



Introduction to Portfolio Management

Khader Shaik

Portfolio

- Financial Portfolio
 - A collection of investments held as a group
 - Professional Institutions
 - Asset Management Corporations
 - Individual Investors etc
- Key objective
 - Maximize the returns from the investments for given level of risk
- Portfolio Management Involves
 - Investing and divesting different investments
 - Risk management
 - Monitoring and analyzing returns

Portfolio Valuation

- Performance is measured using
 - Expected Return
 - Risk associated with the return
- Portfolios are valued using different models
 - Markowitz Portfolio Theory
 - Modern Portfolio Theory
 - Capital asset pricing model
 - Arbitrage pricing theory etc

Portfolio Management Key Factors

- Continuous P&L Calculations
- Portfolio may contain different classes of products including derivatives
- Computing the RISK/Exposure is the key
- Incorrect pricing/valuation would expose the Portfolio
- Incorrect Hedging would expose portfolio
- Most Portfolios are rebalanced almost everyday

Factors affect the P&L

- P&L Changes from the RISKS that were unhedged
- P&L Changes from the usage of imperfect Hedging Model
- P&L Changes from new trades during the day

Derivative Product Types & Exposure

- Linear Product
 - Price of the product is directly dependent on the price of the underlying asset
 - Hedge the product and forget
- Non-linear Product
 - Price of the product is not directly dependent on the price of the underlying asset
 - Rebalance the Hedge as frequent as necessary

Risk Management

- Risk
 - The chance that an investment's actual return will be different than expected
 - Actual return may wipe some or total original investment
- Risk and Reward
 - The greater the amount of risk, the greater the potential return
- Categories of Risk
 - Market Risk
 - Credit or Default Risk
 - Operational Risk

Market Risk

- Market Risk – risk caused by the movements in the market factors like
 - Interest Rates
 - Stock Prices
 - Exchange Rates etc
- Market Risk is usually measured by methodology referred as “Value at Risk” (VaR)
- What is meant by Measuring Risk
 - The probability of adverse circumstance happening
 - The cost of such adverse circumstance

Credit Risk

- Risk of non-payment of interest and/or principal by borrower
- Financial health of the borrower is the key factor
- Lenders measure borrowers financial health using different methods
 - Credit Rating
 - Credit History etc

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Operational Risk

- Risk of loss caused by inadequate or failed internal process, people, system and external events.
- Operational Risk Management
 - External Regulatory Agencies
 - Internal compliance and risk management departments

VaR – Value at Risk

- VaR is used to measure a Market Risk of an Asset or Portfolio of Assets
- It is single number that summarizes the total risk in financial portfolio or asset
- It answers the question
 - How bad things can go wrong?
- For example if VaR of a Portfolio is \$2M, at 95% for 1 day
 - 95% sure/confident that in ONE day portfolio cannot lose more than \$2M