

MS Excel Workshop

Statistical Modelling

Date 14 – 15 June 2010, Düsseldorf

Price EUR 2150 plus VAT

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Description The goal is to model various energy data such as gas/electricity loads, spot-prices, electricity seasonalities, the relationship between temperature and load, etc. Some models may be used for forecasting or for improving existing forecasts, but the predominant application of our models is Monte-Carlo based pricing and risk analysis.

We will work with some quite advanced statistical/econometrical models without the usual math surrounding such topics. Instead we try to provide the intuition essential for understanding and developing the models by just implementing them in excel and experimenting with them.

We start with some simple descriptive stats and continue with ordinary least squares estimation. For the more complicated problems we apply maximum likelihood estimation using excel's solver to maximize the log-likelihood function.

We will emphasize the importance of checking and analysing the residuals during the model building process and look into various aspects of model selection.

Seminar delegates may take their own data to the seminar and we then try to develop an ad-hoc model in the seminar.

Topics Designing and parametrizing a statistical model • estimation methods • least squares • linear regression analysis • nonlinear models • maximum likelihood (MLE) • maximizing the likelihood function using excel's solver • simulating the model • mean-reversion • stochastic volatility and GARCH • various examples: EEX futures, gas spot prices • electricity spots (hourly) • modelling seasonalities • day/week/year • analysis of residuals • autocorrelation • likelihood-ratio tests

Format 100% workshop, highly interactive, plenty of time for discussions & questions.

1. learn all important aspects about the subject
2. extend your excel skills
3. design your own excel sheets following the course instructors advice
4. create and benefit from practically useful excel sheets

Target Audience risk management • trading • analysis and statistics • portfolio management • sales • and all others from the energy sector interested in the topics

A good working knowledge with excel is required. We will not use VBA.

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