BIS CCA-005-2011
May 2011

Discussant comments on

Too-connected-to-fail institutions and payment system's stability: assessing challenges for financial authorities

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Prepared for the 2nd BIS CCA Conference on

"Monetary policy, financial stability and the business cycle"

Ottawa, 12–13 May 2011

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* These comments reflect the views of the author and not necessarily those of the BIS or of central banks participating in the meeting.

Too-connected-to-fail Institutions and Payment System's Stability: Assessing Challenges for Financial Authorities

by

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Summary of Methodology

- Hypothetical payment disruptions among Columbian financial institutions (FIs) are analyzed using large-value payment system (CUD) data during Feb 2006, June 2006, and Sept 2009.

1. FIs are identified as "central" if they have the highest average of trading volume and number of trading partners (connections).
2. Payments between FIs are simulated for a "typical" day. Given each FI's opening balance (reserves), simulations determine an end-of-day payments on queue (PoQ) (net deficit) for each FI.
3. Simulations are performed for a base case scenario and for an "attack" scenario which deletes all payments from a central FI.
4. A FI is "affected" if its PoQ grows under the attack scenario.
5. A FI is "impacted" if ΔPoQ with attack exceeds TES portfolio, OMO limit, or TLF limit.

Transactions as Proxy for Connectedness

- The paper assumes that the volume of transactions between FIs determine "connectedness," and an "attack" on (default by) a central FI does not change the payments behavior of other FIs.
- These assumptions have the advantage of requiring only bilateral payments data between FIs to analyze payments disruptions.
- In contrast, other empirical network studies proxy connectedness by interbank loans (balance sheet exposures) between FIs.[1]
- In these studies, an "attack" scenario is one where one FI defaults on its interbank loans, possibly wiping out the other FIs' capital and causing contagious FI defaults (domino effects).

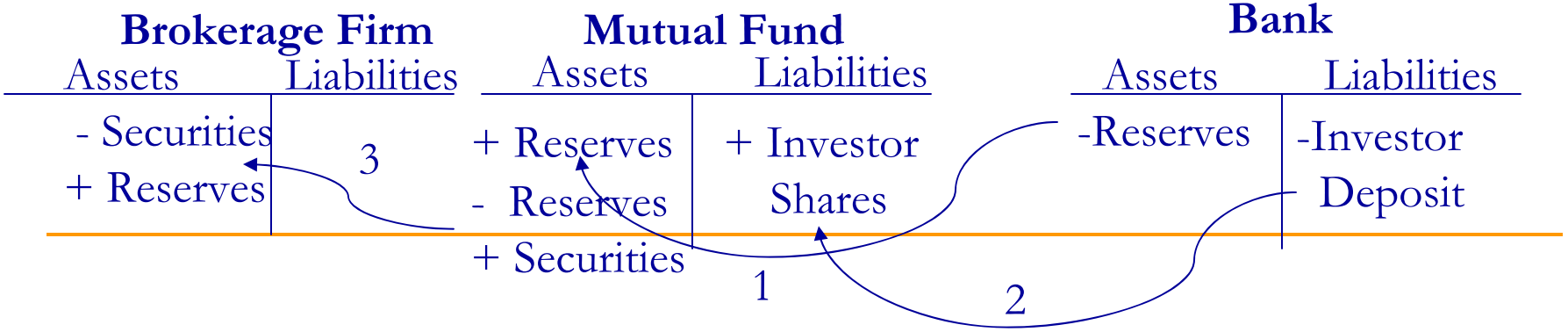
[1] Eisenberg and Noe (2001), *Mgt Sci*, Furfine (2004) *JMCB*, Elsinger, Lehar, Summer (2006) *Mgt Sci*, Elsinger, Lehar, Summer (2006) *IJCB*.

Limitations of Payment Simulations

- The paper's analysis may be most applicable to very sudden payment disruptions due to a computer error, fraud, or a rogue trading scandal at a central FI.
- Such liquidity disruptions may not cause other FI failures and might be resolved by central bank emergency lending.
- To analyze if connectedness generates contagious defaults requires data on FIs' on- and off-balance sheet exposures and capital.
- For example, AIG wrote credit protection on MBS on the behalf of many other FIs. But such exposures may not be apparent from the average volume of transactions between AIG and other FIs.
- Another example are SIVs where bank lines of credit backed asset-backed commercial paper that funded long-maturity assets.

Misleading Results?

- The simulations find that mutual funds (MFs) are one FI most affected by attacks, are "less resilient," and need better liquidity.
- But since MFs' liabilities are entirely equity shares (no debt), they cannot "fail" in the usual sense and would seem most resilient.
- Moreover, if an attacked FI failed to make a payment on behalf of an investor to a MF, the MF would likely not make a payment to buy securities from a FI without receiving those investor funds.
- Thus, the assumption that an attack on one FI does not affect the transactions behavior of other FIs may be least tenable for MFs.



Contagion versus Systematic Risk

- Systemic risk encompasses both contagion (domino effects) and systematic risk (correlation in asset returns across FIs).
- Prior empirical work tends to find that one FI's failure is unlikely to have systemic consequences without FIs having common exposure to systematic risks.[2]
- Unfortunately, regulatory capital charges or deposit insurance premia based on physical, rather than risk-neutral, probabilities of default create incentives for FIs to take excessive systematic risk.[3]
- Regulations that possess this flaw include those based on VaR or credit ratings.

[2] Furfine (2004) *JMCB* and Elsinger, Lehar, Summer (2006) *Mgt Sci* and (2006) *IJCB*.
[3] Pennacchi (2006) *JME*.

Conclusions

- The paper provides a valuable analysis of FI transactions to determine the consequences of a payments system disruption.

- To further understand the likelihood of contagious failures, an extension that examines FIs' on- and off-balance sheet exposures and capital levels is required.

- Because systemic risk can derive from both contagion and systematic risk, regulations need to consider both:
  1. connectedness (e.g., living wills, central clearing, transparency)
  2. systematic risks (e.g., capital charges and insurance premia based on risk-neutral probabilities of default)