Joint Statistics Seminar

Hong Kong University of Science and Technology

Estimating and Testing GARCH Processes when the Parameter is on a Boundary

by

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Time: 3:00 p.m. – 4:00 p.m.
Venue: Room 3301 (Lift 17/18)

Abstract

Quasi-maximum likelihood (QML) estimation of GARCH processes which may have zero coefficients is considered. This asymptotic distribution is shown to be the projection of a normal vector distribution onto a convex cone. The results are derived under mild conditions which, for important subclasses of the general GARCH, coincide with those made in the recent literature when the true parameter is in the interior of the parameter space. Furthermore, the QML estimator is shown to converge to its asymptotic distribution locally uniformly. These results allow to consider the problem of testing that one or several GARCH coefficients are equal to zero. The null distribution and the local asymptotic powers of the Wald, score and quasi-likelihood ratio tests are derived. The one-sided nature of the problem is exploited and asymptotic optimality issues are addressed.

All interested are welcome!
For details, please contact ISMT Department.