



SEACEN-CCBS/BOE-BSP Workshop on Dynamic Stochastic General Equilibrium (DSGE) Modelling and Econometric Techniques

**23 – 27 November 2009
Manila, Philippines**

I. Workshop Description

Formal models of the economy are important for central banks. DSGE models develop a consistent framework to study the transmission mechanism of monetary policy and facilitate the identification of shocks that affect the economy. Recent theoretical and modelling advances have resulted in a widely-accepted general equilibrium paradigm as a basis for policy analysis. Econometric techniques are a useful tool to provide a quantitative framework to analyse and forecast economic developments.

This Workshop will focus on the workings of DSGE modeling and the use of advanced econometric techniques for monetary policy analysis. At the end of the Workshop, participants will be able to build and operate DSGE and econometric models for the policy analysis of their own economy. Participants will take part in calibration exercises, learn methods to solve and analyse models as well as use econometric techniques to estimate models.

II. Content

This is an intensive five-day Workshop, comprising lectures and hands-on exercises. The lectures will cover:

- the dynamic stochastic general equilibrium (DSGE) paradigm;
- calibration to determine model parameters;
- solution and control methods for linear rational expectations monetary policy models, the Kalman filter;
- VARs estimation methods;
- estimation of DSGE models using GMM.

Hands-on programming sessions using MATLAB will reinforce the concepts and methods learned in lectures.

III. Target Group

The Workshop is for central bank staff who wants to build DSGE and econometric models for monetary policy analysis but lack the practical know how. This Workshop is also relevant for those participants who are not directly involved in DSGE modelling but want to have a general knowledge on the DSGE model and how it can be used in monetary policy management. Candidates need adequate modelling skills and a good background in economics and econometrics. Knowledge of MATLAB and E-Views is not essential but may be an advantage in the practical part of the seminar.

IV. Format

Lectures will be accompanied by computer-based work, where the methods are implemented.

PROGRAM AGENDA

Monday, 23 November 2009

(Venue: Meeting Room, BSP Executive Business Center | Attire: Formal)

- 10:00 – 12:00 Group dynamics and pre-workshop briefings
- 12:00 – 13:30 Welcome Lunch hosted by The SEACEN Centre
- 13:30 14:30 **Opening Session**
- Welcome Remarks**
 A.G. Karunasena, Executive Director
 The SEACEN Centre
- Opening Remarks**
 Francesco Zanetti, Adviser
 Centre for Central Banking Studies
 Bank of England
- Opening Address**
 Diwa C. Guinigundo, Deputy Governor
 Bangko Sentral ng Pilipinas
- Group Photograph
- Tea Break
- 14:30 – 16:00 **Session 1: Overview of Building and Utilising Macroeconomic Modelling for Policy Purpose in Central Banks**
 Atchana Waiquamdee, Deputy Governor
 Bank of Thailand

Tuesday, 24 November 2009

(Venue: Conservatory Room, Manila Peninsula Hotel | Attire: Office attire)

- 08:30 – 09:00 **Introduction and Welcome**
 Francesco Zanetti, Adviser, CCBS, Bank of England
 Haroon Mumtaz, Adviser, CCBS, Bank of England
- 09:00 – 10:30 **Session 2: Development , Methodology, and Evaluation of DSGE Models**
 Francesco Zanetti
- 10:30 – 11:00 **Break**
- 11:00 – 12:30 **Session 3: Time Series Modelling in Central Banks: VAR and the Economy**
 Haroon Mumtaz
- 12:30 – 13:30 **Lunch**
- 13:30 – 15:00 **Session 4 : Computer Exercise on VARs and SVARs**
 Haroon Mumtaz

15:00 – 15:30 **Break**

15:30 – 17:00 **Session 5: Introduction to MATLAB**
Francesco Zanetti

Wednesday, 25 November 2009

(Venue: Conservatory Room, Manila Peninsula Hotel | Attire: Office attire)

09:00 – 10:30 **Session 6: State Space and the Kalman Filter**
Haroon Mumtaz

10:30 – 10:30 **Break**

10:30 – 12:30 **Session 7: Kalman Filter exercise**
Haroon Mumtaz

12:30 – 13:30 **Lunch**

13:30 – 15:00 **Session 8: The Real Business Cycle (RBC) Model**
Francesco Zanetti

15:00 – 15:30 **Break**

15:30 – 17:00 **Session 9: RBC Model Exercise**
Francesco Zanetti

Thursday, 26 November 2009

(Venue: Conservatory Room, Manila Peninsula Hotel | Attire: Office attire)

09:00 – 10:30 **Session 10: Small New Keynesian (NK) Model**
Francesco Zanetti

10:30 – 11:00 **Break**

11:00 – 12:30 **Session 11: Small NK model exercise**
Francesco Zanetti

12:30 – 13:30 **Lunch**

13:30 – 15:00 **Session 12: The Generalized Method of Moments (GMM)**
Haroon Mumtaz

15:00 – 15:30 **Break**

15:30 – 17:00 **Session 13: Computer Exercise on GMM: Estimating an
Augmented DSGE Model**
Haroon Mumtaz

18:30 – 21:30 **Farewell Dinner hosted by the BSP**
Venue: Spices Restaurant, Manila Peninsula Hotel
Attire: Smart Casual

Friday, 27 November 2009

(Venue: Conservatory Room, Manila Peninsula Hotel | Attire: Formal)

- 08:30 – 09:30 **Session 14: Panel Discussion**
“Recent Developments and Issues on DSGE Modelling”
Chair: Dennis Botman, International Monetary Fund
- Resource Speakers:
- Haris Munandar, Bank Indonesia
 - Surach Tanboon, Bank of Thailand
 - Leni Hunter, Reserve Bank of New Zealand
- 09:30 – 09:45 **Break**
- 09:45 – 11:15 **Session 15: Panel Discussion**
“DSGE Modelling at Central Banks: Country Practices and How It Is Used in Policy Making”
Chair: Francesco Zanetti, CCBS, Bank of England
- Resource Speakers:
- Haris Munandar, Bank Indonesia
 - Surach Tanboon, Bank of Thailand
 - Leni Hunter, Reserve Bank of New Zealand
- 11:15 – 11:35 **Exit Knowledge Exercise**
- 11:35 – 12:05 **Open Discussion**
Francesco Zanetti, CCBS, Bank of England
Haroon Mumtaz, CCBS, Bank of England
- 12:05 – 13:00 **Closing Ceremony**
- Closing Remarks**
Brian Gerard Valentine Nunis, Deputy Director
The SEACEN Centre
- Closing Remarks**
Haroon Mumtaz, Adviser
Centre for Central Banking Studies
Bank of England
- Closing Address**
Francisco G. Dakila, Jr., Director
Center for Monetary and Financial Policy
Bangko Sentral ng Pilipinas
- Presentation of Certificates
- 13:00 – 14:30 **Farewell lunch hosted by the BSP**
- 15:00 City Tour