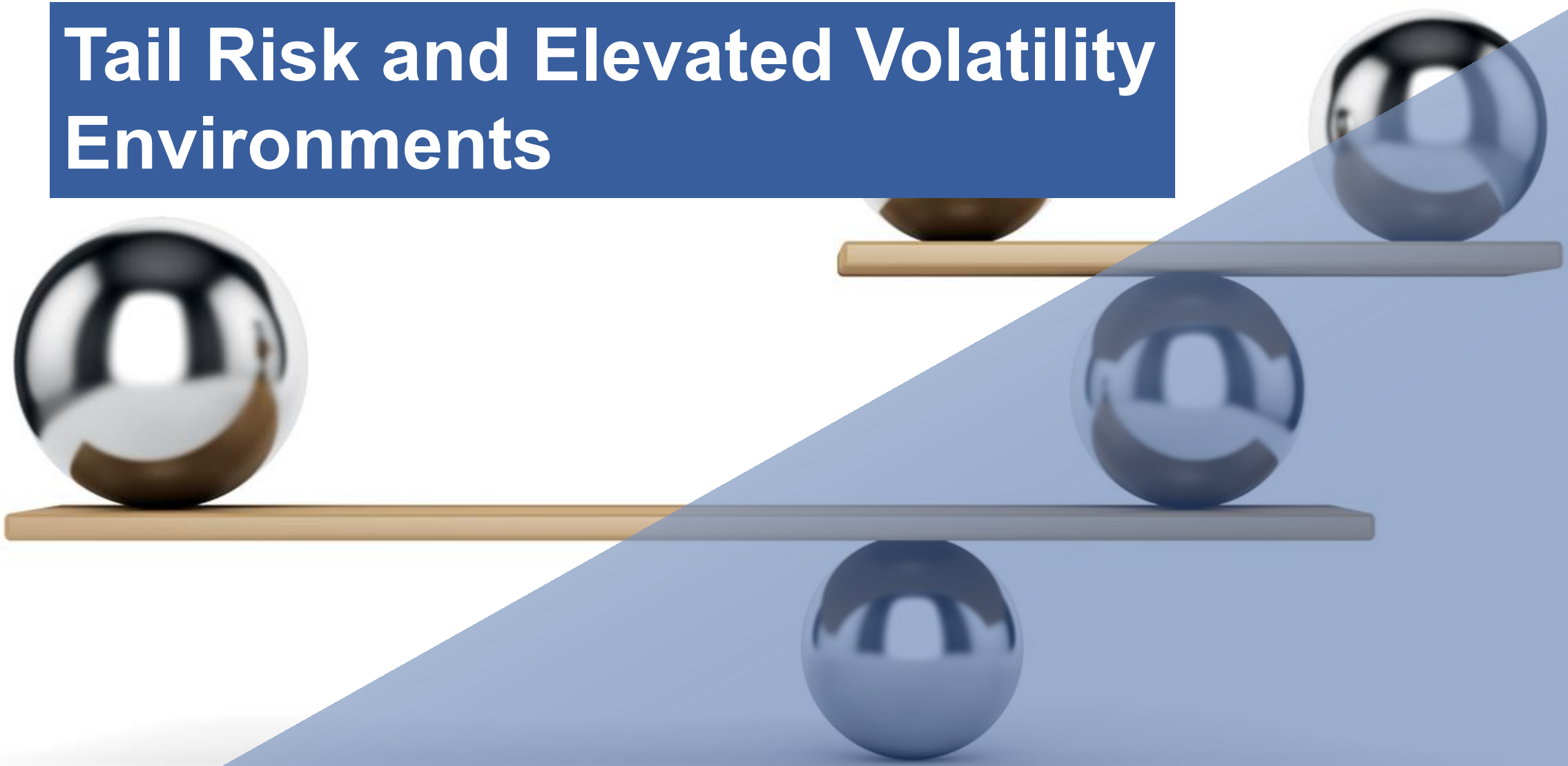
In some ways, you can view these ratios much like you view stock charts…..

However, in order to fully understand the nature of the movement, it requires some investigation as to which part of the equation is causing the movement. Is it the numerator, or the denominator?

© 2025 The Options Clearing Corporation. All Rights Reserved.

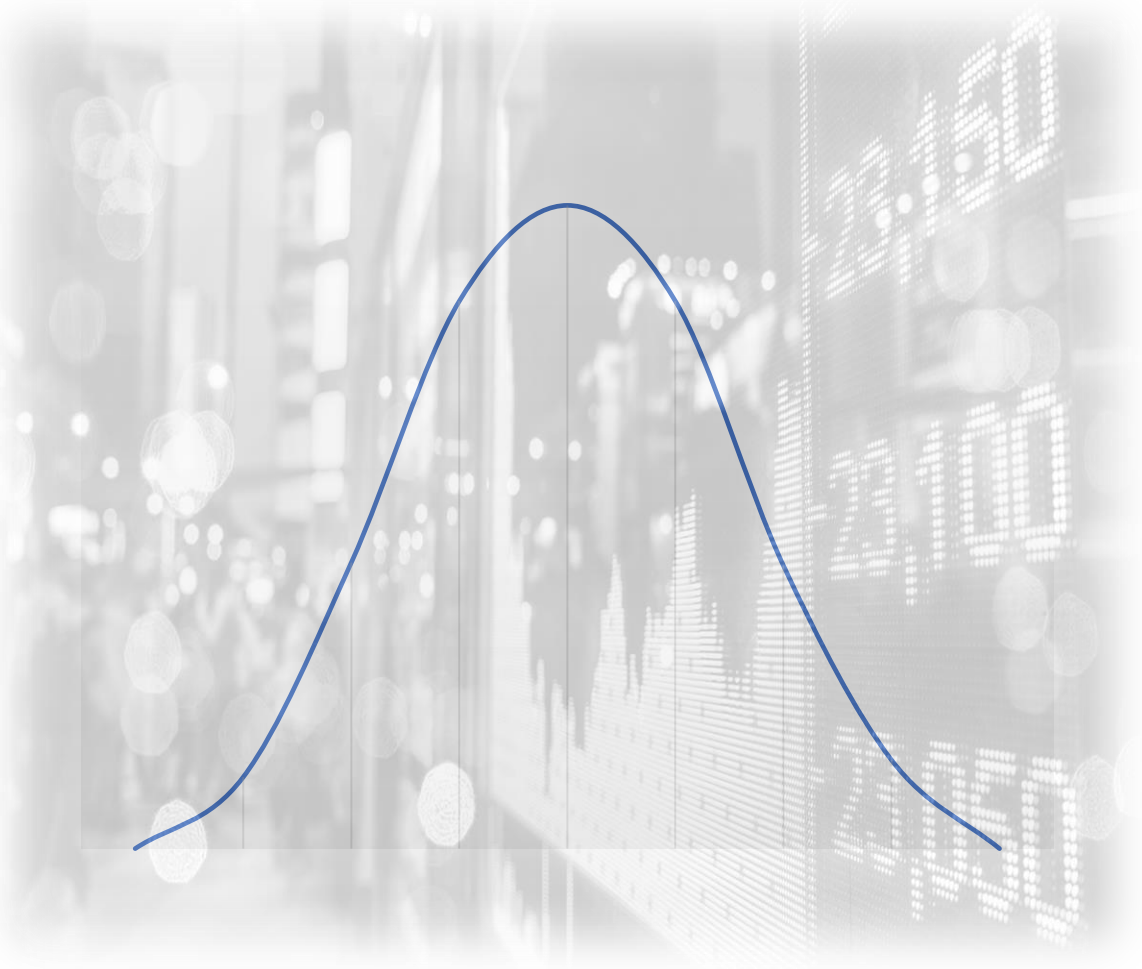
Public

Tail Risk and Elevated Volatility Environments



Tail Risk

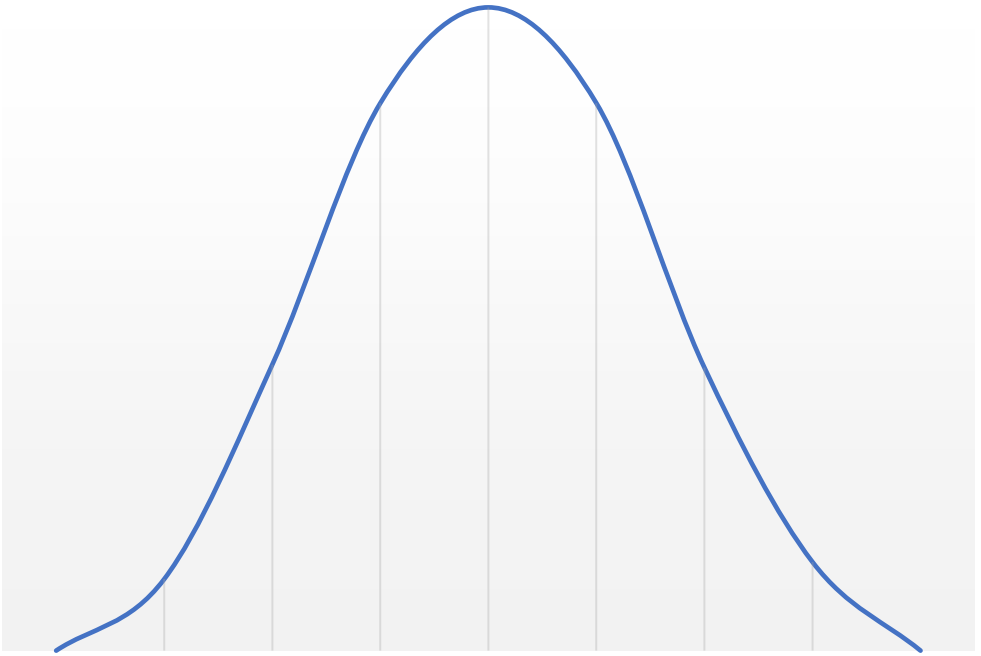
- The Possibility of large, unexpected moves beyond what is accounted for by **standard risk measures**.
  - Refers to the risk of extreme events, often at the tails of a probability distribution curve
  - Colloquially, tail risk events are thought to be moves beyond 3 Standard Deviations.
- While these events are generally thought to be unlikely, their occurrence can create large, and asymmetrical P & L moves, and thus many investors choose to hedge them in some way



© 2025 The Options Clearing Corporation. All Rights Reserved.

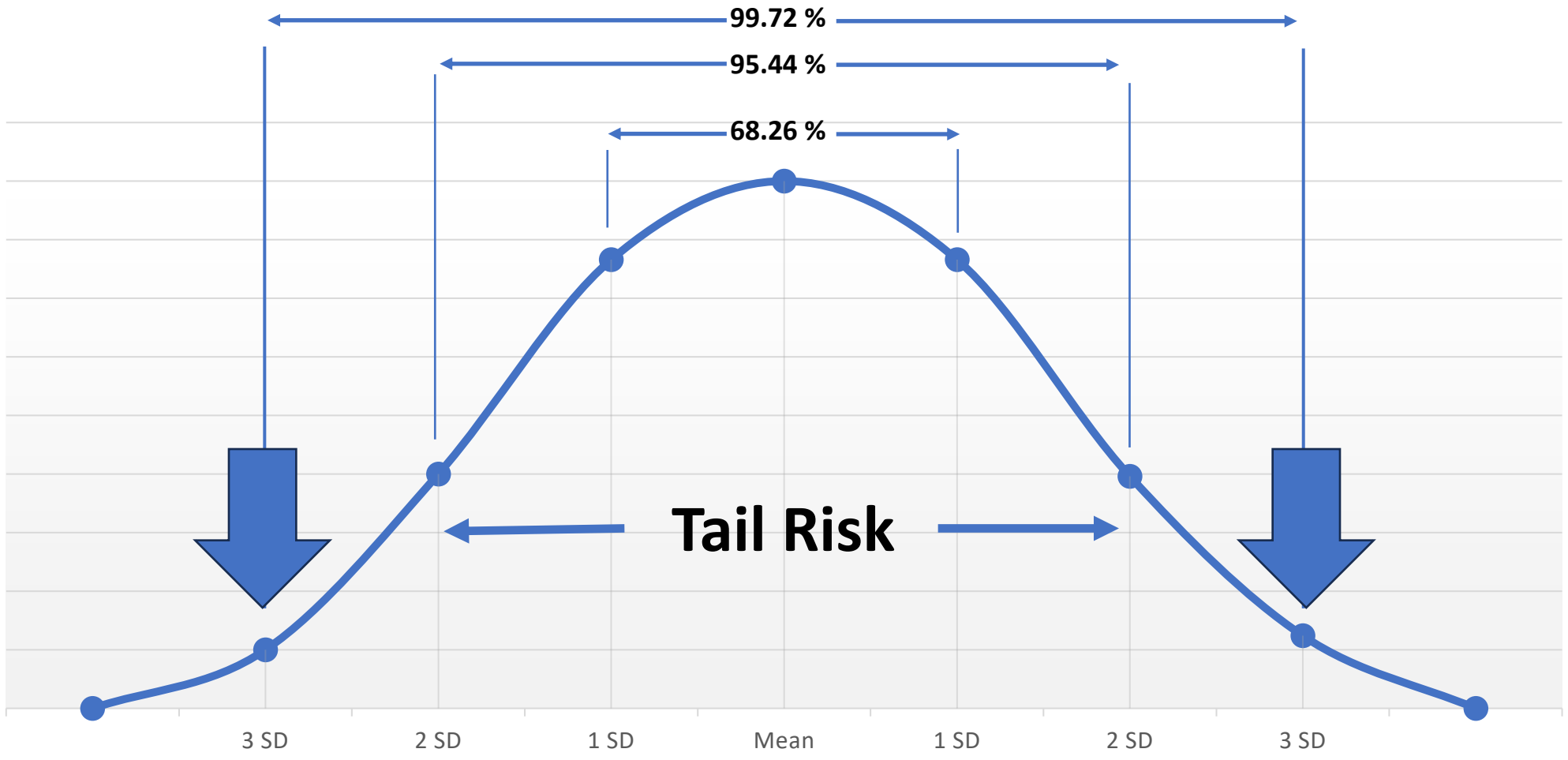
Tail Risk Events You Might Recognize

- Black Monday (October 19, 1987)
- Long Term Capital Management (September 1998)
- September 11 Attacks (September 11, 2001)
- Great Financial Crisis (2007 – 2008)
- Flash Crash (May 6, 2010)
- COVID-19 Pandemic (March 2020)



© 2025 The Options Clearing Corporation. All Rights Reserved.

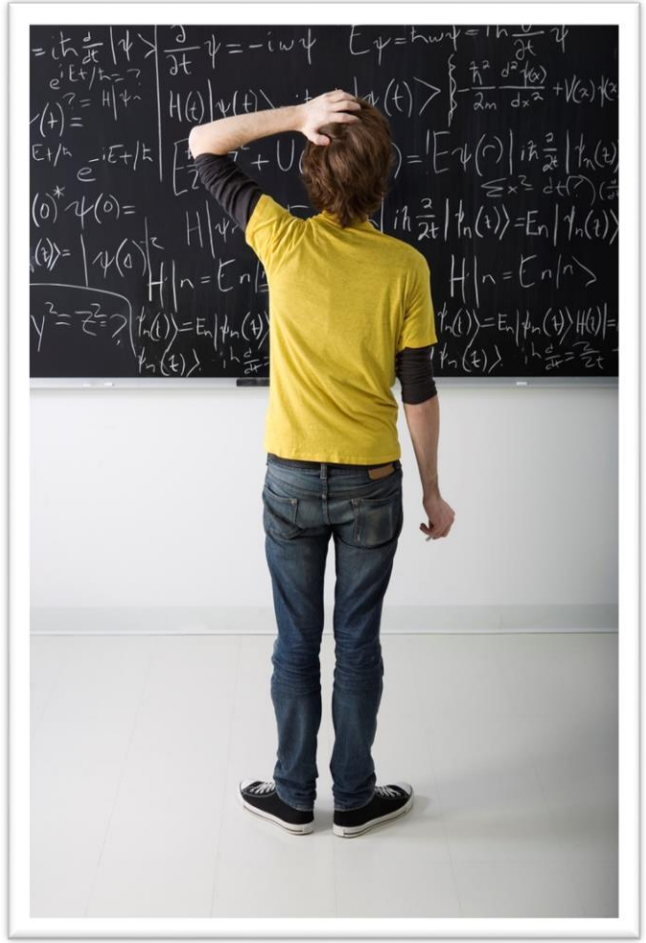
Normal Price Distribution and Tail Risk



© 2025 The Options Clearing Corporation. All Rights Reserved.

Key Takeaways

- **Elevated Implied Volatility** can reprice the entire term structure in different ways
- **Option Greeks Behave differently** depending on the level of Implied Volatility
- **Strategy Attractiveness shifts** when Implied Volatilities move around
- **Term Structure Carries Important information** about expectations of movement
- **Always consider Tail Risk shifts** – especially in Elevated Volatility regimes



© 2025 The Options Clearing Corporation. All Rights Reserved.

The Options Industry Council

OIC is dedicated to increasing the awareness, knowledge and responsible use of exchange-listed options.

OCC Learning - a self-guided eLearning destination with coursework tailored to a variety of learning styles and experiences levels.

Download our podcasts and videos.

Attend webinars and learn from the pros.

Live options help from industry professionals with Investor Services.

OptionsEducation.org

© 2025 The Options Clearing Corporation. All Rights Reserved.

For More Information

www.OptionsEducation.org

Investor Education: options@theocc.com

OIC YouTube Channel

LIKE us on Facebook

Follow us on Twitter @Options_Edu

© 2025 The Options Clearing Corporation. All Rights Reserved.