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Optimal Dividend Policy When There Are Business Cycles

We consider a company whose cash reservoir is affected by macroeconomic conditions. Specifically, we model the cash reservoir as a Brownian motion with drift and volatility modulated by an observable continuous-time Markov process that represents the regime of the economy. The objective of the management is to select the dividend policy that maximizes the expected total discounted dividend payments to be received by the shareholders.

We obtain the analytical solution for this problem. Our solution shows, among other things, that the optimal dividend policy depends strongly on the macroeconomic conditions. The mathematical techniques are those of stochastic control with regime switching.

Joint work with L. R. Sotomayor.