



Options Combinations & Strategies

Andrew Wilkinson



Disclosure of Risk

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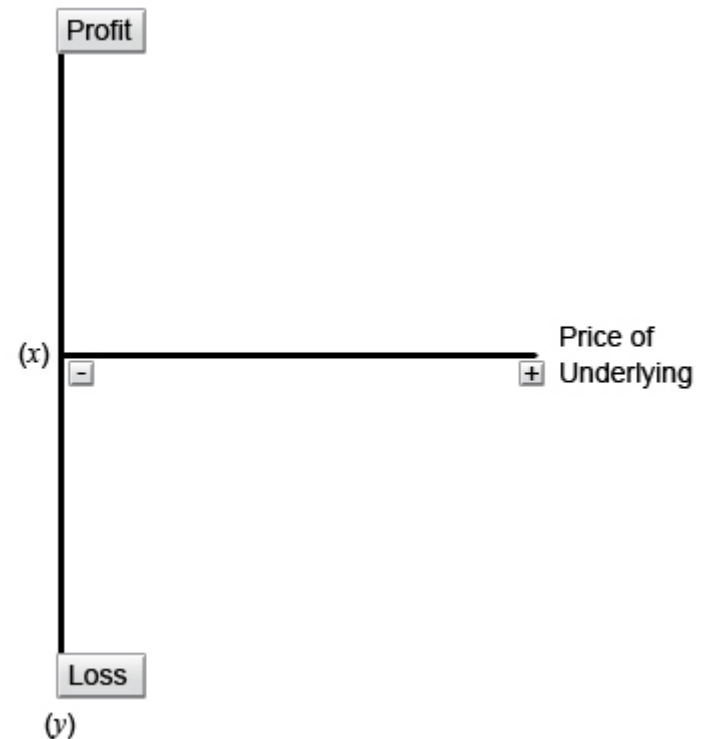
In order to simplify the computations, commissions, fees, margin interest and taxes have not been included in the examples used in these materials. These costs will impact the outcome of all stock and options transactions and must be considered prior to entering into any transactions. Investors should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

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What does the graph show me?

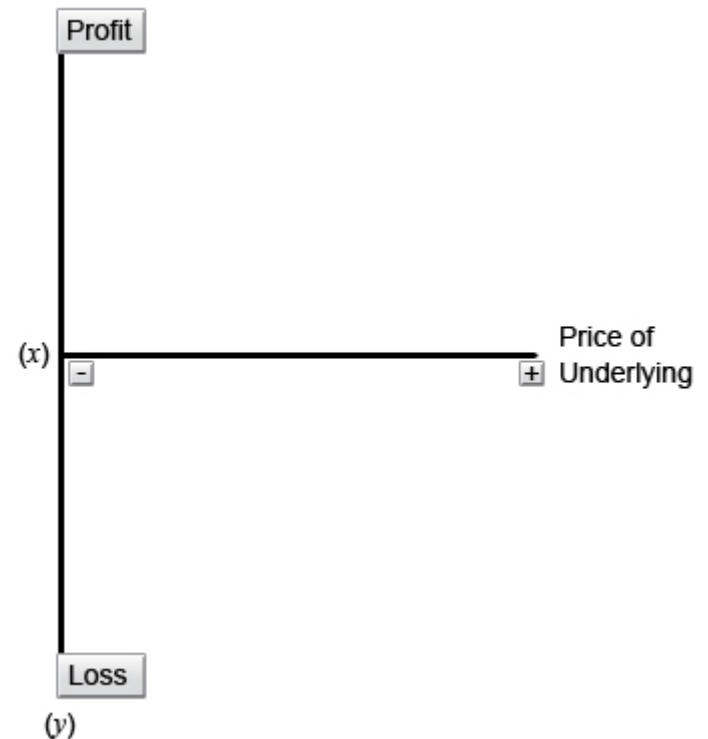
- X-axis depicts price of underlying (\$)
- Y-axis measures profit and loss
- Combines price variation with cost & P/L of trade
- Allows trader to immediately visualize:
 - **Trade cost**
 - **Maximum loss**
 - **Maximum profit**
 - **Breakeven points**





What does the graph show me?

- Buying any option costs a 'premium' (debit)
- Maximum loss can be shown visually as a horizontal line parallel to (and below) the X-axis
- Selling an option creates a credit





Naked Put (Bullish)

- Risky strategy used when trader expects underlying to keep **rising**
- Maximum gain is the premium received at any point above the strike price
- Maximum loss is unlimited since the underlying could turn lower
- Losses grow at and below strike price



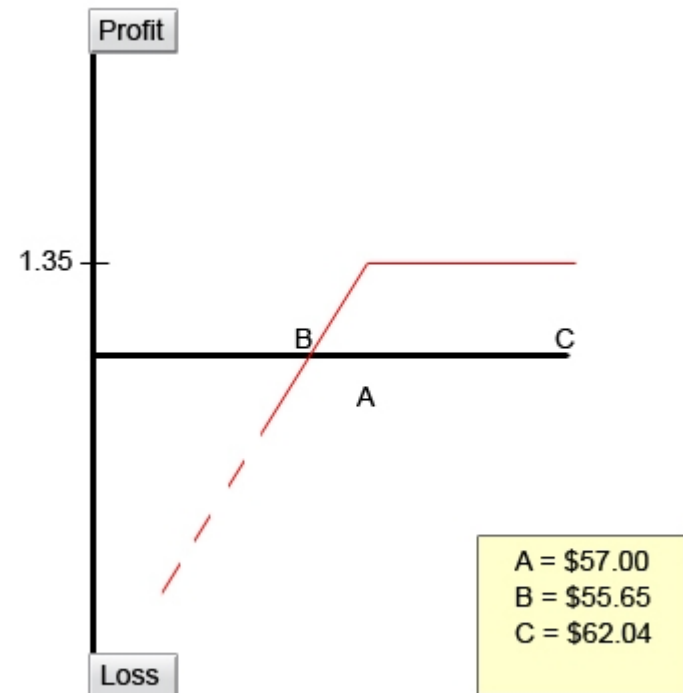
Crude Oil – Naked Put

- A trader might expect the price of May crude oil to resume its uptrend
- Using a riskier strategy of selling out-of-the-money put options he or she can create an account credit
- Strategy is safe while price is stable and rises
- Strategy is very risky if the trader is wrong



Crude Oil – Naked Put

- ❑ Underlying May crude @ 62.04
- ❑ Sell May 57.0 put @ 1.35 (\$1,350)
- ❑ Maximum gain is 1.35 and occurs at all values from \$57.0 and up
- ❑ Breakeven is strike MINUS premium or \$55.65
- ❑ Losses mount penny for penny below here and are essentially infinite





Naked Call (Bearish)

- Risky strategy used when trader expects underlying to keep **falling**
- Maximum gain is the premium received at any point below the strike price
- Maximum loss is unlimited since the underlying could turn higher
- Losses grow at and above strike price



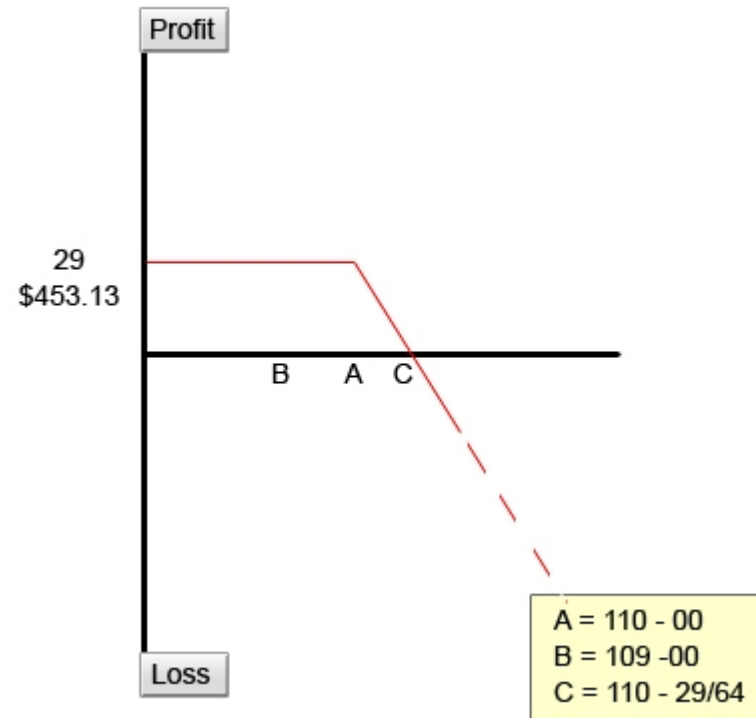
10-Year Treasury Note – Naked Call Example

- ❑ Bond (note) prices move inversely to yields
- ❑ When bond prices rise, yields decline
- ❑ Trader assumes that bear market for bonds will continue and yields will continue to rise from 4.50 to 5.00 percent
- ❑ Feels comfortable receiving call premium on 10-year note



10-Year Treasury Note – Naked Call Example

- ❑ June notes @ 109-00
- ❑ Sell June 110-00 call @ 29 (29/64)
- ❑ Tick value of \$15.625 yields premium of \$453.13 (29*\$15.625)
- ❑ Maximum gain is total premium received at ANY price BELOW 110-00
- ❑ Trade breaks even at 110-29/64 (strike price PLUS premium)
- ❑ Losses are open ended above 110-29/64





Naked Selling

- ❑ Although naked selling is risky and can lead to unlimited losses, traders use this strategy when they are comfortable with an established trend or trading range
- ❑ Selling puts in bull markets can be smart
- ❑ Likewise, selling calls at the top of a range or throughout bear market can be productive



Neutral Strategies

- ❑ While neutral may infer dull and boring trading conditions, savvy traders use such periods to position for continuation or reversal of such conditions
- ❑ We will now long at straddles, strangles, butterflies and condor combinations
- ❑ These are made up of several of the strategies we just went through



Long Straddle

- Don't know and don't care which way market will move, just so long as it moves!
- Buy a call and a put of the same strike and expiration
- Combined premium is maximum loss and occurs at strike price i.e. if market stagnates
- Breakeven occurs at:
 - Strike price minus premium cost (put starts to payoff)
 - Strike price plus premium cost (call starts to payoff)
- Maximum profit is unlimited in either direction



Long Straddle – S&P Example

- ❑ Early February saw global stocks fall
- ❑ One week later began a recovery
- ❑ Trader wonders whether this is a genuine resumption of uptrend or whether downtrend will be tested
- ❑ Trader decides to buy at-the-money straddles in the hope that the market doesn't stay still

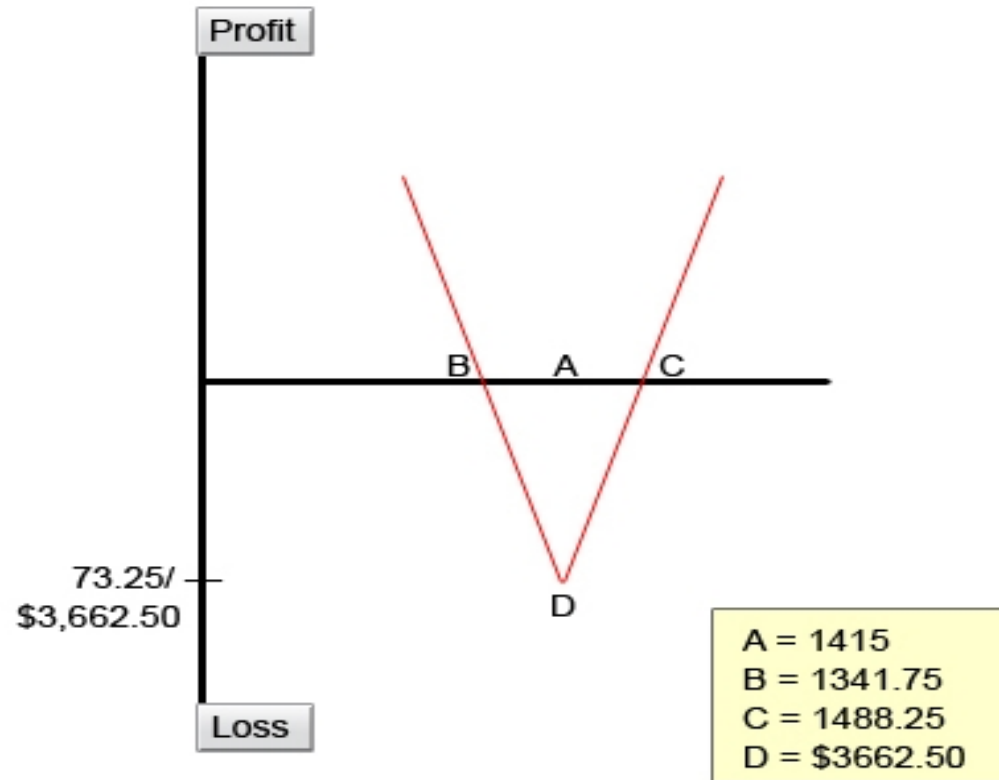


Long Straddle – S&P Example

- June S&P trading @ 1416.75
- Buy June 1415 call @ 37.75 = \$1,887.50
- Buy June 1415 put @ 35.50 = \$1,775.00
- Total premium and max loss is 73.25 points (\$3,662.50)
- Max loss would occur at the strike price since both call and put would be worthless!
- Trade breaks even in two places:
- If S&P value rises above strike plus gross cost of trade
- If S&P value falls below strike minus gross cost of trade
- So breakevens occur at $1415 + 73.25 = 1488.25$ and
- $1415 - 73.25 = 1341.75$
- Remember, changing volatility will impact put and call cost



Long Straddle





Short Straddle

- For every buyer, there must be a seller
- Sell a call and a put of the same strike and expiration
- Combined premium is maximum profit and occurs at strike price i.e. if market stagnates
- Breakeven occurs at:
 - Strike price minus premium income (put starts to lose)
 - Strike price plus premium income (call starts to lose)
- Maximum loss is unlimited in either direction

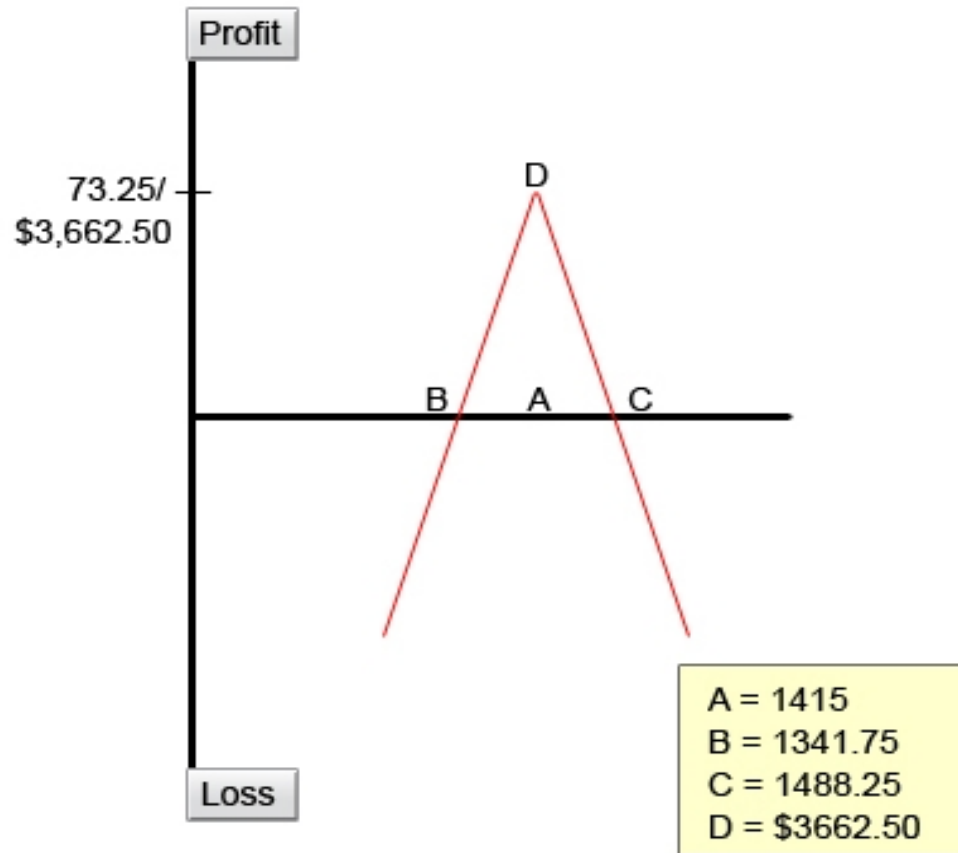


Short Straddle – S&P Example

- ❑ Trader might feel that the S&P index is set to stall and go nowhere for the summer
- ❑ Interest rates on hold, mild earnings growth and so-so growth
- ❑ Major bull market set to take a breather
- ❑ The cost of the June straddle at 73.25 points represents a +/- 5.2% swing over the **next 90 days**
- ❑ If trader believes that this range is set to narrow he might sell the straddle



Short Straddle



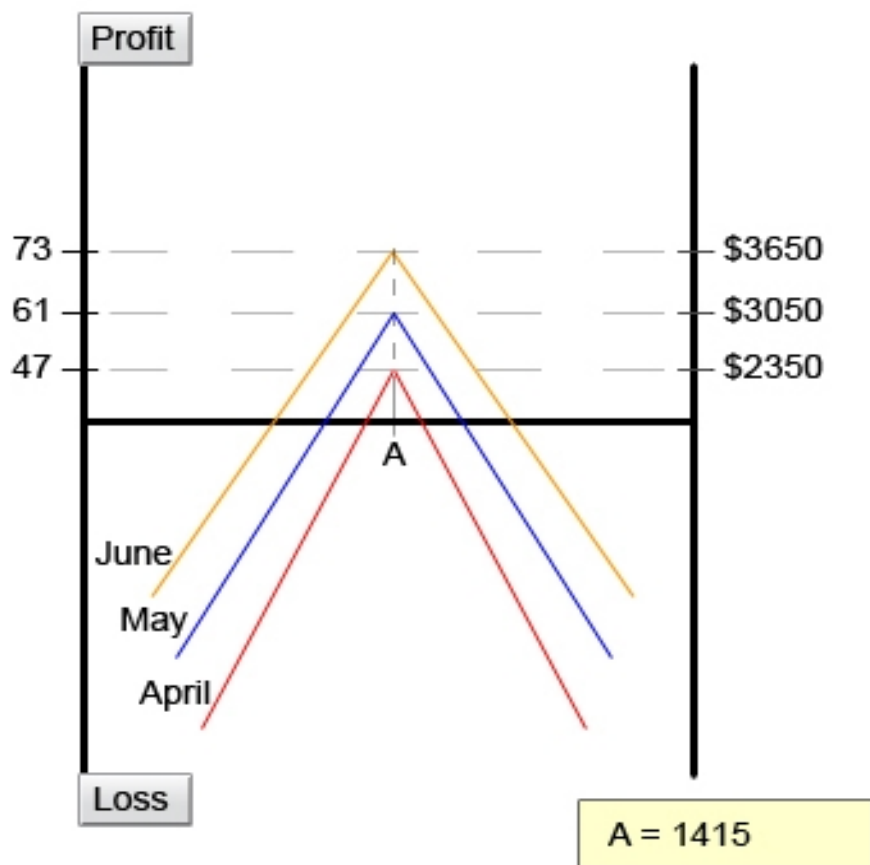


Short Straddle and Time Decay

- ❑ Options prices are governed largely by expectations of future movements based upon historical observations
- ❑ **Read** “volatility”
- ❑ Let's look at the same S&P straddle but look at how time value erodes
 - April 1415 straddle = $25+22=47$ points
 - May 1415 straddle = $32+29=61$ points
 - June 1415 straddle = $37+36=73$ points
 - Each month the trade loses 13 points assuming the market does stagnate



Short Straddle and Time Decay



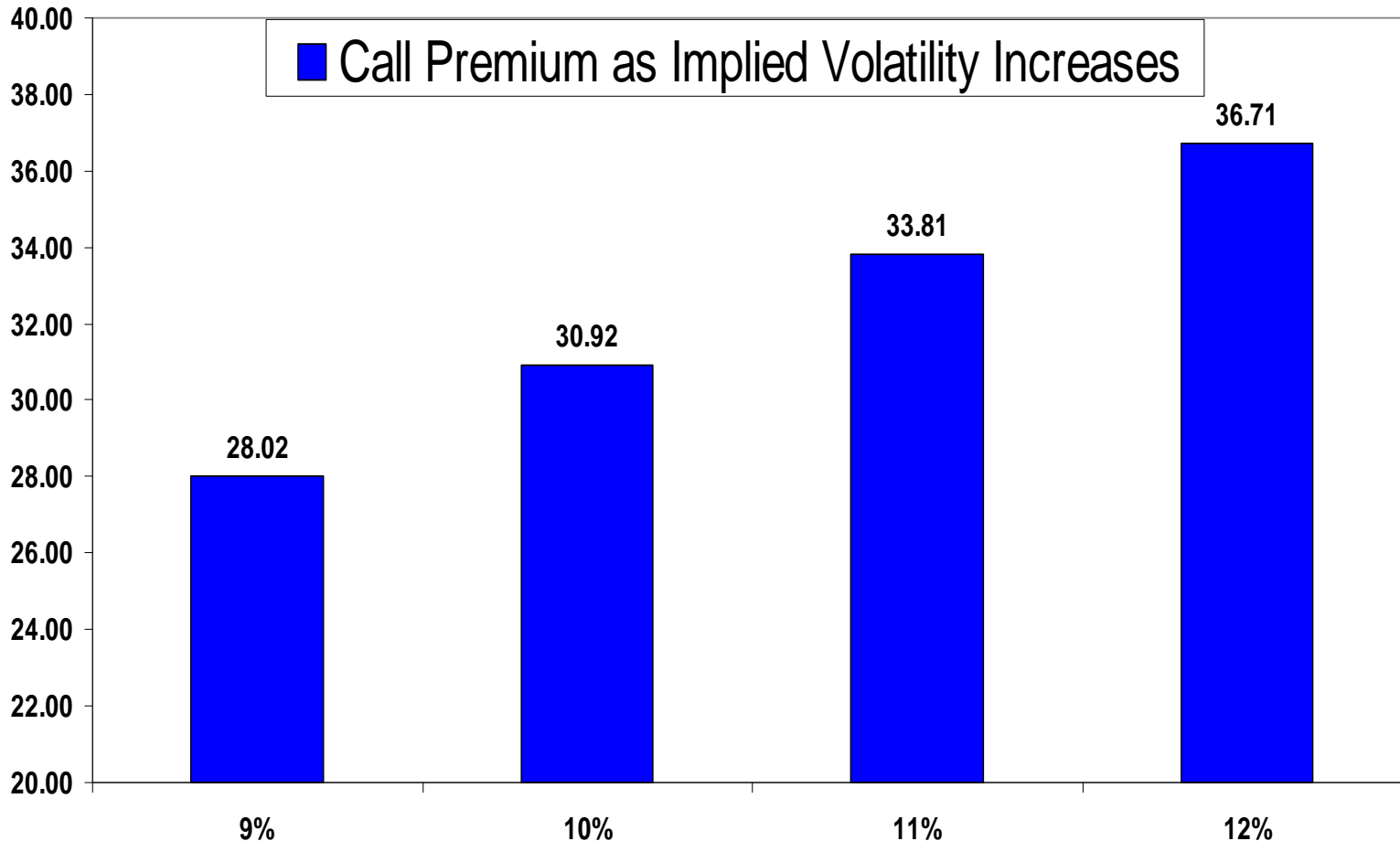


Short Straddle and Volatility Change

- ❑ Premiums change as volatility does
- ❑ The June S&P 1415 call has a six month historic implied volatility range of between 9-12 percent
- ❑ March 9, 2007 June S&P @ 1418, implied vol of 12.36 percent, June 1415 call @ 37.75
- ❑ Varying volatility will change call price
 - 9 percent volatility call premium = 28.02
 - 10 percent volatility call premium = 30.92
 - 11 percent volatility call premium = 33.81
 - 12 percent volatility call premium = 36.71



Short Straddle and Volatility Change





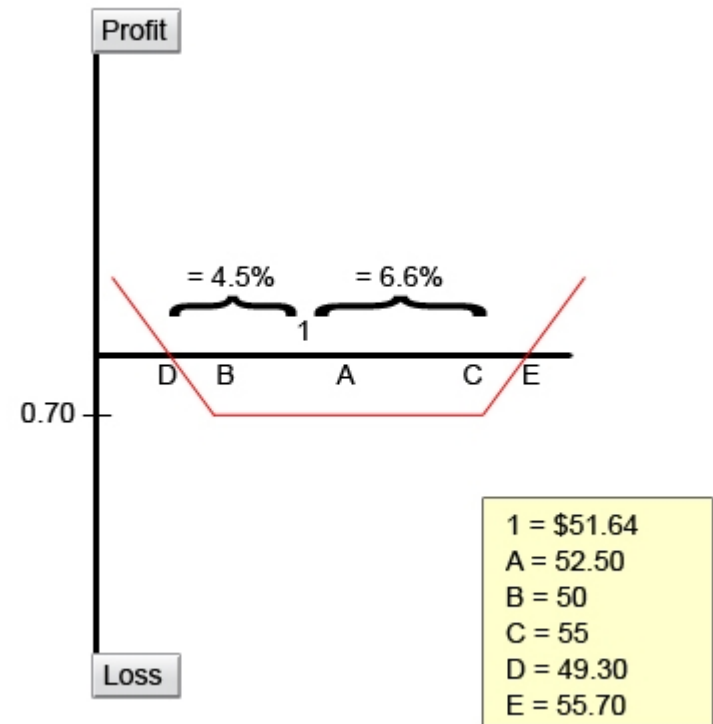
Long Strangle

- ❑ The strangle differs from the straddle since it combines puts and calls at different strike prices
- ❑ This can lower the cost of the trade since both strikes could be out of the money – either side of the underlying
- ❑ The trade still requires an explosive move in either direction
- ❑ By settling for a lower cost trade, you may need a bigger price swing to shift the trade to profitability



Long Strangle

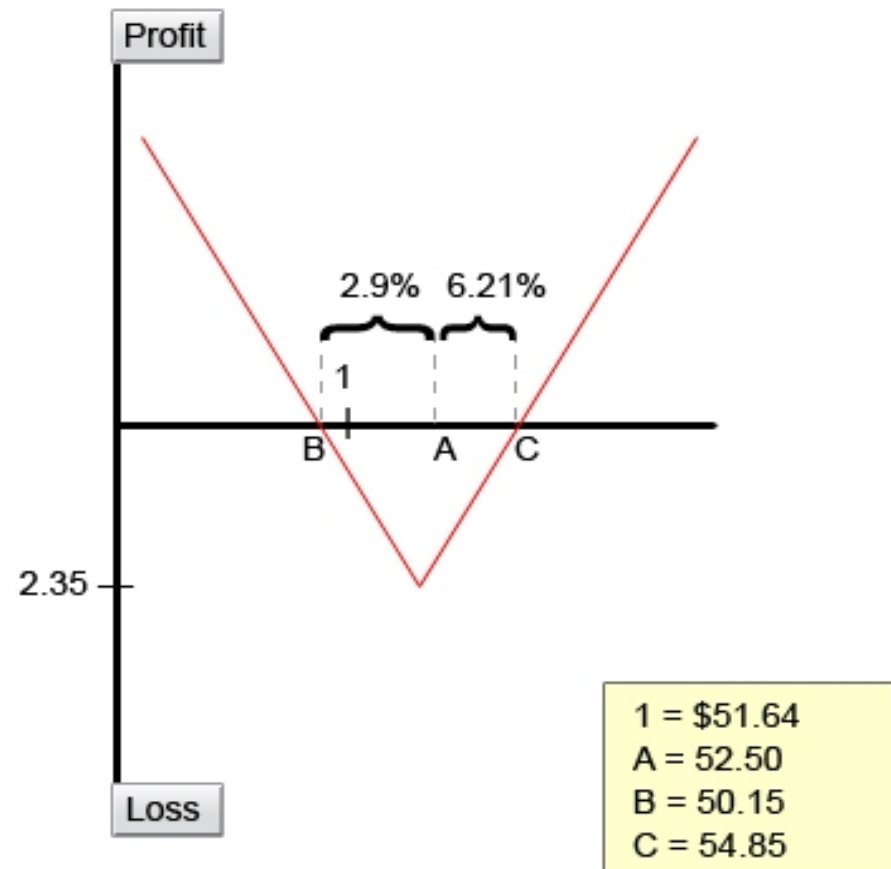
- ❑ Shares in Citigroup at \$51.64
- ❑ Trader unsure if financial stocks will slide or rocket
- ❑ Buys a May 50.0 put @ 0.60
- ❑ Buys a May 55.0 call @ 0.10
- ❑ Total premium 0.70
- ❑ If shares rise the call rises
- ❑ If shares decline put rises
- ❑ The trade must rise further than the net premium paid
- ❑ Breakevens are \$49.30 and \$55.70





How Does a Long Straddle Compare?

- ❑ The 52.5 straddle is priced at 2.35 (add together call and put premium)
- ❑ Calculate the breakeven
 - $52.5 \text{ minus } 2.35 = 50.15$
 - $52.5 \text{ plus } 2.35 = 54.85$
- ❑ In this case the trade costs more to establish
- ❑ Breakevens are closer





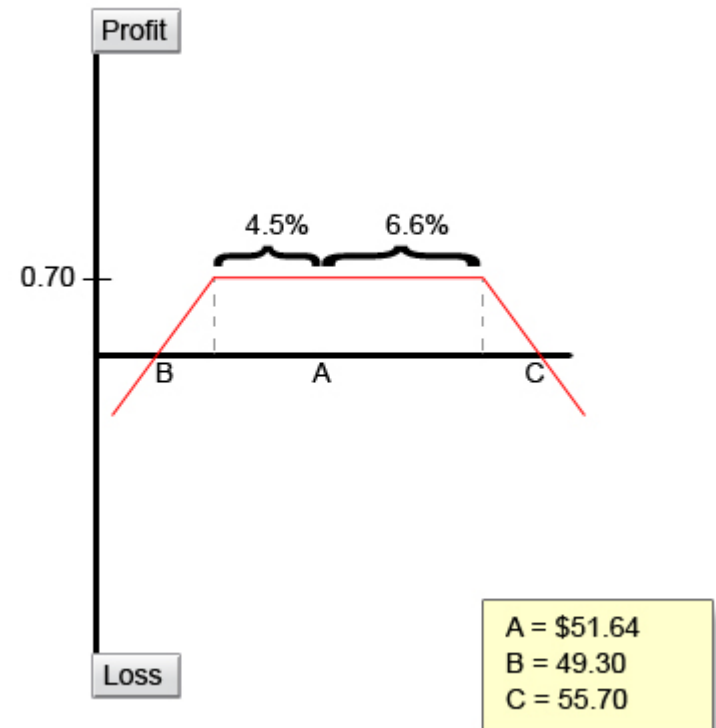
Short Strangle

- If a trader believes that prices will do nothing or simply stagnate **SELLING** strangles could prove profitable
- The trader will take in the premium by being on the other side of the previous trade
- Let's revisit that chart but this time from the perspective of the strangle **SELLER**
- We'll measure how far share price would need to move from its current price to hurt the strategy



Short Strangle

- ❑ Citigroup shares at \$51.64
- ❑ Sell a May 55.0 call @ 0.10
- ❑ Sell a May 50.0 put @ 0.60
- ❑ Receives total premium 0.70
- ❑ Trader has a “cushion” at the premium above the call strike and below the put strike
- ❑ Breakevens at \$49.30 and \$55.70
- ❑ See how shares would need to either rally 6.6% or fall 4.5% in order for the trade to lose





Long Butterfly

- Call or put butterflies achieve same outcome
- Neutral position made up of same amount of long & short positions
- Want shares to stagnate at the center of the trade



Long Butterfly – Accredited Home Lenders

- ❑ Subprime lender whose shares had lost 67% in value
- ❑ Hedge fund, Farallon Capital injected \$200 million loan
- ❑ Shares jumped 21% to \$11.00 on the news
- ❑ Looks like a call butterfly was made
- ❑ A butterfly gets the name from the p/l profile it creates
- ❑ When describing “long or short” we are referring to “wings”
- ❑ A butterfly covers three consecutive strikes
- ❑ A long position means buying the lower and the upper strike while selling **TWICE** as many of the middle strike



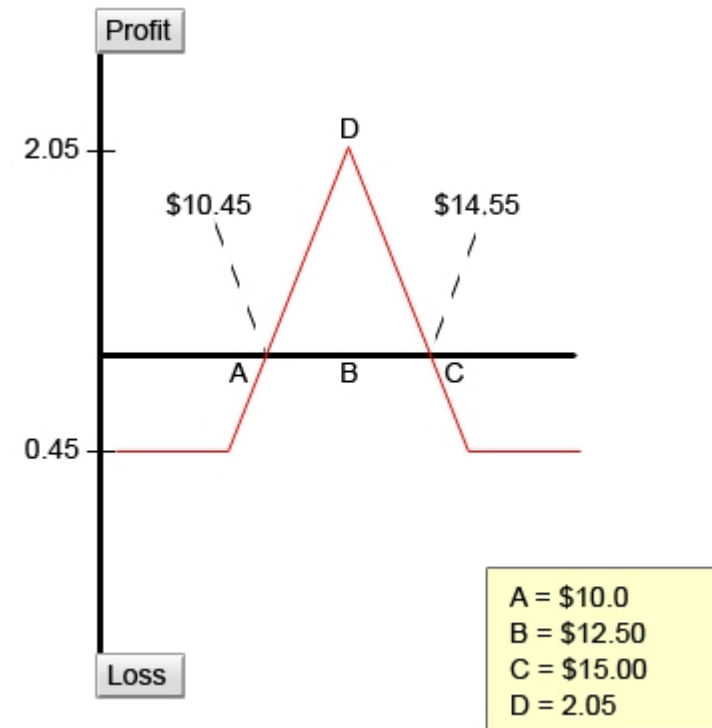
Long Butterfly – Accredited Home Lenders

- ❑ Shares at \$11.00
- ❑ Buy 1 call with 10.0 strike @ 1.50 **debit**
- ❑ Sell 2 calls with 12.5 strike @ 0.85 (*2=1.7) **credit**
- ❑ Buy 1 call with 15.0 strike @ 0.65 **debit**
- ❑ Net cost 0.45 **debit**



Long Butterfly – Accredited Home Lenders

- ❑ Strikes = 10.0, 12.5 & 15.0
- ❑ Net cost = 0.45
- ❑ Max loss = 0.45
- ❑ Max profit = 2.05
- ❑ Lower breakeven = 10.45
- ❑ Upper breakeven = 14.55





Long Butterfly – Accredited Home Lenders

- ❑ Try to think of the net position –long 2 calls/ short 2 calls
- ❑ That's why at breakeven in both directions we have the flat line
- ❑ Max loss is limited to the premium paid
- ❑ Breakeven is the spread between strikes minus cost
($2.5 - 0.45 = 2.05$)
 - Added to lower strike $10.0 + 0.45 = 10.45$
 - Subtracted from upper strike $15.0 - 0.45 = 14.55$
- ❑ Maximum profit is at the strike and is the spread between strikes minus cost (2.05)

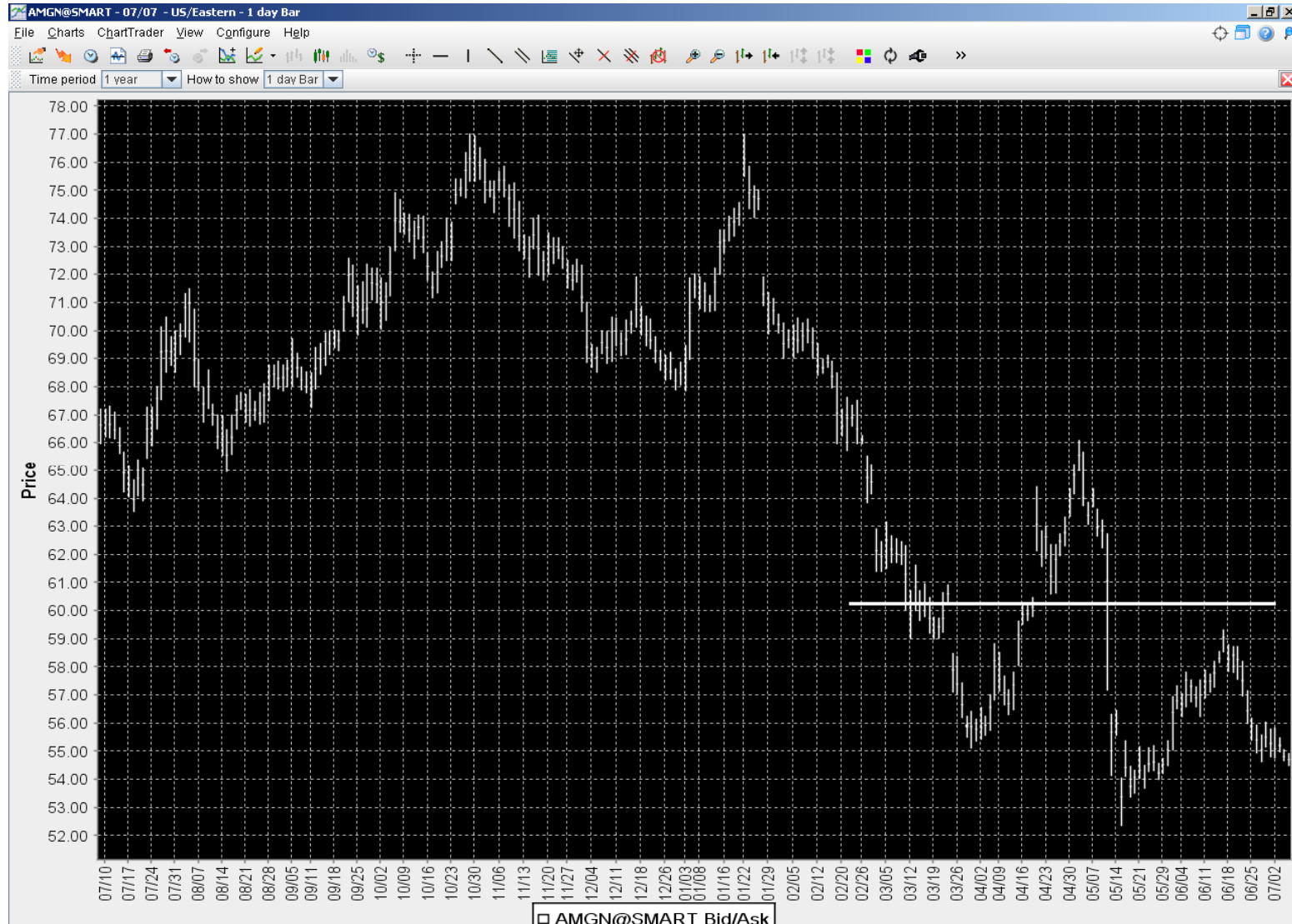


Short Butterfly - Amgen

- ❑ Aim is to capture some premium at May expiration
- ❑ Amgen shares slumped from \$76 to \$56
- ❑ Damaged by damaged by fears over poor results to long-term study of top-selling Aranesp anemia drug
- ❑ The latest report was *positive* and shares spent several days rallying before and on the report's release
- ❑ Taking the view that the report will draw a line under the stock take in some premium in the hope that:
 - Shares will rise
 - Shares will NOT revisit the \$60.00 level – if they do I don't want them to stay there
 - If shares continue to fall I want them to revisit the recent low



Amgen Share Price





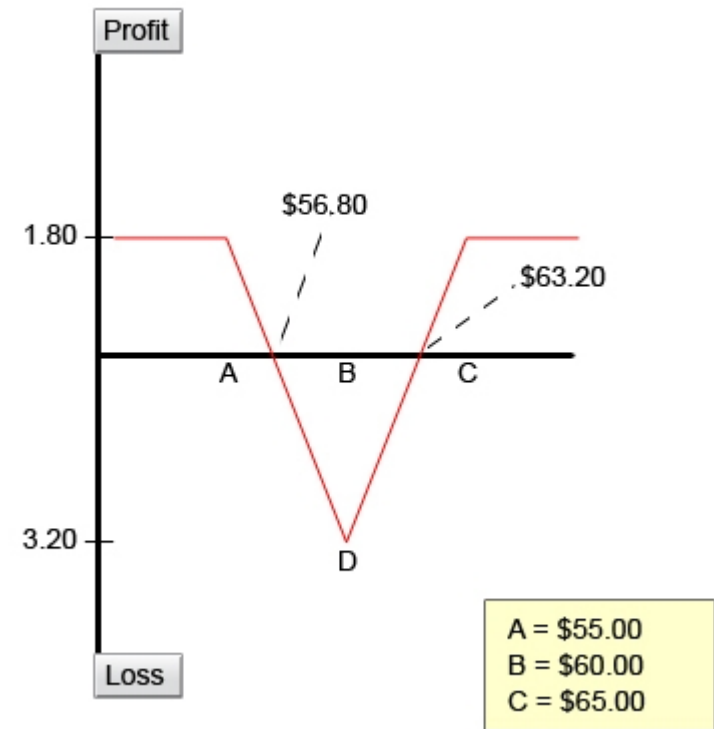
Amgen Short Butterfly

- | | | |
|---|---------------|--------|
| <input type="checkbox"/> Sell <i>one</i> 55.0 put | @ 0.20 | credit |
| <input type="checkbox"/> Buy <i>two</i> 60.0 puts | @ 1.00 (2.00) | debit |
| <input type="checkbox"/> Sell one 65.0 put | @ <u>3.60</u> | credit |
| <input type="checkbox"/> Net | 1.80 | credit |



Amgen Short Put Butterfly

- ❑ Strikes = 55.0, 60.0 & 65.0
- ❑ Net *credit* = 1.80
- ❑ Max loss = 3.20
- ❑ Max profit = 1.80
- ❑ Lower breakeven = 56.80
- ❑ Upper breakeven = 63.20





Ratio Put Spread

- ❑ Decline in price of underlying seen as limited
- ❑ Trade combines long put position with multiple short positions at different strikes but same expiration
- ❑ The aim is to reduce the initial premium outlay for the strategy
- ❑ But by holding a net short position the risk is increased since at some point the investor is vulnerable to substantial losses



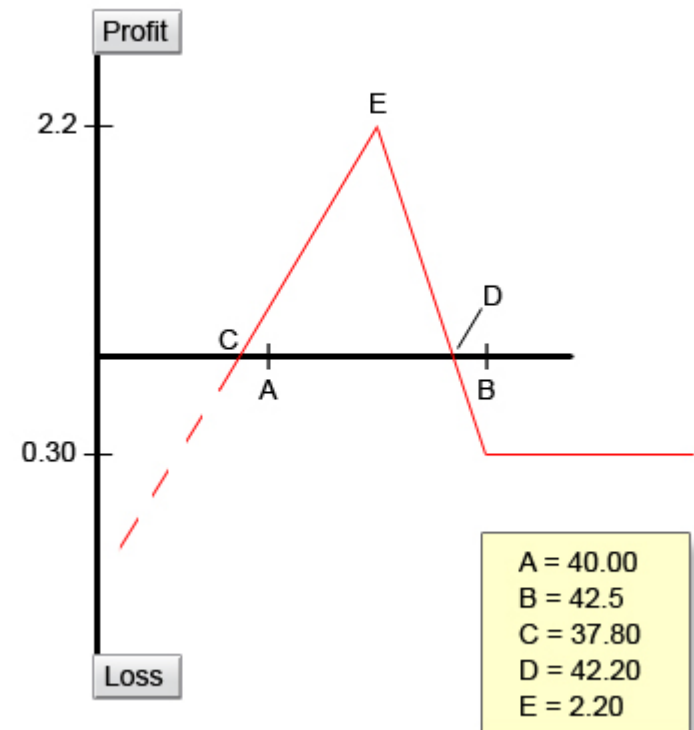
Ratio Put Spread

- ❑ Qualcomm was heading into earnings - one investor remained cautious on the stock at \$43.30
- ❑ Bought one April 42.50 put @ 0.90
- ❑ Sold two April 40.00 puts @ 0.30 (*2 = 0.60)
- ❑ Net cost is **0.30**



Ratio Put Spread

- ❑ Strikes 40.0 & 42.50
- ❑ Net cost/premium 0.30
- ❑ Upper breakeven
 - $= 42.50 - 0.30 = \$42.20$
- ❑ Lower breakeven
 - $= 40.0 - 2.2 = \$37.80$
- ❑ Maximum profit of 2.2
 - Is at lower strike 40.0
- ❑ Losses are unlimited below \$37.80





Ratio Call Spread

- Used when shares expected to rise to a resistance point
- Used to “cheapen” the cost basis of the trade
- Trade established at a cost
- Profits are easily defined – but revert to losses if shares runaway to the upside



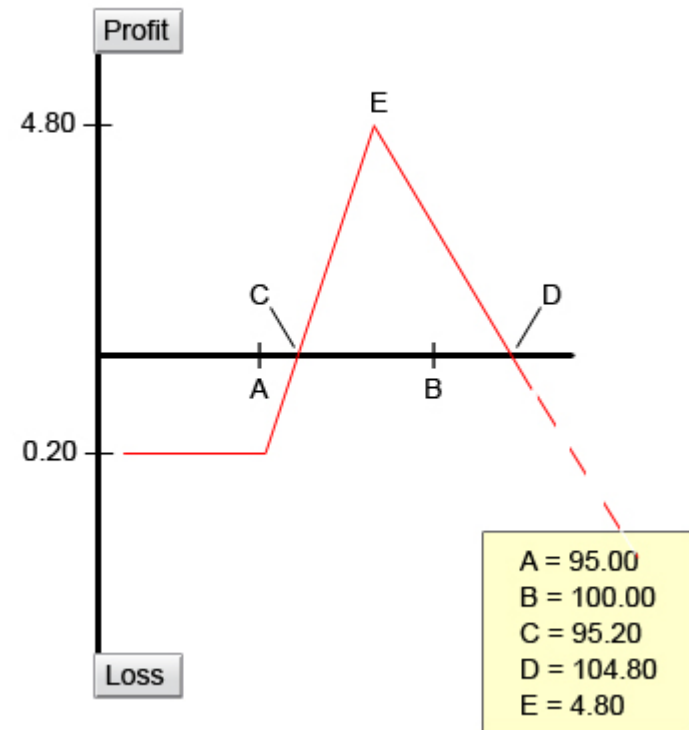
Ratio Call Spread

- ❑ April 17 Apple Computer shares trading at \$90.00
- ❑ Investor remains bullish and decides to buy call spread
- ❑ Buys one May 95.0 call @ 2.00
- ❑ Sells two May 100.0 calls @ 0.90 (*2 = 1.80)
- ❑ Net cost of 1*2 call spread is 0.20



Ratio Call Spread

- ❑ Strikes 95.0 & 100.00
- ❑ Net cost/premium 0.20
- ❑ Lower breakeven
 - = $95.0 + 0.20 = \$95.20$
- ❑ Upper breakeven
 - = $100.0 + 4.8 = \$104.80$
- ❑ Maximum profit of 4.8
 - Is at upper strike 100.0
- ❑ Losses are unlimited beyond \$104.80





Ratio Spreads

- ❑ With a common 1*2 ratio spread, trade cost kept low
- ❑ The downside is that risks are increased
- ❑ However, there is an inbuilt cushion of profits that must be eroded before losses are incurred beyond strike prices where the trade is net short
- ❑ In Qualcomm example share price would need to fall 7.6% to reach lower strike, but 12.7% to start losing money
- ❑ In Apple, shares would need to rally 11.1% to maximize profits but 16.5% before losing money
- ❑ It is possible to increase ratio to create CREDIT spreads, but by doing this risks are increased also



Conclusions

- ❑ The opportunity with options combinations is endless
- ❑ Define your trade scenario before you start
- ❑ How bullish or bearish are you? Somewhat, or a lot?
- ❑ Selling premium has both benefits and risks
- ❑ Consider the implied ranges that prevailing options prices are telling you about