

The Vega Trap:

How Option Volatility Can Make or Break Your Directional Option Trades

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Disclaimer

In order to simplify the computations, commissions and other costs have not been included in the examples used in this presentation. These costs will impact the outcome of stock and options transactions and should be considered. Investors considering options should consult their tax advisor as to how taxes may affect the outcome of contemplated options transactions.

Options involve risks and are not suitable for all investors. Prior to buying or selling an option, a person must receive a copy of Characteristics and Risks of Standardized Options (ODD). Copies of the ODD are available from your broker, by calling 1-888-OPTIONS, or from The Options Clearing Corp., One North Wacker Drive, Suite 500, Chicago, Illinois 60606. The information in this presentation is provided solely for general education and information purposes and therefore should not be considered complete, precise or current. No statement should be construed as a recommendation to buy or sell a security or to provide investment advice.

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The Vega Trap

- Being Right
- Option Pricing
- Volatility
- Learn to Speak Greek
- How Vega Plays Into Directional Trades
 - Example 1
 - Example 2
- Q & A



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Being Right



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Right ... But Wrong

- Forecast = ↑
 - Buy call
- Stock = ↑
- P&(L) = ↓



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Righty Tightly

- Being right is not enough
- Play it tight!
- Learn how options work!



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Option Pricing



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Direction

- Rising stock price:

Call price  • Put price 

- Falling stock price:

Call price  • Put price 



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Time

- Each day that passes:

Call price ↓ • Put price ↓



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Volatility

- “Volatility” rises:

Call price ↑ • Put price ↑

- “Volatility” falls:

Call price ↓ • Put price ↓



Volatility



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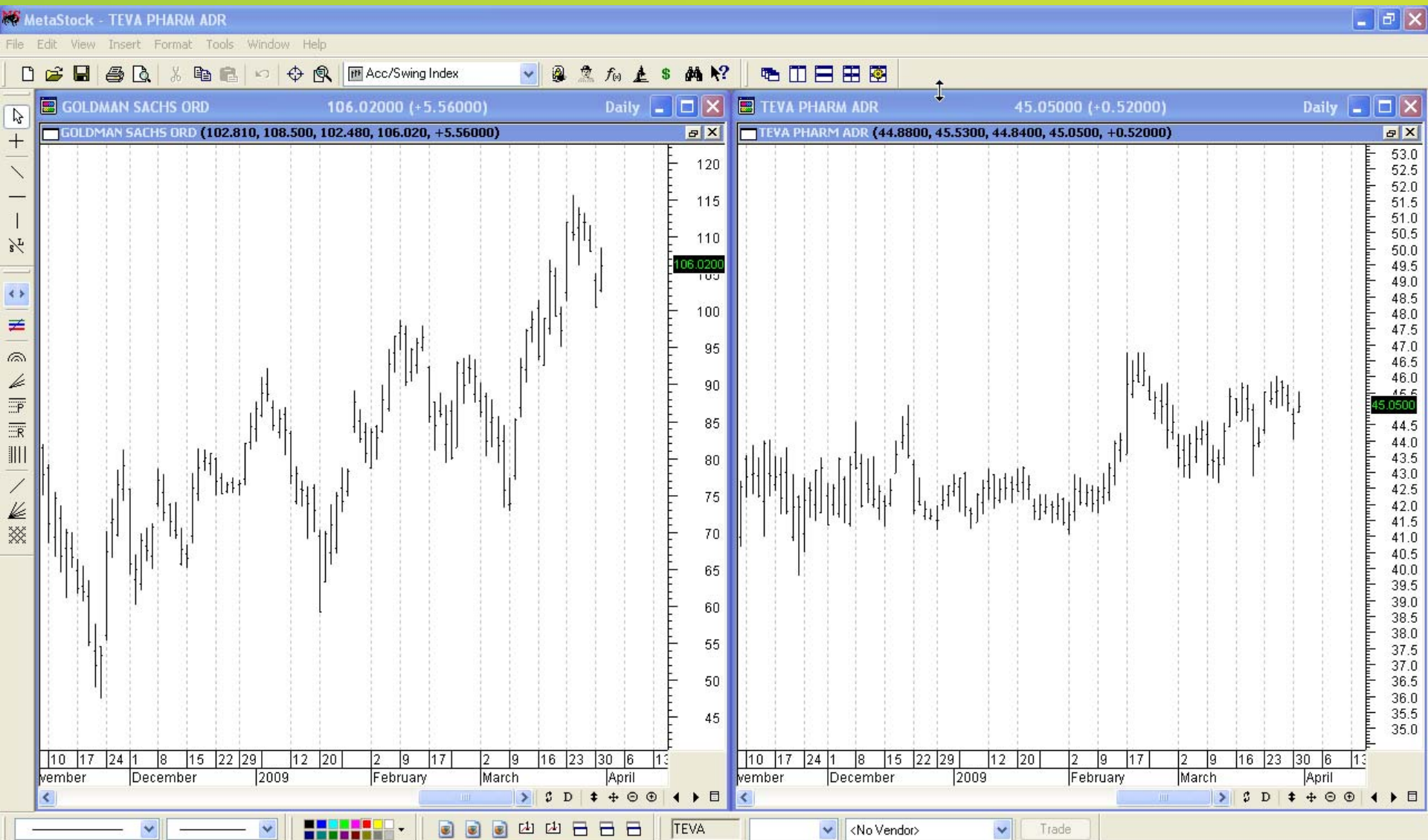
Volatility

- “ I know it when I see it”
- Historical data
 - Closing prices
 - Stock charts



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(Past) Volatility



Prices not current

Historical Volatility

- Mathematical measure of *past* volatility of a stock
- Backward looking
- Annualized standard deviation
- Stock volatility



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Implied Volatility (IV)

- Forward looking
- Expected future volatility embedded in an option's price



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Implied Volatility and Option Prices

- Remember: When (implied) volatility rises, so do option prices
- IV is derived from the market
- IV is *sometimes* more important than directional movement
- Vega measures IV's effect on option prices



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Learn to Speak Greek



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The Greeks

- Delta
- Gamma
- Theta
- Vega



Delta

- Option's price sensitivity to change in underlying price.
- i.e., directional sensitivity



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Gamma

- Delta's sensitivity to change in underlying price.
- Helps option "longs"; hurts option "shorts"



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Theta

- Option's sensitivity to change in time to expiration
- Hurts option "longs"; helps option "shorts"



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Vega

- Option's sensitivity to change in “volatility”
- Commonly overlooked risk



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Implied Volatility Example

<u>Option</u>	<u>IV</u>
GS May 110 call	78%

Prices not current



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IV, Price and Vega

<u>Option</u>	<u>IV</u>	<u>Option Px</u>	<u>Vega</u>
GS May 110 call	78%	12.20	0.15

Prices not current



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Rising Implied Volatility

<u>Option</u>	<u>IV</u>	<u>Option Px</u>	<u>Vega</u>
GS May 110 call	78%	12.20	0.15
GS May 110 call	79%	12.35	0.15
GS May 110 call	80%	12.50	0.15

Prices not current



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Falling Implied Volatility

<u>Option</u>	<u>IV</u>	<u>Option Px</u>	<u>Vega</u>
GS May 110 call	78%	12.20	0.15
GS May 110 call	77%	12.05	0.15
GS May 110 call	76%	11.90	0.15

Prices not current



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How Vega Plays Into Directional Trades



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Monitoring Risk

- Three primary risks
 - Underlying price
 - Time
 - Implied volatility
- Monitor greeks



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Example 1



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Example 1 – Long SPY Call

- Forecast: Trader Tom believes “the market” will rebound strongly in the near future. Specifically, he believes SPY will rise sharply from its current value of \$83.90 by June.
- Trade:
 - Buy 10 SPY June 84 calls at 6

Prices not current. Example is for illustrative purposes only.



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Example 1 – Trade Risks

1. (Directional) forecast is wrong
2. Implied volatility falls



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Example 1 – Greeks

Long 10 SPY June 84 calls

<u>Delta</u>	<u>Theta</u>	<u>Vega</u>	<u>IV</u>
0.53	0.04	0.16	40

SPY at \$83.90, 79 days till June expiration. Values are rounded.



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Example 1 – Scenario 1

SPY Rises to \$89 in One Month, **IV Unchanged**

- 10 SPY June 84 calls worth 7.90
- Profit

$$7.90 - 6 = 1.90$$

$$1.90 \times 10 \text{ contracts} \times \$100 = \mathbf{\$1,900}$$

(Value generated using option calculator)



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Example 1 – Scenario 2

SPY Rises to \$89 in One Month, **IV Falls 15 Points**

- 10 SPY June 84 calls worth 6.20
- Profit

$$6.20 - 6 = .20$$

$$0.20 \times 10 \text{ contracts} \times \$100 = \mathbf{\$200}$$

(Value generated using option calculator)



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Example 1 – Observations

- After volatility change in Scenario 2 nearly all profit was erased
- Must account for volatility changes when trading options!



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Example 2



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Example – Long ABC Call

- Market info: ABC Corp. will release their quarterly earnings figures tomorrow. Implied volatility for the at-the-money calls expiring in three weeks is 48. (That's 25 points higher than usual.)
- Forecast: After studying financials and reading up on the company, Trader Tricia believes ABC will rise sharply from its current value of \$68 upon the earnings announcement.
- Trade:
 - Buy 10 May 70 calls at 2.45



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Example 2 – Trade Risks

1. (Directional) forecast is wrong
2. Implied volatility falls after earnings



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Example 2 – Greeks

Long 10 May 70 calls

<u>Delta</u>	<u>Theta</u>	<u>Vega</u>	<u>IV</u>
0.43	0.07	0.07	48

ABC at \$68, 3 weeks till May expiration. Values are rounded.



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Example 2 – Scenario 1

ABC Rises to \$71 Post Earnings, **IV Unchanged**

- 10 ABC May 70 calls worth 3.90
- Profit

$$3.90 - 2.45 = 1.45$$

$$1.45 \times 10 \text{ contracts} \times \$100 = \mathbf{\$1,450}$$

(Value generated using option calculator)



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Example 2 – Scenario 2

ABC Rises to \$71 in Post Earnings, IV Falls 25 Points

- 10 ABC May 70 calls worth 2.15
- **Loss**

$$2.15 - 2.45 = (.30)$$

$$(0.30) \times 10 \text{ contracts} \times \$100 = \mathbf{(\$300)}$$

(Value generated using option calculator)



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Example 2 – Observations

- Volatility was “crushed” following earnings
- After volatility change in Scenario 2 loss incurred
- Must account for volatility changes when trading around expiration!



Red Flags

- Periods of “abnormal” volatility
- Earnings
- Implied and historical volatility are significantly different
- Anticipated potential directional move is less significant than anticipated potential volatility move



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- Initial assessment/consultation
- Eight one-hour, one-on-one mentoring sessions
- Weekly customized homework
- Copy of **Trading Option Greeks**
- Access to proprietary MTM educational material
- Lifetime alumni status
- ... and more!



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