Using Straddles and Strangles to Help Manage Stock Events

Webinar Presentation

Presented by
Trading Strategy Desk
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*, and call 800-544-5115 to be approved for options trading. Supporting documentation for any claims, if applicable, will be furnished upon request.

✓ Examples in this presentation do not include transaction costs (commissions, margin interest, fees) or tax implications, but they should be considered prior to entering into any transactions.

✓ The information in this presentation, including examples using actual securities and price data, is strictly for illustrative and educational purposes only and is not to be construed as an endorsement, or recommendation.
Disclosures (cont.)

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

✔ Active Trader Pro Platforms℠ is available to customers trading 36 times or more in a rolling 12-month period; customers who trade 120 times or more have access to Recognia anticipated events and Elliott Wave analysis.

✔ Technical analysis focuses on market action — specifically, volume and price. Technical analysis is only one approach to analyzing stocks. When considering which stocks to buy or sell, you should use the approach that you're most comfortable with. As with all your investments, you must make your own determination as to whether an investment in any particular security or securities is right for you based on your investment objectives, risk tolerance, and financial situation. Past performance is no guarantee of future results.
Goal of this presentation:

To educate option traders on the use of straddles and strangles during times of high volatility.
The Basics – Long Straddle

Construction:
Buy a call and put of the same strike price and same expiration

Max Gain:
Unlimited

Max Loss:
Initial debit

Breakeven @ expiration:
Strike price +/- the combined premiums (2 breakeven points)

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The Basics – Long Straddle

The Outlook:
- Significant price swing in either direction
- Increase in volatility
- The faster the better

The Greeks (at time of trade):
- Delta = Neutral
- Gamma = +
- Vega = +
- Theta = (-)
The Basics – Long Strangle

Construction:
Buy a higher strike call and a lower strike put of the same expiration

Max Gain:
Unlimited

Max Loss:
Initial debit

Breakeven @ expiration:
Call strike price + the combined premiums
Put strike price – the combined premiums
(2 breakeven points)

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## Long Straddle vs Long Strangle

<table>
<thead>
<tr>
<th></th>
<th>Long Straddle</th>
<th>Long Strangle</th>
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<tbody>
<tr>
<td>Higher ROI Potential</td>
<td>✔️</td>
<td>✗</td>
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<tr>
<td>Higher Probability of Profit</td>
<td>✗</td>
<td>✔️</td>
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<tr>
<td>Tighter Breakeven Range</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Lower Max Loss</td>
<td>✔️</td>
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### Greek Exposure

<table>
<thead>
<tr>
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<th>Long Straddle</th>
<th>Long Strangle</th>
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<tbody>
<tr>
<td>Neutral</td>
<td>Delta (neutral)</td>
<td>Neutral</td>
</tr>
<tr>
<td>More Positive</td>
<td>Gamma (+)</td>
<td>Less Positive</td>
</tr>
<tr>
<td>More Positive</td>
<td>Vega (+)</td>
<td>Less Positive</td>
</tr>
<tr>
<td>More Negative</td>
<td>Theta (-)</td>
<td>Less Negative</td>
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The Basics – Short Straddle

**Construction:**
Sell a call and put of the same strike price and same expiration

**Max Gain:**
Premium received

**Max Loss:**
unlimited

**Breakeven @ expiration:**
Strike price +/- the combined premiums (2 breakeven points)

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The Basics – Short Straddle

The Outlook:
• Small price movement/ Range bound
• Decrease in volatility

The Greeks (at time of trade):
• Delta = Neutral
• Gamma = (-)
• Vega = (-)
• Theta = +
The Basics – Short Strangle

**Construction:**
Sell a higher strike call and a lower strike put of the same expiration

**Max Gain:**
Premium received

**Max Loss:**
unlimited

**Breakeven @ expiration:**
Call strike price + the combined premiums
Put strike price – the combined premiums
(2 breakeven points)

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The Basics – Short Strangle

The Outlook:
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The Greeks (at time of trade):
• Delta = Neutral
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# Short Straddle vs Short Strangle

<table>
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- **Higher ROI Potential**
- **Higher Probability of Profit**
- **Wider Breakeven Range**
- **Higher Max Gain**

## GREEK Exposure

<table>
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<tr>
<th>Neutral</th>
<th>Delta (netural)</th>
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<tr>
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The Earnings “Play”

The main “players”:

**Gamma:**
- Rate of change of delta given a $1 change in the underlying
- Gamma is the creator and destroyer of Deltas

**Vega:**
- Rate of change of the option’s price given a 1% change in volatility

**Theta:**
- Measures the rate of decay in the value of the option due to the passage of time
- Significant consideration for longer term trades – less relevant for a short term trade
The Earnings “Play”

The Expected Move:

ATM Call Premium + ATM Put Premium = “Expected Move”

(Note: some traders use a percentage, such as 85%, of this value as the “expected move”)

Stock Trading at $21

ATM Call (mid) = $.75
ATM Put (mid) = $.45

Expected Move = +/- $1.20

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The Earnings “Play”

The IV Exhibition

Pharmaceutical company that released results from tests done on an experimental new drug

Consumer discretionary with volatile quarterly earnings

Large cap, blue chip bellwether

*Fidelity.com IV Index data provided by Ivolatility.com – For Illustrative Purposes Only
The Earnings “Play”

The Buy Side Appeal:
• Taking advantage of an event that can serve as a catalyst for a significant price swing
• No directional analysis needed

The Sell Side Appeal:
• Taking advantage of “expensive” options by selling the volatility
• Trading the “sure thing” – horizontal skew – the unknown becomes known and IV is “crushed”

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The Earnings “Play” – Example 1 - AAPL

Opening Trade:
AAPL Price = $524.75
ATM ($525) Straddle purchased for $22.20

Closing Trade:
AAPL Open = $566.75
ATM ($525) Straddle closed for $39.86

Examples were taken prior to Apple’s 7:1 stock split paid on June 6, 2014
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The Earnings “Play” – Example 2 - CAT

Opening Trade:
CAT Price = $103.38
ATM ($103) Straddle purchased for $3.54

Closing Trade:
CAT Price = $105.38
ATM ($103) Straddle closed for $2.27

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The Earnings “Play”

Lessons from AAPL Earnings:

- The stock price moved by around $42 – about an 8% move
- The long ATM straddle increased in value by $17.66 – about a 79% ROI
- Statistically speaking, there was a very low probability that Apple would move this much (2 standard deviation move)
- While the size of the move is unexpected, the trade behaved as it should – a big, quick move = a big profit on the long straddle
- In this example, Gamma overwhelmed Vega (we will explain later)

Lessons from CAT Earnings:

- The stock price moved by around $2 – about a 2% move
- The long ATM straddle decreased in value by $1.27 – about a -36% ROI
- Even with a 2% overnight move in the underlying, the long straddle lost

How could this happen?
Volatility Crush Explained

Step 1 – Analyze impact on IV

- Pre-earnings IV on ATM CAT Straddle = 52%
- Post-announcement IV = 27%
- Drop in IV = 25%

Step 2 – Quantify using Vega

- Pre-earnings Vega on ATM contracts = 0.03
- 25 point drop in IV * 0.03 Vega = -0.75/contract

Straddle lost $1.50 from the drop in IV

*Important: Vega is dynamic, so calculations provide estimates

Why did the CAT trade lose?

Directional movement (in this case the profit on the long call) is not enough to make up for the drop in IV (double Vega) and double time decay (Theta exposure).

The IV Index graph plots the mean IV from various time periods. While it is helpful to visualize patterns, the % will not match those of the specific contracts used in our examples. Individual contract IV’s are available in the option chain.

*Fidelity.com IV Index data provided by Ivolatility.com – For Illustrative Purposes Only
The effect of Gamma

What is Gamma?

- Rate of change of Delta
- Positive Gamma accelerates gains on winning positions and decelerates losses on losing positions (long contracts have + Gamma)
- Negative Gamma decelerates gains on winning positions and accelerates losses on losing positions (short contracts have – Gamma)
- Gamma is either creating or destroying Deltas on contracts – driving Delta to 0 or 100

Why did the AAPL trade win?

The positive Gamma on the long call accelerated gains as the stock price moved up. While there was still a volatility crush in the ATM AAPL straddle, the effect of Gamma more than offset the loss resulting from the drop in IV and the Theta impact.

*Fidelity.com IV Index data provided by Ivolatility.com – For Illustrative Purposes Only
Setting up your trade

What to do:

• Consider using charts on Fidelity.com or in Active Trader Pro to see how the underlying stock, or comparable securities, have reacted to similar announcements in the past.

• Consider evaluating key support/resistance levels using ATP and Trade Armor

• Consider the trade in light of the “expected move” – markets are efficient and market makers know that security

• Understand and manage your risk:
  ▪ Have an exit strategy at the time of the trade
    ➢ Set profit and loss targets at the time of trade entry
    ➢ Use Fidelity’s Option Profit/Loss calculator to analyze how the trade will react under different market conditions
  ▪ Consider buying protection for short positions (topic for another day)
Straddles and Strangles

Resources used in this presentation:

- Option Strategy Guide (Fidelity Learning Center)
- Active Trader Pro charting tools
- FAQ’s for Active Traders
- IV Index (provided by IVolatility.com)

Additional Resources:

- Fidelity.com Learning Center
- Option Greeks Video (Fidelity Learning Center)
- Options Profit/Loss Calculator (provided by IVolatility.com)
- Probability Calculator (provided by Convergex)
Straddles and Strangles

This concludes today’s Presentation

Thank you for attending!

Please join the Trading Strategy Desk for our upcoming webinar:

• Learn creative ways to use options to manage market risk – 12:00pm ET August 4th
• Intro to Options 2: How to trade single leg option strategies – 12:00pm ET August 10th

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