

## **Summary: GTAP Advisory Board Meeting 2008**

### **A. Summary of Goals and Accomplishments in the Past Year**

See Board Report and Issues document:

[https://www.gtap.agecon.purdue.edu/events/Board\\_Meetings/2008/default.asp](https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2008/default.asp)

### **B. Summary of Agency Activities in the Past Year**

See: [https://www.gtap.agecon.purdue.edu/events/Board\\_Meetings/2008/agencies.asp](https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2008/agencies.asp)

### **C. Overview of Core Goals 2008-2012**

1. **Data Goal:** To Improve the quality of Data Products through:
  - Improving the quality of contributed I-O data
  - Addition and Improvement of Other Datasets
  - Monitoring of Data Quality using Comparison Programs
  - Version control and Documentation
2. **Research Goal:** To actively participate in quantitative economic analysis of pressing global concern in the areas of:
  - Trade and Development
  - Global Environmental Issues
3. **Model Goal:** To promote further development of GTAP-based models
4. **Education Goal:** To expand and improve global economic analysis education worldwide.
5. **Staffing Goal:** To actively seek and encourage talented staff and graduate students.
6. **Collaboration Goal:** Actively seek opportunities for fostering collaboration with institutions around the world.

## D. Overview of Priorities and Responsibilities

### 1. *Data Goal:* To Improve the quality of Data Products.

<i>Tasks</i>	<i>Individuals</i>
Improving the quality of contributed I-O data (core)	
<ul style="list-style-type: none"> <li>– Priority: Annual report, Chopping Block, Implement peer review process, EU I-O Tables</li> </ul>	TW, grad student and new post-doc
<ul style="list-style-type: none"> <li>– Secondary priority: Metadata and treatment flags; Improved guidance on how to manipulate I-O data; I-O contributor’s course materials on website; Seek reviewers for the peer review system.</li> </ul>	RMD, BN, TW, SMD, new post-doc
<ul style="list-style-type: none"> <li>– Third priority: Alternative I-O contribution format which is based on supply and use format.</li> </ul>	TW and new post-doc
Addition and Improvement of Other Datasets (core)	
<ul style="list-style-type: none"> <li>– Priority: bilateral services data, and income taxes,</li> </ul>	RMD, TW, BN, AA
<ul style="list-style-type: none"> <li>– Secondary Priority: Domestic Margins Data, Skill Splits, I-O disaggregation review, and working committee on Agricultural Support in GTAP, Energy prices and funding.</li> </ul>	
<ul style="list-style-type: none"> <li>– Third Priority: Taxes, FDI, NTBs</li> </ul>	
Monitoring Data Quality using Comparison Programs (core)	
<ul style="list-style-type: none"> <li>– Priority: Further work on Comparison Programs; Share these programs and their outputs with the broader GTAP community in order to build confidence in data quality.</li> </ul>	RMD, BN, AA TH, TW, Grad student
<ul style="list-style-type: none"> <li>– Secondary Priority: Comparing Simulation Results between Versions</li> </ul>	
Versions and Documentation	
<ul style="list-style-type: none"> <li>– Priority: Documentation (core), GTAP Africa Data Base (non-core)</li> </ul>	BN, TW, RMD, AA, TH
<ul style="list-style-type: none"> <li>– Secondary priority: Multiple Versions of GTAP Data Base, Version Control, Documentation of Construction Process (core)</li> </ul>	
Open Sourcing	
<ul style="list-style-type: none"> <li>– Secondary Priority: Recirculate NSF proposal on open-sourcing of the GTAP data base (non-core)</li> </ul>	TH, RM, TW

### 2. *Research Goal:* To actively participate in quantitative economic analysis of pressing global concerns.

<i>Tasks</i>	<i>Individuals</i>
Trade and Development <ul style="list-style-type: none"> <li>– Priority: Dynamic GTAP model (core), poverty and model linking (non-core)</li> <li>– Secondary priority: Labor migration and FDI (non-core)</li> </ul>	TW, BN, RMD, AA, TH, AR, Graduate students
Global Energy and Environmental issues <ul style="list-style-type: none"> <li>– Priority: publish set of papers on biofuels and land-use issues (non-core)</li> <li>– Secondary priority: make underlying data sets publicly available and use funding to improve energy data in the GTAP Data Base (core)</li> </ul>	TH, WT, AG, AA and graduate students

3. **Model Goal:** To promote further development of GTAP-based models

<i>Tasks</i>	<i>Individuals</i>
Actively seek out potential papers for the GTAP Technical Papers (core) <ul style="list-style-type: none"> <li>– Priority: seek out technical papers on issues of relevance to improving the theory and education of the GTAP model</li> <li>– Secondary priority: GTAP-E model</li> </ul>	TH, TW RMD, AG

4. **Education Goal:** To expand and improve global economic analysis education worldwide

<i>Tasks</i>	<i>Individuals</i>
Make short course materials more widely available to public (core) <ul style="list-style-type: none"> <li>– Priority: look for overseas hosts, hold course (Thailand) and conferences (Chile)</li> <li>– Secondary priority: investigate potential sources of funding for a course for users, look for potential instructors with language skills</li> </ul>	TW, GB, MA, new post-doc

5. **Staffing Goal:** To actively seek and encourage talented staff and graduate students

<i>Tasks</i>	<i>Individuals</i>
Seek a new person to assist with data base work (core)	TW, TH, MA, GB

- Priority: IO tables
- Secondary Priority: Energy, taxes

6. **Collaboration Goal:** Actively seek opportunities for fostering collaboration with institutions around the world.

<i>Tasks</i>	<i>Individuals</i>
Seek partners and funding opportunities for collaboration (core) <ul style="list-style-type: none"> <li>– Priority: Consortium institutions and Europe (core)</li> </ul>	TW, TH, MA, GB

## E. Summary of Discussions

The following relate to specific areas of discussion at the board meeting. In cases where an issue was discussed extensively in the Issues Report it is not repeated again here (see the Issues Report:

[https://www.gtap.agecon.purdue.edu/events/Board\\_Meetings/2008/default.asp](https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2008/default.asp)).

1. **Data Goal:** To Improve the quality of Data Products through:

*a. Improving the quality of contributed I-O data*

**I-O Data Quality:** At the board meeting Terrie Walmsley presented both an overview of work currently being undertaken and a number of new proposals that will help to ensure the quality of the I-O data which is contained in the GTAP Data Base. The recommendations were generally well received. It was noted, however, that each country should be examined individually before being removed from the GTAP data base. For instance, the Center should examine whether a newer table exists or whether what we have is the best available, and whether its removal will cause serious problems elsewhere in the data base (e.g., Hong Kong re-exports). If a newer table exists (e.g., in the UN's large repository of I-O tables) then potential contributors should be made aware of this through the website; if data is not available then we should consider retaining the country. It was also suggested that we place some of the presentations provided at the board meeting on the GTAP website in order to highlight what is being done to ensure data quality, thereby building confidence in this aspect of the data base.

**Action:** the proposals will be implemented over the next few years and the presentation from the board meeting will be recorded and placed on the website.

**EU I-O Tables:** While significant work has been undertaken in preparing data for 24 of the 27 EU countries by Marc Mueller from the Institute for Prospective and Technological Studies, the tables have not yet been converted into GTAP format and are therefore not ready for incorporation into the v.7 data base.

**Action:** We will work with the European Commission, Marc Mueller, Martin Banse and Scott McDonald on formatting these 24 EU I-O tables. Our aim is to include as many as

possible in the final GTAP 7 Data Base. If this is not possible they will be included in an interim release which we will make available as soon as possible following the public release of v.7. Interim releases are available to consortium members and v.8 data base contributors.

*b. Addition and Improvement of Other Datasets*

**Bilateral Services Trade Data:** Further information regarding the treatment of bilateral services trade was requested. The Center has also received comments from the CPB regarding the final services trade data.

**Action:** Robert McDougall will be examining the issues raised by the CPB prior to the release of the final version 7 data base and documentation will be supplied in due course.

**Agricultural Support:** The EU Commission raised several questions about the way agricultural support is represented in the GTAP data base. This included the representation of cotton subsidies and the representation of activities that effectively subsidize exports, such as food aid, credit guarantees, etc. Another big issue in agriculture is how to accommodate the new OECD system of support measurement.

**Action:** These issues were referred to a working committee to be chaired by Hans Jensen of the FOI. Frank van Tongeren has also offered to serve with Hans on this committee, along with Hsin Huang and Badri Narayanan. Due attention is also being given to the new method of equalizing payments across crop-sectors and re-allocation of land-based payments to other factors, which was implemented for the first time in the Pre-release 4 of GTAP 7 Data Base.

([https://www.gtap.agecon.purdue.edu/access\\_board/documents/GTAP7pr4\\_note.doc](https://www.gtap.agecon.purdue.edu/access_board/documents/GTAP7pr4_note.doc))  
Hsin Huang is also working on this issue and hopes to provide us with improved domestic support data prior to the final release. Their work will be important for version 8, and it is hoped that some recommendations will be made for cotton prior to the final release of version 7. We will also work with Ernesto Valenzuela and Kym Anderson to make available alternative rates of agricultural protection for use with altermat.

**Energy:** At the board meeting, Robert McDougall raised the issue of investing additional resources into the core energy price data. After further discussions it was thought that it might be possible to mobilize additional resources from DOE and EPA for a post-doc in this area, as well as some personnel support from the World Bank's Development Prospects Group (Dominique van der Mensbrugge's team). This work might also extend to improve the treatment of taxes in the GTAP data base. In a follow-up meeting with Richard Gabaccio, Tom Hertel, Steve Rose, Wally Tyner and Dominique van der Mensbrugge, Richard and Steve reiterated this interest on EPA's part, and Dominique also volunteered to contribute some of Ken Itakura's time (he will be arriving at the Bank in August) to this effort. The ultimate output from this effort would be a journal paper documenting the new data base. Richard Tol has suggested that *Energy Economics* would be interested in considering such a paper for publication.

**Action:** Rob will draft a one-pager describing the key features of the target data base as well as critical challenges.

**Time as a barrier:** Following the work of David Hummels, Peter Minor and Nathan Associates have created a global data base of tariff equivalents of time barriers.

**Action:** This database will be made available on the GTAP website to board members and GTAP data base 6 subscribers.

**Open Sourcing of the GTAP data base:** Several years ago, the Center mounted a major proposal for open-sourcing of the GTAP data base. The idea is to make all the underlying programs publicly available and focus our efforts on training others to build their own versions of the GTAP data base. Every two years, we would evaluate what has been done in the network and issue a new, official GTAP data base, building on the best work. This would be a very costly effort, including significant funding for software engineering, training, and revenue replacement (for lost data base sales). However, there seems to be a renewed interest in this topic.

**Action:** We will circulate an updated version of this proposal for board members and others to comment on and “shop around”.

#### *c. Monitoring of Data Quality using Comparison Programs*

**Data Comparison Programs:** Robert McDougall presented the methodology behind the new data comparisons being undertaken at the Center to improve our ability to catch errors/annomalies and hence improve the quality of the GTAP data base. These programs have been used extensively by the Center in checking the version 7 pre-releases. Issues found are then posted on the data issues page on the board website ([https://www.gtap.agecon.purdue.edu/access\\_board/v7pr\\_data\\_issues.asp](https://www.gtap.agecon.purdue.edu/access_board/v7pr_data_issues.asp)) along with proposed actions to be taken and status. These issues are then fixed in subsequent pre-releases.

**Action:** These procedures will continue to be refined and simplified so that such tasks can be carried out by graduate students or in a more automated, and therefore less-time consuming, manner.

**Simulation Comparisons:** We have been very fortunate during the version 7 pre-release process to get a great deal of feedback from board members. Dominique van der Mensbrugge, at the World Bank, has been particularly effective at identifying significant changes in the data base by running a common simulation using consecutive versions of the GTAP Data Base and then examining the cause of differences in the results.

**Action:** The Center plans to systematize the use of such comparisons in-house.

#### *d. Version control and Documentation*

**Wikipedia:** During the board meeting it was suggested by Richard Tol that the data base documentation should have a wikipedia type feel to it. There are two aspects to this idea:

1) having any documentation recorded directly on the webpage allowing chapters to be linked easily through text links; and 2) allowing others in the network to add comments.

**Action:** The Center plans to examine this idea further for both its FAQ section and the data base documentation. In the case of the documentation the concern is that the cost of overseeing comments (2) made by individuals not associated with the data base construction may be prohibitive. It may be best to allow individuals to comment through an FAQ section rather than as part of the documentation. An added benefit would be a new lease on life to the FAQ section which is potentially very important, but currently under-utilized.

**Website:** There was also some concern expressed about the large amount of information on the website and the difficulties for users to find what they need. It was mentioned that the search facility was very good. Balancing website usability with up-to-date information content is a constant struggle. We are fortunate to have Ginger Batta overseeing the website, but increasingly other staff members are taking on more responsibility for maintaining their sections.

**Action:** Periodically Terrie Walmsley undertakes a review of the site to see if improvements can be made. Anyone who would be interested in reviewing the website and providing feedback should contact Terrie Walmsley and Ginger Batta.

**Africa Data Base:** Badri Narayanan reported on the progress being made on the African Data Base. This included a special effort to estimate missing intra-African trade. It was noted that UNCTAD are also undertaking a project to estimate missing African trade, and the relevant parties have subsequently exchanged information. It is hoped that this will result in much-improved trade data for Africa.

**Action:** The African data base is expected to be made available by October 2008.

2. **Research Goal:** To actively participate in quantitative economic analysis of pressing global concern in the areas of Trade and Development and Global Environmental issues

**Biofuels:** Thomas Hertel and Wally Tyner presented recent research on global land use and biofuels. There was a great deal of interest in this research and in sharing data.

**Action:** Hertel and Tyner are currently involved in contributing to regulatory analysis by the US-EPA and the California Air Resources Board. This will provide a test of the modified GTAP model's ability to deliver credible policy advice in a new area of application, namely the indirect land use impacts of biofuels.

3. **Model Goal:** To promote further development of GTAP-based models

**GTAP Technical paper series:** Given the constraints on staff time at the Center, we propose to encourage more technical papers.

**Action:** Below is a list of ideas for potential GTAP Technical Papers, some of which are already in the draft stage. This list will be posted on the website and individuals interested in undertaking these topics, or with other ideas for technical papers, should contact Tom Hertel.

- New GTAP-E model and technical paper (McDougall and Golub)

- Validation of the GTAP-E model (Beckman, Hertel and Tyner)
- Incorporation of firm heterogeneity into the GTAP model (Fan Zhai)
- Modelling EU agricultural policy (Alex Gohin)
- Macro transmission in GTAP and real exchange rates
- PE-GE modeling (Narayanan, Hertel and Horridge)
- Non-tariff barriers – measurement and modeling
- The impact of alternative methods for aggregating protection
- Model Linking
- Documentation of other GE models, built upon the GTAP data base
- Terms of trade and Armington
- What makes a good CGE paper?
- How to change the standard GTAP model?
- Uses of SplitCom

4. **Education Goal:** To expand and improve global economic analysis education worldwide.

**Conference in Venice:** There was some concern about the venue for the 2011 conference (Venice). The main issues related to cost and timing (July instead of June; and Venice is very crowded in the summer).

**Action:** Thomas Hertel will work with the staff at FEEM to come up with specific cost estimates, including the possibility of holding the conference at a different location which would permit us to remain in the June time slot. We plan to provide the board with more detailed estimates of cost, including airfare, hotel, etc under alternative scenarios/locations.

**GTAP Course for Consumers:** Peter Minor from Nathan Associates raised the idea of introducing a course for consumers of GTAP results. Further discussions evolved into a three step proposal: (i) curriculum development, (ii) offering two trial courses, and, if (i) and (ii) are successful, then (iii) establishing a GTAP fellowship in Geneva which would be staffed by sabbatical visitors. They would receive half salary and a cost of living differential and, in return, they would engage in outreach and teaching activities in Geneva. **Action:** Pete Minor will develop a pre-proposal for circulation. It seems that Hakim Ben-Hammouda is developing some WTO-Geneva based training courses as well, so some coordination with him would seem to be in order.

**Alternative Short Course Locations:** Having raised the idea of undertaking a course in Europe, a number of alternative locations were suggested during the board meeting and at the Conference: Germany (VTI), the Netherlands (CPB), Crete, Turkey, Chile (CEPAL), India (UNCTAD) and Ethiopia (UNECA). These were in addition to locations already being considered: Thailand and Sydney.

**Action:** Given that we do not have the (human) resources to hold more than 1 course per year, the Center will consider the alternatives and work with potential hosts to undertake more courses abroad over the next few years.

**Web Courses:** The response to the proposal to provide more materials over the website was not encouraging. There is a great deal of concern about the impact on quality of placing materials (free-of-charge) on the website. However the Center is faced with serious resource constraints in providing training to the network. Moreover there are few resources available on the website to learn the GTAP model on ones own, particularly since the GTAP Book is now out-dated.

**Action:** The center needs to re-examine the proposal with these issues in mind. We will likely engage in some cautious experimentation with additional on-line modules.

5. **Staffing Goal:** To actively seek and encourage talented staff and graduate students.

**Staffing priorities:** There are a number of areas where additional staff members would be useful, in order of priority: 1) I-O tables; 2) energy price data; and 3) taxes.

**Action:** The Center has advertised a post-doctoral type position and we are currently looking through the applications.

**Operations Research:** It was suggested that we look into the employment of an operations research specialist. The Center has considered taking on a part-time person with this speciality; however, currently we feel that the positions we need to fill require some understanding of economics, and, given funding constraints, this is not a priority at the current time.

6. **Collaboration Goal:** Actively seek opportunities for fostering collaboration with institutions in Europe and elsewhere

**Going global:** At the board meeting we expressed an interest in fostering collaboration with other institutions around the world. A few opportunities for collaboration, which would also assist us in fulfilling our staffing needs, have resulted from discussions during the board and conference.

**Action:** We are currently considering the possibilities and hope to garner a better idea of how mutually beneficial collaboration might be achieved through Terrie's experience in Australia.

## F. Resources and Timing

An overview of how individuals are funded and all the activities they will spend their time over the next 12 months is given below.

<i>Robert McDougall</i>	<i>Badri Narayanan</i>	<i>Angel Aguiar</i>	<i>Terrie Walmsley</i>	<i>New post doc</i>	<i>Thomas Hertel</i>	<i>Graduate Students</i>	<i>Alla Golub</i>	<i>Ana Rios</i>
100% core	100% core	50% core	100% core	100% core	25% core		100% EPA Project	100% DOE project
Doco of v7	Doco of v7	Doco of v7	Hiring	I-O Table doco	Hiring	Comparison programs	GTAP-E	Collection of Household survey data
Comparison programs	Oversee release strategy	Oversee pre-processing of macro data	I-O Tables and peer review process	Course materials on web	Assist with GTAP Conference	Africa Data Base – trade	Land Use and Environmental Modelling	
Meta-data	Version control	Protection data	Doco of v7	Skill splits	Doco of v7	Meta data	Dynamic GTAP Model Applications	
Energy	I-O disaggregation	Trade pre-processing	GTAP short Course	I-O tables	Land Use Data Base	Skill splits		
Domestic Margins	Short Course	Macro data pre-processing	Grad Student Projects		Grad Student Projects	Comparison simulation		
Dynamic short course	Contributing Tables course	Dynamic short course	Contributing Tables course		Bio-fuels/ environmental modeling	Reading/ seminar course		
Short Course		Short Course	Conference			I-O tables		
Contributing Tables course	GTAP Africa Data Base	Contributing Tables course	Dynamic GTAP book					

## **G. Research Fellows**

The members of the Research Fellow Nominating Committee included Patrick Jomini (PC), Antoine Bouet (IFPRI), Philip Bagnoli (OECD) from the board, and Thomas Hertel from the Center. Dr. Antoine Bouët was selected as the new chair of the research fellows committee.

The following people were re-nominated as research fellows: Scott McDonald.

The following individuals were nominated as new research fellows: Betina Dimaranan, Jesper Jensen, Sergey Paltsev, Steven Rose, and Agapi Somwaru.