Discussion of

The Austerity Threshold

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The *want* operator

This paper seeks to answer **two** questions

1. Is there a system of expectations under which

   … US government debt is sustainable

   and yet

   … surpluses do not respond to debt levels? [in observed range]

2. Is there a debt level at which such a system does **not** exist?

… in a model with rich and realistic macro dynamics, risk premia, capital accumulation, etc

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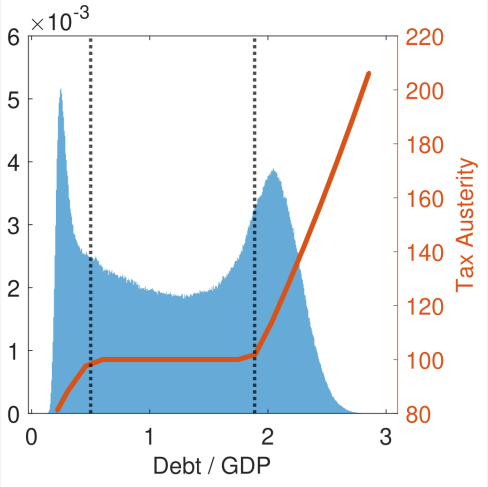
1. Is there a system of expectations under which **YES**
   - … US government debt is sustainable

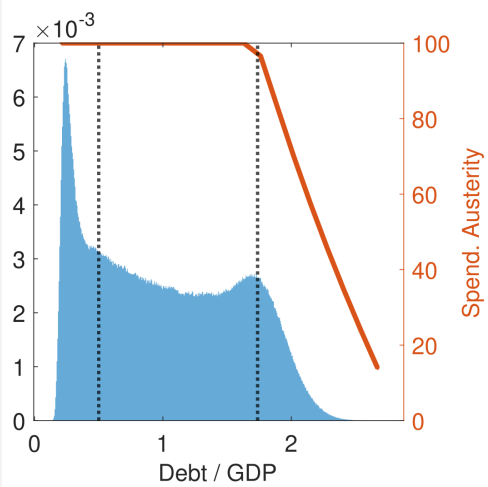
     and yet
   - … surpluses do not respond to debt levels? [in observed range]
2. Is there a debt level at which such a system does **not** exist? **The Austerity Threshold**

… in a model with rich and realistic macro dynamics, risk premia, capital accumulation, etc

Forceful Adjustments after Threshold Sustain High Threshold

- Passive policy when debt is high enables active when it is low [Bianchi and Melosi, 2022]



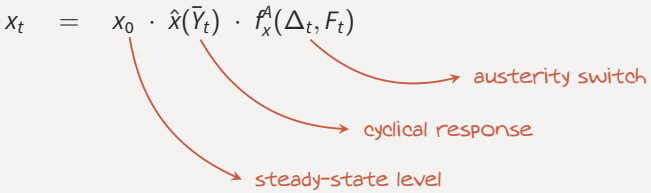


How it works

Rules for Taxes and Spending

- Tax rates, spending, and taxes all follow rules of the form

$$x_t = x_0 \cdot \hat{x}(\bar{Y}_t) \cdot f_x^A(\Delta_t, F_t)$$



- $\Delta_t = W_t^G / Y_t$ is the market value of debt, compared with the threshold $\bar{\Delta}$
- F_t controls whether the adjustment uses taxes or spending and transfers
- Choose maximum $\bar{\Delta}$ such that in simulation debt remains bounded wp1

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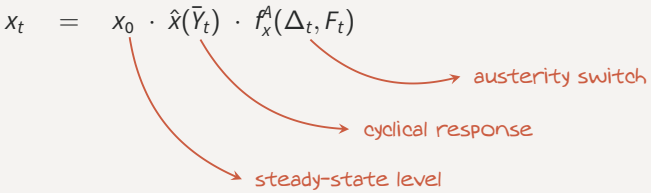

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Is It Too Late for US Debt to Be Sustainable?

Main results

1. No, austerity thresholds could be in the $150 - 200\%$ range

2. *How* the adjustment will be implemented matters
   - Spending cuts lower aggregate demand $\Longrightarrow$ deflationary
   - Tax increases lower aggregate supply $\Longrightarrow$ inflationary

3. Uncertainty about adjustment type lowers the threshold to as low as 115%!

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Comments

(1) Sustainable Does Not Mean Risk-Free

- Requirement that debt ratios explode wp0 $\neq$ debt is risk-free [b/c of inflation risk]
- Rational agents should price in inflation risk [shows up in consumption and investment]
  - … In tax austerity, more inflation ex-post, so ex-ante rates $\uparrow$
  - … In spending austerity, less inflation ex-post, so ex-ante rates $\downarrow$
  - … With uncertainty, harder to price risks in, higher risk premia
- Can you tease out how risk premia affect investment in a simpler model?

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(2) Minimal deviation from estimated rules

- Austerity threshold designed to avoid subverting the essence of fiscal policy
  - … only an add-on on top of estimated rules for taxes, spending, and transfers

$$x_t \quad = \quad x_0 \cdot \hat{x}(\bar{Y}_t) \cdot f_x^A(\Delta_t, F_t)$$

- Could go much further if willing to change rules by more

(2a) The Natural Debt Limit

- For a household, debt limit at state z requires all future resources for repayment

$$\bar{b}(z) + \underbrace{c(z')}_{=0} = y(z') + \frac{1}{1+r}\bar{b}(z')$$

so, analyst must be willing to assume a minimum possible income state $z' \mid z$

$$\bar{b}(z) = \min_{z'} \left\{ y(z') + \frac{1}{1+r}\bar{b}(z') \right\}$$

- If the minimum z' is constant, get $r\bar{b} = y_{\min}$

(2a) A Natural Debt Limit for the Government?

For tax austerity [Naive plan]

- Keep spending and transfers at their rules
- Set $\tau(s)$ at the maximum of the Laffer curve for state s
- Obtain $\bar{b}(s)$ by solving the government's budget constraint

Problems

- Capital accumulation dynamics $\Longrightarrow$ debt could be above $\bar{b}(s)$ and remain sustainable
- Necessarily a commitment question

Proposal

- Given a debt level $\bar{b}$ *measured as share of trend GDP*
  - Solve taxes (or spending) to keep debt at $\bar{b}$ and maximize output/welfare
  - Solve entire equilibrium
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- Keep current rules when $b < \bar{b}$

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(2b) Adjustment intensity

- Lots to explore varying the intensity of adjustment

$$f^A_\tau(\Delta_t, F_t) = \left(\frac{\Delta_t}{\bar{\Delta}}\right)^{\mathbb{1}_{[F_t=1]}\tau_A}$$

- τ_A controls the aggressiveness of taxes in the austerity region
  - … but its value is not discussed!
- Implicit tradeoff: higher $\tau_A \implies$ more likely to go beyond the peak of the Laffer curve
  - Easy to solve by enforcing maximum tax rates
  - Could optimize over τ_A for
    - … maximum welfare
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The IMF take

- The IMF has a Sovereign Risk and Debt Sustainability Framework for a similar purpose
- Iterate on the government budget constraint

$$\frac{B_{t+1}}{Y_{t+1}} = \frac{1}{(1+g_{t+1})(1+\pi_{t+1})}\left[(1+r_t)\frac{B_t}{Y_t} - \frac{pb_t}{Y_t}\right]$$

using detailed descriptions of debt instruments to unpack r_t

- Take projections for the next T years, historical distributions for shocks
- Obtain a distribution for B_{t+T}
- Look at the probability of $pb_t \geq dspb$
- Implicitly assumes continuation of current system of expectations
  - Fully sidestepping questions of commitment!

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(3) Using the model

- Different adjustments in austerity region have implications for the equilibrium outside
  $\longrightarrow$ Can you measure what is the expected type of austerity in the data?

- Objective is to keep debt **nominally** risk-free, but real inflation risks!
  $\longrightarrow$ Can you compute expected debasement risk in each austerity type?
  $\longrightarrow$ What is the austerity threshold imposing no or low debasement?

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Concluding Remarks

- Very cool exercise
- Without clarity on type of eventual adjustment, austerity threshold could be very close
- Lots to gain from separating the two questions
  1. How likely is US debt to be sustainable?
     - … compare different adjustment types/intensities
     - … trace out implications and distinguish them?
     - … while keeping debasement risk low?
  2. What is the maximum sustainable debt level for the US economy?
     - … necessarily a question about commitment, expectations management, etc