

Opacity, Signaling, and Bail-ins

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Motivation

- ▶ The 2007-08 runs on Money Market Mutual Funds (MMMFs)
 - ▶ A fixed value claim created a first-move advantage
 - ▶ Solutions: **flexible repayments** in forms of bail-ins
- ▶ Post-crisis reforms: mixed results during the COVID-19 crisis
 - ▶ Liquidity fees **failed** to prevent large cash outflows (U.S.)
 - ▶ Swing pricing **succeeded** in reducing cash outflows (U.K.)
- ▶ Why can flexible repayments **fail** to prevent runs?
 - ▶ **Our focus:** the effect of an adjustment in repayments on the prices of fund assets
 - ▶ rather than the form of the adjustment via liquidity fees or swing pricing
 - ▶ **We show:** the effectiveness of flexible repayments depends on the information structure.

This paper

- ▶ studies: equilibrium outcomes when flexible repayments may signal asset qualities
- ▶ considers: a possible conflict of two desires
 - ▶ a bank's desire to allocate resources ex-post optimally
 - ▶ a bank's simultaneous desire to induce higher asset prices
- ▶ compares: three information regimes concerning the agent's information about asset quality
 - ▶ Transparency: both asset buyers and the bank know quality
 - ▶ Lemosity: only the bank knows quality
 - ▶ Opacity: no one knows quality

Model

Diamond-Dybvig (1983JPE) + Leland-Pyle (1977JF)

- ▶ $\tau = 0, 1, 2$
- ▶ Bank's asset
 - ▶ random returns in $\tau = 2$
 - ▶ tradeable in $\tau = 1$ to wealthy risk-neutral investors
 - ▶ price depends on investors' beliefs about asset returns
- ▶ Complete deposit contract
 - ▶ Risk-averse depositors choose to withdraw in $\tau = 1$ or 2
 - ▶ Liquidity risk arises because a fraction of depositors must withdraw in $\tau = 1$
 - ▶ The bank learns withdrawal demand and then chooses repayments
 - ▶ Repayments may affect the investors' beliefs ([signaling](#))

Equilibrium

- ▶ Transparency and Opacity: the allocations are **efficient**
 - ▶ Transparency insures depositors from liquidity risk
 - ▶ Opacity insures depositors withdrawing in $\tau = 1$ against asset price risk
- ▶ Lemosity: the allocation is **inefficient**
 - ▶ Mechanism: Distorted incentives
 - ▶ Bad banks may mimic good banks to induce a higher price
 - ▶ Good banks raise repayments to distinguish themselves from bad banks
 - ▶ Repayments are **inefficiently high** at good banks
 - ▶ Expectations on high repayments cause **inefficient runs**
- ▶ The allocation under Lemosity is always **inferior** to either under Transparency or Opacity

Takeaway

- ▶ The effectiveness of bail-in tools will be **undermined** when the bank can learn asset returns privately
 - ▶ Bail-in tools can cause excessive short-term repayments under Lemosity
 - ▶ Distorting intertemporal allocation
 - ▶ Causing inefficient runs
- ▶ **Banks choose to be transparent or opaque** to avoid costly signaling
 - ▶ Asset qualities will not be private information