ON THE OPTIMAL SPEED OF SOVEREIGN DELEVERAGING WITH PRECAUTIONARY SAVINGS

Discussion by:
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* The views expressed in this presentation are those of the presenter and do not necessarily represent those of the IMF or IMF policy.
Overview

- The paper analyzes the optimal speed of sovereign deleveraging in a depressed economy where some private agents are already deleveraging.
  - Should government delay its deleveraging or proceed along with the private deleveraging?
  - Trade-off between reducing fiscal vulnerabilities and further depressing the economy.
- Very important policy question with real-world implications.
Overview

- To address this question a model needs:
  - Non-Ricardian Features
  - A motive for deleveraging
  - Trade-off between deleveraging earlier or later
Overview of the Model: Households

- Households have preferences over consumption and leisure:
  \[ \sum_{t=0}^{\infty} \beta_i^t \left( u(c_t^i) - \kappa_n \frac{N_{i,t}^{1+\varphi}}{1 + \varphi} \right) \]

- Consumption is a CES aggregate of home and foreign goods

- Households have CARA utility
Overview of the Model: Savers vs Borrowers

- Mass $\chi$ of households is impatient (borrowers)
- Mass $1-\chi$ is patient (savers)

Savers:
- Lend to borrower households
- Hold government debt
- Hold foreign assets
- Hold equity on firms

Savers vs borrowers is a source of non-Ricardian equivalence in the model
Overview of the Model: Government and Firms

- **Government**
  - Exogenous government expenditure in home goods (does not enter in household utility)
  - Levies lump-sum taxes
  - Issues long-term bonds with geometrically decaying coupon; All debt held domestically (by savers)

- **Firms**
  - Production linear on index of labor of borrowers and savers:
    \[ N_t \equiv N_{b,t}^\chi N_{s,t}^{1-\chi} \]
Private Deleveraging

- Impose constraint that borrower households need to reduce their private debt
  - Reduction in household debt from 80 to 60 percent of GDP over 5 years
- Consumption of borrowers decline
- Consumption of savers does not compensate for that decline
  - Savers can still save by holding government bonds or foreign assets
Public Deleveraging

- If the government defaults:
  - Creditors incur a haircut
  - Output suffers a deadweight loss
  - No further default can take place in the model
- Probability of default is a function of the level of debt; Calibrated based on spreads in the eurozone, with a spline at 90 percent of GDP
- Public deleveraging reduces debt from 120 to 80 percent of GDP
- Consider simulations of an early public deleveraging and one where public deleveraging is delayed until private deleveraging is completed
Figure 8: Dynamics with Early Sovereign Deleveraging

- **Savers consumption**
- **Borrowers consumption**
- **Output**
- **Default probability (yearly)**
- **Price of government debt**
- **Taxes**

The graphs illustrate the dynamics of savers' and borrowers' consumption, output, default probability, price of government debt, and taxes over time, with distinct scenarios for no deleveraging, deleveraging, and no risk.
Figure 9: Dynamics with Late Sovereign Deleveraging
Comments/Suggestions

- Paper considers alternative scenarios for public deleveraging
- Is it possible to solve for optimal path?
- If solution complicated; can we compare welfare under different rules?
- All paths considered in the paper involve gradual reduction of debt
  - Imply a fairly front-loaded increase in taxes, particularly in the early deleveraging scenario
What about paths anchored on taxes? Analogous to using fiscal balance as the anchor of adjustment (since $G_t$ is exogenous)

Could also consider gradual adjustment in taxes

Some of the resulting paths could even allow debt to initially increase before declining
Comments/Suggestions

- Result that savers prefer early deleveraging while borrowers prefer late deleveraging is very interesting from a political economy perspective.

- In practice richer households account for disproportionate share of savings.

- Political economy problem further compounded if debt held by foreigners.