CHALLENGES OF USING
RISK-BASED MEASURES OF CAPITAL

Financial Supervision and Regulation Division
Monetary and Capital Markets Department
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Outline

- The rationale for risk-based capital measures
- The ‘internal models’ option
- The IRB approach
- Internal models and the financial crisis
- Post-crisis fixes:
  - Digging deeper into Basel II/III implementation (RCAP)
  - Capital floors
  - Leverage ratio
The rationale for risk-based capital measures

• 1988: Basel I → a significant step forward..
• .. but the solution was quite “ad hoc and broad-brush” (C. Goodhart 2011)
• regulatory arbitrage: the big business of ‘gaming the rules’ (e.g. securitisation)
• (more) risk sensitivity urgently needed
The rationale for risk-based capital measures

• Why is risk-sensitivity needed?
The ‘internal models’ option

• 1996: Basel 1.5 → capital requirements for market risk are introduced
• Recognizing their progress in risk measurement, regulators introduce (for the first time) the option for banks to use their own models to calculate capital requirements
• The idea of market-friendly regulation → incentive-compatibility
• The birth of a never-ending dilemma: risk-sensitivity vs procyclicality → a form of time-inconsistency?
• The seeds of abuses to come?
The IRB approach

• Late 90s: the improvements in market risk management spread to other fields → credit risk portfolio models
• Differences between market and credit risk management
• Basel II: the Internal Ratings Based Approach
• Procyclicality in the IRB approach: the point-in-time vs through-the-cycle debate
Procyclicality in the IRB approach

- **Economic Cycle**
- **Credit Cycle**
- **Default Rates / PDs**
- **Risk-weighted Assets**

- Build-up of risk & leverage
- De-risking & de-leveraging

- PIT
- TTC
The IRB approach

• The challenges for Banks:
  – Commitment (e.g. top management’s involvement)
  – Resources (skilled staff, IT, database, external data providers, …)
  – Cultural change
  – Process re-engineering: (credit process, workout procedures, …)
  – Project monitoring
  – Documentation
The IRB approach

• The challenges for Supervisors:
  – Skilled staff (many)
  – Rules of engagement
  – Dialogue with internal control functions
  – Risk of capture
  – Data
  – Underestimation of effort required after approval (esp. model changes)

(see next)
The IRB approach

• The challenges for Supervisors:

  - Check of conditions
  - Roll-out plan implementation
  - Periodical monitoring
  - Model modifications
Internal models and the financial crisis

• Are internal models THE culprit?
  – Diffusion of internal models at the time of the burst
  – The ‘wrong’ moment to start (the lost build-up of buffers)
  – The “others’” models (e.g. rating agencies’)
Post-crisis fixes: Digging deeper into Basel II/III implementation (RCAP)

• The Basel framework and its non-legal nature
• Implementing the framework locally: the ‘national discretions’ leeway and the risk of a race-to-the-bottom
• The thousand (million?) ways of arbitraging rules with models
• The need for a peer review on:
  – Rules’ adoption (timeliness and consistency)
  – RWAs (market and credit risk)
RCAP - Rules’ adoption (level 1)
Basel II – March 2013

Green = implementation completed
Yellow = implementation in process
Red = no implementation
RCAP - Rules’ adoption (level 1)
Basel 2.5 – March 2013

Green = implementation completed
Yellow = implementation in process
Red = no implementation
RCAP - Rules’ adoption (level 1)
Basel III – March 2013

Green = implementation completed
Yellow = implementation in process
Red = no implementation
# RCAP - Rules’ adoption (level 2)

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<th>Key components of the Basel framework</th>
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RCAP – Risk-weighted assets (level 3)

- Trading book: hypothetical test portfolios
RCAP – Risk-weighted assets (level 3)

- Banking book: hypothetical portfolio exercise
Post-crisis fixes: Capital floors

• RWAs calculated by internal models tend to shrink
• Need of a backstop: capital floors
• Established back in 2004 by Basel II
• Initially thought as temporary, confirmed in 2009
• Overhaul needed: work in progress
Post-crisis fixes:
Leverage ratio

- ‘Simple’ (i.e. non-risk-based) measures work better? Maybe: Lucas/Goodhart critique
- Two backstops better than one
- Mechanics of the leverage ratio
- Leverage ratio: a ‘simple’ (i.e. non-complex) measure? Maybe: understanding the leverage provided by certain contracts (e.g. derivatives)