Comment on
‘Interconnectedness and Contagion’
By Hal Scott

Charles W. Calomiris
Columbia Business School and NBER

February 8, 2013
American Enterprise Institute
What Causes Banking Crises in General?

- Original shocks vs. propagators. (Policy could address either or both “causes.”)

- Some crises reflect deep insolvency problems, some mild increases in insolvency risk that matter because of systemic effects.

- **Liquidity risk** for a firm is endogenous to **financing choices** and firm-specific **insolvency shocks**. It can magnify insolvency risk for individual firms (e.g., when a firm is forced to exit commercial paper market because of a drop in profits).

- Liquidity risk can increase for **many firms** if there is a large exogenous shock (causing a scramble to sell illiquid assets and buy cash, producing price declines and bigger losses).
What Causes…(Cont’d)?

• Systemic liquidity crises result from a combination of increased insolvency risk, and asymmetric information about the incidence of the shock.

• The lack of information can either be about exposure to a common shock (failure as signal), or about the extent of interconnections (Barings crisis of 1890).

• The key underlying problem is that money market instruments are risk-intolerant: a little increased risk => rationing, not just repricing.

• This is not always applied across the board. It can be selective contagion.

• The risk of breakdowns of markets can occur even when insolvency risk is low (historical US banking panics in 1837, 1839, 1857, 1873, 1884, 1890, 1893, 1896, 1907).
Subprime Crisis: The Shock

• Initial vulnerability was housing finance exposures, which resulted from subsidized risk taking on a highly correlated basis (major policy errors of subsidizing housing risk, and prudential capital requirements and measurement of risk).

• Actual “shock” was initially small (flattening of house prices); more important “shock” was coming to grips with results of bad underwriting.

• Much of house price decline was endogenous not just to housing distress, but more importantly, to the ensuing recession (given the role of housing in economy, and given effects on bank credit supply of net worth shocks to banks).
Magnification of the Subprime Shock

• Initial problem in ABCP market (selective and contained contagion).

• Failure to replace lost bank capital transformed shock into crisis (Calomiris and Herring 2012).

• Collapse of various money markets due to “match in tinder box” effect of Lehman failure, then Reserve Primary Fund, etc.

• This is all a pretty standard “contagion” story about exposures to common shocks that shows importance of asymmetric information (both daisy-chain uncertainty and common exposure uncertainty), regulatory forebearance, and short-term debt finance rationing.
Figure 3: Runs on asset-backed commercial paper (ABCP) programs in 2007

The solid line plots the percent of programs experiencing a run. We define that a program experiences a run in weeks when it does not issue paper but has at least 10 percent of paper maturing or when the program continues not issuing paper after experiencing a run in the previous week (see equation (1) in the text). The dotted line plots the unconditional probability of not experiencing a run in a given week after having experienced a run in the previous week (i.e., the hazard rate of leaving the run state). The figure is based on weekly data from DTCC on paper outstanding, maturities, and issuance for 349 ABCP programs in 2007.
90 Day Rolling Market Cap to Pseudo Market Value of Assets

For large American financial institutions that received SCAP infusions

- Citigroup
- AIG
- Bank of America
- Lehman Brothers
- Bear Stearns
- Merrill Lynch
- Wells Fargo
- Morgan Stanley
- Wachovia
- WAMU

4% Trigger
2% Trigger
Figure 5: Unsecured interbank market prior to and during the crisis: three phases

Source: Heider, Hoerova & Holthausen (2009), Liquidity hoarding and interbank market spreads: the role of counterparty risk
Figure 6: Similar developments for the US Libor
Figure 7: Zooming in – September / October 2008

- Lehman bankruptcy
- Wash. Mu. seized & sold
- TARP negotiations stall
- Fortis Wachovia HRE, B&B
- Glitnir
- ECB corridor narrows
- Full allotment by ECB

Eonia volume (bn EUR)

Net stock of liquidity outstanding

- 350
- 400
- 450
- 500
- 550
- 600
- 650
- 700

- 0
- 20
- 40
- 60
- 80

25.8. 1.9. 8.9. 15.9. 22.9. 29.9. 6.10. 13.10. 20.10. 27.10. 3.11.
Gorton and Metrick (2009) on Repos
Scott Project: Big Picture Overview

- Question: Was interconnectedness, per se, a problem, or just contagion via common shock? Answer: Interconnectedness was not a big problem; contagion was.

- What are regulatory implications of findings? Answer: Much of the current regulatory fix is pointing at the wrong target.

- Incredibly wide-ranging and detailed coverage of crisis, literature, policy actions, and policy options.
Positive Economics

• Scott defined asset interconnectedness vs. liability interconnectedness.

• Asset side: Lehman did not cause anyone to fail, and absent AIB bailout, none of its counterparties would have failed. Liability side: Not much reliance on its funding in the market.

• What does that prove? By itself, not much. The issue is whether, ex ante, concerns about its counterparty risks contributed to liquidation pressures on counterparties.

• What do we learn about that question?
Lehman Counterparty exposure, in fact, was widely distributed.

Counterparty exposure in the aggregate was not very large (in light of secured financings).

“The failure of Lehman sent a signal to the market that an implicit government backing of large financial institutions was no longer reliable. The subsequent removal of this public backstop, along with overall uncertainty about the potential risks of asset interconnectedness, spurred a contagious liquidity crisis in the short-term funding market.”

In other words, maybe it was Barings 1890 all over again!

I am not sure that these claims are true (some evidence from Segoviano, but others see magnitude as small), and later the study argues that they could not have been very important (I agree with this claim). Actual losses are not the point here. Concerns about losses are enough of a reason to regulate asset interconnectedness.
Positive Economics (Cont’d)

• Derivatives contributed to AIG’s failure, but there was no significant risk from its failures to derivatives counterparties (as a fraction of their equity), and therefore, no asset interconnectedness problem related to AIG.

• Fed argued that “a failure of AIG would have added to already significant market fragility. This fragility was more a product of market sentiment than actual direct losses...”

• Again, this does not mean that asset interconnectedness problems were absent, although other contagion channels admittedly are more plausible.
Lessons for Regulation

• I agree with Scott that DF solutions focus excessively on interconnectedness, and miss the problem of contagion more generally. Even more basically, both DF and Scott underplay that the failure of prudential regulation to limit the increases in default risk that made contagion possible. (Canada has never had a severe banking crisis.)

• Contagion comes from insolvency risk, so all toughening of prudential regulation reduces shocks that can lead to contagion. Some may be especially useful in limiting magnification conditional on shock (liquidity regs).

• Crisis reflected
  – Policy push that destroyed housing finance underwriting
  – Flawed measures of risk in banks, GSEs
  – Lack of loss recognition and timely replacement of bank capital
  – Uncertainties about exposures to common shocks and interconnectedness
Lessons (Cont’d)

• There are many good ideas about how to fix these mistakes:
  – Stop distorting housing finance underwriting
  – Higher book capital ratios for banks
  – Changes in risk measurement techniques
  – CoCos with high market-based trigger (not bail ins): fundamental goal to make timely replacement of lost capital credible and fast (not “cloud cuckoo land CoCos”)
  – Macro Pru I: Variation over the cycle in requirements
  – Macro Pru II: Tracking individual SIFI risks (fools errand)
  – Living wills to make resolution more credible
  – Subsidiarization (credible limits on risk transference)
  – Liquidity requirements (best if in cash), or UK “funding cap”
  – Repo collateral quality regulation
  – Derivatives disclosure improvements to limit uncertainty about interconnectedness.
  – Limits on bilateral counterparty exposures (like DF), and gentle push toward exchange clearing (less than DF)
Regulate SIFIs?

• Extra capital for SIFIs makes sense if the social costs of their risk management errors are larger (even though this may place them at a slight competitive disadvantage).

• Credible orderly resolution is key, and is obviously an important issue for banks (otherwise SIFI designation may create more risk than it reduces).

• What about other large FIs being regulated as SIFIs?
  – Any large financial institution that issues short-term debt in large quantity both relative to its own assets and relative to the economy is a potential source of systemic magnification of shocks. That creates both externality cost, and risk of TBTF, both of which can justify prudential regulation (prior page).
  – My proposal has been to give safe harbor: If you are large, then of you keep your short-term funding sufficiently low relative to assets, you need not face prudential regulation like banks.
Central Banking

• Strongly agree with Scott that the goal of regulation should not be to make central bank assistance of all types unnecessary in all states of the world. Doing so would mean too draconian a limit on banks’ abilities to create liquidity.

• Goal is liquidity support (not bailouts) in some states, but with adequate moral hazard protections. That will still require some risk bearing by the government in bad states.

• Ex post assessments? Can be helpful in limiting support, but also places too much burden on good banks. RFC-type statute to have on the shelf may be better for extreme circumstances.
Expanding Short-Term Debt Insurance?

• **Not necessary and not desirable.** Protected short-term debt is the reason we currently live in a world with an unprecedented pandemic of banking crises.

• Signal of the crisis came from short-term debt rollover, which was a **good** thing. Without that we would have gotten even further into deeper insolvency problems.

• We also need to question the current legal subsidization of short-term debts and other contracts related to their bankruptcy treatment.
Conclusion

• Comprehensive study, chock-full of useful information, literature review, and interesting ideas.

• Policy analysis is very wide ranging, and understandably therefore, not very convincing in its specific advocacy on some points (especially where it disagrees with me).

• But very few others are willing to take on the whole set of issues, summarize the whole set of facts, and discuss the whole set of regulatory responses.

• Kudos to Hal!