

Portfolio Optimization and Stochastic Volatility Asymptotics

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We study the Merton problem of portfolio optimization over a finite horizon when volatility is stochastic and fluctuating on different time scales. We develop a perturbation method for the associated nonlinear PDE and we show how to relate market data implied volatility skews to optimal strategies. Joint work in progress with Ronnie Sircar and Thaleia Zariphopoulou.