Robust estimation of dynamic conditional correlation GARCH models

Kris Boudt*   Jón Daníelsson†   Sébastien Laurent‡

March 15, 2010

First version: June, 2009
This version: October, 2009

Abstract

The use of dynamic conditional correlation models for the estimation of conditional covariance matrices has now become standard in the financial econometrics literature. Its estimation is usually done in two or three steps by Gaussian quasi-maximum likelihood. We show that this method is very sensitive to outliers in the data and propose to use outlier-robust estimators instead. The Monte Carlo study and empirical application document the good properties of this estimation method in absence and presence of outliers.

*Lessius University College and K.U.Leuven, Belgium
†London School of Economics
‡Maastricht University, School of Business and Economics, The Netherlands and CORE, Belgium.

Financial support from the National Bank of Belgium is gratefully acknowledged. The usual disclaimer applies.