Chapter 10

Trading Strategies involving Options

Definition 10.1

Positions in an option and the underlying:

- Writing a covered call (long stock, short call)
- Reverse of writing a covered call (short stock, long call)
- Protective put strategy (long stock, long put)
- Reverse of protective put strategy (short stock, short put)

Example 10.2

Recall: The relevant profit functions are:

- $S_T-S_0e^{rT}$ LONG STOCK
- $(S_T-K)^+-ce^{rT}$ LONG CALL
- $(K-S_T)^+-pe^{rT}$ LONG PUT
- $S_0e^{rT}-S_T$ SHORT STOCK
- $ce^{rT}-(S_T-K)^+$ SHORT CALL
- $pe^{rT}-(K-S_T)^+$ SHORT PUT

The profits for the strategies in Definition 10.1 are (for European options):

- $pe^{rT}-(K-S_T)^+$ COVERED CALL
- $(K-S_T)^+-pe^{rT}$ REVERSE CC
- $(S_T-K)^+-ce^{rT}$ PROTECTIVE PUT
- $ce^{rT}-(S_T-K)^+$ REVERSE PP

Definition 10.3

A spread is a position in two or more options of the same type.

Example 10.4

We discuss the following spreads:

- bull spread
- bear spread
- box spread
- butterfly spread
- calendar spread
- diagonal spread

Definition 10.5

A combination is a position in both calls and puts on the same stock.

Example 10.6

We discuss the following combinations:

- straddle
- strip
- strap
- strangle