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High-Order Consumption Moments and Asset Pricing

To assess the potential of incomplete consumption insurance for explaining the equity premium and the risk-free rate of return, we use a Taylor series expansion of the individual's marginal utility of consumption around the conditional expectation of consumption and derive an approximate equilibrium model for expected returns. In this model the priced risk factors are the cross-moments of return with the moments of the cross-sectional distribution of individual consumption and the coefficients of the risk factors are determined by the derivatives of the utility function. Using this approach allows to avoid an ad hoc specification of preferences and to consider a general class of utility functions when addressing the question of the effect of a particular moment of the cross-sectional distribution of individual consumption on the expected equity premium and risk-free interest rate. We demonstrate that if consumers exhibit decreasing and convex absolute prudence, then the cross-sectional mean and skewness of individual consumption help explain the equity premium if their cross-moments with the excess market portfolio return are positive, while the cross-sectional variance and kurtosis always lower the equity premium explained by the model. The empirical investigation uses the data on the monthly household consumption of nondurables and services, reconstructed from the Consumer Expenditure Survey database. The Hansen-Jagannathan volatility bound analysis, calibration, and GMM analysis results show that under the CRRA preferences, the model can reproduce the observed equity premium and risk-free rate with economically plausible values of the relative risk aversion coefficient (between 0.6 and 1.6) and the time discount factor when the cross-sectional skewness of individual consumption, combined with the cross-sectional mean and variance, is taken into account.