Economic Modeling with TERM-USA Using Customized RunGEM

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Description

This one-day workshop introduces the participants to TERM-USA, a multi-regional computable general equilibrium (CGE) economic model of the United States, and provides practical experience in conducting model simulations. TERM-USA captures the behavior of economic agents in US regions linked by interrergional trade and factor flows. It is a powerful tool for analysing a wide range of issues facing US regions. TERM-USA is implemented using CRunGEM, a Windows program that makes it easy for users to run the model. The workshop overviews the main characteristics of TERM-USA and its data base, and demonstrates the model's capabilities in analyzing some typical regional issues, such as the regional impacts of a major industrial project, a new fiscal policy, regional development policies, among many others. A particular feature of the workshop will be hands-on computer exercises with CRunGEM to provide workshop participants with experience in conducting a range of typical simulations.

To learn more about TERM-USA, to obtain a download of the model with the CRunGEM software, and to download technical information, please visit:
http://www.vu.edu.au/centre-of-policy-studies-cops/cge-model-sales/term-usa-model

Instructor

John Madden is a Professor in the Centre of Policy Studies (CoPS) at Victoria University, Melbourne, Australia. Previous positions include Professor at Monash University (where he was Deputy Director of CoPS from 2004 to 2012), Director of the Centre for Regional Economic Analysis at the University of Tasmania and Scientific Fellow at Erasmus University Rotterdam.

Madden is a past President of the Pacific Regional Science Conference Organisation (2011-2012) and from 2002 to 2007 was a Councillor-at-Large on the Council of the Regional Science Association International (RSAI). He is a Regional Editor (Asia-Pacific) of *Regional Science Policy and Practice*.

Madden's primary research activity is in the area of computable general equilibrium (CGE) modeling. Madden is the author of FEDERAL, one of the first large-scale multiregional CGE models. With James Giesecke he is co-author of the chapter on regional CGE modeling in Elsevier's *Handbook of Computable General Equilibrium Modeling*. He has taught courses in CGE modeling for many years.

Madden's current research projects include regional models focussing on transport and globalisation issues, and a dynamic fiscal CGE model of the Florida economy. His research also includes economic studies of: competition policy, fiscal federalism (including part of a Stanford University study), tax and labor-market policies, energy and environment, regional development, investment projects (e.g. the Very Fast Train, North West Shelf Gas) and mega-events (e.g. the Sydney Olympics and the FIFA World Cup).

Format

The workshop involves a full day of lectures and hands-on computing exercises. There will be a one hour lunch break and half hour breaks mid-morning and mid-afternoon. The morning session will start with three lectures followed by the first computing exercise. The afternoon will consist of two computing sessions followed by a final lecture. To participate properly in the computing sessions, participants will need to bring their laptop/notebook computer. Participants will be able to download the required software and install it on their computer prior to the workshop.

Objectives

To provide workshop participants with the following:

1. An introduction to regional computable general equilibrium (CGE) modeling
2. A description of the TERM-USA economic model of the United States with 64 sectors, 70 regions and 12 occupations
3. Hands-on computing experience of running TERM-USA simulations with the CRunGEM software
4. Experience in using CRunGEM facilities for checking and interpreting results.

Expected participants

The workshop is aimed at regional scientists interested in the analysis of the economic impacts on regions of policy changes and other events. This includes those with some experience of CGE modeling interested in learning about a new multiregional CGE platform. It also includes those with input-output experience considering upgrading their capabilities to a user-friendly CGE facility. Additionally, it includes those who simply want to expand their knowledge of regional analysis to include a basic understanding of CGE modeling.

Prerequisites

There are no specific prerequisites beyond an interest in learning about CGE capabilities. Participants will find it an advantage to undertake some pre-reading available from CoPS' TERM-USA web site. *http://www.vu.edu.au/centre-of-policy-studies-cops/cge-model-sales/term-usa-model*

Workshop schedule

Morning sessions (8.15 am to 12.30 pm)

1. Workshop welcome and introduction (15 minutes)
2. Broad structure of a CGE model (60 minutes)
    a. Economic agents and multiregional input-output data base
    b. Key behavioural equations and market structure
    c. Alternate run-time assumptions
3. Introduction to CRunGEM (60 minutes)
    a. Inspecting the data base with ViewHar facility
    b. Using TABmate to look at model (.tab) files

Break (30 minutes)

4. TERM-USA applications – overview (30 minutes)
    a. Overviewing a range of policy-relevant issues
    b. Standard simulations and what variables to shock
5. Hands-on computing with TERM-USA: First simulation (60 minutes)
    a. Loading standard shock files and/or non-standard user choice
    b. Learning how to load run-time assumptions (a standard set or user choice)
    c. Running the simulation

Lunch Break

Afternoon sessions (1.30 pm to 5.00 pm)

6. Computing with TERM-USA: First simulation (60 minutes)
    a. Viewing aggregated and detailed results
    b. Displaying results and the Charter facility
    c. Decomposing the impacts of an economic shock
7. Computing with TERM-USA: Second simulation (60 minutes)
    a. Loading a new simulation
    b. Examining and comparing results
    c. Using the 'AnalyseGE' facility

Break (20 minutes)

8. Interpreting TERM-USA results (60 minutes)
    a. Model and data checks
    b. Procedures for understanding your results
9. Workshop wrap-up (10 minutes)