

Option on a Option (compound)

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$$CC_T = \max(C'_{T_2, K_2} - K, 0)$$

$$CP_T = \max(P'_{T_2, K_2} - K, 0)$$

$$PC_T = \max(K - C'_{T_2, K_2}, 0)$$

$$PP_T = \max(K - P'_{T_2, K_2}, 0)$$

A compound option is an option on an option. E.g. you can have the right to buy a call for 3.50 at some point of time in the future.

Symbol list:

CC_T Value of the call on a call at expiration

CP_T Value of the call on a put at expiration

C'_{T_2, K_2} A call with time to expiration T_2 and strike K_2

K The strike which is the price the underlying option can be bought for