

## Modelling activities at the Australian Productivity Commission 2015-16

This year has seen some interesting changes in the governance of modelling work at the Commission. All modelling activities are now supervised by a Head of Modelling who is entrusted with clearing the modelling work. This is associated with an expansion of modelling to include more PE and microsimulation.

Projects of particular relevance to the GTAP community include:

- modelling for a public inquiry into “*Migrant Intake into Australia*”
- combining **microsimulation** and CGE models

The Commission is the only Australian government agency on the Board. In preparing for the meeting this year, we consulted with a few other agencies – see few words at the end of this report.

### **Modelling for “*Migrant Intake into Australia*”**

The draft report is available on <http://www.pc.gov.au/inquiries/completed/migrant-intake#report> . The final will be released by government sometime later in 2016, including supplementary papers for the modelling. Keep an eye out for it.

This project used 3 different models to address a variety of questions:

1. A CGE model of Australian states (VURM, formerly MMRF) to investigate the economy-wide, intersectoral and regional effects of migration to 2060
  - the version of VUMR used integrates a cohort-based population module
  - major challenge: develop a baseline to 2060; document to be released in 2016.
2. A PE model of the demand for Australian immigration to investigate the possible effects of different charging mechanisms, especially on the composition of migrant inflows
  - detailed modelling of markets by region of origin, visa type and occupation (~3000 markets)
  - showed that under certain scenarios, composition shifts toward older migrants and family visas – not toward more skilled migrants as might be expected
3. A fiscal model to investigate the fiscal implications associated with different visa streams.
  - model illustrates how different streams contribute fiscally through their lifetimes (net drains when young (education) and old (health), net contributors while paying taxes) and the NPV of different migrant types depending on their age of arrival
  - model illustrates that current fiscal settings cannot be sustained

### **Combining microsimulation and CGE models**

- Motivated by recent work with microsimulation models (eg Childcare and Early Childhood Learning), which did not account for possible GE effects  
(<http://www.pc.gov.au/inquiries/completed/childcare/report> )
- Develop a simple approach to solving a behavioural microsimulation model in a CGE framework
- Allow more complex behaviours to be incorporated, and solved as part of the CGE model
- Potential applications to model sub-sectoral activities in industry sectors of a CGE model
- Paper to be presented at the 2016 conference

### **Other news from Australian agencies**

In the recent past, ABARES and Treasury have been intensive users of GTAP products, mainly in support of carbon policy and negotiations, and to a lesser extent, trade policy. Both institutions have reduced their investment and capability in global modelling – and modelling in general. In this context, the Treasury is conducting a review of its modelling capability in the context of a generally declining capability within the Australian Public Service as a whole. Treasury subscribes to G-Cube, which is based on the GTAP database.

The Department of Foreign Affairs and Trade commissions occasional studies from consultants and some academics use GTAP-related products to contribute to the debate on regional trade agreements (eg currently on a China-Australia FTA).