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Modelling and forecasting the financial volatility of H&M, Hennes&Mauritz stock prices

Magnifique Harushimana*

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Abstract

This paper treats the dynamic modelling and forecast performance for financial volatility of Hennes&Mauritz assets returns. The presence of volatility clustering within the returns series required the use of the Autoregressive Conditional Heteroscedasticity (ARCH) model to fit the financial data.

The ARCH(1)-GARCH(1,1) models have been applied to the financial volatility of Hennes&Mauritz assets returns. The Akaike Information Criteria indicates that GARCH(1,1) has a suitable number of lags. The Minimum Mean Square Error estimate (MMSE) shows that conditional heteroscedastic variance approaches the unconditional variance.

Under the assumption of both normal and student's t-distributions, the fitted GARCH(1,1) with an assumed student's t-distribution appears to be the best model in volatility forecasts.

*Postal address: Mathematical Statistics, Stockholm University, SE-106 91, Sweden. E-mail: hamagni05@yahoo.fr. Supervisor: Mathias Lindholm, Karl Rökaeus and Joanna Tyrcha.