1035-91-356   **Jim Gatheral*** (`jim_gatheral@msn.com`). *Developments in Volatility Derivatives Pricing.*
Over the last two years, we have seen increased trading in both options on VIX and options on variance swaps. Also, there has been increased interest in modeling volatility with more than just one factor (Lorenzo Bergomi's two-factor model for example); rather than model instantaneous or implied volatility, the current tendency is to model variance swaps (or curves).

Hans Buehler has derived consistency conditions on variance curve models in general, concentrating on the so-called Double Heston model in numerical examples. Bergomi's model on the other hand has (double) lognormal dynamics.

In this talk, we place the Double Heston and Double Lognormal models in their historical context, explain Buehler's consistency condition and explore implications for the pricing of VIX options. We see that market pricing of VIX options excludes Heston dynamics but is roughly consistent with lognormal dynamics.

Finally, we extract time series of the two volatility factors from historical option prices and compare statistical and risk-neutral parameters, finding that many of the unrealistic features of one-factor stochastic volatility models are eliminated. (Received September 04, 2007)