Macroeconomic Forecasting
Spring 2008 (Wednesdays 18.00-20.45)

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Syllabus

This course focuses on objective methods for constructing forecasts, with applications in macroeconomics. It is assumed that people taking this course have some background in macroeconomics and statistics. In particular, students are expected to have an understanding of basic statistics (including hypothesis testing) and regression models. The textbook for the course is Francis X. Diebold's *Elements of Forecasting* (4th edition).

Following Diebold's book, the following topics will be covered:
- Introduction to forecasting
- Six considerations basic to successful forecasting
- Statistical graphics for forecasting
- Modelling and forecasting trend
- Modelling and forecasting seasonality
- Characterising cycles
- Modelling cycles: MA, AR and ARMA models
- Forecasting cycles
- Putting it all together
- Forecasting with regression models
- Evaluating and combining forecasts
- Unit roots, stochastic trends, ARIMA forecasting models and smoothing

Other material will occasionally be brought in for your reading, in particular for the following topics:
- VAR models
- Cointegration
- Structural breaks

While the focus of the course is objective forecasting methods, we will also discuss *judgemental forecasting*, as in practice it is rare that forecasters rely upon objective methods alone.

Forecasting is in many ways a craft that needs to be practiced and applications will therefore be a central part of the course. It is still necessary, however, to cover a certain amount of theoretical material. This mix will be reflected in the examination; there will be a *midterm*, *three homework assignments* and a *final project*. The midterm will be more focused on testing your knowledge of the concepts and theory that have been discussed in class, while the homework assignments are designed to get you to put what has been learned into practice.

The homework assignments will require you to do computer work. It is possible to do these homework assignments with a number of software packages, but I highly recommend Eviews. It is a highly user-friendly software package and will be used in class. It is also used in the empirical examples in the textbook. A student version of Eviews 4 is available for $40 from

http://www.eviews.com

I will give a brief introduction to Eviews in class but you should try to get more acquainted with it as soon as possible.

For the final project you are to pick a variable that you are interested in forecasting and apply the techniques learned in the course. Apart from a thorough econometric analysis, it is also expected that you discuss your problem and results. Technical jargon is unavoidable, but remember that it is a course in macroeconomic forecasting. You should accordingly discuss your data, findings and other issues from an economic point of view as well.

Grading: The midterm will count for 30% of the final grade. The homework assignments will count for 40% of the final grade and the final project will count for the remaining 30%.