Productivity Commission
Activity Report 2006-07

The Commission has conducted 4 projects that might be of relevance to the GTAP community:

1. an alternative to the Armington assumption in global CGE models

2. a facility to improve access to the GTAP database for non-gempack users and non-CGE modellers

3. the development of a new benchmark version of the Monash Multi-Regional Forecasting model of the Australian economy (MMRF3) through a contract with the Centre of Policy Studies

4. a study of the potential economic and fiscal effects of a set of wide-ranging reforms under the National Reform Agenda

Over the next year, the Commission is likely to:

1. develop expertise in CGE modeling for greenhouse gas and water aplications.

2. develop an Armington-Heckscher-Ohlin (AHO) model based on a full disaggregation of the GTAP database

3. produce a new database fro GTAP v. 8 (or very late v 7)

An alternative to the Armington model

Some of the properties of the Armington assumption have led to contentious results that are difficult to reconcile with conventional trade theory.

This project compares the properties of the Armington model with those of the traditional Heckscher-Ohlin model in a consistent framework and draws the implications of these differences for current modelling practices and for policy analysis with Armington models. An alternative to the Armington model is being developed in an attempt to minimise some of the problems that arise from the Armington specification.

Armington trade models behave very differently from the conventional H-O trade models. Well-known trade theorems derived from the H-O model, do not hold in Armington models.

An alternative to the current Armington model of differentiated products is a combined model: combining trade in homogenous products with the existing structure of intra-industry trade in differentiated products. The mixed model (the AHO, Armington-Heckscher-Ohlin model) requires a new database, in which industries produce two types of goods, one is country specific and the other is homogenous. The demands for differentiated goods follow the Armington assumption while the demands for homogenous goods follow the H-O specification.

Introducing homogenous goods brings back competition across countries and comparative advantage gains from trade. It also reduces the influence of the Armington assumption on model's results, such as the strong terms of trade effects and insufficient resource reallocation effects in trade liberalization scenarios.

Access to the GTAP database

The purpose of this project was to produce a suite of programs that will improve access to the GTAP database for non-GEMPACK users, with an aim to expand the pool of potential specialists who might contribute to quality control of the database. The objective was to generate an Excel workbook containing a summary of each country's economic statistics.

Version 1.0 is complete, and Terrie may say a few words about it or demonstrate it to the Board meeting. The summaries will be made available on the GATP website (I think) the software and the means to change the summaries, including the aggregation are available on the Commission's website: www.pc.gov.au

MMRF3

The Commission's work is becoming more and more centered on issues that are best analysed with a model that accounts for the differences in economic structures across the 8 state and territory jurisdictions. This has led it to commission the Centre of Policy Studies to revamp the Monash Multi-Regional Forecasting model on the basis of the latest Australian Bureau of Statistics input-output table (2001 base year). This database will probably be the basis for the next Australian contribution to the GTAP database.

The new model should be publicly available sometime in 2008.

Potential effects of the National Reform Agenda

This is an 'initial big numbers exercise' (an 'outer-envelope') designed to help determine broad directions and trade-offs in a negotiation between Australian jurisdictions. It is a good illustration of the importance that CGE analysis plays in Australian economic policy making (related pages on the website of the Council of Australian Governments are instructive). The project has several interesting features:

1. it is broad-ranging, covering:

    a. competition in energy and transport infrastructure,

    b. a reduction in the burden of regulation economy-wide

    c. initiatives in health to improve the sector's productivity

    d. initiatives in health, education and work incentives designed to increase labour supply

2. there are detailed sectoral studies for each of these aspects

3. the results of the sectoral study are used to evaluate economy-wide and fiscal implications for each jurisdiction through shocks in a prototype of MMRF3.

Check out: http://www.pc.gov.au/research/crp/nationalreformagenda/index.html

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