[Please select]
[Please select]

EUROPEAN CENTRAL BANK

EUROSYSTEM

Estimating the distribution of total default losses on the Spanish financial system

Authors: R. García-Céspedes and M. Moreno

Discussant: Klaus Düllmann*

EBA Policy Research workshop, Nov 2014

*Any views expressed are those of the discussant and do not necessarily reflect those of the ECB.

Contribution

From an **economic / policy perspective**

- Measure systemic risk by
  - the total credit risk loss distribution of the Spanish financial system
  - Allocation of systemic risk to individual banks
- Extend the common default mode model with constant recovery rates by
  - Random recoveries
  - Market valuation model
- Analyse variability of loss distribution over the business cycle

From a **technical / modelling perspective**

- Employ Important Sampling (IS) following Glasserman/Li
  - Extend for correlated random recoveries and market valuation
- Analyse variability of loss distribution due to uncertainty in model inputs

Main Findings

- **Economic findings**
  - Loss estimation results can vary considerably
    - Between a constant and a random recovery assumption
    - Between simple default mode model and market mode model
    - Over the business cycle
  - LGD more important driver of uncertainty in risk estimates than PD

- **Technical findings**
  - IS model produces thinner confidence intervals than standard MC for equal effort.
  - Introduction of random LGDs, however, increases the computational effort dramatically.

General remarks

- Appreciate the marginal ES approach of risk allocation
  - Based on a well-developed and elegant theory
  - Avoids unintended incentives such as CoVaR can provide for a bank‘s idiosyncratic risk
- State-of-the-art IS method is used to derive results

- General validity of results affected by some debatable assumptions
  - Correlation between macroeconomic factors equal to GDP correlations
    - May not hold particularly in stress periods
  - Average maturity of 3 years assumed for all assets in the portfolio
    - Losses in market model highly sensitive to the non-linear dependence
  - Gaussian model assumptions too restrictive
    - Differences between VaR and ES are played down as a consequence
  - Constant correlation over time assumption not realistic
    - Correlations change in stress periods
    - Correlation may not be sufficient to capture dependencies across banks

Policy Issues (1)

- Role of government support could be explored further
  - Issue is mentioned but not addressed
  - Negative effect of sovereign rating downgrades affects equity prices
  - Could use difference between Moody‘s standalone and with-government-support ratings, see also Gropp, Hakenes Schnabel (2011)
  - Changes in sovereign risk may also affect asset correlations beyond macro factors

- „Cyclicality“ of risk contributions could be further explored
  - See Puzanova and Duellmann (2011)
  - Modell can provide new insights since also a stochastic LGD effect can be integrated
  - Link between government – banking sector would also be interesting to explore in this context

Policy Issues (2)

- Approach claimed to be a „basic tool to identify SIFIs“ (page 3) but this claim is not followed up
  - Some results indicate that size is not a sufficient indicator for SIFIness but contrasting results in the literature
  - Is interconectedness really captured by macoeconomic variables?
  - Gaussian model setup excludes tail dependence
  - No time-variant correlations
  - Could compare to indicator-based methodology of Basel Committee to measure SIFIness

Technical Remarks

- Correlation between the LGD and the macroeconomic factors is backed-out using FDIC data.
  - The recovery rate distribution depends heavily on the legal framework of the country, particularly the power-balance between borrower and lender.
  - Why not use Spanish data?
- With only 2 observation points (2010 – 2007) the claim to explore business cycle effects is rather bold
- Paper starts with a multi-factor portfolio model, but later widely uses mainly the Basel single factor setup
- Presentation outline
  - Not clear if main focus is on economic model or IS method
    - May want to move the more technical IS part to appendix or separate paper
  - Figures in the Appendix are often quite small / difficult to read