Discussion: "Can Deficits Finance Themselves"

by George-Marios Angeletos, Chen Lian and Christian Wolf

6th ECB Fiscal Policy Conference, Dec. 18th 2023

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The Paper

A self-financing fiscal deficit ...

1. **Is it possible** in theory?

2. **Is it plausible** in practice?

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1. **Is it possible** in theory? **Yes**

   Key ingredients: (i) nominal rigidities and (ii) household with finite lives / liquidity constraints
   Mechanism: push fiscal adjustment into the future $\Rightarrow$ large and persistent boom in the present

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   Quantitative analysis in calibrated OLG and HANK models $\Rightarrow$ degree of self-financing is **substantial**

Discussion: A Preview

A self-financing fiscal deficit ...

1. **Is it possible** in theory? **Yes**

Are there alternative ways to get (full) self-financing?

2. **Is it plausible** in practice? **Yes**

A puzzle and possible explanations

Self-Financing: Simple Arithmetics

- Government budget constraint (in real terms)

$$B_{t+1} = (1 + r_t)\, B_t + \underbrace{(G_t - T_t)}_{\text{Primary Deficit}} \qquad \text{(Gov. Budget)}$$

G_t: gov't expenditure (exogenous), $T_t \equiv \tau_t Y_t$ tax revenues, $r_t \equiv i_{t-1} - \pi_t$ is ex-post real rate

Self-Financing: Simple Arithmetics

- A simple decomposition (iterating forward + total differentiation + terminal condition)

$$\underbrace{\sum_{t=0}^{\infty} \beta^{-t} dG_t}_{\text{Total}} = \underbrace{\tau \sum_{t=0}^{\infty} \beta^{-t} dY_t}_{\text{Tax Base}} + \underbrace{B \sum_{t=0}^{\infty} \left(-\beta^{-t} dr_t\right)}_{\text{Monetary Policy}} + \underbrace{Y \sum_{t=0}^{\infty} \beta^{-t} d\tau_t}_{\text{Fiscal Policy}}$$

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- **Tax Base** share of financing related to **Fiscal Multiplier**

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Implication: full self-financing requires

$$\mathcal{M} \geq \frac{1}{\tau} >> 1$$

Large Fiscal Multiplier: Some Theories

- **Real Business Cycle model** [see e.g. Baxter and King (1983)]
  - $\mathcal{M} >> 1$ for (persistent) shocks to investment and distortionary taxes

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- **New Keynesian** models:
  - **RA:** $\mathcal{M} >> 1$ if monetary policy **sufficiently accomodative** ($r_t \downarrow$)
    [Woodford (2011), Christiano, Eichembaum, Rebelo (2011)]
  - **HA:** $\mathcal{M} >> 1$ due to **liquidity constraints / finite lives**
    TANK [Galí, Lopez-Salido, Vallés (2007), Bilbiie, Monacelli and Perotti (2013)],
    HANK [Kaplan-Moll-Violante (2018), Auclert-Rognlie and Straub (2018)],
    OLG / Perpetual-Youth models [Rankin and Scalera (1995), Basso and Rachedi (2021)]

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This paper: focus on conditions for (full) self-financing + quantitative assessment

Comment #1: Alternative Ways to Get Self-Financing

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- **Comment:** (full) self-financing does not necessarily require delayed fiscal adjustment
  1. **Baseline NK model**: "money-financed" fiscal stimulus [Galí (2020)]
  2. **Two-Agent NK mode**l: large enough share of Hand-to-Mouth households

Example 1: A Money-Financed Fiscal Stimulus

based on Galí (2020)

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$$b_t = \beta^{-1} b_{t-1} + \beta^{-1} b(i_{t-1} - \pi_t) + (g_t - t_t) - \xi \Delta m_t$$

- Fiscal rule (passive)

$$t_t = \phi_b b_{t-1} + \tau y_t - \varepsilon_t$$

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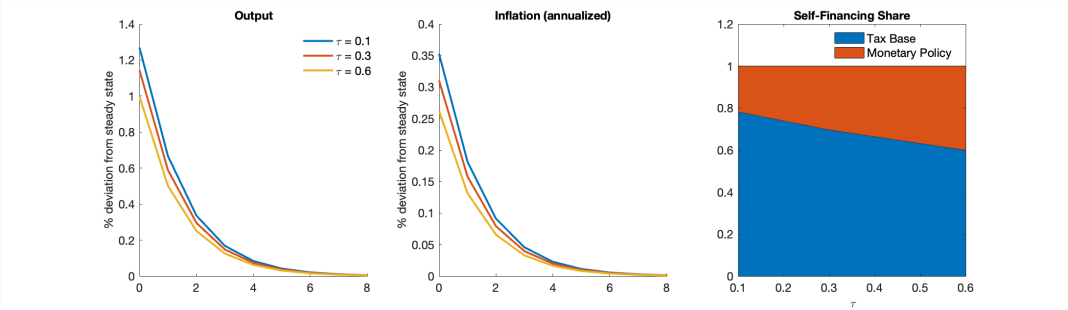
- Monetary rule (active):

$$\Delta m_t = \frac{1}{\xi} \left[\beta^{-1} b(i_{t-1} - \pi_t) + g_t + \varepsilon_t - \tau y_t \right]$$

$\Rightarrow$ adjust money supply so that **no tax adjustment** needed in response to fiscal shocks (g_t or ε_t) (but tax base and hence tax revenues do change)

Example 1: A Money-Financed Fiscal Stimulus

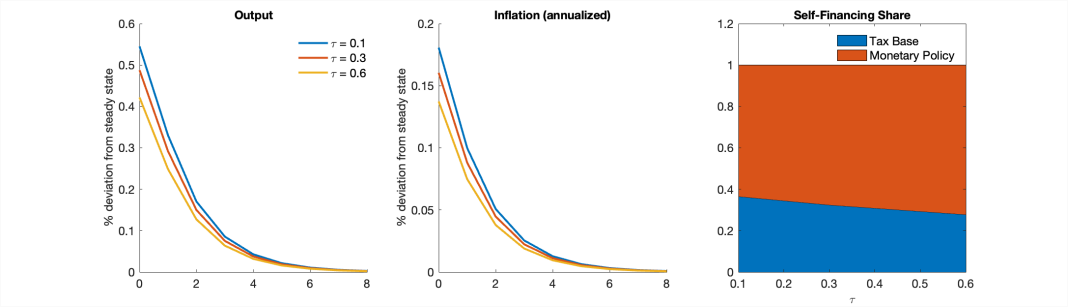
Government Spending Shock



- **Remarks:**
  - share of self-financing is 100% (by construction)
  - substantial part due to Tax Base channel (... which is itself "money financed")

Example 1: A Money-Financed Fiscal Stimulus

Lump-sum Transfer Shock



Example 2: A Two Agent NK Model

- Two types of agents:
  - **H**and-to-Mouth (measure λ):

$$C_t^H = W_t N_t - T_t \qquad \text{(HtM Budget)}$$

  - **S**avers (measure $1 - \lambda$):

$$C_t^S + B_t = \left(\frac{1 + i_{t-1}}{1 + \pi_t}\right) B_{t-1} + \left(W_t N_t + \frac{D_t}{1 - \lambda}\right) - T_t \qquad \text{(Savers Budget)}$$

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- **Supply side:** standard New-Keynesian Phillips Curve
- **Fiscal authority** (same as in this paper): $t_t = \tau_y y_t + \tau_b b_t - \varepsilon_t$
- **Monetary authority** (same as in this paper): constant real interest rate $\Rightarrow$ constant consumption for savers $C_t^S = C^S$

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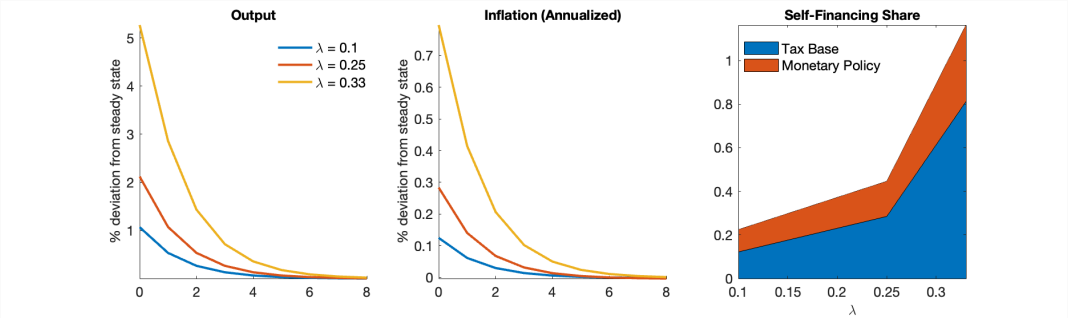

- **Remarks:**
  - share of self-financing is 100% when λ is large enough
  - substantial part due to Tax Base channel

Comment #2: Substantial Self-Financing: A Puzzle?

- **This paper:** analysis based on quantitative OLG and HANK models
  - evidence on MPCs + slow fiscal adjustment $\Rightarrow$ Self-financing share $v \simeq 0.95$ (mostly tax base)

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- **Possible reasons for low fiscal multipliers in reality**
  1. delayed adjustments may exacerbate **credibility problems**
     $\Rightarrow$ real interest rate $\uparrow$ $\Rightarrow$ consumption and investment $\downarrow$ $\Rightarrow$ multiplier $\downarrow$ $\Rightarrow$ share of self-financing $\downarrow$
  2. size of multiplier depends on **slack in labor markets** (what about current situation?)
     [see e.g. Auerbach and Gorodnichenko (2012), Barnichon, Debortoli and Matthes (2021)]

Conclusions

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- A nice and thought-provoking paper
  - shows conditions under which deficits can (fully) finance themselves
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- Comments: delaying fiscal adjustments ...
  - might not be necessary to reach high level self-financing (higher multiplier)
  - might have negative consequences (or be ineffective)
- Call for more evidence on effects of delayed fiscal adjustments