Discussion of Anand, Gauthier, and Souissi: Quantifying Contagion Risk in Funding Markets: A Model-Based Stress-Testing Approach

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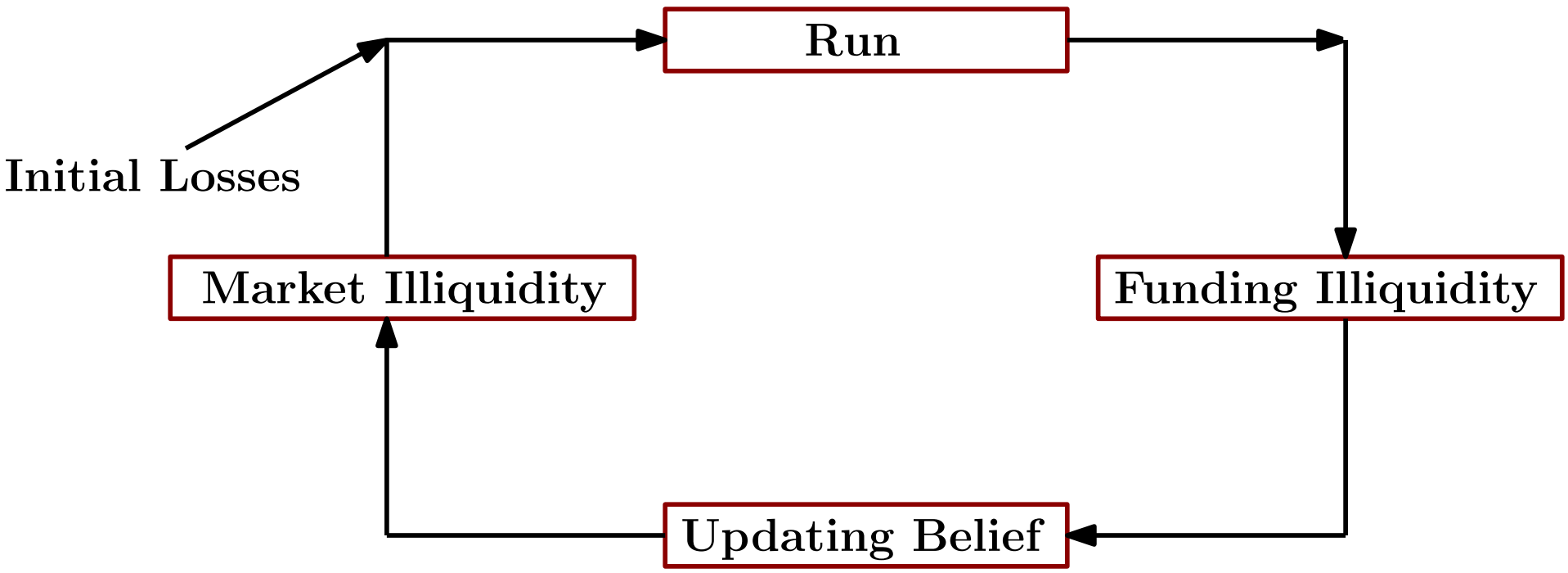
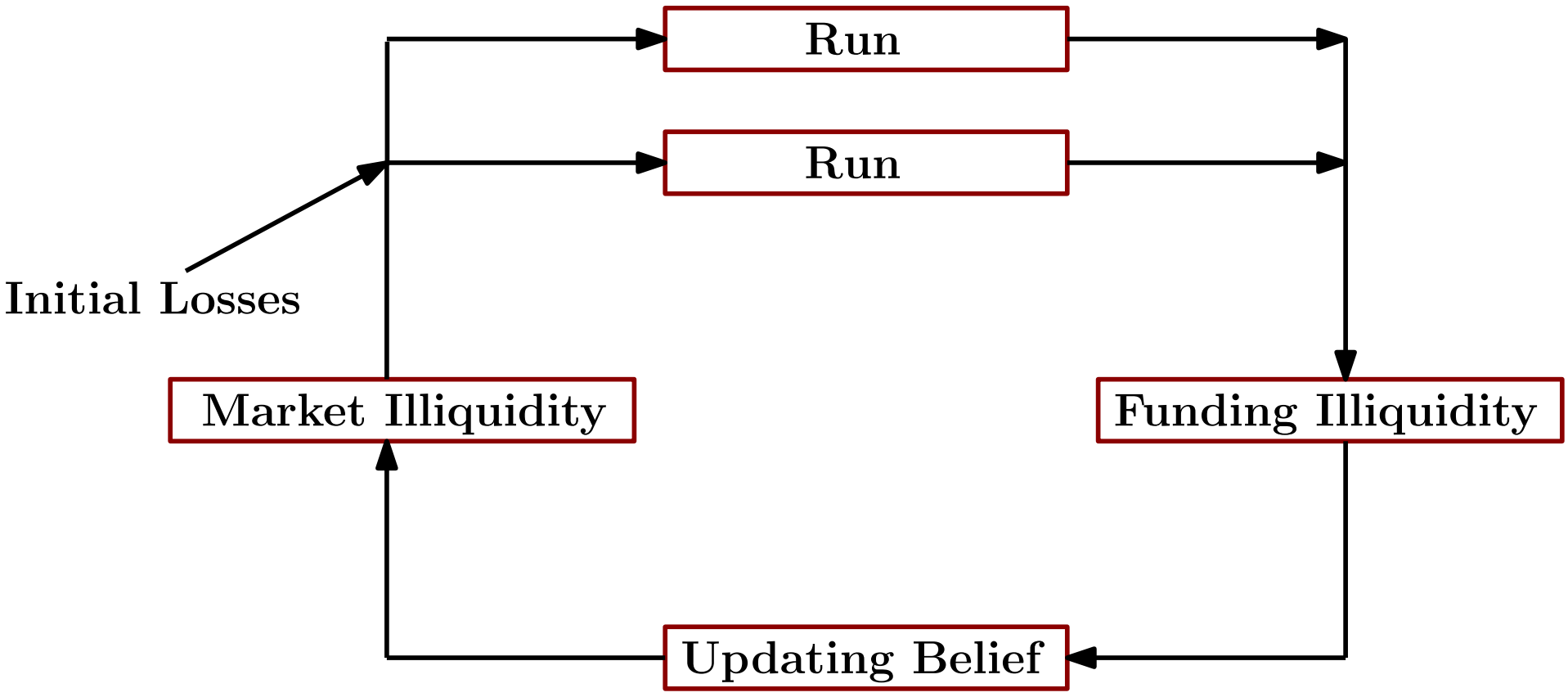
Arizona State University

Mexico City, Nov 12, 2015

Market Liquidity and Funding Liquidity



This Paper: twin-illiquidity in stress testing



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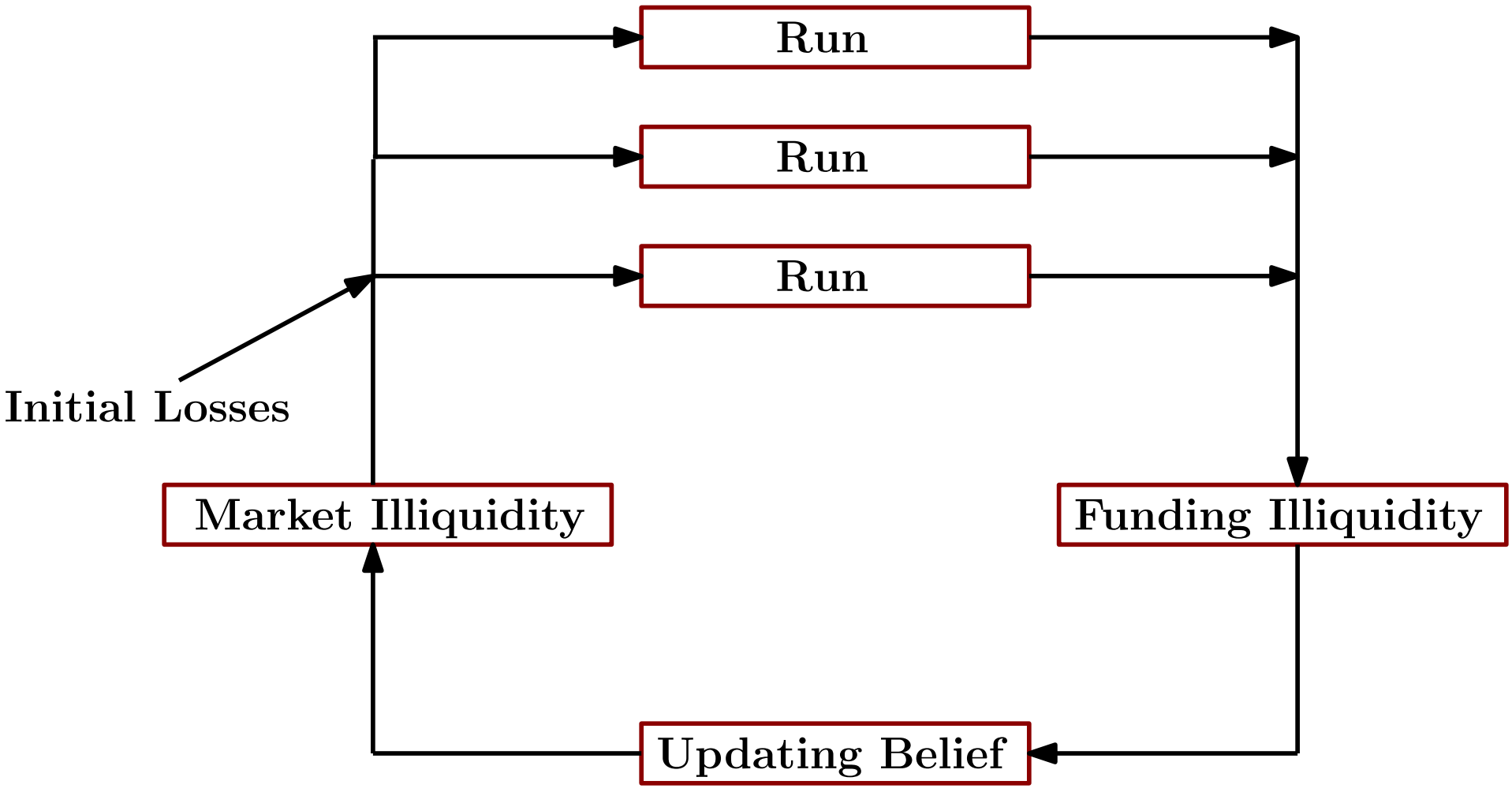

This Paper: twin-illiquidity in stress testing

- Coordination failure and balance sheet opacity generate contagious self-fulfilling bank run.

- Quantify this effect in stress testing

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- Coordination failure and balance sheet opacity generate contagious self-fulfilling bank run.
- Quantify this effect in stress testing
- Comments: clean model with direct policy applications
  - the model
  - the results
  - policy implications

Comment: model

- What is the role of FDIC, LOLR, and interbank lending?
- What are banks' endogenous response to "vicious illiquidity"?
  - signal?
  - hold more cash? deleverage?
  - hold more correlated assets?

Comment: model

- What is the role of FDIC, LOLR, and interbank lending?
- What are banks' endogenous response to "vicious illiquidity"?
  - signal?
  - hold more cash? deleverage?
  - hold more correlated assets?
- Exposition: players, strategy, payoff, equilibrium concept

Comment: vicious illiquidity

Prop 3: Vicious illiquidity happens when

$$1 < \frac{1 - P(r \mid H)}{1 - P(r \mid L)} < \frac{P(r \mid L)}{P(r \mid H)} \qquad (\bigstar)$$

Comment: vicious illiquidity

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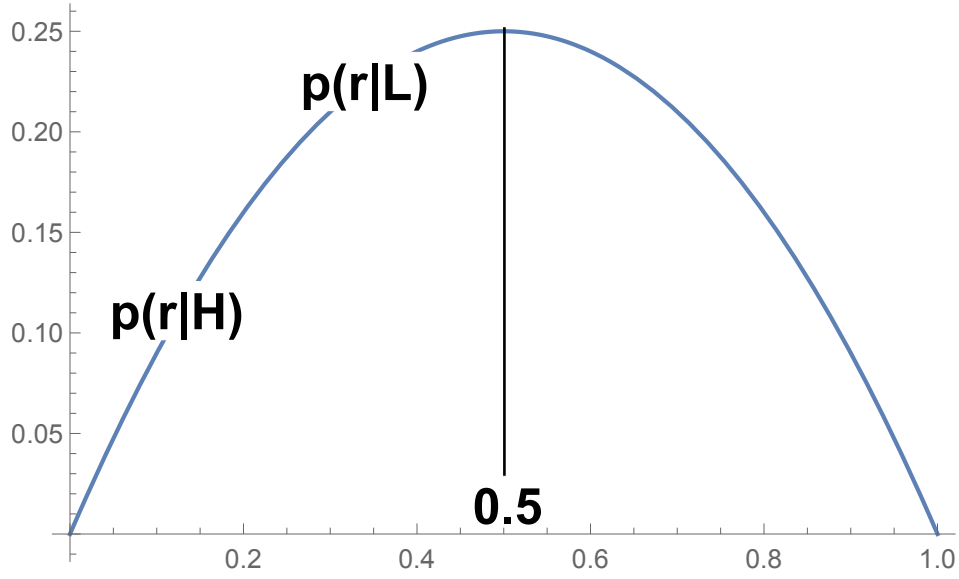

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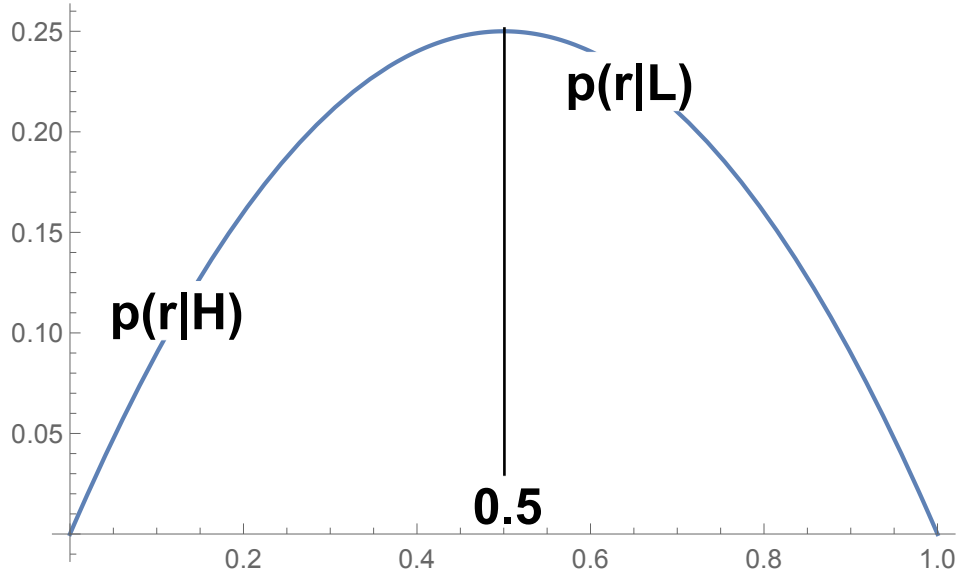

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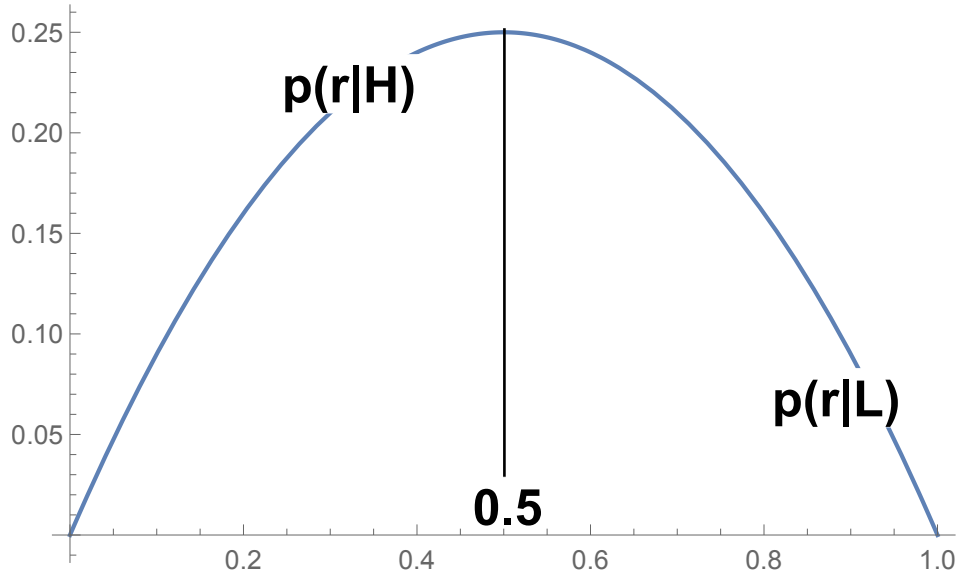

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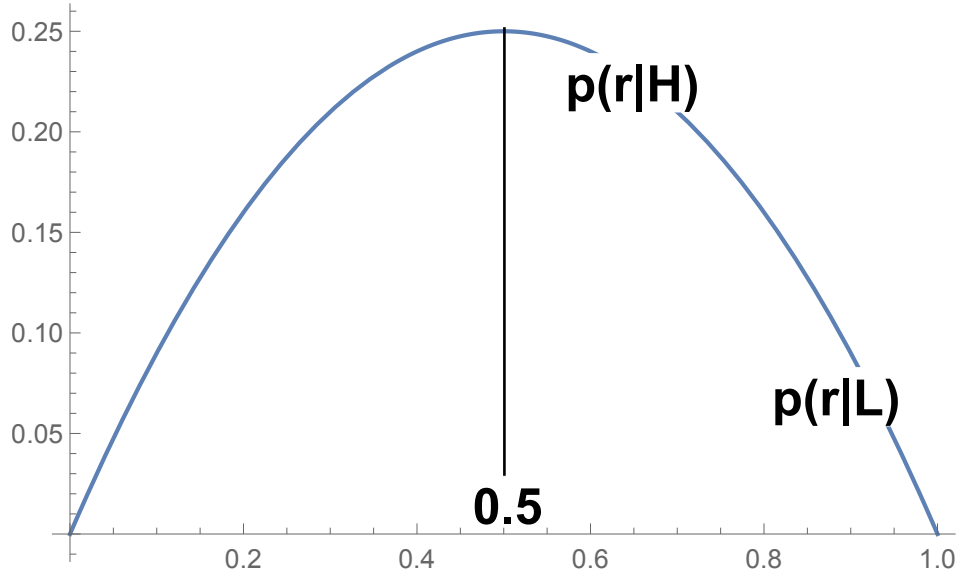

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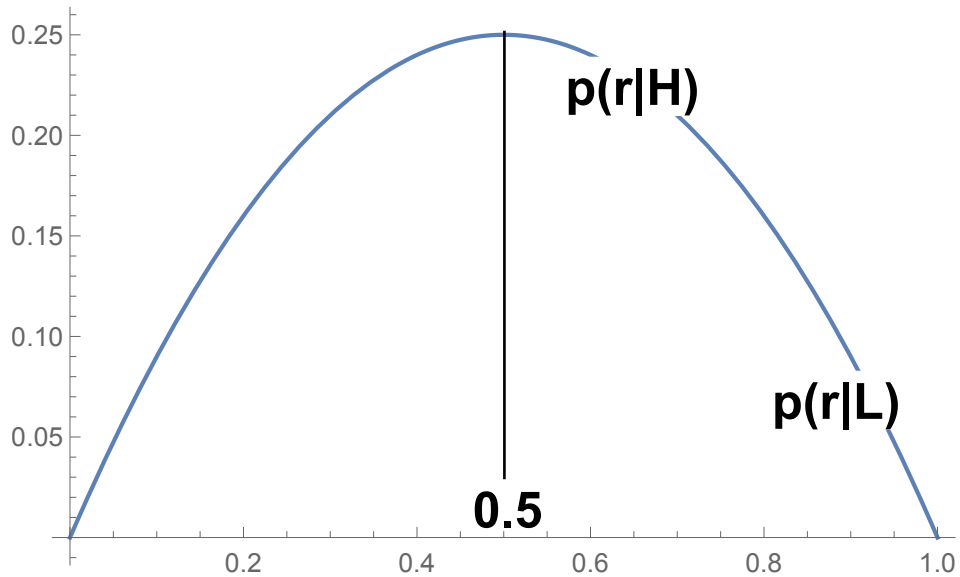

- If $P(r) = 0.5$ is benchmark, state H is more informative about run?

Comment: price spread

Prop 4: Higher ψ_H strengthens condition $\bigstar$

$$\frac{1 - P(r \mid H)}{1 - P(r \mid L)} < \frac{P(r \mid L)}{P(r \mid H)} \qquad (\bigstar)$$

Comment: price spread

Prop 4: Higher ψ_H strengthens condition ★

$$\frac{1 - P(r \mid H)}{1 - P(r \mid L)} < \frac{P(r \mid L)}{P(r \mid H)} \qquad (\bigstar)$$

- The proof gives $\frac{\partial LHS}{\partial \psi_H} < \frac{\partial RHS}{\partial \psi_H}$.
- This means if Condition ★ holds at ψ_H^0, then it also holds $\forall \psi_H > \psi_H^0$.
- Need to check how LHS and RHS behave on other parameters.

Comment: convergence

Prop 5: For $N \geq 2$ banks, Bayesian updating terminates after at most N rounds.

- After each round, illiquid bank cannot turn liquid; but liquid bank can turn illiquid.
- If no more run, belief stops updating; otherwise, belief turns worse, and more run.

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- Downward bias by construction?

Comment: stress testing

- What about a structural approach?
  - This way you can quantify the fraction of bank insolvency due to vicious illiquidity.
  - Counterfactual analysis: what if stress testing results were disclosed?
  - Quantify the relative role of Bayesian update vs. fire-sales (conventional way to model liquidity spiral)

Comment: stress testing

- When to release the stress testing results strategically?
  - Very controversial.
  - Fed Governor Tarullo: *it allows investors and other counterparties to better understand the profiles of each institution*
  - Clearing House Association: *unanticipated and potentially unwarranted and negative consequences to covered companies and U.S. financial markets*
  - Goldstein and Leitner (2015)

Conclusion

- The paper is on an important timely topic.
- Market illiquidity and funding illiquidity in stress testing.
- Would be nice to quantify the effects using a structural approach.
- Very interesting paper, highly recommended!