

# Market Risk Measurement and Management

## Course in Oslo

### Day 1

#### 09.00 Welcome and Introduction

#### 09.15 1. Risk on Single Instrument

- Overview of risks
- Duration and convexity
- Key rate duration
- Stock risk and beta value
- Option risk
  - Delta, Vega, Gamma, Theta, Rho
- Mapping of instruments
  - Objective
  - Example with stocks, bonds and derivatives

#### 11.00 2. Volatility and Correlation

- Assumptions using volatilities and correlations
- Simple Moving Average
- Exponentially Weighted Moving Average (EWMA)
- GARCH-methods

#### 12.00 Lunch

#### 13.00 2. Volatility and Correlation, continued

- Workshop - Calculating and interpreting volatility using the three methods

#### 14.00 3. Value at Risk and Expected Shortfall

- Delta Normal VaR
- VaR on single instrument
  - Stocks, FX, bonds and derivatives
- Portfolio VaR

#### 16.00 End of day 1

### Day 2

#### 09.00 Recap

#### 09.30 3. Value at Risk and Expected Shortfall, continued

- Workshop - calculating and interpreting portfolio VaR
- Historical simulation
- Bootstrapping
- Weighting of data
- Monte Carlo Simulation
- Expected Shortfall
- Using VaR to manage risk
  - Delta VaR, Component VaR and Incremental VaR
- Workshop - historical simulation, Delta VaR, Component VaR and Incremental VaR

#### 12.00 Lunch

#### 13.00 4. Capital Requirements on Market Risk, Backtesting and Future Regulation

- Standard method
- Internal method
- What can we expect in the future?
  - Fundamental Review of the Trading Book
- Backtesting
  - Objective and methods
  - Regulatory requirements
- Workshop - backtest of portfolio

#### 15.00 5. Stresstesting

- Examples of stressed markets
- Stresstest objective and methods
- Experiences from the financial crisis
- Workshop: stresstest of portfolio

#### 16.00 End of course and evaluation

### Price

The price of the course is NOK 15.000. The price covers course material, lunch and refreshments.

