Introduction to Options

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What Is An Option?

- One contract is the right to buy or sell 100 shares
- The price of the option depends on the price of the underlying, plus a risk premium
- It is an option, it is not a binding contract
- Call Option: Right to buy a share
- Put Option: Right to sell a share
- Options traded the same as stocks

What Makes Up An Option?

- The strike price is the price at which you can buy or sell shares
- Expiration date is the last day you can exercise an option
  - Automatically executed on this day
- Underlying asset is the stock on which the option is written
- Price of the option is how much investor pays for the right to buy or sell (a.k.a. premium)
- Options can be either "American" or "European"
  - American-style options can be executed on any day
  - European-style options can be executed only on the expiration date

What Is Contained In An Option?

CALL

- Right to buy 100 shares
- Holder of option can buy shares at the strike price
- Thus, seller of option MUST sell shares at strike price ***if exercised***
- Calls are ***in-the-money*** if the strike price is below the stock price
- Calls are ***out-of-the-money*** if the strike price is greater than the stock price
- Calls are at-the-money if the strike price is equal to the stock price

PUT

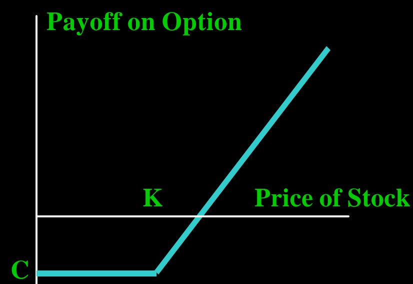
- Right to sell 100 shares
- Holder of option can sell shares at strike price
- Thus, seller of option MUST buy shares at strike price ***if exercised***
- Portfolio protection
- Puts are ***in-the-money*** if the strike price is greater than the stock price
- Puts are ***out-of-the-money*** if the strike price is less than the stock price
- Puts are at-the-money if the strike price is equal to the stock price

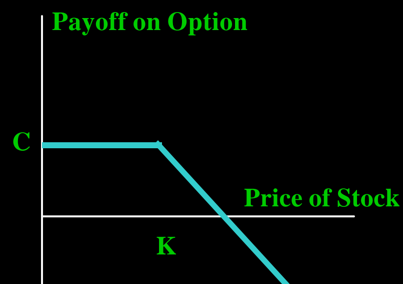
How Do I Find The Price Of An Option?

Three components of the price of an option:

- Intrinsic Value: value of the option if exercised now
- Volatility: premium for protection against price fluctuations in the underlying stock
- Time Value: value of buying option instead of stock
  - Money saved on initial outlay can earn interest

What Are The Payoffs For A Call?





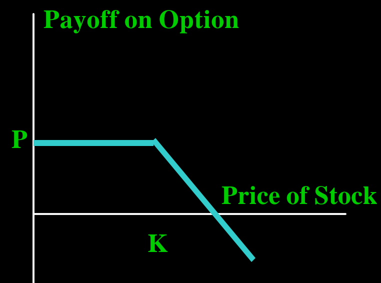
LONG CALL

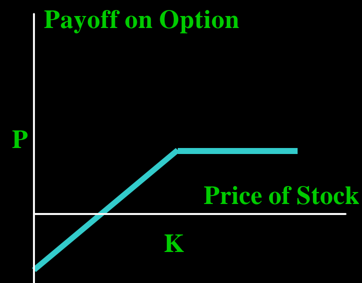
- Initially, buyer pays out price of Call (C)
- Value of long Call increases as value of Stock increases

SHORT CALL

- Initially, writer receives price of Call (C)
- Value of short Call decreases as value of Stock increases

What Are The Payoffs For A Put?





LONG PUT

- Initially, buyer pays out price of Put (P)
- Value of long Put decreases as value of Stock increases

SHORT PUT

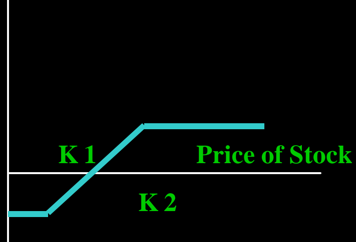
- Initially, writer receives price of Put (P)
- Value of short Put increases as value of Stock increases

How Do I Use Options?

- Portfolio Insurance
- Speculation/Leverage
- Hedging (Which is actually a type of insurance!)
- Risk Control
- Targeted returns

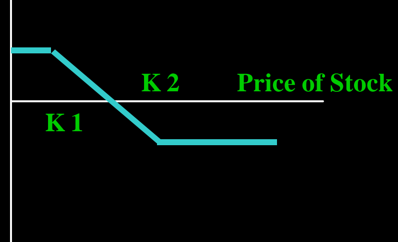
What Are Some Basic Calls Strategies?

Bullish Call Spread



- Buy Call at K 1
- Write Call at K 2
- Lower Cost of Portfolio, but that limits upside
- Best if you think stock will rest between K 1 and K 2 at maturity

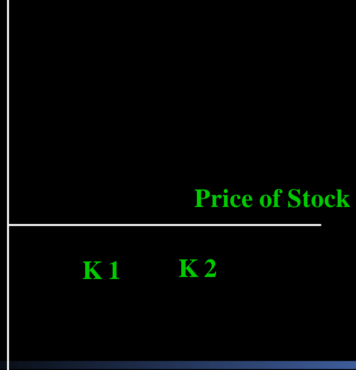
Bearish Call Spread



- Write Call at K 1
- Buy Call at K 2
- Take advantage of bearish sentiment by selling a call
- Hedge your bearish opinion by limiting downside

YOU Draw the Diagram: Put Spreads

Bullish Put Spread is the same as Bullish Call Spread, using Puts



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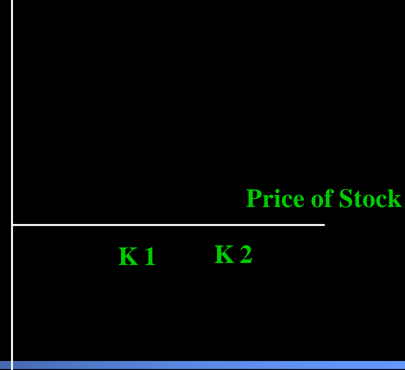
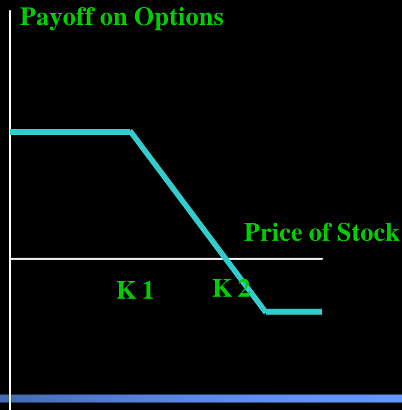


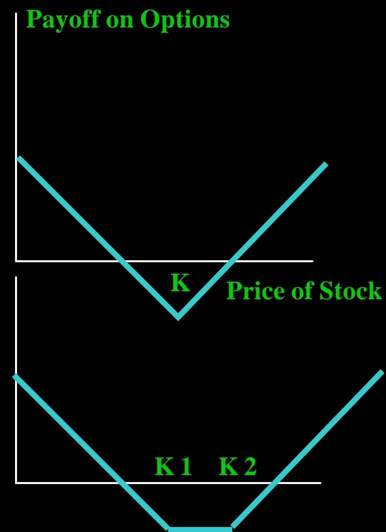
YOU Draw the Diagram: Put Spreads

Buy Put at K 1, Sell Put at K 2. Use to maximize put portfolio during bull market

Sell Put at K 1, Buy Put at K 2. Use to maximize put portfolio during bear market



What Is A Straddle?



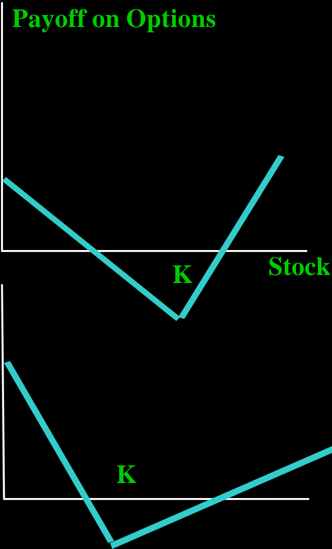
Straddle

If you think that the underlying asset is volatile, but you don't know which direction, you can hedge yourself by buying both a Put and a Call at strike K. You will make more money as the stock price moves away from K.

Strangles

This is the same as a straddle, but with two different strike prices. This way, you can offset your costs by buying a cheaper call option or a cheaper put option, depending on how far apart you want the options to be.

How Else Can I Use A Straddle?



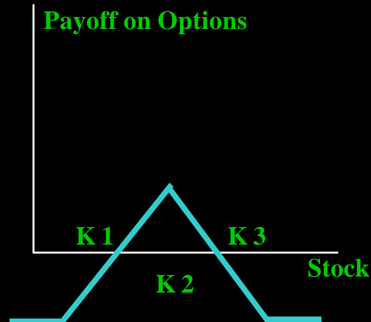
Strips

If you think that the price of the underlying is going to increase, you can buy two calls and, for protection, buy one put. This takes the view that the stock price will go up, but protects you if the stock price goes down.

Straps

If you think that the price of the underlying is going to decrease, you can buy two puts and, for protection, buy one call. This takes the view that the stock price will go down, but protects you if the stock price goes up.

What Is A Butterfly?



For puts, the butterfly spread is :

- ***Long Put at K1***
- ***Short 2 Puts at K2***
- ***Long Put at K3***

A Butterfly Spread is the most widely used options combination. With calls :

- ***Long Call at K1***
- ***Short 2 Calls at K2***
- ***Long Call at K3***

Investors make money on the premiums of the two calls sold, plus a potential payoff on the underlying stock price from the long positions.

YOU Decide: Why Are Options Useful?

Risks of an option

- Unlimited downside risk when shorting (writing) options
- If they expire worthless, you lose 100% of your invested capital

Any Questions?