Discussion of Rowe: Risk Management beyond VaR
FRB Atlanta Financial Markets Conference

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Til Schuermann
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David Rowe has written an expansive piece on how hard risk management really is – borrowing from a panoply of thinkers

- Peter Bernstein
- Frank Knight
- Nassim Taleb
- Andy Haldane
- Charles Goodhart
- Alan Greenspan
- Herb Stein
- Myron Scholes
- Michael Lewis
- Nicholas Sarkozy
- Gabriel Garcia Marquez
- Albert Camus
- Rudyard Kipling
- William Shakespeare
- Mark Twain
- Yogi Berra
- Sisyphus
- Norwegian proverb
Why is risk management so hard?

• We don’t observe enough events to characterize the distribution of outcomes
  – Operational risk
  – Corporate & structured credit risk

• We thought things were homogeneous (similar, same), but they’re not
  – AAA corporate and AAA structured credit

• Things change
  – Correlations

• OK, so things change – but they change predictably
  – Volatilities

• I am exogenous to the market
  – Ahhhh….. No.

• Everything all at once
  – Wrong parameters, wrong distribution, deteriorating relationships, negative feedback loops
  – The loss of the risk-free asset
It’s not all hopeless: volatilities ARE predictable
Arms race of capital metrics – capital is once again the scarce resource

1980s/90s
- Latin American Debt Crises
- Savings & Loans Crisis

Early 2000s
- Dot-com bust
- Huge growth in securitization

Mid 2000s
- Market Risk Amendment
- Economic Capital

Late 2008 onwards
- Global Financial Crisis
- Basel 2.5
- Basel 3
- Macro-prudential Stress testing
ECAP failed to predict capital needed to cover crisis losses across the banking industry

Ratio of crisis losses to ECAP for 16 institutions with publicly stated ECAP

ECAP vs. crisis losses

- There are several instances of spectacular failures
- Even where crisis losses were “only” 0.5x–1x ECAP, those firms were forced to take drastic action
  - ECAP is a “one-hit” framework
  - Inadequate buffers remained to avoid capital raising
- ECAP models suffered from overly optimistic calibrations (e.g. mortgages) and severely underestimated correlations
  - Reflects poor linkage of product losses to systematic risks
  - Did not adequately capture concentration risk

Source: Institution public disclosures, Oliver Wyman analysis
Stress testing, in one form or another, involves mapping a view of the world (state space) to micro-outcomes (higher losses, lower revenues)

**Macro**
- GDP
- Unemployment
- HPI

**Micro**
- Business lending losses
- CRE losses
- Mortgage revenue
- Trading P&L
- ...

- CCAR-style stress testing is a great laboratory for exploring what might plausibly happen
  - It’s concrete: I can grasp the scenarios
  - It’s comprehensive: losses and revenues
  - It’s dynamic: sort of like real life

- If stress testing is about historical relationships breaking down, how do you make sure the scenario is coherent?
  - Meaning: it comes from some plausible joint distribution
  - In a world where people react (Lucas critique)

- Linear, static, homogeneous in good times…..
  - Nonlinear in infinite ways
  - Dynamic and hard to pin down
  - But: perhaps actually not so heterogeneous due to herding (not sure this helps us…..)
So …. What do I do?   David is not a pessimist

• Beware of hubris, drunk with success, over-confidence
  – Practice humility, sobriety, skepticism

• Think expansively

• Entertain the possibility that the unthinkable might happen
  → Stress testing is a useful laboratory

• Is all stress testing futile?   The Catch-22 of stress testing
  – By construction, the next crisis will not be one you stress tested for

• NO: one of the most important risk innovations
  – For financial institutions (supervised or not)
  – For the supervisors
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