

Exponential utility with non-negative consumption

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This paper investigates various aspects of the discrete-time exponential utility maximization problem with non-negative consumption. Using the Kuhn-Tucker theorem and the notion of aggregate state price density (Malamud and Trubowitz (2007)), we provide a solution to this problem in the setting of both complete and incomplete markets (with random endowments). Then, we exploit this result to provide an explicit characterization of complete market heterogeneous equilibria. Furthermore, we construct concrete examples of models admitting multiple (including infinitely many) equilibria. By using Cramer's large deviation theorem, we study the asymptotics of equilibrium zero coupon bonds. Lastly, we conduct a study of the precautionary savings motive in incomplete markets.

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