

The evaluation of macroeconomic policies in industrialized and emerging economies

Macroeconomics brings a general equilibrium dimension to the evaluation of economic policies. The effects of a reform, for instance of the tax structure of a country, depend on the interactions between all its markets. These effects differ in the short and in the long run. The evaluation of the distributive consequences of a reform is a nontrivial question: which households and firms will bear the costs and which will get most benefits?

Macroeconomics has developed several instruments dealing with these questions, each with its qualities and its limits. A good evaluation must rest on the use of all these instruments and a comparison of their results. The course will focus on the effects of taxes (on wages, capital income, consumption, imports,..) on the economic equilibrium in practical situations, concerning industrialized and emerging economies. Three kinds of instruments will be presented.

1. Traditional macroeconometric models such as the quarterly models of the DGTPE and INSEE, Mesange, or of the Bank of England. These models have two qualities. First, they include all the accounting constraints of the national accounts, and have the same level of details as these accounts. Thus, their size is big: around 500 equations. Secondly, they are econometrically estimated to reproduce the observed dynamics of the economy over the last twenty years. On the other hand, these models have a weak theoretical basis, and some of their properties are problematic.
2. The new dynamic general equilibrium models such as GEM or GFM, built at the IMF, or similar models built at the DGTPE, central banks, etc. These models have strong theoretical bases, and their results can easily be connected to macroeconomic theory. They have much smaller sizes than the first class of models, and even when they are estimated, they have difficulties reproducing the path followed by the main economic variables over the past.
3. The static computable general equilibrium models such as those developed at the World Bank, IFPRI, etc. These models are built around a social accounting matrix

and include a large number of household classes, industries, etc. They are especially useful to investigate the distributive effects of a policy. They have good theoretical foundations at the static equilibrium level. They have no dynamics, or their dynamic is weak at the theoretical and empirical levels. As their ‘closure’ is somewhat arbitrary, they may also be taken as partial equilibrium models.

Each kind of model uses its own software. EViews is perfect for the first kind of models (at least if they are not too big), Matlab+Dynare for the second kind of models and Gams for the last kind of models. All these software are easily available. Students will be encouraged to learn their basic concepts and use them on their laptops.

Chapter 1. Computable general equilibrium (CGE) models and tourism economics.

1. Introduction
2. The foundations of computable general equilibrium (CGE) models
 - Mathematical theory
 - From a mathematical to a computable general equilibrium model: I
Parameterization
 - From a mathematical to a computable general equilibrium model: II
Calibration and simulation
 - Versatility of CGE models
3. Extensions and questions
 - International trade
 - Government
 - Strengths and limits of CGE models
4. How to introduce tourism in a general equilibrium model
5. Applications of CGE models to tourism economics
 - Taxing foreign tourists
 - Tourism and poverty
 - Interregional effects
 - Stabilising policies in times of natural catastrophe and terrorism
6. Conclusion

Chapter 2. Social accounting matrix (SAM)

1. Definitions
2. Example: A social accounting matrix for Ecuador, 1980
3. Construction of a SAM: Data requirements

Chapter 3. Introduction to GAMS

1. Starting with GAMS
2. Example: A single market equilibrium
3. Coding the example in GAMS
4. Comparative static experiments
5. Reading the output

Chapter 4. An introduction to the writing and the simulation of general equilibrium models

1. A very simple general equilibrium model
2. A general formulation of general equilibrium models

Chapter 5. A simple general equilibrium model in GAMS

1. A verbal model presentation
2. Mathematical model statement
3. Practical advises and coding of the model
4. Output of the simulation

Chapter 6. Two extensions of the model of chapter 5

1. Intermediate demands
 - Changes in the mathematical model statement
 - Changes in the code
2. Saving and investment
 - A verbal model presentation
 - Changes in the mathematical model statement
 - Changes in the code

Chapter 7. The Ramsey's model and how to simulate a perfect foresight model

1. An example: the Ramsey's model
2. Linear dynamic models with perfect foresight

3. Nonlinear models with perfect foresight
4. How to simulate a nonlinear model with perfect foresight
5. Application to the Ramsey's model