

Strategic Risk International

Advanced  
**Risk Analytics**

**Kuala Lumpur**

(Hotel to be advised)

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**Strategic Risk International**

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[www.sri-advisory.com](http://www.sri-advisory.com)

**Workshop Format**

The program comprises eight separate topic areas, with each scheduled for 1½ hours

On each topic an overview is presented, followed by Excel-based case studies designed to develop skill in the calculations involved

Case studies can be undertaken individually or in delegate groups Case study shells (and solutions) are provided at the Workshop for transfer onto delegate PCs

*Delegates need to bring a PC with Excel loaded*

**Who Should Attend?**

The workshop program has been designed for professionals who wish to develop a working knowledge of advanced analytic methods

It is particularly useful for:

- Finance personnel
- Risk specialists
- Planning analysts
- ALCO members
- Treasury personnel
- Hedge designation & accounting personnel
- Auditors

## **PRESENTERS**

**Andrew Kameron** PhD Mathematical Physics, MBA

*Chief Executive – Strategic Risk International*

Andrew is the founder and CEO of Strategic Risk International. Established in 1988, SRI specializes in providing high performance simulation models and AASB139/IAS39 compliance systems budgeting and performance measurement as well as profit centre, product, customer, channel and market segment profitability for banks in Australia, New Zealand, SE Asia, the USA, UK and Europe, as well as advising financial institutions on the management of their balance sheet risk exposures.

Andrew has been responsible for managing the implementation of asset liability management capabilities for over 200 institutions in several countries. He has advised on policy and strategic ALM matters and has attended ALCO meetings with a large number of organizations.

Andrew has a strong background in financial risk management, derived from twenty years working in a consultancy capacity as well as several years working with J.P. Morgan and Bank of America. At J.P. Morgan he was the head of derivatives operations, including advising clients, monitoring risk exposures and managing the floor traders. At BofA he headed the financial planning and ALM functions.

Andrew has extensive experience as a speaker in the areas of asset liability management, market risk management, risk based capital allocation and transfer pricing both at public conferences and for in-house familiarization.

**Toby Matthewson** B.Sc (Hons)

*VP & Head of Client Support – Strategic Risk International*

Toby's role within SRI is management of support for SRI's clients (worldwide) using the ALM, AASB139 and budget & profit measurement systems. The role also includes participation in the design and development of the firm's advanced V<sub>SERIES</sub> technology.

Toby has extensive experience in assisting with the implementation of systems for ALM and AASB139/IAS39 compliance as well as providing client training on risk management issues.

He has familiarity with the risk in the balance sheets of financial institutions in Australia, New Zealand, the UK, USA and SE Asia.

## **DAY 1**

### **9.00 The Financial and Risk Characteristics of Key Products**

- Fixed rate mortgages
- Variable rate mortgages
- Credit Cards
- Personal loans
- Motor leases
- Investments
- Savings accounts
- Term deposits

#### CASE STUDIES

- Mortgage repayment & prepayment modeling
- Calculating mortgage transfer prices

10.30 Break

### **11.00 Interest Rate Scenario Construction**

- Market forwards & forward yield curves
- Interest rate forecasts
- Scenarios for risk and uncertainty analysis
- Balance sheet structures that favour rate views

#### CASE STUDIES

- Calculating forward rates
- Calculating forward yield curves
- Calculating zero coupon and swap rates
- Bootstrapping the market curve

12.30 Break

### **2.00 Market Valuation & Duration Analysis**

- Calculation of instrument market values
- McCauley duration
- Modified & effective duration
- Application to hedging & risk management

#### CASE STUDIES

- Calculating market values of cash flows
- Calculating duration & convexity
- Balance sheet application of duration methodology

3.30 Break

### **4.00 Effective Hedging of Mortgage Portfolios**

- The risk characteristics of fixed rate mortgages
- Alternative hedging strategies and their robustness
- Designation via AASB139

#### CASE STUDIES

- Modelling the effects of different hedging strategies
- AASB139 designation of an effective hedge structure

5.30 End of Day

6.30 *Conference Dinner*

## **DAY 2**

### **9.00 Volatility, Optionality and Risk Aggregation**

- Path dependent prepayment behavior
- Instruments with call options
- Techniques for quantifying volatility
- Describing the rate environment statistically
- Risk correlations and diversification
- Methods for aggregating risks

#### CASE STUDIES

- Calculation of rate volatility from example data
- Defining rate path ranges with known probability profiles
- Calculation of the value at risk of a balance sheet

10.30 Break

### **11.00 Derivatives**

- Pricing and valuing swaps
- Pricing and valuing options

#### CASE STUDIES

- Use of the Black-Scholes formula to value an option
- Valuing a swap

12.30 Break

### **2.00 Valuing Instruments with Optionality**

- Constructing and calibrating Monte Carlos
- Constructing and calibrating lattice structures
- Option valuation via Black Scholes
- Option adjusted spread (OAS) calculation

#### CASE STUDIES

- Constructing & calibrating a simple Monte Carlo
- Calculating the OAS of a fixed rate mortgage

3.30 Break

### **4.00 Policies, Risk Limits and Economic Capital**

- Policies for managing balance sheet risk
- Risk measures for balance sheet market risk
- Limits for balance sheet market risk
- Calculating economic capital for market risk

#### CASE STUDIES

- Aligning the different types of balance sheet risk limit

5.30 End of workshop