END OF CHAPTER EXERCISES

Chapter 10 : Option Spreads and Stock Options

Financial Engineering : Derivatives And Risk Management

(Keith Cuthbertson, Dirk Nitzsche)

1. You expect the stock market to rise over the next 3-months. What are the advantages and disadvantages of buying a call bull spread ?

2. What is a "protective put" ? Why is it like purchasing insurance on your stock portfolio? (Use P = \$6, S = 164, K = 165).

3. What is the payoff profile (at expiry) and the breakeven strike price for a portfolio consisting of an equal number of long stocks and long puts? The puts have K = 164 and P = \$6. What are the profits at expiry for S_T = 163 ? The initial stock price is S_0 = 162

4. What is a protective put ? The current stock price is S_0 = 100 and a put with a strike of K = 98 is available at a price of P = \$4. What is the payoff and profit from the protective put at various values for the stock price, at maturity ? Who might use a protective put ?

5. What are the differences between a long straddle and a short butterfly spread ?

6. A put option with a strike K_1 = 35, costs P_1 = \$4 and a put with a strike of K_2 = 40 costs P_2 = \$8. How can you construct a bull spread using these puts? What are the payoffs and profits from the strategy, for different values of the stock price at maturity?

7. A call with a strike of K = 50, costs C = \$2 and a put also with K = 50, costs P = \$4. What are the payoffs and profits from a short straddle?