

Discussing: “Stress Testing: Where's the Tail?” by David Rowe

**2013 Financial Markets Conference
Maintaining Financial Stability: Holding a Tiger by the
Tail - April 8-10, 2013**

**Claudio Franzetti
Acting Director SERV**

Value-at-Risk

- First effective communication tool
- Aggregator between different areas
- Based on classical statistics and its shortcomings
- Over-sold
- Poor at extreme (tail) events
- Need to go beyond

Stress-Testing

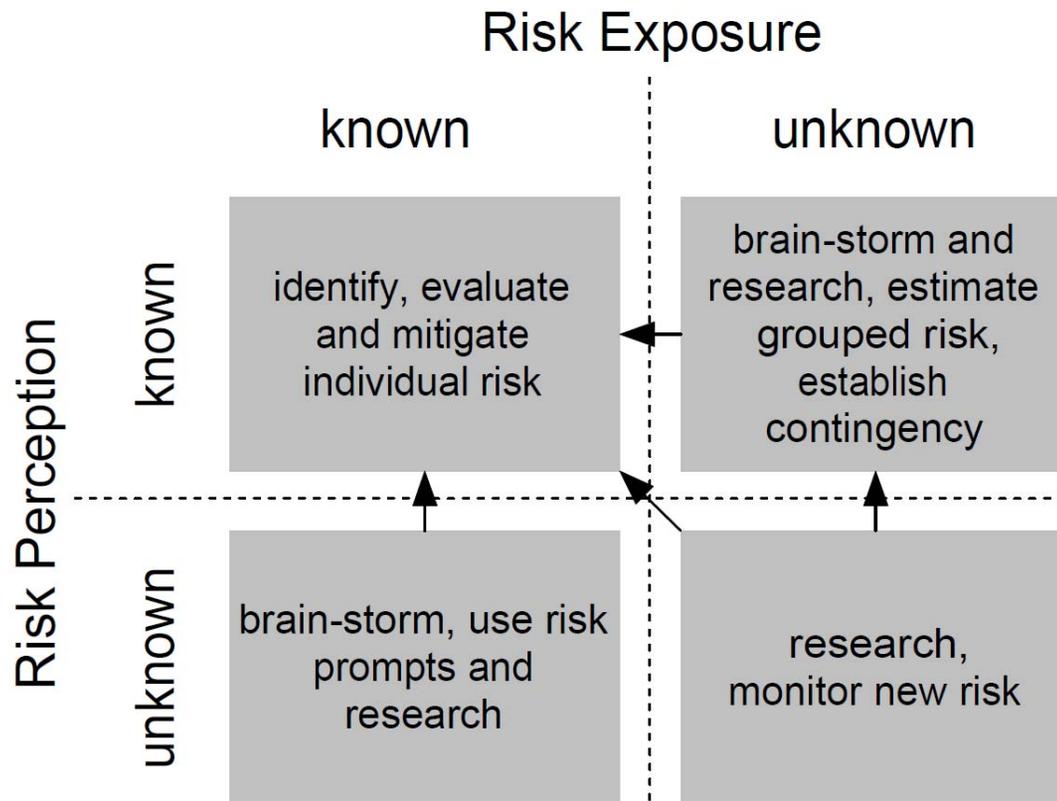
- Obvious adjunct to VaR
- extreme human reaction to outcomes
- Top-down (“structural imagination”)
 - Macro-economic and geopolitical scenarios
- Bottom-up (“Achille’s heel”)
 - Start from vulnerabilities
- Historic
 - “Market’s Greatest Hits”

Going beyond

- Dynamic scenarios with three types of stress-tests
- Systematic and structural imagination
- Overcoming necessary complexity by technology
- Slow-down in the dark
- Learn systemic risks from other complex areas (e.g. network theory)
- Technological implementations
- Improve communication between the “two cultures”

Art of Stress Testing

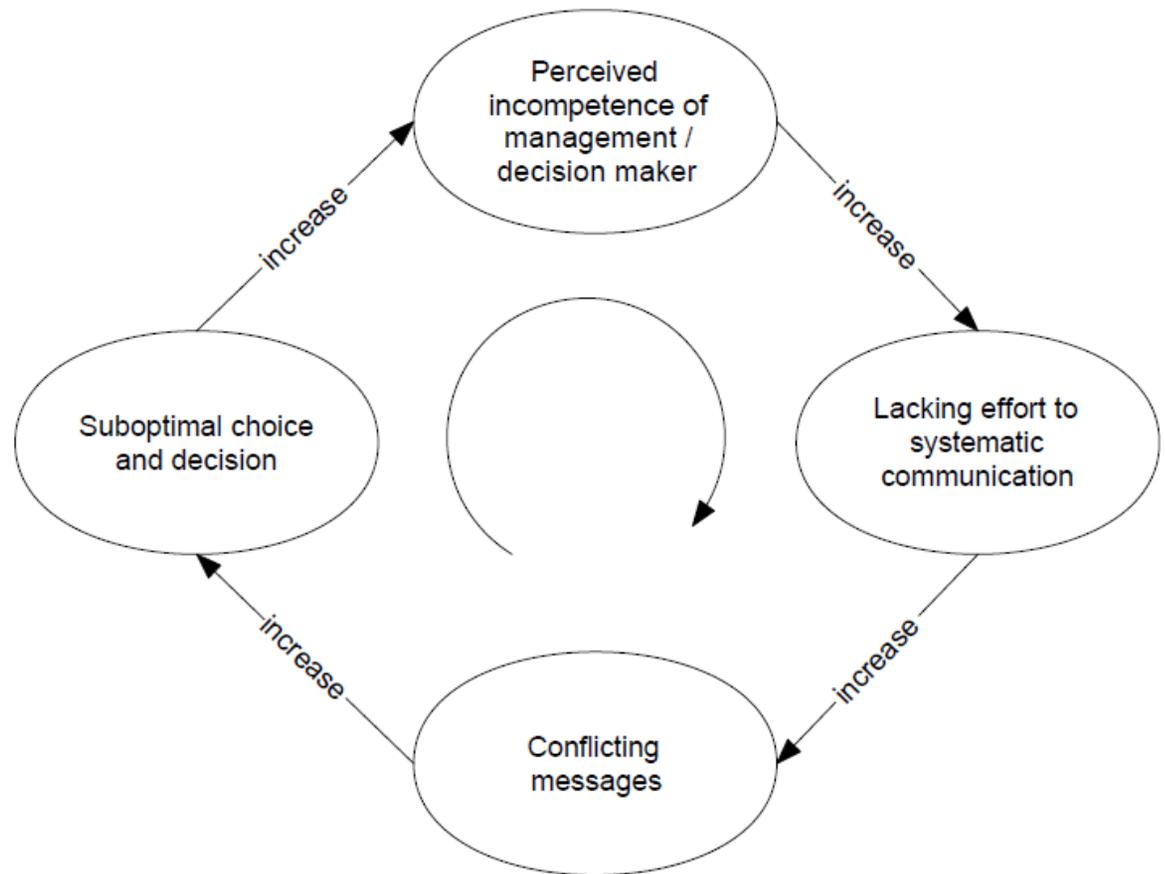
Rebonato (2010, 27): „[W]e must recognize that thinking the improbable-but-plausible is at the core of the art of stress testing“



(RAMP, 1998, 68)

Risk Communication between Expert and Management

- Probability, causality, dependence, risk: the difficult primitives
- Distributions, risk measures and models, economic capital: quantitative know-how
- Communication, cognition, perception, elicitation, psychology, sociology, culture: the context



(Fischhoff, 2006; Franzetti, 2011, 271)

Where's the Tail == where's the Capital?

- Augmenting Stress Tests with Probabilities?
 - Subjective Probabilities or Frequencies?
 - Coping with dimensionality of dynamic stresses
- Combining Stress Tests and VaR?
- Models from Stress Tests to Risk Capital?
- And the „unknown-unknown“?

References

- Fischhoff, B. (2006). *Behaviorally realistic risk management*. University of Pennsylvania Press, Philadelphia.
- Franzetti, C. (2011). *Operational risk modelling and management*. Boca Raton: CRC Press.
- Power, M. (2008). *Organized uncertainty : designing a world of risk management*. Oxford: Oxford University Press.
- RAMP (1998). *RAMP: Risk Analysis and Management for Projects*. London: Thomas Telford.
- Rebonato, R. (2010). *Coherent stress testing. A Bayesian approach to the analysis of financial stress*. Hoboken, NJ: Wiley.