What is a safe asset?

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Outline

- Safe asset definitions
- Safety and law of one price
- Identifying safe assets: Negative beta
- Self-fulfilling aspects of safety
- Some evidence on perceived sovereign safety

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- Negative beta assets
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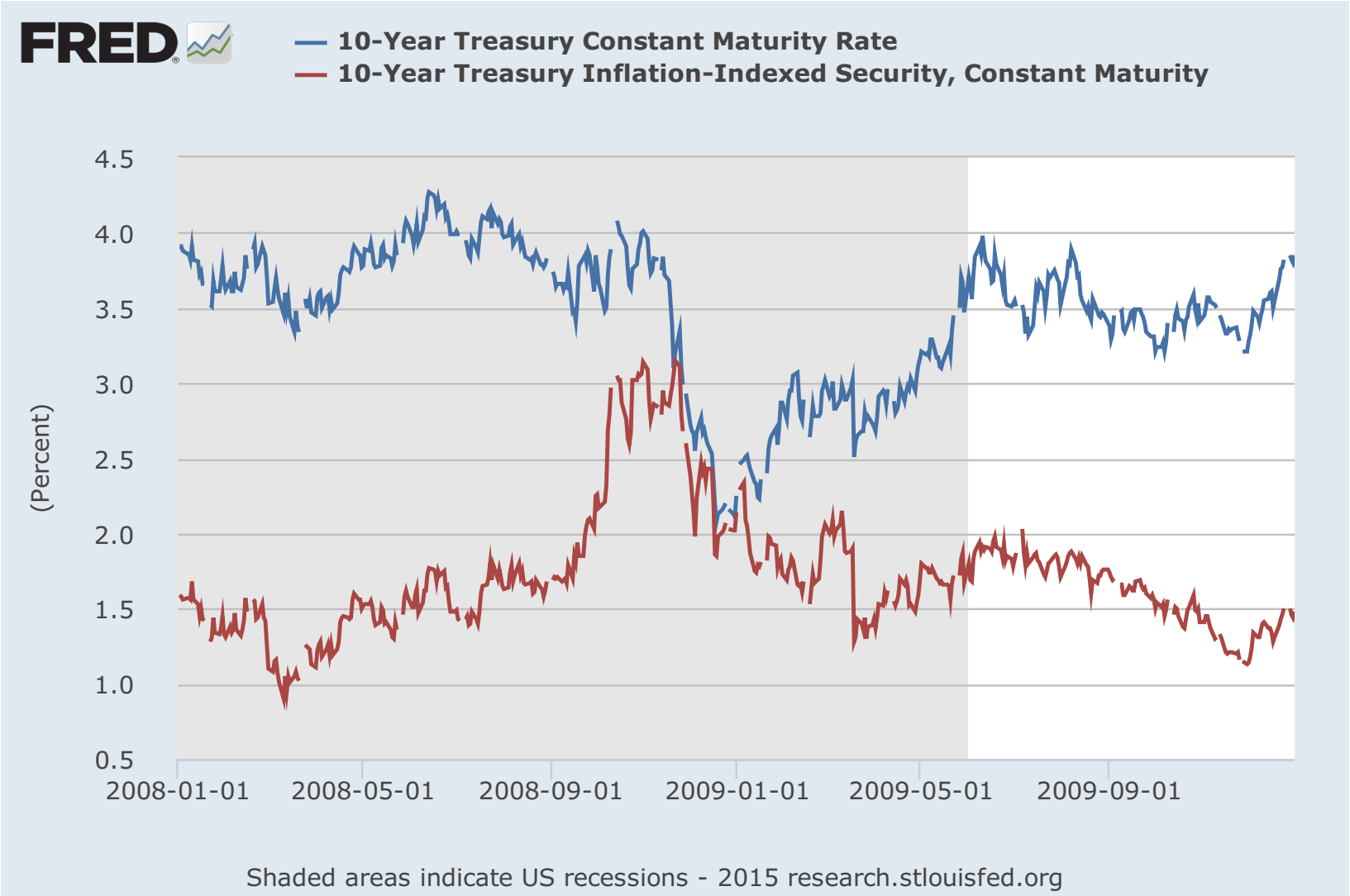
Safety: Nominal or real?

Real safety did not seem to matter much in recent crisis



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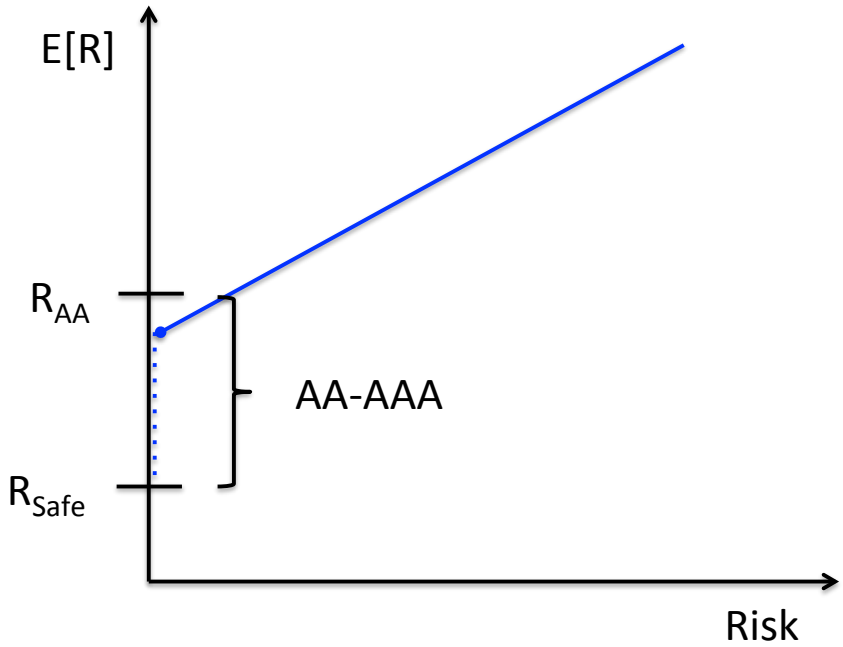
- Lack of inflation concerns in inflation-index bonds and inflation swaps support idea that this is not about real safety demand

Safety: Violation of LOP?



Examples

- Caballero and Farhi (2014): Marginal investor in safe assets have infinite RA. Pledgeability constraint limits safe asset supply.
- Krishnamurthy and Vissing-Jorgensen (2012): Non-pecuniary benefits of safety

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- AA-Treasury spread sometimes used as LOP violation proxy

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  - if real safety matters, safe real bonds should rise as crisis prob. rises
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- Different investors may want different type of safety depending on
  - location
  - regulation
  - investment horizon

  Magnitude of negative beta should summarize weighted average demand from different types of safety-seeking investors

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- e.g., for riskless asset, $\delta = 1$, and so

$$\beta^{\pi} > 0$$

i.e., here "negative beta" = positive "disaster prob. beta"

Negative beta: Self-fulfilling?

- Payoff in crisis state may depend on beliefs about β^{π}: e.g., flight to safety

$$\delta = f(\beta^{\pi})$$

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- Example: Suppose

$$f(\beta^\pi) = \begin{cases} 1 & \text{if } \beta^\pi \geq 0 \\ 0 & \text{if } \beta^\pi < 0, \end{cases}$$

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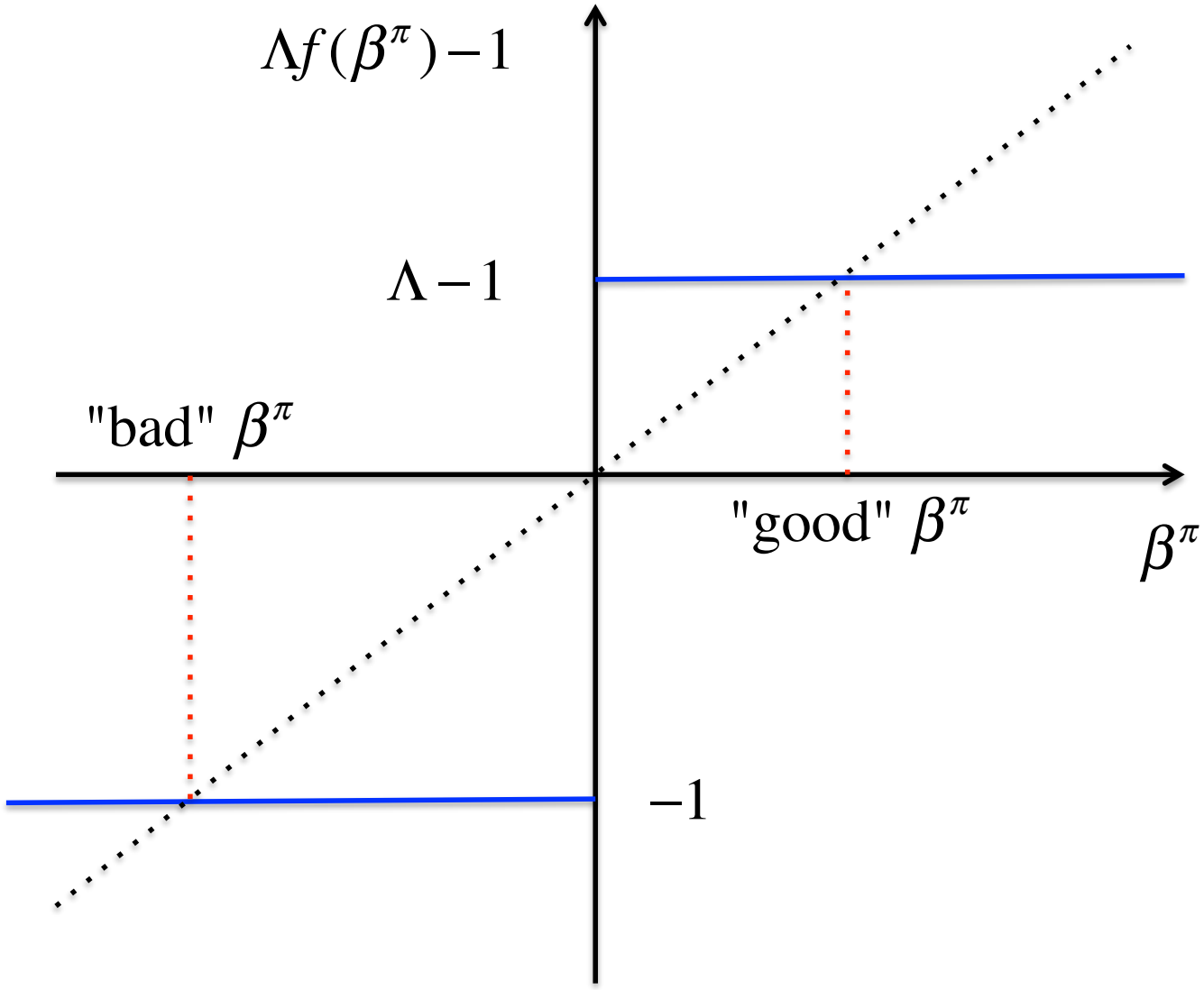

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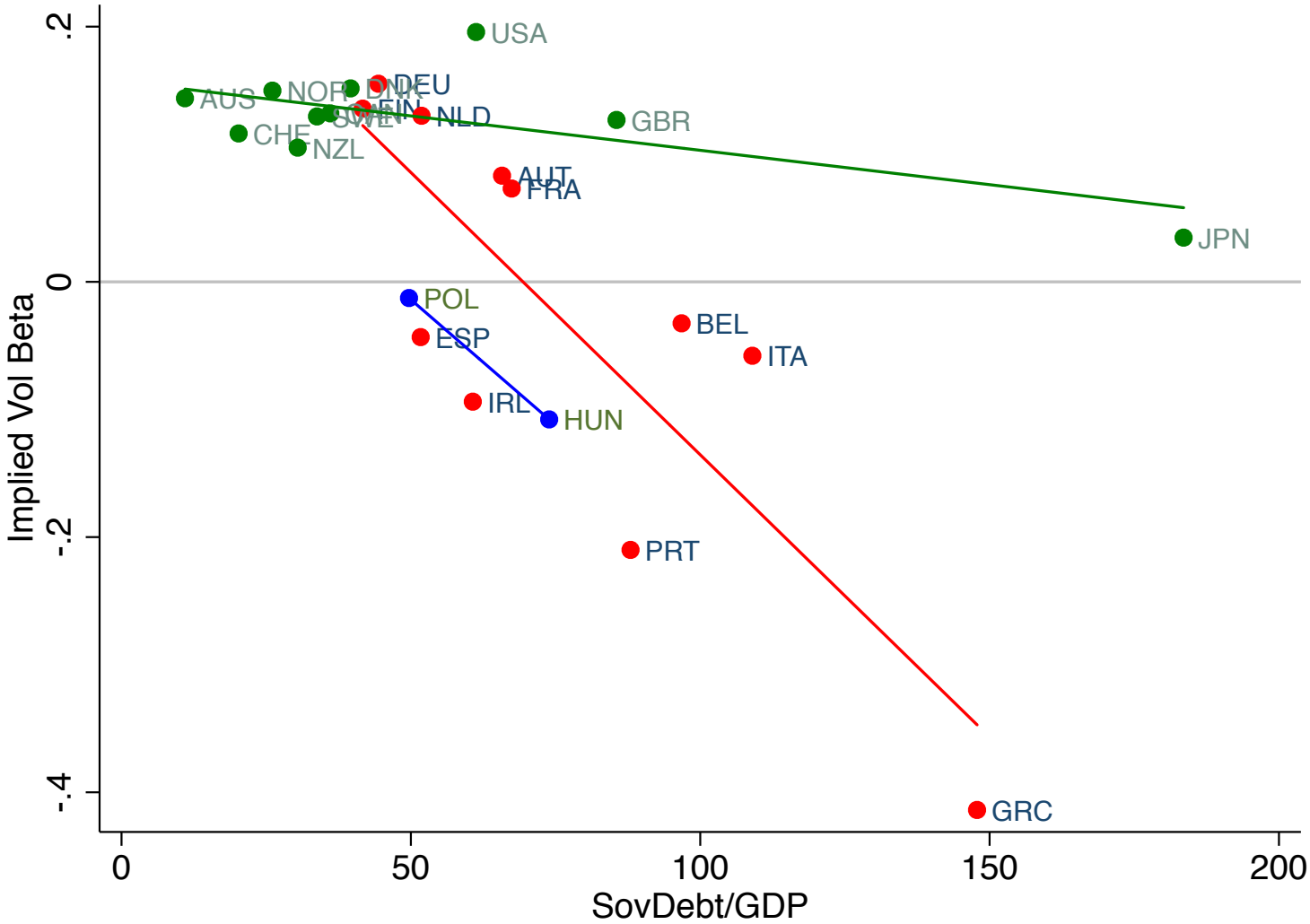
- Effectively real debt (currency union, foreign currency debt): $E_t[s_{t+i}(\theta)]$ sensitive to π
  - seignorage boost not available
  - P_t (FX rate) cannot adjust, or counter-productive (foreign currency debt)
  - Possibility oss in output and s in rollover crisis

Sovereign safety

- Proxy for β^{π} with implied volatility betas
- Annual regressions of weekly 10y bond returns on changes of
  - VIX index
  - VStoxx index
- Focus on 2011 during Eurozone crisis

Implied vol betas and debt/gdp in 2011



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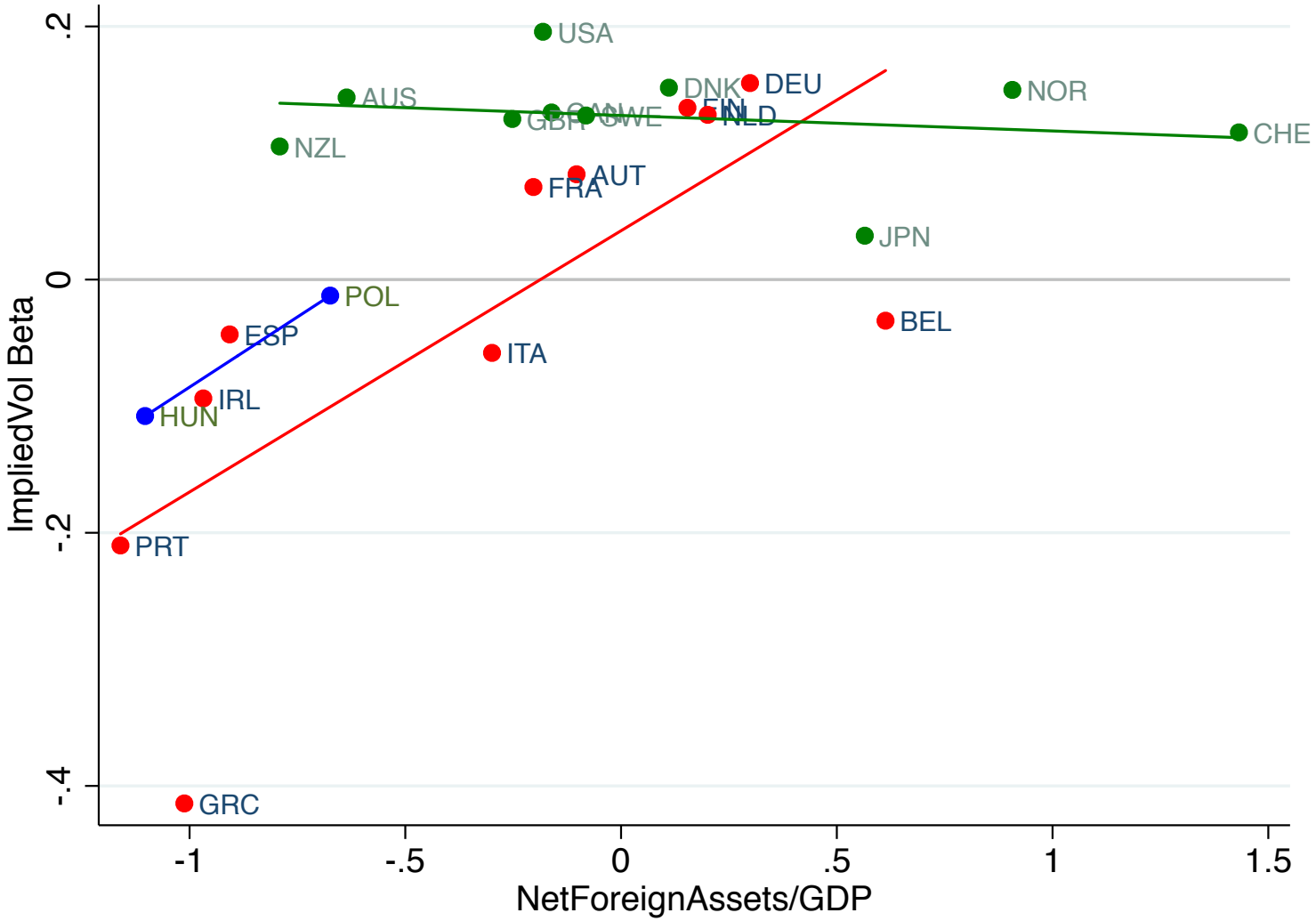

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- Not clear that safety attribute implies violation of LOP (outside of intense crisis episodes)
- Effective monetary backstop important
  - Independent monetary policy
  - Lack of foreign-currency debt
- Government backing important
  - Deposits, ABCP, GSEs, ... with implicit backstop by power to tax & inflate
  - Overcomes pledgeability constraints