



“Stress Testing and Corporate Finance” by de Bandt, Bruneau and El Amri

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The views do not necessarily represent those of the BIS.



A brief summary of the paper

- A macro stress-testing exercise in the euro area: how do macroeconomic shocks affect supply and demand in the corporate debt market?
- Major findings
 - Loan demand and supply curves in line with model predictions
 - The debt market is more competitive for large companies
 - Stress testing exercises show that banks would raise interest rates substantially in response to higher default rates.



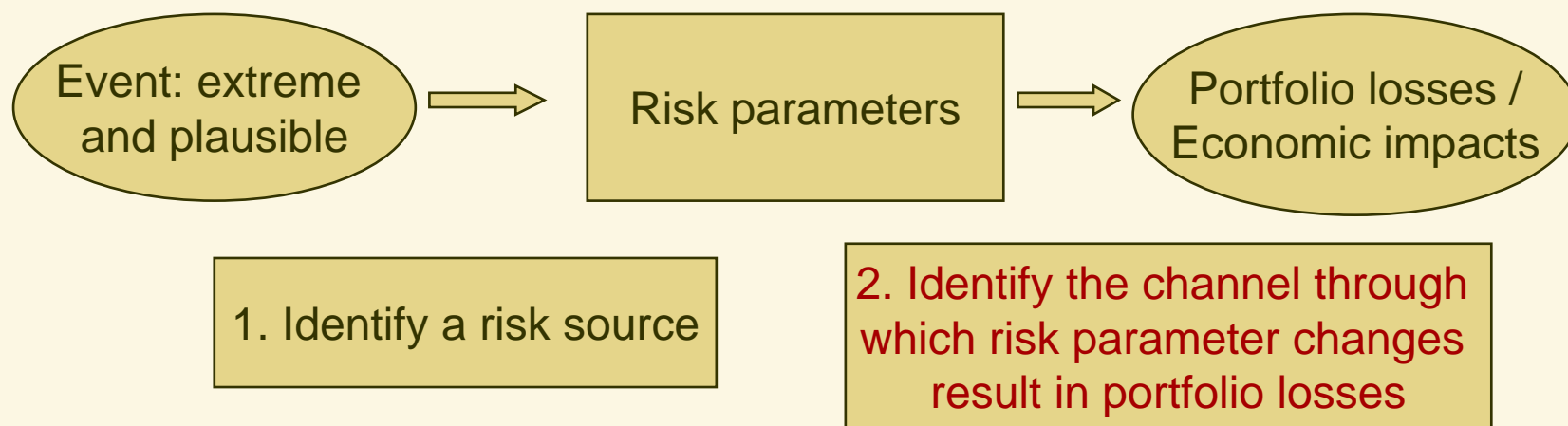
Overall evaluations

- Well-written
- Clear message
- A valuable effort in dealing with some challenges in the macro stress testing exercise



What is stress-testing?

- ECB definition: “Stress tests are commonly used to quantify the impact of some extreme but plausible shock to a financial institution or a country’s entire financial system.”





Stress testing practice

- Financial institutions: **micro** stress testing
 - Compliment to other risk management tools (e.g. VaR)
 - Risk profile, allocation of capital, verification of limits
 - Basel 2: “A bank must have in place sound stress testing processes for use in the assessment of capital adequacy.”
 - BIS (2005), 64 banks and security firms reported 960 stress tests and more than 5000 risk factors
- National level: **macro** stress testing
 - Focus on the stability of the whole financial sector: in line with macro-prudential perspective
 - IMF/WB: FSAP
 - France, Germany, Italy, Japan, Netherlands, Norway, Spain, Sweden, Switzerland, USA, etc



Macro stress-testing is not an easy task

- What level of simplification is desirable?
 - Set of financial institutions
 - Single vs. multiple sources of risk
- How to define relevant scenarios?
 - Historical vs. hypothetical
- Methodology
 - Bottom-up vs. top-down
 - Reduced-form vs. structural-form
- Transmission channels
 - Inter-linkages between financial institutions
 - 2nd round effect
 - Crisis vs. tranquil periods
- Data



The features of this paper:

- The model provides a framework for structural-form estimation
- Model allows for nonlinear functions in the demand and supply equations
- Joint estimation of the demand and supply equations
- Group-specific analysis is an improvement over the national-level study
 - Nonlinear impact on large and small firms

→ valuable efforts towards the right direction



Comments

- 2 major comments
- 3 minor comments
- Future research agenda



Major comment (1): Basis model

- It is intriguing to have a model. However, what level of simplification is desirable?
 - Demand curve: $Y_i = D_i^\alpha E_i^{1-\alpha}$ --- how realistic?
 - Supply curve: profit maximization of a monopolistic bank
 - Is it consistent with the later discussion on the different degrees of competition across firms?
 - What is absent in the model
 - No dynamics
 - No feedback effect from the banking sector to the real economy



Major comment (2): methodology

- The simultaneous equation estimation is a major improvement over the previous studies, However, the model specification can be questionable
 - Contemporaneous variables only → dynamic linkages are important!
 - Auto-correlation of the error term? If yes, use 3SLS estimator.
 - The panel specification assumes the same coefficient
 - Regime-shifting: coefficient stability
 - Impact may differ by firm size
 - Robustness check: group analysis



Major comment (2): methodology

- Endogeneity problem
 - All variables are firm-specific: likely to cause endogeneity problems. Why no macro variables?
 - Timing of the variables
 - End-of-year: *Turn*, *Det*, *Roa*, *size*, *Gar*, *Inv* (?)
 - Over-the-year: *Inv* (?), *Int*, π^{fail}
- The feedback (second-round) effect is not fully modeled
 - The impact of banks' lending decision on the real economy



Minor comments (1)

- Clarifications on the bridge equations, which are used to define the changes in risk parameters
 - The methodology
 - How good are these bridge equations? e.g. default rate to (inverted) real GDP growth
 - Are changes in risk parameters the same across groups under the stress scenarios?



Minor comments (2)

- Interpreting results
 - Section 3.1, page 12: are the collateral effects statistically different across groups?
-0.066 (0.021) vs. -0.044 (0.026)
 - Tables 6 and 7: stress test results
 - Helpful to report summary statistics of risk factors to judge the severity of stressed values



Minor comments (3)

- *Inv.*
 - Defined as “investment/sales” (page 5)
 - Measured as “financial debt divided by total assets”
 - Are they the same thing?



Macro stress testing: future research agenda

- Micro + macro-stress testing
 - Rely more on micro data – data availability !?
- Understanding the channel is the key
 - Endogeneity issue
 - Feedback effect
 - Coefficient stability
- Cross-border linkages