GTAP Advisory Board Meeting: Overview

June 4-5, 2007

Center for Global Trade Analysis

Purdue University

West Lafayette, Indiana, USA

New Representatives

- **Sebastian Jean – CEPII, France**

- **Utpal Vasavada – ERS, USA**

- **Richard Garbaccio – USEPA, USA**

2007 Substitute Representatives

- **Sergey Paltsev – MIT for John Reilly**

- **Marco Fugazza – UNCTAD for Hiroaki Kuwahara**

- **Hiroyuki Kaneko – ESRI for Mitsuo Hosen**

- **Fan Zhai – ADB for Frank Harrigan**

- **Bruce Bolnick – Nathan Associates for John Beyer**

- **Frank van Tongeren – OECD for Philip Bagnoli**

- **Masakazu Watanuki – IDB for Paolo Giordano**

Missing

- **Joe Francois – Member at Large, Erasmus University, The Netherlands**

- **Hom Pant – ABARE, Australia**

- **Patrick Jomini – Productivity Commission, Australia**

- **Patrick Low – World Trade Organization, Switzerland**

- **Akira Kawamoto – RIETI, Japan**

GTAP Center Staff

- **Thomas Hertel – Executive Director**

- **Terrie Walmsley – Director**

- **Robert McDougall – Deputy Director**

- **Betina Dimaranan – Research Economist and Data Base Administrator**

- **Badri Narayanan – Research Economist and Data Specialist**

- **Alla Golub – Post-Doctoral Researcher**

- **Ginger Batta – Information Technology Specialist**

- **Kavitha Muthuraman – Program & Administration Manager**

- **Wallace Tyner – Senior Policy Advisor**

Agenda Overview: Monday

- **Morning:**
  - **Top Data Base Issues**
    - Overview
    - Energy
- **Afternoon:**
  - **Top Data Base Issues**
    - Merchandise and Services trade
    - Taxes
  - **Research:**
    - Land use
  - **New features on the GTAP website**
- **Dinner at Maize American Grill**

Agenda Overview: Tuesday

- **TradMat**

- **Finances**

  - **Budgets and staffing plan**

- **Discussion of Other Data Base and Research Priority Issues**

- **Network and Education**

  - **Members at Large**

  - **Research Fellows**

  - **Conferences**

- **Establish Action Plan for Next Year**

- **Dinner at La Scalla**

Review of Goals and Action Plan: Research Goal

To actively participate in quantitative economic analysis of pressing global concerns.

1. Multilateral and Bilateral Trade Agreements

2. Global Environmental Issues

3. Trade and Development

Research Goal:
Multilateral and Bilateral Trade Agreements

1. **Refine and document Dynamic GTAP Model**

This goal was greatly facilitated by the Dynamic modeling short course that was held at Purdue in October, 2006. Terrie Walmsley has updated the model code and RunGDyn program in light of comments from the short course. This has also meant updating some of the chapters, including the baseline, hands-on and welfare decomposition chapters. Our aim is to send the book to the publishers in September.

2. **Produce research papers on GMig2. Make Data Base available end of year**

The technical paper will be sent to reviewers shortly. If you are interested in reviewing this paper please let Tom Hertel know, as he will be coordinating the review. This is also a great way to get an early peak at the data!

Research Goal:
Multilateral and Bilateral Trade Agreements

3.   Facilitate GTAP-disaggregated analysis of trade policy at the tariff line level by developing a prototype application that can be applied to disaggregate strategic sectors in any GTAP analysis. This draws on the HS-6 trade and tariff data available in the MAcMap data base.

The following paper is currently under journal review and it is available as a working paper on the GTAP web site

4.   Use the GTAP Website as a repository for baseline data

We also continue to maintain a shared baseline data base, which can be used by consortium members for their own dynamic modeling work. Some aggregated data and programs have been placed on the website.

Research Goal: Global Environmental Issues

5.   Modify the GTAP-E model from technical paper 16 to create a non-aggregation specific energy model.

The modification involves two parts: to produce cleaner and more user friendly GTAP-E model, and to produce non-aggregation specific energy model. The first task is expected to be completed this month (May). The second part of the revision includes dealing with the energy model specific data and inclusion of the data in the standard GTAP Data Base aggregation programs, and will be completed next fall.

6.   Extend Dynamic GTAP to include energy (GDyn-E)

Work still needs to be undertaken on developing an application with GDyn-E Model. Alla Golub and Terrie Walmsley are currently working on developing policy scenarios to be analyzed with GDyn-E and improving representation of energy use related technology in the model.

Research Goal: Global Environmental Issues

7.   Incorporate land use data into the standard GTAP Data Base.

A program now exists to take the standard GTAP Data Base and split out land use by Agro-Ecological Zone (AEZ). However, we do not anticipate incorporating this information into the standard data base in version 7. The concern is that we will overburden the standard data base. Also, it is not yet clear whether the land use data will be updated on a regular basis. Note that the land use data base is currently being updated and will be documented in chapters 2-3 of the forthcoming book on global land use (see below). This work is being under taken with the assistance of Misak Avetisyan and Navin Ramankutty.

Research Goal: Global Environmental Issues

8.   Refine and document a special purpose version of the GTAP Model focusing on land use (GTAP-AEZ).

This model is documented in a GTAP Working Paper and forthcoming book chapter.

9.   Refine the methodology for producing long run projections (including GHG emissions) with a modified version of the Dynamic GTAP Model, including AIDADS demands, disaggregated land use, and improved specifications of savings and technical change.

The baseline is documented in an ADB Working Paper, while the land use focus is developed in a forthcoming book chapter. This work is being under taken with the assistance of Brent Sohngen.

In addition to listed modifications of the Dynamic GTAP Model, recent work introduces the possibility of conversion of unmanaged land to land used in production and technical change in the timber using sectors, where later is determined through iterations between the Dynamic GTAP Model and the Global Timber Model of Sohngen and Mendelsohn (2006). The next step in this work is projection of GHG emissions driven by the changes in land use.

Research Goal: Global Environmental Issues

10.   Produce a draft book on global land use modeling in general equilibrium.

A contract has been signed with Routledge and the book is nearly complete and ready for review. It contains contributions by several consortium members, including ABARE, US-EPA, LEI and MIT.

11.   Produce a GTAP technical paper and a 2001 data base on Green House Gas emissions, including not only CO_2 from fossil fuels, but also non-CO_2 emissions.

This work is now being undertaken and led by Misak Avetisyan, a graduate student at the Center.

Research Goal: Trade and Development

12.   Develop a module for poverty analysis in GTAP

Data are currently available for 15 countries. This could be extended to additional countries by a graduate student if there were funding and interest in doing so. This application will be used in the upcoming GTAP short course, after which the version archive will be posted on the web. This work is being done with the assistance of Roman Keeney.

In addition, further theoretical and empirical work has been done on the estimation of consumer behavior in the neighborhood of the poverty line – funded in part by the World Bank. A paper is forthcoming in the Bank's Policy Research Working Paper series.

13.   Produce a paper on the distributional impacts of agricultural policies on farmers in rich and poor countries.

Hertel, T.W., R. Keeney, M. Ivanic and L.A. Winters, 2007. "Distributional Impacts of WTO Reforms in Rich and Poor Countries," Economic Policy 50(1):1-49 (April).

14.   Produce a technical paper on linking models to GTAP

No progress to-date, however Marinos Tsigas is currently working on this aspect of the USAGE model.

Data Goal

To improve data products.

1. **Improve data quality and user service.**

2. **Improve data procurement.**

3. **Improve data development efficiency and quality by distributing data construction program.**

4. **Expand scope of data base.**

5. **Improve marketing of data base.**

Data Goal

15.   GTAP 6 Data Base Documentation

Betina Dimaranan completed editing the nearly 700-page volume documenting the GTAP 6 Data Base. This was published in December 2006 and sent to GTAP 6 Data Base subscribers in January. Please reference this as follows, in any applications using the version 6 data base:

Dimaranan, B. V., Ed., (2007). *Global Trade, Assistance, and Production: The GTAP 6 Data Base*, Center for Global Trade Analysis, Purdue University, West Lafayette, IN 47907, U.S.A.

16.   Update energy price data in GTAP 6 Data Base and produce GTAP 6E Data Base

A great deal of progress has been made by Robert McDougall to revise and improve upon the energy module of the GTAP Data Base construction process this year. These improvements will also be evident in pre-release 2 of the GTAP 7 Data Base. Robert will report on the progress made at the advisory board meeting.

Data Goal

17.   Implement the GTAP 7 Data Base release schedule

Betina Dimaranan constructed and released the first pre-release of the GTAP 7 Data Base in April. The first pre-release incorporated 2004 macroeconomic aggregates, merchandise trade data and protection data (domestic support, export subsidies, preferential tariffs, ETEs of ATC quotas). If data inputs are received in a timely manner, a second pre-release which will include improved services trade and energy data will be made at the end of May. We will certainly be challenged to maintain Betina's timely production schedule after she departs for IFPRI. She will be missed!

18.   Fix problems with the agricultural I-O disaggregation module

The problems with this module have not yet been fixed. This means that the automated features of the disaggregation module are not working in a few sectors for a couple of regions. In order to disaggregate these problematic sectors we work directly with contributors. This causes some annoyance, but is not a high priority concern.

Data Goal

19.   Incorporate work done by CPB on bilateral services trade data into the GTAP 7 Data Base.

The services trade data is currently under preparation and will be incorporated in the second pre-release of the GTAP 7 Data Base. This will be discussed at the upcoming board meeting.

20.   Incorporate 2004 MAcMap data from CEPII into GTAP 7 Data Base

An initial version of the 2004 MAcMap tariff dataset was contributed by David Laborde of CEPII and this has been incorporated in pre-release 1 of the GTAP 7 Data Base. An updated version is forthcoming and this will be incorporated in the next pre-release. David Laborde is leading these efforts.

Data Goal

21.   Improve the income tax data in GTAP by adjusting the allocation of income taxes to capital and labor income.

At the 2006 board meeting, Gilbert Metcalf presented a comparison of the GTAP tax rates and the MIT methodology for incorporating taxes into the GTAP Data Base. The comparison examined both direct and indirect taxes in the GTAP Data Base and found some large differences. One source of these was different estimates of the tax base, and especially labor income. Another was the treatment of personal income tax; where GTAP imputed these entirely to labor income, MIT divides them proportionately between labor and property income.

Csilla Lakatos has been working on this problem, under supervision from Robert McDougall and Tom Hertel, Robert will report on progress in the taxes at the board meeting. At this year's board meeting, Robert McDougall will present a detailed reconciliation between the taxes in the GTAP 6 Data Base and the original data. The Center expects to improve this aspect of the GTAP 7 Data Base.

We will however continue to rely on indirect commodity tax rates reported by the contributors of regional data. As additional resources become available, we would like to improve this part of the data base.

Data Goal

22.   Examine ways to further improve the commodity tax data for the GTAP 7 Data Base.

Board Members will recall that resource limitations precluded including this as an action item over the past year. However, Robert McDougall will outline a plan for addressing this issue in the future, provided resources are found to do so.

23.   Incorporate information from updated literature survey on the primary factor shares in agriculture

The primary factor shares in agriculture will be updated based on information from more recent literature in the next pre-release.

24.   Incorporate Maros Ivanic's value added splits into version 7 of the GTAP Data Base.

Board Members will recall that resource limitations precluded including this as an action item over the past year, however, Nelson has been working on an externally funded project which has examined this issue.

Data Goal

25. **Update energy volume data for incorporation into GTAP 7 Data Base.**

Robert McDougall and Angel Aguiar are currently working on preparing the 2004 energy volume data that will be incorporated in pre-release 2 of the GTAP 7 Data Base.

26. **Update energy price data in GTAP 7 Data Base.**

Robert McDougall has made extensive changes to the energy module and in particular the way in which prices are determined for the GTAP 6 Data Base. These will feed directly into improving the GTAP 7 Data Base , which will be included in pre-release 2 of the GTAP 7 Data Base. Robert will report on the progress made at the advisory board meeting. Progress on the energy data is also contained in the supplementary documentation (Preparation of GTAP Data Base Release 6.2E).

Data Goal

27.   Continue efforts to obtain new I-O Tables for China, Africa and Latin America, as well as other regions where the opportunity presents itself.

Pre-release 1 of the GTAP 7 Data Base is includes 101 countries. New countries include Kazakhstan, and Kyrgyzstan, thanks to the efforts of Joe Francois and Lucio Vinhas de Souza, and Nicaragua thanks to the continued efforts of Carlos Ludena. Revised I-O tables have also been obtained for Chile, Indonesia, Turkey and China.

Thanks to the problem reports from David Laborde and Truong Truong, we also received revised versions of the Belgium, Luxembourg, and France data bases. The report from David Laborde on the EU I-O tables and on other aspects of the GTAP Data Base can be found website at:

https://www.gtap.agecon.purdue.edu/access_board/data_issues.asp

I-O tables for Ukraine and Belarus have also recently been contributed through Joe Francois and Lucio Vinhas de Souza and we are expecting updated EU I-O tables through a project funded by the European Commission.

Data Goal

28.   Continue to improve the quality of national I-O data through the construction of new programs extracting national account data and adding flags to GTAPAgg.

Developments have been made in this area with the assistance of the Productivity Commission and the USITC. Patrick Jomini and Alexandra Strzelecki (Australian Productivity Commission) have developed a GEMPACK-Visual Basic package which extracts summary tables from the GTAP Data Base into excel. The programs will be made available on the PC website and data (in excel) for 10 aggregated sectors will appear on the GTAP website.

With the support of Robert Koopman (USITC) we are also examining ways in which I-O tables can be externally peer-reviewed. The review of I-O tables is expected to significantly improve the quality of the regional data in the GTAP Data Base. We would be interested to hear from any Board Members who are willing to assist as with these reviews.

External reports on both the regional data and other aspects of the GTAP Data Base have also been made available on the board website:

   https://www.gtap.agecon.purdue.edu/access_board/data_issues.asp

29.   Hire a new staff member to assist with the production and documentation of the GTAP Data Base

After a formal hiring process, Badri Narayanan was hired. He will arrive in late May 2007 and will attend the Board meeting.

Data Goal

30.   Develop a special data base with substantial African disaggregation.

After the 2006 Board meeting, it was decided that the Center would develop a special African GTAP Data Base which would break out a number of African countries and regional trading blocs using externally collected data. This special data project would be separate from the standard GTAP Data Base; however the resulting data base will be made publicly available in aggregated form.

An Africa Data Base, constructed by Betina Dimaranan, was recently released by the Center to the UNECA, the World Bank and the European Commission. The data base was built on existing national data bases and international datasets incorporated in the GTAP 6 Data Base and features further disaggregation of the North and Sub-Saharan Africa region into 31 regions – using the input-output structures of similar countries in the data base. The initial data base (Stage 1) is intended only for evaluation and comment to help identify priorities for improving data quality and to compare with existing country-specific data. Subsequent stages of the project will involve review of the international data sources, collection and/or estimation of additional data, and incorporation of national data bases from external data contributors. Badri Narayanan will be working on this project.

Six scholarships have been awarded to individuals who will assist us with I-O tables for the African Data Base, based on funding from the BNPP. They will attend the annual short course and a special course on producing GTAP I-O tables.

Data Goal

31.   Form expert trade data working committee headed by Mark Gehlhar to oversee production of GTAP 7 trade data.

Mark Gehlhar at the ERS/USDA continues to be a key contributor to the GTAP Data Base reconciling and leading improvements in the trade data used in the GTAP Data Base. The trade data is an important part of the GTAP Data Base, and with the increase in demand for new countries and methods for dealing with sensitive issues, such as re-exports, the work required to bring the trade data together has increased exponentially. Mark has done an outstanding job in bringing overcoming these complex challenges and producing a robust, useful trade data base.

Mark Gehlhar is now chairing the trade committee. This committee is examining some of the more difficult issues in reconciling the trade data for the GTAP Data Base. He is leading a special session at the GTAP conference to discuss some of the issues in reconciling the trade data.

32.   Examine ways to fill in missing trade data e.g., in Africa

We expect to examine the issue of missing trade data further over the next year as we move into the second phase of the Africa project.

Data Goal

33.   Establish a Trade data users forum to evaluate the quality and documentation of the trade data (starts with a Comparison of CEPII and Mark's trade data)

On behalf of the Board, Robert Koopman has been working with Mark Gehlhar, Lionel Fontagné, and Zhi Wang to with an emphasis on reconciling diverse approaches and results.

Data Goal

34.   Examine changes to GTAPAgg for aggregating reference group weights data

David Laborde has been working with the World Bank to include the CEPII protection data and alternative weighting schemes into WITS, so that aggregated reference group weighted tariffs can now be obtained from WITS and used with altertax and RunGTAP.

In addition, Mark Horridge and David Laborde are also currently working together to produce a TRDMAT, a tariff scenario building and aggregation program which starts at the HS6 level. This program is expected to do three things:

– Allow the user to aggregate tariffs from the HS6 level which could then be incorporated into RunGTAP using altertax. This would also allow users to specify reference group weighted tariffs in GTAP.

– Build Doha scenarios from the HS6 level and aggregate again using trade weights or reference group weights

– Provide input into SplitCom; the program for splitting commodities.

David Laborde will provide a demonstration of the new program at the board meeting. We are currently looking for special funding to bring this work to fruition. The TrdMat proposal will be provided in the supplementary materials as soon as it becomes available.

Data Goal

35.   Technical paper on comparing alternative weightings of tariffs

No progress has been made on this.

36.   Provide "better packaging/documentation" to emphasize default and alternative tariff weighting scheme

Reference-group weighted tariffs, the alternative to the trade-weighted tariffs incorporated in the GTAP 6 Data Base was provided in the same GTAPAgg package which incorporates Doha scenarios tariff data. This is documented and downloadable from:

https://www.gtap.agecon.purdue.edu/databases/v6/V6_dohascen.asp

Data Goal

37.   Share tariff-building scenarios, code and data over the website.

A group of Board Members met informally after last year's board meeting and agreed to share tariff scenarios and related computer code on the GTAP website. Such a repository is now available at:

https://www.gtap.agecon.purdue.edu/access_board/Doha_scenarios.asp

Code and data have been shared by CEPII, the Productivity Commission and Nathan Associates.

We envision the new TrdMat program greatly facilitating such work for the majority of users in the future. The most sophisticated users will still want to build their own programs from scratch for maximum flexibility.

The page currently includes SAS files for Doha scenarios contributed by CEPII and a link to the Integrated Tariff Analysis System (ITAS) from the Productivity Commission.

Data Goal

38.   Set up a SplitCom user group

A forum was set up on the website, but no activity has occurred.   It is thought that email lists would provide interested users with a better forum for discussions. The forums are available at:

http://www.gtap.agecon.purdue.edu/forums/default.asp

39.   Examine ways in which the data can be viewed to make it more readily accessible and usable in its own right – also adding ample "health warnings".

Patrick Jomini and Alexandra Strezelecki from the Australian Productivity Commission have developed a GEMPACK-Visual Basics package which extracts summary tables from the GTAP Data Base into excel. The programs will be made available on the Productivity Commission website and once finalized we will be including the data (in excel) for 8-10 aggregated sectors on the GTAP website.

40.   Working committee to explore approaches for addressing classification problem in textiles and wearing apparel and report to the board next year

No progress has been made on this issue.

Education Goal

To expand and improve global economic analysis education worldwide (both within and outside the network).

1. Promote learning among data base contributors.

2. Use workshops and web-based products to provide specialized learning.

3. Improve communication, learning, and transfer of knowledge within the Center.

4. Improve marketing of GTAP courses.

Education Goal

41.   Hold Fourteenth Annual GTAP Short Course at Purdue in August, 2006

The GTAP Short Course in August 2006 was again a success thanks to Judy Conner and all the instructors.

42.   Hold Dynamic GTAP Short Course at Purdue in October 2006

The Dynamic GTAP Short Course, held in October 2006 was attended by 13 individuals from Asia, Europe, North America and Oceania. The course was a success thanks to all the staff and instructors. Alla Golub, Huey-Lin Lee and Ken Itakura also assisted as instructors and Ginger Batta assisted with the computer labs.

Model Goal

To Improve Understanding and Credibility of The GTAP-Based Models.

1. Enhance testing and evaluation of the GTAP-based models.

2. Further enhance the ability of users to understand and explain model results *(long range).*

Model Goal

43.   Finalize Technical Paper on adjustment cost

Paper has been finalized. It is pending final revisions and submission by Joe Francois.

44.   Estimate new set of consumer demand elasticities, for use in GTAP Data Base. Produce a draft technical paper introducing a new final demand system into GTAP (AIDADS)

Re-estimation for version 6 data has been completed. This will also be done for version 7. The technical paper has not yet been written.

44.   Collaborate with USITC on model validation and parameter estimation

The USITC has undertaken efforts to improve model validation and parameter estimation. These efforts are outlined in their agency report.

Network Goal

To increase effective participation in the global network, particularly in developing countries.

1. Obtain funding from donor agencies for developing country participants.

2. Conduct more courses and conferences in developing countries.

3. Review pricing to enable greater developing country participation.

4. Foster communication within the GTAP network and beyond.

Network Goal

45.   Organize the Tenth Annual Conference on Global Economic Analysis to be held at Purdue University, USA, June 2007

It is hoped that the 10th Annual Conference in Global Economic Analysis at Purdue will be a huge success. Ginger Batta has again expertly managed the website and registration and paper submission process. 210 abstracts were submitted and 178 papers were accepted as a result of the review process. There will also be 14 organized sessions.

46.   Work with the group in Finland to refine their planning for the 2008 Conference on Global Economic Analysis to be held in Helsinki.

Juha Honkatukia will present an update on conference preparations at the Board meeting.

opportunities for such courses to which we could refer applicants in the future.

Network Goal

47.   Solic proposals for the 2009 Conference on Global Economic Analysis to be circulated to the Board in December, 2006.

A conference proposal was received from ECLAC for the 2009 conference to be held in Santiago, Chile. The board unanimously approved this proposal. The conference will be held at the ECLAC conference Center and is supported by the IADB. A representative from ECLAC will join us at the board meeting to present and discuss the proposal.

48.   Explore funding opportunities for developing country scholarships for the 2007 conference.

Unfortunately no scholarships were obtained for the conference for developing country participants, however a discount is being provided to participants from developing countries. Over the last few years we have been able to fund participation in the course of people from South America, South Asia and, this year, from Africa; this has been very successful. There is a lot of interest in scholarships and we would be very pleased to hear if you know of individual scholarships or funding opportunities for such courses to which we could refer applicants in the future.

Other

49. Hire Program Manager

We were very pleased that Kavitha Muthuraman accepted our offer of program manager in September 2006. She has done a great job of organizing the logistics of the 10th Annual conference in Global Economic Analysis.

50. Form committee to explore long-term funding source

The European Commission recently included in its FP7 a request for proposals for a European focused database for modeling. A copy of the proposal request is provided in the supplementary materials for this board meeting. The Center has indicated that it would be very interested in supporting and collaborating with Board Members to develop a proposal. There has been preliminary correspondence with several of the European Board Members in this regard. This will be discussed at the board meeting during the session on future finances.