

Financial Mathematics

Optimal dividend policies for jump-diffusion processes under
transaction costs

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Consider the jump diffusion

$$dX_t = \mu(X_t)dt + \sigma(X_t)dW_t - dY_t, \quad X_0 = x,$$

where W is a Brownian motion independent of the compound Poisson process Y , i.e.

$$Y_t = \sum_{i=1}^{N_t} S_i.$$

The aim of the talk is to explore the optimal dividend problem for this process, and give sufficient conditions when a simple barrier policy is optimal. Cases where more complicated double barrier policies are optimal will also be discussed for the pure diffusion model.