"Stabilization Versus Sustainability" by Bi, Leeper and Leith

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Motivation

- identifying conflicts between stabilization and sustainable policies
- how do monetary and fiscal policy operate near the debt limit
- who minds the intertemporal government budget constraint?

- prefer much more, not yet a fact driven paper
- Figures
  - pertain to risk premia and inflation of Greece, Ireland, Spain and Portugal
  - note divergence in inflation experience of Ireland and Greece
  - would like to see measure of economic activity, like unemployment
- other potential evidence:
  - experiences of other countries around time of default: Argentina? [Mendoza et al, Reinhart and Rogoff]
  - fiscal and monetary policy impact is different (nonlinearities) near the debt limit?

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Approach

- a model of the macroeconomy with
  - fiscal and monetary policy rules
  - sticky prices, quadratic adjustment costs
  - cashless economy
  - state dependent default probability
- Section 3: simple analytics
- Sections 6-8: quantitative analysis of "complete model"

Keys

- What is a fiscal limit?
    - (stochastic) top of the Laffer curve: feasibility
    - binding incentive compatibility constraints on repayment: incentives
    - how do these two views interact?

- Who balances the budget?
    - $b_{t-1} = \tau_t - g + \Delta m_t + \frac{b_t}{1+r_t}$
    - Leeper JME 1990 on active vs. passive policy
    - Here: active monetary policy and passive fiscal policy
    - Default may still occur

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Quantitative Analysis

- calibrate the big monster (R. Marimon)
- Solve non-linear model
- Figure 5 makes non-linearities in decision rules clear

Overall Findings

- near debt limit, monetary contraction:
    - reduces output more
    - reduces inflation only in the short run
    - sustained rise in inflation in the medium term
- fiscal policy more inflationary
- increase in probability of default raises inflation today as return must increase
- Interpretation: "loosely consistent" with correlations in the figure.
    - but figures show disparate inflation, no "medium term", no fiscal variables, output effects?
    - prefer evidence of impulse responses that depend on debt level

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Enrichments

- multi-country setting (Sims comments)
  - Figure 1 is about countries within a MU, analysis does not directly apply
  - cross holding of government debt matters for default and bailout decisions
  - game between multiple fiscal entities and a single central bank
- role of private debt (Spain)
- role of expectations in driving "runs on sovereign debt"
- focus more on post default outcome: see simple model that follows
- replace assumed rules with optimal behavior: fiscal policy, monetary policy, default, prices
- consider, ala Uribe, active monetary and fiscal authorities

Simple Alternative Model

- OG model with production: $u(c_{t+1}) - g(n_t)$
- stores of value: money and nominal bonds
- two states: (i) repayment of interest on debt by taxes and money creation OR (ii) default on debt
- state dependent levels of employment and inflation
- active monetary authority σ, passive fiscal authority τ
- employment and output effects present

- Young of generation t maximize

$$\delta u(\frac{m_t}{\tilde{\pi}_{t+1}}) + (1 - \delta)u(\frac{m_t + R_t b_t}{\pi_{t+1}} - \tau_{t+1}) - g(m_t + b_t) \quad (1)$$

  δ is the probability of default

- π is inflation in normal states, $\tilde{\pi}$ is inflation when default occurs
- no rate of return dominance due to default risk
- real GBC: $b_{t-1}\frac{R_t}{\pi_t} = \tau_t + \Delta m_t + b_t$

$n, \tilde{n}$ and R given money growth (inflation target) σ

$$\delta \frac{\tilde{n}}{1+\sigma} u'(\tilde{n}) + (1-\delta)u'(n)\frac{(n-b)}{1+\sigma} = g'(n)(n-b) \qquad (2)$$

$$(1-\delta)\frac{R}{1+\sigma} u'(n) = g'(n) \qquad (3)$$

and

$$u'(\tilde{n})\frac{1}{1+\sigma} = g'(\tilde{n}) \qquad (4)$$

Solve: (4), (2), (3) given (δ, σ, b)

- default
    - $\delta(b)$ influences n and R
    - post default policy influences n and $\tilde{n}$
    - deflation at time of default: $\tilde{n} > (n - b)$
    - $\delta \uparrow \rightarrow R \uparrow$, and $n \uparrow$, and deflation with σ given in (3)
- monetary policy:
    - partially fund interest payments in no default state
    - post default policy matters for pre-default outcome
- $b \uparrow$
    - higher interest payments and taxes
    - σ independent
    - n falls if distortionary taxes

Bottom Line

- Awesome Topic
- Write (at least) two papers
    - exposing the mechanisms: Leeper 1990 + section 3 with enrichments
    - reality: IRFs and quantitative analysis, stress non-linearities
    - even more reality: embed in Monetary Union (Sims)