bayesGARCH: Bayesian Estimation of the GARCH(1,1) Model with Student-t Innovations in R

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Summary

The package bayesGARCH implements in R (R Core Team, 2016) the Bayesian estimation procedure described in Ardia (2008, chapter 5) for the GARCH(1,1) model with Student-t innovations. The approach consists of a Metropolis-Hastings (MH) algorithm where the proposal distributions are constructed from auxiliary ARMA processes on the squared observations. This methodology avoids the time-consuming and difficult task, especially for non-experts, of choosing and tuning a sampling algorithm. We refer the user to Ardia (2008) and Ardia and Hoogerheide (2010) for illustrations. The latest version of the package is available at `https://github.com/ArdiaD/bayesGARCH`.

References

David Ardia. *Financial Risk Management with Bayesian Estimation of GARCH Models: Theory and Applications*, volume 612 of *Lecture Notes in Economics and Mathematical Systems*. Springer-Verlag, Berlin, Germany, 2008. doi: 10.1007/978-3-540-78657-3.

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