Simulated Maximum Likelihood in a Markov Switching Stochastic Volatility Model

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Standard stochastic volatility models are typically designed to model the conditional variance. In certain contexts volatility of a return is affected by structural shifts and hence models for the conditional variance should incorporate such shifts. One approach is to utilize a Markov switching scheme with several regimes for the conditional variance. In this presentation we will use simulated maximum likelihood to estimate such models and demonstrate by simulation that the estimation procedure is reasonable for such models. We also illustrate the approach with some return series.

Key Words: Stochastic Volatility Models, Markov Switching, Simulated Maximum Likelihood, Modeling Returns