

# AN INTRODUCTION TO CGE MODELING FOCUS UPON TRADE AND TAX POLICY

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**Organized by:**  
**UN ECLAC Sub Regional Headquarters for the Caribbean**

**Dates:**  
**October 7 – 8, 2024**  
**11:00AM – 1:00PM Atlantic Standard Time (GMT-4)**

## COURSE DESCRIPTION

*An Introduction to CGE Modeling* is designed to introduce fundamental concepts and practices of tax and trade policy assessment. The primary tool used is Computable General Equilibrium (CGE) modelling.

The workshop will be a brief introduction to the practice of economic impact analysis, and a presentation of how CGE models are used to provide evidence-based analysis for Caribbean countries. The presentations will explain standard economic theory behind general equilibrium and will provide examples of CGE applications for tax policy and international trade analysis.

The most common CGE modelling software is GAMS/MPSGE. Several small examples, or “maquettes” will be used as exercises in order to provide an interactive experience with CGE modelling for the participants. Links to download GAMS/MPSGE will be provided. A restricted version of the software is available free of charge.

To finalize the workshop, two real-world models will be presented. One model designed for trade policy analysis; and another designed for tax policy analysis. These models are large and complex, so only selected policy experiments will be conducted during the workshop.

## WORKSHOP OUTLINE

**OCTOBER 07, 2024**

*Introductions and Overview of Economic Analysis using CGE*

**11:00 – 11:30**      *Presentation - What is a CGE Model?*

An overview and history of CGE models, in relation to other models. An itemization what they can (and cannot) be used for.

**11:30 – 12:00:**    *Interactive Demonstration: A 2x2x2 CGE Model and Tax Policy Experiment*

A simple CGE model is constructed on-site, and some basic economic analysis is done by the class.

**12:00 – 12:30:**    *Real World: International Trade Example – Impact of an FTA*

We analyse the economic impact of a Free Trade Agreement, using a full-scale model, for a specific country in the Caribbean/Latin America.

**12:30 – 1:00:**      *Real World: Tax Policy Example*

We use a CGE model to determine how taxes much change, in order to hit a specific revenue target – in the presence of tax avoidance. The deadweight loss is calculated for different levels of revenue and different tax instruments.

## **OCTOBER 08, 2024**

### *Tax and Trade Policy: Economics and Applications*

- 11:00 – 12:00**     *International Trade in Theory and with Numbers*  
Three basic trade theories are presented, then the CGE equivalent of these theories is implemented on the computer. The format will be a presentation, with class participation and discussion about the CGE results.
- 12:00 – 12:30:**     *Hands-on practice using Trade Theory: The Belize Trade Model*  
A full-sized, multisector model is presented and discussed with the class. The model will be used to demonstrate how CGE tools are used to determine trade impact analysis. Those with computers will be given the Belize Model and shown how to run it themselves.
- 12:30 – 1:00:**     *Services Trade: Monopolistic Competition and Product Variety Effects*  
In the final session of this course, Imperfect Competition and Increasing Returns to Scale theories are presented, and then are deployed in a CGE model that is focused upon Trade in Services.