

Introduction to Options

Financial Derivatives and Risk Management Club
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Introduction to Options

- Disclaimers
 - This information is intended for education purposes only and should not be viewed as a recommendation of an investment.
 - Before investing, consider your risk tolerance and the risk associated with the investment.
 - Options can result in substantial risk and loss

Objectives

- Understand risks and rewards of options
- Options strategies to cover
 - Buying calls & puts
 - Buying protective / hedged puts
 - Selling covered calls
 - Selling cash covered puts
 - Straddles
 - Spreads

Key Characteristics of Options

- Underlying Security
- Expiration Date
- Strike Price
- Premium
- Type of option (call or put)
 - Example: QQQQ Apr 90 Call @ 1.50

Call vs. Put – Long vs. Short

Long Call

The right to purchase 100 shares of the underlying security at the strike price until the expiration date

Short Call

The obligation to sell 100 shares of the underlying security at the strike price until the expiration date

Long Put

The right to sell 100 shares of the underlying security at the strike price until the expiration date

Short Put

The obligation to buy 100 shares of the underlying security at the strike price until the expiration date

'Options' for options traders

■ Long Options

- Sell the option
- Exercise the option
- Allow the option to expire worthless

■ Short Options

- Repurchase the option
- Fulfill the obligation of the option when assigned
- Allow the option to expire worthless

Buying Calls / Puts

- Advantages
 - Leverage
 - Limited loss
- Disadvantages
 - Option eventually will expire
 - Can lose entire investment

Buying Calls

- Who would want to buy calls?
 - Investor wanting to purchase stock, but contributing limited capital, comfortable with risk
- Market outlook
 - Bullish, but wanting limited downside risk
- Maximum gain – unlimited
- Maximum loss – limited to premium paid

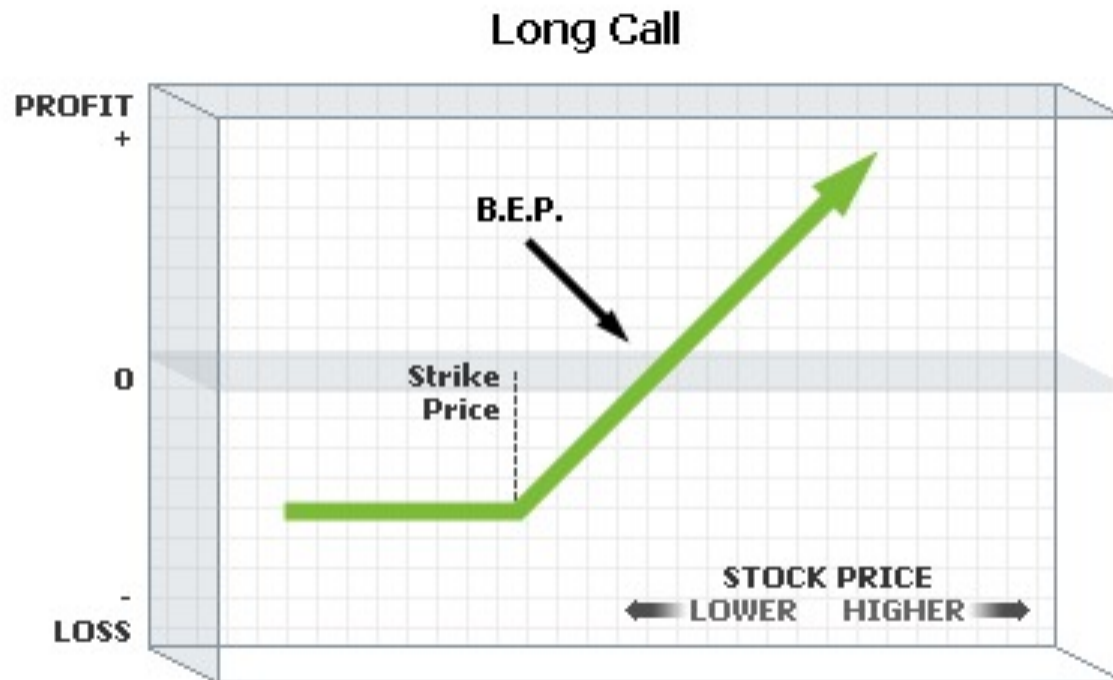
Buying Calls - Example

- AAPL - \$115/share
- Buy QAA Apr 120 Call @ 2.95
- Buy QAA Apr 110 Call @ 9.00

- If AAPL goes to \$150?
- If AAPL goes to \$100?

- Breakeven?
- Why not just buy 100 AAPL?

Buying Calls – P/L



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.

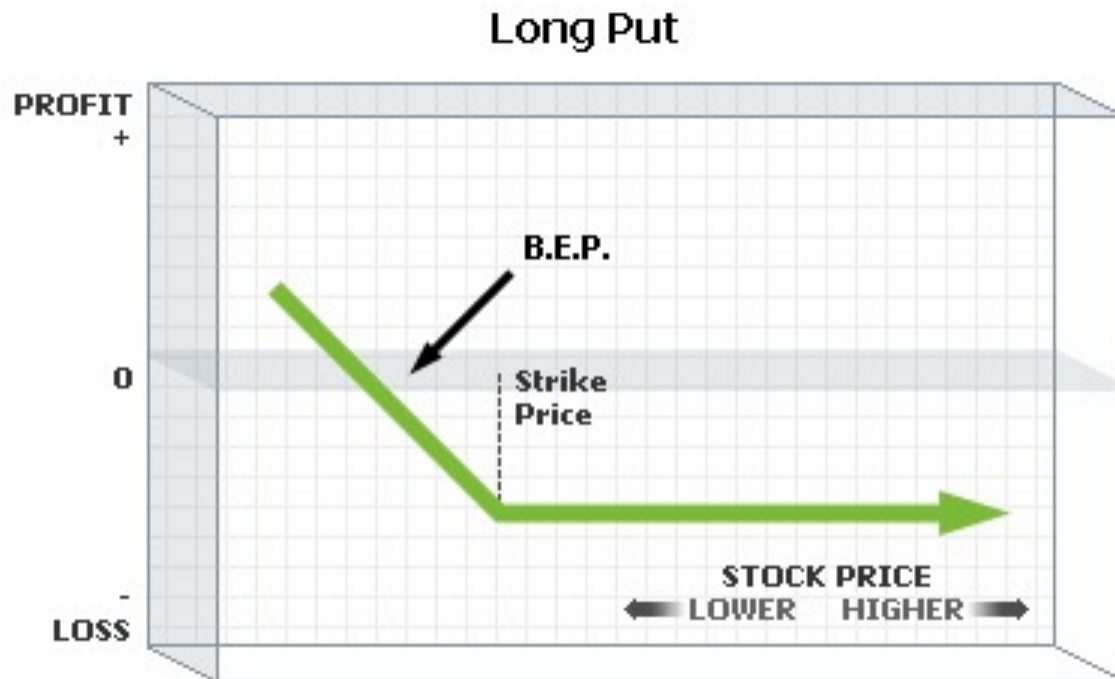
Buying Puts

- Who would want to buy puts?
 - Investors wanting to profit from the decline in a stocks price, but contributing limited capital, comfortable with risk
- Market outlook
 - Bearish, but wanting limited downside risk
- Maximum gain: Strike price – premium
- Maximum loss: Premium

Buying Puts - Example

- IBM - \$101/share
- Buy 1 IBM Apr 100 Put @ 3.50
 - If IBM goes to \$125?
 - If IBM goes to \$75?
 - Breakeven?
 - Why not just short 100 IBM?

Buying Puts P/L



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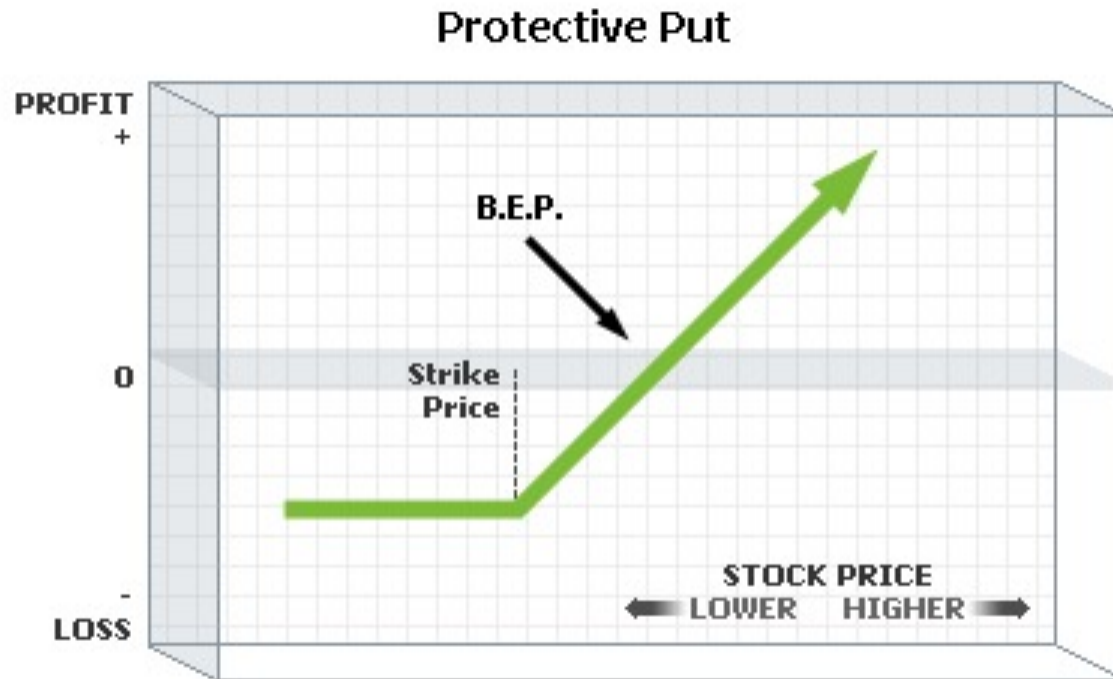
Protective Put

- Strategy:
 - Insurance against market loss
- Market Outlook
 - Long-term bullish with short-term uncertainty
- Who would want to implement this strategy?
- Disadvantage – can be very expensive

Protective Put Example

- You own 100 AMZN @ 78 and are concerned about the upcoming earning report, or some other event, and want limit your downside risk
- You purchase 1 ZQN Apr 75 Put @ 1.80
- What if AMZN goes to \$100?
- What if AMZN goes to \$50?

Protective Put P/L



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Covered Calls

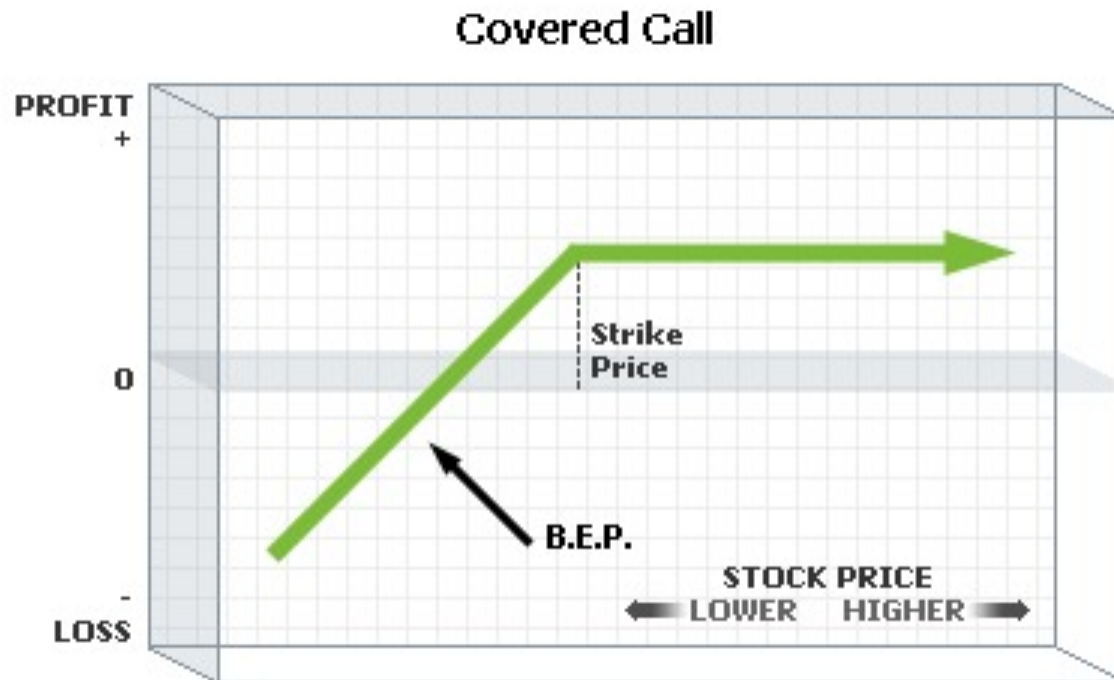
- Strategy
 - Generate additional income while holding stock
- Market Outlook
 - Mildly Bullish or Neutral
- Disadvantage
 - Maximum gain is limited

Covered Call - Example

- You currently hold 100 PG @ 50
 - Sell 1 PG Oct 52.50 Call @ 3.00

- You purchase 100 AFL @ 21 and at the same time: Sell 1 AFL Oct 10 @ 12.05
 - Breakeven = Strike price – premium (\$8.95)

Covered Call P/L

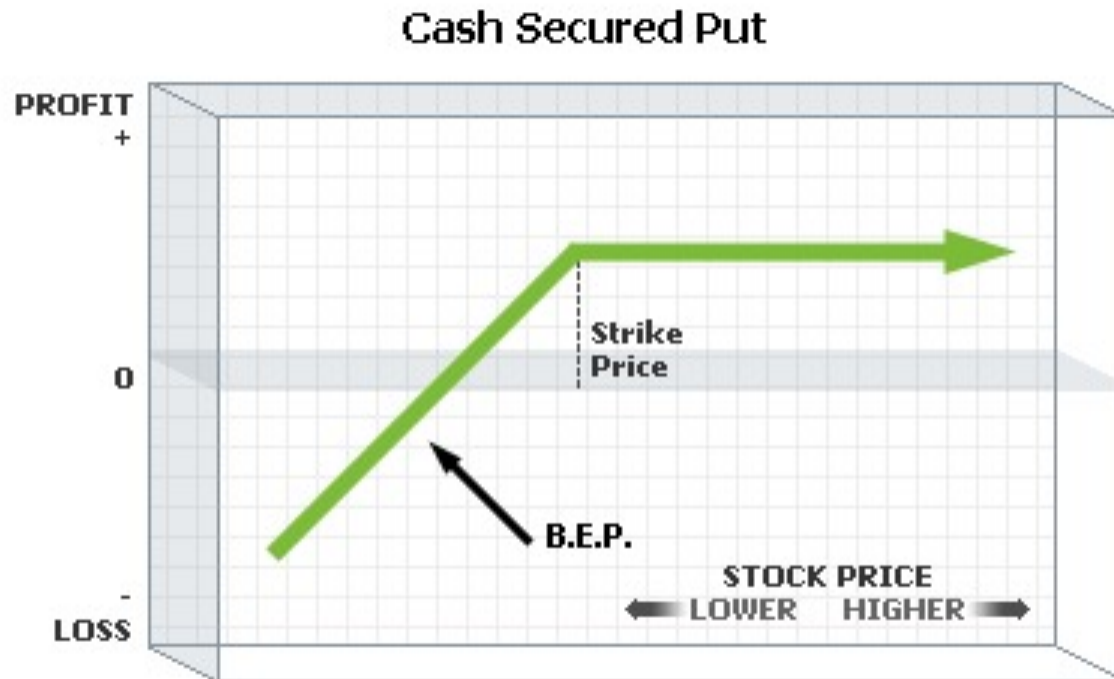


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Cash Covered Puts

- Same in concept as the covered call
- Why Cash covered?
 - You must have cash sufficient to purchase shares if the contract is assigned
- Max Gain – premium collected
- Max Loss – strike price minus premium
- Example:
 - You sell 1 PFE Sep 12 Put @ 1.00
 - You must have \$1,200 cash

Cash Covered Put P/L

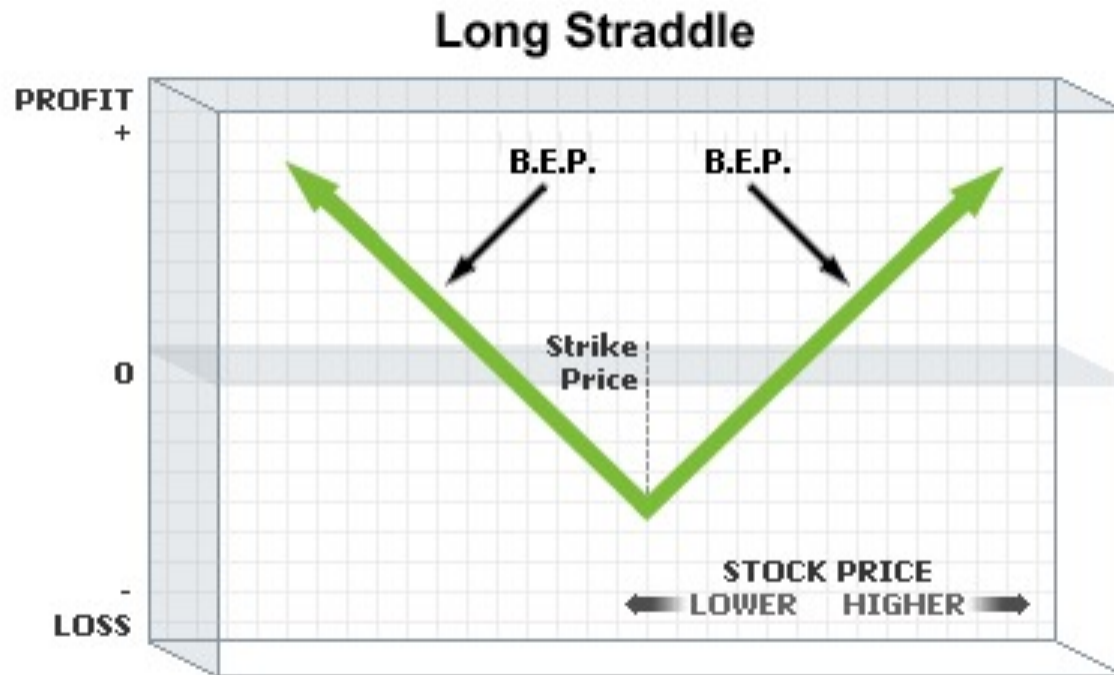


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Straddles

- A straddle is created by purchasing a call and a put at the same strike price and expiration
- This is a bet on extreme volatility, with no preference for direction
- Advantage – highly likely that one of the two options will have value at expiration
- Disadvantage – very high breakeven points
 - Example: RIMM has an earnings report coming up
 - Buy 1 RIMM APR 60 Call @ 4.00
 - Buy 1 RIMM APR 60 Put @ 3.00

Long Straddle P/L



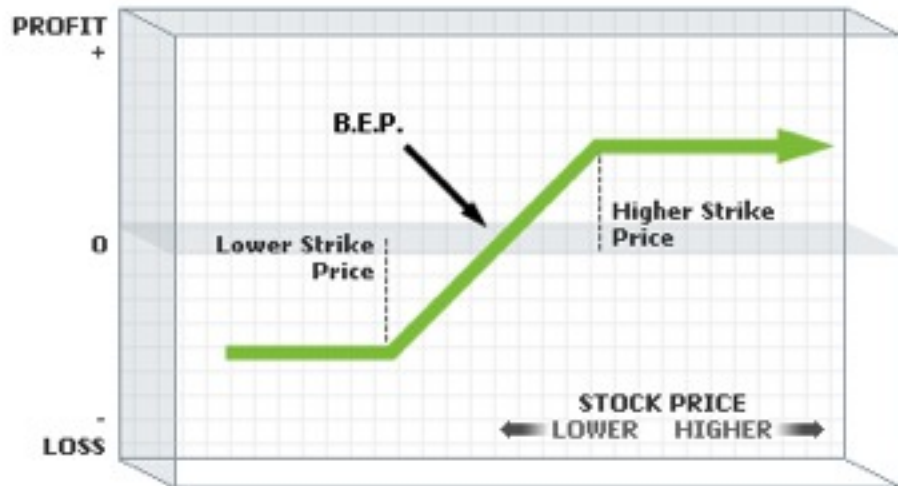
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Spreads

- 'Multi-leg' option strategy
- A Bull Call spread is used by an investor who wants to gain on a modest move in stock price, but at a reduced price
- A Bear Put spread is used by an investor who wants to collect income from selling options, but at reduced risk
- Maximum gain and loss are easy to calculate
- Other types of spreads: Bull Put, Bear Call, Calendar, Butterfly, Iron Condors and more

Spreads P/L

Bull Call Spread



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Bear Put Spread



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Spreads P/L

