LIMITED ASSET MARKET PARTICIPATION

AND THE EULER EQUATION IMPLIED INTEREST RATE

Pearl Li

AN HONORS THESIS

in

Economics

Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment

of the Requirements for the Degree of Bachelor of Arts with Honors

2016

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1 Introduction

2 Literature

3 Model and Methodology

We start with the standard household problem from the neoclassical growth model. In period t, the representative consumer has preferences

$$U_t = \mathbb{E}_t \sum_{s=t}^{\infty} \beta^{s-t} u(C_s, C_{s-1}, L_s)$$

where β is her discount rate, C_s and C_{s-1} are real consumption today and yesterday, and L_s is fraction of leisure hours. Each period, she receives labor income with nominal wage W_s and chooses consumption and nominal holdings B_s of a risk-free one-period bond. The price of the consumption good is P_s. This gives the following period budget constraint in nominal units:

$$P_s C_s + (1 + i_{s-1}) B_{s-1} \leq W_s (1 - L_s) + B_s$$

Taking first-order conditions gives the equilibrium nominal interest rate by

$$\frac{1}{1 + i_t} = \mathbb{E}_t \left[\frac{\partial U_t / \partial C_{t+1}}{\partial U_t / \partial C_t} \frac{P_t}{P_{t+1}} \right]$$

In real units, the period budget constraint is

$$C_s + (1 + r_{s-1}) \frac{B_{s-1}}{P_{s-1}} \leq \frac{W_s}{P_s} (1 - L_s) + \frac{B_s}{P_s}$$

and the real interest rate satisfies

$$\frac{1}{1 + r_t} = \beta \mathbb{E}_t \left[\frac{\partial U_t / \partial C_{t+1}}{\partial U_t / \partial C_t} \right]$$

4 References