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Pricing of Variance Swaps for Stochastic Volatilities with Delay and Jumps

The valuation of the variance swaps for stochastic volatility with delay and jumps is discussed in this talk. We provide some analytical closed forms for the expectation of the realized variance for the stochastic volatility with delay and jumps. The jump part in our model is finally represented by a general version of compound Poisson processes. As applications of our analytical solutions, a numerical example using S&P60 Canada Index (1998–2002) is then provided to price variance swaps with delay and jumps. Finally, we find that this model not only keeps some good features of the previous model without jumps but is also easy and quick to implement.

This is a joint work with Li Xu (University of Calgary).