Option

What are 'Greeks'

Greeks are dimensions of risk involved in taking a position in an option or other derivative. Each risk variable is a result of an imperfect assumption or relationship of the option with another underlying variable. Various sophisticated hedging strategies are used to neutralize or decrease the effects of each variable of risk.

BREAKING DOWN 'Greeks'

Neutralizing the effect of each variable requires substantial buying and selling and, as a result of such high transactions costs, many traders only make periodic attempts to rebalance their options portfolios.
With the exception of vega, which is not a Greek letter, each measure of risk is represented by a different letter of the Greek alphabet.

Delta

(Delta) represents the rate of change between the option's price and a $1 change in the underlying asset's price – in other words, price sensitivity. Delta of a call option has a range between zero and one, while the delta of a put option has a range between zero and negative one. For example, assume an investor is long a call option with a delta of 0.50. Therefore, if the underlying stock increases by $1, the option's price would theoretically increase by 50 cents, and the opposite is true as well.

Theta

(Theta) represents the rate of change between an option portfolio and time, or time sensitivity. Theta indicates the amount an option's price would decrease as the time to expiration decreases. For example, assume an investor is long an option with a theta of -0.50. The option's price would decrease by 50 cents every day that passes, all else being equal. If three trading days pass, the option's value would theoretically decrease by $1.50.

Gamma

(Gamma) represents the rate of change between an option portfolio's delta and the underlying asset's price - in other words, second-order time price sensitivity. Gamma indicates the amount the delta would change given a $1 move in the underlying security. For example, assume an investor is long one call option on hypothetical stock XYZ. The call option has a delta of 0.50 and a gamma of 0.10. Therefore, if stock XYZ increases or decreases by $1, the call option's delta would increase or decrease by 0.10.

Vega

Vega represents the rate of change between an option portfolio's value and the underlying asset's volatility - in other words, sensitivity to volatility. Vega indicates the amount an option's price changes given a 1% change in implied volatility. For example, an option with a Vega of 0.10 indicates the option's value is expected to change by 10 cents if the implied volatility changes by 1%.

Rho

(Rho) represents the rate of change between an option portfolio's value and a 1% change in the interest rate, or sensitivity to the interest rate. For example, assume a call option has a rho of 0.05 and a price of $1.25. If interest rates rise by 1%, the value of the call option would increase to $1.30, all else being equal. The opposite is true for put options.

Option Volatility

Low	Fair	High	
Buy Bearish	**Bearish**	**Sell Bearish**	
Put	Sell Stock	Call	
Put Spread	Short Stock	Call Spread	
Put Backspreads	Short Combo	Call Backspreads	
Split Strike Combo	Split Strike Combo	Split Strike Combo	
Protective Put		Covered Call	Over
Buy Neutral	**Volatility Structure Trades**	**Sell Neutral**	
Collars		Straddles	
Straddles		Strangles	
Strangles		Butterfly	
Butterfly		Condor	
Condor		Call Buy/Write	
Ratio Spreads		Ratio Spreads	Fair
Buy Bullish	**Bullish**	**Sell Bullish**	
Call	Buy Stock	Put	
Call Spread	Long Combo	Put Spreads	
Split Strike Combo	Split Strike Combo	Call Backspreads	
Call Backspread		Split Strike Combo	
Protective Put			Under

Underlying Security Valuation