

Parametric inference and forecasting for continuously invertible volatility models

Olivier Wintenberger

(Joint work with S. Cai)

The notion of continuous invertibility for volatility models is introduced to prove the asymptotic normality of the M -estimator associated with the Quasi-Likelihood criteria. We recover known results on univariate and multivariate GARCH type models where the estimator coincides with the classical QMLE. In EGARCH type models, the approach gives a strongly consistent and asymptotically normal estimator when the limiting covariance matrix exists. We provide a necessary and sufficient condition for the existence of this limiting covariance matrix in the EGARCH(1,1) model introduced by Nelson in 1991. We exhibit for the first time sufficient conditions for the asymptotic normality of the estimation procedure used in practice since the pioneer work of Nelson, 1991.