

Discussion of “Banking: A Mechanism Design Approach” by Fabrizio Mattesini, Cyril Monnet, and Randall Wright

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¹The views expressed in this discussion do not necessarily reflect the views of the Federal Reserve Bank of Richmond or the Federal Reserve System.

What is This Paper About?

Find an environment in which allocations that they define as banking are *essential*.

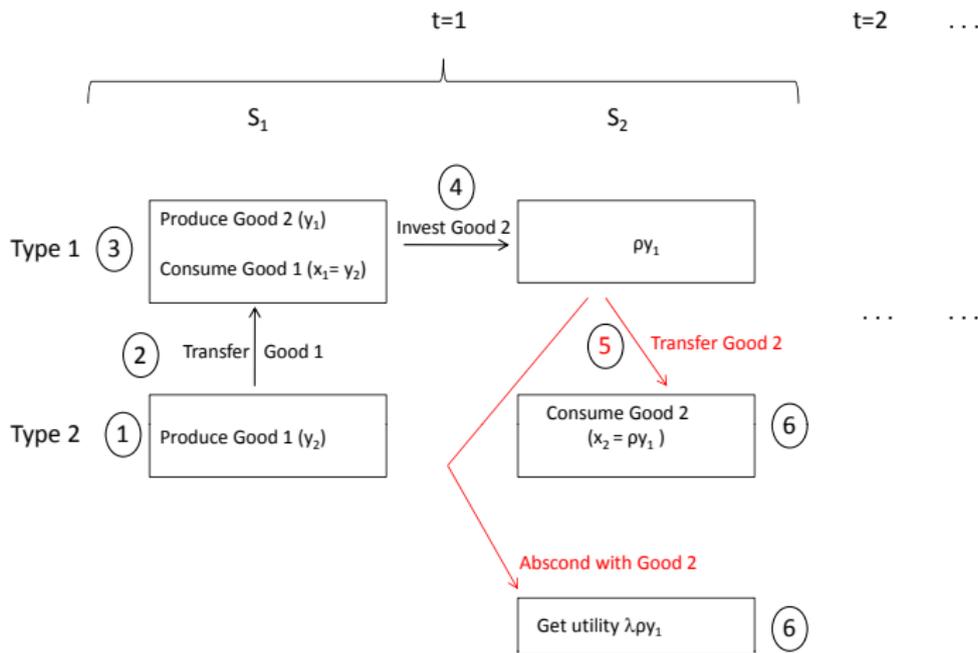
Use mechanism design approach

- Define primitives of environment
- Solve mechanism design problem
- Interpret certain type of allocations as a bank

Key Primitives

- Agents produce for other agents
- Production/consumption decisions not simultaneous
- One agent invests for another
- Investment manager can liquidate and steal it
- Society has limited detection possibilities
- Creates a **limited commitment** constraint
- **Heterogeneity** in liquidation ability

Movement of Goods



More Details

Multiple type-1 and type-2 groups, group specific consumption, gets lending across groups.

Punishment technology - if theft, caught a fraction of time.
Penalty is autarky.

Bank interpretation

- Type 1 deposits goods with type 2 in subperiod 1.
- Type 2 is the banker. Invests own production.
- Type 2 redeems deposits for goods in subperiod 2.
 - Punishment makes redemption credible.

A Simplified Version of Model

Make static, but keep subperiods.

Agent 1 can still liquidate y and consume $\lambda\rho y$.

Heterogeneity in λ .

Caught with probability π . Pay penalty P .

Second subperiod, limited commitment constraint on agent 1.

$$\pi P \geq \lambda\rho y$$

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Want to give y to low λ agents.

A Low λ Agent

Gibbons, J.S. *The Banks of New-York, Their Dealers, The Clearing House, and the Panic of 1857*. New York, D.

Appleton & Co., 1857. (Digitized by Google.)



A Veteran Spool Clerk.

What do Banks do?

Typical description of bank activities

- Delegated monitoring
- Payment services
- Liquidity insurance (liabilities payable on demand)
- Maturity transformation

Model has delegated monitoring (but for different reasons than Diamond (1984))

Is This a Bank?

Model doesn't have other features. In particular, banks **bundle** delegated monitoring with transferable claims that are money like, e.g., easy to value and used for payment purposes.

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Make payoffs stochastic and the “deposits” become shares in a company that pay dividends. Agent 2 produces goods for agent 1 in return for shares in a firm and then collects the dividends in the second period.

The “bank” could just as easily be a firm or asset manager.

The Model and Bank Size Distribution

Distribution $H(\lambda)$.

Fixed cost to be a manager.

Want to minimize number of managers

Gives a cutoff z .

If $\lambda \leq z$ then banker

For $\lambda \leq z$, banker manages

$$y(\lambda) = \frac{\pi P}{\lambda \rho}$$

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A microfoundation of Lucas (1978) managerial span of control
(though where does $H(\lambda)$ come from?)

Bank Size Distribution: Important Questions

Could limit firm size so no one TBTF.

- **Gain** Inputs not subsidized, so banks not inefficiently big
- **Gain** Less risk taking incentives
- **Loss** Less economies of scale

Are size distortions costly?

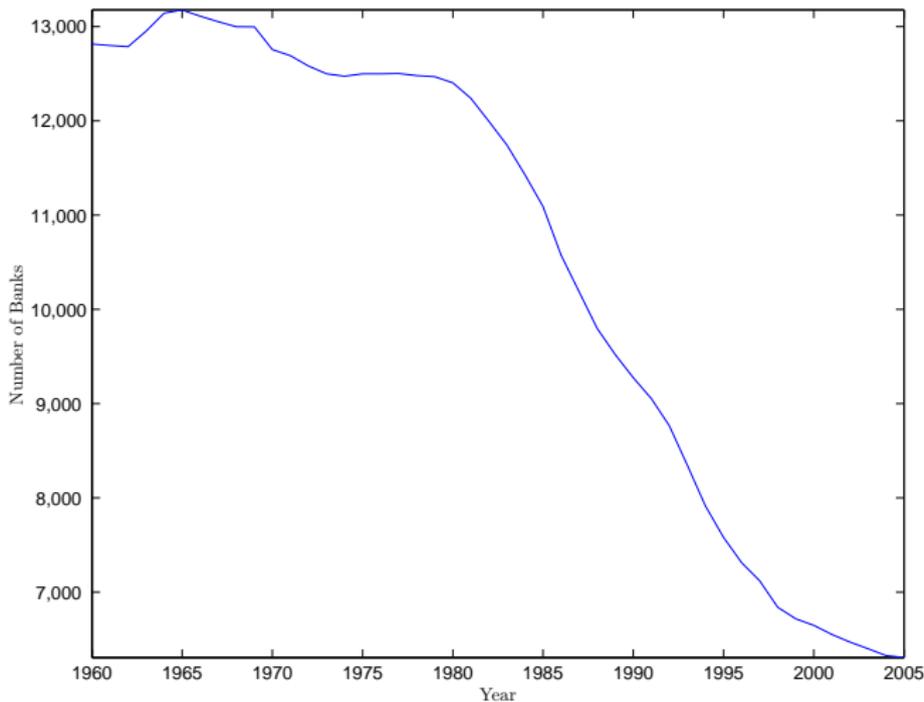
- Restuccia and Rogerson (2008), Guner, Ventura, and Xu (2008) find large effects for establishments.
- For banking, don't know.

Old question in U.S. banking

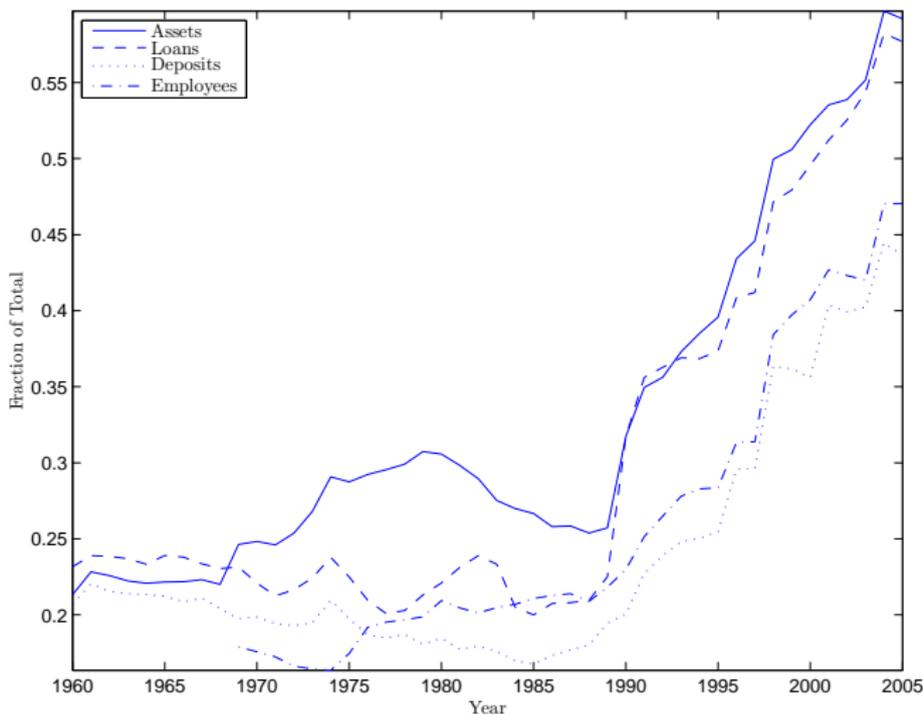
- Historically, big restrictions on size.
- Relaxed starting in 1970s.
- Caused big changes in size dynamics and distribution.



Drop in the Number of Banks



Market Share of 10 Largest Banks



Other Facts about Changes in Size Distribution

Janicki and Prescott (2006)

- Zipf's and Gibrat's Law good descriptions for 1960s and 1970s
- Not a good description starting in the 1980s
 - Large banks grow faster than small banks
 - Entry still robust over entire period!

The Historical Question

Were these size changes driven by economies of scale or TBTF?

Answer would help evaluate whether limiting firm size to control TBTF is a good policy.

Large banking literature tried to measure economies of scale.

- Found scale economies exhausted at 100 million dollars (late 80s data)!

Boyd and Graham (1991) interpretation: Growth in large banks because of TBTF.

More

I believe TBTF is big, but doubt scale economies exhausted at 100 million dollars.

Literature has lots of statistical identification problems.
Uses a static, Marshallian, U-shaped cost curve view.

Need a dynamic general equilibrium view.

But more fundamental problem.

Commodity spaces for banking

What is output for a bank?

Is a deposit an input, an output, or both?

Further, lots of joint production in banking. Banks do

- Maturity transformation
- Financial intermediation
- Payment services
- Liquidity services

Think mechanism design theory can help us decide what to measure.

This is why the authors' line of research is valuable.