

MACRO PRELIM, JANUARY 2002, QUESTION 1

It is often alleged that the empirical failure of the LCH for consumption can be explained by near-rational behavior. The argument goes something like this: empirically, consumption tracks predictable income movements. However, these income movements are small enough that the utility gains from smoothing consumption optimally over time, rather than letting consumption track income, are small. A small cost of computing optimal behavior can thus be sufficient to explain why the LCH fails.

(a) Formalize this idea using a simple two-period model of consumption under certainty, in which (certain) income differs between periods 1 and 2. You may make the simplifying assumptions of quadratic utility and discount factors and gross interest rates equal to one. Compare the utility from optimal behavior to the utility of setting consumption equal to income both periods, and show that the utility loss from suboptimal behavior depends on the curvature of utility and on the size of the income change. Under what circumstances will the utility cost be large? Explain intuitively.

(b) Suppose you had data on consumption, income, and income expectations for two periods for a group of households. How would you use this data to test the hypothesis that the LCH fails because of near-rational behavior?