

Operational Risk Management, Measurement and Modelling



Early Bird Discount

15% on or before 6th October, 2007

10% on or before 13th October, 2007

Introduction

Some of the earliest mentions of “operational risk” were in connection with the highly publicized large financial and reputational losses during the mid-1990s at major financial institutions including Baring Bank, Daiwa Bank, Merrill Lynch, Showa Shell Sekiyu and Sumitomo Corporation, to name a few. These losses have been attributed to the ineffective risk management procedures, the lack of internal controls, and inefficient managerial oversight concerning unauthorized rogue trading. These events were some of the earliest uses of the term “operational risk” and when it first received significant attention in the markets. With or without a proper name, operational risk has existed ever since there were transactions between parties. Operational events have historically been one of the more difficult risks for organizations to anticipate and manage since they can arise from almost any operational activity and may take days, weeks, and even years to materialize or be brought to light. Recent developments and innovations in the financial markets, products, and technologies have improved credit and market risk management and measurement capabilities. Additionally, regulatory compliance initiatives such as Basel II have required organizations to address and evaluate operational risk assessment and modelling issues in order that they can meet the upcoming Basel II requirements. The heightened awareness and developmental focus towards operational risk management, measurement and modelling in the aftermath of the events of the mid-1990s has established operational risk as a distinct risk management discipline.

The program begins with the defining, identifying and assessment of the causes, events, factors, and consequences of operational losses. Next there is a section of the development of operational databases, forming event collection policies and setting event capture thresholds. Then comes a discussion of the issues involved in the quantification of operational risk including the assessment, identification, and measurement processes. Modelling techniques for presented for operational risk factors, events, losses, triggers. Models for loss duration, frequency, and severity are then considered in the context of estimating operational Value-at-Risk (OPVaR) forecasts using the collective and individual risk models. A discussion on operational risk management follows from the perspective of exposure management, and the selection, monitoring and controlling of the corresponding operational risk response strategies. From this the program moves to addressing the following issues: operational risk capital allocation, operational risk performance analysis, and measurement operational risk charges under Basel II. A main focus of the program is to cover Basel II's guidelines for operational risk as laid out in Basel's June 2006 document with consideration given to the suggested guidelines for Basel II implementation in India provided in the April 2007 publication by the Reserve Bank of India.

Course Duration

2 days

Level

Intermediate

Who Should Attend

- ✓ Actuaries involved in Operational Risk Modelling
- ✓ Asset/Liability Managers
- ✓ Chief Risk Officers (CROs)
- ✓ Chief Information Officers (CIOs)
- ✓ Enterprise Risk Managers
- ✓ External and Internal Auditors
- ✓ Financial Project Managers
- ✓ IT Systems and Security Managers
- ✓ Operational Risk Managers and Consultants
- ✓ Operations and Business Line Managers
- ✓ Insurance Operations Managers
- ✓ Back- and Middle-Office Personnel
- ✓ Credit, Market and Operational Risk Managers and Analysts
- ✓ Portfolio and Fund Analysts and Managers
- ✓ Regulatory Compliance Officers

Program Objectives

Successful program participants will have an appreciation on the wide-ranging scope of operational risk, where it can show up, when it arise, what it can affect, and what can be done to control and management it. They will be well versed on the benefits and limitations of the procedures, strategies, and techniques that are currently being applied to measuring, modelling and managing operational risk under different market regimes including Basel II. In short, they will understand what is meant when operational risk management is said to be as much an art as it is science.

Suggested Prerequisites

Intermediate-level courses in statistics and probability and a thorough understanding of standard risk measurement models are prerequisites. Proficiency with EXCEL is also suggested.

Training Approach

Lectures focused on applied operational risk modelling using an extensive set of simulation modelling exercises; complemented by a number of cases and discussions

Program Outline

Module 1 - Operational Risk Categories, Factors, Issues, & Sources

- 📖 Operational Risk Spectrum - Defining Operational Risks and Exposures
- 📖 Recent Market Developments leading to Increased Exposures Operational Risk
- 📖 Operational Loss Causes, Factors, Events, Effects, and Consequences
- 📖 Decomposing Operational Risk - Expected, Unexpected and Extreme Losses
- 📖 Unexpected Operational Losses due to Peoples, Processes and Systems Risk
- EXHIBIT - Tokyo Blackout on August 14, 2006 and the Halt of NIKKEI 225 Index Updates**
- EXCEL - Exercise - Generating Random Occurring Operational Events**

Module 2: Operational Event and Loss Databases

- 📖 Definitions and Information Sources for Operational Events, Losses and Indicators
- 📖 Elements and Benefits to an Operational Event Collection Policy
- 📖 Roles & Responsibilities for Managing, Control and Monitoring Operational Event Databases
- 📖 Setting Capture Thresholds for Operational Loss Event Collection
- EXHIBIT - Mizuho Securities, Erroneous Trades and the "Fat Finger Syndrome"**
- EXCEL - Exercise - Implementing an Operational Loss Event Capture Policy**

Module 3: Operational Risk Quantification

- 📖 Overview of Operational Risk Assessment, Identification, and Measurement
- 📖 Benefits of an Effective Operational Risk Quantification Function
- 📖 Operational Risk Profiling and Factor Selection for Operational Risk Identification
- 📖 Identifying Key Risk Factors, Indicators, Drivers and Escalation Triggers
- 📖 Operational Risk Loss Event Classification - Risk Sources and Related Risk Indicators
- EXHIBIT - NatWest Markets, Fictitious Profits, Mispricing of Long-Dated OTC Interest Rate Derivatives, and Model Risk**

Module 4: Operational Risk Assessment, Identification, Measurement

- 📖 Checklists for Risk Identification, Recognition, Retention, Assessment, and Measurement
- 📖 Top-Down & Bottom-Up Approaches to Operational Risk Assessment, Identification & Measurement
- 📖 Qualitative Operational Assessment Techniques - Risk Maps, Envelopes, Scorecards, Workflow Charts, and Tracking Charts
- 📖 Basic Risk Response Techniques - Acceptance Avoidance, Diversification and Transference
- 📖 Qualitative and Quantitative Operational Risk Assessment and Measurement Techniques
- 📖 Risk Mitigation, Loss Control, Risk Monitoring, Risk Reports, Audits and Reviews
- EXHIBIT - April 1992 Flooding of Lasalle Street, which is the Chicago Financial District**

Module 5: Introduction Modelling Operational Risk Loss Distributions

- 📖 Distributional Assumptions underlying Individual and Aggregate Models of Loss Severities and Loss Frequencies
- 📖 Modelling Operational Loss Event Duration
- 📖 Defining an Operational Value-at-Risk (OPVaR) Estimate
- 📖 Comments on Modelling Extreme Operational Losses using Extreme Value Theory
- 📖 Trend Analysis in Operational Risk Modelling
- 📖 Mapping Correlations between Operations and Operational Risks
- EXCEL Exercise - Generating Operation Loss Frequency and Severity Distributions**

Module 6: Modelling Techniques for Operational Risk Events and Losses

- 📖 Binary Response Models for Operational Loss Event Indicators
- 📖 Modelling Event Occurrence using Discriminant Analysis and Logistic Regressions
- 📖 Causal Regression and Factor Modelling for Indicators of Operational Losses and Events
- 📖 Regime Switching Models for Operational Loss Events
- 📖 Bayesian Modelling in Operational Loss Assessment

EXCEL Example - Historical Simulation VaR using Monte Carlo Daily Events

EXCEL Example - Simulating Random Numbers of Operational Loss Events with Random Severities

Module 7: OPVaR Forecasting, Stress Testing & Scenario Analysis

- 📖 Operational VaR (OPVaR) Forecasting with Collective and Individual Risk Models
- 📖 Modelling Operational Loss Exposures using the Historical Simulation VaR Model
- 📖 Scenario Forecasting Historical Simulation OPVaR Estimates using Simulated Loss Events
- 📖 Stress Testing and Scenario Analysis for Forecasting Operational Risk Measures

EXHIBIT - Computer Glitch on the Tokyo Stock Exchange on November 1, 2005

EXHIBIT - Operational VaR Forecasting for Various Frequency and Severity Distributions

EXCEL Example - Operational VAR Forecasting using Historical Simulation VaR and Different Categories of Random Occurring Monte Carlo Loss Events

Module 8: Operational Risk Management Process - Exposure Management and Risk Response Strategies

- 📖 Main Concerns, Elements, and Objectives of an Operational Risk Management Function
- 📖 Comparing Top-Down and Bottom-Up Operational Risk Management Approaches
- 📖 Questions Addressed by the Operational Exposure Management Function
- 📖 Risk Response Strategies- Acceptance, Avoidance, Transferring, Mitigation and Business Continuity Planning
- 📖 Operational Risk Controlling, Tracking and Monitoring of Operational Risks

EXHIBIT - Operational Risk Map Categories with Accompanying Risk Response and Implementation Strategies

EXHIBIT - Howard A. Rubin, Merrill Lynch, Unauthorized Trading of IOs and Pos, and Model Risk and a US\$ 377 million loss

Module 9: Operational Risk Performance Analysis & Risk Capital Allocation

- 📖 Defining, Estimating and Validating Operational Risk Capital Estimates
- 📖 Backtesting Operational Risk Models under the Basel Regulatory Guidelines
- 📖 Stress Testing Operational Risk Models
- 📖 Operational Risk Audits and Reviews
- 📖 Operational Risk and Event Reports

EXHIBIT - Peter Young, Deutsche Morgan Grenfell's Lack of Controls and Operational Risk Management

Module 10: Modelling Operational Regulatory Capital Charges under Basel II

- 📖 Overview and Scope of Basel II and Its Three Complementary Pillars
- 📖 Basel's Definition of Operational Risk
- 📖 Regulatory Capital Charge Calculations for Operational Risk under Basel II
- 📖 Basic Indicator Approach to Operational Risk
- 📖 Standardized Approach to Operational Risk
- 📖 Advanced Measurement Approaches (AMA) to Operational Risk
- 📖 Limitations and Criticisms of the Basel II

EXHIBIT - Bank of Commerce and Credit International (BCCI) and Illegal Activities including Interactions in Drugs and Arms

EXCEL Example - Backtesting an Operational VAR Forecast using the Basel II Green, Yellow and Red Zone Approach

Trainer Profile

Dr. John W. Dalle Molle is an independent training consultant specializing in risk analytics, modeling and quantitative finance. He has presented extensive executive education and training programs in Asia Pacific, the Americas, the Middle East, and various European countries. His clients include several large financial institutions and central banks. Dr. Dalle Molle has been a master trainer for FTC Kaplan's Risk Modeling and Management Series.

He has run several popular courses in the past. Topics include Quantitative Risk Analysis, Risk Management - Concepts, Modeling & Simulation, Advanced Market Risk Management, Extreme Value Theory, VaR & Stress Testing, Applications of Exotic Options and Financial Crises & Market Crashes, to just name a few.

In the past, he has also taught at a number of renowned universities in Asia, Europe, and the Americas. He has received a number of teaching awards including three awards for teaching finance in the MBA program, at the ITAM in Mexico City. He has also supervised in a number of undergraduate and graduate theses at these universities. In addition to teaching executives, Dr. Dalle Molle has also made several professional presentations around the world in conferences and exhibitions such as Futures & Options World (FOW) in Singapore, the New Zealand Econometrics Group Meeting, Quantitative Methods in Finance Conference in Sydney, and EURORISK 2001 in Paris, France.

He is very much involved in publications and writing various workings papers and contributions in various highly respected journals. He is also preparing financial manuscripts and is working on publishing several books on Risk Management, which are due to be ready in 2007. He has also worked on some consulting projects, which require software development, programming and coding. Recent projects include building a simulation framework for stochastic financial modeling and developing a ground-truth financial trading module for validating a neural-network based trading systems for Scientific Applications International Corporation (SAIC).

Dr. Dalle Molle is a voracious reader with an impressive collection of books on risk, mathematics, econometrics, and finance. He has an interdisciplinary PhD in Management Science/Information Systems with a focus on financial econometrics, a Masters of Mathematics, and a Masters of Science in Petroleum Engineering, all from the University of Texas at Austin, and a Bachelor of Science in Chemical Engineering from University of Iowa.

Delegate Registration Form

Delegate Information

Name: _____

Designation: _____

Direct Phone / Extn: _____

Email: _____

Name: _____

Designation: _____

Direct Phone / Extn: _____

Email: _____

Name: _____

Designation: _____

Direct Phone / Extn: _____

Email: _____

For more delegates, please send delegate information on another page

Company: _____

Address: _____

Authorized by / Billing Information:

Signatory must be authorized to sign on behalf of contracting organization

Name: _____

Designation: _____

Phone: _____

Fax: _____

Email: _____

Your Signature & Company Seal

This booking is invalid without a signature.

Date: _____

Delegate fees is to reach us within 7 days of contract date

Completed contracts can be faxed or e-mailed

Fax: +91-22-26319376

Email: reg@asiaknow.com

Please make cheques / DDs payable in favour of:

"Asia Knowledge Associates"

and send to:

Suite 20, Mayfair, Raviraj-Oberoi Complex,

Off New Link Road, Andheri West,

Mumbai 400053 INDIA

Phone: 91 (22) 32951668

Early Bird Discount

15% on or before 6th October, 2007

10% on or before 13th October, 2007

Investment for two days:

1 Delegate: 28,000/- INR

2 Delegates: 27,000/- INR X 2

3 Delegates: 26,000/- INR X 3

Terms & Conditions:

1. Confirmation: Telephone bookings are provisional until written confirmation is received, either by fax with credit card details or by post with a cheque. Alternatively an invoice can be sent out in which payment must be made within 5 working days of booking.
 2. Payment: All payments must be received within 5 working days of booking. Failure to pay within this time may result in the course price being cancelled subject to the cancellation terms below.
 3. Cancellations: Cancellations must be received in writing and are subject to the following charges: cancellations received more than 2 weeks prior to the date of the course will be charged at 50% of the booking cost. Cancellations received within 2 weeks of the course date will be charged at 100% of the booking cost.
 4. Substitutions: Delegates substitutions are welcome at any time and do not incur any charge. Please fax or mail your changes to us.
 5. Transfers: Transfers to alternative events or dates may also be subject to charges. Transfers received before 2 weeks prior to the course date will not be charged. Transfers received within 2 weeks of the course date will be subject to 50% of the initial booking cost. A credit note will be issued for the remaining 50%.
 6. Alterations to the advertising course: We put the greatest care and effort to ensure solidity of the program schedule. AsiaKnowledge will not be responsible for covering airfare, hotel or any other cost incurred by the registrants. In the event that AsiaKnowledge cancels the course, AsiaKnowledge reserves the right to transfer this booking to another course to be held in the following 12 months or to provide a credit note of an equivalent amount to another course within the following 12 months.
 7. Liability: By completing this registration form the client here by agrees that AsiaKnowledge will not be able to mitigate its losses for any less than 50% of the total booking cost.
 8. Once signed and returned by e-mail, mail, or fax, this form is regarded thereafter as a firm contract.