Discussion of Dovis and Kirpalani (2020) "Reputation, Bailouts, and Interest Rate Spread Dynamics"

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Questions/Goals

- Deals with ironic reality:
  - Every governing body promises they'll never bail failed states/banks
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1. What role does reputation play in the decision whether or not to bail out?
2. What impact does this have on debt pricing/spreads for states/banks?
3. Does reputation explain empirical patterns surrounding bailouts?
4. Policy implications?

Relevance

- Very relevant question

1. Eurozone deviations from 'no-bailout' Maastricht treaty
2. Corporate bailouts in 2008 GFC
3. Emerging markets governments subsuming private debt in crisis
4. Municipal authorities requesting bailouts from federal authorities
5. ...

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- Aggregate shock changes distribution of idiosyncratic ones

Timing

- Recursive/infinite-horizon model
- Each period has two sub-periods
  1. Sub-period 1: Borrowers borrow and lenders lend
  2. Sub-period 2: Aggregate/idiosyncratic shocks realize, defaults/bailouts take place (or don't)

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- All shocks iid in benchmark
- 'Slate cleared' in between periods
- In equilibrium, essentially a repeated game with stage games indexed by π

Banks/States

- Short-lived. Born in sub-period 1 and consume in sub-period 2
- Have access to project yielding gross output θk^{α}
- Budget constraint $k \leq Q(b, k|\pi, \Gamma)b$
- Have outside option yielding payoff 0 and limited liability on debt
  - Default is $\theta k^{\alpha} < b$
- θ is idiosyncratic with $\theta \in \{0, \theta_H\}$
- Aggregate shock $s \in \{s_L, s_M, s_H\}$ determines share of $\theta = 0$
  - $s_H \rightarrow$ Normal times, i.e., $h(\theta_H|s_H) = 1$
  - $s_M \rightarrow$ Mild crisis, i.e., $h(\theta_H|s_M) = 1 - \mu$
  - $s_L \rightarrow$ Severe crisis, i.e., $h(\theta_H|s_L) = 0$

Bailout authority

- Commitment type never bails out
- Optimizing type chooses whether to mimic or bailout
  - Conditional on bailout, also chooses size
- Types change exogenously between periods $\implies$ Stationarity
  - p_c is probability of commitment remaining commitment
  - p_{nc} is probability of transitioning *from optimizing* to commitment (confusing)

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- Focus on symmetric Markov equilibria where dynamics summarized by π alone at beginning of period

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   - (2) and (3) follow because investment inefficiently high?
4. Probability of bailout is decreasing in the level of reputation
   - You have "more to lose" if your reputation is good
5. Under additional conditions, you get
   - Bailout prob $= 1$ in severe crisis for any reputation
   - Mixing bailouts in mild crisis for some levels of reputation

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- If...
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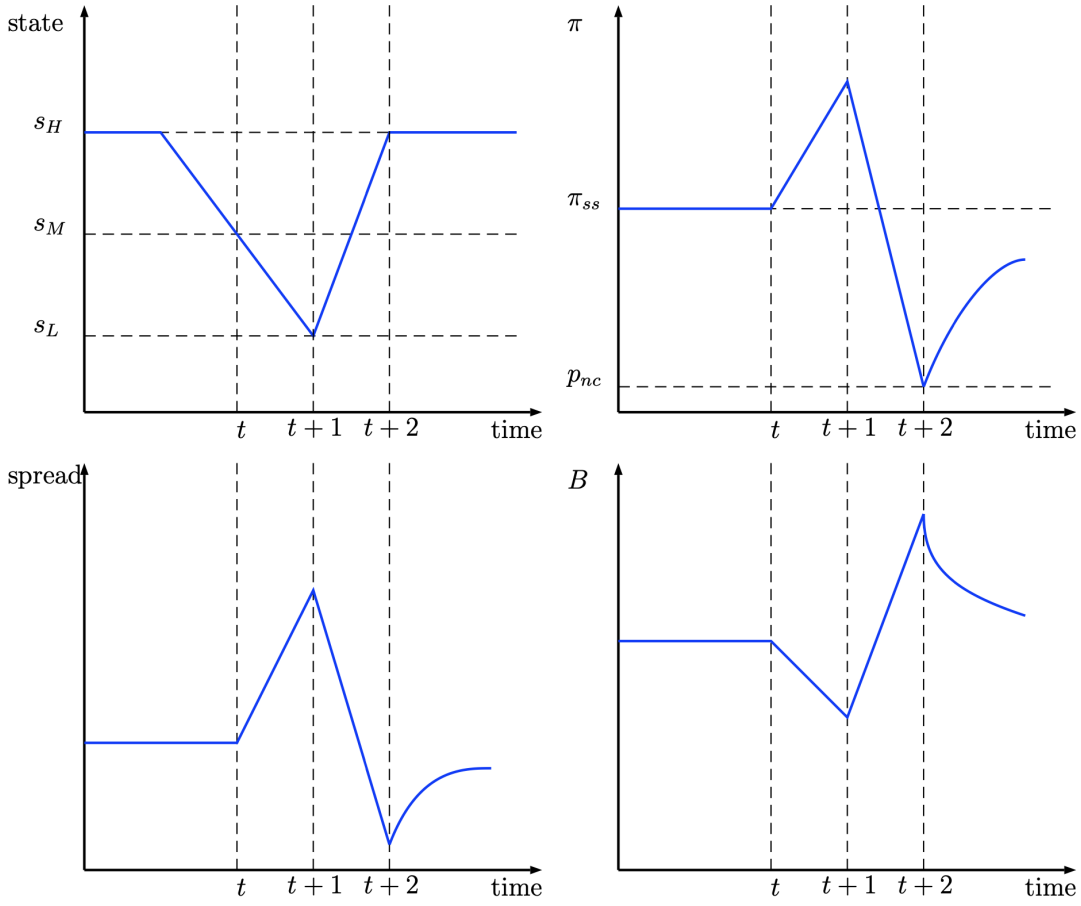
- Now...if a mild crisis hits *and* the authority (randomly) doesn't bail out
  - Reputation grows
  - Spreads grow as (expected) bailout probabilities fall
  - Debt levels fall
- If a severe crisis follows, a bailout occurs for sure
  - Type is revealed
  - Spreads fall dramatically
  - Debt levels rise

Dynamics/Narrative

Figure 2: Outcome path



Further results

- Extensions allowing
  1. Variations in borrower types
  2. Two-sided learning and sequential bailout requests
  3. Long-lived borrowers
  4. Consumption-smoothing variation
  5. Non-zero recovery rates
  6. Persistent shocks

Overall

- Very nice paper!
- Reputation difficult to get a handle on
- Done quite elegantly

Comments #1: Model Structure

1. No actions on part of commitment type
   - Missing out on 'positive' signaling on the part of the commitment type
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2. No interaction of debt levels with reputation
   - In benchmark and all extensions debt levels in period determined entirely by exogenous states/reputation in sub-period 1
   - Might be quite relevant to think about debt as an additional state
   - Authority with same reputation may refuse to bail out during low-debt states but not high-debt states

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2. Confusing notation, e.g., $W'(\cdot)$ is not a derivative of W but the result of passing W through a functional equation
3. (Technical) Monotonicity in Tarski step might require more than current assumptions
   - Establish that a p_{nc} exists for any given ΔW pair, but not that a $p_{nc} > 0$ exists that works *for all possible* ΔW pairs
   - Result likely still holds, but maybe shore up this part

Comments #3: Applications/Dynamics

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2. Existence proof allows for multiple (ranked) *Markov* equilibria as well
   - Do you find these? Would they yield additional insight into dynamics/policy?
3. Cannot find parameters for numerical example
   - How likely is typical narrative? Intuitively makes sense but it seems like an unlikely sequence in the benchmark
     - Maybe make model with two-sided learning benchmark to get dynamics with more palatable assumptions
     - Maybe run some simulations and explore typical crises generated by your model rather than picking specific sequences