TYPES OF OPTIONS STRATEGIES

Objective

Options strategies are widely used to make higher rewards for a well-defined risk level. Different option strategies have been designed for different bullish and bearish views on the market.

Types of Options Strategies

- Take a position in the option and the underlying
- Take a position in 2 or more options of the same type (A spread)
- Combination: Take a position in a mixture of calls & puts (A combination)

Options and Underlying
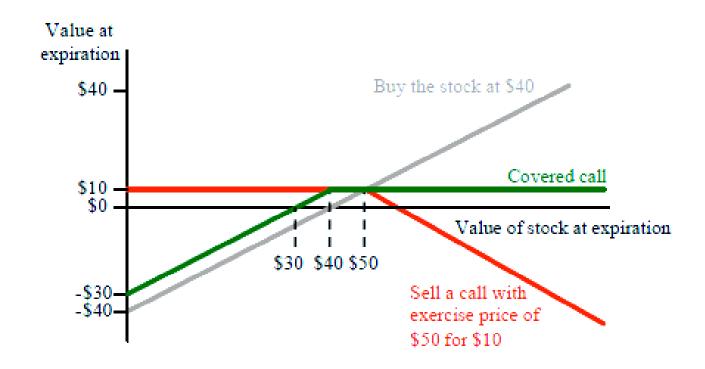
Covered Call

- Buy stock: Sell Call

- Most Used

- Market Opinion
  - Neutral to bullish on stock

- Use
  - Bullish on stock, but believes range will be small over call lifetime
  - Either generate income from underlying stock or provide little amount of protection against a decline

Covered Call

Buying stock shown in 'grey', selling the call in 'red'. Covered call strategy is the net payoff of the two positions, shown in 'green'.

Value at expiration

$40 — Buy the stock at $40

$10 — Covered call
$0

Value of stock at expiration

$30 $40 $50

-$30 — Sell a call with exercise price of $50 for $10
-$40

Covered Call

- Benefit
  - Generates Income by selling call
  - With stock in hand (Dividend etc.)
  - Conservative strategy as decreases risk of ownership
- Risk/ Reward
  - Max profit : Limited
  - Max Loss: Substantial
- BEP Stock purchase price – Premium Received
- If Volatility Increases   Negative Effect
- If Volatility Decreases Positive effect

Covered Call

- Time Decay
  - ➢ With passage of time option price decreases. Hence, value increases
- Before Expiration
  - ➢ Investor changes view significantly, Can close both
- At Expiration
  - ➢ In the money : Can expect the exercise notice, Close before that.
  - ➢ At the money : possible exercise notice
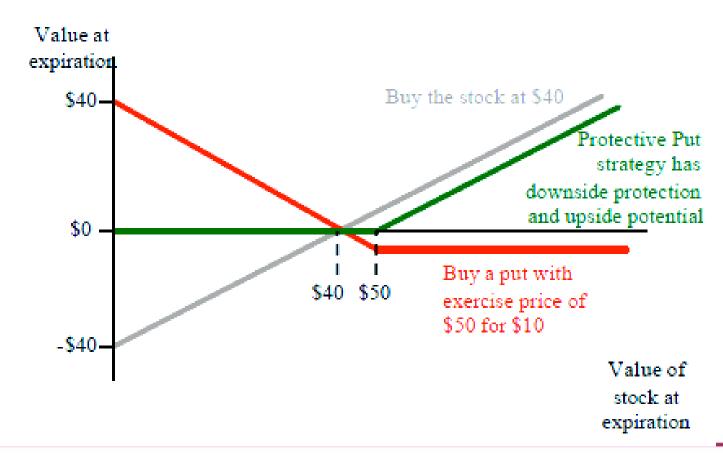 - ➢ Out of the money: No action is necessary

Protective Put

Buy put option + Buy Share

- Market Opinion
  - ➢ Bullish on stock

- Use
  - ➢ Share already in profit
  - ➢ Protect Profit downside market risk

Protective Put

Buying stock, shown in 'grey'. Buying put shown in 'red'. Protective put strategy is the net payoff of the two positions, shown in 'green'

Protective Put

- Benefit
  - ➢ Stock Ownership
  - ➢ Limits downside loss of unrealized gains
  - ➢ Guaranteed selling price at the strike price of put
- Risk/ Reward
- Max profit : Unlimited
- Max Loss : limited Strike price- (Stock Purchase price+ premium paid)
- BEP : Stock purchase price + Premium paid
- If Volatility Increases : Positive Effect
- If Volatility Decreases : Negative Effect

Protective Put

- Time Decay
  - ➤ Passage of time: Negative Effect
  - ➤ Premium decays over time
  - ➤ Before Expiration
  - ➤ Can sell stock or put or both anytime

- At Expiration
  - ➤ No value: Do nothing
  - ➤ In The money: Sell share at underlying price or sell put just before
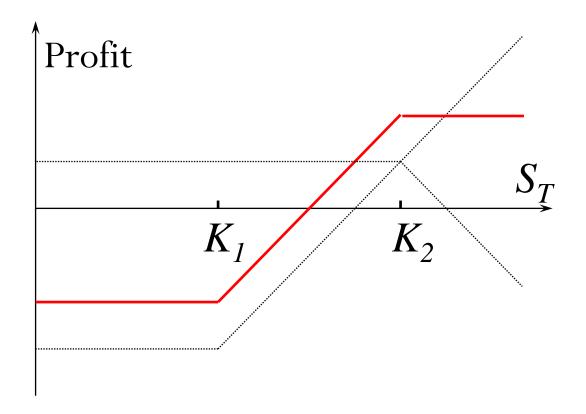
Spread

Bull Call Spread

- Buy Call and Sell Call at same expiration
- Sell call at higher strike price
- Market Opinion
  - ➢ Moderately bullish to Bullish
- Use
  - ➢ Moderately bullish : Capitalize in small bull movement
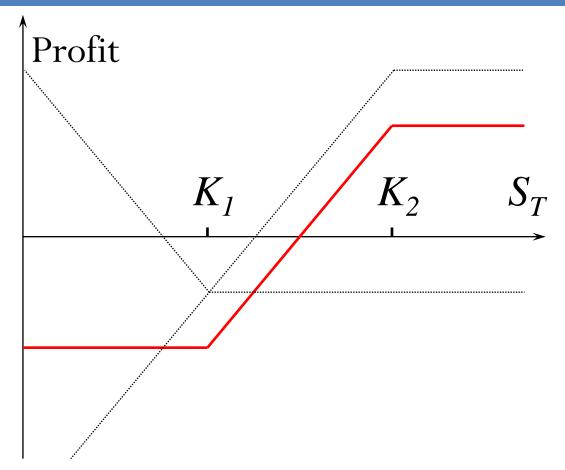 - ➢ Risk Reduction from Long call

Bull Spread using Calls

Buying a call with lower strike 'K$_1$' and selling a call with higher strike 'K$_2$' will give a resultant payoff as shown
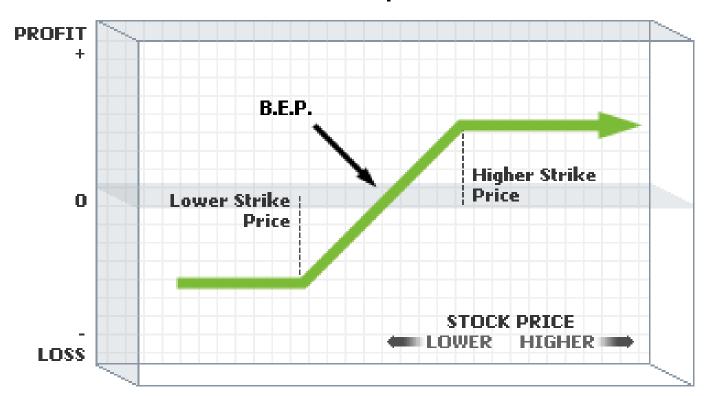
Bull Spread using Puts

Selling a put with a higher strike 'K$_2$' and buying a put with a lower strike 'K$_1$' will give a resultant payoff as shown

Bull Call Spread

Bull Call Spread

The X-axis (horizontal) represents the price level of an underlying stock. The Y-axis (vertical) represents profit and loss, above and below the X-axis intersection respectively.

Bull Call Spread

- Benefit
  - ➢ Double hedged
  - ➢ Risk reduced
- Risk/ Reward
  - ➢ Max profit   Difference between strike price – net premium paid
  - ➢ Max Loss Net premium paid
  - ➢ BEP Strike price of Purchased call +Net premium Paid
- If Volatility Increases Effect Varies
- If Volatility Decreases Effect Varies

Bull Call Spread

- Time Decay
  - ➢ Varies
  - ➢ Price at midway : effect minimal
  - ➢ Closer to lower strike price : Losses inc
  - ➢ Closer to higher strike price : Profit inc
- Before Expiration
  - ➢ Close the options for booking profit/loss
- At Expiration
  - ➢ Close otherwise its more expensive if the option gets exercised
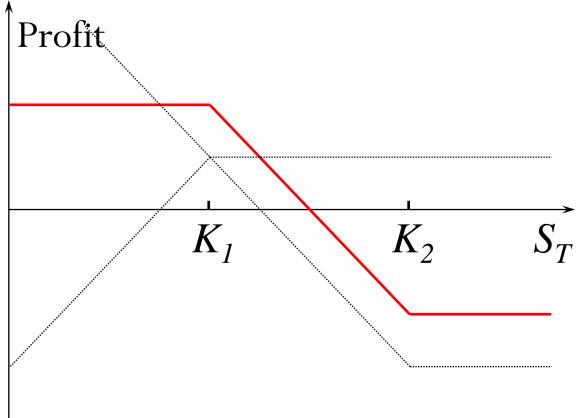
Bear Put Spread

- Buy Put and Sell Put at same expiration

- Sell put at lower strike price

- Market Opinion

  ➢ Moderately Bearish to Bearish

- Use

  ➢ Moderately bearish : Capitalize in small bearish movement

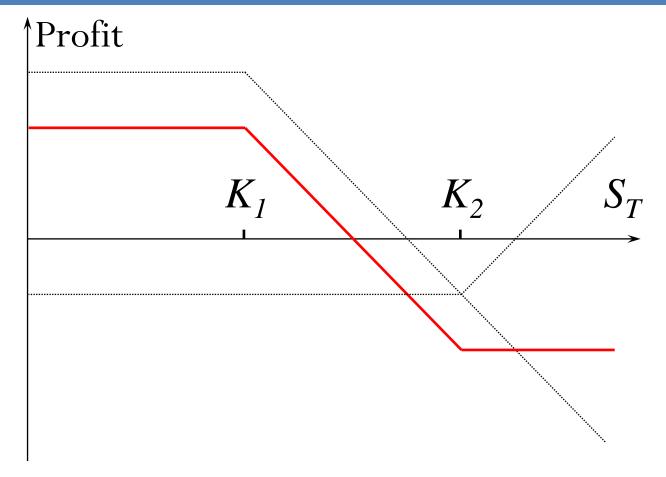 ➢ Risk Reduction from Long put

Bear Spread using Puts

Buying a put with a higher strike 'K$_2$' and selling a put with a lower strike 'K$_1$' will give a resultant payoff as shown

Bear Spread using Calls

Selling a call with a lower strike 'K$_1$' and buying a call with a higher strike 'K$_2$' will give a resultant payoff as shown

Bear Put Spread

- Benefit
  - Double hedged
  - Risk reduced
- Risk/ Reward
  - Max profit   Difference between strike price – Net Debit paid
  - Max Loss   Net Debit paid
  - BEP   Strike price of Purchased call – Net Debit Paid
- If Volatility Increases Effect Varies
- If Volatility Decreases Effect Varies

Bear Put Spread

- Time Decay
  - Varies
  - Price at midway : effect minimal
  - Closer to lower strike price : Losses inc
  - Closer to higher strike price : Profit inc
- Before Expiration
  - Close the options for booking profit/loss
- At Expiration
  - Close otherwise its more expensive if the option gets exercised

Combination

Range Bound View

Short Strangle

- You sell one OTM call and one OTM put for same maturity i.e., one month. The premium received from selling the options is your return and the risk starts when market break beyond the strike price of any of the sold options. This design of using OTM options is called Strangle. The strike price of the call should be at the upper end of range and the strike of put should be at the lower end of range.
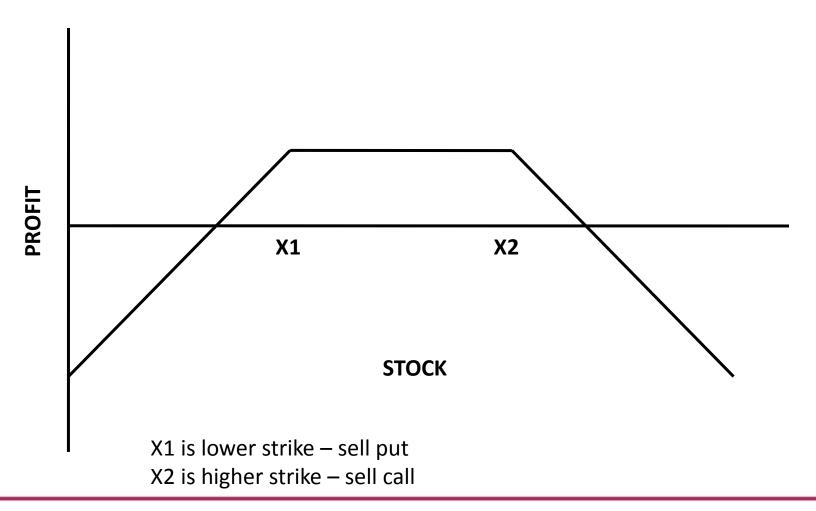
Summary of short strangle

- Maximum loss: Could be unlimited if price moves in either direction

- Maximum profit: Summation of two premiums received. Maximum profit occurs when spot price is within strike price

- Breakeven point: (A) (Higher strike price + premium received) above which there will be a loss and (B) (Lower strike price-premium received) below which there will be a loss

Payoff – Short Strangle

X1 is lower strike – sell put
X2 is higher strike – sell call

Short Straddle

- You could also achieve the same objective by designing a more risky strategy by selling ATM put and ATM call. This design of using ATM options is called Straddle.
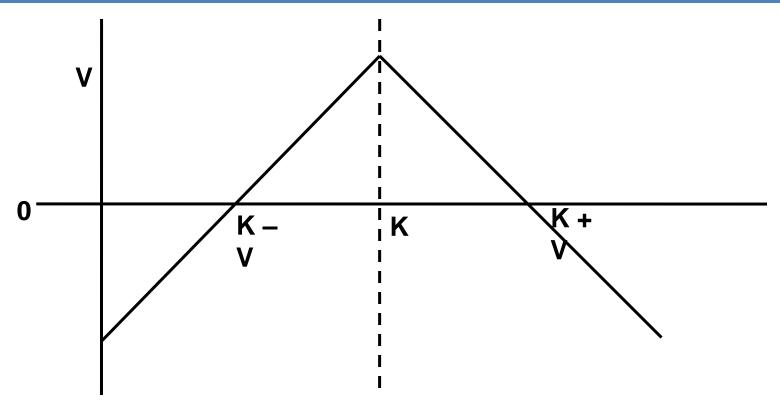
Summary of Short Straddle

- **Maximum loss:** unlimited if the price moves in either direction

- **Maximum profit:** limited to the premiums received. Maximum profit occurs when the spot price is at the strike price

- **Breakeven point:** (a) (strike price + premium received) above which there will be loss (b) (strike price - premium received) below which there will be loss

Payoff – Short Straddle

Options payoff diagram for a short straddle struck at K where the total Cost of the two constituent options is V

Selling call and put of the same strike price K

Range Bound View

Long Butterfly

- You buy one ITM call, one OTM call and sell two ATM calls. Please note that strike price of all ITM call and OTM call have to be equidistant from the ATM strike.

Summary of Long Butterfly

- Maximum loss: limited to the net premium paid.

- Maximum profit: limited to: (middle strike price - highest/lowest strike price) - net premium paid. Maximum profit occurs when the spot price is at middle strike price

- Breakeven point: (a) (highest strike price - net premium paid) above which there will be loss (b) (lowest strike price + net premium paid) below which there will be loss

Butterfly Call Spread

- Long 1 call with a strike price of (X – a)

- Short 2 calls with a strike price of X

- Long 1 call with a strike price of (X + a)

- Long 1 put with a strike price of (X + a)

- Short 2 puts with a strike price of X

- Long 1 put with a strike price of (X – a)

- Market Opinion
  - ➢ Range Bound

- Use
  - ➢ Get profit from non –movement of market
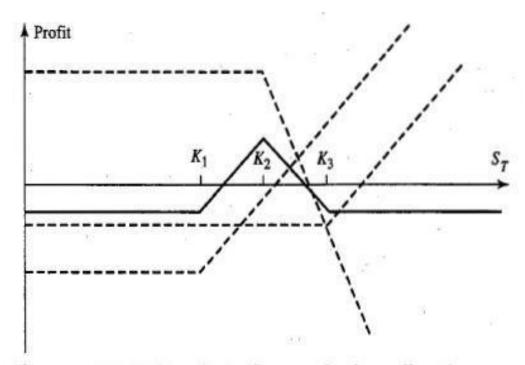 - ➢ Time value of money

Payoff – Long Butterfly

Figure 4 Profit from butterfly spread using call options.

Selling 2 calls of strike price K2
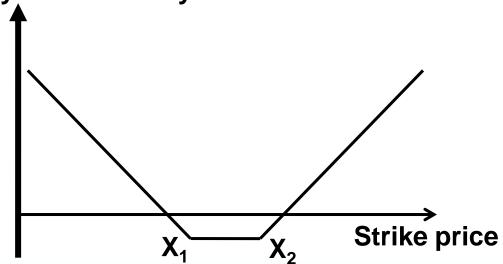Buying a call with strike price K1
Buying a call with strike price K3

Long Strangle

- You buy one OTM call and one OTM put for same maturity. The premium paid from buying these options is your cost and the return starts when market break beyond the strike price of any of the bought options.

Payoff at maturity

Buy Call of strike price X_2
Buy Put of strike price X_1

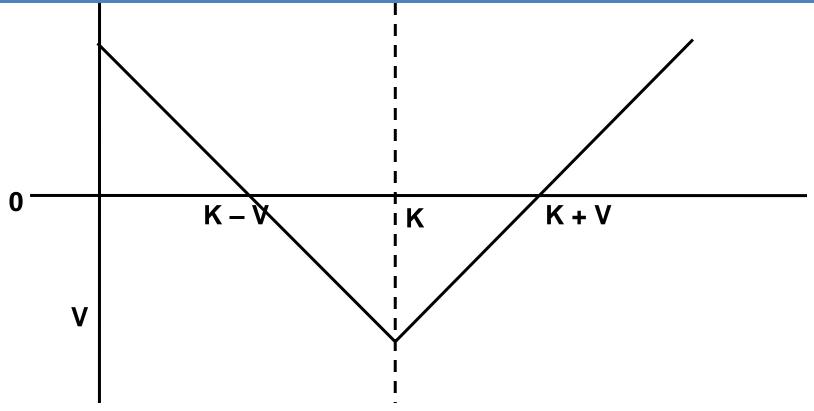**Strike price**

X_1 X_2

Long Straddle

- In this design instead of OTM strike, you chose ATM strike for buying both call and put options.

Payoff – Long Straddle

Option payoff diagram for a long straddle struck at K where the total cost of the two constituent options is V

Buying a call and a put of same strike price K

Break Out View

Short Butterfly

- You could also design a very conservative strategy to execute a breakout market view. Unlike Strangle/ Straddle, in this strategy the profits are limited and are known in advance. In this strategy, you sell one ITM call, one OTM call and buy two ATM calls. Please note that strike price of all ITM call and OTM call have to be equidistant from the ATM strike.