CBOE EXECUTE SUCCESS℠

3rd Annual CBOE Risk Management Conference Europe

Directional Options Trading
Strategy And Position Management

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Introduction

OBJECTIVES

- Emphasize/Maintain a Directional Mindset
- Review Quantitative Factors
- Review Trade Examples/Scenarios
- Discuss Structuring and Risk Management
- Open Discussion and Questions

What Is Directional Trading?

Directional Trading Strategies:

- Utilize options to express a view or opinion on potential stock movement
- Focus on achieving "leverage" through proper "Delta" selection
- Analyze Key Quantitative Factors to Determine the "Best" Strategy to Utilize

<u>The Directional Trading Process is:</u>

- ❑ **Define View**
- ❑ **Structure (Hard)**
- ❑ **Risk Manage (Art)**

Directional Traders Mindset/Objective

Hedging　　　　Speculative　　　　Yield

- Directional trading seeks to achieve "one" of the above goals
- Option strategies can fall under different goals
- Directional Traders remain OPEN to exploring ALL possible strategies
- When trading "directionally," it is **REQUIRED** to define the goal in advance

Directional Trading Trends

Facts and Stats from the Sell-Side

- For 2014, Directional Trading Strategies Dominate Desk Flows
- United States Equity Markets Participants Are “Bottoms Up” Investing
- Directional Strategies Are Not just for “Hedge Funds”
- Between 75% to 85% Of Flows are Single Stock Related
- Most Popular Strategies Are:
  - **M&A Based Strategies – Term Structure Trades – Reversal/Conversions**
  - **Directional Long/Short and Stock Substitutes Strategies – Upside Calls**
  - **Yield Generation – Short Put Sales outsize Active Overwriting**

Quantitative Factors

Implied Volatility (Vega)

- Volatility is a measure of price variation over time
- The markets attempt to **“anticipate the anticipation”**
- Implied volatility is forward-looking (the market’s estimate of future volatility)
- Historical volatility is calculated from known price behavior in the past

Quantitative Factors

SKEW

- Difference between implied volatility levels at different strike prices
- Defines the curve of volatility
- Serves as a gauge for determining possible risk scenarios and market positioning
- Helps directional traders analyze different trading strategies

Quantitative Factors

GAMMA

- The rate of change in delta with respect to the underlying price
- Mathematically, gamma is the second derivative of an options value with respect to underlying price
- Used to gauge the price movement of an option, relative to the amount it is in or out of the money. (Change in DELTA)
- Largest for at-the-money options

Quantitative Factors

THETA

- A measure of the rate of decline in the value of an option due to the passage of time. (Time Decay)
- The measure of theta quantifies the risk that time imposes on options as options are only exercisable for a certain period of time
- Time has importance for option traders on a conceptual level more than a practical one, so theta is not often used by traders in formulating the value of an option

Quantitative Factors And Momentum Names

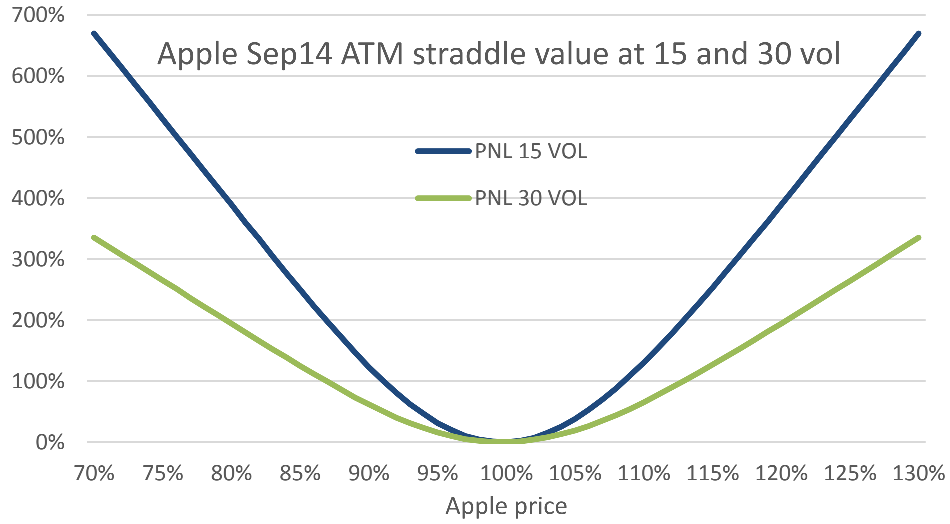
Facebook and GOGO

- **Facebook (FB) - Earnings Date Change**
  - Accounts utilized <u>WEEKLY</u> options to:
    - Take Advantage of Shift in Volatility
    - Change Strike Exposure
- **GOGO Inc. (GOGO) – High Implied Volatility Alternative**
  - Accounts Sought Long Exposure Into Earnings
    - Took Advantage of Cheaper Longer Dated <u>ITM</u> Volatility
    - Purchased Higher Delta Options Achieving Intrinsic Value
    - Achieved Lower Theta and Gained Time

Why Use Options for Directional Trading?

- To create leverage through optionality
- To limit downside
- To express views on timing or trading ranges

→ The lower the volatility, the higher the leverage you get from using optionality



Implied Volatility Is Key Driver of Option Prices

- Major drivers of option pricing:
  - **Implied Volatility**
  - Rates
  - Maturity
  - Dividends

- **Implied Volatility** will tell you if the option is cheap or expensive and if it provides you with high leverage

- Options can be compared to insurance premium → premium goes up as uncertainty increases

How to Evaluate Implied Volatility?

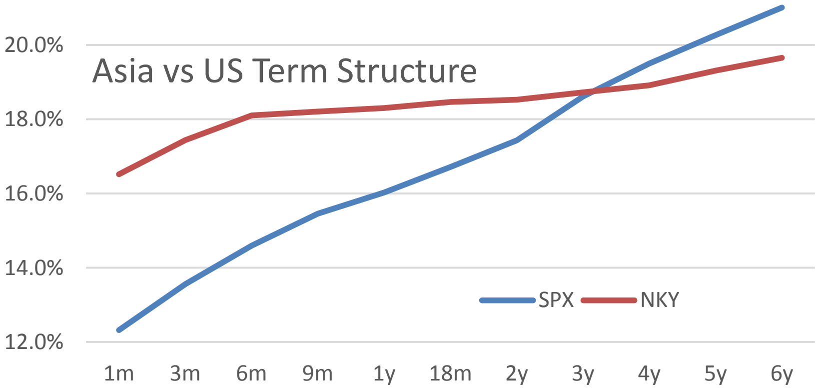
- Implied vs Realized – the basics of the volatility
- Spread/Peer Analysis - FX effect – EU vs US, XOM vs CVX, JPY vs NKY
- Cap Structure Analysis – is credit telling us something else?
- Event Risk – are earnings / large catalyst mispriced?
- Correlation Analysis – are components or benchmark cheaper?

- Imbalances between supply and demand of volatility create inefficiencies such as skews and term structures

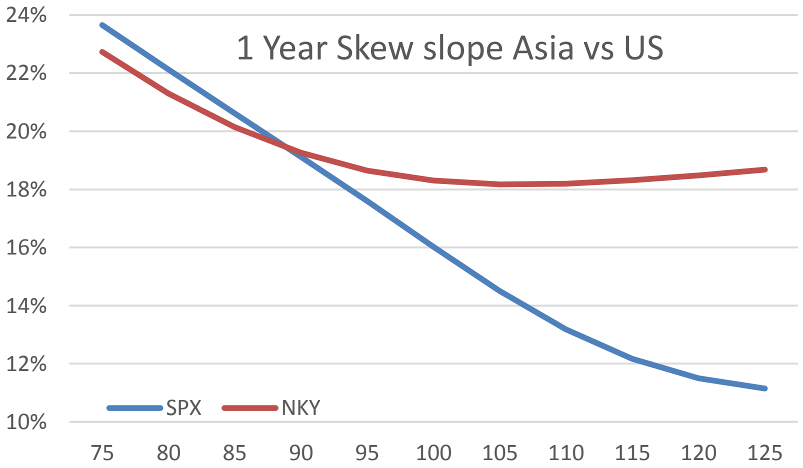
→ Can be used to enhance risk reward profile of directional trades!

Supply / Demand Opportunities

Term Structure



Skew



- Demand for US long-term protection
- Short-term call overwriting in US
- Supply of puts in Asia for yield enhancement purposes
- Demand for calls in Asia from Macro and Retail

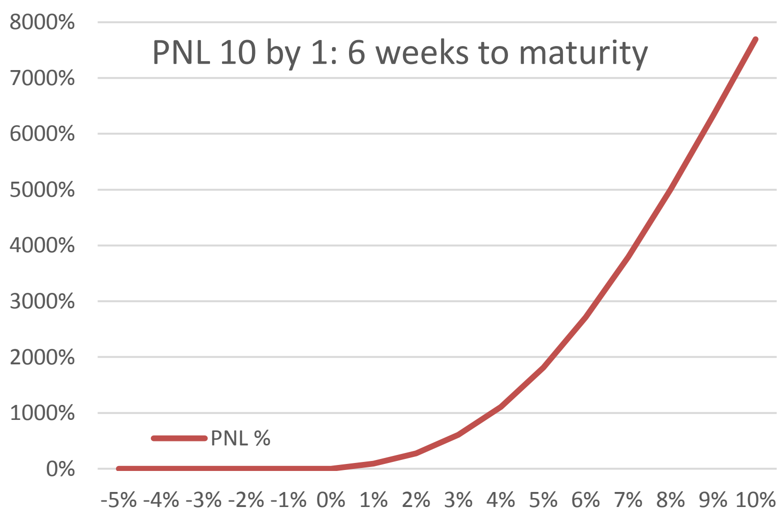
90-100% skew S&P500 and Nikkei225 by maturity

	SPX	NKY
1M	9.51%	7.01%
3M	5.77%	2.76%
6M	4.30%	1.62%
9M	3.60%	1.10%
1Y	3.13%	0.86%
2Y	2.20%	0.38%

Exploiting Term Structure and Skew Inefficiencies

Trade example 1: Leverage on upside convexity

Options Quick Pricer 3.2												
Underlying	Spot Price	Market	Maturity	Strike	Strike%	C/P	A/E	Amount	Notional, $	Vol	Price	price %
spx index	1945.00	CBOE	19-Sep-14	**2,033**	104.50%	C	E	55,000	106,975,000	8.75	1.16	0.06%
nky index	15500.00	OSE.	19-Sep-14	**16,198**	104.50%	C	E	-70,000	-10,610,209	16.85	97.51	0.63%
												10.0



Idea:
- benefit from a broad based rally
- take advantage of structural inefficiencies

Structure:
- buy 10x SPX calls vs 1x NKY/RTY/..
- flat premium
- 10x leverage

Risk Management:
- diversify short leg
- don’t hold to maturity, take profit or roll

Exploiting Term Structure and Skew Inefficiencies

Trade example 2: Outperformance Asia over US

Options Quick Pricer 3.2												
Underlying	Spot Price	Market	Maturity	Strike	Strike%	C/P	A/E	Amount	Notional, $	Vol	Price	price %
nky index	15500.00	OSE.	19-Jun-15	**17,670**	114.00%	C	E	-660,000	-100,039,116	18.59	**320.3401**	2.07%
nky index	15500.00	OSE.	19-Jun-15	**15,810**	102.00%	C	E	660,000	100,039,116	18.37	**825.8537**	5.33%
												3.26%
spx index	1945.00	CBOE	19-Jun-15	**2,217**	114.00%	C	E	51,500	100,167,500	10.84	**6.7944**	0.35%
spx index	1945.00	CBOE	19-Jun-15	**1,984**	102.00%	C	E	-51,500	-100,167,500	14.06	**71.4916**	3.68%
												3.33%

Idea:

- NKY outperformance over SPX on upside

Structure:

- Jun15 102%-114% call spread switch
- Premium flat

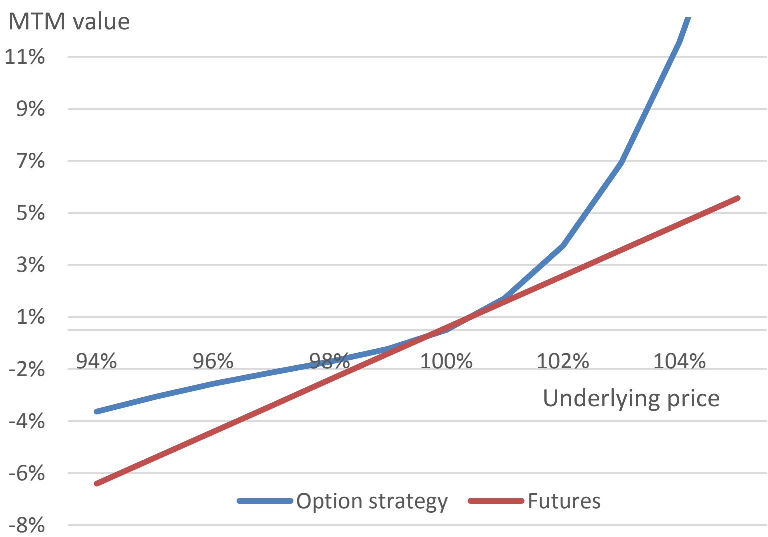
Risk Management:

- Requires consistent monitoring
- Needs to be rolled or taken off when targets are met

Exploiting Skew Inefficiencies

Trade example 3: SPX calls vs puts

Options Quick Pricer 3.2												
Underlying	Spot Price	Market	Maturity	Strike	Strike%	C/P	A/E	Amount	Notional, $	Vol	Price	price %
spx index	1940.00	CBOE	19-Sep-14	**2,037**	105.00%	C	E	62,000	120,280,000	8.71	0.7473	0.04%
spx index	1940.00	CBOE	19-Sep-14	**1,843**	95.00%	P	E	-5,000	-9,700,000	16.50	9.1895	0.47%
											12.2974	



Idea:

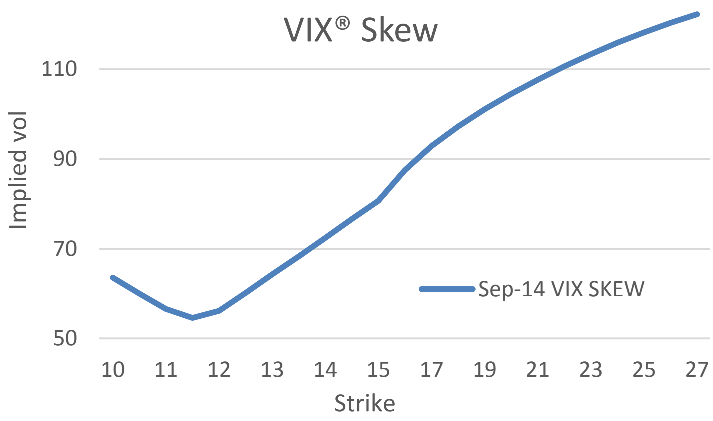
- Long market
- Use skew inefficiencies to reduce downside

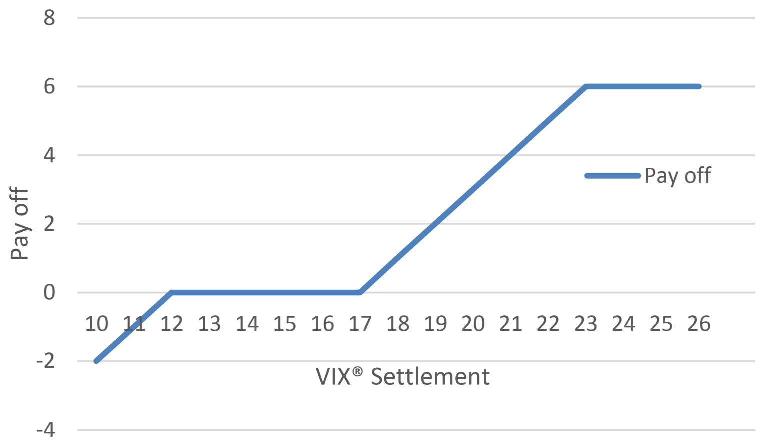
Structure:

- 6 week 12x 105% call vs 1x 95% put
- Costless

Exploiting Vol of Vol premiums

Trade example 4: Downside protection / hedging





Idea:

- Buy downside protection

Structure:

- VIX® wings bid for crash protection
- VIX® expired only 4x below 12 since '06
- Avoid the roll down on the futures
- Buy 17/23 Sep14 Call spread vs 12 Put
- Costless

Risk Management:

- protection from 17 – 23
- Roll the structure to higher strikes once ITM
- Buy back 12 put when worthless

The Magic of Low Volatility

Trade example 5: Contrarian trade on Silver

Idea:

- Get long Silver after a 60% correction
- Benefit from vol at a 8 year low
- Benefit from any upside rally or shock (rerating of vol levels)

Structure:

- Simply buy Jan16 ATM call is trading at 2USD
- Pay hardly no decay (long-dated)

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Specialized Technology for Real-World Complexity

- **Generate the optimal option strategy given your underlying prediction**
  - Apply constraints such as capital, risk, margin, net cash
  - Tradelegs checks every combination of put, call, expiration and equity
    - ... in every quantity, long or short
    - … over all potential prices, volatilities and changing liquidity
    - … a combinatorial explosion of approximately $3x10^{30}$ combinations
  - *Equivalent to searching for the finest grain of sand on every beach of 400 billion earths!*
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  - Cloud-based cluster-compute processing
- **Benefits**
  - Algorithmically complete: subject to your requirements and market data, it can generate the optimal custom strategy, or else prove to you that no viable trade exists
  - Flexible: quickly layer on the additional constraints as you see fit, letting you easily shape the strategy to match your precise needs
  - Accurate and realistic: represents real-world options trading and its uncertainties without the risks inherent in oversimplification

Optimize the Trade-off between Risk and Reward

Shape returns on your fundamental equity research with scientifically optimized, custom options strategies

Maximize expected returns

Hedge positions and control worst-case loss

Unlock the power of custom strategies

Reduce volatility of your returns

Achieve structured derivatives results using listed products

Gain edge

Visit the CBOE booth during the conference or see www.Tradelegs.com for more information

THANK YOU

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