Forecasting for Financial Stock Returns Using a Quantile Function Model

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Abstract : In this paper, we introduce a newly developed quantile function model that can be used for estimating conditional distributions of financial returns and for obtaining multi-step ahead out-of-sample predictive distributions of financial returns. Since we forecast the whole conditional distributions, any predictive quantity of interest about the future financial returns can be obtained simply as a by-product of the method. We also show an application of the model to the daily closing prices of Dow Jones Industrial Average (DJIA) series over the period from 2 January 2004 - 8 October 2010. We obtained the predictive distributions up to 15 days ahead for the DJIA returns, which were further compared with the actually observed returns and those predicted from an AR-GARCH model. The results show that the new model can capture the main features of financial returns and provide a better fitted model together with improved mean forecasts compared with conventional methods. We hope this talk will help audience to see that this new model has the potential to be very useful in practice.