Fragility of Safe Asset Markets (T. Eisenbach and G. Phelan)

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Contribution

- Provides a framework to explain fragility in safe asset market
  - In the presence of a **constrained dealers' demand,** investors (e.g., MMFs) **preemptively** sold US Treasuries in the attempt to avoid to "**be the last in line"**
- Sheds light on unintended consequences of post GFC regulation
  - Non-risk weighted constraints, e.g., leverage ratio, make it more expensive for banks to engage in low-margin activities
- Shows an unexpected positive impact of "flight to safety" on market fragility
  - Timing of safety investors' demand is key, as well as inherent market fragility (**amplification effects**)

The Model: Main Ingredients

- Dealers buy safe assets from liquidity investors at two dates $t = 0, 1$
  - Prices are set by dealers competing à la Bertrand
  - Quantity sold q_t depends on realization of liquidity shock s and investors' strategic decisions λ
- Strategic complementarity in liquidity investors' sale decisions (akin to depositors' run)
  - Selling at $t = 0$ is optimal when $\pi(s, \lambda) > 0$, with

$$\pi(s,\lambda) = \underbrace{p_0(s,\lambda)}_{\substack{\text{payoff from selling} \\ \text{the safe asset at } t=0}} - \underbrace{(sp_1(s,\lambda) + (1-s)v)}_{\substack{\text{payoff from holding} \\ \text{the safe asset until } t=1}}$$

  - $\pi(s, \lambda)$ varies with s and λ: direct effect plus indirect effect via prices $\rightarrow$crucial role of $-cq^2$ as it leads to $p_1 \downarrow$ when supply of safe assets $\downarrow$ in $t = 1$

Price determination stage

- Three key elements:
  - Convex inventory costs; Bertrand competition; Trades executed sequentially
- Under the current setup

$$p_1 = 1 - cq_1 - 2cq_0 \text{ and } p_0 = 1 - cq_0$$

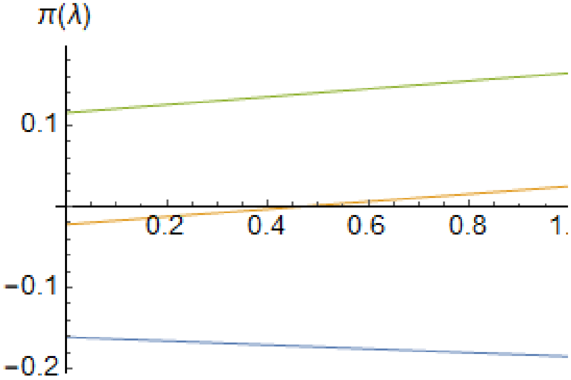
- Alternative scenario: Dealers choose $\{q_0, q_1\}$ so to maximize profits

$$p_1^A = 1 - 2cq_1 - 2cq_0 \text{ and } p_0^A = 1 - 2cq_0$$

  - A change in q_0 has the same impact on prices p_t^A at $t = 0, 1$
  - What does this implies for the strategic complementarity,is still $\pi'_\lambda(s, \lambda) > 0$?

Preemptively sale: Strategic complementarity and global games

- In this setup, global games are useful to pin down the probability of an equilibrium with preemptive sales
  - Investors receive an imperfect signal on s and based on this signal decide what to do



Translating into the bank run language

- For extreme values of s, investors have dominant strategies

Lower dominance		Intermediate			Upper dominance
no investors	$\underline{s}$	investors	s^*	$\overline{s}$	all investors
sell assets due to low s —no sales		sell because of s and λ — "panic sales"			sell assets due to high s — "fundamental" sales

where $\underline{s}$ solves $\pi(1, s) = 0$ and $\overline{s}$ solves $\pi(0, s) = 0$ and $s^*$is the solution to

$$\int_0^1 \pi(\lambda, s)\, d\lambda = 0.$$

Properties of the payoff differential function

- For the global games, $\pi(\lambda, s)$ must be increasing in λ
  - In the paper, this is the case if s is sufficiently large $s > \widetilde{s} = 0.27$. How does this compare to $\underline{s}$?

$$\underline{s} = \frac{2(v-1)+c}{2(v-1+2c)}$$

  - Maybe, there is a "cleaner" condition on v and c so that $\frac{\partial \pi(\lambda, s)}{\partial \lambda} > 0$ for any $s > \underline{s}$?

Sources of strategic complementarity

- In a bank run framework, sources of strategic complementarity are easily pinned down. Panic requires

$$\underbrace{L}_{\substack{\text{bank's resources}\\ \text{at intermediate date}}} < \underbrace{D \cdot r}_{\substack{\text{demand of liquidity}\\ \text{by depositors}}}$$

- When $L = Dr$, strategic complementarity disappears but not runs!
  - Fundamental (efficient) runs still occur
- What is the equivalent here? What is needed for $s^* \rightarrow \bar{s}$?
  - It could be useful to discuss/analyze interventions aimed at preventing fragility

Inefficient preemptive sales

- In the range $s > \overline{s}$ selling is a dominant action $\overline{s}$ solves $\pi(0, s) = 0$
- How does s^{**} in the paper compares to $\overline{s}$?
  - Is $s^{**} > \overline{s}$, so that only **some** fundamental sales are efficient?
- Efficiency is defined from a liquidity investor's perspective only
  - What about considering the fall of the price below the fundamental value v?

Additional comments

- Run is often used as a substitute for preemptive sale: state clear the parallel at the beginning of the paper
- How much is the whole analysis about safe asset markets? What would be different if thinking about risky assets? Extra effects?
- The possible non-monotonicity of $\pi(\lambda, s)$ in λ hints to the one-sided strategic complementarity in GP(2005). Is it a concern? Does it affect the uniqueness of equilibrium?

Conclusions

- Very interesting paper providing a microfoundation for fragility in safe asset market in time of a crisis
  - Highlight the consequence of post GFC regulation (complementary to other studies, e.g., Breckenfelder and Ivashina, 2023)
- Delivers important policy implications about how to alleviate and prevent such episode
  - Key is to pin down sources of strategic complementarity
- Stylized framework, but appears to be even more broadly applicable (e.g., risky assets?)