SPECIAL COLLOQUIUM

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Price of a Contingent Claim Liability in a Market with Small Transaction Costs

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10:20 a.m. - 11:10 am
Refreshments 10:00 am
C405 Wells Hall

Abstract

We price a contingent claim liability using the utility indifference argument. We consider an agent with exponential utility, who invests in a stock and a money market account with the goal of maximizing the utility of his investment at the final time in the presence of positive transaction cost in two cases with and without a contingent claim liability. We provide a rigorous derivation of the asymptotic expansion of the value function in the transaction cost parameter around the known value function for the case of zero transaction cost in both cases with and without a contingent claim liability. Additionally, using utility indifference method we derive an asymptotic expansion of the price of the contingent claim liability. In both cases, we also obtain a ``nearly optimal" strategy, whose utility asymptotically matches the leading terms of the value function.

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