

EKN819 Introduction to Computable General Equilibrium Modelling

First Semester 2012

Department of Economics, University of Pretoria

The 2012 edition of the EKN819 course will be conducted over 7 weeks (12/4 to 24/5) by Prof. Jan van Heerden and Dr. Heinrich Bohlmann. This course aims to provide students with an introduction to practical CGE modelling and the GEMPACK software package. Lectures will be every Thursday afternoon, starting on the 12th of April, from 4pm to around 7pm in the Tukkieurf building. We won't follow any particular textbook, but we will provide you with useful readings and references. Some handouts may also be given in class from time to time. You may also be required to do some reading on your own from these resources to prepare for class or complete assignments.

The CGE modelling methodology taught at the University of Pretoria is based on the MONASH-style of CGE modelling. It has a strong practical focus and was initially developed to solve practical policy questions. GEMPACK is the accompanying software package that solves the model and provides help in analysing simulation results. Students will be provided with a copy of GEMPACK that will be able to solve the comparative-static ORANI-G style model used in the course. Students will not be required to design or build your own CGE model. Instead, we will simply try and learn as much as possible about the ORANI-G model, the GEMPACK software package and how to run and interpret real world simulations within this environment. In achieving these goals you will learn about the theory of the model, data preparation, the implications of different model closures or assumptions and using BOTE models to aid in the interpretation of results.

Many countries and institutions around the world have built their own CGE models based on the ORANI-G model, including the University of Pretoria. The practical nature of this type of modelling has made it a preferred tool for i) governments and policy makers when evaluating the impact of proposed policy changes; ii) industries who wish to better understand the potential impact of policy changes on their business (and then perhaps lobby against it) and iii) researchers who wish to analyse

economic questions that can only be satisfactorily answered within a general equilibrium framework. We hope this course will give you enough insight to the possibilities that CGE modelling offer so that you will be encouraged to learn more this methodology and apply it in future research projects.

The preliminary outline for the course looks as follow:

<u>Date</u>	<u>Lecture Topic</u>
12 April	Introduction to the CGE methodology; BOTE models; Model closures
19 April	Theory and nesting structure of a CGE model
26 April	Data of a CGE model
3 May	Simulation 1 using GEMPACK
10 May	Simulation 2 using GEMPACK
17 May	Simulation 3 using GEMPACK
24 May	Introduction to dynamic CGE modelling with an illustrative example
June	Written final exam combined with a take-home practical assignment