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# Basel III, Risk Assessment and Stress Testing

## Why Attend

- This course is designed as an intermediate level in-depth look at the key provisions of the Basel III regulatory framework, the ongoing risk assessment practice within banks, and the vital role of stress testing.
- Upon completion, participants will have a comprehensive understanding of internal risk assessment as required under Basel III and especially with reference to the ICAAP process.
- There will be an in-depth analysis of why stress testing is vitally important to financial institutions, how to conduct stress testing, and why financial regulators are so preoccupied with stress testing in the post 2008 financial environment.
- In particular there will be an analytical examination of the kinds of scenarios that can lead to extraordinary credit losses, operational losses, and liquidity stress and can even threaten the survival of financial institutions.

## Course Methodology

- This course will cover a wide range of learning methods including explanatory slides, case studies, and detailed examination of Excel models in an interactive workshop style environment.

## Course Objectives

By the end of the course, participants will be able to:

- Develop a deep understanding of the key elements within the Basel III regulatory framework
- Understand the key metrics and procedures for assessing credit risk, market risk and operational risk
- Understand the vital importance of stress testing as the cornerstone of risk management
- Apply analytical skills for the identification of concentration of credit risk, concentration of funding risk, and systemic liquidity risk
- Develop and formulate procedures and policies with respect to the best practice implementation of stress modelling and associated risk management protocols

## Target Audience

- This course is suitable for all those working in the banking industry, including wealth managers, auditors, and treasury and product control professionals.

## Target Competencies

- Regulation compliance
- Scenario generation
- Stress testing
- Best practice implementation of stress modelling
- Thought leadership

### Understanding The Role Of Regulatory Bank Capital

- Overview of financial statements of banks – accounting principles
- Composition of the balance sheet – types of assets and liabilities
- Understanding the key elements of the P&L - statement of income
- Review of the distinction between the banking book and the trading book
- The equity capital of financial Institutions
- Illustration of the contrast between liquidity and solvency issues
- Distinguish between going concern and gone concern capital
- Explanation of bail-in able capital
- Accounting and regulatory definitions for own funds
- Prudential filters and revaluation reserves, AOCI
- Treatment of goodwill, intangibles, deferred tax assets
- Treatment of securitizations and off-balance sheet exposures

### Requirements for Qualifying Capital under Basel III

- Definitions of Regulatory Capital – Core Tier 1, Tier 2
- Core Tier 1 – equity capital and disclosed reserves
- Supplementary Capital – Tier 2 – subject to discretion of supervisor/central bank
- Revaluation reserves - limitations
- Hybrid capital – equity-like e.g. perpetual preferred shares
- Subordinated debt instruments – criteria and restrictions
- Short-term subordinated debt covering market risk (Tier 3)
- Loss absorbency requirements
- Deductions from capital – goodwill and subsidiaries
- Supervisory discretion over cross holdings of other banks

### Basel Treatment of Market Risk

- Value at Risk (VaR) – rationale, theory and methods of calculation
- Limitations of parametric VaR
- What about tail risk – does VaR capture this adequately?
- Risk weightings for market risk
- Standardized approach
- Interest rate risk in both the trading book and banking book
- Overview of Internal Models Approach (IMA)
- Impact of market risk on instruments in the trading book
- Volatility and market stress

## Operational Risk under Basel

- Definition of Operational Risk introduced into the Basel II framework
- The life cycle of Operational Risk
- Basel measurement approaches:
  - Basic Indicator
  - Standard Approach
  - Advanced Measurement Approaches
- Risk weightings under each approach
- Rogue trading – severity of losses
- Scenario generation – KRI's, management involvement in adverse scenario modelling
- Quantifying the exposure and severity of “outliers” and tail risk
- Loss Distribution Approach (LDA) and Scenario Based Analysis (SBA)
- Application of VaR techniques to operational risk (Op VaR)
- Loss identification – measurement, management, monitoring, reporting
- Integrating operational risk management into the organizational risk management framework

## Alternatives to using external credit ratings

- Developing internal scoring models for assessing corporate loan exposures
- Contrast of developed and emerging economy approaches to credit risk assessment

## Credit Concentration Risk and Large Exposures

- Concentration risk - not adequately captured under the Pillar One approaches
- Brief summary of the Supervisory Review and Evaluation Process (SREP)
- Treatment of Concentration Risk within the Pillar II ICAAP framework
- Identifying sectoral concentration risk – general principles
- Quantifying concentration risk in GCC

## Modelling and Stress Testing

- Explanation of the techniques for conducting stress tests
- Back testing using historical returns
- Scenario generation - stress testing using hypothetical returns
- Sizes of historical samples – are they sufficiently large to include wide variety of conditions?
- Danger of optimizing risk management parameters - over-fitting to the historical data
- Modelling methods – contingency scenarios
- Limitations of normal distribution as basis for probabilistic modelling
- Quantifying the exposure and severity of “outliers” and tail risk

## Drivers of Counter-party Risk (CCR)

- Separating market risk impact on trading positions from CCR
- Pricing counterparty risk – use of spreads, ratings
- Probability of Default (PD) – Estimation of PD and Exposure at Default (EAD)
- Expected Positive Exposure (EPE)
- Loss Given Default (LGD) and recovery rates
- Counterparty risk in credit default swaps
- Counterparty risk in interest rate swaps
- Experience of AIG and mono-lines insurance companies in financial crisis
- The role of a central clearing house
- Stress analysis and randomized stress scenarios
- Market factors which drive counter-party credit deterioration

## Credit Value Adjustment (CVA) and collateral

- Definition of Credit Value Adjustment (CVA)
- Defining credit exposure in relation to market risk impact on derivatives
- Expected positive exposure and worst case exposure
- Nature of collateralization – ISDA treatment
- Benefits of effective collateral management
- Impact of netting on CVA
- Impact of collateral on CVA
- Hedging and credit default swaps
- Eligible hedging instruments
- Bilateral counterparty risk and collateral
- Over-collateralized positions and risk of counterparty default

## Liquidity Coverage Ratio (LCR)

- Explanation of Liquidity Coverage Ratio (LCR)
- Criteria for inclusion as High Quality Liquid Assets (HQLA)
- Categories of HQLA – Level 1, Levels 2A and 2B
- 30 day stressed market outflows
- Run off rates
- Net Stable Funding Ratio (NSFR)
- Explanation of available funding (ASF) versus required funding (RSF)

## Impact of Basel III on the Business Model of Banking

- Impact of the Basel III LCR on balance sheet exposures to non HQLA assets
  - Hoarding of Level 1 HQLA assets
  - Unintended consequences for macro liquidity from Basel III regulations
  - Linkage of sovereign and domestic banking credit quality
  - Decreased inventories of corporate bonds being held by primary dealers
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- Requirements for unrealized losses with AFS securities to be deducted from CET1
  - Explanation of Contingent Capital instruments (CoCo's)
  - Role of CoCo's as contributor to AT1 for capital adequacy purposes
  - Brief history of CoCo's and inability to see the consequences from conversion
  - Sovereign wealth fund exposure to CoCo's – elevated liquidations of SWF assets
  - Possible suspensions/reductions of coupon payments of CoCo's
  - Collateral netting across CCP's
  - Shortage of collateral – implications, effect on bank's ROE
  - Impact of TLAC on G-SIB banks

## Implementation and Reporting Systems for Basel Compliance

- Efficacy of the monitoring and reporting mechanisms within banks and how they interface with overall risk management
- Avoiding silos
- Accounting, surveillance, IT systems and data storage back-up systems
- Monitoring of controls – quality and integrity of the procedures
- Development of contingency scenarios
- Role of the Chief Risk Officer
- Role of the Internal Auditor
- Developing dashboards for KRI's for credit, market and operational risk

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