

Asian option (fixed strike)

created by **Thijs van den Berg**

Call option:

$$C_T = \max(A_T - K, 0)$$

Put option:

$$P_T = \max(K - A_T, 0)$$

with

$$A_T = \frac{S_{t_1} + S_{t_2} + \dots + S_{t_{n-1}} + S_T}{n}$$

The fixed strike Asian option has a payoff that is based on the average of the underlying over some period of time $t_1 \dots t_n$

The average reduces the impact of big movement in the underlying just before expiration compared to vanilla options.

Symbol list:

C_T	Value of the fixed strike Asian call option price at expiration
P_T	Value of the fixed strike Asian put option price at expiration
T	Expiration date
K	Strike (exercise) price
A_T	Average of the asset price based on n samples in time
n	Number of average samples
S_{t_1}	First sample of the asset that is used for averaging