Mechanics of Options Markets

Review of Option Types

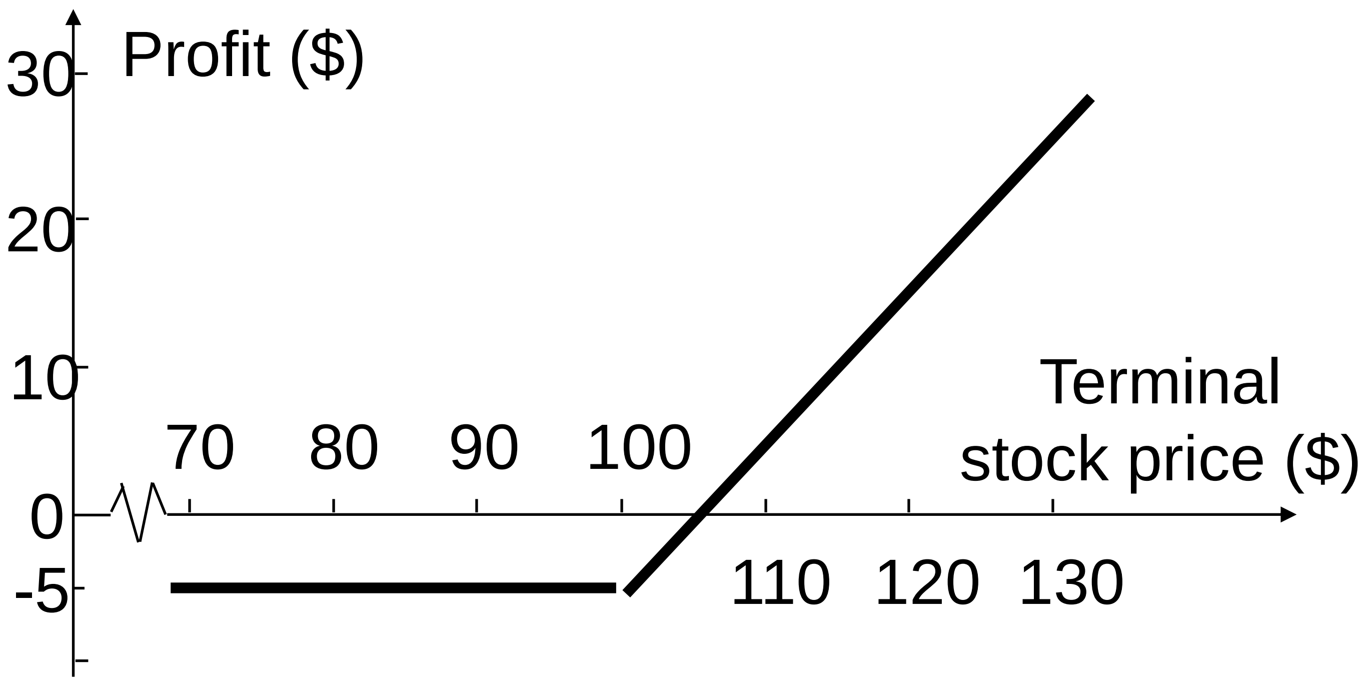
- A call is an option to buy
- A put is an option to sell
- A European option can be exercised only at the end of its life
- An American option can be exercised at any time

Option Positions

- Long call
- Long put
- Short call
- Short put

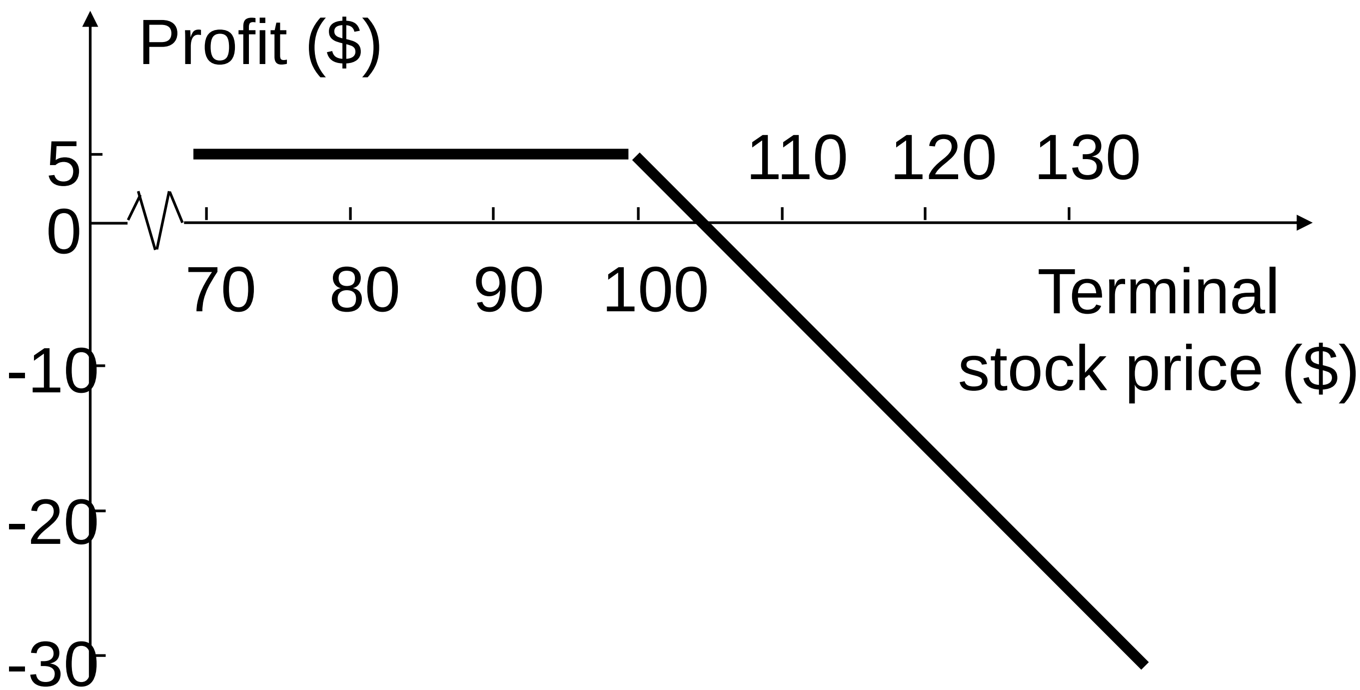
Long Call *(Figure 10.1, Page 210)*

Profit from buying one European call option: option price = $5, strike price = $100, option life = 2 months



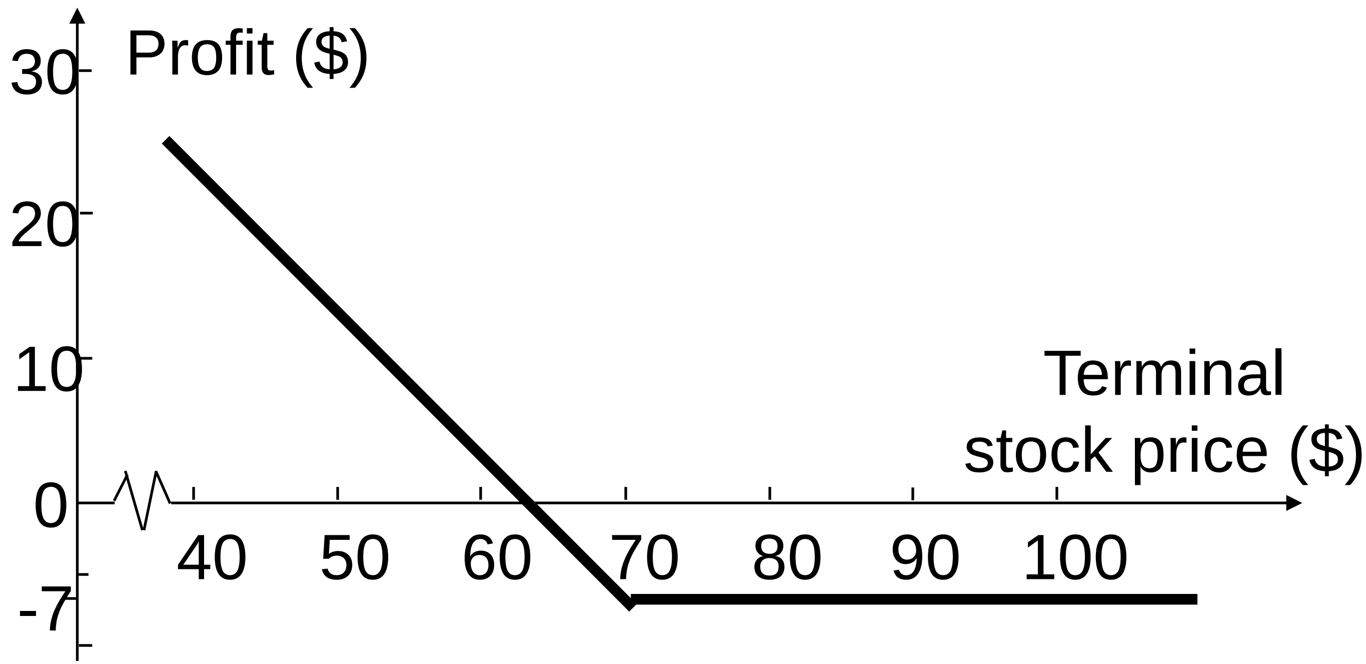
Short Call *(Figure 10.3, page 212)*

Profit from writing one European call option: option price = $5, strike price = $100



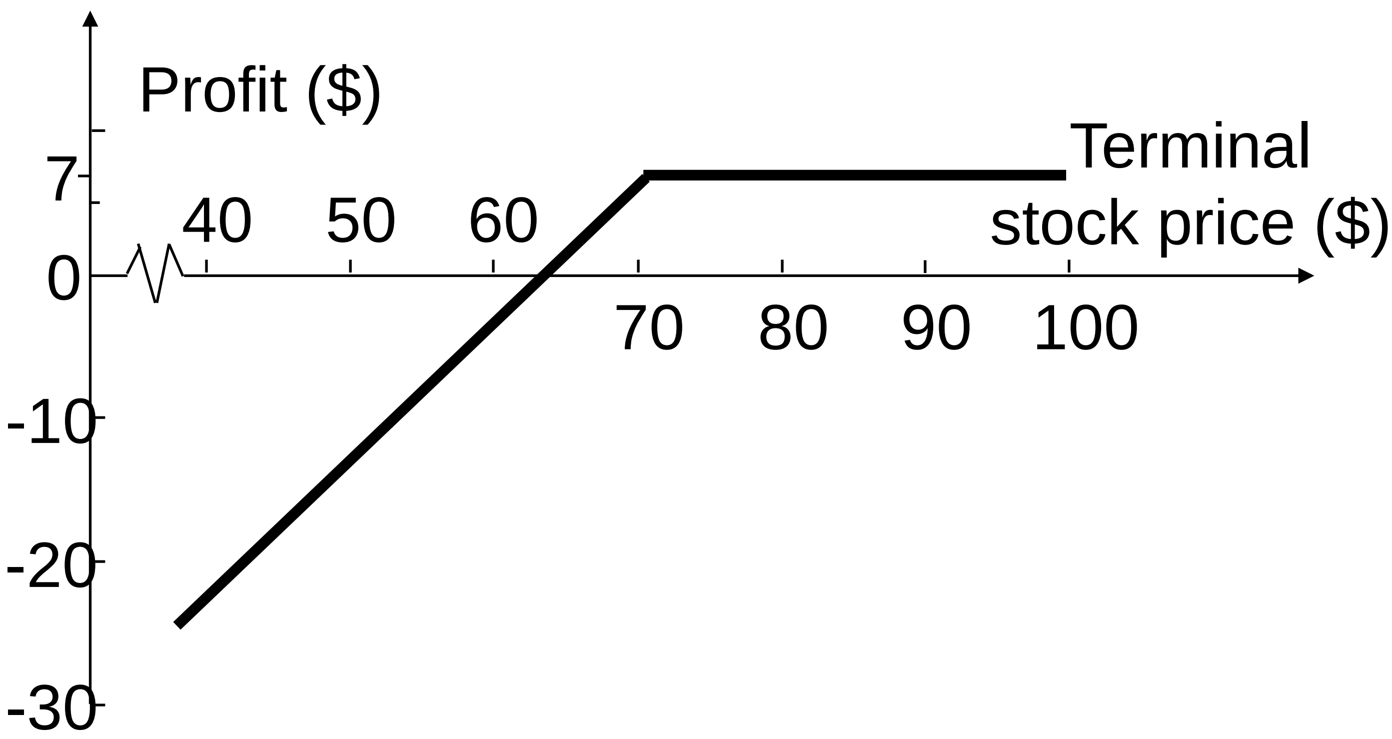
Long Put *(Figure 10.2, page 211)*

Profit from buying a European put option: option price = $7, strike price = $70



Short Put *(Figure 10.4, page 212)*

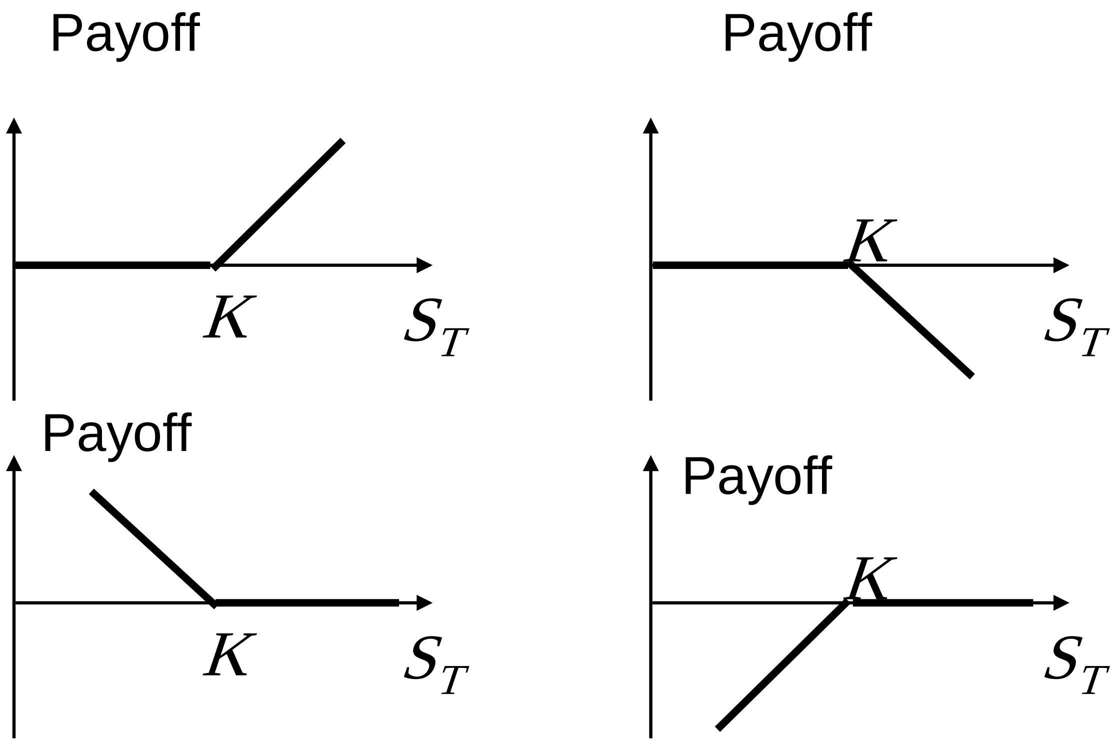
Profit from writing a European put option: option price = $7, strike price = $70



Payoffs from Options

What is the Option Position in Each Case?

K = Strike price, S_T = Price of asset at maturity



Assets Underlying Exchange-Traded Options

Page 214-215

- Stocks
- ETFs (and other ETPs)
- Foreign Currency
- Stock Indices
- Futures

Specification of Exchange-Traded Options

- Expiration date
- Strike price
- European or American
- Call or Put (option class)

Terminology

Moneyness :

- At-the-money option
- In-the-money option
- Out-of-the-money option

Terminology
(continued)

- Option class
- Option series
- Intrinsic value
- Time value

Other CBOE Products

- Flex options
- Weeklys
- Binary options
- Credit event binary options (CEBOs)
- Doom options

Dividends & Stock Splits
(Page 217-218)

- Suppose you own N options with a strike price of K:
  - No adjustments are made to the option terms for cash dividends
  - When there is an n-for-m stock split,
    - the strike price is reduced to mK/n
    - the no. of options is increased to nN/m
  - Stock dividends are handled similarly to stock splits

Dividends & Stock Splits
(continued)

- Consider a call option to buy 100 shares for $20/share
- How should terms be adjusted:
  - for a 2-for-1 stock split?
  - for a 5% stock dividend?

Market Makers

- Most exchanges use market makers to facilitate options trading
- A market maker quotes both bid and ask prices when requested
- The market maker does not know whether the individual requesting the quotes wants to buy or sell

Margin *(Page 221-222)*

- Margin is required when options are sold
- When a naked option is written the margin is the greater of:
  - A total of 100% of the proceeds of the sale plus 20% of the underlying share price less the amount (if any) by which the option is out of the money
  - A total of 100% of the proceeds of the sale plus 10% of the underlying share price (call) or exercise price (put)
- For other trading strategies there are special rules

Warrants

- Warrants are options that are issued by a corporation or a financial institution
- The number of warrants outstanding is determined by the size of the original issue and changes only when they are exercised or when they expire

Warrants
(continued)

- The issuer settles up with the holder when a warrant is exercised
- When call warrants are issued by a corporation on its own stock, exercise will usually lead to new treasury stock being issued

Employee Stock Options *(see also Chapter 16)*

- Employee stock options are a form of remuneration issued by a company to its executives
- They are usually at the money when issued
- When options are exercised the company issues more stock and sells it to the option holder for the strike price
- Expensed on the income statement

Convertible Bonds

- Convertible bonds are regular bonds that can be exchanged for equity at certain times in the future according to a predetermined exchange ratio
- Usually a convertible is callable
- The call provision is a way in which the issuer can force conversion at a time earlier than the holder might otherwise choose