Network valuation in financial systems

February 23, ICSP17 Lucca

European Banking System

1489 Banca del Monte di Lucca

Why studying systemic risk?

- prevent systemic crises
- allow investments

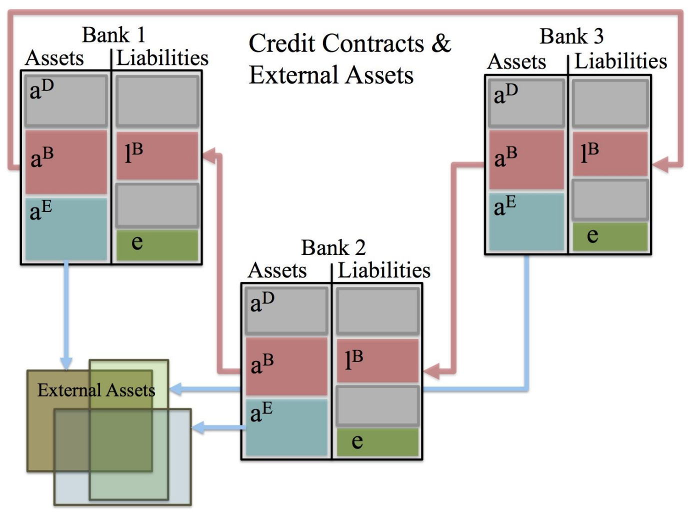
The ingredients of Network Valuation

- Uncertainty
- Interdependence
- Incomplete information

The model

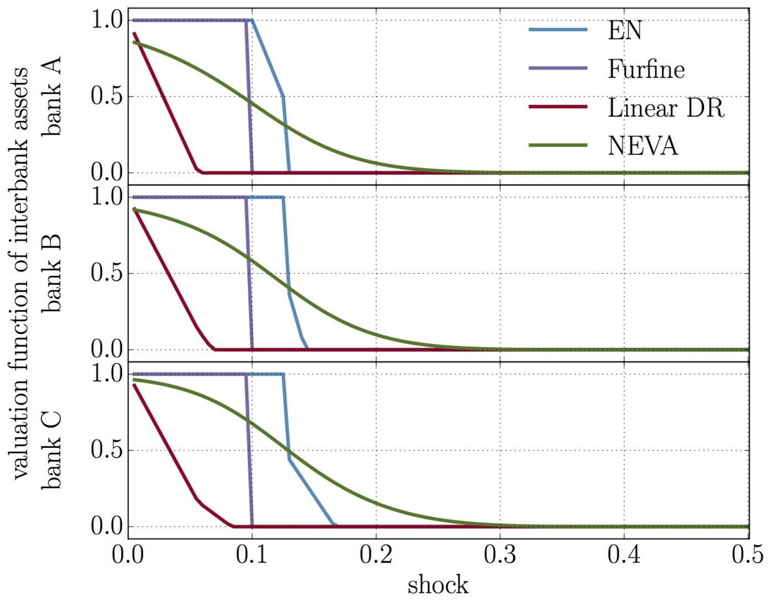
Each bank evaluates its claims as function of other banks's equity. Generalizes DebtRank and Eisenberg-Noe algorithms.

$$E_i = V^e(E)A^e - L^e + \sum_j A_{ij} V_{ij}(E) - \sum_j L_{ij}$$



Policy implications

- performing network-adjusted stress-tests
- monitoring systemic risk
- testing monetary policies



Perspectives:

- understanding the role of information asymmetry in finance
- quantifying the effect of regulatory policies to systemic risk

Network Valuation in Financial Systems, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2795583