

Drost, Feike C.; Nijman, Theo E.

Temporal aggregation of GARCH processes. (English) Zbl 0780.62099
Econometrica 61, No. 4, 909-927 (1993).

Summary: We derive low frequency, say weekly, models implied by high frequency, say daily, ARMA models with symmetric GARCH errors. Both stock and flow variable cases are considered. We show that low frequency models exhibit conditional heteroskedasticity of the GARCH form as well. The parameters in the conditional variance equation of the low frequency model depend upon mean, variance, and kurtosis parameters of the corresponding high frequency model.

Moreover, strongly consistent estimators of the parameters in the high frequency model can be derived from low frequency data in many interesting cases. The common assumption in applications that rescaled innovations are independent is disputable, since it depends upon the available data frequency.

MSC:

62P20 Applications of statistics to economics
91B84 Economic time series analysis
62M10 Time series, auto-correlation, regression, etc. in statistics (GARCH)

Cited in **2** Reviews
Cited in **82** Documents

Keywords:

GARCH models; temporal aggregation; financial time-series; ARMA models; low frequency models; conditional heteroskedasticity; conditional variance equation; mean; variance; kurtosis; high frequency model; strongly consistent estimators

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