

Seminario Aleatorio

Sesión 420

Job Market Seminar

A Vine-copula HAR forecasting model: application to Dow Jones stocks

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Resumen

The heterogeneous autoregressive (HAR) model is extended by modeling the joint distribution of the four partial-volatility terms therein involved. Namely, today's, yesterday's, last week's and last month's volatility components. The joint distribution relies on a (C-) Vine copula construction, allowing to conveniently extract volatility forecasts based on the conditional expectation of today's volatility given its past terms. The proposed novel empirical application involves more than seven years of high-frequency transaction prices for ten stocks and evaluates the in-sample, out-of-sample and one-step-ahead forecast performance of our model for daily realized-kernel measures. The forecasting model proposed in this paper is shown to outperform the HAR benchmark under different models for marginal distributions, copula construction methods, and forecasting settings.

Job Market paper: <https://arxiv.org/pdf/1907.08522.pdf>

**Viernes 09 de febrero de 2024,
Salón 303 ITAM, Campus Río Hondo
13:00 horas de CDMX**

El Seminario Aleatorio del Departamento de Estadística del ITAM está destinado tanto a profesores como a estudiantes, por lo que se agradece a los profesores que colaboren invitando a sus alumnos a estas sesiones.