

A Comparison of Value-at-Risk Forecasting Approaches

WHEN**July 20, 2022****9:00 AM****WHERE****Zoom Meeting**

For ZOOM presentations, details will be provided in an email announcement for this seminar.

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Value-at-Risk (VaR) is a measure of the downside market risk. A good VaR forecasting model can effectively avoid the undercapitalization of the banks in the shrinking financial market and thereby reduce the risk of financial crisis. In this study, we examine the out-of-sample forecasting performance at different VaR levels for various models including historical simulation and its variants, unconditional models, conditional heteroskedastic parametric models (GARCH and its variants), extreme value theory - peak over threshold model, filtered-HS and filtered-EVT models. Using the daily return data of the NASDAQ Index over the last 32 years, we find that only the models involving volatility dynamics and with a proper given or estimated innovation distribution can make efficient VaR predictions. By comparing the VaR forecasting performance with different sample sizes, we find the evidence of the trade-off between capturing the short-term market changes and getting more accurate quantile estimations, and the stability of the changing pattern of the risk in the long-term.