

COMPREHENSIVE BALANCE SHEET STRESS TESTING: Hands-on Masterclass with MS-Excel & R

24th - 26th September 2018, KUALA LUMPUR

Bank Negara Malaysia published three documents on stress testing to reinforce the importance of stress testing. However, it is the sole responsibility of financial institutions to determine their own strategies, to design and develop stress testing methods that fit their business environment and profile.

The challenge in stress testing is that it needs deep knowledge in quantitative analysis, risk modelling and also technical acumen on statistical packages. REDmoney has designed a course to address this challenge by providing attendees with detailed understanding on stress testing from both theoretical as well as applied views. A rigorous hands-on training is followed throughout the course. The use of Excel and R provides a comprehensive framework to be directly used on a day-by-day basis.

KEY HIGHLIGHTS

- Appreciate how stress testing can serve uses beyond the regulatory requirements and improve the decision making within the organization
- Learn how to model a full business under stress
- Spot how poorly constructed models lead to inaccurate and potentially fatal results
- Understand how to mitigate some of the unique challenges of stress modelling
- Review practical case studies highlighting best practice approaches to stress modelling

During the first day, macroeconomic scenarios are investigated from both an economic as well as time series (statistical) perspectives. Margin at risk and liquidity stress testing are explored through the lenses of the traditional asset and liability management framework. Case studies help consolidating the broader understanding of the key issues risk managers need to face.

A deep dive into credit risk analysis characterizes the second day. An introduction to portfolio credit risk modelling is followed by the exam of the relationships with Advanced Internal Rating Based (AIRB) modelling. Links between credit risk parameters and macroeconomic variables are studied through a series of case studies. Balance sheet is then explored both in terms of asset and liability stress testing projections as well as from a profit and loss viewpoint. On the latter, the focus is on pre-provision net revenues and credit loss projections.

During the third day, the regulatory capital analysis is conducted under stress. All key topics studied during day one and two are put into practice in order to assess the impact of adverse macroeconomic conditions on a Bank. Risk integration and reverse stress testing are finally studied as a key element of a comprehensive risk assessment process to be used both for managerial purposes as well as into the internal capital adequacy assessment process (ICAAP).

AGENDA

DAY 1

9.00am – 10.30am

Session 1: Introduction to macroeconomic analysis

- Course overview
- Macroeconomic scenario analysis

10.30am – 11.00am Coffee

11.00am – 12.30pm

Session 2: Time series analysis for stress testing

- Hints on Vector Auto-Regression (VAR) and Global Vector Auto-Regression (GVAR) modelling
- Macroeconomic scenario analysis in R

12.30pm – 2.00pm Lunch

2.00pm – 3.30pm

Session 3: Margin at risk stress testing

- Asset and liability management gap analysis
- Net interest income (NII) analysis
- Behavioural modelling in R
- Case study: stress test on NII behavioural modelling

3.30pm – 4.00pm Coffee

4.00pm – 5.30pm

Session 4: Liquidity risk stress testing

- Managerial approach
- Liquidity coverage ratio (LCR)
- Net stable funding ratio (NSFR)
- Case study: stress test on LCR and NSFR

DAY 2

9.00am – 10.30am

Session 5: Portfolio credit risk modelling

- Credit Metrics
- Credit portfolio modelling with copulas

10.30am – 11.00am Coffee

11.00am – 12.30pm

Session 6: From portfolio credit modelling to advanced internal rating based formula

- Risk weighted asset analysis: standardized and advanced approaches
- Case study: credit portfolio modelling and RWA in R

12.30pm – 2.00pm Lunch

2.00pm – 3.30pm

Session 7: Credit risk stress testing

- How to link credit risk parameters and macroeconomic variables
- Case study: credit risk stress testing

3.30pm – 4.00pm Coffee

4.00pm – 5.30pm

Session 8: Balance sheet management stress testing

- Balance sheet projections
- Profit and loss projections
- Case study: balance sheet stress testing

DAY 3

9.00am – 10.30am

Session 9: Regulatory capital and RWA stress testing

- Regulatory capital analysis
- RWA aggregation
- Case study: capital ratios stress testing

10.30am – 11.00am Coffee

11.00am – 12.30pm

Session 10: Risk integration

- Top down risk integration modelling
- Bottom-up modelling

12.30pm – 2.00pm Lunch

2.00pm – 3.30pm

Session 11: Economic capital and liquidity integration

- Case study: economic capital and liquidity integration in R

3.30pm – 4.00pm Coffee

4.00pm – 5.30pm

Session 12: Reverse stress testing

- Reverse stress testing objective function
- Vulnerability thresholds
- Bank specific event causing bankruptcy
- Macroeconomic scenarios causing a bank's failure
- Case study: what if analysis for reverse stress testing

SPEAKER



Dr Tiziano Bellini
PhD (Statistics)

- Worked in risk management and finance across Europe, London and New York for the past 20 years.
- Experience include EY Financial Advisory Services in London, HSBC headquarter, Prometeia and other global leading companies.
- Guest lecturer at the London School of Economics, Imperial College of London, University of Passau in Germany.
- Doctorate in statistics from University of Milan and London School of Economics.
- Authored the book "Stress Testing and Risk integration in Banks: a Statistical Framework and Practical Software guide in Matlab and R"
- Authored papers published in European Journal of Operational Research (EJOR), Computational Statistics and Data Analysis (CSDA) and other top reviewed Journals.
- Referees of Journal of Banking and Finance (Elsevier) and Journal of Applied Statistics (Taylor & Francis) and other top Journals.
- Trainer in risk management and statistics, he is also a Chartered Public accountant and Tax Expert.

Who Will Benefit?

- Stress testing team
- Risk managers
- Treasury / asset liability committee
- Risk modelling team
- Quantitative analyst
- Capital management team
- Model validation team
- Portfolio managers

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- Post-Seminar questionnaire results

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- Post-Seminar questionnaire results

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| <input type="checkbox"/> 1 delegate | RM5,500 | RM5,500 | RM4,950 |
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