Imperfect Competition in CGE Models:
Theory, Techniques, Applications

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Lecture Description:

My lecture (in two parts) will examine the issue of formulating a Computable General Equilibrium Model with imperfect competition in some industries. The introduction of IC assumptions in the structure of a CGE model, which is essentially Walrasian (therefore based on perfect competition), raises a number of interesting questions, which will be addressed in my talk:

- Why should we adopt alternative assumptions about market structure, in some cases?
- How can we bridge a partial-equilibrium theory with a general equilibrium approach?
- Which IC paradigm should be chosen?
- How can we compute demand elasticities?
- Which extra data is needed to calibrate the model?
- Is the model output significantly different, and why?

The first part of the lecture will be more general and theoretic. The second part will consider technical aspects and applications. Modifications introduced in the structure of a GTAP-based model (written in TABLO-GEMPACK) will be presented and commented. No previous knowledge of this language is necessary.
Two applications will be illustrated. The first application deals with trade liberalization in agriculture, with and without IC in manufacturing. The second applications deals with exogenous changes in energy demand, induced by climate change. In both cases, differences between PC and IC formulations will be highlighted and interpreted.

The lecture is based on two papers:

- "Introducing Imperfect Competition in CGE Models: Technical Aspects and Implications", *Computational Economics* (forthcoming), 2006. Preliminary version published as FEEM working paper n.2.2006 and Ca'Foscari/DSE working paper.
- *Climate Change, Energy Demand and Market Power in a General Equilibrium Model of the World Economy* (Mimeo, with F.Bosello).