

# **ASSET LIABILITY MANAGEMENT**

For Practitioners, by Practitioners

# 9<sup>th</sup> – 11<sup>th</sup> June 2015, KUALA LUMPUR

## Key Highlights:

- Capital and Risk: Essential Elements and Measures of Each
- ALCO and Treasury: Management of the Balance Sheet
- Key Accounting, Risk Management and Regulatory Compliance Issues
- Effective Use of Derivatives and Structured Products in ALM
- Liquidity Risk, Capital Management and Quantitative Risk Management
- Case Studies and Real-life Examples

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# **Workshop Background**

REDmoney and GFM Training's Asset Liability Management (ALM) workshop builds the skills needed to manage the profitability, solvency and the balance sheet of a financial institution so that it can safely meet its obligations by matching incomes with outflows; and investments with commitments. ALM is a critical activity in an insurance company, pension fund, commercial bank or a corporate treasury. We start with the basics of calculating present and future value exposures on both the asset and liability sides, showcase the decision-making framework required for prudent capital management, introduce and quantify factors that lead to structural mismatches and generate risk exposures, and demonstrate the main risk management techniques deployed in top tier financial institutions. We showcase the accounting and regulatory standards that influence and govern ALM decisions.

As a prerequisite, some familiarity with insurance, pension fund management or commercial banking will be necessary.

## **Who Should Attend?**

- · Insurance Professionals involved in ALM, investment management, risk management, treasury or product design
- · Pension Fund managers and sponsors involved on either the asset or liability side of the fund
- · Commercial Bankers involved in ALCO, treasury, lending businesses, mortgages, budgeting or strategy
- Risk Managers and CFOs in financial institutions or corporates
- Trust Providers and Fiduciaries managing investments to pay for specific obligations
- Financial Planners involved in generational transfers and long-term investment objectives
- Auditors, accountants, lawyers and other professionals needing to understand the financial instruments and market risk
  metrics involved in ALM
- Regulators and central bankers who help shape policies governing financial institutions

# **Teaching and Case Study Format**

Each day covers 5-6 topics illustrated over several real world examples. We start with a brief of a real ALM scenario that needs to be solved and then examine the menu and features of real-world instruments and solutions for that scenario. We then develop skills and techniques for these solutions through hands-on spreadsheet exercises.

# **Course Agenda**

# Day one: Fundamentals of ALM: Calculations and Processes

Day one begins by answering the question 'what is ALM and why is it important?' We then showcase how ALM is governed in a financial institution. We conclude with the basics of quantifying risk exposures embedded in a balance sheet.

#### What is ALM and why does it matter?

- The 'simplest' ALM problem: fixed income asset versus fixed liability
- A look at the evolution of a hypothetical balance sheet
- A tale of two balance sheets can you spot the time bomb and the money machine?

#### A brief look at how a financial institution makes money

- Value drivers, performance measurement, profitability analysis
- · Risk adjusted returns, capital adjusted returns

#### Stating asset-liability management objectives and risks

- · Revisiting the 'simplest' ALM problem
- · How even fixed-fixed ALM problems differ from the 'simplest case' in reality

#### Valuing the present value of liabilities

- · Review of discounted cash flow calculations
- · Brief review of rate curves
- How to select the appropriate discount rate/rate curve

#### Measures of exposure for bonds and fixed liabilities

- Duration: the 'center of gravity' tenor of both sides
- PV01: the fastest measure of tick-by-tick exposure
- Modern exposure calculations using computers

#### **Beyond fixed-fixed ALM**

- · Navigating the continuum from fixed income through perps and preferreds to equities
- · Modeling variable factors on the liability side

#### A brief recap of key concepts: capital and risk

- The various forms of capital: accounting capital, risk weighted capital, economic capital, on and off balance sheet assets and liabilities, transfer pricing
- The various measures of risk: Liquidity, interest rate risk, cash flow risk, solvency risk

#### ALCO and Treasury: management of the balance sheet

- ALCO
- Risk management framework and the ALM process
- · Roles and responsibilities of ALCO: economic capital management, risk budgeting and risk limits, governance and oversight
- Transfer pricing: objectives, policies, and examples

#### Treasury

- · Funding instruments: From deposits to traded debt
- Investment instruments: from money markets to equities
- On and off balance sheet instruments: guarantees, commitments, securitization, reinsurance, derivatives
- Transfer pricing in action

### Day two: Accounting, Regulations and Basic ALM Risk Management

Day two builds on the basics of Day one by focusing on three defining functions in any ALM business: accounting, risk management and regulatory compliance. Accounting is mostly important for entities needing to report financial performance, and in many cases accounting rules can drive or limit which instruments can be included in a portfolio. Risk management is critical to any ALM objective and provides both measures of losses and shortfalls in extreme cases as well as helping identify changes to minimize such hazards. Both accounting and risk management are interlinked with regulatory standards and requirements.

#### IFRS 9 and FAS 133: Hedge accounting

- Review of the difference between cash flow and mark-to-market hedges
- Calculating the correlation ratio for hedge effectiveness

#### Basel III and Capital Adequacy: Solvency and leverage

- Basel II, III and local solvency requirements
- Liquidity requirements
- Local solvency requirements

#### Structural analysis of assets and liabilities

- · Distinctions between investment portfolios, held to maturity, available for sale and trading assets
- Funding sources: from deposits to wholesale markets to central banks
- · Interest rate risk: mismatches, gap analysis, bucketing and stress testing
- Introduction to hedging strategies

#### Use of derivatives in ALM

- Main FX and rates instruments: FRAs, IR Swaps, FX Swaps, CCS
- Other major derivatives: CDS and CDS indices, options, swaptions and other exotics
- · Marking to market derivative contracts
- Market risk versus credit risk versus cash flow risk versus liquidity risk
- Accounting, regulatory, credit and liquidity issues when using derivatives

#### Value-at-risk (VaR) and its variants

- Understanding what VaR does (and doesn't) measure
- · Techniques for calculating VaR: from 'back-of-the-envelope' to the full Monte Carlo
- CVaR and other VaR variants

#### Earnings-at-risk (EaR)

- · Understanding the differences (and similarities) between EaR and VaR
- · Factors entering a full EaR calculation

#### Related risk measures

- The relationship between duration/DV01 and VaR and EaR
- The 'personal insignificance principle'

#### How the ALCO looks at today's metrics

### Day three: Liquidity and other risks in ALM

Day three expands into additional real-world risks and problems faced in asset-liability management, starting with cases on liquidity risk, and looking at applications of quantitative risk management (QRM) to simulate and manage other risks seen by pensions and insurers.

#### Liquidity risk

- Understanding and modeling liquidity risk
- Setting policies to mitigate liquidity risk
- · Measuring the 'cost' of liquidity risk

#### Capital management

- · Capital adequacy requirements and how to measure adequacy
- The notion of risk based capital credit risk, market risk and risk weighted assets

#### Quantitative Risk Management (QRM) techniques in ALM

Platinum hedging

#### Cases of 'runs' and other liquidity squeezes

- Mutual Benefit Life Insurance Co, 1991
- The Bear Stearns Companies Inc., 2008
- American International Group, 2008

#### Cases of solvency squeezes and asset-side failures

- Executive Life Insurance Company, 1991
- Fannie Mae and Freddie Mac, 2008
- · The mirror image: how to fail on the liability side

A case of operational risk: HIH Insurance, 2001

Recap of concepts covered in the last three days and how to avoid similar failures

**Conclusion and Wrap-Up** 

# **Expert Course Directors**

Anand Batepati is a partner of Global Financial Markets Group (GFM) and has 20 years of experience in financial markets. Prior to GFM, he was the Head of Multi Asset Structuring for Rabobank for Asia, providing capital markets investment and hedging solutions to institutional clients across equities and FICC. Before joining Rabobank, he was at HSBC based in Hong Kong overseeing structuring and product development initiatives as a director of structuring for the region. Anand has traded and structured equities and hybrids at Bear Stearns based in London, covering clients in Europe and Asia. Anand has developed and executed various smart beta investment strategies, multi asset class and hybrid structures, provided Asset Liability Management solutions to clients ranging from insurance companies, asset managers to private banks. Anand has also helped establish a Fund of Hedge Funds in London, worked as a private equity investor, has successfully started and sold a technology company and has worked for the World Bank in Washington D.C. He is passionate about investing and has managed private deep value and special situations portfolio in the public markets for several years. Anand holds a Masters degree in finance from London Business School and an MBA from Asian Institute of Management / McGill University. He has lived and worked in New York, London and Hong Kong.

Tariq Dennison is a partner of Global Financial Markets Group (GFM) and has worked in financial markets since 1998. Prior to GFM, he has traded fixed income and credit derivatives at Société Générale, interest rates and currencies at the Canadian Imperial Bank of Commerce (CIBC), smart beta and alpha strategy indices at JP Morgan, equity and commodity derivatives and structured products at Bear Stearns, and structured hedge fund products at Commerzbank, and has also worked at Accenture and a core acquisition target of Microsoft Corporation. Tariq currently sits on the boards of two Hong Kong property companies and one global organization serving US citizens on tax and investment issues. Mr. Dennison is an active author and speaker regularly asked to present content on topics ranging from central bank policy and bond market myths to the future of digital currency and portfolio management technology. He co-developed and taught GFM's Fixed Income Portfolio Management to the Hong Kong Society of Financial Analysts and CFA Singapore, has also been invited to speak at Bloomberg and CMA Australia, and has been interviewed by the Associated Press and the Wall Street Journal. Mr. Dennison received his Masters in Financial Engineering Degree from the University of California at Berkeley's Haas School of Business and his Bachelor of Science in Mathematics from Marquette University. He was awarded a Howard Hughes Medical Institute Fellowship for mathematical research at the Medical College of Wisconsin in 1997.

### **Asset Liability Management**

9<sup>th</sup> – 11<sup>th</sup> June 2015, KUALA LUMPUR

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