Explicit Construction of Superhedging portfolios under Proportional Transaction Costs
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We propose a constructive framework for the super-hedging of European contingent claims under proportional transaction costs in discrete time. Tailored for convex payoffs expressed as finite maxima of affine functions, our method provides a backward construction of the minimal super-hedging price along with a characterization of the corresponding feasible strategies. A central feature of this approach is the structural preservation of the payoff at each time step, resulting in a fully recursive algorithm that computes payoff functions backward and strategies forward. Finally, we outline perspectives for extending the method to continuous time, inspired by the Kabanov model, where self-financing is defined through solvency sets and cost processes within a bid-ask framework.