SEMINAR

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Importance of the macroeconomic variables for volatility prediction: A GARCH-MIDAS approach

This paper aims to examine the role of the macroeconomic variables in determining the return volatility in the US financial market. We apply the GARCH-MIDAS (Mixed Data Sampling) model to examine whether information contained in macroeconomic variables can help to predict short-term and long-term components of the return volatility. We investigate several alternative models and a large group of economic variables. A principle component analysis is performed to incorporate the information contained in different variables. Our preliminary shows that the GARCH-MIDAS model outperforms the traditional GARCH model and the exponentially weighted moving average model, regarding the out-of-sample forecast ability. Adding the macro-variables to the GARCH-MIDAS model further improves the model’s prediction power.

Welcome!