



The Global Trade Analysis Project: Report, Issues and Future Directions

**Compiled by
Terrie Walmsley**

**With contributions from Meghan Alexander, Ginger Batta,
Badri Narayanan, Thomas Hertel and Robert McDougall**

**Center for Global Trade Analysis
Purdue University**

**Background Paper for the GTAP Advisory Board Meeting
Helsinki, Finland, June 9-10, 2008**

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List of Supplementary Materials available on the GTAP website

(https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2008/default.asp)

Agency Reports

Graduate Student CVs

Survey Results from the Strategic Planning process

Internal Review for the Strategic Planning Process by John Eklund

Annual Report on I-O tables

Report on new methodology for splitting labor by skill

Regional Economic and Satellite (Environmental) Accounts in the GTAP Data Base:

 A Review of Options, by Scott McDonald

Estimation of Missing Intra-African Trade by Nelson Villoria

GTAP Website Report

Report on GTAP Usage

Research Fellows CVs

2009 Conference Proposal

2010 Conference Proposal

2011 Conference Proposal



CENTER FOR GLOBAL TRADE ANALYSIS

May 31, 2008

Dear Board Members,

We are pleased to report that the Center has continued to make considerable progress this year, despite concerns regarding the loss of a number of key staff members.

In April 2008, the fifth pre-release of the GTAP Data Base was provided to board members; we hope to make another pre-release prior to the board meeting. New and revised country data continues to flow into the Center, with 106 countries currently included in pre-release 5 and revised I-O tables for at least 10 more countries currently under review. Moreover, substantial improvements have been made in checking the quality of the pre-releases using a new comparison program built by Robert McDougall. This has significantly improved our ability to track changes between releases to ensure that changes made are as expected and highlight any concerns. We will hear more about these programs at the board meeting.

Last year, Badri Narayanan joined the Center as a post-doctoral fellow to assist us with the GTAP Africa Data Base. Since then Badri has demonstrated considerable success in managing the construction process and has been instrumental to overseeing the release schedule of version 7. We have also employed Angel Aguiar on a part-time basis to further assist with the data base construction process. Meghan Alexander also joined the Center, replacing Kavitha Muthuraman, just in time to assist us with the GTAP short course in August.

In March this year the staff at the Center held a one-day retreat to discuss the strategy for the Center over the next 3 years. In this document we report on this year's accomplishments and lay out the plans for the next 3 years. At the board meeting Badri Narayanan will review recent developments and the priorities for the GTAP Data Base; Terrie Walmsley will review current developments and ideas for the regional data; and Robert McDougall will present his work on the comparison programs and provide an update on the energy data. This will be followed by an overview of the environmental research and education goals for the Center.

As you will see in the following document, the GTAP team has continued to work towards its goals. I hope you enjoy reading what we have done and our thoughts on the year ahead. We look forward to discussing these issues with you at the upcoming GTAP Advisory Board Meeting in Helsinki in June.

Yours Sincerely,

Terrie L. Walmsley,
Director, Global Trade Analysis Project (GTAP)
Purdue University

**Center for Global Trade Analysis Advisory Board Meeting June 9-10, 2008
Helsinki, Finland¹**

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¹ Agency reports are available in the supplementary materials.

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**SCHEDULE FOR GTAP ADVISORY BOARD MEETING:
JUNE 9-10, 2008 – Helsinki, Finland**

Monday, June 9:	House of the Estates (Säätytalo), Snellmaninkatu 9-11, Main Conference Room 15
9:00 - 10:00am	Welcome and Overview (Chair: Thomas Hertel) <ul style="list-style-type: none">• Introduce New Members and staff (20 min)<ul style="list-style-type: none">- Thomas Hertel• Review of the Year and Overview of Meeting (20 min)<ul style="list-style-type: none">- Terrie Walmsley Discussion (20 min)
10:00 - 10:30am	Coffee Break
10:30 - 12:00pm	Data Issues (Chair: Antoine Bouët) <ul style="list-style-type: none">• Review of GTAP 7 Data Base and Overview of Data Goal (20 min)<ul style="list-style-type: none">- Badri Narayanan Discussion (20 min) <ul style="list-style-type: none">• Regional Data Bases (20 min)<ul style="list-style-type: none">- Terrie Walmsley Discussion (30 min)
12:00 - 1:30pm	Lunch
1:30 - 3:00pm	Data Issues (Chair: Alexander Sarris) <ul style="list-style-type: none">• Comparison Programs (15 min)<ul style="list-style-type: none">- Robert McDougall Discussion (15 min) <ul style="list-style-type: none">• Energy Data (15 min)<ul style="list-style-type: none">- Robert McDougall Discussion (15 min) <ul style="list-style-type: none">• GTAP Africa Data Base (15 min)<ul style="list-style-type: none">- Badri Narayanan Discussion (15 min)
3:00 - 3:30pm	Coffee Break
3:30 - 5:00pm	Research Issues (Chair: Martina Brockmeier) <ul style="list-style-type: none">• Overview of Environmental Research and Data (20 min)<ul style="list-style-type: none">- Thomas Hertel/Wally Tyner Discussion (20 min) <ul style="list-style-type: none">• Featured Board Research Updates<ul style="list-style-type: none">- Mantaro Matsuya for ESRI (10mins)- Patrick Jomini for Productivity Commission (10mins)- Peter Minor for Nathan Assoc (10mins) Discussion (20 min)
7:00pm	Dinner

Tuesday, June 10: House of the Estates (Säätytalo), Snellmaninkatu 9-11, Main Conference Room 15

8:30 - 10:00am Finances and Education (Chair: Utpal Vasavada)

• **Budget, Staffing and Going Global (25 min)**

- Terrie Walmsley

Discussion (30 min)

• **Overview of Model and Courses (15 min)**

- Tom Hertel

Discussion (20 min)

10:00 - 10:30am Coffee Break

10:30 - 12:00pm Discussion of Data Base and Research Issues² (Chair: Terrie Walmsley)

12:00pm - 1:30pm Lunch (hosted by Mr. Hetemäki, Ministry of Finance)

1:30 - 3:00pm The Network (Chair: Gaspar Frontini)

• **Research Fellows Report (10 min)**

- Patrick Jomini

Discussion (20 min)

• **Report on Conference 2008 (10 min)**

- Juha Honkatukia

Discussion (10 min)

• **Report on Conference 2009 (10 min)**

- Carlos de Miguel

Discussion (10 min)

• **Conference 2010 Proposal (10 min)**

- Allan Rae

Discussion (10 min)

3:00 - 3:30pm Coffee Break

3:30 -5:30pm Revisit Priorities

-Terrie Walmsley

7:00pm Dinner

I. Mission and Goals

Our Mission

To provide leadership in economic policy analysis through better data, fostering collaboration and research.

We value:

- *International Collaboration* because it increases quality of data and analysis.
- *Objectivity and transparency* because they are crucial to our data work and analysis.
- *Discovery* because improving methodology leads to better policy analysis.
- *Learning* because it creates critical vibrancy both within the Center and in the expanding network.
- *Engagement* because it helps us serve policy analysts and decision makers with better data and analysis.

We believe that:

- Better data leads to better policy analysis which leads to better policy.
- Reconciling data makes data better.
- CGE modeling provides useful insights.
- Avoiding duplication in data production is efficient.
- Collaboration enhances individual efforts.
- Having more trained users enriches policy debates.

Goals 2008-2012

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

II. Center Staff, Graduate Students and Visitors

Center Staff

Angel Aguiar

Angel is a Research Economist and Data Base construction specialist and PhD candidate in the Dept. of Agricultural Economics. He recently joined the staff at the Center part-time to assist with the macro datasets in the construction of the GTAP Data Base.

Meghan Alexander, Administration and Program Manager

Meghan oversees the logistics, sales and marketing of GTAP courses, conferences and board meeting; as well as liaising with Board members, Purdue administration and overseeing the Center's finances.

Ginger Batta, Information Technology Specialist

Ginger oversees the design, development, and maintenance of the GTAP website and the preparatory web course websites. Outside of this, she is also responsible for the sales, distribution, and reporting of GTAP Products and the online organization of GTAP's core events.

Alla Golub, Post Doctoral Research Economist: Environment

Alla is developing infrastructure for the long run economic projections with the Dynamic GTAP model. Building on the dynamic GTAP model and land-use data base developed in the Center, she works on projections of land-use change. Alla is funded through a project with the US-EPA.

Thomas Hertel, Executive Director

Tom's focus is on strategic issues and new research directions for the Center, as well as Consortium development. He also supervises graduate students and is increasingly involved in a number of environment-related projects at the Center.

Robert McDougall, Deputy Director

Robert works on special projects which significantly improve the GTAP Data Base and Models. This year he has been engaged in improving the energy data, bilateral services trade data and the development of programs to compare data bases and ensure quality.

Badri Narayanan, Research Economist and Data Base Construction Specialist

Badri has taken over the management and construction of GTAP Data Base releases, in addition to the GTAP Africa Data Base project. Badri is also working on linking a Partial Equilibrium model with standard GTAP model for disaggregated analysis.

Ana Rios, Post Doctoral Research Economist: Poverty

Ana Rios started working with the Center in April 2008, on a DOE-funded project to process additional household survey data for use in the GTAP poverty module originally developed by Thomas Hertel and Maros Ivanic. The outputs of this project will be used to evaluate the poverty impacts of biofuels programs.

Wallace Tyner, Senior Policy Advisor

Wally advises the Center on policy. Most recently he has been spearheading a number of large research projects and proposals in the area of energy and biofuels.

Terrie Walmsley, Director

Terrie oversees the day-to-day management of the Center as well as the GTAP short courses and board meetings. Walmsley also oversees I-O table contributions and has been assisting Badri with the management of the release process. She also works with graduate students on the Dynamic GTAP Model, in addition to extending GTAP and GDyn models to deal with international labor migration.

Graduate students (country of origin)³

Syud Amer Ahmed (Bangladesh)

Amer Ahmed is a PhD candidate in the Department of Agricultural Economics. He is expected to complete his dissertation in 2008. His dissertation research is on the impact of trade in services on the USA and India.

Misak Avetisyan (Armenia)

Misak Avetisyan is a PhD in the Department of Economics. Currently, Misak is working on the land use and climate change project with the US-EPA.

Csilla Lakatos (Romania)

Csilla is a PhD candidate with the Department of Agricultural Economics. Csilla is working on incorporating bilateral foreign investment into the dynamic GTAP model with Terrie Walmsley. Csilla has also been assisting I-O table contributors with their data.

Tasneem Mirza (Bangladesh)

Tasneem is a PhD student in the Economics Department. Her interests include trade in South Asia, role of infrastructure in trade, and analysis of policies pertaining to trade, poverty, income distribution and economic growth. This year she worked on a project with the Asian Development Bank in this area.

Monika Verma (India)

Monika is currently working on a project with IFPRI aimed at assessing the nutritional impacts of global trade and trade policies.

Nelson Villoria (Venezuela)

Nelson is a PhD candidate with the Department of Agricultural Economics. This year Nelson has been assisting us with the GTAP Africa Data Base, by examining the issue of missing trade flows in the African trade data.

Other Visitors to the Center

Mark Horridge, Monash University, Australia, August 2007

Carlos Ludena, Economic Commission for Latin America and the Caribbean (ECLAC), USA, August 2007

Scott McDonald, Oxford Brookes University, United Kingdom, August 2007

Peter Minor, Nathan Associates, USA, August 2007

Anna Strutt, University of Waikato, New Zealand, August 2007

Marinos Tsigas, US International Trade Commission (USITC), USA, August 2007

Rod Tyers, Australian National University, Australia, September 2007

Denis Medvedev, The World Bank, USA, February 2008

Iain Bain, Australian National University, Australia, April 2008

³ See supplementary materials for graduate student CVs.

III. Objective and Accomplishments

Assessment of Core Objectives for Past Year

Below is an assessment of the core objectives outlined last year in the Board meeting summary (https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2007/documents/2007_Summary.pdf). A full list of objectives and progress made on those objectives is provided in Appendix 1.

<i>Task</i>	<i>Individuals</i>
<i>Hire a new Data Base Administrator</i>	TW, TH and RMD
<p>Badri Narayanan, who we employed as a post doctoral fellow to work on the GTAP Africa Data Base, has become proficient at working with contributors of the macro datasets and running the construction programs. He will now become our new data base administrator. We have also employed a graduate student, Angel Aguiar, to assist with the macro datasets. In the near future we will also begin advertising another post-doctoral position. In this increasingly competitive, global labor market we are finding it increasingly difficult to hire top quality people and we have therefore decided to offer a 2-3 year post-doctoral fellowship role which would allow someone to come and train with us for a few years. This person would work primarily on I-O data, with some research and teaching.</p>	
<hr/>	
<i>GTAP 7 Data Base</i>	
<ul style="list-style-type: none">– Priority: Pre-release 3: October, 2007. Gather updates: trade, protection, macro etc– Secondary priority: Agricultural production targeting, incorporating new agricultural protection work⁴– Longer term goal: documentation⁵	New person/BN (with assistance from BD, RMD and TW)
<p>Despite a few difficulties with staffing the GTAP 7 Data Base is progressing well. A complete list of items already included in the GTAP 7 Data base pre-releases, and what remains to be completed, is provided in section IV below. Our main focus here is to release the final version of the GTAP 7 Data Base to the public as soon as possible.</p> <p>In addition Robert McDougall has finalised a program to compare data between releases. This has considerably improved our ability to check the data and find errors quickly. We are also grateful to the board, and in particular the efforts of the CPB, Dominique van der Mensbrugge and Hans Jensen, for checking other aspects of the data and reporting back to us. All issues discovered by users are now automatically placed on the GTAP website: (https://www.gtap.agecon.purdue.edu/access_board/v7pr_data_issues.asp), including details of what we intend to do to fix the issue; as errors are fixed the website is updated to reflect what was done and when the fix was made.</p>	

⁴ The OECD is in the process of revising the PSE data set. We will need to rethink how to incorporate these revised protection data into the GTAP Data Base as we move forward after version 7. Of course the OECD is only covering a few developing countries in its present work program. Therefore, we also hope to incorporate the agricultural protection estimates from Kym Anderson's work with numerous collaborators on agricultural protection in 90 developing countries. Indeed there are prospects for FAO picking up this work in the future.

⁵ The center will look at sending out a shorter version of the GTAP documentation in future and will consider selling the book to libraries to obtain additional revenue.

I-O tables

- Priority: Implement peer review process and incorporate the 27 new EU I-O tables being funded by the European Commission. TW and grad student
- Longer term: Pursue other ideas for updating older I-O tables

The influx of country data for inclusion in the GTAP 7 Data Base has been continuous over the last year. We expect numerous updates to the current country data, as well as a large number of new countries. Pre-release 5 contains 106 countries and there are at least 8 more countries to be updated in pre-release 6. The Annual report on the quality of the I-O tables is available in the supplementary materials.

Our main concern at present is the European I-O tables. Unfortunately these have not yet been finalised; we hope that they will be ready for the final release, however we are considering alternative ideas. The supply and use tables have now been reviewed, and Scott McDonald is now assisting the EU and the Center with converting these tables into GTAP format. As a result of this work we are also looking at introducing an alternative format which would allow contributors to contribute data in the supply and use format used extensively in Europe and increasingly by other countries.

The peer review process is currently being run on a trial basis with a number of contributors. We look forward to their feedback. At the board meeting we will introduce a number of new ideas related to improving the country components of the GTAP Data Base.

Services Data

- Priority: finalize and build into Data Base construction program and document
- Long term priorities: RMD
 - Travelers' expenditures
 - More bilateral detail (Non-OECD)

The bilateral services trade data was first included in pre-release 2. Robert McDougall is currently re-examining the services trade data after receiving detailed comments from the CPB. We hope to include any fixes into pre-release 6.

Taxes

- Priority: Direct taxes
 - Priority: Commodity taxes
- RMD and grad student
and an Outside
Consultant (we are
hoping for project
funds from the US-EPA
to help support the
taxes work)

A number of small fixes to the taxes in the GTAP Data Base are expected in pre-release 6.

Unfortunately efforts to secure an outside consultant have been unsuccessful, since this work requires someone who can develop programs which fit easily into our systems and the person we had in mind is no longer available. For the time being substantial new work in this area is on hold.

Energy Data

- Priority: Finalize improvements and include in v7 RMD and grad student
- Other possible: Linking up with MIT and EPA possible small project on margins RMD and TH

The energy data is now finalised and ready for inclusion in the main construction process. We expect to include this in pre-release 6.

Overview of the Strategic Planning Process

In December 2007, a review of the Center was undertaken to help establish the strengths, weaknesses, opportunities and threats to the Center. As part of this review, staff and graduate students participated in focus groups. The results of this report are available in the supplementary materials (Internal Review for the Strategic Planning Process by John Eklund). As a result of this review, three key areas requiring further discussion emerged. These were discussed at a one-day retreat in March 2008:

I. Defining a compelling mission for GTAP

While the Center's values are pretty clear, it was felt that our mission statement was too long and focused on our role as facilitators, thereby not necessarily reflecting what all of us actually do or where we want to go⁶. Our new mission statement is:

To provide leadership in economic policy analysis through better data, fostering collaboration and research.

II. Establish prioritization so that main issues can be addressed

The Center team had numerous ideas which could be addressed by the Center related to both the data base and research; however it was clear that we did not have sufficient resources to undertake all of these ideas. It was therefore suggested that we prioritize the main issues we would like to address. These ideas were further divided into four areas for discussion, the first three of which were discussed at the retreat.

- a) **Data Quality:** Over the past several years the quality of the underlying GTAP Data Base has consistently appeared as the most important concern among our board members and other data users. What can be done to improve the data quality?
- b) **Energy and Environment:** Energy and environmental concerns are becoming more important topics for research. What role does GTAP want to play?
- c) **The GTAP Model, the Network and Training:** In the past GTAP has always suffered from the perception that our programs make it too easy for poorly-trained users to produce bad analysis. More recently other potential concerns have surfaced: including the increasing number of competing courses, the increasing number of untrained and price-sensitive users from developing countries, and the perception that CGE models have not kept pace with economic theory.
- d) **Research Opportunities in Trade and Development:** The Center has always had a long list of possible research projects/extensions to the GTAP model and data base. Current interests

⁶ It was also suggested that we review our vision; however this has been left for a later date.

include: poverty analysis, linking GTAP to national models, finance theory, FDI, migration, labor standards, FTAs, dynamics, time series data bases, and NTBs.

III. Ensure GTAP operates effectively.

The Center faces a number of issues related to how it operates. Three issues are listed below; the first two of these were discussed at the retreat.

- a) Attracting new talent, and Training and retaining graduate students and staff: Obtaining and retaining high quality staff is currently the biggest problem faced by the Center.
- b) Going global with EU and Asia-Pacific offices: One idea which has been suggested for helping GTAP overcome many of the difficulties above is to open up regional offices with a few individuals working remotely on GTAP-related projects.
- c) Funding strategy: Core funding is provided by the board with data sales increasingly providing a large portion of the core funding. While current funding is sufficient for current staffing, it is clear that the center is significantly under-staffed and we will need to take advantage of funding opportunities to attract and fund new talent.

Goals 2008-2012

As a result of discussions at the retreat, the Center team developed 5 new goals for the next 3 to 5 years. These are mentioned below and outlined in greater detail in the relevant sections below.

- 1. **Data Goal:** To Improve the quality of Data Products.
- 2. **Research Goal:** To actively participate in quantitative economic analysis of pressing global concern in the areas of: Trade and Development and Global Energy and Environment 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

Proposed Objectives over the next year and beyond

The goals and objectives are discussed in detail in sections IV, V and VI below. Here we include a summary of the proposed objectives; based on the five goals established at the strategic planning retreat undertaken in March 2008.

- 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)	
– Priority: Annual report, Introduction of the Chopping Block, Gather feedback from Peer review system	TW, grad student and new post-doc
– Secondary priority: Incorporation of Metadata and treatment flags, Introduction of an Alternative I-O contribution format, Improved guidance on I-O data contributions	RMD, BN, TW, SMD, new post-doc

Addition and Improvement of Other Datasets (core)	RMD, TW, BN, AA,
<ul style="list-style-type: none"> – Secondary priority: Commodity Taxes, Energy Data, Domestic Margins Data, Skill Splits, I-O disaggregation review 	

Monitoring Data Quality using Comparison Programs (core)	RMD, BN, AA
<ul style="list-style-type: none"> – Priority: Procedurization of Comparison Programs, – Secondary Priority: Comparing Simulation Results between Versions 	

Versions and Documentation	BN, TW, RMD, AA, TH
<ul style="list-style-type: none"> – Priority: Documentation (core), GTAP Africa Data Base (non-core), – Secondary priority: Multiple Versions of GTAP Data Base, Version Control, Documentation of Construction Process (core) 	

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

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

- Secondary priority: GTAP-E model

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"> – Priority: re-design course structure and funding so as to make more of the short course materials publicly available on the website. – Secondary priority: design additional modules, link in with conference. 	TW, GB, MA

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) <ul style="list-style-type: none"> – Priority: Set up a system to accept applications on a continuous basis, advertise and seek person 	TW, TH, MA, GB

Allocation of Resources over the next year

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>Thomas Hertel</i>	<i>New post doc</i>	<i>Ana Rios</i>	<i>Alla Golub</i>	<i>Graduate Students</i>
100% core	100% core	50% core	100% core	30% core	100% core	100% DOE project	100% EPA Project	
Documentation of v7	Oversee release strategy	Documentation of v7	Hiring	Hiring	I-O Tables	Collection of Household survey data	Dynamic GTAP Model Applications	Comparison programs
Procedurization of Comparison programs	Documentation of v7 GTAP Africa Data Base	Document and oversee pre-processing of macro data	Documentation of v7 I-O Tables and peer review process	Documentation of v7 Assist with GTAP Conference	I-O table documentation		Land Use and Environmental Modelling	Comparison simulation Meta data
Meta-data	I-O disaggregation	Protection data pre-processing			Skill splits			Skill splits
Energy	Short Course	Trade pre-processing	GTAP short Course	Land Use Data Base	Course materials on web		GTAP-E	GTAP Africa Data Base – trade
Domestic Margins	Contributing I-O Tables course	Macro data pre-processing	Conference	Grad Student Projects				I-O tables
Short Course	Version control	Short Course	Contributing I-O Tables course	Bio-fuels/ environmental modeling				Reading/ seminar course
Dynamic short course		Dynamic short course						
Contributing I-O Tables course		Contributing I-O Tables course	Migration Dynamic GTAP book Skill splits Grad Student Projects	Poverty Module Non-CO2 Emissions Data Base				

IV. The GTAP Data Base

A brief overview of the history of the GTAP Data Base is provided on the website:

<https://www.gtap.agecon.purdue.edu/about/history.asp>

The GTAP 7 Data Base Release Schedule

In March 2008, the GTAP 7 p5 Data Base was released to the board. The GTAP 7 Data Base is based on a 2004 reference year and has 57 sectors and 106 regions. The following changes have already been incorporated into the GTAP 7 pre-releases:

- a) 18 new countries have been incorporated since the last public release (GTAP 6 Data Base) and 9 old I-O tables have been updated. The new tables include Pakistan, Bolivia, Ecuador, Iran, Mauritius, Nigeria, Cambodia, Paraguay, Egypt, Senegal, Nicaragua, Kazakhstan, Kyrgyzstan, Armenia, Azerbaijan, Georgia, Belarus and Ukraine. Updated data has been obtained for China, Indonesia, Canada, Colombia, Romania, Vietnam, United States, Mexico, Chile, and Turkey. The center has also made improvements to India, France, Belgium, Luxembourg, and South Africa. Further details on the I-O tables can be found in the I-O table report in the supplementary materials.
- b) 2004 bilateral Trade data from Mark Gehlhar at the ERS/USDA.
- c) 2003 bilateral services trade data contributed by the CPB, which has been reconciled with the IMF services trade totals.
- d) 2004 preferential tariffs data from Market Access Maps (MAcMaps) contributed by David Laborde of CEPII. Combined data on *ad valorem* tariffs and the *ad valorem* equivalent of specific tariffs is incorporated in the data base.
- e) 2004 domestic support data for OECD and some non-OECD countries contributed by Hsin Huang of the OECD. The domestic support data are available for the following countries (Australia, Canada, European Union 15, Iceland, Japan, Korea, Mexico, Norway, Switzerland, Turkey, the United States, China, Brazil, South Africa, Russia, Ukraine, Bulgaria and Romania.
- f) 2004 domestic support data for individual EU25 member countries contributed by Hans Grinsted Jensen of the FOI.
- g) Agricultural export subsidy data contributed by Aziz Elbehri of ERS/USDA. The dataset covers agricultural export subsidies as notified to the WTO for 2004 or the closest available year for European Union 25 (2002), Canada (2004), Israel (2003), Morocco (2002), Norway (2001), Panama (2003), Switzerland (2003), Tunisia (2002) and the United States (2002).
- h) Estimates of the export tax equivalents of quotas on textile and wearing apparel exports to Canada, USA, and the EU15 under the Agreement on Textiles and Clothing from recent work done by Joe Francois and Julia Wörz. For Canada and the EU15, the ETE estimates are for 2003 and for the USA, the ETE estimates are for 2004.
- i) 2004 macroeconomic aggregates data from the World Bank (Dominique van der Mensbrugge) augmented with data from published sources (World Development Report, CIA Factbook).
- j) 2004 Government expenditure data updated by Angel Aguiar.
- k) Modifications have been made to the value added shares and domestic support in agriculture by Badri Narayanan and Thomas Hertel. A note explaining these changes is available on the website: https://www.gtap.agecon.purdue.edu/access_board/documents/GTAP7pr4_note.doc

The following changes are expected in the upcoming pre-releases over the next few months. We hope to release the final GTAP 7 Data Base to the public by August 2008, which means that the last pre-release must be finalised by May, 2008.

- a) National input-output tables (including the European Union): we are still waiting for the European I-O tables, and unfortunately it is not clear whether these I-O tables will be available before the final release. However we have already received new/improved tables for Paraguay, Bolivia, Laos (ADB), South Africa, Nicaragua, Peru, Morocco, Uruguay and Thailand, which will be included in pre-release 6.
- b) Further adjustments to services trade data in response to CPB feedback: currently being undertaken.
- c) Further updates to trade from Mark Gehlhar: Received and ready to be included in pre-release 6.
- d) Further updates to protection from David Laborde: expected soon.
- e) Energy volume and prices data: ready to be included into pre-release 6.
- f) Consumer demand elasticities: currently being re-estimated with version 7 data.
- g) Agricultural production targeting for 2004: currently being undertaken.
- h) Any other minor issues discovered as a result of our own comparison programs or issues raised by board members during the pre-release process, which have not yet been dealt with. See https://www.gtap.agecon.purdue.edu/access_board/v7pr_data_issues.asp

Other issues related to the GTAP 7 Data Base construction process:

a) Intermediate Taxes

In the GTAP Data Base construction process we replace intermediate taxes on agricultural goods used in the production of agriculture; and on energy commodities with taxes in the I-O tables, with taxes obtained elsewhere. We recently discovered however, that in replacing these specific intermediate taxes, we were also unintentionally removing other taxes on intermediate inputs from the I-O tables. This has become embedded in the construction process; and to remove it will take further work. We are currently examining the implications of this, running some test simulations and plan to produce a report for distribution to the board.

b) Agricultural protection

Kym Anderson and Will Martin have undertaken a very large project on agricultural protection in developing countries. Authors were asked to produce estimates compatible with the GTAP framework, in addition to evaluating the protection numbers currently in GTAP. Since this was a one-time effort, we plan to make the proposed modifications to GTAP available as a supplementary file, to be used by authors on a case by case basis.

c) Comparison programs

The purpose of undertaking pre-releases of the GTAP 7 Data Base is to check and review new data as it becomes available before making the data publicly available. As part of the GTAP 7 pre-release process we have been undertaking a number of internal checks and comparisons, as well as receiving valuable feedback from board members and other contributors. Robert McDougall will discuss the program he has developed for checking the new releases at the board meeting. This more systematic review of the data by the Center has led to a substantial improvement in finding and fixing errors. As a result however, there has also been an increase in the need to communicate these errors back to board members. This has in

turn led to the development of a webpage on the GTAP website to reports errors found, outline proposes fixes and also indicate when errors were fixed (https://www.gtap.agecon.purdue.edu/access_board/v7pr_data_issues.asp).

Other Data Related Progress

TASTE: Tariff Analytical and Simulation Tool for Economists

The TASTE program (previously known as TradMat) has now been updated to 2004 data. TASTE addresses two needs of GTAP users:

- To prepare files of tariff shocks, GTAP users must combine information about bound rates (not part of GTAP) and applied rates at a detailed product level - such as HS6.
- Some GTAP users would like to split up one or more of the supplied 57 sectors. To do this, they need (at a minimum) trade matrices that are more detailed than those in the standard GTAP Data Base.

TASTE comes with a huge data base of bilateral trade flows and of applied and bound tariff rates, distinguishing around 200 trading partners and 5000 HS6 goods. These data, based on a number of sources, has been carefully massaged and crafted by leading experts at CEPII. The trade flows have been made consistent with Version 7 of the GTAP Data Base. And this huge data set has been cleverly compressed by Mark Horridge so that it fits on a normal CD.

The current [April 2008] version of TASTE uses 2004 CEPII data, and is designed to accompany the version 7 GTAP Data Base. There will be a special organized session on TASTE at the Helsinki conference. Those interested in obtaining more information are encouraged to attend.

GTAP Africa Data Base

The GTAP Africa Data Base is based on the GTAP 6 Data Base. It includes data for 40 regions (31 African regions and 9 other aggregated regions) and the 57 sectors of the GTAP Data Base. Pre-release 1 was released in April 2007, and pre-release 2 is expected to be released this month. Pre-release 2 includes new I-O tables for Cameroon, Kenya, Sudan, Congo, Cote d'Ivoire and Ghana. We are looking for new or improved contributions for Algeria, Angola, Ethiopia, Libya and Kenya.

Nelson Villoria has also been estimating missing intra-African trade for this GTAP Africa Data Base. His report is included in Research Memorandum 5 and in the supplementary materials available on the GTAP website.

Data Goal: To Improve the quality of Data Products

In March 2008, the GTAP team considered various ideas for improving the quality of our data products. Below is a list of the ideas we hope to implement over the next few years, in order to improve the quality of the I-O tables and of the GTAP Data Base in general. The Data Goal to improve quality is divided into four key objectives:

1. Improving the quality of Contributed I-O Data
2. Addition and Improvement of Other Datasets
3. Monitoring Data Quality using Comparison Programs
4. Versions and Documentation

Priority levels, timeframes and responsible implementers for each of these tasks have also been outlined below.

Before commencing, the team emphasized one of the underlying principles behind the development of the GTAP Data Base: “We believe that the provision of reconciled data with some informational content is better than providing no data at all.” This is reflected in the fact that we collect whatever is available and then use this data and other data to estimate and fill in any missing data. We believe this filled data is better than not providing data at all; and moreover we believe that having global data filled to ensure consistency across all countries and sectors is valuable. Our aim therefore is not to withdraw back towards a data base that has only ‘real’ data, but to improve the quality of the data we do collect, as well as improving our techniques for filling in missing data, and the way we communicate the varying quality of different aspects of the GTAP Data Base to our users.

1. *Improving the quality of Contributed I-O Data*

The quality of the I-O table data is an important issue in improving the overall quality of the GTAP Data Base. In order to improve the quality of the underlying I-O tables there are a number of alternative strategies. The following four strategies were considered and specific ideas on how to improve the quality of I-O data are outlined below.

1. Further documentation and flags to highlight and inform users of any processing undertaken on the underlying data (see points a. and b. below).
2. Restrict the country data included in the GTAP Data Base to those countries which are of sufficiently high quality (see points c. and d. below).
3. Develop programs or procedures to assist us in checking the quality of I-O tables. It is unlikely that further development of internal programs and review is likely to yield significant improvements, however the implementation of an external review process is likely to help (see point e. below).
4. Work directly with statistical offices to obtain raw data to use in the GTAP model or alter our requirements to more closely match the data provided by statistical offices. While the first option is extremely time-intensive, it is worth investigating alternative formats (point f. below).

a. *Metadata and Data Treatment Flags*

Responsible: RMD/BN

Version: 8

Priority: Low

In order to improve communication on the processing undertaken on individual I-O tables we will provide “*Metadata*” with the data base which indicates the underlying data sources and other aspects of the different countries in the GTAP Data Base, thereby acting as “*data treatment flags*”. For example, there could be flags that indicate which components of the data base are based on FAO data, or which are based on the representative I-O table. The reference year for the I-O tables is also an important piece of metadata. Also, the mappings of composite regions to countries and the sectoral concordances could also be included in the main data base file (gsddat.har). This information would be similar to that provided in the annual report on I-O tables, available in the supplementary materials, as well as provide more detailed information on how the data was processed.

b. Annual I-O Table Report

Responsible: TW

Version: 8

Priority: High

Over the last few years the Center has produced a couple of reports on the I-O tables in the GTAP Data Base, paying particular attention to the limitations of the current data. This report will now be produced on an annual basis; this year's report is available in the supplementary materials. In the past this report has been used to develop the "GTAP Most Wanted" list, and in the future it will also be used to establish those countries to be included in the "Chopping Block".

c. "Chopping Block"

Responsible: TW

Version: 8

Priority: High

In light of the frequent suggestion by various board members to eliminate "bad components" of GTAP data, even if it means fewer regions, it is worthwhile considering whether certain countries should be removed from GTAP Data Base, based on various aspects such as age of the table, year of contribution, and the number of contributed sectors, etc. So, a set of specific characteristics and requirements will be prepared to facilitate the formulation of the so-called "Chopping block". If new I-O tables for these countries are not contributed, prior to version 8, then they are likely to be removed from the public version of the GTAP Data Base. These countries could potentially be included in special versions (e.g., the GTAP Africa Data Base), which are accompanied by explicit quality statements. More discussion of the "Chopping Block" is provided in the Annual I-O table report available in the supplementary materials.

d. Improved and stricter guidelines on the manipulation of Regional Data

Responsible: TW

Version: 8

Priority: High

The GTAP I-O table contribution format often requires the contributor to make a number of changes to the underlying regional data, thereby requiring contributors to exercise their own judgment. For example, commodity taxes (often a single column in a SAM) must be split across both uses and domestic and imported sources. In the past the Center has paid little attention to how these manipulations have actually been done by contributors, offering advice through technical paper #1 and responding to queries. Our philosophy has been that the contributors have more information than we do about how taxes are applied in their economies. However, as the country data supplied become more dubious in quality, hence requiring more manipulation; and the contributors too become more diverse in their levels of experience, it is clear that more guidelines should be framed about how these manipulations should be undertaken when the contributor has no additional information. Such guidelines would ensure that the country data was at least handled in a consistent manner with regard to taxes, technology-assumptions etc. Moreover we might be stricter with regard to the minimum requirements (e.g., if the table had to be significantly disaggregated or manipulated in order to obtain the GTAP format), rejecting a table from the public release and instead including it in a special release if the underlying data were of dubious quality.

e. Peer-review System

Responsible: TW

Version: 7-8

Priority: High

Over the last year, with the assistance of the USITC, a system of peer review for the I-O tables was established. We are also currently implementing a trial run of this peer-review process and hope to obtain feedback over the next year. The European Commission is also ensuring that the European data are externally reviewed before being sent to the Center. This process is very labor intensive and would greatly benefit from having a dedicated person working with I-O contributors.

f. Alternative I-O Contribution Format

Responsible: TW

Version: 8

Priority: Low

Given that the information requirements for the GTAP format are not always readily available and that many contributors are unable to work directly with statistical offices to obtain the additional information it is inevitably that there will be quality control issues associated with the generation of many of the arrays required for the GTAP format (e.g., import and tax matrices are not always available to contributors). Indeed most of our contributors struggle with the manipulation of their data; and errors are often hard to spot. The proposal here is to adopt the SNA supply and use format (commonly used in statistical offices in Europe and many other countries) as an alternative format for I-O table contributions, then to manipulate these tables into the GTAP format in-house. Currently Scott McDonald, Martin Banse and Terrie Walmsley are working with the European Commission to assist the EU in reviewing and converting their data from the standard SNA format into the GTAP format for the 27 EU countries. Given the prevalence of this format elsewhere in the world, we hope to use the tools developed to assist other contributors. Further details and arguments for adopting this methodology are provided in “Regional Economic and Satellite (Environmental) Accounts in the GTAP Data Base: A Review of Options” by Scott McDonald; available in the supplementary materials.

2. Addition and Improvement of Other Datasets

The following are four key areas where additional macro data could be used to improve the quality of the GTAP Data Base.

a. Commodity Taxes

Responsible: RMD/TW

Version: 8

Priority: Low

There is a lot of scope for improvement of quality of commodity taxes in the data base. We could use international data-sources to supplement this in the data base. However, we are significantly constrained by resources in this area, as we require a consultant who is significantly familiar with our techniques that they can build programs that can easily be incorporated into our programs. Unfortunately the consultant we had in mind for this project was unable to undertake the project. This is therefore on our agenda; however it is dependent on obtaining resources.

b. Energy Data

Responsible: RMD

Version: 8

Priority: Low

The current system for incorporating energy data into GTAP Data Base has some designed-in weaknesses; for example, there are some problems with the treatment of energy commodity prices. This requires specialized knowledge of energy-related issues, so a new person would be desirable to assist us in improving the energy data in GTAP.

c. Domestic Margins Data

Responsible: RMD/TA

Version: 8-10

Priority: Low

Incorporation of domestic margins into the GTAP Data Base is crucial for the following reasons: it is important in itself as a notion of data quality; and it is the foundation for other things in the data base. A major change is required in the data base construction procedure to accommodate domestic margins in GTAP Data Base. Currently some I-O tables in the GTAP Data Base have incorporated margins while others have not, making the task even more difficult. This is a multi-stage process that involves two distinct sets of tasks: incorporating domestic margins into the standard procedure for procuring I-O tables; and implementing the build for the first time by the new procedure. It is expected to take several releases before being integrated fully.

d. Skill Splits

Responsible: TW/RMD

Version: 8

Priority: Low

The Center, with the assistance of Rod Tyers and Iain Bain, has been working on improving the skill splits required for labor data in GTAP Data Base. A review of the initial stages undertaken is available in the supplementary materials. There is also a possibility of working with the World Bank on this issue.

3. *Monitoring Data Quality using Comparison Programs*

Recent improvements in post-construction comparison programs have been very successful in highlighting problems. Further work in this area is required.

a. *Use of Comparison Programs*

Responsible: RMD

Version: 8

Priority: High

The inter-version comparison program developed by Robert McDougall has proved to be very useful in identifying faults/changes in the data base in relation with the additions/revisions made in the newer version. This has to be developed further as a standard/user-friendly procedure so that other GTAP staff-members can use it extensively.

b. *Comparing Simulation Results between Versions*

Responsible: TH/BN

Version: 7

Priority: High

Dominique van der Mensbrugge (World Bank) has been comparing the standard simulation results of newer pre-releases with those of the older ones, in order to identify the faults/changes in the newer ones. Ideally, this should be first done in-house. After the build of each pre-release, we could run a set of standard simulations and analyse what are the changes and how big are they. If these could be related well to the changes made, there should be no significant data quality issue arising from the new changes. A graduate student would work with the staff to develop and implement a methodology for this.

4. *Versions and Documentation*

a. *Multiple Versions of GTAP Data Base*

Responsible: BN

Version: 8

Priority: High

Once the “*Chopping block*” is prepared, it is also desirable to retain these countries in a special “super-deluxe, use-at-your-own-risk” version, to be made available to board members. This could be released along with a strong warning about the data quality. Thus, we may be able to strike a balance in the trade-off between quality and quantity, with these two different versions. Countries included in the “*Chopping Block*” or not accepted for the public release might also be made publicly available in special versions carrying strong warnings, such as the GTAP Africa Data Base.

b. Version Control

Responsible: BN

Version: 8

Priority: High

There are certain issues in working on and archiving the data base construction programs in such a way that a fairly standard nomenclature is applied for different versions to facilitate regeneration of the builds whenever required. These need to be addressed once version 7 is released.

c. GTAP Africa Data Base

Responsible: BN

Version: 6

Priority: High

The GTAP Africa Data Base is ongoing and we need to ensure its timely release, while also ensuring reasonable quality.

d. Documentation of the GTAP 7 Data Base

Responsible: BN, TW, TH, AA, RMD

Version: 7

Priority: High

We are currently working on documentation of the final version of the GTAP 7 Data Base. This will include a short version of the GTAP 6 Data Base documentation and a longer web-based version.

e. Documentation of Construction Process

Responsible: BN/AA

Version: 7-8

Priority: Low

Given our aim to employ more staff and possibly consultants it is necessary that we document the stages involved in data base construction procedure. This will also ensure more transparency and proper tracking of any faults/defects in the process.

Data Goal: Other Issues

a. *Resources:*

Since the Center is quite evidently under-staffed, there is a need to look for full-time employees/post-docs and/or consultants (see section VIII).

In particular, while the involvement of graduate students in the I-O tables has been a good short-term solution, the task calls for someone who can develop relationships with I-O table contributors over the long term and oversee the entire process from developing contacts, reviewing contribution, ensuring documentation, overseeing the peer review process, designing courses for contributors to developing new ways to ensure quality.

In addition, as Angel Aguiar is currently only part-time, further assistance with the data base construction and documentation would also be helpful.

Finally, since research funding in the environmental area has increased significantly and we are bringing in more graduate students and post-docs in this area, we also hope to use some this research funding to

undertake the required changes in the core energy data used in the GTAP Data Base.

b. Data Inputs:

Another area of continuous concern is the continuity of data inputs. In previous years Mark Gehlhar has called for assistance with the trade data, particularly related to re-exports. Thus it was nice to see a co-authored technical paper on this topic which has recently been published on the GTAP web site. This year there has been some concern regarding the CEPII Protection Data, since David Laborde has now left CEPII. We are very grateful to David for working closely with CEPII to assist us with finalizing the protection data for GTAP v.7. We are also pleased to see that Sebastian Jean has returned and hope to hear more from him at the board meeting regarding CEPII's future plans for MAcMap.

V. Research

Research Goal: To actively participate in quantitative economic analysis of pressing global concern in the areas of:

Trade and Development

Trade and development continue to offer important opportunities for the Center in terms of research and data base development. Whenever possible funding is sought for research related projects in trade, however certain tasks, such as the continued development of the Dynamic GTAP model are considered core. The number of research challenges in the area of trade and development continues to grow. Below are those areas where the Center hopes to continue to influence research.

Investment and Dynamics

With the assistance of the short courses, the Dynamic GTAP model is increasingly being used amongst network members to examine trade, investment, demographic and environmental issues. The Center also continues to use and further develop the model. Current projects include the inclusion of bilateral foreign income flows into the model to replace the global trust used to allocate saving across foreign investment. Csilla Lakatos and Terrie Walmsley are also interested in disaggregating foreign direct investment; and Angel Aguiar and Terrie Walmsley are working on a dynamic version of the migration model (GMig2). In addition considerable work is being undertaken to include land use in both the static and dynamic models by Alla Golub and Thomas Hertel.

Poverty

Ana Rios recently started working with the Center on a DOE-funded project to collect additional household survey data. This will allow the center to expand the regional coverage of poverty work previously undertaken by Thomas Hertel and Maros Ivanic with the World Bank. Monika Verma and Thomas Hertel are also currently working on a paper on trade policy and nutrition with IFPRI funding.

Model Linking

Badri Narayanan and Thomas Hertel, drawing on work done previously by Jason Grant and Thomas Rutherford, have been implementing a PE/GE model within the GTAP modeling framework. The primary advantage of this new work is that it is undertaken in conjunction with the standard GTAP model, thereby making available to the user all of the decomposition tools that have been developed for this standard model. In particular, they plan to extend the welfare decomposition of Huff and Hertel (2001) to the PE/GE model in order to investigate the sources of welfare gain in this integrated, trade modeling framework. The results of this work will be presented by Badri at the conference in Helsinki.

Migration

Terrie Walmsley is currently working on a number of fronts to further develop the migration model and data base. In addition to incorporating dynamics (with Angel Aguiar), Walmsley is also working with Chris Parsons (and others at World Bank) to obtain data on gender, age and migrant flows.

Over the last year Terrie Walmsley has also used the GMig2 model to investigate policy changes within NAFTA (with Robert McCleery and Fernando Paolis), and the impact of alternative migration policies and opportunities on the Asian economies (with Fan Zhai at the Asian Development Bank).

Global Energy and Environmental issues

From the point of view of the Center's research agenda, "Energy and the Environment" (E&E) refers to research into global environmental issues with significant trade dimensions. Currently this encompasses policies related to climate change as well as biofuels policies. These are broad topics, so the Center's current work agenda is emphasizing the land use dimensions of these policies. These topics are of increasing importance in global economic policy, as evidenced by the diversion of funding and resources by government and academic institutions towards them.

During the Center's strategic planning retreat, this area of work was highlighted as a new priority area for the Center. However, this work (particularly the land use dimension) is still in its relative infancy, and there are significant opportunities and challenges ahead where the Center can clearly play the role of a global research leader.

Opportunities

The growth of interest in E&E topics presents the Center and the Consortium with two important opportunities:

- O1. Research Leadership – Policy makers and regulatory bodies are increasingly interested in the global impacts of energy/environmental policies. A key example is research on the impact of biofuels programs on greenhouse gas emissions, global land use, and poverty in developing countries. Most established research groups working on energy/environmental topics currently do not have the capacity to meet these broader demands. The Center has both experience and expertise in data-intensive, interdisciplinary analyses with global scope. As such, there is scope for carving out a global analysis niche.
- O2. Funding – Following the increased institutional interest in E&E research, there has been an increase in funding opportunities open to the Center. To the extent that funding attracts a greater body of talent to the Center, and helps develop that talent base, there can be positive externalities for Core activities. For example, our work on the energy data base has long suffered from limited expertise within the Center on energy issues. With the heightened work on biofuels, that is now changing. We hope that this on-site expertise can help us to improve the core data base in the energy area.

Challenges

Despite the resources that the Center can leverage to establish leadership in E&E research, there are several challenges which must be overcome:

- C1. Dark Horse – Within the Energy and Environment research community, the Center is currently a dark horse with a lower profile than it carries in the trade policy field. Institutions with funding and research needs (e.g. US DOE and EPA) are only beginning to recognize the Center’s potential in this area. As mentioned before, data-intensive, interdisciplinary global analysis is an area where the Center has an emerging comparative advantage, and as such may often be a more appropriate partner for these funding institutions.
- C2. Limited Window of Opportunity – The GTAP-based Energy and Environmental research field is growing extremely fast, with the potential competitors catching up or consolidating their dominance. As such, if the Center wants to leverage its current comparative advantage and global research expertise, it will be have to move quickly to gain recognition as a research leader and partner.
- C3. Falling into the Abyss – Due to the sheer amount of interest and funding opportunities in the Energy and Environment area, there is a danger of over-commitment in this area.

What now?

Addressing the most important of the challenges (C1 and C2) there are a few steps that are already being taken, and some which should be taken soon. Below are the broad steps with the action plan in Table 1:

- S1: Papers – In order to gain recognition as a leader in energy/environmental research is to publish quickly and often. Several groups within the Center have already started presenting research and publishing in the areas of biofuels, emissions, and land supply (Wally Tyner, Tom Hertel, Roman Keeney, Alla Golub, Farzad Taheripour, Dileep Birur, Misak Avetisyan and Jayson Beckman). These research papers need to be put out quickly (a list of current papers in progress is provided below in the table). There are also proposals in the works with various organizations for expanding the research programs in land use and climate change. The Center will be well-represented in this area at the annual Conference on Global Economic Analysis in Helsinki, as well as in Orlando, Florida, at the AAEA meetings this summer.

<i>Proposed title/Objective of paper</i>	<i>Timeline</i>	<i>Authors</i>
Biofuels for all? Impacts of Multinational Biofuel Mandates	Working Paper and journal submission	TH, WT and DB
The Indirect Land Use Impacts of US Biofuel Policies: The Importance of Acreage, Yield and Bilateral Trade Responses	Working Paper; submission to journal in May	TH and Roman Keeney
Biofuels and their Byproducts: Global Economic and Environmental Implications	Draft form; presentation at conference and submission to journal in summer	Farzad T., TH, WT, Jayson Beckman and DB
Greenhouse Gas Emissions associated	Complete paper	AG, TH, Steven Rose

with Biofuels	by summer	and Brent Sohngen
Modeling changes in land cover	GTAP RM in summer, 2008	AA, TH, Ruben Lubowski
PE model of biofuels	Draft paper	WT, FT
Land use and GHG emissions	Revise and resubmit to Resource and Energy Economics	AG, TH, Huey-Lin Lee, Brent Sohngen, Steve Rose
Biofuels data base	GTAP Research Memorandum, being updated	Farzad Taheripour, DB, WT

S2: Consortium Members – Institutions like the national Departments of Energy and Environment that are heavily interested in this area may be valuable future consortium members. These organizations need to be identified and approached.

VI. The Model, Education and the Network

GTAP has always suffered from the perception that our programs make it too easy for poorly-trained users to produce low quality analysis. More recently other potential concerns have surfaced, including: a) the increasing number of untrained and price-sensitive users particularly from developing countries; b) the increasing demand for small courses for 10 people or less (at their preferred location); c) the increasing number of competing courses; d) the fact that CGE models have not kept up with economic theory (e.g., firm heterogeneity etc); and e) the increasing number of good users moving towards or developing their own more complex PE and GE models, rather than further developing the standard GTAP model. While many of these are the result of GTAP's success, for instance our push to expand the network into developing economies, we need to ensure that we adjust with the changing market.

The two goals to surface out of this discussion at the strategic planning retreat were:

1. Model Goal: To promote further development of GTAP-based models
2. Education Goal: To expand and improve global economic analysis education worldwide

These are discussed in turn below.

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

Given the competing demands on staff members' time, this area is something which we will need to encourage others in the GTAP network to undertake. This might be achieved through the GTAP technical paper series, as well as through graduate student research interests. One surprising result from the survey was the importance of technical papers to the GTAP network. We would be interested in hearing from anyone with ideas for new papers to be included in the technical paper series. A partial list of the technical papers we are currently considering and in some cases already working on include:

- New GTAP-E model and technical paper (McDougall and Golub)
- Paper validating the GTAP-E model (Beckman, Hertel and Tyner)
- Paper showing how to incorporate firm heterogeneity into the GTAP model

- Modelling EU agricultural policy (Alex Gohin TP currently under review)
- Macro transmission in GTAP and real exchange rates
- Non-tariff barriers – measurement and modelling
- The impact of alternative methods for aggregating protection
- Linking CGE models to PE models
- Terms of trade and Armington
- What makes a good CGE paper?
- How to change the standard GTAP model?

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

The Center currently offers education through the following mechanisms:

- *GTAP Web Course:* A 7-week preparatory web course which teaches the participant the underlying theory behind a basic single country version of the GTAP model and gives them hands-on experience with a RunGTAP-like software interface. This course is held every year as preparation for the on-site course.
- *GTAP Short Course:* A 6-day on-site course which teaches the participant the underlying theory behind the GTAP model and gives them hands-on experience using the RunGTAP software and analysing results. This course is held at least once every year. This course also includes a few lectures on the GTAP Data Base construction to promote good use of the data base.
- *Dynamic GTAP Short Course:* A 6-day course on the Dynamic GTAP model which teaches the participant the underlying theory behind the GDyn model and gives them hands-on experience using the RunGDyn software and analysing results. This course is held every two years.
- *Contributing I-O Tables short course:* A two day course on contributing I-O tables which teaches the participant how to convert a typical SAM into the GTAP format. It also provides hands-on experience with Gempack and batch files. This is a new course and is held following the short course or after the dynamic course. We expect that as this course matures the materials will be made freely available on the website to assist new contributors.
- *Graduate student (PhD program):* Individuals apply to the Department of Agricultural Economics or Economics for the PhD program and are trained at Purdue University.

Short Courses:

Some of the concerns for the Center regarding our short courses include: increasing demands on our time from untrained users (answering emails and reading dissertations/papers) and from the general increase in the number of courses we undertake (I-O course and Dynamic GTAP course); the increasing demand for courses on more specialised topics, such as how to change the model, or for small courses for 10 people; and the need to ensure that participants have sufficient qualifications to undertake the course (e.g., to undertake the Dynamic GTAP modelling course knowledge of the GTAP model is essential).

As a result of these concerns the following Course Design is being considered:

- Offer web modules for free and/or for a fee; thereby expanding availability and accessibility.
- Divide participants into small groups (by region/time zone so that they may more easily communicate via Adobe Connect, Vista Blackboard, Skype, etc) in order to undertake small group projects on a specific application.
- Follow up with a 2 day workshop after annual conference. Participants bring their own laptops and work on course applications under supervision of instructors.
- Advanced Training: Hold a call for proposals for the development of advanced online modules by individuals in the network (preferably linked to technical papers). Offer advanced online modules for a fee, which is shared with the developer and/or instructor. This would leverage expertise in the network to extend the standard GTAP model in new directions. It would also offer the developer a higher profile/platform from which to share their work with others.

There are two different institutional models for the web based approach:

Free: Pre-course containing online modules, with self-check solutions, no support offered

Fee Paying: Pre-course online modules; contract out online instructor to check assignments and provide support
 Undertake short course on the multi-region GTAP model on-line through web based modules
 Small Group projects undertaken on-line (3 – 5 individuals in a group)
 Small groups present their results at a 2 day workshop following the conference.
 Individuals can follow-up with advanced training on specific modules led by the module developer.

VII. Finances, Budgets and Staffing Plan

Budgeting

To be handed out and discussed at the board meeting.

Staffing

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

It is clear that attracting and retaining high quality staff is currently the biggest problem faced by the Center.

The facts:

- *Location:* As the labor market becomes more global, highly skilled people are less able to move to or stay in Lafayette. The Center is increasingly looking at ways for people to work remotely.
- *Type of work:* Potential staff members are looking for a mix of research and data work; however, under-staffing has made ensuring a balance between research and data more challenging.
- *Skill set:* The programs developed by the Center require that individuals are experienced in mathematical programming, but also some on-the-job training is required to understand the specific programs used at the center. Hence qualified consultants are difficult to find.
- *Graduate students:* Graduate students are often attracted to the Center because of the variety

of research opportunities offered. As part of their assistantships they are often given data-related tasks. However, as the complexity of the data processing increases and data tasks become larger and less compartmentalized, it is becoming increasingly difficult to rely on graduate students. In some cases graduate students are taking on longer-term tasks for which they take full responsibility. However, it can be difficult to balance such tasks with graduate studies, and such tasks limit their ability to do supplementary research projects, which might have benefits for their Ph.D. thesis and job placement.

- *Graduate Student Pool:* However, these graduate students are also potential source of staff members. Note however, that location is also big issue for this pool of potential recruits, since having spent 4 years in Lafayette they are usually ready to leave for the wider world; however, having had this training, they are also more likely to be able to work successfully with the Center remotely (as Alla Golub is presently doing).

Options:

1. Rotating Post-Doctoral Positions: One option discussed is the ongoing recruitment of people to one or two post-doc⁷ positions. The positions would be for a fixed 2-year period, with the potential for extension, remote working or consulting work afterward.
2. Computer Science Graduate: There is the potential to hire a graduate from an alternative department, such as computer science or operations research.
3. Remote working or overseas offices.
4. Increased graduate student training and hiring.

The Center is currently seeking a post-doctoral or masters student to work on I-O data, courses and research. Ginger Batta and Meghan Alexander are working to set up a website to accept applications and filter applicants; targeted emails will also be sent to academic institutions.

We are also encouraging graduate students to set up a reading/seminar course and to share training materials on the website with other graduate students, and in particular future incoming graduate students.

VIII. Other Business

Research Fellows

Patrick Jomini will report on the committee's decisions at the Board meeting. The committee includes Patrick Jomini (Committee Chair), Antoine Bouët (Deputy Chair), Thomas Hertel, and Philip Bagnoli. Meghan Alexander and Ginger Batta provide support in collecting CVs and providing an online forum, respectively. The CVs of the research fellows are included in the supplementary material in your folder and on the website.

Conference Proposals

Finland 2008

Juha Honkatukia will present an update on preparations for the 2008 conference at the board meeting. This event will be hosted by the VATT and UN-WIDER in Finland. A copy of the proposal is contained in the supplementary materials.

⁷ Post-master's student.

Chile 2009

In March, 2007, the board approved the proposal from the UN Economic Commission for Latin America and the Caribbean and the Inter-American Development Bank to hold the 12th Annual Conference on Global Economic Analysis in Santiago, Chile. Carlos de Miguel, from ECLAC will present an update on preparations for the 2009 conference at the board meeting. A copy of the proposal is contained in the supplementary materials.

Thailand 2010

In December 2007, the board approved the proposal from the UN Economic Commission for Asia and the Pacific to hold the 13th Annual Conference on Global Economic Analysis in Bangkok, Thailand. Mia Mikic will present an overview of the 2010 conference at the board meeting. A copy of the proposal is contained in the supplementary materials.

Italy 2011

In December 2007, the board approved the proposal from the Fondazione Eni Enrico Mattei (FEEM) and the Department of Economics of the Ca' Foscari University of Venice to hold the 14th Annual Conference on Global Economic Analysis in Venice, Italy. A copy of the proposal is contained in the supplementary materials. Note that this event will take place in July instead of June due to local constraints.

New Technical and Working Papers

Technical Papers

Reconciling Trade Statistics from China, Hong Kong and Their Major Trading Partners--A Mathematical Programming Approach

by Zhi Wang, Mark Gehlhar and Shunli Yao

GTAP Technical Paper No. 27, 2007

Measuring the Impact of the Movement of Labor Using a Model of Bilateral Migration Flows

by Terrie Walmsley, Alan Winters and Syud Amer Ahmed

GTAP Technical Paper No. 28, 2007

New Working Papers

Why How and When did GTAP Happen? What has it Achieved? Where is it Heading?

by Alan Powell

GTAP Working Paper No. 38, 2007

Land Use in Computable General Equilibrium Models: An Overview

by Thomas Hertel, Steven Rose and Richard Tol

GTAP Working Paper No. 39, 2008

Global Agricultural Land Use Data for Climate Change Analysis

by Chad Monfreda, Navin Ramankutty and Thomas Hertel

GTAP Working Paper No. 40, 2008

Global Forestry Data for the Economic Modeling of Land Use

by Brent Sohngen, Colleen Tennity, Marc Hnytko and Karl Meeusen
GTAP Working Paper No. 41, 2008

An Integrated Global Land Use Data Base for CGE Analysis of Climate Policy Options
by Huey-Lin Lee, Thomas Hertel, Steven Rose and Misak Avetisyan
GTAP Working Paper No. 42, 2008

Non-CO2 Greenhouse Gas Emissions Data for Climate Change Economic Analysis
by Steven Rose and Huey-Lin Lee
GTAP Working Paper No. 43, 2008

Modeling Land-use Related Greenhouse Gas Sources and Sinks and their Mitigation Potential
by Thomas Hertel, Huey-Lin Lee, Steven Rose and Brent Sohngen
GTAP Working Paper No. 44, 2008

Modeling the Competition for Land: Methods and Application to Climate Policy
by Ronald Sands and Man-Keun Kim
GTAP Working Paper No. 45, 2008

Biomass Energy and Competition for Land
by John Reilly and Sergey Paltsev
GTAP Working Paper No. 46, 2008

The Impact of Environmental and Climate Constraints on Global Food Supply
by Bas Eickhout, Hans van Meijl, Andrzej Tabeau and Elke Stehfest
GTAP Working Paper No. 47, 2008

Land Use Modeling in Recursively-Dynamic GTAP Framework
by Alla Golub, Thomas Hertel and Brent Sohngen
GTAP Working Paper No. 48, 2008

The Role of Forestry in Carbon Sequestration in General Equilibrium Models
by Brent Sohngen, Alla Golub and Thomas Hertel
GTAP Working Paper No. 49, 2008

KLUM@GTAP: Spatially-Explicit, Biophysical Land Use in a Computable General Equilibrium Model
by Kerstin Ronneberger, Maria Berritella, Francesco Bosello and Richard Tol
GTAP Working Paper No. 50, 2008

Biofuels for all? Understanding the Global Impacts of Multinational Mandates
by Thomas Hertel, Wally Tyner and Dileep Birur
GTAP Working Paper No. 51, 2008

The Indirect Land Use Impacts of U.S. Biofuel Policies: The Importance of Acreage, Yield, and Bilateral Trade Responses
by Roman Keeney and Thomas Hertel
GTAP Working Paper No. 52, 2008

Research Memoranda

Using Entropy to Compare I-O Tables
by Terrie Walmsley and Robert McDougall
GTAP Research Memorandum No. 09, 2007

Initial Preparation of Energy Volume Data for GTAP 7
by Robert McDougall and Angel Aguiar
GTAP Research Memorandum No. 10, 2007

Introducing Liquid Biofuels into the GTAP Data Base
by Farzad Taheripour, Dileep Birur, Thomas Hertel and Wally Tyner
GTAP Research Memorandum No. 11, 2007

Report on GTAP Usage and the GTAP Website

In the Center's first strategic plan, undertaken in 2004, one of our goals was to determine usage of GTAP-based papers in refereed journals. Ginger Batta has undertaken a number of searches to set up a baseline to document the impact of GTAP. Three sources have been examined:

- 1) Econlit: AEA's electronic bibliography of economics literature,
- 2) IDEAS: a freely available, online bibliographic data base dedicated to Economics, and
- 3) Google Scholar: Google's dedicated engine for searching scholarly literature.

The report is provided in the supplementary materials.

The GTAP website report is also contained in the supplementary materials provided on the board website.

IX. Appendices

Appendix 1: Assessment of Detailed Action Plan for Previous Year

The goals for the past year, as laid out in the 2007 GTAP board meeting summary, are listed below, along with an assessment of our progress towards accomplishing these goals. (A complete summary of last year's board meeting is available from the consortium page of the GTAP Website):

http://www.gtap.agecon.purdue.edu/events/Board_Meetings/2007/documents/2007_Summary.pdf

The items in **bold** were referred to above as priority items. I have also indicated where the activity is primarily funded through core funding or by other means. In some cases the Center may have been able to obtain special project funding for a core goal which clearly leads to an improvement in the data and/or model (e.g., improving the GTAP-E model). In these cases this is indicated by "special project/core". In other cases core funding may be used to finalize a special project to make it publicly available (e.g., the Migration data base).

Data Goal: To Improve Data Products.

1. Hire a new staff member to manage Data Base construction process	Core	Terrie Walmsley	Tom Hertel, Robert McDougall
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Badri Narayanan, who we employed as a post doctoral fellow to work on the GTAP Africa Data Base, has become proficient at working with contributors of the macro datasets and running the construction programs. He will now become our new data base administrator. We have also employed a graduate student, Angel Aguiar, to work on the data base construction.

In the near future we will also begin advertising another post-doctoral position. In this global labor market we are finding it increasingly difficult to find people and we have therefore decided to offer a 2-3 year post-doctoral fellowship role which would allow someone to come and train with us for a few years. This person would work primarily on I-O data, with some research and teaching.

2. Implement the GTAP 7 Data Base release schedule: pre-release 3 in October	Core	New person/ Badri Narayanan	Robert McDougall, Betina Dimaranan and Terrie Walmsley
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Despite a few difficulties with staffing the GTAP 7 Data Base is progressing well. Trade, protection and macro data have been updated and we are now working on the secondary priorities and documentation. Our main focus here is to release the final version of the GTAP 7 Data Base to the public as soon as possible.

3. Implement Peer-review process for regional data	Core	Terrie Walmsley	Ginger Batta, Grad student (Tasneem Mirza)
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Terrie Walmsley and Ginger Batta have now set up a formal procedure and the peer review process is currently being run on a trial basis with a number of contributors. We look forward to their feedback.

4. Work with European Commission to include 27 new EU countries	Core	Terrie Walmsley	Grad student (Tasneem Mirza), Marc Mueller
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Scott McDonald, Terrie Walmsley and Martin Banse were commissioned by the European Commission to review the new supply and use tables developed by Eurostat. These have now been constructed and reviewed for 25 of the EU countries. In order to convert the tables into GTAP format, Scott McDonald is now playing a more active role in assisting Marc Mueller. We will shortly need to decide whether or not to release version 7 without the EU I-O tables.

5. Finalize services trade data, build into Data Base construction program and document	Core	Robert McDougall	Grad student (Amer Ahmed)
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The services trade data was incorporated into pre-release 2. The CPB has provided feedback and Robert McDougall is currently investigating these issues.

6. Provide full country level data on services trade and traveler's expenses to the board	Core	Robert McDougall	
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Robert McDougall prepared and distributed a file showing the split between travelers' expenditures and cross-border trade supply in GTAP 7 pre-release 2.

7. Examine ways to further improve tax data for the GTAP 7 Data Base.	Core	Robert McDougall	Tom Hertel, Gilbert Metcalf, John Reilly, Richard Garbaccio and Grad student (Csilla Lakatos)
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Unfortunately efforts to secure an outside consultant have been unsuccessful and other priorities have arisen that have meant that we have not proceeded on the tax front.

8. Hire a consultant to examine how the commodity taxes data can be improved	Core	Robert McDougall	Terrie Walmsley, Kevin Hanslow
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Unfortunately efforts to secure an outside consultant have been unsuccessful, since this work requires someone who can develop programs which fit easily into our systems and the person we had in mind is no longer available. For the time being this has been suspended.

9. Finalize improvements to the energy data and include in v7	Core	Robert McDougall	Angel Aguiar (Grad student)
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The energy data is now finalised and ready for inclusion in the main construction process. We expect

to include this in pre-release 6.

10. Create African Data Base: priorities are trade, protection and I-O data	Special project	Badri Narayanan	Robert McDougall
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Badri Narayanan has worked with some African Economists who have been awarded scholarships, to include new I-O tables for Cameroon, Cote d'Ivoire, Democratic Republic of Congo, Ghana, Kenya and Sudan. We are looking for I-O tables for Algeria, Libya and Ethiopia and also possibly better I-O tables for Kenya and Sudan. This task is delayed because of some data quality issues.

11. Improve the trade data for Africa	Special project	Mark Gehlhar	Nelson Villoria, Badri Narayanan and Tom Hertel
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Nelson Villoria has come up with a methodology to fill-in missing flows in intra-African trade. Depending on the comments from board members on the Research Memorandum prepared by Nelson, this will be incorporated in the GTAP Africa Data Base.

12. Improve agricultural protection data for African Data Base	Special project	Badri Narayanan	Tom Hertel, Kym Anderson, and Ernesto Valenzuela
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Kym Anderson and Ernesto Valenzuela have published improved protection data. Badri Narayanan and Thomas Hertel are working on incorporating this data for the African countries in GTAP Africa Data Base.

13. Fix problems with the I-O disaggregation module	Core	Robert McDougall	Grad student (Angel Aguiar)
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Badri Narayanan has developed a standalone utility for disaggregating sectors. In the long run we do hope to incorporate the fix into the main construction programs. However this fix is working well.

14. Examine how Labor skill splits can be improved	Core	Terrie Walmsley	Rod Tyers and Grad student (Amer Ahmed)
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Rod Tyers visited Purdue for a few weeks in which we investigated ways in which ILO data could be used to estimate new skill splits in the GTAP Data Base. We used the methodology to estimate and check skill shares for the USA and Australia, and some additional work has been done on China. A paper on this preliminary work is available in the supplementary materials available on the board website.

15. Incorporate information from updated literature survey on the primary factor shares in agriculture	Core	Thomas Hertel	Grad student (Nelson Villoria)
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Badri Narayanan and Thomas Hertel have incorporated new primary factor shares in Pre-release 4,

based on an updated literature survey by Shinsuke Uchida, for Nepal, Canada, Peru, South Africa and Zimbabwe. We are currently examining whether the recommendations by Shinsuke for some other countries, mainly those in South-east Asia, may be incorporated in GTAP 7.

16. Production of TradMat	External	Mark Horridge	Thomas Hertel
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TASTE (previously known as TradMat) is a tool to prepare files of tariff shocks for GTAP based on a HS6-level data and to split GTAP sectors, using trade matrices that are more detailed than those in the standard GTAP Data Base. TASTE comes with a huge data base of bilateral trade flows and of applied and bound tariff rates for 200 countries and 5000 HS6 goods. Badri Narayanan and Thomas Hertel are working on providing access to this data base/tool for the board members through GTAP website. The current [April 2008] version of TASTE uses 2004 CEPII data, and is designed to accompany the version 7 GTAP Data Base.

17. Make GMig2 Data Base publicly available	Core	Terrie Walmsley	Amer Ahmed
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The GMig2 model and an aggregation are now publicly available on the GTAP website. The full Gmig2 Data Base is available to the board members on the board website.

18. Develop a bilateral FDI data base to be made publicly available. Examine possibility of incorporating this data into the GTAP Data Base	External	Lionel Fontagne, Christophe Gouel	Terrie Walmsley and Gaspar Frontini
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CEPII are working towards the development of a bilateral FDI data base. Once we receive the data we will begin incorporating it into the GTAP Data Base.

19. Revise Global Land use data base and release through revised technical paper and publicly available files on the web	Special Project	Thomas Hertel, Navin Ramankutty, Brent Sohngen	Misak Avetisyan (Grad Student)
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These data are on the web site, along with book chapters documenting the data base as well as a variety of land use applications/models.

20. Non-CO2 Emissions data base	Special Project	Thomas Hertel and Steve Rose	Misak Avetisyan (Grad Student)
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Research Goal: *To actively participate in quantitative economic analysis of pressing global concerns.*

Multilateral and Bilateral Trade Agreements

21. Work with African Scholars on Research Papers	Special Project	Badri Narayanan	Terrie Walmsley and Tom Hertel
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Five African scholars have submitted their papers for the 2008 Helsinki conference. They all have used GTAP Africa Data Base Stage 1 for their research. Badri Narayanan and Terrie Walmsley worked with them to help them in modeling, data and methodology.

22. Complete book about Dynamic GTAP Model	Core	Terrie Walmsley	Elena Ianchovichina, Robert McDougall, Alla Golub, Rod Tyers, Ken Itakura and others
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All the materials are now currently under review by Terrie Walmsley.

23. Technical paper on the GMig2 Model	Core	Terrie Walmsley	Grad student (Amer Ahmed)
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Completed, the GMig2 model and technical paper are now available on the web site.

24. Publish paper on South Asian regional integration	Special Project	Tom Hertel	Grad student (Tasneem Mirza)
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Tasneem delivered a report to the ADB on this topic. She has subsequently been refining the econometric model and will return to the topic of regional integration in the coming year.

25. Publish paper on impacts of China's growth in Southern Africa	Special Project	Tom Hertel	Grad student (Nelson Villoria)
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IFPRI working paper has been published. Journal paper is under review.

26. Analysis of South Asia and China growth with Dynamic GTAP Model	Special Project	Alla Golub	Terrie Walmsley, Tom Hertel
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This has not been undertaken and is not a priority

27. Technical paper on comparing alternative weightings of tariffs	External	Antoine Bouët	
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This remains an important topic. We hope Antoine and/or his colleagues will find time to do this in the

future.

Global Environmental Issues

28. Revise the GTAP-E model	Special Project/core	Alla Golub	Robert McDougall, Terrie Walmsley, Tom Hertel
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Robert McDougall and Alla Golub have revised the GTAP-E model. It is now much more user friendly and can be readily extended for analysis of issues such as biofuels.

29. Extend Dynamic GTAP to include energy (GDyn-E)	Special Project	Alla Golub	Terrie Walmsley, Tom Hertel, Robert McDougall
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This has been delayed due to competing demands on Alla's time.

30. Develop Dynamic land use model	Special Project	Alla Golub	Tom Hertel
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Done. A book chapter and journal paper are now available.

31. Complete book on Economic Analysis of Land Use in Global Climate Change Policy	Special Project	Tom Hertel	Steven Rose, Richard Tol
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Done. This will be published in 2008. Chapters are on the web as working papers.

32. Publish paper on determinants of the long run demand for land	Special Project	Tom Hertel	Alla Golub
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Done (see above).

33. Incorporate bio-fuels into a special version of GTAP	Special Project	Wally Tyner	Tom Hertel, Farzad Taheripour and Dileep Birur
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Done. See the working papers on the data base and model.

Trade and Development

34. Develop a module for poverty analysis in GTAP	Purdue	Tom Hertel	Roman Keeney
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Working paper and journal paper (under second round review) are now available.

35. Publish a paper on the nutritional impacts of globalization	Special Project	Tom Hertel, Antoine Bouet	Grad student (Monika Verma)
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This will be completed in the summer.

Education Goal: To Expand and Improve Global Economic Analysis Education Worldwide (both within and outside the network).

36. Hold Fifteenth Annual GTAP Short Course at Purdue in August, 2007	Course fees	Terrie Walmsley	Meghan Alexander, Ginger Batta, Tom Hertel, Robert McDougall, Alla Golub
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The course was held in August 2007 and was a success thanks to the instructors and Meghan Alexander and Ginger Batta.

37. Hold a 2-day course on contributing regional data to the GTAP Data Base	Special Project	Mark Horridge and Terrie Walmsley	Robert McDougall and Badri Narayanan, Meghan Alexander
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The course was held following the short course in August 2007 and was a success thanks to the instructors, Meghan Alexander and Ginger Batta. We received five tables for Africa as a result of the course and we will be holding it again after the conference and after the next short course in August.

38. Continue to Refine the Dynamic GTAP Model, course materials and software	Course fees	Terrie Walmsley	Alla Golub, Ginger Batta and others
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The Dynamic GTAP web course is now completed and the short course materials are currently being revised in light of the web course. Four Paraguayans are currently undertaking the web course. And we hope to receive feedback to improve the course. All participants of the dynamic course will undertake the web course in August.

Model Goal: To Improve Understanding and Credibility of GTAP-Based Models.

39. Estimate love of variety parameters for use in modified models of monopolistic competition	Purdue	Tom Hertel	Grad student (Adina Ardelean)
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Pending more input from Tom and Adina.

40. Estimate new set of consumer demand elasticities, for use in GTAP 7 Data Base	Core	Tom Hertel	Grad student (Tasneem Mirza)
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Tasneem Mirza is currently working on this for the final GTAP 7 Data Base release.

Network Goal: *To Increase Effective Participation in the Global Network, Particularly in Developing Countries.*

41. Organize the Eleventh Annual Conference on Global Economic Analysis to be held in Helsinki, Finland, June 2008	Core (staff time)	Tom Hertel	Meghan Alexander, Ginger Batta, Terrie Walmsley
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Ginger Batta and Meghan Alexander have done a great job working with Juha Honkatukia to make the conference a success. Juha will be at the board meeting to tell us what is happening.

42. Work with ECLAC in Chile to refine their planning for the 2009 Conference on Global Economic Analysis to be held in Santiago	Core (staff time)	Tom Hertel	Meghan Alexander, Ginger Batta, Terrie Walmsley
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Carlos de Miguel will be at the conference to advise us about progress towards the conference in Chile next year.

43. Solicit proposals for the 2010 Conference on Global Economic Analysis to be circulated to the Board in December, 2007	Core (staff time)	Tom Hertel	Meghan Alexander, Ginger Batta, Terrie Walmsley
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Proposals were solicited for both the 2010 and the 2011 conferences. The 2010 conference will be held in Thailand. Allan Rae will be at the board meeting to tell us about their plans for the conference.

44. Hire a new Program Manager	Core	Terrie Walmsley	Tom Hertel, Robert McDougall
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Meghan Alexander was hired shortly before the short course in August. She was thrown in at the deep end, as Kavitha went on maternity leave on the day Meghan arrived.

Appendix 2: List of potential issues for the discussion during the session on “Data Base and Research Issues”.

It is unlikely that we will have time to discuss all of these, but this is a list of important issues that have come up over the past year and may be of interest to the board.

Research:

- consumer demand in GTAP
- the GTAP Baseline
- labor migration
- land use data base and modeling
- bio fuels
- trade and development
- poverty analysis
- adjustment costs
- services liberalization and FDI
- Climate change
- the environment

Data:

- energy
- services
- trade
- protection
- taxes
- regional disaggregation
- quality comparisons of inputs
- quality comparisons of the final data base
- factor splits
- the facility for disaggregating commodities (SplitCom)
- TradMat Proposal
- Weighting schemes for protection data
- matching IMF trade totals
- CEPII trade data
- data sourcing
- releasing the data base in GAMS format
- intra-regional trade
- wearing apparel
- Peer-review of I-O tables

- data management issues
- multi-year data bases

Model:

- validation exercises
- parameter estimation
- terms of trade effects in GTAP
- Technical papers
- Dynamic GTAP Model
- GTAP-E model

Education:

- GAMs courses
- Further overseas courses
- Data Base courses
- Web courses

Network:

- pricing policies
- developing country plan
- scholarships
- conferences
- board meetings
- Europe
- Regional GTAP Centers

