

Essays on Household Saving Behavior and Habit Formation

Weifeng Wu

1 High and Rising Chinese Saving: It's Still a Puzzle

Job market paper

A wide range of contemporaneous evidence reveals that as China's economy grew rapidly over the past 30 years, expectations of its long-run growth potential improved. Standard forward-looking consumption theory predicts that a higher expected future income growth should lead to a lower saving rate. Several recent studies attribute the increase in Chinese saving to factors like a rise in labor income risk, a flattening age-earning profile and less generous pension benefits. However, this paper shows that all these explanations fail when we incorporate the observed rising optimism about growth. Therefore the high and rising Chinese saving rate remains a puzzle. The paper then suggests that a multiplicative internal habit formation model might help.

2 Theoretical Foundations of a Perfect Foresight Habit Formation Model

Habit formation consumption models have been proposed to explain various facts that are puzzling in the traditional time-separable utility framework. This paper provides a general theoretical analysis of a microeconomic multiplicative internal habit formation model, and derives several properties of the optimal consumption function. In particular, I show that even in the absence of labor income uncertainty, the consumption function is concave, and there exists a steady-state wealth-to-habit ratio, to which the economy will converge. Furthermore, this paper demonstrates that with the incorporation of the above theoretical results and the endogenous gridpoint method as in Carroll (2006), we can save a tremendous amount of computational time in numerically solving such a model.

3 The 'Method of Moderation' for Solving Dynamic Stochastic Optimization Problems (with Christopher Carroll)

In models with idiosyncratic income risk, optimal consumption is always 'moderate' - between that of two extreme consumers who are either optimistic or pessimistic with respect to income uncertainty. And precautionary saving (a) is always positive, (b) declines in the amount of cash-on-hand and (c) converges to zero in the limit as wealth approaches infinity. An approximation to precautionary saving that incorporates these properties greatly improves the accuracy and efficiency of the numerical solution. This 'method of moderation' is applicable to many microeconomic and macroeconomic problems, whether with or without habit formation preference, and whether in finite or infinite horizons.