Risk Management and Trading Psychology

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3 angles of risk managements:
For a single trading position
For multiple trading position
For a portfolio

Expected return of portfolio E(RP) = W1R1 + W2R2+W3R3 + … WnRn

W: Weight of the investment
R: expected return of the individual asset

Ex: 25 k total investment
W1 and w2c: 50
R1 = 20 %
R2= 15 %

Variance: Variance of a stock return is a measure of how much stock return varies concerning its average daily return. (Sigma square)
X = daily return
U = average of daily return
N = total no. of observation

Square root of variance = standard deviation
Covariance : it indicates of two or more variable move together
Co variance = sigma of R
rtS1 = daily stock return of stock 1
Avg RT S1 = Average Return of stock 1 over n period
N = total number of day of investments

Correlation: measure the performance of two stocks

Correlation matrix : k*k
Variance covariance matrix: k*k
K = no stock in the portfolio
N = no of observation
X = return of k
XT = transpose matrix of X

Tools to measure performance of portfolio.

Equity curve: shows the evolution of the stocks

How to optimise your portfolio

- You identify the investments weights to achieve the best possible returns
- You identify the investments weights to achieve the least possible risks.

Minimum variance portfolio
Maximum return portfolio : opposite of the minimum variance portfolio
Fixed variance, multiples portfolios.

Equity capital : the amount of money you have in your trading account.

Techniques of estimating equity capital :
Core equity model :
Total equity model:
Reduce total equity model:

Percentage margin:
Percentage risk techniques:

- Unit per fixed amount
- Percentage margin
- Percentage volatility

Trading systems

You give the system the input
You design the system
You decide to trade of not to trade

4 trading systems:

- pair trading: 2 stock from one segment , eg : ICICI and HDFC
- Volatility based delta hedging:

- Calendar spread: difference between bid price and ask price. Spread = closing value of stock 1 - closing value of stock 2
- Momentum strategy = portfolio approach

NOTE : MOMENTUM SMALLCASE?

Daily return = (today's closing price/previous day's closing price) - 1

Mean: arithmetic average

Median: represent the average number of portfolio.

Mod : data series or point which occurs the most numbers of time in a data series

Xsl function :

Mean = avg ()
Median = median ()
Mod = mod.mul()
Std = stdev.p()
absd = avedev()

Trade trigger:

Density curve to identify if there is an opportunity to trade

Linear regression

Momentum : rate of change of return of the of the index