Derivative Instruments
Paris Dauphine University - Master IEF (272)

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Exercises Chapter 10

Exercise 1 *Call options on a stock are available with strike prices of $15, 17\frac{1}{2}$, and $20 and expiration dates in three months.*
Their prices are $4, $2, and $$\frac{1}{2}$, respectively.

Explain how the options can be used to create a butterfly spread. Construct a table showing how profit varies with stock price for the butterfly spread.

Exercise 2 (Done) *A call option with a strike price of $50 costs $2.*
A put option with a strike price of $45 costs $3.

Explain how a strangle can be created from these two options. What is the pattern of profits from the strangle?

Exercise 3 (Done) *Suppose that put options on a stock with strike prices $30 and $35 cost $4 and $7, respectively.*

How can the options be used to create (a) a bull spread and (b) a bear spread?
Construct a table that shows the profit and payofffor both spreads.

Exercise 4 *Use put-call parity to show that the cost of a butterfly spread created from European puts is identical to the cost of a butterfly spread created from European calls.*

Exercise 5 *A call with a strike price of $60 costs $6. A put with the same strike price and expiration date costs $4.*

Construct a table that shows the profit from a straddle. For what range of stock prices would the straddle lead to a loss?