Ambiguity, Low Risk-Free Rates, and Consumption Inequality

by: Jun Nie, Yulei Luo and Eric R. Young

July 23, 2019

How do concerns about possible model misspecifications influence the equilibrium real interest rate?

RWP 15-14, October 2015; Revised January 2019

The failure of macroeconomists to predict the Great Recession suggests possible misspecifi-cation of existing macroeconomic models. If agents bear in mind this misspecification, how are their optimal decisions changed and how large are the associated welfare costs? To shed light on these questions, we develop a tractable continuous-time recursive utility (RU) version of the Huggett (1993) model to study the effects of model uncertainty due to a preference for robust-ness (RB, or ambiguity aversion). We show that RB reduces the equilibrium interest rate and the relative dispersion of consumption to income, making them closer to the data, but our bench-mark model cannot match the observed relative dispersion. An extension to a RU-RB model with a risky asset is successful at matching this dimension. Our analysis implies the welfare costs of model uncertainty are sizable: a typical consumer in equilibrium would be willing to sacrifice about 15 percent of his initial wealth to remove the model uncertainty he faces.

JEL Classification: C61, D81, E21

Article Citation

- Nie, Jun, Yasuo, Yulei Luo, Eric R. Young. 2015. “Robust Permanent Income in General Equilibrium,” Federal Reserve Bank of Kansas City, working paper no. 15-14, October. Available at https://doi.org/10.18651/RWP2015-14

Related Research

- Luo, Yulei, Jun Nie, and Eric R. Young. 2012. “Robustness, information-processing constrains, and current account in small open economies,” Journal of International Economics, 88, 104-120. Available at http://doi.org/10.1016/j.jinteco.2012.02.004
- Luo, Yulei, Jun Nie, and Eric R. Young. 2014. “Model uncertainty and intertemporal tax smoothing,” Journal of Economic Dynamics and Control, 45, 289-314. Available at http://doi.org/10.1016/j.jedc.2014.06.004

- Wang, Neng. 2003. “Caballero meets Bewley: the permanent income hypothesis in general equilibrium,” American Economic Review, 93(3), 927-936. Available at http://doi.org/ 10.1257/000282803322157179