Asset Prices and Business Cycles with Liquidity Shocks

Mahdi Nezafat and Ctirad Slavík^{*}

November 5, 2021

Abstract

We develop a production based asset pricing model with financially constrained firms to explain the observed high equity premium and low risk-free rate volatility. Investment opportunities are scarce and firms face productivity and liquidity shocks. A negative liquidity shock forces firms to liquidate a fraction of their assets. We calibrate the model to U.S. data and find that it generates an equity premium and a level and volatility of risk-free rate comparable to those observed in the data. The model also fits key aspects of the behavior of aggregate quantities, in particular, the volatility of aggregate consumption and investment.

JEL Codes: E20, E32, G12

Keywords: General Equilibrium, Business Cycles, Production Based Asset Pricing, Equity Premium and Risk-Free Rate Puzzles

^{*}Mahdi Nezafat, University of Michigan. E-mail: nezafat@umich.edu. Ctirad Slavík, CERGE-EI. Email: ctirad.slavik@cerge-ei.cz. CERGE-EI, a joint workplace of Center for Economic Research and Graduate Education, Charles University and the Economics Institute of the Czech Academy of Sciences, Politických vězňů 7, P.O. Box 882, 111 21 Prague 1, Czech Republic. We thank the editor (Leonid Kogan) and three anonymous referees for comments that helped us to significantly improve this paper. We also thank Almira Buzaushina, Jaroslav Borovička, Giuliano Curatola, Martin Eichenbaum, Jack Favilukis, Murray Frank, Zhiguo He, Ivan Jaccard, Larry Jones, Juha Kilponen, Narayana Kocherlakota, Ellen McGrattan, Christoph Meinerding, Fabrizio Perri, Chris Phelan, Hitoshi Tsujiyama, Yuichiro Waki, Andrew Winton, and participants at various conferences, workshops and seminars for their comments. All remaining errors are ours.