

DYNAMIC GENERAL ECONOMIC MODELING COURSE

BEIJING 6-14 July 2013

Jointly organised by
Centre of Policy Studies (CoPS), Monash University
and
Center for Chinese Agricultural Policy (CCAP), Chinese Academy of Sciences

COURSE INFORMATION

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Introduction

The Centre of Policy Studies and the Centre for Chinese Agricultural Policy will offer an intensive eight-day training course introducing participants to MONASH-style dynamic Computable General Equilibrium (CGE) modelling and to the GEMPACK software used to solve dynamic CGE models (RunDynam). The course will be conducted in Beijing during 6-14 July 2013. The course will mostly be lectured in Mandarin.

CGE modelling has become a widely applied tool for policy analysis on a broad range of issues, such as:

- International trade, especially various bilateral and regional free trade agreements and WTO negotiations;
- Climate change abatement policies and impact analysis, including analysis supporting international negotiations;
- Regional migration and international immigration;
- Industrial relations and wage negotiation;
- Infrastructure and other major project evaluation;
- Direct and indirect tax reform;
- Macroeconomic stimulus;
- Energy policy; and
- Catastrophic events such as terrorist attacks and global pandemics.

The Centre of Policy Studies (CoPS) is a world leading research centre in applied general equilibrium modelling. Our model and software are used by researchers in over 500 different locations in 60 or so countries around the world. MONASH-style dynamic models are developed with attentions to details in economic and social structures and realistic baseline. They are therefore widely applied in facilitating policy decisions by various government agencies and international organisations.

The quality of the CGE analyses depends on the skills of the analysts. CoPS is committed to support such policy-making process by providing technical support to researchers interested in developing CGE modelling skills. In our forty years' innovation and training in the CGE field, we have come to understand the most efficient way in learning the art of CGE modelling. The path involves three stages:

1. **Stage 1:** Attending basic training courses.
2. **Stage 2:** Applying existing CGE models in policy applications with small modification of the model and database. For this purpose, CoPS has developed CHINAGEM (中国星) that is a standard dynamic model of China with 137 industries. It is designed as a platform from which to develop a practical model suitable to your institute's research needs.
3. **Stage 3:** Developing your own model by adding new modules and relevant database to CHINAGEM to advance your institute's policy research. This stage requires your institute's modelling team to have significant mathematical and economic background. CoPS offers consultation services at this stage to provide technical support.
4. **Stage 4:** The ultimate skill in CGE modelling is the art of using CGE models as a thinking framework for policy and economic analysis. The key to this is the Back-Of-The-Envelop model technique that is introduced and reinforced throughout CoPS' training courses and consultation services.

Rationale for the Dynamic GE Modeling Course

The course should appeal to

- those needing background in order to work with, or understand results from, a typical MONASH-style dynamic CGE model like CHINAGEM (中国星);
- those wishing to use the theory of MONASH-style dynamic CGE model with GEMPACK as the basis for a model of a country other than China;
- those wishing to get sufficient background in order to learn about multi-regional, multi-country, dynamic and/or forecasting models. Examples of such models are the Monash-Multi-Country model, SICGE model of China, MONASH or MMRF models of Australia or the USAGE model of USA; and
- those wishing to learn the art of applying CGE modeling for practical policy purposes.

Course Outline

The course aims to introduce participants to the ideas and techniques of MONASH-style dynamic CGE modelling, and to equip them to start using, adapting or constructing CGE models for their own simulations. The course offers in-depth training in the following aspects of dynamic modelling:

- the theory underlying MONASH-style dynamic CGE models;

- how to use different types of closures to gain insights into how the Chinese economy evolves over time and the economic and social effects of various policy and other exogenous changes;
- the data requirements of a typical MONASH-style dynamic CGE model;
- formulating exogenous scenarios;
- computing simulations for policy analysis using RunDynam (software for running dynamic models);
- interpreting and reporting results using Back-Of-The-Envelope model technique.

Beijing July 2013 Dynamic GE Modeling Course Program

The course program will consist of lectures integrated with extensive hands-on experience with GEMPACK and RunDynam using a dynamic CGE model of China. Participants in this course will need to bring their own notebook computer (for notebook requirements, see <http://www.monash.edu.au/policy/laptops.htm>). The course material and program are as follows.

Saturday 6 July 2013: 8.30am – 5.30pm

Lectures:

Introduction: Monash style dynamic modelling

Input-output data and initial solution

Computing:

CGE database structure

Sunday 7 July 2013: 8.30am – 5.30pm

Lectures:

Theoretical structure of CHINAGEM: producer, capital creation, household demand, and other final demands, and market clearing.

Computing:

Comparative static simulations

Monday 8 July 2013: 8.30am – 5.30pm

Lectures:

Theoretical structure of CHINAGEM: purchaser prices and macroeconomic aggregates.

Dynamic equations: capital market

Computing:

Baseline simulation

Tuesday 9 July 2013: 8.30am – 5.30pm

Lectures:

Dynamic equations: labour market, net foreign liabilities, and technical change.

Computing:

Policy simulation

Group simulation allocation

Wednesday 10 July 2013

Course break and course dinner.

Thursday 11 July 2013 8.30am – 5.30pm

Lectures:

How to conduct historical and forecast simulations.

Computing:

Group simulation: step by step historical simulation.

Friday 12 July 2013: 8.30am – 5.30pm

Lecture: How to analyse macroeconomic and industry results.

Group simulations: scenario analyses

Saturday 13 July 2013: 8.30am – 5.30pm

Group simulations: scenario analyses.

Sunday 14 July 2013: 8.30am – 5.30pm

Group simulations: group presentation.

Documentation and Software

Course participants receive course materials containing

- course notes and lecture slides;
- exercises to be completed in computing sessions;
- documentation of MONASH-style dynamic model and data;
- instructions for installing and using GEMPACK and RunDynam.

Each participant will receive a CD, containing

- an Executable-Image version of the latest GEMPACK software which will allow them to run RunDynam on any modern Windows PC;
- PDF files containing the complete GEMPACK and RunDynam documentation;
- an individual GEMPACK and RunDynam licence for the above software valid for 6 months;
- all computer files needed to run a training-course version dynamic model of China;

- a CD image of the entire CoPS website, containing many example models, working papers, and utility programs.

Assumed Background

We expect that course participants have:

- a bachelor or master degree in Economics, or equivalent work experience;
- experience of using a PC or notebook running Windows;
- a desire to learn about CGE modeling.

Preparing for the course

You should study some material prior to the course. Download and work through the MINIMAL course material (<http://www.monash.edu.au/policy/minimal.htm>). The MINIMAL model and course are simplified versions of the ORANI-G model and course -- and use similar notation and software. To go further, you could:

- download and read the ORANI-G document, which you can find at the top of ORANI-G page (<http://www.monash.edu.au/policy/oranig.htm>);
- download and experiment with the free Demonstration Version of GEMPACK (<http://www.monash.edu.au/policy/gpdemo.htm>).

Course Fees Beijing 2013

The training course charge is A\$2100 per person.

The fee covers lectures, computing sessions, course materials (including software), morning and afternoon teas, and one course dinner.

Venue and Accommodation

Course Venue:

Conference Room 2209,
Institute of Geographic Sciences and Natural Resources Research (IGSNRR),
Chinese Academy of Sciences (CAS).
Jia, No. 11, Datun road, Anwai Beijing 100101 China.

For information regarding accommodation near the course venue contact:

Wang Li 010-64888601

Email: wangl.ccap@igsnrr.ac.cn

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BEIJING 6-14 July 2013

Jointly organised by
Centre of Policy Studies, Monash University, and
Center for Chinese Agricultural Policy, Chinese Academy of
Sciences

COURSE REGISTRATION

Attention: Louise Pinchen (Louise.Pinchen@BusEco.monash.edu.au)
Please copy email to: Yinhua Mai (Yinhua.Mai@buseco.monash.edu.au)
Yang Jun (yjydy.ccap@igsnr.ac.cn)

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