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Risk Sensitive Investment Management with Affine Processes: a Viscosity Approach

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In this paper, we extend the jump-diffusion model proposed by Davis and Lleo to include jumps in asset prices as well as valuation factors. The criterion, following earlier work by Bielecki, Pliska, Nagai and others, is risk-sensitive optimization (equivalent to maximizing the expected growth rate subject to a constraint on variance.) In this setting, the Hamilton- Jacobi-Bellman equation is a partial integro-differential PDE. The main result of the paper is to show that the value function of the control problem is the unique viscosity solution of the Hamilton- Jacobi-Bellman equation.

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