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

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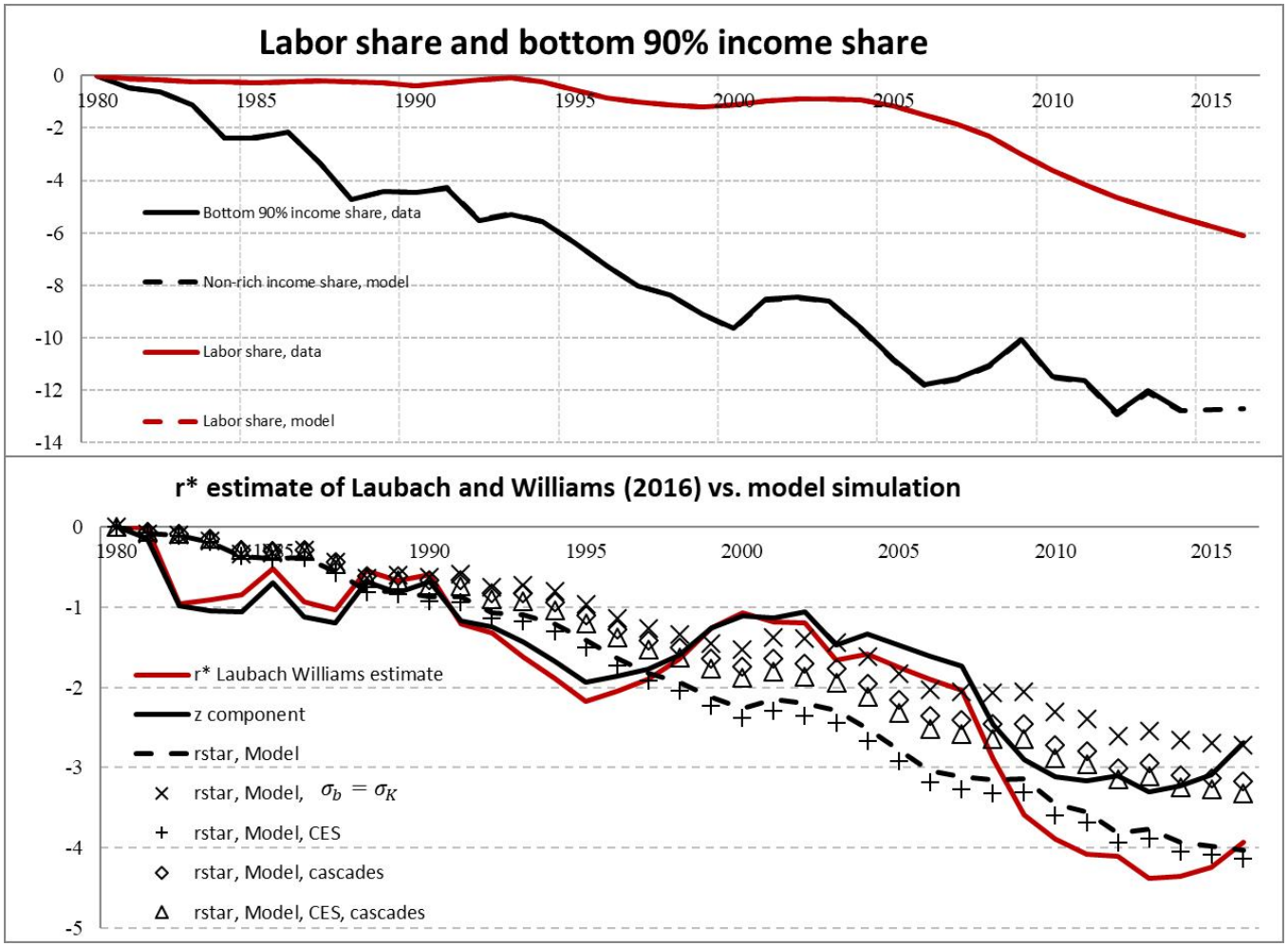
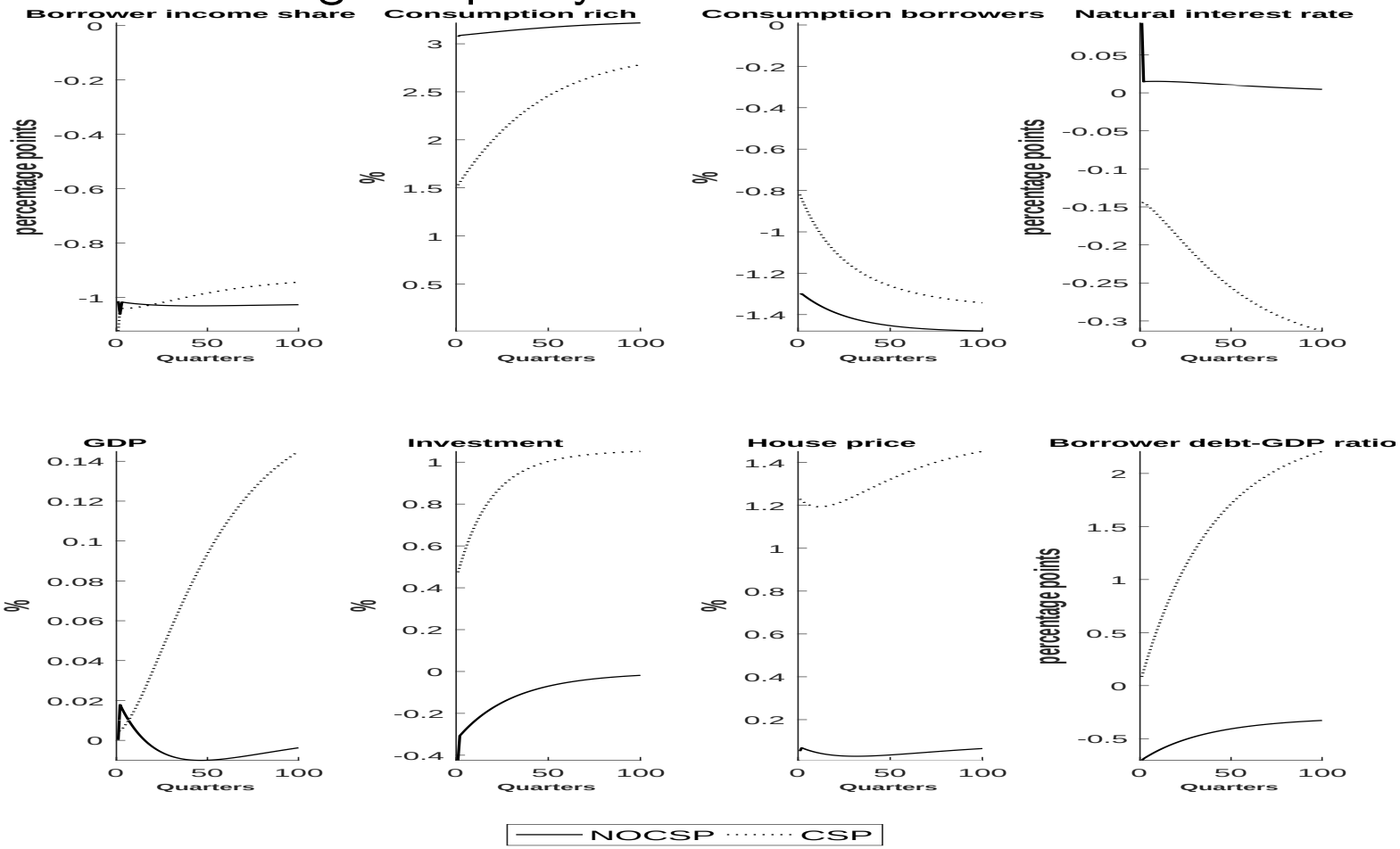
r^*decline in US coincided with increase in income inequality



Role for inequality if MPS of rich >0

- 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.

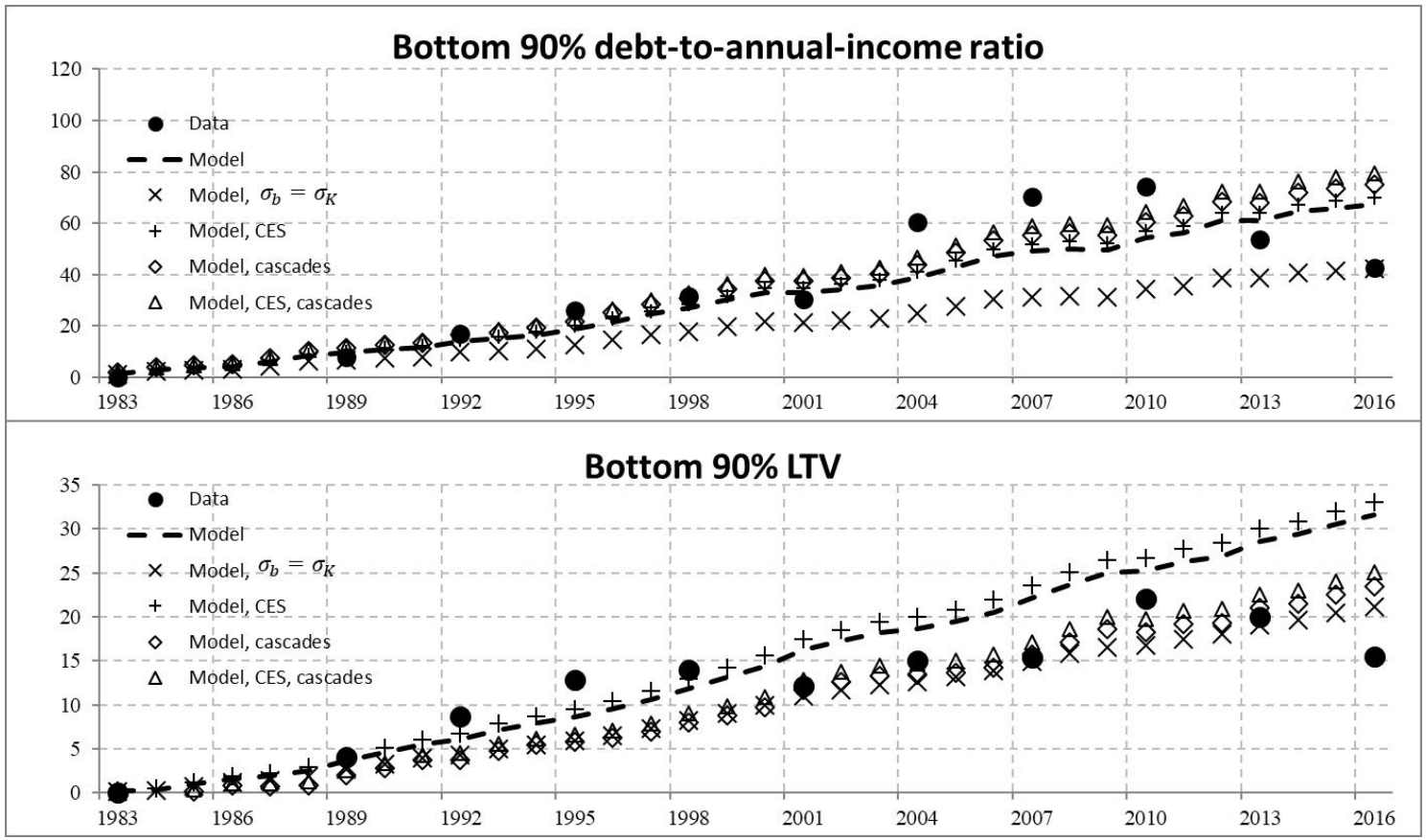
Contribution to the literature

- My paper links observed inequality $\uparrow$ with $r^* \downarrow$ & household indebtedness $\uparrow$ & house prices$\uparrow$.
- Papers linking perm. wage inequality increase and natural rate:
  - Straub (2019): Heterogeneous agents+non-homothetic bequest utility+OLG. Physical capital only asset. Finds a 1 p.p. decline of natural rate.
  - Mian/Straub/Sufi (2020): Two dynasty economy with non-homothetic bequest utility. Positive effect on borrowing & reduction of the effectiveness of expansionary monetary and fiscal policies. No quantitative predictions.
- *Transitory* wage inequality increase: Eggertsson and Mehrotra (2018), Lancastre (2016), Auclert and Rognlie (2018) and Rachel and Summers (2019). Find a 0.8-1.0 p.p. decline in the natural rate.
- Inequality and household debt via CSP: Kumhof et al. (2015).

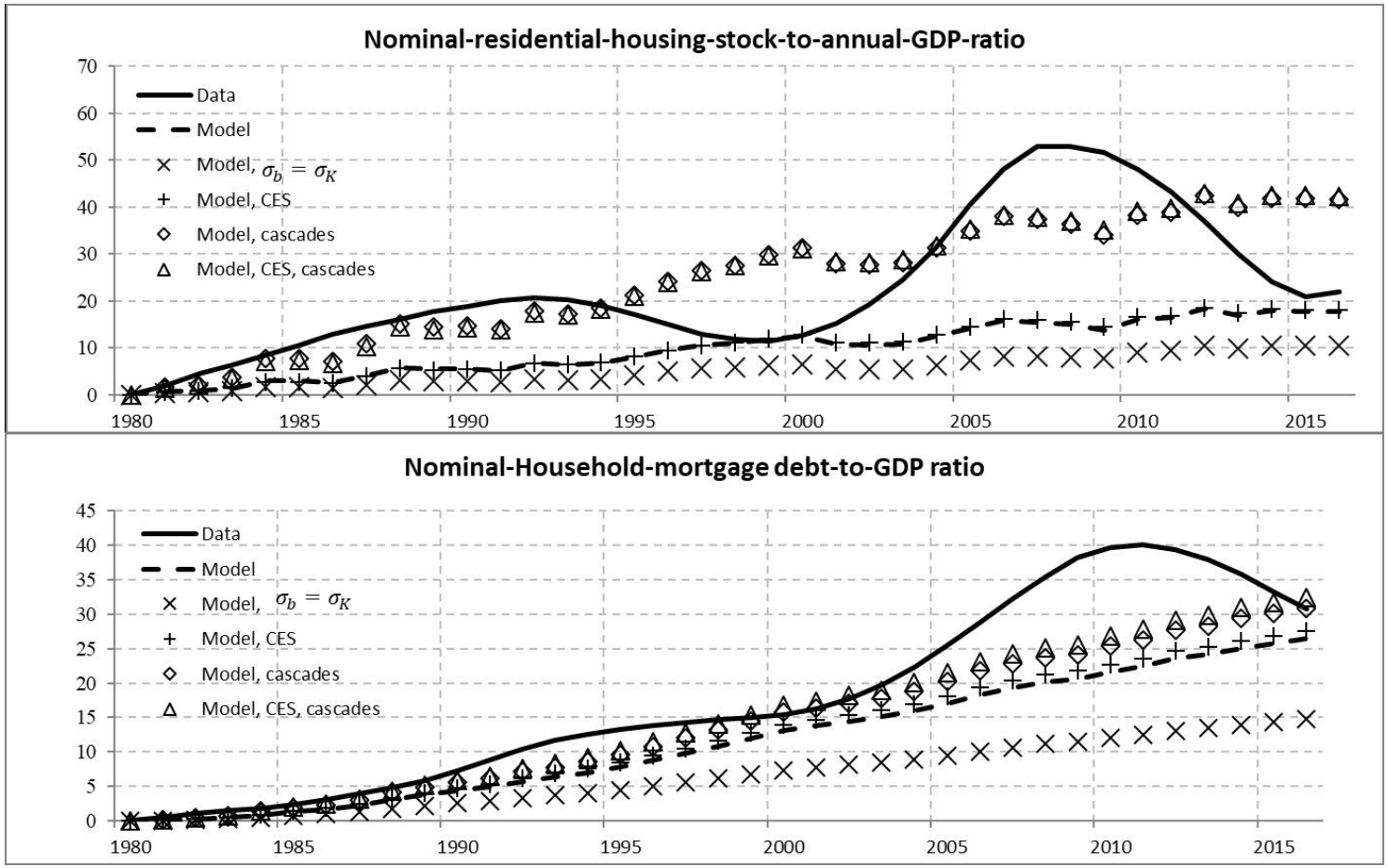
Historical simulation over 1980-2016 period

- 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: $\frac{C_{S,t}^{1-\sigma_S}}{1-\sigma_S} + \frac{\phi_{H,S} H_{S,t}^{1-\sigma_{H,S}}}{1-\sigma_{H,S}} + \frac{\phi_b b_{S,t}^{1-\sigma_b}}{1-\sigma_b} + \frac{\phi_K (Q_t K_t)^{1-\sigma_K}}{1-\sigma_K}$, $b_{S,t}$:Bank deposits and gov. bonds, K_t : 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.

Simulation: Bottom 90% LTV/Debt-to-income



Simulation: Housing-stock and mortgage debt-to-GDP ratio



Simulation: Capital-output-ratio