



A Basic Closed Economy CGE Model: Exercises

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Outline

- Introduction
- Assigning Equations
- Running first experiments
- Results
 - Collecting into tables
 - Calculating derived results
- Using INCLUDE files

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Aims

- Learn to
 - Code equations
 - Generic (GAMS) programming skills
 - Resolve syntax errors
 - Resolve execution errors
 - Run simple experiments
- Start to write experiments
- Start to interpret CGE results
- Develop skills
 - In coding
 - In data handling



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Follow the instructions in the document *Basic 2 Sector Model Exercises.pdf*

Start at the beginning and work through each exercise.

Techniques and skills used here will be used repeatedly in the course. We may not do things the way you are used to doing things.

Even if you already knew ‘everything’ you may learn something new.



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User Model Library & New Project



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The Course Library

Working with files on ‘cloud’ can cause synchronisation problems

- Create a course library directory, e.g.,
C:\cgemod\cgemod_lib
- Download the library files for the Practical CGE course
– pract_lib.zip from www.cgemod.org.uk
– This library has all the code for the first 6 modules
- Unzip the contents of pract_lib.zip into the
library - C:\cgemod\cgemod_lib\pract_lib
– If this is new install you should not overwrite existing files
- The library index file will be
– Practical CGE Library

See also section 11 of ‘An Introduction to GAMS with GAMS Studio’
(<http://www.cgemod.org.uk/Intro to GAMS Studio.pdf>)



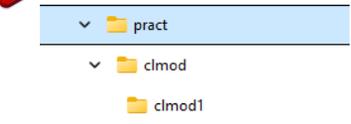
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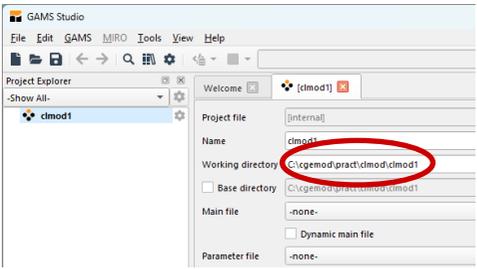


Creating a New Project



**First create a new (sub) directory
...pract\clmod\clmod1**

**Use File>New Project to create a new project file in the directory
...pract\clmod\clmod1**



**Use File>New to create a new GMS file in the directory
...pract\clmod\clmod1**

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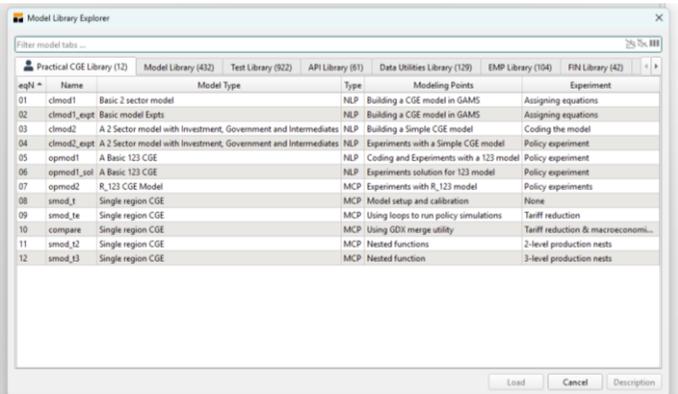
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Populating a New Project



Populate the project from the User Library
– Practical CGE Library
- SeqNr 01 clmod1

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A First Project & Project Files

The Main file in GAMS Studio

Files in the project directory from the User Library

Name	Date modified	Type	Size
clean_cl.dat	19/09/2024 17:39	DAT File	1 KB
clmod1.gms	19/09/2024 17:39	GAMS file	17 KB
clmod1.gsp	19/09/2024 17:39	GAMS Studio proj...	1 KB
clmod1_sola.gms	19/09/2024 17:39	GAMS file	17 KB
outline.inc	19/09/2024 17:39	INC File	6 KB

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Assigning Equations

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Assigning Equations

- The template (`clmod1.gms`) contains
 - All set declarations and assignments
 - All parameter declarations and assignments
 - All variable declarations and initialisation
 - All equation declarations
- In this part of the exercise you will
 - Assign the equations
 - Resolve all syntax and execution errors you cause
- The exercise document provides details for all the stages


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Experiments


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Experiments

- You will code and run three experiments
 - Each involves different percentage increases in factor supplies
- For each experiment you will
 - Collate the results
 - Answer questions about the results

The answers to the questions are **VERY** important.
This is the first step in learning how to interpret
the results from CGE models.

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Skills

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GAMS Skills

- Coding experiments
 - Shock ONLY parameters
 - Check the shocks
 - Run multiple SOLVE statements
- Collecting results
 - Create parameters for results
 - Assign results to parameters
- Calculating derived results
 - Create parameters for derived results
 - Use calculations to assign results to parameters
- Creating INCLUDE files
 - Write experiments in INCLUDE files
 - Add include files to the model
 - Run multiple experiments in an INCLUDE file
 - Save groups of experiments as INCLUDE files


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The End

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