

UNIVERSITY OF SYDNEY

SCHOOL OF MATHEMATICS AND STATISTICS

Statistics Seminar

Friday, 17th October, 2008. 2.00pm, Carslaw 173

Estimation of Duration Models in Finance: Semiparametric and QMLE Methods

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Abstract

We consider a class of time series models to analyze the time gaps between transactions (durations) called Autoregressive Conditional Duration (ACD) models. Since the MLE procedure is difficult to implement, we suggest a semiparametric estimation method based on estimating functions. We provide an example based on a real data set to illustrate this new approach. We also discuss the class of log ACD models and use QMLE methods for parameter estimation following Allen et al (2008), Journal of Econometrics. Examples from real data sets are provided to illustrate this QMLE estimation if time permits.

Key words: Autoregressive, Conditional expectation, Intensity, Hazard function, Stochastic process, Prediction, Estimation, Irregular data, Transaction data, Finance, Durations, Autocorrelations, Volatility.

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