



Value at Risk - Online

This course gives an introduction to the various statistical concepts including Value at Risk (VaR). It elaborates on the computation of Value at Risk (VaR) of various items and with the comparison of the four analytical techniques viz., gap, duration, simulation and value at risk.

This is an online self study course that can be globally accessed from any internet enabled computer.

Available Session(s):

Available Today

Online

USD \$300

Online

Instructor(s):[]

Targeted Audience

Risk managers and assistants, trading assistants, finance professionals, auditors and controllers.

Advance Preparation

No advance preparation required.

Prerequisites

Market Risk Basics and Intermediate - Online or equivalent level of knowledge

Follow-Up Courses

Market Risk Advanced- Online

Operational Risk Management - Online

Market Risk Intermediate - Online

Market Risk Basics - Online

Level: Advanced

CPE Credits: 32

Instructional Method: Self-Study

Detailed Outline

Review of Statistical Concepts

- The various statistical measures viz., measures of central tendency and measures of dispersion
- The statistical relationship between the standard deviation and confidence intervals for normal distributions
- The concept of correlation and volatility and the methods to calculate them

Value at Risk

- The concept of Value at Risk
- The concept of trading and banking book
- The various methodologies of estimating VaR and their strengths and weaknesses
- The comparison between the strengths and limitations of VaR
- The computation of VaR of foreign exchange spot, foreign exchange options positions, common shares/stocks and fixed income portfolio
- The various applications of VaR

Application of Analytical Techniques

- The framework of analytical techniques - gap, duration, simulation and value at risk
- The concept and assumption under each technique
- The comparison and analysis of each of the techniques across various parameters
- The application of techniques with real life case studies

Regulatory Issues

- How market risk can be regulated
- The purpose of regulatory capital
- The various approaches applied to capital charges

VaR Models

- The various methods to measure value at risk such as parametric, historical simulation and Monte Carlo simulation
- The comparison among the various methods according to their characteristics, advantages and disadvantages
- The process of value at risk implementation

Stress and Back Testing

- The concept of stress testing as a complimentary tool to value at risk analysis
- The creation of hypothetical and historical scenarios
- The implementation of stress test scenarios into market risk modeling
- The growing use of stress testing to risk managers
- The technique of backtesting
- The different types of backtesting

Risk Management Systems

- The important steps involved in the choice of risk management software vendor
- The main software solution vendors in the market; products they offer and their salient features

Case Study - Orange County

- Orange County case study analysis through commonly used market risk measures namely Duration and Value at Risk.
- It helps the user gain an insight into the Orange County case and comprehend the investment techniques which led to its disaster

Case Study - Barings Bank

- Barings Bank case study and analyzes how with the application of VaR measurement methodology the crisis could have been avoided.
- It helps the user understand the impact of the Kobe earthquake on Japanese equity and currency markets and also comprehend Nick Leeson's trading operations in Singapore International Monetary Exchange (SIMEX).
- It helps the user understand how Kobe earthquake caused huge losses to Leeson's reported and unreported positions on SIMEX and OSE

Case Study - Metallgesellschaft

- Metallgesellschaft case study - analyzes how with the application of VaR measurement methodology the crisis could have been avoided.
- It helps the user understand the impact of the Kobe earthquake on Japanese equity and currency markets and also comprehend Nick Leeson's trading operations in Singapore International Monetary Exchange (SIMEX).
- It helps the user understand how Kobe earthquake caused huge losses to Leeson's reported and unreported positions on SIMEX and OSE

Description of Advanced VaR Models

- The various emerging forms of VaR viz., Component VaR and Del VaR
- The impact of individual trades on Total VaR
- The advancements in Monte Carlo Simulation
- The variance reduction techniques employed for Monte Carlo Simulation

Advanced Measuring Volatility and Correlation

- The concept of volatility and volatility clustering
- The conditional volatility models viz., Exponential Moving Average approach and GARCH
- The importance of time errors and the impact of crashes on correlation and its effect on VaR calculation

Advanced Scenario Analysis and Stress Tests

- The application of stress testing to a group of reporting firms through aggregation
- The various techniques like Maximum Loss and Extreme Value Theory
- How systematic stress testing is used with the help of stress test matrices

Risk Adjusted Performance Measurement

- The concept and need for risk adjusted performance measurement
- Risk capital and the measures of risk capital viz., revenue (or earnings) volatility, Earnings at Risk (EaR), and asset volatility - Value at Risk (VaR)
- The importance of capital allocation in risk adjusted performance measurement and the factors that affect them

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