

# BANKING AND FINANCIAL FRAGILITY

## *Conclusions*

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- ▶ Traditional macroeconomic models abstract from the process of financial intermediation
    - ▶ that is, how does saving by households ...
    - ▶ find its way to firms and entrepreneurs who want to invest?
  - ▶ In reality, this process is surprisingly complex ...
  - ▶ ... and sometimes fails, with large macroeconomic consequences
    - ▶ global financial crisis of 2008 is one of many examples
  - ▶ What should policymakers do about it?
    - ▶ how can we evaluate proposals for financial stability policy?
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- ▶ The Diamond-Dybvig model provides a useful laboratory
  - ▶ Presents an environment where
    - ▶ maturity transformation is socially useful
    - ▶ but makes banks fragile
  - ▶ The model is very simple in some dimensions
    - ▶ but we got a surprising amount of mileage out of it
  - ▶ Bank runs occur when:
    - ▶ the bank is illiquid and investors collectively lose confidence, or
    - ▶ the bank's assets lose value and it becomes insolvent
  - ▶ The outcome is the same in both cases (and quite bad)
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- ▶ Interbank linkages are useful for insuring bank-specific (or regional) liquidity risk
    - ▶ but can cause a problem in one bank to spread to others (“contagion”)
    - ▶ size/pattern of contagion depends on network of interbank links
    - ▶ which in practice is not known to anyone
  
  - ▶ Deposit freezes (or erecting gates):
    - ▶ aim to promote confidence by limiting liquidation of investment
    - ▶ to be successful, freeze must be quick and strict
    - ▶ in practice, deposit freezes are typically neither
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- ▶ **Deposit insurance:**
    - ▶ aim to promote confidence by committing public resources to prevent liquidation
    - ▶ a generous policy would eliminate fragility, but ...
    - ▶ requires real resources and is costly to implement
    - ▶ if investors expect limited insurance, may be ineffective
  - ▶ **Important theme: the role of commitment**
    - ▶ policy makers often want promise to be strict (to create good incentives)
    - ▶ but actually being strict is difficult/costly when tested
    - ▶ if investors expect the government to instead be lenient, these policies are much less effective
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- ▶ More radical: replace banks with mutual funds
    - ▶ can we get rid of the demand deposits that have historically been at the heart of banking?
    - ▶ our model indicates the answer may be ‘yes’
    - ▶ but points to conditions that need to be met, in particular the (perfect?) efficiency of markets
  - ▶ These are difficult issues
    - ▶ a simple model will not deliver definitive answers
    - ▶ but it can help organize our thoughts, point out key issues
  - ▶ The baseline model can be extended in many other ways
    - ▶ for example ...

# Extensions

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- ▶ Embed this model of banking in a dynamic model with capital accumulation
  - ▶ return on investment  $R$  now equals  $f'(k_t)$
  - ▶ banks' portfolio choices influence investment and growth
  - ▶ banking crisis causes  $k_t$  to fall
  - ▶ Ennis and Keister (JET, 2003), Gertler and Kiyotaki (AER, 2015). Gertler, Kiyotaki, Prestipino (AER, 2016)
- ▶ Introduce money and assume impatient investors need access to cash, not consumption
  - ▶ study the role for a central bank in preventing/mitigating banking crises
  - ▶ Champ, Smith, and Williamson (CJE, 1998), Allen, Carletti and Gale (JET, 2014)

# More examples

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- ▶ Suppose investors know a crisis will occur with some probability  $q > 0$ 
  - ▶ how does that change investment decisions?
  - ▶ do banks become more conservative, or less?
- ▶ What determines this probability  $q$  of a crisis?
  - ▶ that is, what determines the likelihood that investors will collectively lose confidence in a bank?
- ▶ Suppose bankers' incentives differ from those of investors
  - ▶ bankers have limited liability → tend to take too much risk
  - ▶ how does this principal-agent problem affect fragility?
  - ▶ is there a role for bank regulation in this case?