1127-60-315 **Gu Wang*** (`gwang2@wpi.edu`), Department of Mathematical Sciences, 100 Institute Road, Worcester, MA 01609, and **Paolo Guasoni**. *Consumption in Incomplete Markets.*

To overcome the intractability of consumption-investment problems in incomplete markets, this paper develops approximate solutions to the maximization of isoelastic utility from consumption with infinite horizon in a market where state variables follow a multivariate diffusion. After proving a general verification theorem that links the solution of the Hamilton-Jacobi-Bellman (HJB) equation to the value function and optimal consumption-investment policies, the paper develops point-wise upper and lower bounds of the value function, which have closed-form solutions in typical models and lead to approximate policies with an explicit bound on the certainty-equivalent loss. Further, the approximations correspond to sub- and super-solutions to the original HJB equation, and help establish the existence and the optimality of the solution to the original problem. (Received February 06, 2017)