Kolloquium über Mathematische Statistik und Stochastische Prozesse

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A class of Solvable Multiple Entry Problems with Forced Exits

Abstract:

We study an optimal investment problem with multiple entries and forced exits. A closed form solution of the optimisation problem is presented for general underlying diffusion dynamics and a general running payoff function in the case when forced exits occur on the jump times of a Poisson process. Furthermore, we allow the investment opportunity to be subject to the risk of a catastrophe that can occur at the jumps of the Poisson process. More precisely, we attach IID Bernoulli trials to the jump times and if the trial fails, no further re-entries are allowed. Interestingly, we find in the general case that the optimal investment threshold is independent of the success probability in the Bernoulli trials.

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