

The Intertemporal Keynesian Cross

Auclert-Rognlie-Straub

Discussion

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Outline of my discussion

1. Background, insight, and contribution
2. Empirics of the IMPC
3. The usual problem with the sufficient statistic approach
4. Illiquid vs unaccessible wealth: does it matter?

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I will criticize, but bottom line: very valuable contribution

Background

- Serious criticism to RANK models: Q1-MPC = discount rate < 2%
- Sharply at odds with the data: empirically Q1-MPC = 25%
- Matters: MPC is a key driver of transmission mechanism

Background

- Serious criticism to RANK models: Q1-MPC = discount rate < 2%
- Sharply at odds with the data: empirically Q1-MPC = 25%
- Matters: MPC is a key driver of transmission mechanism
- Discussion in the literature focused on impact MPC: $\frac{\partial C_0}{\partial y_0}$
- ARS: too narrow, in dynamic macro models what matters is the entire path of MPCs, $\frac{\partial C_t}{\partial y_s}$, $s, t \geq 0$
- They shift emphasis: new object of interest in macro models

Intertemporal MPCs

Insight

- Under some **very special** assumptions:

$$C_t = C_t(\{Y_s - T_s\})$$

- Goods market clearing:

$$Y_t = C_t(\{Y_s - T_s\}) + G_t$$

$$dY_t = \sum_{s=0}^{\infty} \left[\frac{\partial C_t}{\partial (Y_s - T_s)} \right] (dY_s - dT_s) + dG_t$$

$$d\mathbf{Y} = (\mathbf{I} - \mathbf{M})^{-1} d\mathbf{G} - (\mathbf{I} - \mathbf{M})^{-1} \mathbf{M} d\mathbf{T}$$

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$$d\mathbf{Y} = (I - M)^{-1} d\mathbf{G} - (I - M)^{-1} M d\mathbf{T}$$

- In this very special case: M is a sufficient statistic to study the size/dynamic shape of fiscal multiplier
- Very special, but **very clever** (Cambridge-style clever)

Insight

- Rearrange:

$$\begin{aligned}d\mathbf{Y} &= (I - M)^{-1} d\mathbf{G} - (I - M)^{-1} M d\mathbf{T} \\ &= d\mathbf{G} + \left[(I - M)^{-1} - I \right] d\mathbf{G} - (I - M)^{-1} M d\mathbf{T} \\ &= d\mathbf{G} + (I - M)^{-1} M \underbrace{(d\mathbf{G} - d\mathbf{T})}_{>0: \text{fiscal deficit}}\end{aligned}$$

- Macro models imply different M matrices, so M useful to:
 1. understand fiscal multipliers across models
 2. understand how financing of G matters
 3. discriminate across models, given empirical evidence about M
 4. namely, establish a 2-asset model matches empirical evidence

Contributions

1. Intertemporal MPC vs impact MPC

- ARS: *A recent literature has argued that MPC are important moments for PE effects... we propose a new set of moments and argue they are important for GE effects.*
- Kaplan-Violante, (JEP 2018): *The higher average MPC [...] makes the GE effects of aggregate demand fluctuations much more salient in the HA version of the New Keynesian model than in its RA version.*

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2. Importance of how dG is financed

- Existing papers argue it matters through labor supply behavior
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3. 2-asset model matches IMPCs

Evidence on IMPCs

- Entry of M is $MPC_{t,s}$, MPC at time t of change in income at s

$$\begin{array}{c}
 t \\
 t + 1 \\
 t + 2 \\
 t + 3
 \end{array}
 \begin{array}{c}
 t \\
 t + 1 \\
 t + 2 \\
 t + 3
 \end{array}
 \begin{bmatrix}
 MPC_{t,t} & MPC_{t,t+1} & MPC_{t,t+2} & MPC_{t,t+3} \\
 MPC_{t+1,t} & \dots & \dots & \dots \\
 MPC_{t+2,t} & \dots & \dots & \dots \\
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 \end{bmatrix}$$

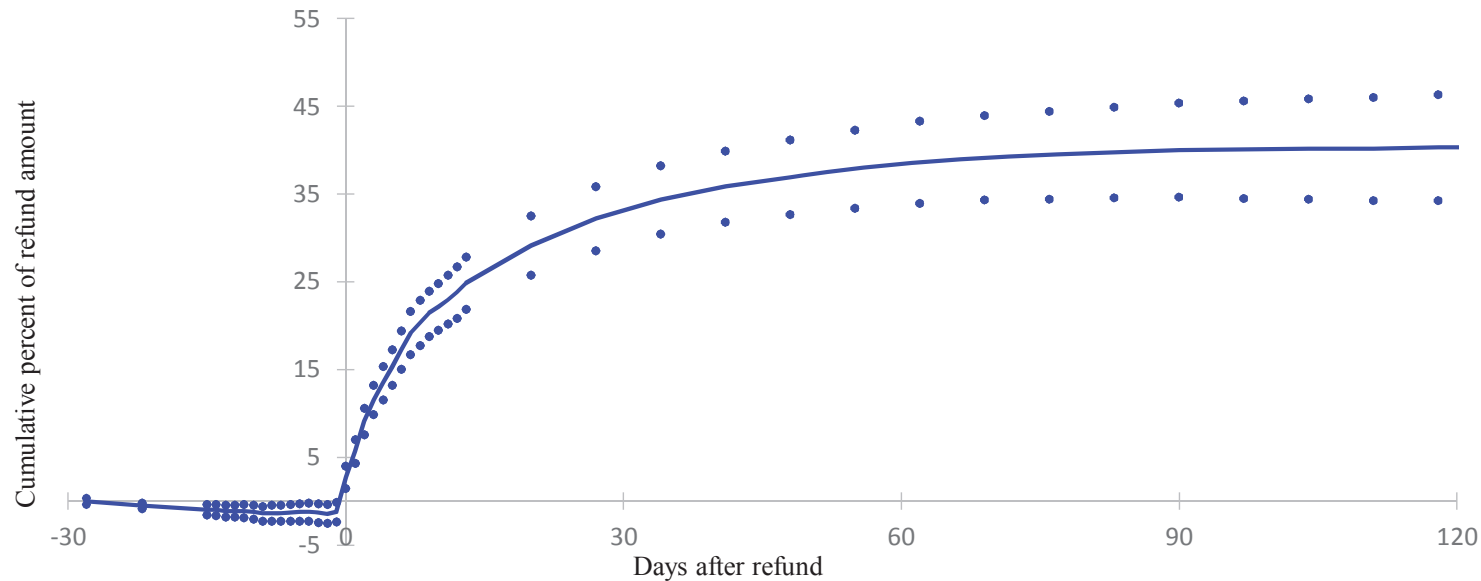
- Below diagonal: contemporaneous / lagged MPC. Some evidence
- Above diagonal: response to news! **As important, but no evidence**

Evidence on IMPCs

- **Suggestion I:** calibrate model to higher frequency and focus on 1-year horizon
 - Evidence that spending exhausts within 1-2 quarters
 - Same implications for TANK: you spend all in the first week

Parker et al. (2018)

- Spending response to anticipated tax refunds (median = \$1,000)



- No response to news and response exhausted within 1 quarter
- Broda-Parker (JME, 2014): similar findings

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- **Question in SHIW:**
 - *Imagine you unexpectedly receive a reimbursement equal to the amount your household earns in a month. Please give the percentage you would save and the percentage you would spend*
 - Problem (same for Norway): it might include durables

IMPCs as sufficient statistics

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- Extreme example of policy:
 - The government takes away 50% wealth from the rich and gives it to the poor: the poors' IMPC becomes zero
- **Measurement:** estimates of IMPCs conditional on: location, time, state of the economy, particular episode, etc.
 - Large lottery wins may loosen constraints and affect MPC
- **Theory:** matrix M assumed to be independent of shock
 - Large shock can affect tightness of constraints, precautionary motive, income and wealth distribution, etc.

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 - Upon job loss: equity extraction or 401k withdrawal

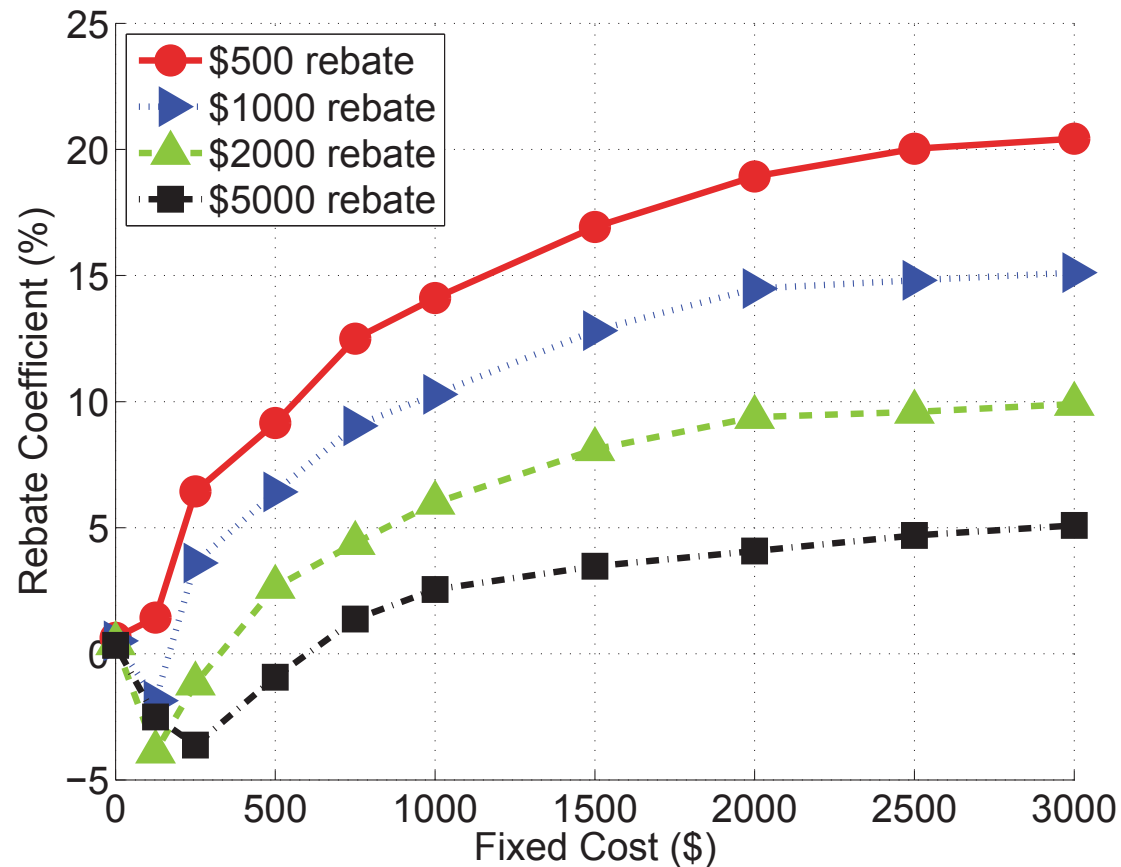
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 - Agarwal-Qian (REStat, 2017): losing future access to home equity leads to drop in spending
- Evidence on 401k withdrawals to smooth income shocks
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- Does this distinction **matter** in the model? Yes.

Model with illiquid (but accessible) asset



- Larger rebate \Rightarrow more likely to deposit \Rightarrow smaller c response

REALLY NICE PAPER

THANKS!