Discussion: A Framework for Analyzing Contagion in Banking Networks by T.R. Hurd and J.P. Gleeson

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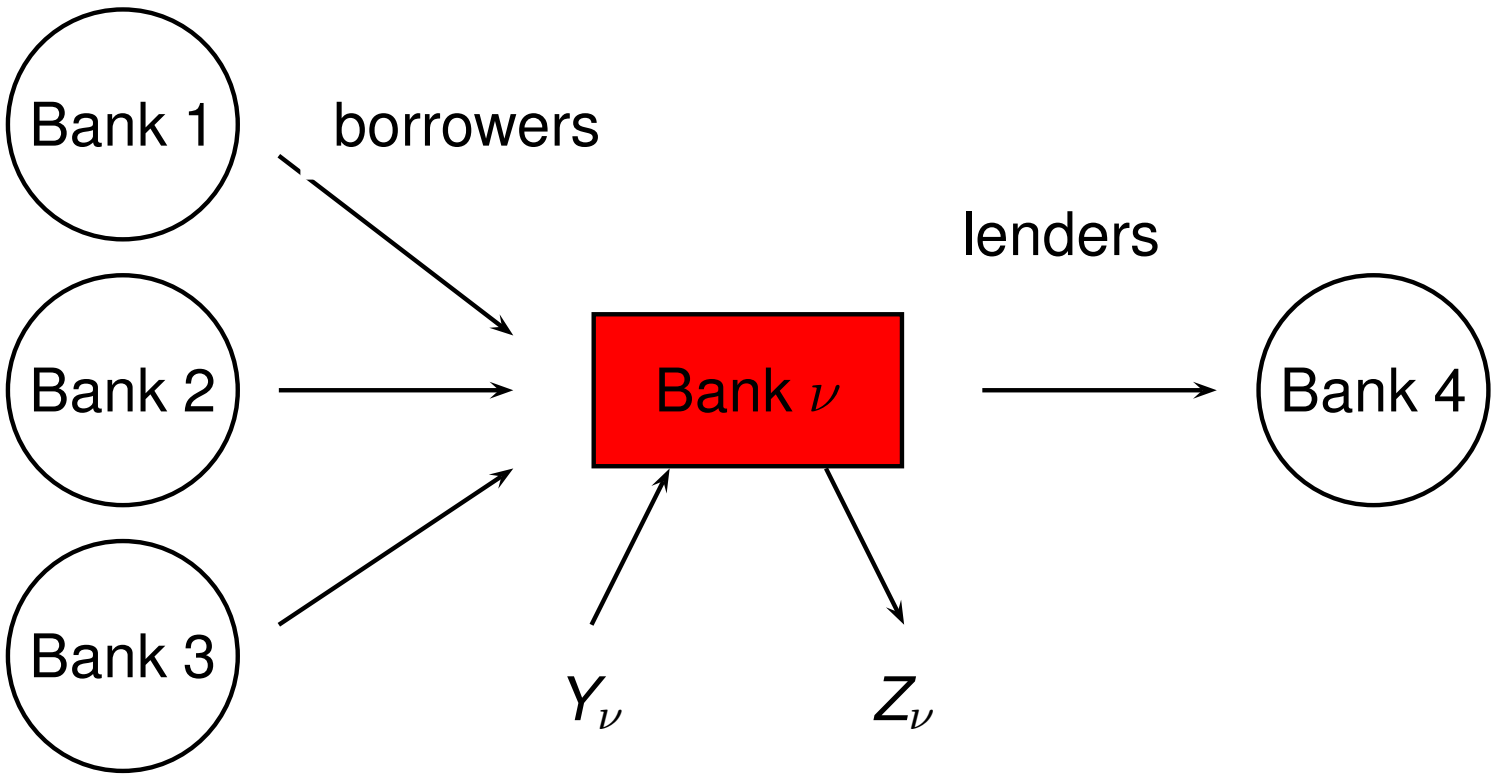
Model

- adapt a *network model* to banks
- if a bank has lots of relations with other banks and such a bank defaults then it can lead to a cascade of bankruptcies



Model

- Y_ν and Z_ν irrelevant. What matters are edges and probabilities.
- edges annihilate instead of decreasing some intensity
- paper provides equations describing default cascade. Leads to some function $G(\cdot)$
- if $||G \circ G \circ G \circ \cdots|| < 1$ then stability, else explosion...

Economic Questions

- what are the implications for the regulator? Control variable?
- which ones are the most nevralgic banks?
- what should banks focus on during stress tests? what should they report to the regulator?
- banks are static: if a node breaks one would expect other edges to pop up?
- no central bank

Empirical Questions

- How can one implement this model in practice?
  - one needs more than count of edges: actual amounts lent. Number of edges may be a bad proxy for amounts.
  - scale: where should the network finish. Also companies and even individuals belong to *The Matrix*
  - calibration of $P_1^+, P_2^+, ...$
  - Here $N \to \infty$. FED (2009), Supervisory Capial Assessment Programm: 19 banks
  - Here focus on contagion, impression that direct effect of external shock dominates

The bigger picture?

- Other research in this area
  - Billio, M., Getmansky, M., Lo, A.W., and L. Pelizzon, 2012, *Econometric measures of connectedness and systemic risk in the finance and insurance sectors,* Journal of Financial Economics.
  - Amini, Hamed, Rama Cont, Andreea Minca, *Stress Testing the Resilience of Financial Networks,* December 2010.
  - Amini, Hamed, Rama Cont, Andreea Minca, *Resilience to Contagion in Financial Networks,* June 2011.