INTERNATIONAL MONETARY FUND
Joint Vienna Institute / Institute for Capacity Development
Course on Advanced Macroeconomic Forecasting (JV14.09)
Vienna, Austria
April 14–18, 2014

PROGRAM

Monday, April 14, 2014

8:30 a.m. – 9:00 a.m. Administrative Briefing
JVI Program Officer

9:00 a.m. – 9:30 a.m. Opening Session
Mr. Norbert Funke, Director, Joint Vienna Institute,
and Mr. Sam Ouliaris, Senior Economist,
Asian Division, Institute for Capacity Development

9:30 a.m. – 12:30 p.m. L–1 Structural Vector Autoregression
This lecture covers the use of stationary vector
autoregressive regression (VAR) models as a tool for
analyzing the effects of policy shocks and forecasting.
It reviews the theoretical background of VAR models,
including structural VAR models, generating impulse
response functions, short-and long-run restrictions,
and the sign restriction approach to identification.
Presenter: Mr. Mikhail Pranovich, Economist, Joint
Vienna Institute

2:00 p.m. – 5:30 p.m. W–1 Workshop: Structural Vector Autoregressions
Facilitators: Messrs. Ouliaris, Plotnikov, and
Pranovich

Tuesday, April 15, 2014

9:00 a.m. – 12:30 p.m. L–2 Working with I (1) Variables
This lecture will focus on estimating and forecasting
linear regression equations involving I(1) (non-
stationary) variables. It reviews the theoretical
underpinnings of non-stationary econometrics,
comparing and contrasting a number of estimation
techniques for non-co integrated and co-integrated
forecasting systems.
Presenter: Mr. Sam Ouliaris
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<tr>
<th>Time</th>
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<tr>
<td>2:00 p.m. – 5:30 p.m.</td>
<td>W–2</td>
<td><strong>Workshop: Working with I(1) Variables</strong></td>
<td>Messrs. Ouliaris, Plotnikov, and Pranovich</td>
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<td><strong>Wednesday, April 16, 2014</strong></td>
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<td>9:00 a.m. – 12:30 p.m.</td>
<td>L–3</td>
<td><strong>Forecasting with Bayesian Techniques</strong></td>
<td>Mr. Plotnikov, Economist, European and Middle Eastern Division, ICD, and Mr. Pranovich</td>
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<td>2:00 p.m. – 5:30 p.m.</td>
<td>W–3</td>
<td><strong>Workshop: Forecasting with Bayesian Techniques</strong></td>
<td>Messrs. Ouliaris, Plotnikov, and Pranovich</td>
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<td><strong>Thursday, April 17, 2014</strong></td>
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<td>9:00 a.m. – 12:30 p.m.</td>
<td>L–4</td>
<td><strong>Combination Forecasts</strong></td>
<td>Mr. Sam Ouliaris</td>
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<td>2:00 p.m. – 5:30 p.m.</td>
<td>W–4</td>
<td><strong>Workshop: Combination Forecasts</strong></td>
<td>Messrs. Ouliaris, Plotnikov, and Pranovich</td>
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<td><strong>Friday, April 18, 2014</strong></td>
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<td>9:00 a.m. – 12:30 p.m.</td>
<td>L–5</td>
<td><strong>Using the Kalman Filter</strong></td>
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This lecture will focus on how to use Bayesian Vector Autoregressive (BVAR) models for forecasting macroeconomic time series. It covers the theoretical background of Bayesian econometrics, as well as more practical aspects such as how to select priors and compare forecasting performance.

Presenters: Mr. Plotnikov, Economist, European and Middle Eastern Division, ICD, and Mr. Pranovich

Empirical evidence suggests that combining forecasts from different sources yields more precise forecasts than using a single model. This lecture reviews statistical procedures available for combining forecasts from different sources, with the sole aim of improving forecasting accuracy. It surveys the theoretical underpinnings of forecast averaging, specific weighting schemes (both parametric and non-parametric) in current use and the practical issues faced in implementing them.

Presenter: Mr. Sam Ouliaris

The state space representation is a way to describe the law of motion of unobservable (latent) variables and their linkage with actual observations or signals. The Kalman filter is a computational algorithm that uses conditional means and expectations to obtain exact
(from a statistical point of view) finite sample linear predictions of unobserved latent variables, given observed variables. Maximum Likelihood Estimation (MLE) and Bayesian methods are often used to estimate such models and draw statistical inferences. This lecture provides an overview of these areas, and a number of applied examples that demonstrate the usefulness of the Kalman filter in producing and updating forecasts.

Presenter: Mr. Plotnikov, Economist, European and Middle Eastern Division, ICD Institute

2:00 p.m. – 5:00 p.m. W–5 Workshop: Using the Kalman Filter

Facilitators: Messrs. Ouliaris, Plotnikov, and Pranovich

5:00 p.m. – 5:30 p.m. Closing Session