OPTIONS TRADING (ADVANCED) MODULE

Options – A Backgrounder

A. Derivative Types
B. Continuous Compounding
C. Option Valuation
D. Option Pricing Band
   i. Upper Bound: Call Option
   ii. Upper Bound: Put Option
   iii. Lower Bound: Call Option
   iv. Lower Bound: Put Option
E. Put-Call Parity: European Options
   i. Position A undervalued
   ii. Position B Undervalued
F. Put-Call Parity: American Options
G. Dividends

Quantitative Concepts – A Backgrounder

A. Normal Distribution
B. Share Prices – Lognormal Distribution
C. Linkages that arise from the Distribution
D. Volatility (s)
Binomial Option Pricing Model

A. Single Period Binomial
B. Multiple Period Binomial
C. European Put Option
D. Binomial Model for American Options
E. Role of Volatility in ‘u’ and ‘d’

Black-Scholes Option Pricing Model

A. European Call Option
B. European Put Option
C. Dividends
D. American Options

Option Greeks

• Delta
  1. European Call on non-dividend paying stock
  2. European Put on non-dividend paying stock
  3. European Call on asset paying a yield of q
  4. European Put on asset paying a yield of q

• Gamma
  1. European Call / Put on non-dividend paying stock
  2. European Call / Put on asset paying a yield of q

• Theta
  1. European Call on non-dividend paying stock
  2. European Put on non-dividend paying stock
  3. European Call on asset paying yield of q.
  4. European Put on asset paying yield of q

• Vega
1. European Call / Put on non-dividend paying stock
2. European Call / Put on asset paying yield of \( q \)

- Rho
  1. European Call on non-dividend paying stock
  2. European Put on non-dividend paying stock

**Volatility**

- Historical Volatility (s)
- ARCH(m) Model
- Exponentially Weighted Moving Average (EWMA)
- GARCH Model
- Implied Volatility

**Basic Option & Stock Positions**

A. Pay-off Matrix for Basic Option Positions

- Long Call
- Short Call
- Long Put
- Short Put

B. Pay-off Matrix for Position in the Share

- Long Stock
- Short Stock

C. Assumptions

D. A Few Option Contract Intricacies

**Option Trading Strategies**

A. The Strategies

1. Single Option, Single Stock
   i. Protective Put
ii. Covered Put
iii. Covered Call
iv. Protective Call

2. Multiple Options of Same Type
i. Bull Spread
ii. Bear Spread
iii. Butterfly Spread
iv. Calendar Spread
v. Diagonal Spread

3. Multiple Options of Different Types
i. Straddle
ii. Strangle
iii. Collar
v. Range Forward - Long
vi. Range Forward – Short
vii. Box Spread
viii. Condor

B. Option Chain
C. Contract Fundamentals
D. Option Trading Intricacies
   1. Choice of Strike Price
   2. Choice of Expiry
   3. Roll Over and Covered Calls

➢ Exotic Options
A. Asian Option
B. Bermudan Option
C. Compound Option
D. Binary Option
E. Barrier Option
F. Look back Option
G. Shout Option
H. Chooser Option

➢ **Market Indicators**
   A. Put-Call Ratio
   B. Open Interest
   C. Roll-over
   D. Volatility