CorpFin mod 20 put call parity relation practice exam questions

(The attached PDF file has better formatting.)


Question 1.2: Option prices and stock price

European put and call options trade with strike prices of 35 and expire in 6 months. The price of the put option is 6.35 and the price of the call option is 7.34. The risk-free interest rate is 4.0% *per annum*.

What is the underlying stock price?

Answer 1.2: The put call parity relation is: call + present value of exercise price = put + stock price.

This gives: stock price = present value of exercise price + call – put

$$= 35 / (1 + 4.0\%)^{0.5} + 7.34 – 6.35 = 35.31$$


Question 1.3: Call option price

- The price of a European *put option* that expires in 6 months and has a strike price of 35 is 3.90.
- The underlying stock price is 30.90, and the risk-free interest rate is 4.0% *per annum*.

What is the price of a European *call option* that expires in 6 months with a strike price of 35?


Answer 1.3: The put call parity relation is: call + present value of exercise price = put + stock price.

This gives: call = stock price + put – present value of exercise price

$$= 30.90 + 3.90 – 35 / (1 + 4.0\%)^{0.5} = 0.48$$


Question 1.4: Put option price

- The price of a European *call option* that expires in 6 months and that has a strike price of 35 is 9.20.
- The underlying stock price is 38.30, and the risk-free interest rate is 4.0% *per annum*.

What is the price of a European *put option* that expires in 6 months with a strike price of 35?


Answer 1.4: The put call parity relation is: call + present value of exercise price = put + stock price.

This gives: put = present value of exercise price + call – stock price

$$= 35 / (1 + 4.0\%)^{0.5} + 9.20 – 38.30 = 5.22$$