Project 3: Income risk and precautionary savings

Overview

When agents face uninsurable idiosyncratic risk (e.g. labour income), they cannot perfectly smooth their consumption. They respond to increases in future risk by lowering consumption and increasing their savings ("precautionary savings"). This also leads to aggregate variables deviating from the representative agent (i.e. full insurance) counterparts.

Tasks

Starting from a simple Aiyagari (1994) setup, the effects of changes in income risk should be analysed. These could include changes in unemployment benefits or (un)employment duration, idiosyncratic wage shocks, idiosyncratic capital returns.

Variables of interest could be aggregate variables, as well as the distribution of wealth and consumption of agents. A more advanced task would involve also calculating welfare effects taking the transition into account.

In addition to the economic results, the process of arriving at the numerical solution should be discussed: what problems were encountered, how were they overcome? (tricks, checking accuracy, speed,…)

References

Aiyagari, S. Rao. "Uninsured Idiosyncratic Risk and Aggregate Saving." The Quarterly Journal of Economics 109, no. 3 (1994): 659-84. http://www.jstor.org/stable/2118417.

Huggett, Mark. "The risk-free rate in heterogeneous-agent incomplete-insurance economies." Journal of Economic Dynamics and Control 17, no. 5 (1993): 953-969. http://www.sciencedirect.com/science/article/pii/016518899390024M.