Time-Non-Separable Preferences or Artifact of Temporal Aggregation

Robert B. Porter
Simon M. Wheatley

We show how the use of time-averaged consumption data to test intertemporal models can provide dramatic evidence that preferences are time non-separable. When instead they are separable. To illustrate the problem, we provide analytical examples that use a simple version of the general equilibrium framework of Cox, Ingersoll, and Ross (1985). In one example, we show that if expected returns are slowly mean-reverting, tests for habit persistence that use time-averaged data, when preferences are time separable, can indicate that subsistence consumption is more than ninety percent of last period's consumption. In another example, we show that tests of the Non-Expected-Utility Model that use time-averaged data, when preferences are separable. can indicate that a representative individual cares about when uncertainty is resolved. Tests we conduct that reduce the severity of the time-averaging problem, nevertheless, provide evidence of habit persistence, and some evidence that a representative individual cares about the timing of the resolution of uncertainty.

Correspondence:
Simon Wheatley
Australian Graduate School of Management
University of New South Wales
Sydney NSW 2052
Australia
simw@agsm.edu.au