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

2:00 p.m. – 5:30 p.m.	W–2	**Workshop: Working with I (1) Variables**
		Facilitators: Messrs. Ouliaris, Plotnikov, and Pranovich

Wednesday, April 16, 2014

9:00 a.m. – 12:30 p.m.	L–3	**Forecasting with Bayesian Techniques**
		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
2:00 p.m. – 5:30 p.m.	W–3	**Workshop: Forecasting with Bayesian Techniques**
		Facilitators: Messrs. Ouliaris, Plotnikov, and Pranovich

Thursday, April 17, 2014

9:00 a.m. – 12:30 p.m.	L–4	**Combination Forecasts**
		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
2:00 p.m. – 5:30 p.m.	W–4	**Workshop: Combination Forecasts**
		Facilitators: Messrs. Ouliaris, Plotnikov, and Pranovich

Friday, April 18, 2014

9:00 a.m. – 12:30 p.m.	L–5	**Using the Kalman Filter**
		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**