Local Whittle Estimation of Fractional Integration for Nonlinear Processes

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Abstract:

We study asymptotic properties of the local Whittle estimator of the long memory parameter for a wide class of fractionally integrated nonlinear time series models. The formulation allows the widely used FARIMA models with GARCH innovations of various forms and our asymptotic results provide a theoretical justification of the findings in simulations that the local Whittle estimator is robust to conditional heteroskedasticity. Additionally, our conditions are easily verifiable and are satisfied for many nonlinear time series models.

If time allows, I will talk about some results on local asymptotic powers of tests for fractional integration.

This is joint work with Wei Biao Wu (University of Chicago).