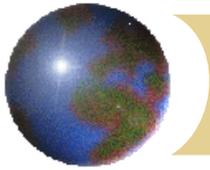
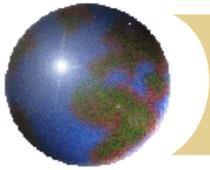


Trading Strategies Involving Options



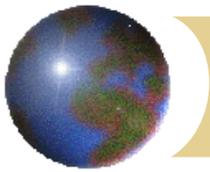
Strategies to be Considered

- ✚ Bond plus option to create principal protected note
- ✚ Stock plus option
- ✚ Two or more options of the same type (a spread)
- ✚ Two or more options of different types (a combination)



Principal Protected Note

- ⊕ Allows investor to take a risky position without risking any principal
- ⊕ Example: \$1000 instrument consisting of
 - ⊠ 3-year zero-coupon bond with principal of \$1000
 - ⊠ 3-year at-the-money call option on a stock portfolio currently worth \$1000

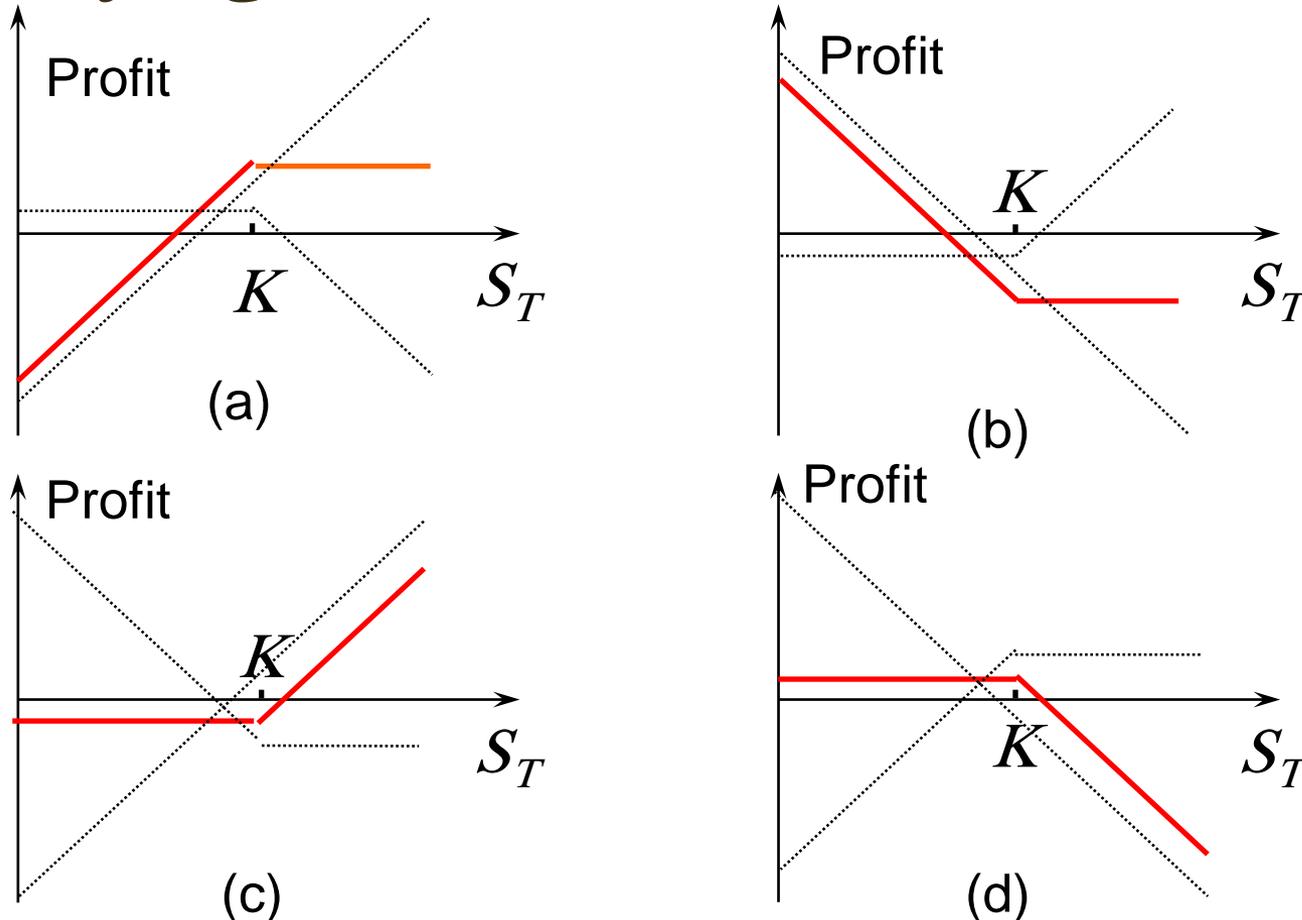


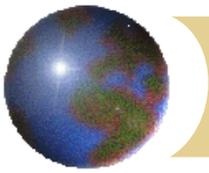
Principal Protected Notes continued

- ⊕ Viability depends on
 - ⊠ Level of dividends
 - ⊠ Level of interest rates
 - ⊠ Volatility of the portfolio
- ⊕ Variations on standard product
 - ⊠ Out of the money strike price
 - ⊠ Caps on investor return
 - ⊠ Knock outs, averaging features, etc



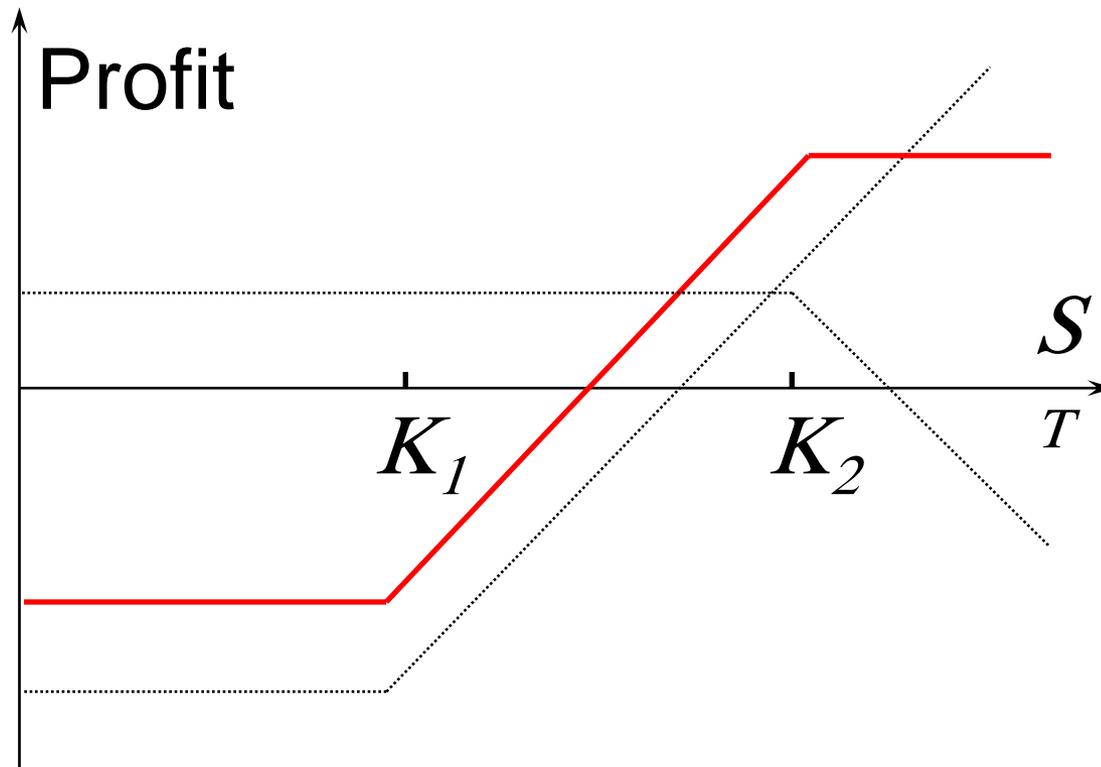
Positions in an Option & the Underlying (Figure 12.1, page 255)

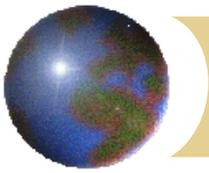




Bull Spread Using Calls

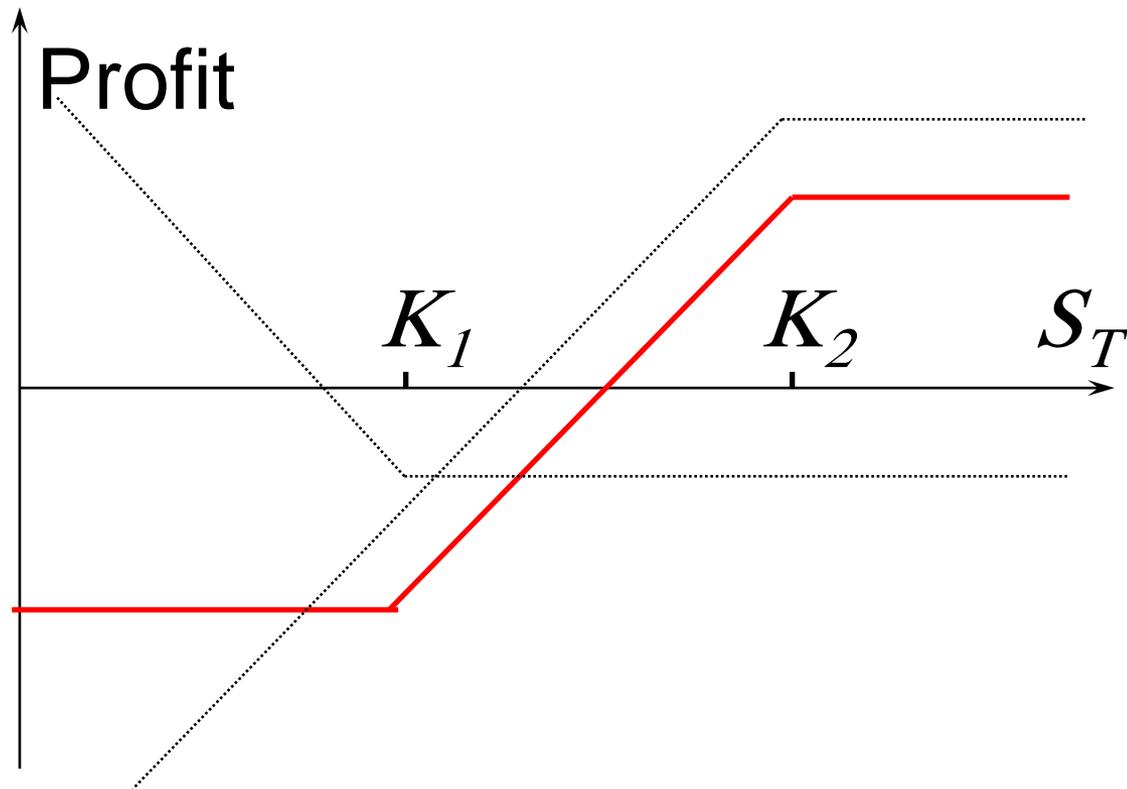
(Figure 12.2, page 256)

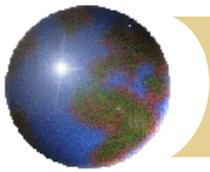




Bull Spread Using Puts

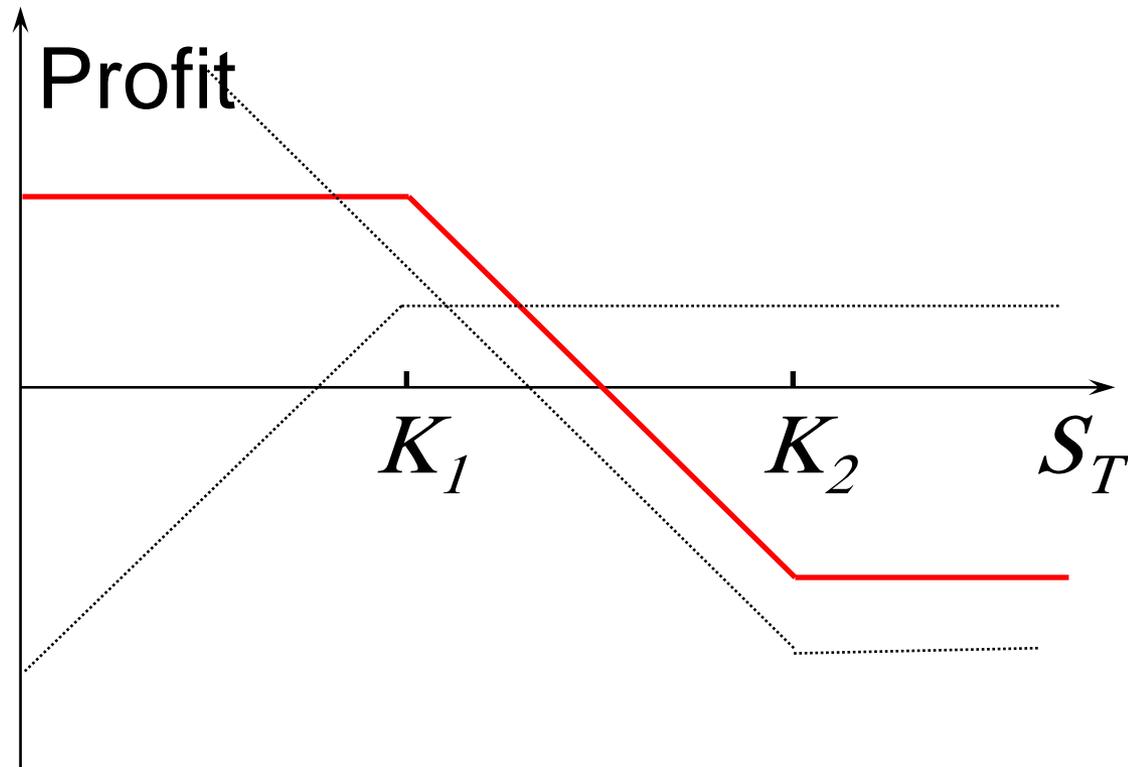
Figure 12.3, page 258

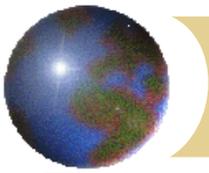




Bear Spread Using Puts

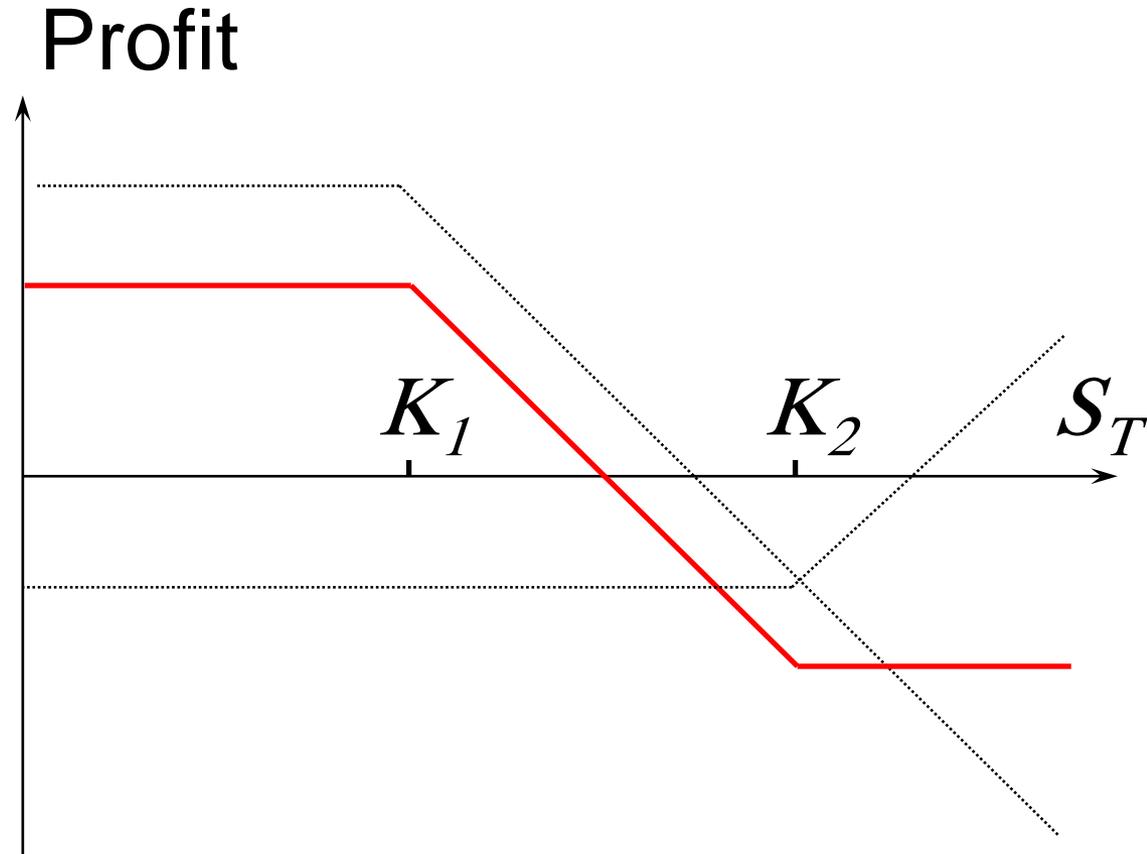
Figure 12.4, page 258

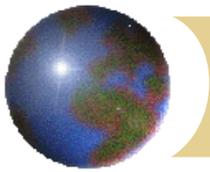




Bear Spread Using Calls

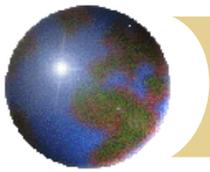
Figure 12.5, page 259





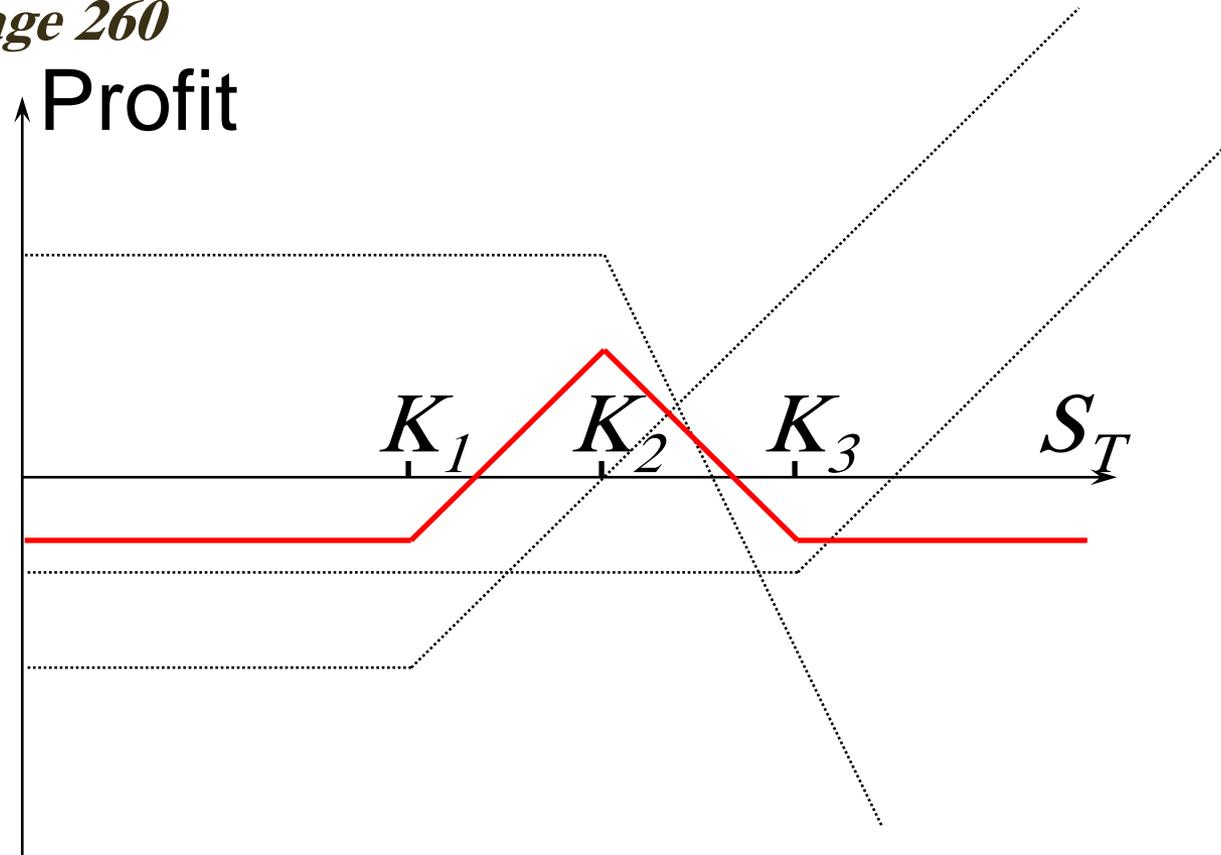
Box Spread

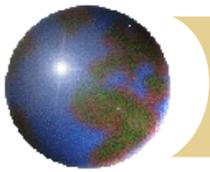
- ✚ A combination of a bull call spread and a bear put spread
- ✚ If all options are European a box spread is worth the present value of the difference between the strike prices
- ✚ If they are American this is not necessarily so (see Business Snapshot 11.1)



Butterfly Spread Using Calls

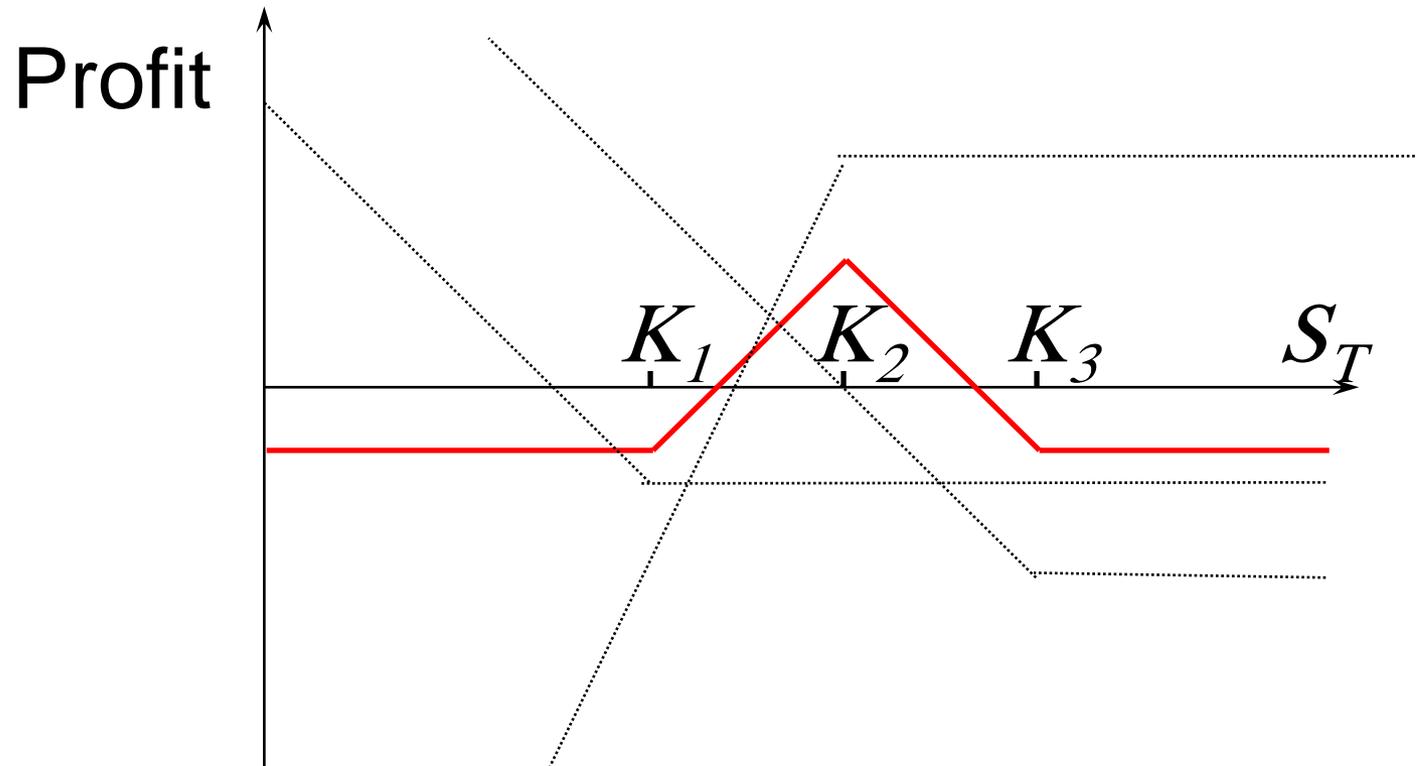
Figure 12.6, page 260

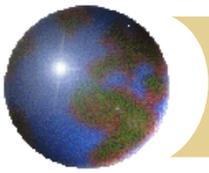




Butterfly Spread Using Puts

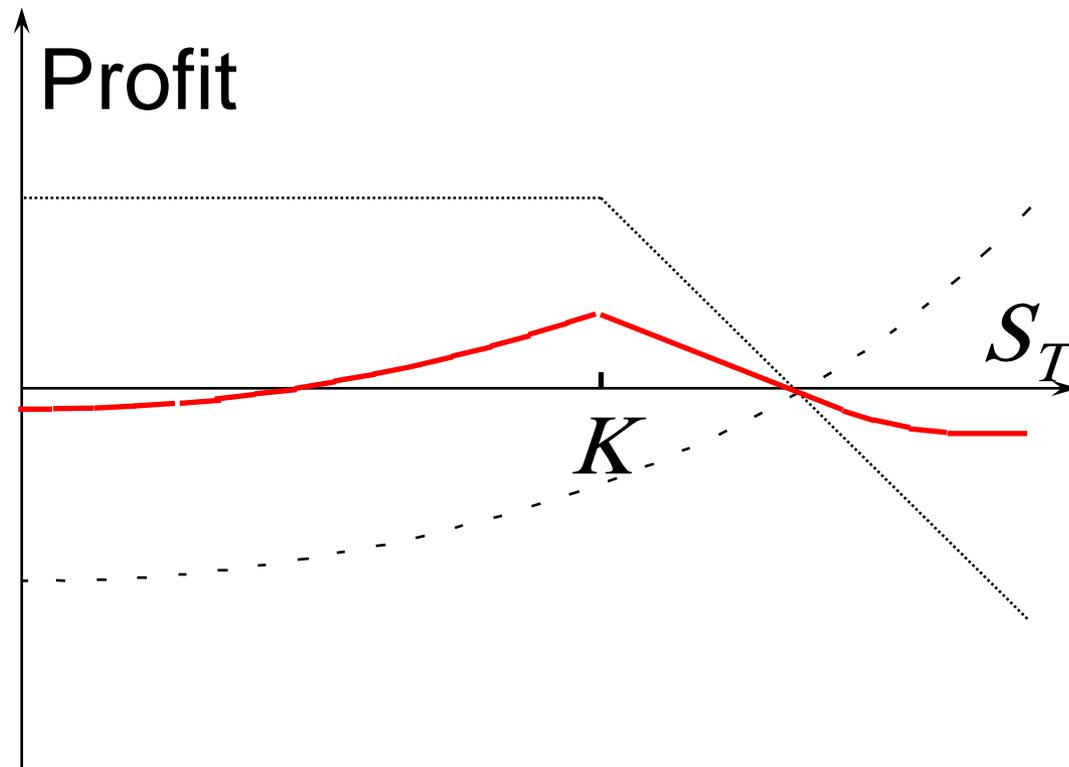
Figure 12.7, page 262

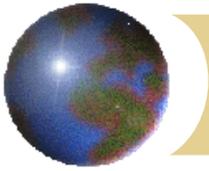




Calendar Spread Using Calls

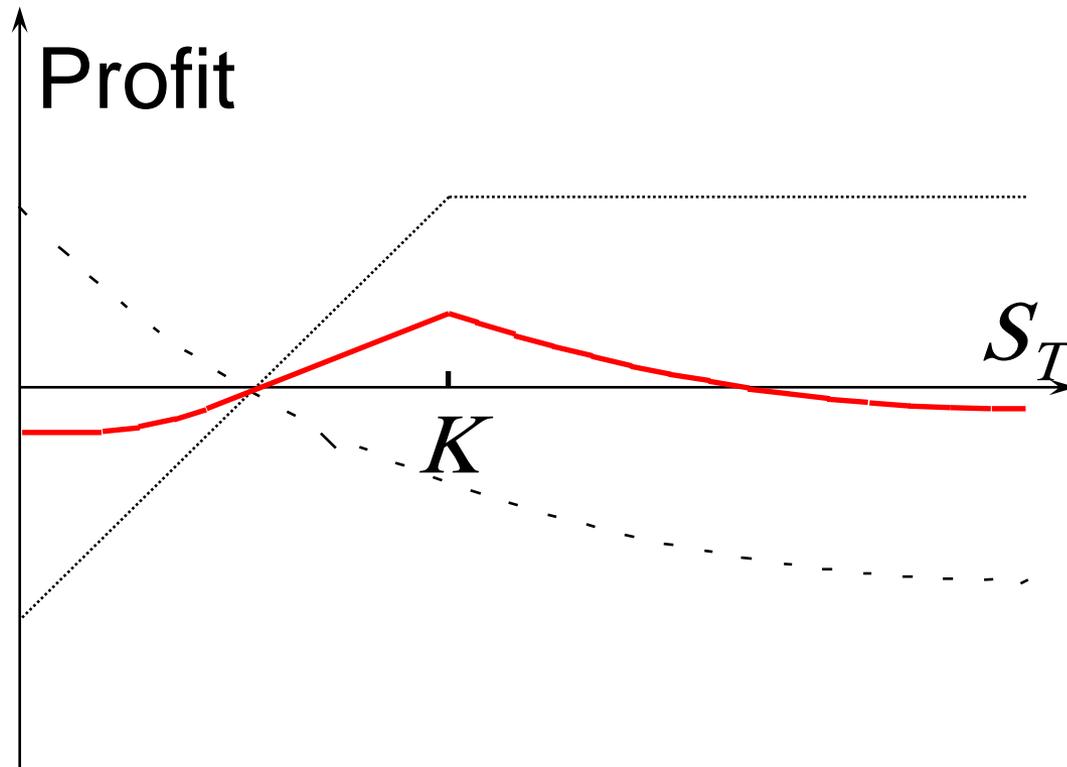
Figure 12.8, page 263

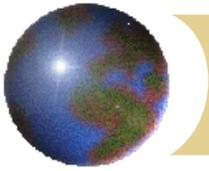




Calendar Spread Using Puts

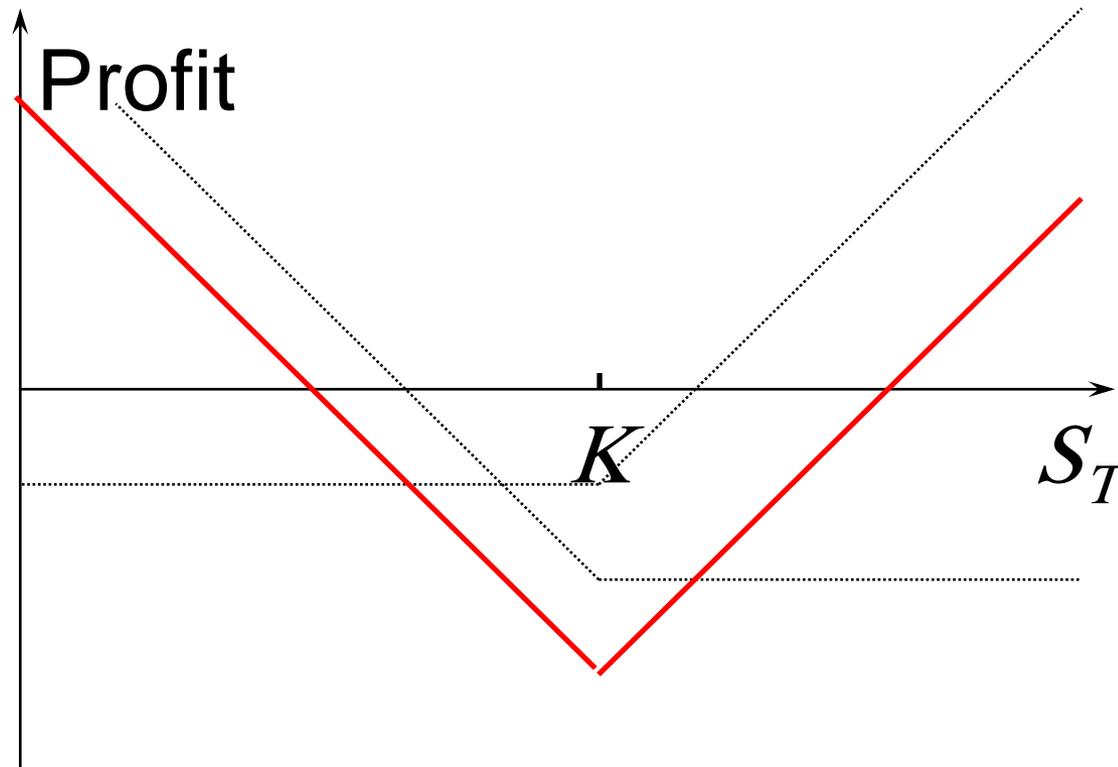
Figure 12.9, page 264

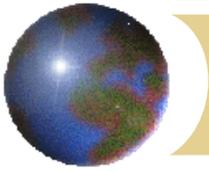




A Straddle Combination

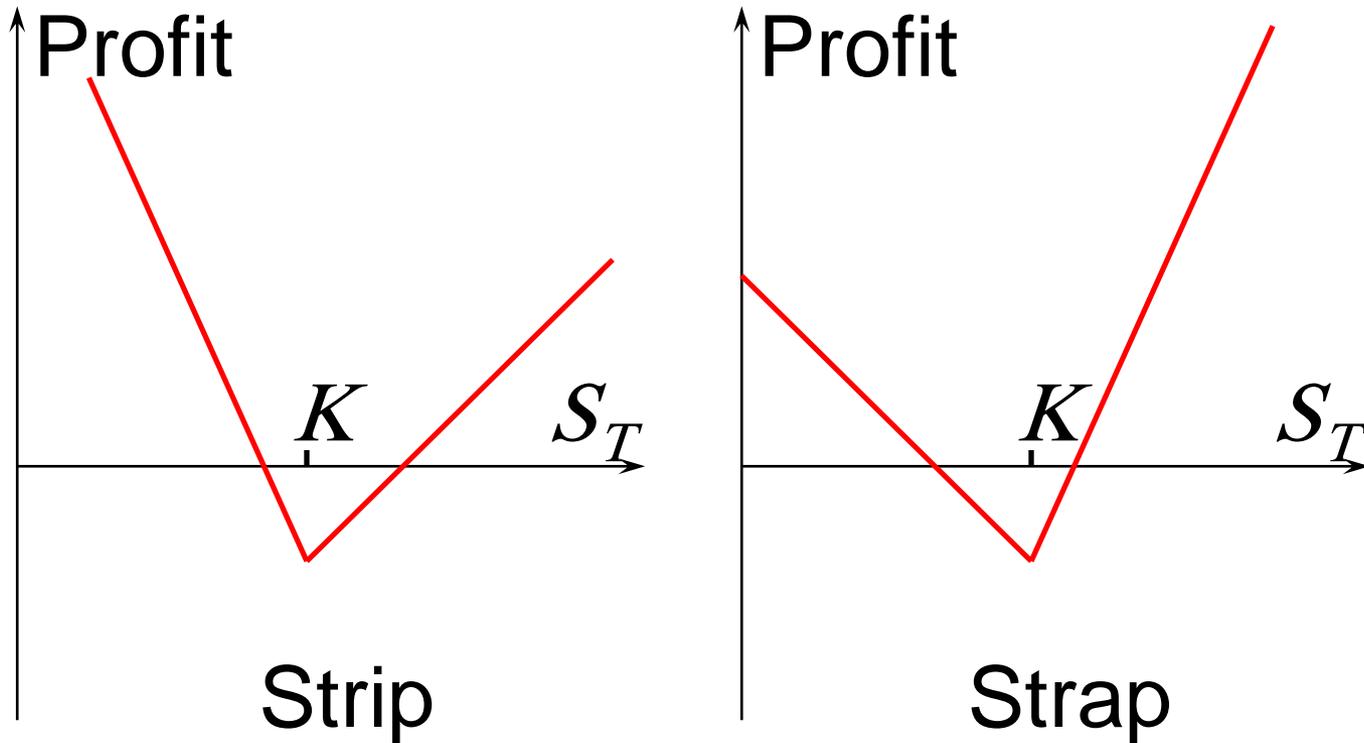
Figure 12.10, page 265

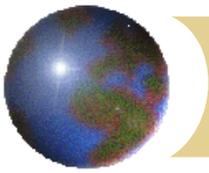




Strip & Strap

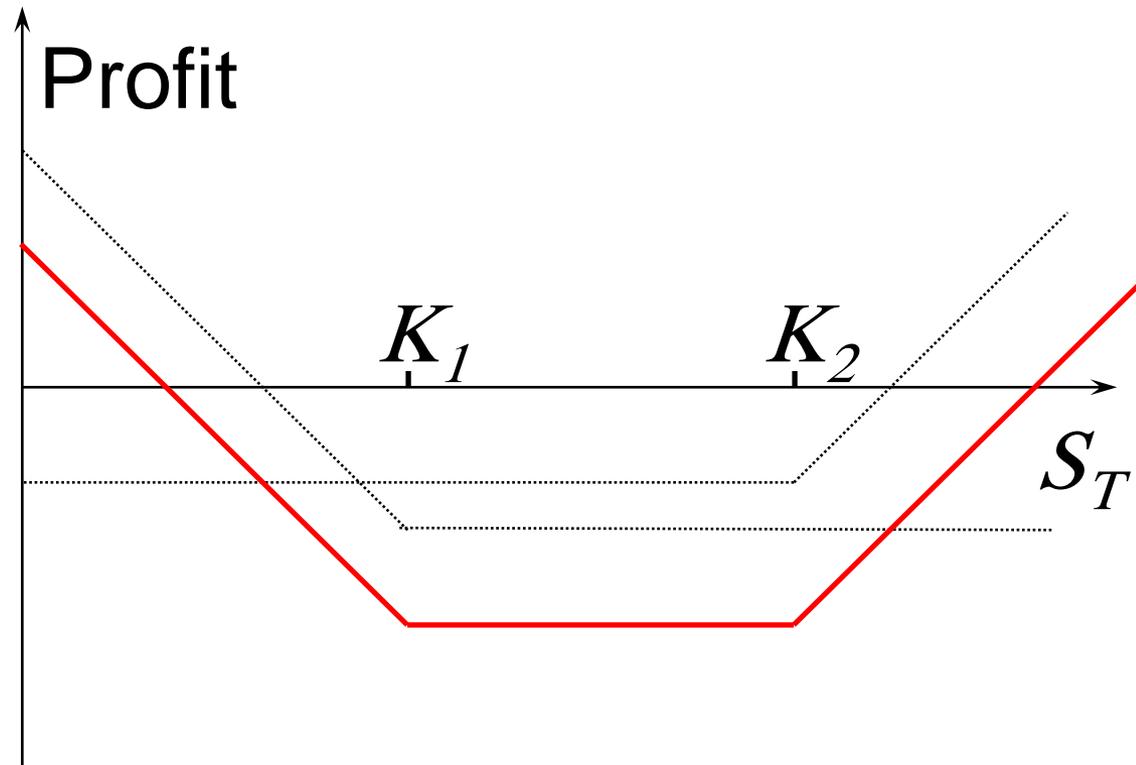
Figure 12.11, page 266

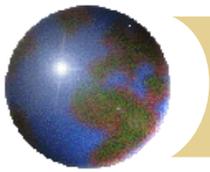




A Strangle Combination

Figure 12.12, page 267





Other Payoff Patterns

- ❖ When the strike prices are close together a butterfly spread provides a payoff consisting of a small “spike”
- ❖ If options with all strike prices were available any payoff pattern could (at least approximately) be created by combining the spikes obtained from different butterfly spreads