

Discussion of

Bilbiie, Känzig and Surico:

**Capital, Income Inequality, and Consumption:  
The Missing Link**

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The views expressed are mine  
and do not necessarily reflect those of the ECB.

# Key contributions

- ▶ Analyze a new amplification mechanism of monetary policy, via **investment/capital**
- ▶ **Saving/investment by savers** boosts aggregate demand, then multiplied by high-MPC households (spenders)
- ▶ Complementarity between (i) **capital inequality** and (ii) income inequality
- ▶ Amplification of the two effects, **1.2 each**  
⇒ **'multiplier of the multiplier': about 2x**
- ▶ Broadly in line with empirical evidence on income/consumption amplification

# Motivation

- ▶ Does GE amplify or dampen effects of policies? By how much?  
Recently: Bilbiie, Patterson, Alves et al., Auclert et al., Wolf
- ▶ **Forward guidance puzzle**: Effects of uncertainty & its cyclicalities on strength of FG  
Discounting vs Compounding: McKay et al., Acharya Dogra, Bilbiie
- ▶ So far mostly focussing on **incidence of income**: How are individual incomes / MPCs correlated with aggregate income?

## Key result: 'Multiplier of the multiplier'

- ▶ Model with hand-to-mouth spenders and low-MPC savers/investors

- ▶ Joint multiplier: 
$$\frac{\partial c_t}{\partial r_t} = \frac{1 - \lambda}{1 - \lambda \chi \frac{1}{1 - \alpha \beta}}$$

$\lambda$  income share of spenders,  $\chi (> 1)$  incidence of income,  $\alpha \beta$  saving rate of savers,  $\beta$  discount factor

- ▶ Like the Samuelson (1948) multiplier:  $\frac{1}{1 - (x+z)}$   
 $x$  aggregate MPC (income inequality),  $z$  additional, saving rate multiplier

- ▶ When  $\chi > 1$ , **joint multiplier**  $\gg$  **product of the two individual multipliers**

- ▶ Because savers' investment translates into additional income

- ▶ Quantitatively, amplification of two effects roughly twice:  $\frac{\partial c_t}{\partial r_t} \approx 2$

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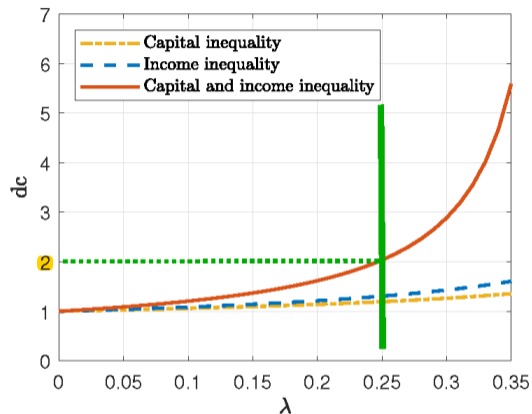


Figure 1: The consumption multipliers as a function of the share of hand-to-mouth  $\lambda$  (using  $\alpha = 0.33$ ,  $\beta = 0.99$ , and  $\chi = 1.7$ ).

- ▶ Substantial amplification of two individual effects, about  $2\times$  [green line]

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Robust to extensions (subject to maintaining tractability):

- ▶ (Some) idiosyncratic risk [of becoming HtM household]
- ▶ Sticky wages

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More realistically:

- ▶ MPC of spenders  $< 1$  [ $\approx 0.5$ ]
- ▶ Saving rate of savers (top 75%)  $< 0.33$
- ▶ This paper:  $I_t = \alpha\beta Y_t$ ; but in reality not all saving is capital  
Luetticke (2018): MP to invest vs MP to save (illiquid vs liquid assets)  
How does savers' investment translate into additional income (for spenders)?  
Recession: portfolio rebalancing, buying more liquid assets [?]
- ▶ Possibly U-shaped income incidence  $\chi$  [?] (Parker, Vissing Jorgensen, 2009)

Suggestion:

- ▶ Investigate in more detail how the 2 multipliers interact, more calibrations
- ▶ Higher saving,  $MPC^S \uparrow \Rightarrow$  more amplification?

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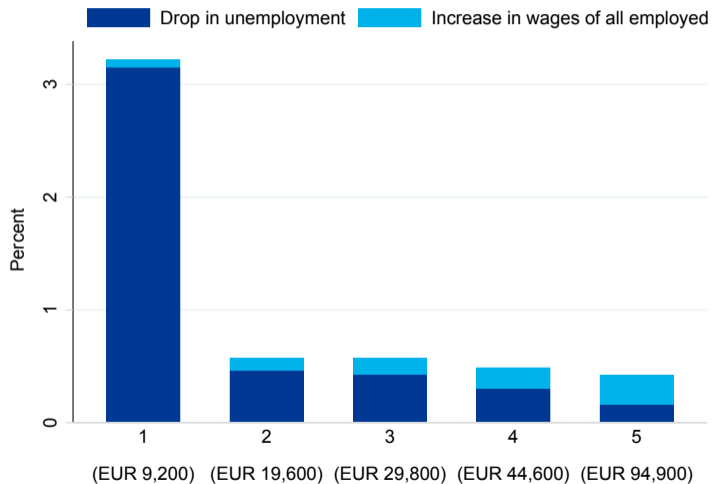
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# Income of spenders sensitive to monetary policy, $\chi > 1$

Response of income to MP easing ( $\approx 100$  bp), by income quintile



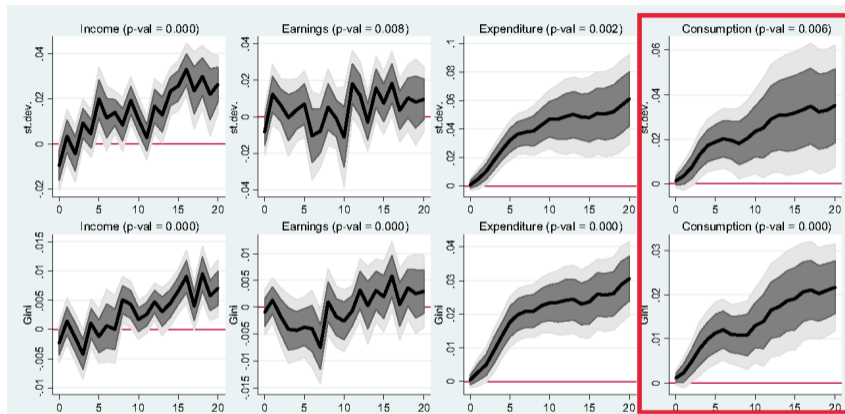
## Comment 2: Is C of spenders more volatile than their income?

- ▶ Is consumption of spenders more volatile than their income?

$$(1 - \alpha\beta)c_t^H = y_t^H = \chi Y_t$$
$$(1 - \alpha\beta) < 1$$

- ▶ Would be empirically problematic (given that  $MPC \leq 1$ )

# Coibion et al.: C inequality more sensitive to MP than Y ineq



- ▶ Dispersion of C (st dev, Gini) reacts to MP more than dispersion of Y
- ▶ To what extent is this driven by lower vs upper tail?

## Comment 4: Amplification and Secular stagnation

Relationship to current situation:

- ▶ Increase in household saving [due to inequality, aging, deleveraging, ...]
- ▶ **Is amplification at work now?** Supporting economic growth?
- ▶ Or does the decline in natural  $r^*$  (not in the model) outweigh the effects?
- ▶ Or not enough productive investment?

# Summary

- ▶ Nice exposition of complementarity between the two amplification mechanisms
- ▶ Could do more calibrations to illustrate if the amplification is so powerful in data