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Contributed session: Forecasting financial time series I

Monday, 05.15pm-06.30pm

Room: Biblioteca-P7

Chair: Johhanes Poir

Vienna University of Economics and Business Administration, Vienna

Forecasting Foreign Exchange Volatility**J. Liu, E. Balaban, J. Ouenniche**

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This paper primarily aims to evaluate the out-of-sample predictive ability of competing models for the volatility of foreign exchange changes. We compare the out-of-sample forecasting performance of monthly USD/GBP volatility using time series models for the period February 1973 to October 2005. We use both symmetric and asymmetric error statistics. Additionally, we employ a forecast efficiency test. The various model rankings are shown to be sensitive to the error statistics used to assess the accuracy of the forecasts. An overall evaluation shows that non-ARCH class models are superior to ARCH class models. However, ARCH class models take predominance overpredictions are more heavily penalised. We discuss the implications of our results for currency models including option pricing as well as policy making.

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Modelling and Forecasting financial time series of «tick data»**S. Dablemont, S. van Bellegem, M. Verleysen**

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Financial time series display typical nonlinear characteristics; it exists clusters within which returns and volatility display specific dynamic behavior. For this reason, we will consider here nonlinear forecasting models, based on local analysis into clusters. Although financial theory does not provide many motivations for nonlinear models, analyzing data by nonlinear tools seems appropriated, and is at least as much informative as an analysis by more restrictive linear methods. In this paper we will present a forecasting method based on an empirical functional analysis of the past of the series. An originality of this method is that it does not make the assumption that a single model is able to capture the dynamics of the whole series. On the contrary, it splits the past of the series into clusters, and generates a specific local neural model for each of them. The local models are then combined in a probabilistic way, according to the distribution of the series in the past. This forecasting method can be applied to any time series forecasting problem, but is particularly suited for data showing nonlinear dependencies, cluster effects and observed at irregularly and randomly spaced times like financial time series of «tick data» do. One way to overcome the irregular and random sampling of tick-data is to resample them at low frequency, as it is done with Intraday. However, even with optimal resampling using say five minute returns when transactions are recorded every second, a vast amount of data is discarded, in contradiction to basic statistical principles.

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