

# Euro Area Business Cycle Network Training School

## Using DSGE Models for Quantitative Business Cycle Analysis

Banco de España, Madrid

3-7 March 2008

Deadline 31 January 2008

Instructor: Professor Lawrence Christiano (Northwestern University)

Teaching Assistant: Matthias Kehrig (Northwestern University)

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### Monday, March 3

#### Content

Solving DSGE models, with particular emphasis on log-linearization.

#### Timetable

08:30-10:30	Lecture I
10:30-11:00	Coffee Break
11:00-13:00	Lecture II
13:00-14:00	Lunch
14:00-17:00	Afternoon Session: Computer Training

### Tuesday, March 4

#### Content

Using log-linearization methods to compute the optimal monetary policy in New Keynesian models.

#### Timetable

08:30-10:30	Lecture I
10:30-11:00	Coffee Break

11:00-13:00	Lecture II
13:00-14:00	Lunch
14:00-17:00	Afternoon Session: Computer Training

### **Wednesday, March 5**

#### **Content**

Estimation of model parameters by GMM, Maximum likelihood and Bayesian methods.

#### **Timetable**

08:30-10:30	Lecture I
10:30-11:00	Coffee Break
11:00-13:00	Lecture II
13:00-14:00	Lunch
14:00-17:00	Afternoon Session: Computer Training

### **Thursday, March 6**

#### **Content**

Review of vector autoregressions: identification of impulse response function, estimation of confidence intervals, decomposing historical time series into shocks.

#### **Timetable**

08:30-10:30	Lecture I
10:30-11:00	Coffee Break
11:00-13:00	Lecture II
13:00-14:00	Lunch
14:00-17:00	Afternoon Session: Computer Training

### **Friday, March 7**

#### **Content**

Estimation of a standard DSGE model using US data

Motivation for various model features, including habit persistence, adjustment costs in investment and variable capital utilization.  
Modern extensions on the standard mode: incorporating unemployment and financial frictions, the open economy.  
Estimation results and policy issues.

### **Timetable**

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