



**PENHALLOW ASSOCIATES LIMITED**  
A Financial Knowledge Company

## **Treasury Risk Management**

**Classroom: Duration 1 Day, Price: £745**

**Virtual Learning: Duration 6 Hours, Price: £580**

### **Agenda**

Liquidity risk has always been at the heart of a bank's day-to-day Treasury operation but now there is also regulation. Treasury is also responsible for Market risk and here too regulation is changing, with one of the previous favoured metrics, Value at Risk (VaR), making way for Expected Shortfall (ES, or Conditional VaR). This course reviews the key metrics and mitigants.

#### **Risk Management Overview**

- The key steps: Identify, Quantify, Mitigate, Review, Revise

#### **Liquidity Risk**

- Defining Liquidity Risk, the Northern Rock example
- How Liquidity risk arises for banks – banks' business model, maturity transformation and Asset-Liability funding mismatches
- Quantifying Liquidity Risk – the various metrics and their pros and cons:
  - Loans to deposits ratio (Exercise and Case study)
  - Gap analysis – maturity buckets ladder (Case study) – does one bucket matter more?
  - Mitigation: limits and liquid assets
  - Analysing sources of liability-side liquidity fluctuation: deposit stickiness – by segment, retail and corporate current accounts
  - Analysing sources of asset-side liquidity fluctuation: overdrafts, working capital loans, revolvers, trade and invoice finance
  - Intra-day – key payment systems times
  - Net liquid assets – stable and less stable liabilities, liquid and less liquid assets (Exercise)
  - Stressed liquidity risk: Liquidity Coverage Ratio (LCR)
    - The stress
    - Net asset-side flows – e.g. committed facility outflows v net liability side outflows – e.g. margin calls (Exercise)
    - What counts as High Quality Liquid Assets (HQLA)

- The cost opportunity of liquidity v the price volatility of bonds
  - Monitoring tools – concentration of funding, by counterparty and instrument, unencumbered assets, etc.
- Strategic liquidity risk management – the Net Stable Funding Ratio (NSFR)
  - Required and Available Stable Funding - %s (Exercise)
- Excess liquidity management
  - Return v risk – the capital requirement and return on capital from non-HQLA instruments
  - Turning away LCR-penalised deposits

## Market risk

- Defining Market risk: the risk of loss due to changes in market prices, interest and exchange rates
- Quantifying Market risk – by market area
  - Rates risk – the impact of a change in interest rates
    - BPV by maturity buckets (Case study and Spreadsheet exercise)
    - Parallel and slope changes
    - Intra and inter-bucket correlations
    - Interest Rate Risk in the Banking Book (IRRBB)
    - Mitigation: limits, cash market hedging, derivatives
  - Fixed income risk
    - Yield, price, duration and DV01 (Spreadsheet exercise)
    - Zero coupon valuation (Spreadsheet exercise)
    - Mitigation: limits, hedging with futures, swaps
    - How many 01s? Historic changes, Value at Risk (VaR), Regulatory VaR and back-testing (Spreadsheet exercise)
    - VaRs weaknesses and the introduction of Stressed VaR, (Spreadsheet exercise)
    - Conditional VaR/Expected Shortfall (ES, Spreadsheet exercise)
    - Interest rate swaps – as a Bond and an FRN (Spreadsheet exercise)
    - Counterparty Credit Risk mitigation: the capital requirement, Collateral Support Annexes (CSAs) and margining, Central Counterparties (CCPs) for standardised instruments and initial margin, bilateral margining of Over-The-Counter swaps
    - Swap mark-to-market: Credit Valuation Adjustment (CVA), Debt VA (DVA) and Funding VA (FVA), how they inter-relate and vary
    - Overview of hedging CCR, CVA, DVA and FVA with single-name and Index Credit Default Swaps (CDSs)
    - Fundamental Review of the Trading Book (FRTB) Standardised Approach (Exercise)
    - Overview of FRTB Internal Models Approach (IMA)
  - FX risk
    - Spot and Forward FX – Forward points (Spreadsheet exercise)
    - Cross-currency and interest rate swaps
    - FRTB Standardised Approach (Exercise)
    - Mitigation: limits, hedging

- Option risk – e.g. FX
  - Long v short asymmetry, Counterparty Credit Risk of long option positions
  - The key Greeks – vega, gamma (Spreadsheet exercise)
  - Non-standard option risks – e.g. barriers
  - FRTB Standardised Approach (Exercise)
  - Mitigation: limits, hedging

## Trainer Profile



### **Mike Stafferton**

Mike has over eight years' in-house experience in Derivatives and Origination with what was a top Japanese Securities house and over 16 years' experience as an independent consultant in the capital markets and related areas. He has a particular focus on Securitisation and Basel/CRD. He is also an Associate of Moody's.

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