

Productivity Commission Report to GTAP Consortium Board June 2005

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The Commission did not use the GTAP model or database in any major project during 2004-2005. The main CGE projects were designed to support the Public Inquiry into National Competition Policy and a forum on rural water trade. Several projects are relevant to the GTAP community; these are:

1. Documentation of the Australian contribution to the GTAP v 6.0 database.
2. A small program designed to pinpoint and explain to policy-makers the implications of the Armington elasticity for CGE model results.
3. The public release of the Integrated Tariff Analysis System (ITAS); version 1.0 of ITAS provides a set of GTAP 5 compatible shocks for 10 tariff formulas and estimates of Post-Uruguay Round tariff rates calculated from HS6 level data for 21 WTO members; SAS users can modify the code to incorporate different tariff reduction formulas, but the release includes a full set of initial and final tariffs for the selection of formulas and assumptions included.
4. CGE work using the Monash MultiRegion Forecasting (MMRF) model to support the inquiry into National Competition Policy.
5. A project to determine the benefits of increasing water trade in the Murray-Darling Basin, using the Centre of Policy Studies' TERM model.
6. The report on assistance to tourism was published.
7. The Commission developed a method to calculate Restrictiveness Indexes for Preferential Rules of Origin.

Over the coming months, the Commission is likely to develop a state-based database to analyse reforms in transport infrastructure (to fit MMRF) and a model to study urban-rural water trade (based on the TERM in collaboration with the Centre of Policy Studies).

Australian contribution to the GTAP v 6.0 database

Documentation should be completed by June 2005, with my apologies for the long delay in supplying it.

Research program on Armington elasticities

This consists of 3 projects:

- An investigation into the complex relationship between Armington elasticities and terms of trade effects in global trade models. In the main, doubling all elasticities is not a panacea against strong terms of trade effects.
- An investigation into ways of improving the Verikios and Zhang method of estimating Armington elasticities from the GTAP 3, 4 and 5 databases and how these estimates might be used to inform the choice of elasticities for the Monash and USAGE models. A stylised result from the current set of estimates is that they are about twice as large as the ones currently used in Monash and 1.5 times the estimates used in USAGE.
- A paper on the properties of GE models that incorporate the Armington assumption. This discusses the properties of the competitive equilibrium of the 'Armington Model' and compares them with other models, especially the Heckscher-Ohlin model. A number of standard trade theorems are reassessed in the presence of the Armington Assumption: the Law of One Price, gains from trade, comparative advantage and factor price equalisation. Some of the results are then illustrated with a stylised CGE model with the Armington Assumption.

These papers are expected to be released between now and October 2005.

Public release of ITAS

The main results of ITAS and the documentation are available from the Commission's website. In addition to many diagnostics and descriptive statistics, version 1.0 of ITAS produces for 19 WTO members:

1. A set of HS6 estimates of post-Uruguay Round bound and bilateral applied tariff rates for industrial products at the HS6 level.
2. a set of GTAP 5 compatible shocks for 10 tariff formulas.

The post-Uruguay Round tariff estimates are available at HS 6-digit in excel files and found at <http://www.pc.gov.au/work/trade/itas/posturuguay/index.html>. These Estimates were aggregated to GTAP version 5 classification (trade-, not fancy weights), see <http://www.pc.gov.au/work/trade/itas/results/gtap/index.html>.

The SAS code, excel utilities and full HS6 results for industrial products are available on request on CD-Rom (to avoid bringing our website to its knees). SAS users can modify the code to incorporate different tariff reduction formulas.

See <http://www.pc.gov.au/work/trade/itas/index.html>

Support for the NCP inquiry

This project evaluated the effects of productivity and price changes that affected 6 infrastructure industries during the 1990s. Since many of the industries were affected differently in different jurisdictions, the project used the Monash Multi-Region Forecasting model. The Commission developed a tops-down module to comment on distributional effects.

See <http://www.pc.gov.au/inquiry/ncp/finalreport/supplement/index.html>

Rural water trading

This project used the Centre of Policy Studies' TERM to estimate the benefits of extending trading in irrigation water.

See <http://www.pc.gov.au/research/swp/watertrade/index.html>

Assistance to tourism

The main thing to note from this is that the Commission excluded from its definition of *tourism for the purpose of estimating assistance* a number of activities that are usually included in the usual definition used by statistical agencies. For example, most business travel is excluded, since it is assumed that it is not affected by industry assistance. This definition halves the size of the original sector, and therefore increases the rates of assistance.

See <http://www.pc.gov.au/research/crp/tourism/index.html>

Rules of Origin

The Commission developed a Restrictiveness Index for Preferential Rules of Origin. This can be found in the Supplement to Research Report, Rules of Origin under the Australia - New Zealand Closer Economic Relations Trade Agreement.

See <http://www.pc.gov.au/study/roo//supplefinalreportment2/index.html>

Publications

Forbes, M.D., Fry, J.M., Jomini, P.A. and Strzelecki, A. 2004, An Integrated Tariff Analysis System: Software and Database, Productivity Commission Staff Working Paper, Melbourne, November.

Peterson, D., Dwyer, G., Appels, D. and Fry, J. 2004, Modelling water trade in the southern Murray-Darling Basin, Productivity Commission Staff Working Paper, Melbourne, November.

Productivity Commission 2005, Assistance to Tourism: Exploratory Estimates, Commission Research Paper, Canberra, April.

Productivity Commission 2004, 'Restrictiveness Index for Preferential Rules of Origin', Supplement to Productivity Commission Research Report, Rules of Origin under the Australia—New Zealand Closer Economic Relations Trade Agreement, Canberra, June.

Productivity Commission 2005, 'Modelling Impacts of Infrastructure Industry Change over the 1990s', Supplement to Review of National Competition Policy Reforms, Productivity Commission Inquiry Report No. 33, Canberra, February.

Forthcoming publications:

Lloyd, P. And Zhang, X. 2005. The Armington Model. Productivity Commission Staff Working Paper, Melbourne (forthcoming).

Shomos, A. And Zhang, X. 2005. Armington elasticities for the Monash and USAGE models. Productivity Commission Research Memorandum (forthcoming)

Verikios, G. and Zhang, X. 2005. Modelling changes in infrastructure industries and their effects on income distribution. Productivity Commission Research Memorandum (forthcoming).

Zhang X. 2005. Armington elasticities and terms of trade effects in global CGE models. Productivity Commission Staff Working Paper, Melbourne (forthcoming).