Contents

General Notes:

First four classes - Microsimulation

Last four classes - Macrosimulation

Practical Evaluation - Python completing code

Lecture 1: Microsimulation in Static Models

Where as random control trials and natural experiments measure the impact of a policy *ex post*, micro and macro simulations were created to find the impacts *ex ante*.

Model Complexity

Population Complexity

Static model with no temporal element.
You have a database of a population with as many characteristics as you can gather about them.
See how this is effected by a proposed policy.

Behavioural Complexity

Temporal (Dynamic) Complexity

Spacial Complexity

Typology of microsimulation models

Hypothetical Model

Models tested using an synthetic/artificial population of households/individuals.
Used for:

- Illustrative purposes
- Validation
- Cross country comparisons

Limitations

As you can imagine this method has its own issues

- Limited heterogeneity
- Lack of representativeness
- Will often disregard detailed aspects of policy that matters a lot

Static Models

Models which use some form of micro-data, but no behavioural or temporal conditions. This method provides a focus on the complexity of a policy interacted with the complexity of population & "day after reform" effects

Behavioural Models

Dynamic Models

Static Models

Baseline Data

First you must build it:

- Using Admin data and Survey Data

Then you must maintain it:

- This brings a lag of a few years often

Coding Policies

Behavioural Responses and Dynamic Models

In previous lecture we saw models with no behavioural dynamics and no time dimension.

Structural Models

Reduced Form

Macro Simulation

The Basic New Keynesian Model : Fiscal and Monetary Policies