

Module 1: Introduction to Options



Module overview

- An overview of options
 - Calls
 - Puts
- Advantages options offer
- Potential risks to consider

- This course relies on examples rather than abstract concepts to explain options

Key terms and concepts

- Call
- Put
- Buyer
- Seller
- Exercise price
 - Strike price
- Expiration date
- Exercise
- Assignment
- Expire worthless
- Premium
- Mini-option contracts
- In-the-money
- At-the-money
- Out-of-the-money

Options can be used to:

- Increase leverage to allow for gains of 100%, 200% or more with limited capital
- Generate income
- Protect your portfolio from a decline in the market
- Buy value stocks at better prices in a pullback
- Repair your portfolio after a stock unexpectedly falls

Options

- An option contract provides the buyer with the right to buy or sell a stock or ETF at a predetermined price for a specific period of time
 - Option buyers have the right to buy or sell a stock but are under no obligation to do so
 - Each contract typically covers 100 shares
- Calls provide buyers with the right to buy stock
- Puts give buyers the right to sell stock
- Options sellers incur an obligation to buy or sell

Call

- A call option gives the buyer the right to buy a stock at a predetermined price before a predetermined date
 - Predetermined price is known as the strike price of the option or the option's exercise price
 - Predetermined date is known as the expiration date of the call

IBM May \$150 call is a contract to buy 100 shares of IBM before May 20, 2016 at a price of \$150

IBM May \$150 call

- Call buyers can profit when the stock rises
- The buyer has the right to buy IBM at \$150
 - If IBM is trading above \$150 on the expiration date, this option will have a value equal to the amount above \$150
 - At \$160, this call will be worth \$10
 - One month before expiration, IBM is at \$150 and the call is trading at \$5 (the premium). If IBM moves up to \$160, the option will be worth \$10 and the call buyer earns a 100% profit on a 7% move in the stock
 - Below \$150 the option expires worthless
 - At \$140, the call buyer would lose \$5 while the shareholder loses \$10

IBM May \$150 call

- Call sellers can profit from a stock's decline
- The seller has an obligation to deliver the shares to the buyer if the buyer decides to exercise the option
 - If IBM is above \$150 at expiration, the call seller faces a loss. They can buy shares to deliver or close the trade by buying an option which might result in a loss
 - If IBM is below \$150, the option expires worthless and the seller keeps the premium received from the sale for a 100% profit

Put

- A put option gives the buyer the right to sell a stock at a predetermined price before a predetermined date
 - Predetermined price is known as the strike price of the option or the option's exercise price
 - Predetermined date is known as the expiration date of the call

IBM May \$150 put is a contract to sell 100 shares of IBM before May 20, 2016 at a price of \$150

IBM May \$150 put

- Assume IBM is at \$150 with a month to expiration
- The put buyer has the right to sell IBM at \$150
- This put is trading at about \$5.70
- Buyer profits if IBM falls below \$144.30 ($\$150 - \5.70)
 - At \$140 the put is worth \$10 and the profit is 75% on a 6.7% decline in the stock
 - If IBM is above \$150 at expiration, the put is worthless
- Put buyer can profit if stock declines

IBM May \$150 put

- The seller has an obligation to deliver the shares to the buyer if the buyer decides to exercise the option
 - If IBM is below \$150 at expiration, the call seller faces a loss. They can buy shares to deliver or close the trade by buying an option which might result in a loss
 - If IBM is above \$150, the option expires worthless and the seller keeps the premium received from the sale for a 100% profit
- Put sellers can profit from a stock's decline

Expiration dates

- There are monthly and weekly options
- Monthly options expire at the close on the third Friday of the month
 - Usually there are three or four contracts trading at any time
- Weekly options expire at the close on any Friday
 - Available for most active stocks. Usually available for each week through the next two months
- LEAPS are long-term options expiring in January up to two years in the future

At expiration, one of three things happens

- Options expire worthless, are exercised or are closed
- Worthless options are out-of-the-money (calls with strike prices below the market price and puts with strikes above the market price)
- Buyers may exercise options and buy shares if they owned calls or sell shares if they own puts
 - Sellers are required to meet their obligations if the buyer exercises their right
 - Options will only be exercised if they are in-the-money
- Options can also be closed prior to expiration
 - Buyers sell to close the contract
 - Sellers buy to close the contract

Moneyness

- Moneyness describes the relationship between the stock's current market price and the option's strike price
- If the strike price of a call option is less than the current market price of the stock, the call is "in-the-money"
 - This means the holder of this call has the right to buy the stock at a price less than the price he would pay to buy the stock in the stock market and immediately realize a profit
 - A \$40 call is in-the-money with the stock at \$50
- For puts, an option is in-the-money when the strike price is greater than the current market price of the underlying security (a \$40 put is in-the-money with the stock at \$30)
- The opposite of in-the-money is out-of-the-money
- If the strike price equals the current market price, the option is said to be at-the-money

Moneyness defines intrinsic value

- The amount that an option is in-the-money at any time is called intrinsic value
- An at-the-money or out-of-the-money option has no intrinsic value
- The amount that an option's total premium exceeds intrinsic value is known as the time value
 - Premiums are determined by moneyness, volatility, interest rates, dividend amounts and the amount of time to expiration
- \$50 call is trading at \$5.50 on a \$55 stock has an intrinsic value of \$5 and a time premium of \$0.50
- \$50 put trading at \$5.50 on a \$45 stock has an intrinsic value of \$5 and a time premium of \$0.50

Moneyiness

- **Calls**

- In-the-money = strike price less than stock price
- At-the-money = strike price same as stock price
- Out-of-the-money = strike price greater than stock price

- **Puts**

- In-the-money = strike price greater than stock price
- At-the-money = strike price same as stock price
- Out-of-the-money = strike price less than stock price

Example: a gain on buying a call

- Buy IBM May \$150 call at \$5
- IBM moves to \$156 and the call is now worth \$6.75
 - Pricing of options is detailed in Module 2
 - Profit is \$1.75 (35%)
- Call buyer can exercise their call and take delivery of the shares by paying \$15,000 ($\$150 * 100$)
 - They could then resell the shares for \$15,600 (4% profit)
- Call buyer can sell the call at the market price to capture the \$1.75 profit and this position is then closed
- If IBM is below \$150 at expiration, the call is worthless and no action is required
- If IBM is above \$150 at expiration and the contract is open, shares will be delivered to your account (this is easy to avoid by selling to close the option)

Orders for call trades

- To open a position, you can place a “buy to open” order with your broker using a market or limit order
- To close the position, you would then place a “sell to close”
- To open a position by selling an option, you use a “sell to open” order
- Closing this trade requires a “buy to close” order
 - At expiration, worthless options are dropped from your account, no action is required
 - At expiration, options with value will be exercised and cash withdrawn to pay for the shares (easy to avoid)

Example: a gain on buying a put

- Buy IBM May \$150 put at \$5
- IBM moves to \$156 and the put is now worthless
 - The put is worthless at any market price above \$150
- IBM falls to \$140 and the put is worth \$10 for a 100% gain
- Put buyers can exercise their options and deliver shares if they own them and the stock is trading below the put strike price
 - If you have a \$150 put and the stock is at \$140, you can “put” your shares to the seller and collect \$15,000 ($\$150 * 100$)

Orders for put trades are the same as for calls

- To open a position, you can place a “buy to open” order with your broker using a market or limit order
- To close the position, you would then place a “sell to close”

- To sell a call, you use a “sell to open” order
- Closing this trade requires a “buy to close” order

- At expiration, worthless options are dropped from your account, no action is required
- At expiration, options with value will be exercised and cash withdrawn to pay for the shares (easy to avoid)

Reasons to trade options

- Leverage
 - A small investment in one contract can benefit from the ownership of 100 shares. Example: a \$2 call costs \$200 and could be equivalent to owning \$5,000 or more in stock
- Income
 - Some strategies generate income from stocks you own
 - Other strategies generate income from high probability trades
- Limited risk

Risks to consider

- Option sellers face unlimited risk in theory
 - In practice, the risks are very large and risk management is an important consideration
 - It is possible to lose more than you have in your account if you don't manage risk properly
 - Options can be exercised early so there is risk the entire time the contract is open
- Option buyers can lose 100% of their investment
 - Usually small in dollar terms; often less than \$3 or \$300 per contract and frequently less than \$1 or \$100 per contract

Options for bulls and bears

	Bull	Bear
Calls	Buy to open	Sell to open
Puts	Buy to open	Sell to open

	Rewards	Risks
Call buyers	Unlimited upside	Limited to amount invested
Call sellers	Limited to the premium received when trade was opened	Unlimited
Put buyers	Maximum gain is limited to the strike price minus the premium paid	Limited to amount invested
Put sellers	Limited to the premium received when the trade opened	Equal to the strike price of the put

Mini-options

- Most contracts cover 100 shares
- Some high-priced stocks like GOOGL and AAPL trade mini-options that cover 10 shares
 - These contracts are worth 10% of a full contract
 - Allow small investors to trade high-priced stocks

To get started in options

- You will need approval from your broker
 - Usually requires you to complete a form detailing your assets and investing experience
 - Each broker sets their own requirements for approving accounts at different levels
- Based on experience and assets, you can be approved for trading at one of five levels (levels vary by broker)
 - Level 1: Covered call selling is allowed
 - Level 2: Buying calls and puts is allowed
 - Level 3: Spread trading is allowed
 - Level 4: Selling naked equity options is allowed
 - Level 5: Selling naked index options is allowed

Select a broker

- Commissions and fees can vary considerably
 - From \$1 a contract to \$15 or more per contract
- Customer service also varies considerably
 - Low-cost brokers tend to have less service, including no phone reps to assist you
 - If you need more help, expect to pay more at a high service broker
 - You can always switch later so start at a broker who offers fewer services after gaining experience

Coming up

How prices are determined and how to trade options