Bailouts, Contagion, and Bank Risk-taking

Giovanni Dell'Ariccia (IMF and CEPR)
Lev Ratnovski (IMF)

FDIC/JFSR 11th Annual Bank Research Conference, September 16-17, 2011

The views in this presentation are those of the authors and do not necessarily represent those of the IMF

Paper in one slide

- Would care about cholesterol intake on a plane that is about to crush? What if I gave you a parachute?
- If large systemic banks go under, the resulting downturn may take under even the most careful lender
- Insurance against this type of risk may increase incentives to lend cautiously

Traditional bank level distortions

- Banks tend to take "too much" risk
- Micro distortions (well studied):
  - Investors cannot price risk at the margin
  - Limited liability and asymmetric information
  - Deposit insurance
  - TBTF
  - Internal governance issues

Policy can help, but time inconsistency

- Ex-ante: regulation:
  - Capital regulation
  - Various ring-fencing measures
  - Limits to competition
  - Executive compensation?
- Ex-post: government bailout (macro and micro)
  - Explicit guarantees/capital injections
  - Monetary (and fiscal) policies
  - Forbearance
- Problem:
  - What helps ex-post, worsens incentive problem ex-ante

Systemic distortions: Externalities

- A bank's failure affects other banks stability
  - Direct exposure
  - Fire sales
  - Panic runs
  - Macro linkages
- Some risks can be diversified away others not
- Model this as a classical externality problem
  - Two banks
  - Endogenous (independent) risk taking
  - If one fails, so does the other

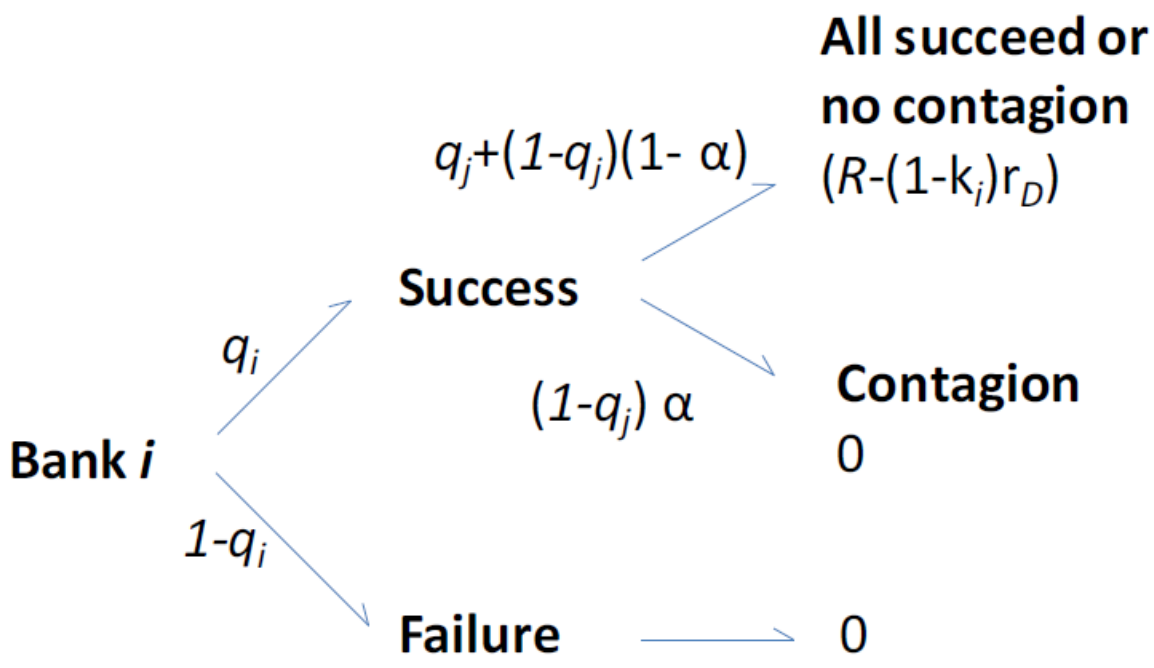
Model

- Banks protected by limited liability and use deposits and capital to fund a loan portfolios
- Portfolio success depends on two independent factors:

1. Bank "monitoring" (think this as idiosyncratic risk)
   - Bank can spend resources of $(1/2)cq^2$, to get idiosyncratic probability q of project success.
   - Thus, monitoring reduces profits conditionally on repayment. But increases probability of repayment
2. Contagion:
   - If contagion does not occur, a bank's failure does not affect the other
   - If it does, failure of bank *j* implies failure of bank *i*

$$E(\Pi_i) = q_i\left((1-\alpha)+\alpha q_j\right)\left(R-(1-k_i)\,r_D\right)-\frac{c}{2}q_i^2$$

Model



Own Monitoring

Other bank's monitoring and contagion

An additional source of excessive risk taking

- Banks do not internalize effect of their failure on other banks' returns
- Risk of contagion reduces expected return on monitoring effort
  - Would you watch your diet on a plane that is likely to crash?
- In equilibrium, both banks reduce effort and increase systemic risk

Traditional regulatory response cannot eliminate problem. Bailouts may help.

- Distortion comes from externality, not limited liability
- Even a fully capitalized bank would take excessive risk
- Ex-post measures aimed at shielding banks from contagion may increase ex-ante effort
  - Would you watch your diet on a plane that is likely to crash… …and you have a parachute?
- Moral hazard effect remains
- Balance depends on risk of contagion and how targeted ex-post bailout can be

Still working on

- Correlated risks / Herding
  - Natural outcome if no cost of correlated portfolios (Farhi/Tirole)
  - Externality disappears
  - If there is a cost, then partial correlation
  - And bailout policy reduces incentives to correlate
- Multiple banks
  - Endogenous contagion probability
  - Endogenous policy response (also Farhi/Tirole)
- Short-term/Long-term
  - Rewrite model on liability side
  - Short-term risky, but low rate
  - Long-term safe, but expensive