Sovereign Debt

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Introduction

Sovereign debt is different. But it is different in more than one way.

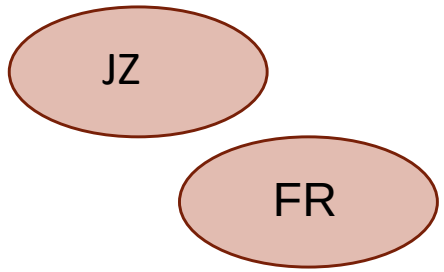
1. A safe and liquid asset that can help circumvent agency problems and financial frictions
2. An asset that comes with its own frictions: particularly an enforcement (wiliness to pay) problem.

Aim of this survey: to explain under what conditions either of these views may be relevant, and what they imply for the economy

- Benefits of sovereign debt as a safe asset
- Costs of living with risk sovereign debt

Plan:

- Safe sovereign debt
- Sovereign default
- Costs of sovereign default *risks*
- Policy implications and conclusion



Safe and liquid sovereign debt

Assumptions:

1. No or low default risk
   - Power to tax, enforcement problem solved by domestic political institutions
2. Private borrowing constraints

- Then, buying and selling government debt acts as a substitute for private borrowing (Woodford 1990, Holmstrom-Tirole 1998)
  - Government's power to tax enables agents to indirectly borrow against future income after all.

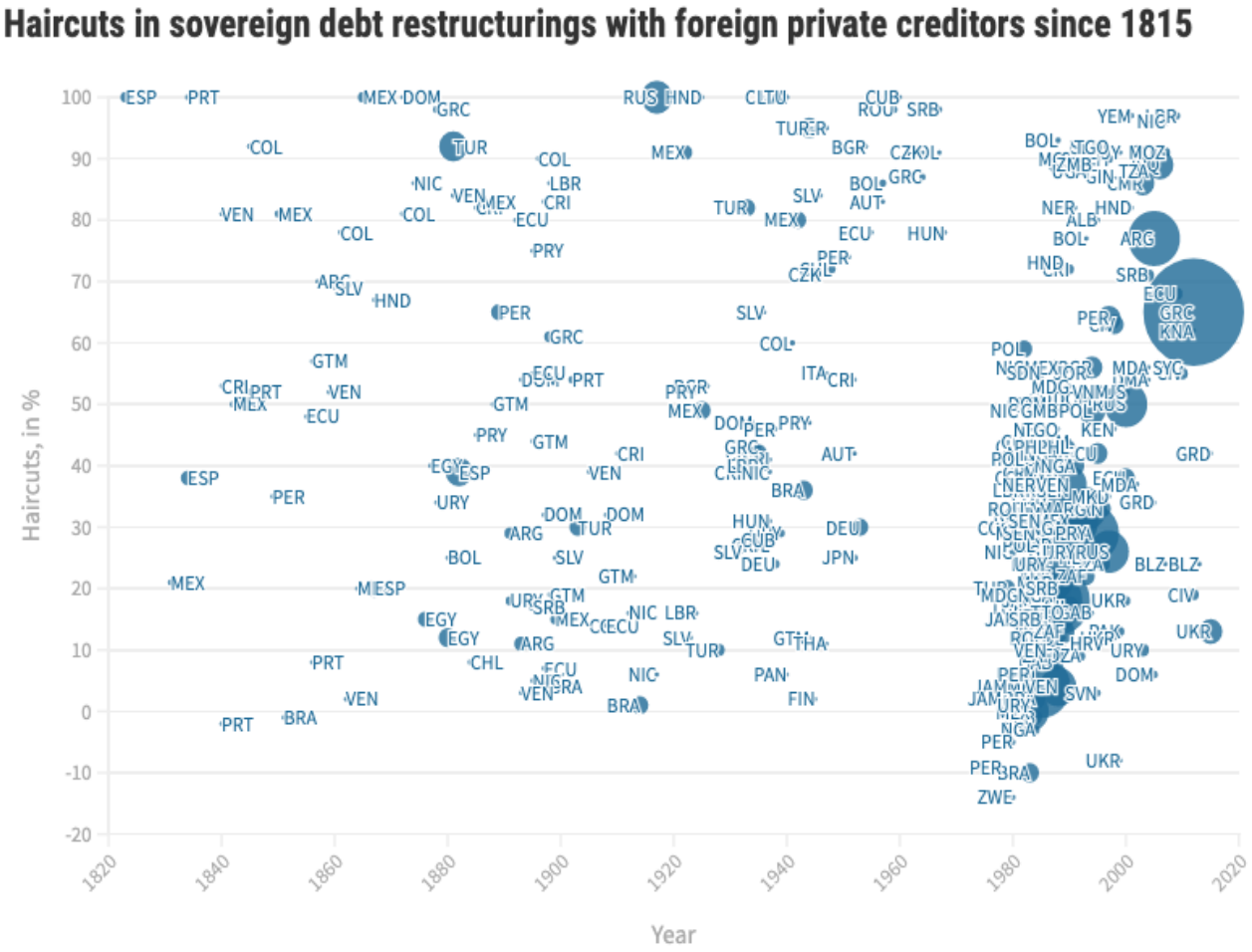
Implication: debt is valuable even if it does not offer a claim on future primary surpluses (Brunnermeier et al 2020, Reis 2021)

$$value\ of\ debt\ stock = \mathrm{E}\{PV(future\ primary\ surpluses)\} + \mathrm{E}\{PV(future\ service\ flow)\}$$

- Governments get a free lunch. But the size of the lunch is limited!
- Implications for sustainability of fiscal policy in advanced countries today.
  - Debate kicked off by Blanchard (2019).

Sovereign Defaults/Restructurings

- **A lot**. At least 300 since 1815 (Meyer et al 2021)
- Tend to happen in **clusters**, reflecting boom-bust cycles
- Average (NPV) investor losses ("haircut"): **44%**
- Haircuts/negotiation periods differ for preemptive and post-default restructurings (Asonuma-Trebesch 2016)
  - Pre: 1 year/18%
  - Post: 6 years/48%



The costs of default (for the debtor)

An obsession of the early (1980s-mid 1990s) sovereign debt literature

- Because it addresses question why sovereign debt can exist at all in the absence of contract enforcement against a sovereign.

Theory: capital market exclusion, higher borrowing costs, trade costs/sanctions, reputational spillovers. Role of secondary markets.

- Eaton-Gersovitz 1981, Bulow-Rogoff 1988,1990, Cole-Kehoe 1998, Kletzer-Wright 2000, Broner et al 2010 …

Empirics:

- Capital market exclusion, higher borrowing costs: yes, but temporary (Cruces-Trebesch 2013)
- Trade costs: yes (Rose 2005, Asonuma et al 2016) but no-one understands why
- Reputational spillovers: indirect evidence (defaults lead to generalized runs)
- Exposures of domestic financial system (Gennaioli et al 2018).

Output costs? (via all channels)

- Hard to separate from causes of defaults
- Kushinov-Zimmermann (2017): large but temporary. Peaks at 4 percent of output after 5 years. Marchesi and Masi (2021): permanent.

Measures of sovereign risk

Probability of default is unobserved

- Can study bond prices to infer investors' expectations

$$q_t = \sum_{s=0}^{\infty} \frac{d_{t+s}}{(1+r)^s}$$

- Solve for yield r to match price q_t when promised payments are d_{t+s}
- Typically compute spreads by comparing with similar bonds that are risk-free

What's in a spread?

- Default risk, but also
- Liquidity premia, ambiguity premia, risk aversion, political economy considerations

When do governments default?

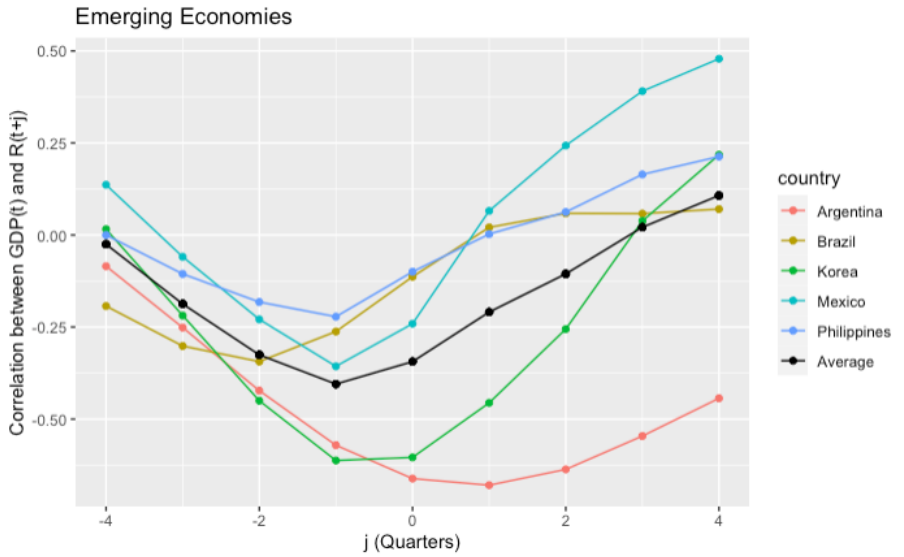
Anticipation of default closely related to spikes in spreads

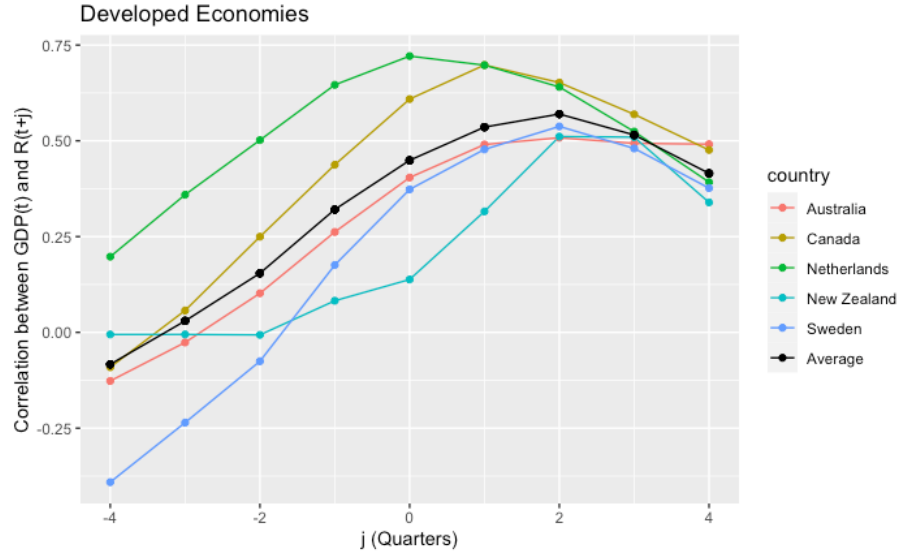
Resources	Borrowing costs	Political factors
• Countercyclical interest rates • Terms of trade • Wars, civil conflicts affecting productivity	• Especially when trying to roll over debt	• Swifts in political preferences, reputation • Strategic complementarities

Costs of sovereign *risk*

Literature inspired by Euro crisis – costs related to default *without default*

- Countercyclical spreads induce procyclical procyclical borrowing
  - ⇒ **procyclical fiscal policy**
- Public-private interactions microfound Neumeyer-Perri facts
  - Sovereign-bank nexus
  - Pass-through of sovereign risk to private borrowing rates
  - …affecting size and composition of investment, vacancy creation, aggregate demand
- Indirect evidence from “graduation”





Why are governments exposed to risk?

Three frictions

Incomplete markets (limited state-contingency)

Lack of commitment to repayment policies

Lack of commitment to future borrowing policies

Given market structure, majority of risk stems from **debt dilution**

- Long-term debt: prices depend on future (expected) prices
- Future prices depend on future borrowing decisions
- Time-inconsistency problem causes overborrowing

Mitigating sovereign risk

Institutions and strategies to attack the underlying frictions

Fiscal rules

- Directly affect size of fiscal deficits (and borrowing)
- Possibly state-dependent – what variable(s) should fiscal rules depend on?

State-contingent Debt

- Affect asset structure (and conditional distribution of repayments)
- *Puzzle*: why is sovereign debt noncontingent?
- Optimal **design** problem: how best to index sovereign debt?

Concluding remarks

- Sovereign debt different from private debt
  - For advanced and developing economies – but for different reasons
- Sovereign risk is a key reason why business cycles look so different
- Themes
  - When does sovereign risk occur?
  - Why is it costly?
  - Why do government choose to let it materialize?
  - What can be done to mitigate it?