

LIMITED ASSET MARKET PARTICIPATION  
AND THE EULER EQUATION IMPLIED INTEREST RATE

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# 1 Introduction

## 2 Literature

Canzoneri et al. (2007)

## 3 Model and Empirical Analysis

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  $\beta$  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 Aggregate Baseline**

### **4.1 Data**

### **4.2 Results**

## **5 Limited Asset Market Participation**

### **5.1 Data**

### **5.2 Results**

## **6 Conclusion**

## **7 Appendix**

## 8 References

Canzoneri, Matthew B., Robert E. Cumby, and Behzad T. Diba (2007) “Euler Equations and Money Market Interest Rates: A Challenge for Monetary Policy Models,” *Journal of Monetary Economics*.