A new multivariate volatility model that belongs to the family of conditional correlation GARCH models is introduced. The GARCH equations of this model contain a multiplicative deterministic component to describe long-run movements in volatility and, in addition, the correlations are deterministically time-varying. Parameters of the model are estimated jointly using maximum likelihood. Consistency and asymptotic normality of maximum likelihood estimators are proved. Numerical aspects of the estimation algorithm are discussed. A bivariate empirical example is provided.

This is joint work with Annastiina Silvennoinen, QUT, Brisbane.