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MODELLING INTRADAY REALIZED VOLATILITY: THE ROLE OF VIX, OIL AND GOLD

Abstract:

The main aim of the paper is to test an autoregressive implied volatility (IV) model that can significantly predict realized volatility (RV) of stock index. Subsequently, we want to test the predictive power of products that are external to the index of interest (S&P), by including certain commodities that are derived from VIX, i.e., crude oil and gold. The results do not reject the memory effect, given the predictive power of several lags for VIX over realized volatility. Furthermore, crude oil volatility is a significant predictor, alternatively in realized volatility and implied volatility. Finally, gold implied volatility (with higher lags) predicts stock returns volatility, which suggests a gap since traders tend to start gaining gold earlier to be on the safe side. Our findings have certain implications for trading and risk estimation.

Keywords:

Implied volatility, Realized volatility, AR model, Forecasting

JEL Classification: C22, G17