A comparison of option prices in a stochastic volatility model

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Computational Finance Seminar, December 9

In an incomplete market there are many equivalent martingale measures and many different ways of pricing options. In this talk we consider option pricing in a stochastic volatility model which is a prototypical incomplete market.

The emphasis will be on pricing under q-optimal measures. The q-optimal measure is the martingale measure which is closest (in the sense of a qth moment) to the physical measure. We will be interested in characterizing this measure, and in describing the way in which the resulting option prices depend on q.