



IPS100, New Advances in Time Series Analysis

Choosing between persistent and stationary volatility

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Abstract:

In this paper, we analyse persistent and possibly non-stationary processes that have the potential to characterise volatility better than stationary alternatives. We discuss in detail both the conditions needed for their consistent estimation and conditions that enable the use of standard ARCH tests to detect presence of stationary volatility after persistent volatility is taken into account.

We provide Monte Carlo evidence that supports our testing strategy in small samples and present extensive empirical evidence clearly supporting the persistent volatility paradigm, suggesting that stationary time-varying conditional volatility is less pronounced than previously thought. Finally, results from an out-of-sample forecasting exercise are presented, that support our proposed persistent volatility paradigm.

Keywords:

Time-varying coefficient models; random coefficient models; non-parametric estimation; kernel estimation; persistence; volatility

References:

Chronopoulos, I., Giraitis, L., Kapetanios, G. (2021) Choosing between persistent and stationary volatility. Queen Mary, University of London, Preprint.