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The information contents of vix index and range-based volatility on volatility forecasting performance of s&p 500

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Abstract

In this paper, we investigate the information contents of S&P 500 VIX index and range-based volatilities by comparing their benefits on the GJR-based volatility forecasting performance. To reveal the statistical significance and ensure obtaining robust results, we employ Hansen's SPA test (2005) to examine the forecasting performances of GJR and GJR-X models for the S&P500 stock index. The results indicate that combining VIX and range-based volatilities into GARCH-type model can both enhance the one-step-ahead volatility forecasts while evaluating with different kinds of loss functions. Moreover, regardless of under-prediction, GJR-VIX model appears to be the most preferred, which implies that VIX index has better information content for improving volatility forecasting performance.

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