

## Luxury Goods and the Equity Premium

YACINE AÏT-SAHALIA, JONATHAN A. PARKER, and MOTOHIRO YOGO\*

### ABSTRACT

This paper evaluates the equity premium using novel data on the consumption of luxury goods. Specifying utility as a nonhomothetic function of both luxury and basic consumption goods, we derive pricing equations and evaluate the risk of holding equity. Household survey and national accounts data mostly reflect basic consumption, and therefore overstate the risk aversion necessary to match the observed equity premium. The risk aversion implied by the consumption of luxury goods is more than an order of magnitude less than that implied by national accounts data. For the very rich, the equity premium is much less of a puzzle.

AS DEMONSTRATED BY GROSSMAN AND SHILLER (1981), SHILLER (1982), Mehra and Prescott (1985), and the extensive literature that follows, the risk of the stock market as measured by its co-movement with aggregate consumption is insufficient to justify the extent to which its average return exceeds the return on short-term government debt. We propose a partial resolution to this equity premium puzzle by distinguishing between the consumption of basic goods and that of luxury goods. Intuitively, rich households that hold most equity are almost satiated in their consumption of basic goods; wealth shocks are reflected in the consumption of luxury goods, which is much more responsive to stock returns than the consumption of basic goods.

Specifically, we model utility as a function of the consumption of both a basic good, of which a certain amount is required in every period, and a luxury good, which has low marginal utility even at low consumption levels. With such preferences, households consume only basic goods at low levels of total expenditures, while the share of luxury goods in overall consumption rises with expenditures. Households display a high degree of risk aversion with respect to their consumption of basic goods, consistent with the *subsistence* aspect of

\*Aït-Sahalia is with the Department of Economics and the Bendheim Center for Finance, Princeton University, and the NBER. Parker is with the Department of Economics and the Woodrow Wilson School of Public and International Affairs and the Bendheim Center for Finance, Princeton University, and the NBER. Yogo is with the Department of Economics, Harvard University. We thank the editor and an anonymous referee, Christopher Carroll, Angus Deaton, Karen Dynan, Gregory Mankiw, Masao Ogaki, Annette Vissing-Jørgensen, and participants at the NBER ME Meeting (November 2001) and the Wharton Conference on Household Portfolio-Choice and Financial Decision-Making (March 2002) for helpful comments and discussions. We thank Jonathan Miller at Miller Samuel Inc. for data on Manhattan real estate prices and Orley Ashenfelter and David Ashmore at Liquid Assets for data on wine prices. Aït-Sahalia and Parker thank the National Science Foundation (grants SBR-9996023 and SES-0096076, respectively) for financial support.