Macro Stress Testing

• Common mis-conception in operational risk is to think of stress testing as simply a move along the loss distribution to higher quantiles.
• A true macro stress test should result in a change of the loss distribution itself, reflecting a change in the risk exposure.
• This affects both the required capital and the expected losses (and consequently capital availability).
Move of the curve
Ops Risk and the business cycle

• Operational risk has often been perceived as a-cyclical.

• This perception is due to the models used for AMA purposes which are through-the-cycle and to the lack of sufficient data to establish links.

• Also, operational risk is an amalgam of very different risks. Some types of operational risk are sensitive to the business cycle, whereas others are not.
Indiosyncratic aspects of Ops Risk

• Operational risk is more subject to idiosyncratic events than other risks. How should we deal with those?

• Problem of directionality of the relationship: large operational risk events (eg: tsunami in Japan) that have a macro-wide impact with second order operational risk consequences.
Challenges

• Short data series are the main challenge. Individual banks might not always be able to detect a statistically significant link between operational risk losses and macro-economic factors.

• Operational risk most likely does not depend contemporaneously on macro variables. There are significant lags (ex: lawsuits).

• The links are also probably not direct: macro variables impact firm specific variables which in turn impact operational risk losses.

• A lot more research needs to be done!
Where do we go from here?

• We need to keep doing research on the modeling/statistical side, bearing in mind that statistically significant results might be elusive at first.

• Importance of scenarios in order to better understand how operational risk depends on macroeconomic factors.

• How will LDA models evolve as a result of stress testing related research. Can the two approaches converge?