Discussion of:

Indexed Sovereign Debt: An Applied Framework

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Overview

- Much discussion in policy circles about the benefits of introducing more "insurance" or "state dependency" into developing country debt
- These has also been some action, with debts explicitly (but only partially) indexed to
  - commodity prices: Mexico, Nigeria, Venezuela
  - GDP: Costa Rica, Bosnia, Bulgaria, Argentina
- Relatively little academic work on the form, function, and welfare benefits of such contracts
  - if agents relatively risk tolerant, will welfare benefits be significant?

This Paper

- Studies form of optimal state indexed *debt* contracts
  - “debt”: after initial principal extension, all payments by country are positive
- Debt insures against income fluctuations
- Default results in output cost, (no seizure of country assets: "reserves")
- Finding 1: Can implement optimal contract with a combination of reserves (assets) and state indexed debt
- Finding 2: Welfare benefits of moving to such are system are large (0.1 to 0.55% consumption in perpetuity)

In My Discussion

- Where do these large welfare benefits come from?
- Are the calculated welfare gains implausibly large?
  - some state contingency in existing "non-indexed" debt contracts
  - other vehicles for insurance exist: commodity derivative contracts
  - moral hazard
  - other issues in contract design
- Can we increase the potential for welfare gains?

The Gains from Indexed Debt

- Adding state contingencies to debts have two benefits
  - provides direct insurance
  - reduce need for more costly alternative forms of insurance
    - default
    - hold excess reserves
- Standard view: agents tolerant of risk, so direct insurance gains are small
- Model generates large welfare gains by allowing country to avoid using (very costly) default for insurance purposes

Costs of Default

- Calibrate output cost of 8% output in quarter of default
  - widely used number: Chuhan and Stuzenegger 2% per year
- But relationship between default and output quite weak in the data: Tomz and Wright (2006)
- Where do these costs come from?
  - loss of trade in goods? ('no' say Martinez and Sandleris 2005)
  - exclusion from financial markets? ('no' say Gelos, Sahay, & Sandleris 2005; but see Tomz 2007, Dias and Richmond 2008)
- BIG QUESTION: What are these costs of default?
  - see Sandleris and Wright (2009) and Richmond (2009)!
- For now, would like to see more on robustness of welfare gains to different probabilities and costs of default

An Overestimate of Welfare Benefits?

- Suppose we accept output cost are large. Is estimate of welfare gain of move from non-contingent defaultable debt to contingent debt reasonable?
- Existing debts already somewhat state contingent:
    - in different currencies
    - issued at different maturities (Buera & Nicolini; Angeletos)
    - default and renegotiation
- Other contracts can be used for insurance
    - e.g commodity price derivatives can approximate commodity price indexed debt
- How control for presence of these other insurance options? Calibrate to consumption volatility? But consumption more volatile than output in these countries! (e.g. Restrepo 2008)

An Overestimate: Moral Hazard

- Will moral hazard undermine potential welfare gains?
  - Authors argue no: too costly to drive economy into ground to avoid payout
- But governments also collect economic statistics:
  - Brazil/Argentina: CPI
  - UK: Unemployment
  - Greece: fiscal position for EU accession
- Commodity prices exogenous? Some developing countries have market power in exports

Issues in Contract Design

- Optimal indexed debt contract quite complicated. Depends on:
  - output process
  - government's preferences
  - nature of output cost
- If incorrectly designed, may induce opportunistic "default" in "good times":
  - see Cole and English (1997), Tomz and Wright (2008) on expropriations of equity contracts

Can We Increase Benefits of Indexation

- Optimal portfolio includes reserves and indexed debt
- Reserves fulfil role of allowing net payments to government
- But reserves cannot be seized in event of default (protected by treaty): therefore also worsen default incentives
- Why not encourage countries to accumulate seizable assets?

Conclusion

- One of the few academic papers to examine optimal indexation of *debt* (as opposed to insurance more generally)
- Findings:
  - optimal contract can be implemented as a combination of state non-contingent reserves and indexed debt
  - welfare benefits of this change are large: avoids costly defaults in equilibrium
- Questions:
  - how do we account for presence of existing state contingencies in welfare calculations?
  - why haven't countries introduced such contracts before? used substitutes?
  - is moral hazard something we can ignore?
  - where do the large output costs of default come from?
  - why reserves immune to attachment?