www.solvencyanalytics.com
info@solvencyanalytics.com

Programming Exercise Extra Task

About

A fund manager has the positions listed on sheet *'Portfolio'* in *SamplePortfolio.xlsx*. Stress testing has to be run for this portfolio upon regulatory request. Regulator defines the scenario as given on sheet *'Partial shocks'*, the interest rate curves on sheet *'IR curves'* and he correlation between the market factors on sheet *'Correlation table'*.

Task Description

You need to create assumptions and models applicable to calculate individual and aggregated risks for the assets and the required portfolio reserve. Please provide a list of your assumptions.

Task 1

Partial risks of the individual assets

a) Fill the following columns:

FX up

FX down

IR up

IR down

EQ down

Spread up

Calculate the new asset values after the partial shocks using the shocks can be found on sheet *'Partial shocks'*. Interest rate curves can be found on sheet *'IR Curves'*.

Task 2

Portfolio reserve

The required portfolio reserve is the amount that has to be hold in case of the stress scenario. Portfolio reserve is determined by the market factor-wise aggregated partial reserves and the correlations between the market factors considering the worst case scenario of the shocks. Express it in the percentage of the current portfolio value. *Hint: be aware on the netting.*