

# Bailouts, Contagion, and Bank Risk-taking



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

# Paper in one slide

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- Would care about cholesterol intake on a plane that is about to crash? 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

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- 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

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- 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

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- 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

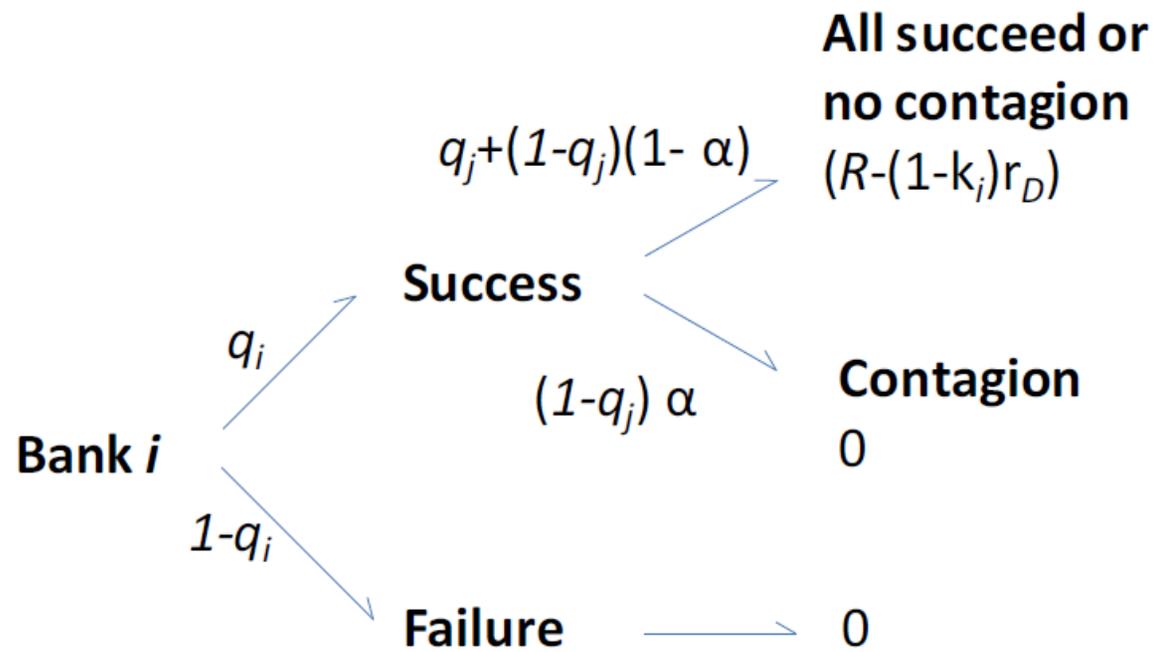
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- Banks protected by limited liability and use deposits and capital to fund a loan portfolios
- Portfolio success depends on two independent factors:
  1. Bank “monitoring” (think this as idiosyncratic risk)
    - Bank can spend resources of  $(1/2)cq^2$ , 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  $i$

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

# Model

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*Own  
Monitoring*

*Other bank's  
monitoring  
and contagion*

# An additional source of excessive risk taking

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- 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.

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- ❑ 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

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## □ 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