Fire sales, inefficient banking and liquidity ratios

Axelle Ariqué

Discussed by

Andreas Barth

Goethe University Frankfurt

2nd ACPR International Academic Conference

Paris, 2 December 2015

Contribution

- Fire sales generate a pecuniary externality that reduces welfare
- These welfare cost arise even if households are ex ante identical
- Reason: Due to a price effect, there is a wealth redistribution from early to late consumers
- If fire sales do not happen, the redistribution towards impatient can be too high

Contribution

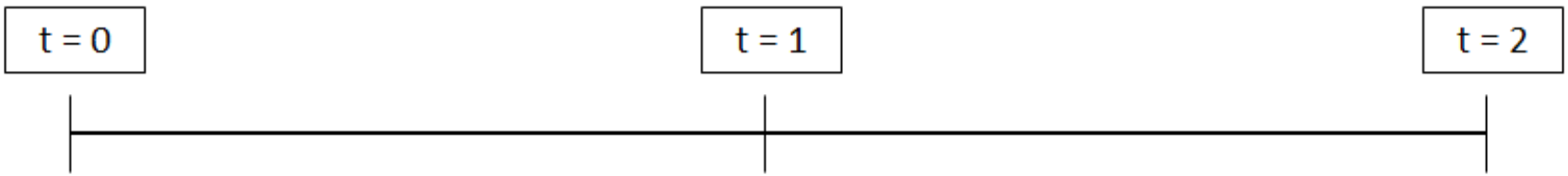
- Policy conclusion:
  - Liquidity ratios on banks are not sufficient to mitigate the welfare loss
  - Ex post policy is not able to mitigate the inefficiency
- How can we make banking more efficient in the present of aggregate liquidity shocks

$\Rightarrow$ Highly relevant paper

Model Framework

- Framework similar to Diamond and Dybvig (JPE, 1983):
  - Fraction of early types (θ) is stochastic
  - Consumers can transfer their endowment to the future only by investing in banks or funds
  - Liquidation value of long-term project is endogenous (the fire sale price)
  - No sequential service constraint

Model Framework



Consumer choose:
- Investment in banks
- Investment in funds

Bank choose:
- Promised repayment
- Investment in early assets
- Investment in storage

Fund:
- Collects consumers' investment
- Buys banks' investment in early assets at price ***P***
- Investment in late assets

Bank repays early types

Early types consume

Returns realize

Late types consume

Discussion of Assumptions
The Role of the Fund

- Fund cannot invest in $t = 0$
- Thus, she holds back liquidity by assumption
- The market incompleteness of having too little wealth available in $t = 1$ is quite important for your result
  $\Rightarrow$ Need to endogenize fund's behavior
- If the fund knows that a lack of liquidity leads to fire sale prices, she would have an incentive to run short of liquidity
- Could the corner solution result from R^L sufficiently large?

Discussion of Assumptions
Patient Consumers' Behavior

- Late consumers never withdraw in t=1
- They could mimic early consumers and use their funds to buy assets / finance the fund
- For small liquidity shocks, this additional liquidity would have an impact on the asset's price
  $\Rightarrow$ This could discourage from this strategy
- Assume that liquidity shock is too large such that funds have not enough resources to buy all early assets
- Moreover, mimicking early consumers endogenizes the liquidity shock
  $\Rightarrow$ If they know that withdrawing leads to fire sales (and a redistribution from early to late consumers), they should always mimic being an early type

Discussion of Assumptions
Bank's Maximization Problem

- Bank's maximization problem:

$$\mathcal{L} = E_\theta[\theta u(c_1) + (1-\theta)u(C_2)] + \mu[D - L - S]$$

- As in Diamond/Dybvig, bank maximizes the utility of households
- However, in D/D, households deposit their entire endowment
- Here, if $\theta \geq \bar{\theta}$, $C_2 = c^B + \frac{\pi(\theta)}{1-\theta}$ with $\pi(\theta) = R^E S$
- Why does the bank care about the fund's clients?

Discussion of Assumptions: Existence of Banks and Funds

- Why do you need banks and funds?
- Your world without bank and fund:

$$C_1 = (1 - I) + PR^E I$$
$$C_2 = \frac{(1 - I)}{P} + R^E I$$

with

$$P^F = \frac{1}{R^E}$$

and

$$P^* = \frac{L}{R^E}$$

- Would a bank improve such a financial market solution?

Thank you for your attention!