MBA01

The impact of news-based and Twitter-based economic uncertainty on realized volatility

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Abstract

This study employs a two-regime threshold quantile autoregressive model with exogenous variables and a GARCH specification to investigate the dynamic relationship between perceived uncertainty and realized equity volatility. By using Twitter-based and newspaper-based economic uncertainty measures, this research provides insights into S&P 500 market dynamics across diverse market conditions. The switching mechanism is governed by the previous day's return. We make inferences and model selection within a Bayesian framework for each quantile level. We utilize the multiple-try Metropolis algorithm to sample the threshold variable, while the rest of the parameters are generated based on the adaptive Markov chain Monte Carlo (MCMC) procedure. Our diagnostic checking supports the proposed Bayesian methods. Findings reveal that these indicators capture various facets of uncertainty and display diverse behavior in stable and volatile markets. Specifically, the daily news- based economic policy uncertainty (EPU) indicator shows a pronounced positive impact on realized volatility in the lower regime (bear market) at higher quantile levels, while the Twitter-based market uncertainty (TMU) indicator positively affects realized volatility during the upper regime (bull market). The model selection results highlight that EPU is a superior factor compared to other indicators when considering a bear market with higher quantile levels, indicating more volatile conditions.

Conference Track

MIS and Business Analytics