Inequality, the risk of secular stagnation and the increase in household debt

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$r^*$ decline in US coincided with increase in income inequality

**Labor share and bottom 90% income share**

**$r^*$ estimate of Laubach and Williams (2016) vs. model simulation**
This paper: Effect of rising income inequality in an economy with two types of households: Top 10% and the rest.

Top 10%: Capitalist-Spirit-Preferences (CSP) over all their assets (e.g. Bakshi and Chen (1996), Carrol (2000)).

CSP: Permanent-income MPS > 0, in line with evidence of Dynan et al. (2004), Kumhof et al. (2015).

Rich own physical capital stock, bank deposits.

All households own houses. Bottom 90% borrow from rich via bank, using house as collateral.
Permanent wage inequality increase

Feeding the 1980-2016 income inequality increase into the model broadly matches decline in LW $r^*$, the upward trends in bottom 90% debt, the value of the residential housing stock and mortgage debt relative to GDP. See slide 6 below or the paper for details.

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My paper links observed inequality ↑ with $r^*$ ↓ & household indebtedness ↑ & house prices↑.

Papers linking perm. wage inequality increase and natural rate:


Inequality and household debt via CSP: Kumhof et al. (2015).
Historical simulation over 1980-2016 period

- Replicate: Decline of the income share of the bottom 90% (World Inequality (WID) database). Sequence of negative permanent shocks to the relative labor productivity of non-rich.
- ...and decline of labor share: Sequence of permanent shocks to the price markup.
- Model variants:
  - CSP: \[ C_{S,t}^{1-\sigma_S} + \frac{\phi_{H,S} H_{S,t}^{1-\sigma_H,S}}{1-\sigma_H} + \frac{\phi_b b_{S,t}^{1-\sigma_b}}{1-\sigma_b} + \frac{\phi_K (Q_t K_t)^{1-\sigma_K}}{1-\sigma_K}, \]
    \[ b_{S,t} : \text{Bank deposits and gov. bonds}, K_t : \text{Non-residential physical capital.} \]
  - Equal curvature CSP: \( \sigma_b = \sigma_K \).
  - CSP+ Bottom 90% “Consumption Cascade” (CC): Non-rich utility from housing increases in rich households total consumption (Bertrand and Morse (2016)).
  - CSP+CES PF, \( EOS = 0.3 \) (Gechert et al. (2019)).
  - CSP+CES PF+CC.

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Simulation: Bottom 90% LTV/Debt-to-income
Simulation: Housing-stock and mortgage debt-to-GDP ratio

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Simulation: Capital-output-ratio

Private non-residential-capital-stock-to-annual-GDP-ratio

- Data
- Model
- Model, $\sigma_k = \sigma_K$
- Model, CES
- Model, cascades
- Model, CES, cascades