

CERF Studentship Report – Outputs

Jeroen Dalderop, March 2016

Working Papers

- 1) 'Nonparametric State-Price Density Estimation using High Frequency Data'

Link: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2718938

Abstract:

" This paper studies the use of irregularly spaced high frequency data to estimate the state-price density (SPD) implicit in option prices. Their large sample size allows estimation of the conditional SPD at any time point of interest, which can be directly used for model-free pricing, hedging and conditional risk measurement. We develop asymptotic theory for a time-varying kernel estimator when the trading times are modelled by point processes whose intensity goes to infinity. The pricing errors and strike prices are mixing, locally stationary time series, which can be weakly dependent with the trading times. Unlike realized volatility estimation, the market microstructural noise in recorded option prices is averaged out and there is no need to subsample the data. We apply the estimator to S&P 500 E-mini European call and put option mid quotes using an iterated plug-in bandwidth, and document the intraday dynamics of the SPD and derived quantities."

Presentations:

April 2014: Econometrics Workshop, Faculty of Economics, University of Cambridge

November 2014: Econometrics Workshop, Faculty of Economics, University of Cambridge

May 2015: CERF Cavalcade, Judge Business School, University of Cambridge

June 2015: SoFiE Spring School, Belgian Central Bank, Brussels

June 2016 (scheduled): SoFiE Conference 'Financial Econometrics and Empirical Asset Pricing', Lancaster UK

June 2016 (scheduled): 3th IAAE Conference at University of Milan-Bicocca, Italy

- 2) 'Nonparametric Pricing Kernel Estimation and Density Forecasting' - (preliminary, work in progress)