A Model of the International Monetary System

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Discussion:

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Question

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Methodology

- Develop simple, transparent, flexible model to address this and other related questions
- Present historical evidence and link to results of the model

Main ingredients

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Main forces

- Supply of reserves reflects
  - market power
  - incentive to maintain credibility

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- Sometimes supply of reserves is too high
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- Extensions
  - nominal rigidities, ZLB, gold standard, private issuance, multipolar world

Main elements of the model

- Two periods $t \in \{0, 1\}$
- Technology
  - at $t = 0$: endowments and investment in projects
  - at $t = 1$: projects produce subject to fundamental risk
- Rest of the world (RoW)
  - risk averse: natural demander of safe assets

$$U^* = E\left[C_1^*\right] - \gamma \cdot Var\left[C_1^*\right]$$

- Hegemon (H)
  - risk neutral: natural provider of safe assets

$$U = C_0 + \delta \cdot E\left[C_1\right]$$

  - limited commitment: default/devalue in low state at $t = 1$ if

$$b \cdot R > \tau$$

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  - first, H decides how much debt b to issue
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- Three regions
  - low b (safety zone): there is one equilibrium with low R and no default
  - high b (collapse zone): there is one equilibrium with high R and default in low state
  - intermediate b (instability zone): there are two equilibria, selected by the sunspot
    - intuition: for given b, high R leads to $b \cdot R > \tau$ and default in low state, which validates pessimism

Under- and over-issuance

- H's expected cost of borrowing, $R^E(b)$, is

$$R^E(b) = \begin{cases} \bar{R}^r - 2 \cdot \gamma \cdot (w^* - b) \cdot \sigma^2 & \text{if } b \leq \underline{b} \\ \bar{R}^r - (1-\alpha) \cdot 2 \cdot \gamma \cdot (w^* - b) \cdot \sigma^2 & \text{if } b > \underline{b} \end{cases}$$

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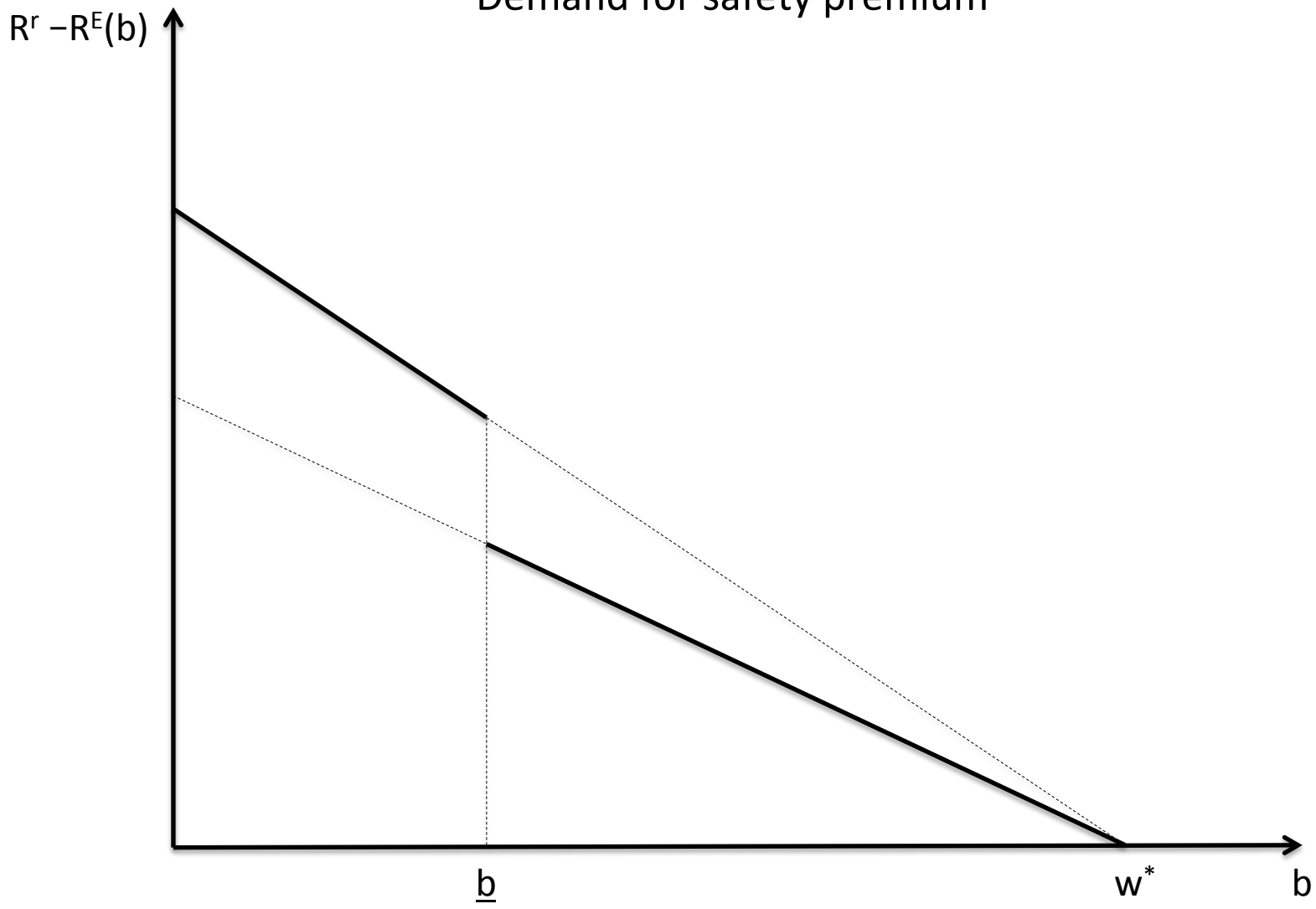
- Since H does not internalize reduction in RoW surplus as debt becomes riskier, there can be over-issuance

Demand for safety premium



Demand for safety premium

A is expected loss to Hegemon moving from $\underline{b}^-$ to $\underline{b}^+$

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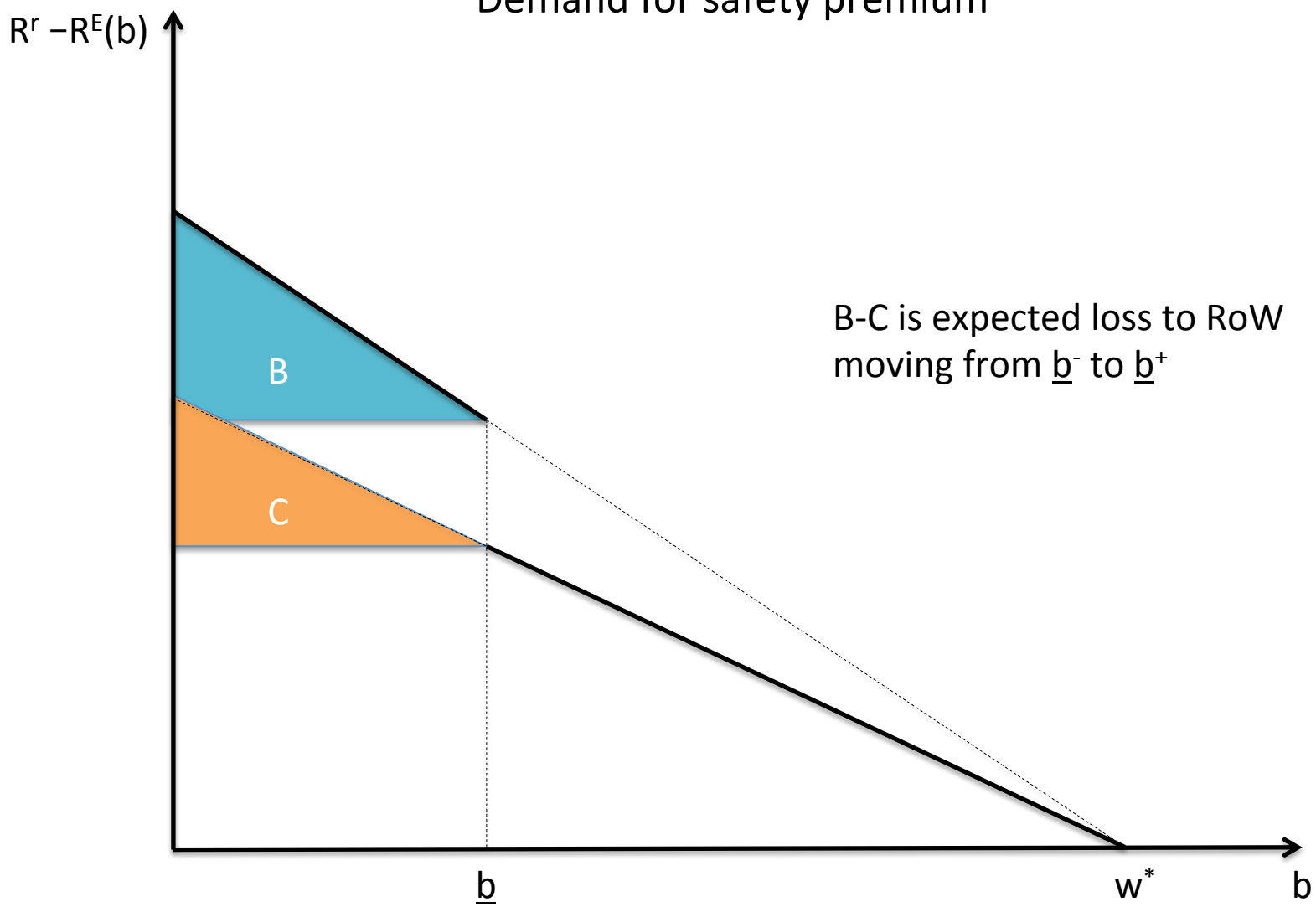

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- The extra term increases the benefit to RoW of being in the safe region and makes over-issuance possible

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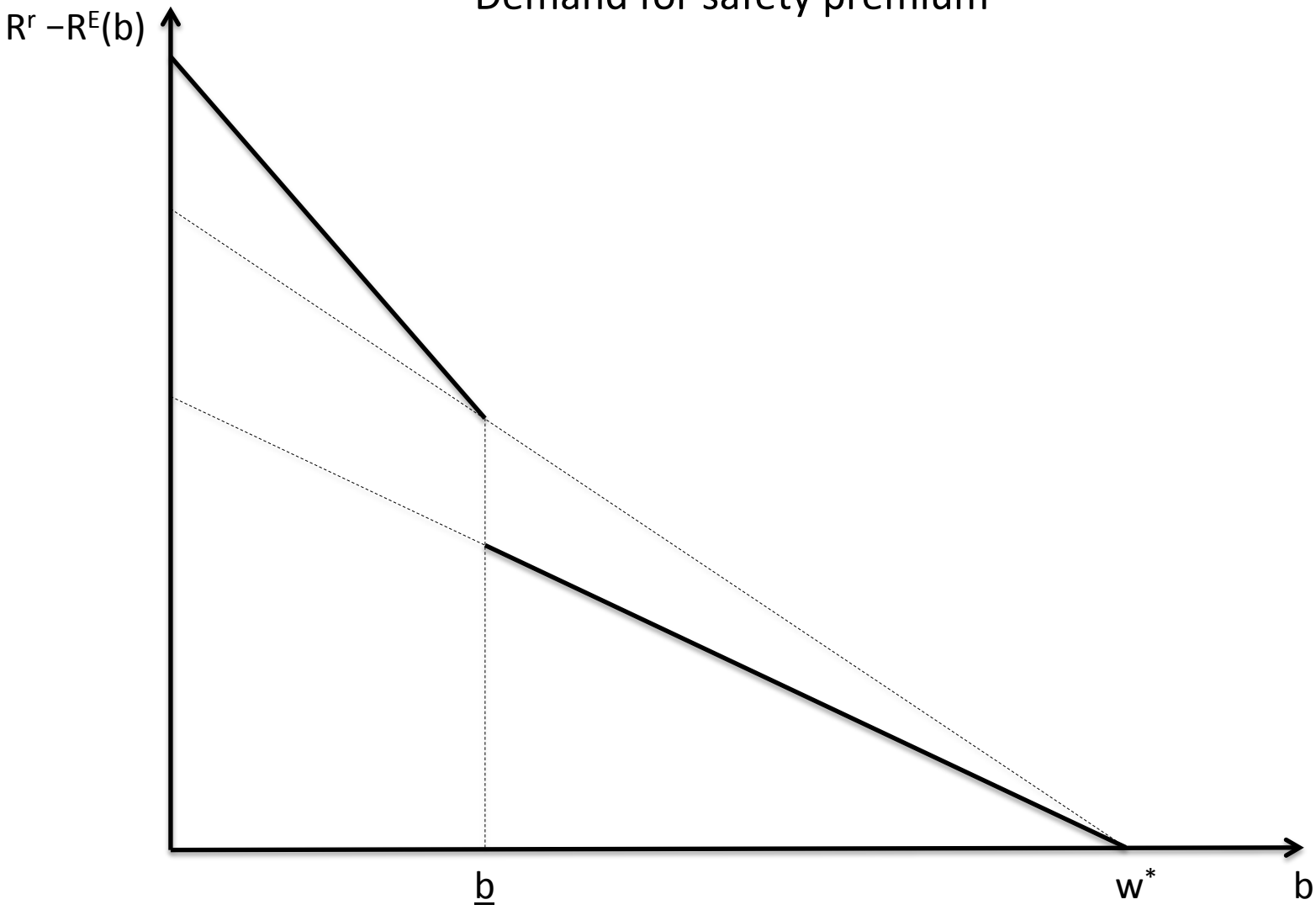

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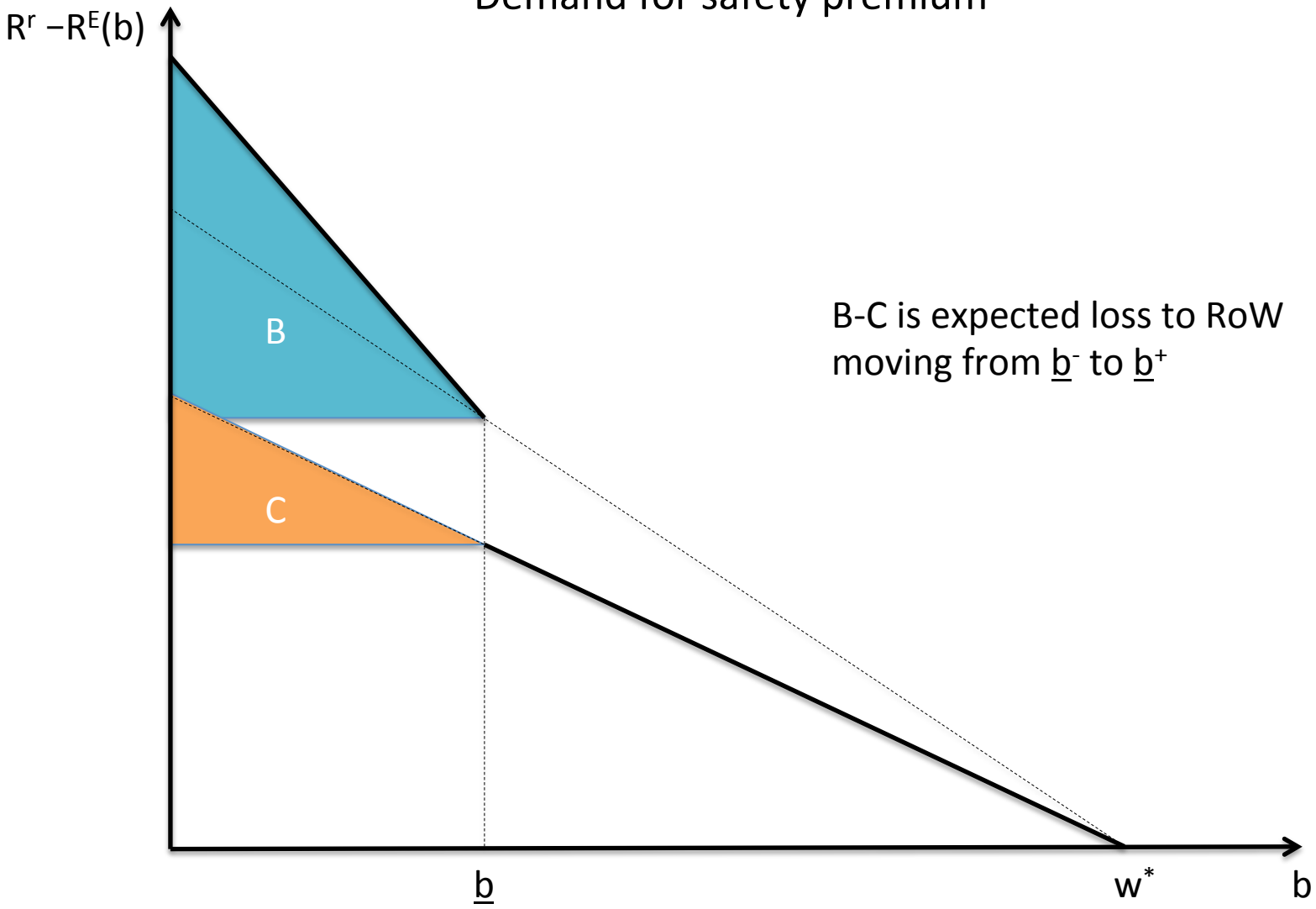

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- But the justification provided in the paper does not seem fully convincing
  - at the time RoW buys the debt the sunspot is known
  - why would RoW care whether debt is safe because $b \leq \underline{b}$ or because the world is "lucky"?

Under- and over-issuance

- The possibility that H might over-issue reserves because it does not internalize how the reduction in their safety affects RoW seems both interesting and highly policy relevant

- Authors present a natural interpretation in terms of quantity and "quality" of asset
  - market power often leads to low quantity and low quality
  - but here quality depends negatively on quantity
  - so net effect can be over-issuance

- But current presentation in which convex demand is
  - assumed rather than obtained from standard preferences, and
  - only used in this section of the paper

  might lead reader to think result is not as robust/natural as it actually is

Other comments

- Can problem of over-issuance be more severe in multipolar world?
  - less market power to countervail effects described above
  - Nurkse instability
- Devaluation versus default
  - which one is more relevant today?
  - how different are their effects?
- Number of reserve currencies versus number of reserve issuers (think Euro)
  - for market power number of countries seems more relevant
- Safety of issuer versus safety of currency
  - dollar corporate bonds are probably not a good substitute for US public debt
  - this makes model more relevant!

Overall assessment

- Elegant, novel framework
- Rich and interesting results
- Potential to build on it in future work