Discussion of “Deadly Debt Crises: COVID-19 in Emerging Markets”

by Arellano, Bai and Mihalache

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Summary of the paper
Goals of this paper

- Quantitative framework of the epidemic & debt crisis:
  1. Epidemic $\rightarrow$ debt crisis, and
  2. Debt crisis makes the epidemic worse.

- Use this framework to study
  1. Optimal joint \{lockdown + debt + default\} policies
  2. Debt relief interventions
Basic ingredients of the framework

- **SIR+D** epidemiology model
  - Boils down to an *endogenous* transition matrix between *Susceptible*, *Infected*, *Recovered* and *Deceased*.

- **Sovereign default** model
  - Long-term debt
  - Smooth default technology: $d_t \in [0, 1]$
  - Deterministic

Connection: mitigation policies (lockdown) + mortality-in-the-utility func.
- Forced leisure → “stay at home”
- **Pro**: saves lives  
  **Con**: contracts output → debt crises
- Feedback: debt crises makes mitigation policies costlier.
Two equations

Bond price is given by:

\[
q_t(\mu_{t+1}(\mu_t, B_t), B_{t+1}) = \frac{1}{1+r} \left\{ (\delta + r)(1 - d_{t+1}) + [1 - \delta + \kappa(\delta + r)d_{t+1}] q_{t+1}(\mu_{t+2}, B_{t+2}) \right\}
\]

where \( \mu_{t+1} = \mu_{t+1}(\mu_t, B_t) \): eqbm. evolution of the S-I-R shares.

Optimal (interior) \( d_t \) policy satisfies:

\[
-\tilde{z}(1 - L_t)N_t\gamma'(d_t) = [1 - \kappa q_t(\mu_{t+1}, B_{t+1})] (\delta + r)B_t
\]

LHS: Mg. cost of partial defaults: decreased output
RHS: Mg. benefit: saved resources from not-paying
Findings

- Optimal joint response:
  - Use all tools: lockdown, borrowing and default.
  - Long and hard crisis: lockdown lasts 8 months, debt crisis lasts 40 months, large welfare losses (0.5% of population dies).
  - Still, much better than "No lockdown" and "Exogenous lockdown"

- Initial debt matters: less debt, more fiscal space, better smoothing of the crisis, fewer deaths.

- Debt relief initiative (ex-post):
  - Int’l agency buys 10% of debt.
  - Welfare gains for the borrower, capital gains for the lenders.
  - Overall positive social value.
My Comments
**Punchline:** Ambitious project. I like it.

**Specific comments:**

1. Numerical results and robustness
2. Debt relief: buybacks (?), haircuts, ex-ante vs. ex-post incentives
3. Looking ahead: high debt, and (rising) world interest rate
4. (Many) Other small comments → email
Numerical results and robustness

**Caveat:** I understand that the numerical results are *work-in-progress*

1. Robustness in the SIR-D block:
   - We “know” the estimation of these parameters is very sensitive to new data. Let’s use the standard errors around them (Online Appendix)
   - Tracking $R_t$ (ND graduate Carlos Rondon-Moreno and co-authors):
     http://trackingr-env.eba-9muars8y.us-east-2.elasticbeanstalk.com/
     Real-time (Bayesian) estimates of $R$ for 124 countries.
2. Robustness/calibration in the Sovereign Debt block

- (Some) Default costs parameters are borrowed from Arellano, Mateos-Planas, and Rios-Rull (2019). Ideally calibrate/estimate within this model.

- Examples of some clarifications (things I didn’t fully get):
  - Is the “Pre-pandemic” model calibrated to a $d_{ss} = 0\%$?
  - After the pandemic, the economy will have $N < 1$, then that has to be the terminal $V$ for the backward solution. Right?
  - Why do we need to define $q^{CDS}$ to compute the spreads? Can’t we define a spread using $q$?
Debt relief

- An int’l agency buys and **extinguishes** a fraction of debt. Jargon: this is not what we usually understand as **buybacks** Doesn’t consider **liquidity** needs of a borrower to buy (back) its own debt.

- Voluntary debt exchanges (Hatchondo, Martinez, Sosa-Padilla 2014): there is a mutually beneficial opportunity to reduce debt burden and increase market value.
  - This needs long-term debt (‘wrong’ side of the Laffer curve)
  - I think these opportunities also show up here.

- Ex-ante vs. ex-post considerations: don’t think they are relevant here.
Debt relief (cont’d)

- New paper with Leo and JC: *Sovereign Debt Standstills* (tune in on Thursday :).

- We study (quantitatively) the merits of debt relief proposals that focus on "standstills".
  - grace periods given by creditors so that countries can cope with large negative shocks – like COVID19 – without having to make coupon payments on their debts.

- Show that in general it’s not a good idea (creditors don’t want to participate)
- But haircuts are a better relief policy
Looking forward

- Even ‘after’ the pandemic ($t > H$), the debt is high
- It’s sensible(?) to expect that advanced economies will eventually raise rates

- Johri, Khan and Sosa-Padilla (2020), Paluszynski (2020): high $B +$ high (and increasing) $r^*$ are an explosive combo.

- Open questions to the authors and the audience:
  1. Should we expect even more default crises after the pandemic?
  2. Does that change the evaluation of which debt relief policies we push now?
AGAIN: Very nice paper/project, ambitious and policy-relevant.

Looking forward to the next iteration!