Option Greeks

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1. Greeks

The use of the Black-Scholes pricing model to value the call option C and put option P in the previous module relied on 6 different inputs. Looking at the effects of changing the values of those inputs on the value of the call and put option prices P and C is done by differentiating C or P with respect to each variable. These partial derivatives in the Black-Scholes pricing model with respect to each of the 6 different inputs are known as the six **Greeks**.
The definition of the six greeks are

Delta (Δ) - The increase in the option price per the increase in stock price.

Gamma (Γ) - The increase in Δ per increase in stock price.

Vega - The increase in the option price per precentage pint increase in volatility.

Theta (Θ) - The increase in the option price for an option with a fixed expiry date per time elapsed.

Rho (ρ) - The increase in the option price per increase in the continuously compounded risk-free return r.

Psi (Ψ) - The increase in the option price per increase in the continuous dividend yield.

1.1 Delta

1.2 Gamma

1.3 Vega

1.4 Theta

1.5 Rho

1.6 Psi

Problems

Solutions