

**Abstract**

This paper proposes a new model for modeling and forecasting the volatility of asset markets. We suggest to use the log range defined as the natural logarithm of the difference of the maximum and the minimum price observed for an asset within a certain period of time, i.e. one trading week. There is clear evidence for a regime-switching behavior of the volatility of the S&P500 stock market index in the period from 1962 until 2007. A Markov-switching model is found to fit the data significantly better than a linear model, clearly distinguishing periods of high and low volatility. A forecasting exercise leads to promising results by showing that some specifications of the model are able to clearly decrease forecasting errors with respect to the linear model in an absolute and mean square sense.