

What is the Black Scholes pricing model for?

θ

Theta is the rate of change of option price over time

δ

Delta is the rate of change of option price with respect to changes in the underlying price

γ

Gamma is the rate of increase of Delta with respect to changes in the underlying price

ν

Vega is the rate of change of option price with respect to changes in the volatility of the underlying

ρ

Rho is the rate of change of option price with respect to changes in the risk-free interest rate

$$\frac{dV}{dt} + \frac{1}{2} \sigma^2 S^2 \frac{d^2V}{dS^2} + rS \frac{dV}{dS} - rV = 0$$

V = the price of the option

S = the price of the underlying stock

t = time to expiration

r = the risk-free interest rate

σ = volatility, standard deviation

assumes log normal distribution