



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

**Compiled by
Terrie Walmsley**

**With contributions from Judy Conner, Betina Dimaranan,
Thomas Hertel, Huey-Lin Lee, Ginger Batta, Robert
McDougall, and Wallace Tyner**

**Center for Global Trade Analysis
Purdue University**

**Background Paper for the GTAP Advisory Board Meeting
Addis Ababa, Ethiopia, June 12-13, 2006**

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CENTER FOR GLOBAL TRADE ANALYSIS

August 23, 2006

Dear Board Members,

This year has again been a very successful year for the Center. In October 2005 the first interim release of version 6, the GTAP 6.1 Data Base, was released to the board bringing the total number of countries to 92. At the time of writing the second interim release was being constructed which could potentially raise the number of countries to 96; the big 100 is just around the corner. Over the year a number of other important databases have also been released to the public including the Doha Scenarios, developed by CEPII and used in the World Bank's recent publications on this topic, the Reference-Group Weighted Tariffs compiled by David Laborde (CEPII) and a global land use database resulting from our collaboration with Brent Sohngen (Ohio State University), Navin Ramankutty (University of Wisconsin) and Steve Rose (US EPA).

In this document we report on this year's accomplishments and look forward to our plans for next year. At the board meeting Betina Dimaranan will present recent developments and the priorities for the upcoming GTAP 7 Data Base release and Robert McDougall will present his current work reviewing the energy price data. We also look forward to hearing from Gilbert Metcalf on work underway at MIT aimed at incorporating improved tax information into the GTAP Data Base; Arjan Lejour (CPB), who will report on their work on the bilateral services trade data and Lionel Fontagné (CEPII) and Hakim Ben Hammouda (UNECA) on the Protection Data Base for GTAP 7 Data Base.

We were also pleased to announce that two new consortium member agencies joined us this year – the European Commission (represented by Gaspar Frontini) and the Asian Development Bank (represented by Frank Harrigan) – bringing the total to 24. We anticipate them enriching the dialogue and exchange of information amongst consortium members.

As you will see in the following document, the GTAP team has continued to work towards its goals of improving the GTAP Data Base, undertaking high quality research, and educating and enlarging the GTAP Network. 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 Addis Ababa, Ethiopia.

Yours Sincerely,

A handwritten signature in cursive script, appearing to read "T. L. Walmsley".

Terrie L. Walmsley, Director
Global Trade Analysis Project (GTAP)
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**Center for Global Trade Analysis Advisory Board Meeting June 12-13, 2006
Addis Ababa, Ethiopia**

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**SCHEDULE FOR GTAP ADVISORY BOARD MEETING:
JUNE 12-13, 2006 – Addis Ababa, Ethiopia**

Monday, June 12: Board room

- 9:00 - 10:10am** **Welcome and Overview** (Chair: Thomas Hertel)
- **Introduce New Members (20 min)**
 - Thomas Hertel
 - **Overview of Agenda and Last Year's Action Plan (30 min)**
 - Terrie Walmsley
- Discussion (20 min)**
- 10:10 - 10:40am** **Coffee Break**
- 10:40 - 12:00am** **GTAP 7 Data Base** (Chair: Robert Koopman)
- **Overview of the GTAP 7 Data Base (20 min)**
 - Betina Dimaranan
- Discussion (20 min)**
- **Taxes (20 min)**
 - Gilbert Metcalf
- Discussion (30 min)**
- 12:00 - 1:30pm** **Lunch**
- 1:30 - 3:00pm** **Top Data Base Issues** (Chair: Sergey Paltsev)
- **Energy (20 min)**
 - Robert McDougall
- Discussion (20 min)**
- **Services (20 min)**
 - Arjan Lejour (10 min)
 - Robert McDougall (10 min)
- Discussion (30 min)**
- 3:00 - 3:30pm** **Coffee break**
- 3:30 - 5:00pm** **Research Issues** (Chair: Patrick Jomini)
- **Bilateral Migration (20 min)**
 - Terrie Walmsley
- Discussion (20 min)**
- **A New Final Demand System for GTAP? (20 min)**
 - Thomas Hertel
- Discussion (30 min)**
- 7:00pm** **Dinner**
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Tuesday, June 13: Board room

- 8:30 - 9:20pm Protection** (Chair: Will Martin)
- **Protection (25 min)**
 - Lionel Fontagné (15 min)
 - Hakim Ben Hammouda (5 min)
 - Will Martin (5 min)
- Discussion (25 min)**
- 9:20 - 10:00pm Finances** (Chair: Will Martin)
- **Budget, Policies and Staff Plan (20 min)**
 - Terrie Walmsley
- Discussion (20 min)**
- 10:00 - 10:30am Coffee break**
- 10:30 - 12:00am Discussion of Data Base and Research Issues¹** (Chair: Terrie Walmsley)
- 12:00noon - 1:30pm Lunch**
- 1:30 - 2:15pm Network and Education** (Chair: Martina Brockmeier)
- **Proposal for New Members at Large (10 min)**
 - Alan Powell
- Discussion (20 min)**
- **Research Fellows Report (10 min)**
 - Patrick Jomini
- Discussion (5 min)**
- 2:15 - 3:00pm Network and Education** (Chair: Martina Brockmeier)
- **Report on Conference 2006 (10 min)**
 - Hakim Ben Hammouda
- Discussion (5 min)**
- **Report on Conference 2007 (10 min)**
 - Tom Hertel
- Discussion (5 min)**
- **Conference 2008 Proposals (10 min)**
 - Juha Honkatukia
- Discussion (5 min)**
- 3:00 - 3:30pm Coffee break**
- 3:30 -4:30pm Revisit Priorities for Forthcoming Year** (Chair: Terrie Walmsley)
- Betina Dimaranan
- 4:30 -5:00pm Wrap-up**
- Terrie Walmsley
- 7:00pm Dinner**
-

¹ See appendix 1 for a list of possible issues for discussion.

I. Mission, Vision and Goals

Our Mission

The Center for Global Trade Analysis is the publicly funded, university-based home for GTAP (Global Trade Analysis Project), a global network of researchers and policy makers conducting quantitative analysis of international policy issues. Our purpose is to improve the quality of global economy-wide analysis through education and by developing analytical data bases, economic models, and innovative methodologies. Our unique institutional structure enables us to foster collaboration among academia, public sector, and private sectors worldwide.

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.

Our Vision

In 2014, GTAP is an exceptionally vibrant network of global economic policy analysts, with more than 10,000 individuals in 150 countries making contributions. The GTAP Data Base and Models are used in research centers throughout the world, leading to ever greater transparency in global economic analysis.

GTAP-based results are influential among decision makers. After 10 years of intensive model validation efforts, GTAP-based models are widely accepted in the professional literature. Indeed, editors of leading journals actively seek out GTAP-based papers on contemporary policy issues.

The GTAP Data Base remains at the core of the Center. The open-source institutional arrangement by which the Data Base is now assembled has spawned rapid growth, with active collaboration in more than 100 countries. It is now possible for national agencies in any one of those countries to scrutinize key assumptions, rebuild the Data Base, and propose modifications to the official GTAP Data Base. Half of our courses are now conducted in developing countries. The 50 consortium members meet regularly through teleconferences to contribute ideas and to help keep the Center's efforts focused on our vision.

A copy of the strategic plan developed in 2003/2004 is available on the website:

<http://www.gtap.agecon.purdue.edu/about/plan.asp>

Our Goals

To achieve our vision, we are working toward the future with five goals.

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

Multilateral and Bilateral Trade Agreements

1. Further develop the Dynamic GTAP Model.
2. Improve treatment of trade preferences and their utilization.
3. Enhance analysis of trade agreements' treatment of foreign investment in services.
4. Enhance analysis of labor migration.

Global Environmental Issues

1. Enable integrated assessment of climate change mitigation policies in an economy-wide setting.
2. Develop a dynamic framework that characterizes land use and net green house gas emissions in agriculture and forestry.
3. Develop an IPCC-consistent emissions baseline.

Trade and Development

1. Enable household-disaggregated analysis within the GTAP framework.
2. Encourage network members to contribute household surveys to the GTAP Data Base, and conduct trade/development analysis for their respective economies.

Data Goal: **To Improve Data Products.**

1. Improve data quality and user service.
2. Improve data procurement.
3. Improve data development efficiency and quality by distributing data construction program.
4. Expand scope of data base.
5. Improve marketing of data base.

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

1. Promote learning among data base contributors.
2. Use workshops and web-based products to provide specialized learning.
3. Improve communication, learning, and transfer of knowledge within the Center.
4. Improve marketing of GTAP courses.

Model Goal: **To Improve Understanding And Credibility Of The GTAP-Based Models.**

1. Enhance testing and evaluation of the GTAP-based models.
2. Further enhance the ability of users to understand and explain model results (*long range*).

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

1. Obtain funding from donor agencies for developing country participants.
2. Conduct more courses and conferences in developing countries.
3. Review pricing to enable greater developing country participation.
4. Foster communication within the GTAP Network and beyond.

II. Center Staff, Graduate Students and Visitors

Center Staff

Ginger Batta, Information Technology Specialist

Ginger oversees the GTAP Website, data bases, conferences and on-line courses. She also oversees the submission and review of papers for the conference and is currently working on revising the web course materials.

Judy Conner, Administration and Program Manager

Judy oversees the logistics, sales and marketing of GTAP courses, conferences, board meeting, software and the GTAP Data Base.

Betina V. Dimaranan, Research Economist and GTAP Data Base Administrator

Betina is leading the overall management and construction of GTAP Data Base releases. She is currently working on the interim releases of the GTAP 6 Data Base, coordinating data contributions for version 7, and completing the GTAP 6 Data Base documentation.

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 involved in a number of environment-related projects at the Center.

Huey-Lin Lee, Environmental Economist

Huey-Lin is working on extensions to the GTAP Model and Data Base to include land use. She is also participating in the Energy Modeling Forum's land use sub-group, focusing on the cost of climate change mitigation.

Robert McDougall, Deputy Director

Robert works on special projects which significantly improve the GTAP Data Base and Models. This year he was responsible for improvements in the energy data.

Wallace Tyner, Senior Policy Advisor

Wally advises the Center on policy issues and often serves as a liaison with the University Administration. He has been assisting with preparations for the 2007 conference at Purdue and with the recruitment of an environmental research economist for the Center.

Terrie Walmsley, Director

Terrie oversees the day-to-day management of the Center as well as the GTAP courses. She is also working on the Dynamic GTAP Model in addition to extending GTAP to deal with international labor migration.

Visiting Scholars

Carlos Ludena (Ecuador, Graduated), January 2006 – June 2006

Carlos completed his PhD on the international convergence of agricultural technology at the Center in December 2005. He is now working with the Center on a project in Paraguay which includes training as well as incorporating Paraguay into the GTAP Data Base. In addition he has been working on providing productivity forecasts for the GTAP-Dyn baseline.

Graduate students (country of origin)²

Syud Amer Ahmed (Bangladesh)

Amer has been working with Terrie Walmsley on the development of a bilateral labor migration model and data base. He recently completed his Master's thesis looking at the impact of the international movement of skilled Indian workers.

Alla Golub (Russia)

Alla has been working on projects related to environmental modeling and assisting with the book on the Dynamic GTAP Model. She is working on a DOE-funded project involving the dynamic analysis of climate change policy. Her dissertation involves econometric research aimed at improving the dynamic GTAP baseline.

Jason H. Grant (Canada)

Jason Grant has been working on a project with Thomas Rutherford and Thomas Hertel on imbedding a tariff-line, partial equilibrium model within the GTAP framework to take advantage of the rich detail offered in the MAcMap data base.

Vitaly Vladimirovich Kharitonov (Russia)

Vitaly has been working on a technical paper which incorporates adjustment costs into the GTAP Model using an approach developed by Joe Francois. Vitaly has also been working with Robert McDougall to update the energy price data for future inclusion into the GTAP Data Base. His doctoral dissertation focuses on the incorporation of quality into the GTAP Model.

Tasneem Mirza (Bangladesh)

Tasneem has been assisting Terrie Walmsley with the I-O contributors, checking the I-O tables for errors before inclusion in the GTAP 6.1 Data Base. Tasneem has also updated the report on the I-O tables in the GTAP Data Base. She is now beginning to work on regional integration and poverty in South Asia.

Yoko Uchida (Japan)

Yoko Uchida joined the Center for Global Trade Analysis, where she is on leave from the IDE in Japan. She is conducting research on intermediate input trade in East Asia.

Ernesto Valenzuela (Ecuador, Graduated)

Ernesto completed his PhD in March, 2006 on research related to agricultural price volatility and poverty, as well as devising approaches for validating the GTAP Model against historical data. He is currently working with Kym Anderson at the World Bank.

Nelson Villoria (Colombia)

Nelson has been the teaching assistant for the web course the Center has undertaken in South Asia and for the graduate course at Purdue. Nelson has also assisted Huey-Lin with the forestry data base built into the land use model. In the coming six months, he will be working on a joint project with IFPRI.

Kathryn Boys (Canada)

Kathryn is currently working on a meta analysis of substitution elasticities. Her major research project is on the role of agriculture in overall economic growth. She will attempt to reconcile the

² See supplementary materials for graduate student CVs.

empirical work on the importance of agricultural growth in overall economic growth with the common CGE results that reveal no special merit in agricultural sector growth.

Visitors to the Center

Navin Ramankutty, University of Wisconsin, January 2006

Brent Sohngen, Ohio State University, October, 2005 and January 2006

Steven Rose, U.S. Environmental Protection Agency, January 2006

Richard Tol, Hamburg University, Vrije Universiteit Amsterdam, February, 2006

Ximing Cai, University of Illinois, USA, February, 2006

Ron Sands, PNNL, Washington D.C., USA, April, 2006

Thomas Rutherford, Ann Arbor, MI. USA, April, 2006

III. Objective, Goals and Accomplishments

Assessment of Action Plan for Past Year

The goals for the past year, as laid out at the 2005 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):

https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2005/Summary_2005.pdf

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

Multilateral and Bilateral Trade Agreements

- | | | |
|---|--------------------|---|
| 1. Refine and document Dynamic GTAP Model | Terrie
Walmsley | Elena Ianchovichina,
Robert McDougall,
grad student (Alla
Golub) |
|---|--------------------|---|

Progress has been slow with the production of the book, however considerable work has been undertaken on the GTAP-Dyn Model. Alla Golub, a graduate student, has been looking at savings behavior in the model. Only a few chapters of the book remain to be completed. It is hoped that we will send this to the publishers this year.

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| 2. Update the GTAP-Dyn baseline and explore the possibility of using the GTAP Website as a repository for baseline data. | Terrie
Walmsley | Ginger Batta, Grad
student (Alla Golub) |
|--|--------------------|--|

An updated version of the GTAP-Dyn baseline is now available on the website:

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

This includes forecasts for GDP, population (under 15, 15-65, over 65), labor force (total, skilled, unskilled), consumption, investment and capital stocks are provided for 226 countries and the 92 GTAP 6.1 countries/regions. Board members advice is also being sought on the potential supply and demand for the baseline repository.

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| 3. Refine and document GMig2 Data Base and Model and make data available | Terrie
Walmsley | Grad student (Amer
Ahmed) |
|--|--------------------|------------------------------|

The bilateral labor migration data base produced by Parsons, Sheldon, Winters and Walmsley (2005) has now been made publicly available on the Sussex University website.

http://www.migrationdrc.org/research/typesofmigration/global_migrant_origin_database.html

The GMig2 data base is currently being updated to v6.1 of the GTAP Data Base and revisions have been made to the migrant skills splits following work undertaken by Docquier from the World Bank. Further information on this research and links to data bases as they become available can be found at:

https://www.gtap.agecon.purdue.edu/models/labor_migration.asp

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| 4. Undertake applications using GMig2 Model and Data Base | Terrie Walmsley | Grad student (Amer Ahmed) |
|---|-----------------|---------------------------|

Two applications are currently provided on the website and one more is to be presented at the annual conference in Addis.

https://www.gtap.agecon.purdue.edu/models/labor_migration.asp

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| 5. Facilitate GTAP-disaggregated analysis of trade policy at the tariff line level by developing a prototype application/journal paper. | Tom Hertel and Tom Rutherford | Grad student |
|---|-------------------------------|--------------|

Jason Grant and Tom Hertel are currently working with Tom Rutherford on this prototype model that integrates partial equilibrium, tariff line analysis with GE modeling of global trade. They will present this work at the annual conference in Addis.

Global Environmental Issues

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| 6. GTAP Technical Paper on land use model and data base and provide access to land-use data. | Huey-lin Lee | Tom Hertel |
|--|--------------|------------|

Technical paper #25 “Towards an Integrated Land Use Database for Assessing the Potential for Greenhouse Gas Mitigation” by Huey-Lin Lee, Thomas Hertel, Brent Sohngen and Navin Ramankutty, and the GTAP Land Use data base are now available to the public on the website:

https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=1900.

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|---|--------------|------------------|
| 7. Explore possibility of inclusion of land use data in a special purpose GTAP Data Base. | Huey-lin Lee | Robert McDougall |
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The land use data have been incorporated into a prototype GTAP Data Base/AEZ model. A paper will be presented at the annual conference in Addis. We envision the disaggregation of land by Agro-ecological Zone being a feature of the version 7 final release.

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| 8. Extend Dynamic GTAP to include energy (GTAP-Dyn-E) | Huey-lin Lee | Terrie Walmsley, Tom Hertel, Robert McDougall |
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This is the final chapter which remains to be completed for the book on the Dynamic GTAP Model. It is hoped that this can be done this year.

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| 9. Incorporate land use into the GDyn-E Model | Huey-lin Lee | Tom Hertel, Gerald Shivley |
|---|--------------|----------------------------|

Tom Hertel, Steven Rose (EPA) and Richard Tol (Hamburg University, Germany) are presently editing a book on the incorporation of land use into global GE models for use in climate change analysis. Several of the consortium members will be contributing chapters focusing on alternative methodologies for accomplishing this goal. One of these will build on GTAP/GTAP-E.

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| 10. Produce GTAP emissions baseline according to scenarios established by the workgroups organized by IPCC (e.g., SRES and TAR) | Huey-lin Lee | Tom Hertel, Robert McDougall, Gerald Shively |
|---|--------------|--|

As of the first week of April, we have received a completely new, non-CO2 Greenhouse Gas emissions data base for 2001 from the EPA. This is currently being processed and will be made available to consortium members for use in climate change analyses. The coverage of GHG's and the mapping to activities in GTAP has been greatly improved. Once this is in place, we will begin working on a baseline.

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| 11. Look for a researcher in the environmental area to work on special projects | Tom Hertel | Wally Tyner, Huey-lin Lee, Terrie Walmsley, Gerald Shively |
|---|------------|--|

The Center has advertised a new position for a researcher in the environmental area to work on special projects. Due to the high priority being placed on climate change research at Purdue, the position has been upgraded to that of a research faculty member. We will be interviewing candidates in March and April. An update will be given at the board meeting.

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| 12. Continue to explore opportunities for collaboration with Purdue Climate Research Center | Wally Tyner | Huey-lin Lee, Tom Hertel, Gerald Shively |
|---|-------------|--|

Purdue is currently taking steps to significantly increase its presence in environment related research. Gerald Shively and Wally Tyner continue to explore opportunities to work with the Purdue Climate Research Center and other new Centers at Purdue. It is hoped that the new environmental economist will assist in this endeavor.

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|--|------------------------------------|--|
| 13. Explore funding sources for a special project on bio-fuels | Frank van Tongeren and Wally Tyner | Huey-lin Lee, Gerald Shively, Martina Brockmeier, Alexander Sarris, Hom Pant, UNCTAD |
|--|------------------------------------|--|

A group met in Lübeck after the conference last year and some notes were prepared on the points to consider, however nothing firm has materialized, to our knowledge. But there is great interest in this area now. For those interested in pursuing this further, the notes on points to consider are included in Appendix 2. Also the Ag directorate has also produced some work on biofuels using AGLINK and some data supplied by Andre Faaij and his team from Utrecht.

Trade and Development

14. Publish book on Poverty and WTO Doha Round Tom Hertel

The book by Tom Hertel and Alan Winters was published at the end of 2005.

15. Organize a session at next year's conference on linking GTAP with more detailed national models. Tom Hertel

Thanks to the efforts of Ashley Winston, there will be an organized session on linking global and national models at the conference in Addis. This session will feature a variety of papers on this topic.

Data Goal: To Improve Data Products.

16. GTAP 6 Data Base documentation Betina Dimaranan Robert McDougall

The GTAP 6 documentation has been a high priority this year and all the chapters are close to completion. It is hoped that this will be delivered to purchasers of the GTAP Data Base after the board meeting.

17. Examine ways in which the data can be viewed to make it more readily accessible and usable in its own right – also adding ample “health warnings”. Tom Hertel Grad student

Tasneem Mirza, a graduate student at the Center has been looking at other websites which provide data to put together some ideas on what GTAP could do in this regard, however nothing has yet been decided upon.

18. Increase efforts to obtain new I-O tables for USA, China, Africa and Latin America Terrie Walmsley Fan Zhai, Frank van Tongeren, Patrick Osakwe, Robert Koopman, Paolo Giordano, Xinshen Diao

Efforts to obtain new I-O tables for the GTAP Data Base have been very successful. A new I-O table for the USA has just been received from Marinos Tsigas (USITC) and will be incorporated into the v6.2 interim release. Zhi Wang from the USITC and Fan Zhai are also working on contributing new data for China once the new I-O table is released. The UNECA continues to contribute I-O tables for Africa as data becomes available; most recently Senegal was included. World Bank staff are also examining ways of increasing coverage of Africa and the EU has expressed a commitment to assist with the development of data bases for Latin America and the Caribbean.

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| 19. Working committee to examine ways in which work done by CPB on bilateral services trade data can be incorporated into the GTAP 7 Data Base. | Robert McDougall and Arjan Lejour (Chair) | Nico van Leeuwen, Betina Dimaranan, Sébastien Jean, Joe Francois, Nora Dihel, Michael Finger, Richard Brown, Patrick Jomini, Aadiya Mattoo |
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Arjan Lejour and the CPB continue to work on the services trade data. Arjan will present an update on this at the board meeting. It is expected that this will be a priority in the upcoming year and we hope this will be a part of the version 7 release.

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| 20. Look for funding to assist CEPII to meet the new 2 year release strategy. | Tom Hertel | Sébastien Jean, Robert Koopman, Will Martin |
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Funding was provided by the World Bank and the USITC to support CEPII and ITC-Geneva with the production of a new protection data base for version 7 of the GTAP Data Base. Part of the agreement involves the public release of this new HS-6 data set, which will be benchmarked to 2004.

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| 21. Further improve relationship between FAO and GTAP | Wally Tyner | Robert McDougall, Haluk Kasnakoglu, Terrie Walmsley, Tom Hertel |
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This goal was aimed at establishing collaboration between GTAP and the Statistics Division of the FAO. However, nothing more has been done since Haluk Kasnakoglu visited last year.

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| 22. Continue to improve the quality of national I-O data through the creation of user-friendly check programs | Terrie Walmsley | Ginger Batta, Grad student |
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Ginger Batta has now included on the website a means by which I-O contributors can submit their I-O tables, and reports can be provided back to the I-O contributors. Upon inclusion of the I-O table in the GTAP Data Base, access to these reports is then given to the board. While the checking programs are on the website they require knowledge of GEMPACK and are therefore not as a user friendly as they might be. Options include working with Mark Horridge to convert these programs into a more user friendly format; however this is not seen as a priority at this time.

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| 23. Look for funding opportunities to develop facility for disaggregating commodities (SplitCom). | Tom Hertel | Robert McDougall, Agapi Somwaru, Robert Koopman, Will Martin, Mark Horridge |
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Funding was obtained from the Productivity Commission (Australia), ABARE (Australia) and Nathan Associates (USA) to develop a new program which would allow users of the GTAP Data Base to split-out strategic sub-sectors in the data base/model. The program, named SplitCom, was produced by Mark Horridge and is available on the CoPS website.

<http://www.monash.edu.au/policy/splitcom.htm>

The Australian Productivity Commission has been exploring use of this program in conjunction with their recent work on modified Armington trade models. And Peter Minor, of Nathan Associates, plans to use the program to investigate the classification problem with textiles and wearing apparel raised by Joe Francois at the board meeting last year. We would be interested to hear from others who have used the program.

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| 24. Examine ways in which the source data for MACMap and the associated tariff bindings can be made available for replication and scenario building by board members. | Tom Hertel | Betina Dimaranan, Sébastien Jean, Will Martin, Grad student (Jason Grant) |
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The bound rates accompanying the MACMap data base are now available on the CEPII web site so institutions can begin building their own scenarios. Incorporating the MACMap HS6 and tariff bindings data into the WITS software environment has been explored at the World Bank. This has proven to be difficult however and has not yet been completed.

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| 25. Examine ways to make an aggregation program of CEPII's 10 scenarios available to board and then to public. | Betina Dimaranan | Grad student (Jason Grant), Sébastien Jean, Mark Horridge |
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The GTAP 6 Data Base with Doha Scenarios and Reference-Group Weighted Tariffs were released in November 2005 by Betina Dimaranan. The Data Base includes the GTAP 6 Data Base and tariff data corresponding to 10 different market access scenarios consistent with the July Framework of the Doha Development Round. The tariff-cutting scenarios were supplied by CEPII and were constructed from the MACMap Data Base and from the WTO's Consolidated Tariff Schedules (for bound rates). The scenarios are available on the website at:

https://www.gtap.agecon.purdue.edu/access_board/v6_with_DDA_scen_and_RGW.asp

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| 26. Update energy data for incorporation into GTAP 7 Data Base. | Robert McDougall | Huey-lin Lee, Betina Dimaranan |
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The energy data in the GTAP 6 Data Base uses 2001 volumes data combined with prices which have been indexed to 2001. Robert McDougall and Vitaly Kharitonov are currently working on updating the energy price data for 2001 to compare with the 2001 energy data in the GTAP 6 Data Base. The resulting 2001 data base will primarily be for internal purposes; however we would be interested in getting feedback from anyone interested in this new energy data. This will also be a featured topic of discussion at the upcoming board meeting.

Pre-releases of the GTAP 7 Data Base are expected to include 2004 energy volume data with the indexed prices until the procedure being examined by Robert and Vitaly for updating prices is ready to be incorporated into version 7.

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| 27. Examine ways in which the division of value-added between capital and labor to take into account self-employed labor. | Betina Dimaranan | Tom Hertel, Maros Ivanic, |
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Betina Dimaranan plans to incorporate Maros Ivanic's value added splits into the GTAP 7 Data Base. Nelson Villoria is currently working on improving the methodology for incorporating primary factor splits into the data base, building on work undertaken at the World Bank (under the leadership of David Tarr) over the past year.

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| 28. Examine ways to further improve tax data for the GTAP 7 Data Base. | Appraise the available GFS statistics on commodity tax data and compare and contrast with the existing GTAP I-O based estimates | Robert McDougall | Grad student |
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No further work has been undertaken at the Center on tax data for v7. However, the MIT group (under the leadership of John Reilly) has recently been working on an alternative approach to generating taxation data. Gilbert Metcalf (on leave from Tufts) has spearheaded an examination of the current tax data in the GTAP 6 Data Base, and comparing them to those obtained using their own methodology for calculating taxes. Gilbert will present his work on taxes at the board meeting. A copy of a paper comparing their data with the tax rates in the GTAP 6 Data Base is provided in the supplementary materials.

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| 29. Implement new release strategy and incorporate new I-O tables into interim releases of the GTAP Data Base. Release new version every 2 years and interim releases of new I-O tables every 6 months. | Interim Release 6.1 to include: Pakistan, Nigeria, Ecuador, Bolivia and Iran. Improvements to Australia. To be released August 2005 | Betina Dimaranan | Terrie Walmsley, Grad student |
| GTAP 7 Data Base to be released in 2 years | | | |

The new release strategy has been implemented. After unexpected delays due to problems in the disaggregation of the new I-O tables, the GTAP 6.1 Data Base was released in October 2005. The GTAP 6.1 Data Base included I-O tables for six new regions (Pakistan, Bolivia, Ecuador, Iran, Mauritius and Nigeria,). It is expected that the GTAP 6.2 Data Base, to be released in early May 2006, will include new or updated I-O tables for Cambodia, Vietnam, USA, Mexico Bolivia, Paraguay, Egypt, and Senegal.

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| 30. Implement GTAP 6 Data Base pricing increase. | Terrie
Walmsley | Wally Tyner, Judy
Conner, Ginger Batta |
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The new pricing policy went into effect on January 1, 2006.

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| 31. Examine whether GTAP data can be reconciled to IMF trade totals | Robert
McDougall | Fan Zhai |
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The trade data cannot be reconciled with the IMF trade totals, since the IMF data is not globally consistent. Next year we hope to compare the IMF trade totals with those produced by Mark Gehlhar.

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| 32. Working committee to explore approaches for addressing classification problem in textiles and wearing apparel and report to the board next year | Joe
Francois
and Peter
Minor | Robert McDougall |
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Peter Minor, Nathan Associates, plans to use the SplitCom program to investigate the classification problem with textiles and wearing apparel raised by Joe Francois at the board meeting last year. Peter Minor has also spoken with Mark Gehlhar about the issue and how it relates to trade.

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| 33. Working committee to examine the Sugar classification problems and report to the board next year | Frank van
Tongeren | Martina Brockmeier,
Mark Gehlhar, Ashley
Winston, and Robert
McDougall |
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Chairmanship of the committee was vacated with Frank van Tongeren's move to the OECD. Mark Gehlhar and Ashley Winston have met to explore the sugar classification problem.

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| 34. Review existing I-O tables and identify common problems to improve data procurement | Robert
McDougall | Terrie Walmsley, Grad
student |
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Quality control of the incoming and processed IO tables has long been a topic of great interest on the part of the Board. Tasneem Mirza and Terrie Walmsley have recently updated the report on the I-O tables for the GTAP 6.1 Data Base (see supplementary information). They are also currently using an entropy program to compare the shares in 39 I-O tables from the GTAP Data Base with the representative table. This exercise has drawn our attention to a number of flaws in both the I-O tables and in the representative table. Further information on the results of this exercise will be provided in the supplementary information.

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

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| 35. Hold Thirteenth Annual GTAP Short Course in Crete, Greece in June 2005 | Terrie Walmsley | Judy Conner, Betina Dimaranan, Tom Hertel, Huey-lin Lee |
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The GTAP Short Course in June 2004 was again a success thanks to Judy Conner and all the instructors.

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| 36. Hold Dynamic GTAP Short Course | Terrie Walmsley | Judy Conner, Robert McDougall |
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The Short course on the Dynamic GTAP Model will take place in October 2006.

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

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| 37. Validation of GTAP-Dyn parameters | Terrie Walmsley | Grad student (Alla Golub) |
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Alla Golub has now completed a chapter for the Dynamic GTAP book which examines time series data to estimate the convergence parameters used in the GTAP-Dyn Model. Further details are provided in section VI below.

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| 38. Workshop on parameter estimation | Joe Francois and Robert Koopman | Tom Hertel |
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The USITC are progressing with their work on model validation. Robert Koopman will update us at the board meeting on the US ITC's progress. Meanwhile, the Center has continued to conduct econometric estimation of parameters for the standard model. The most recent work has focused on consumer demand behavior across the income spectrum. The recent work on sectoral validation of the model (in this case for wheat), has been further refined in the context of Ernesto Valenzuela's Ph.D. dissertation, and is in the process of peer review.

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| 39. Technical Paper on adjustment cost | Joe Francois | Tom Hertel, Grad student |
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Vitaly Kharitonov and Joe Francois are currently working on a technical paper which incorporates adjustment costs into the GTAP Model using an approach developed by Joe Francois. The paper is complete and awaiting review by Joe, followed by external reviews.

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

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| 40. Aid in facilitation of Ninth Annual Conference on Global Economic Analysis to be held in Ethiopia, June 2006 | Tom Hertel | Ginger Batta, Judy Conner, Terrie Walmsley |
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Hakim Ben Hammouda and Patrick Osakwe have done a great job of organizing the 9th Annual Conference in Global Economic Analysis. Ginger Batta has expertly managed the website and registration and paper submission process. 227 abstracts were submitted and 204 papers were accepted as a result of the review process. There will be a record number of participants from Africa, supported in part by the scholarships offered by UNECA for African presenters. 40 scholarships have been offered to participants from Africa.

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| 41. Implement Developing Country Pricing policy | Terrie Walmsley | Judy Conner, Ginger Batta, Wally Tyner |
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The new pricing policy went into effect on January 1, 2006.

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| 42. Explore funding and marketing issues of increasing developing country participation through working committee | Wally Tyner | Terrie Walmsley, Judy Conner, John Beyer, Frank van Tongeren, Paolo Giordano, Will Martin, Marco Fugazza, Joe Francois, Hom Pant |
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The developing country working committee has not been active this year; however it is expected that more work will be undertaken next year to explore scholarships for the 2007 conference.

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| 43. Improve marketing of GTAP products through brochures. | Wally Tyner | Tom Hertel, Terrie Walmsley, Judy Conner |
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A new brochure outlining all of the Centers activities was produced and distributed with the annual mailing. Further work is expected to be undertaken this year.

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| 44. Develop 2007 Purdue conference proposal | Tom Hertel | Terrie Walmsley, Judy Conner |
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Tom Hertel will present the Center's proposal for the 10th Annual conference at Purdue University at the Board meeting.

45. Hold special GTAP Short Course in Mumbai, India provided funding comes through.

Terrie
Walmsley

Judy Conner, Tom
Hertel, Robert
McDougall

The Indira Gandhi Institute for Development Research (IGIDR), India hosted the South Asia Short Course in Global Trade Analysis in February 2006. The course was very successful with 26 participants attending the course, of which 16 researchers from South Asia received scholarships. We are grateful to the IGIDR, the Ford Foundation (India) and the ERS/USDA for their support. It appears that a South Asian modeling network is also emerging in the wake of this course.

Assessment of Key Issues from last year's Board Meeting: Release Strategies and v.7. Priorities

Release Strategies

Three alternative GTAP data release strategies were presented by Betina Dimaranan at the 2005 board meeting. The strategies were for the interim releases of the GTAP 6 Data Base and the start of the GTAP 7 data cycle. Interim releases of the data base are constructed following the final release of a new version of the data base. To date, Center policy has been that the interim releases are for the same base year (i.e. the same international datasets) as the last final release but incorporating any new or updated input-output tables that were contributed to the GTAP Center after the final release. Final releases of the data base are sold to the public but interim releases (and pre-releases) are typically made available only to GTAP consortium member agencies. The three release strategy proposals all included the incorporation of new or updated input-output tables but differed primarily in their treatment of international datasets. The three proposals were: (1) international datasets will not be revised, (2) revised international datasets will also be incorporated, and (3) a data release with updated international data (e.g. energy data using 2001 IEA prices) will be produced separate from interim releases which include only new and updated I-O tables.

Discussions about the three proposed release strategies resulted in the decision to adopt release strategy 1, that of producing interim releases which incorporate new and updated input-output tables but do not include any changes to the international datasets. Interim releases are to be produced every 6 months and made available on the GTAP website only to consortium member agencies and data contributors. General public releases of the data base will be made every two years.

After some delay due to problems with the disaggregation of the new input-output tables, the first interim release (GTAP 6.1 Data base) was made available on the GTAP website in October 2005. It includes I-O table data for six new regions (Pakistan, Bolivia, Ecuador, Iran, Mauritius and Nigeria) and updated I-O table data for two regions (Australia and Chile). The inclusion of Bolivia and Ecuador eliminated the Rest of Andean Pact (XAP) composite region in the GTAP 6 Data Base and, together with four other new regions, brought the total up to 92 regions. The GTAP 6.1 Data Packages are available to consortium members at:

https://www.gtap.agecon.purdue.edu/access_board/int_rel_6_1.asp

The second interim release (GTAP 6.2 Data Base) is under construction at the time of writing. The input-output tables for new regions that are slated for inclusion in this release include

Cambodia, Paraguay, Egypt, and Senegal. Updated I-O tables for Australia, Vietnam, USA, Mexico, and Bolivia will also be incorporated. Barring unforeseen problems, the GTAP 6.2 Data Base should be available in early May.

Priorities for the GTAP 7 Data Base

The priority data areas identified for the GTAP 7 Data Base are bilateral services trade, energy, taxes, and primary factors. Improved data in these areas will be incorporated in the pre-releases of the GTAP 7 Data Base, the first two of which are scheduled to be released in 2006.

i. Services

Improving the bilateral services trade data is a top priority for the GTAP 7 Data Base. In the 2005 board meeting, Arjan Lejour presented the work that he and his colleagues from the CPB have been doing on a methodology to improve the bilateral services trade aspect of the GTAP Data Base. A working committee of interested individuals from board member agencies was established to discuss any issues related to this work. Arjan Lejour will present an update on the developments in the services data work at the board meeting.

ii. Energy

Energy incorporated in the GTAP 6 Data Base included 2001 IEA energy volumes data and 2001 price indexed data. At the time we did a significant overhaul of the back end of our energy volume data construction process, and upgraded to the new IEA Detailed Energy Balances as our sole energy volumes data source. We now have a good system in place for the energy volume data, but the price data remain problematic. The old back end programs are so rigid, and their data requirements so specialized, that no full price data update has been done for the last few GTAP releases; instead we have done quick and dirty updates using scaling indices. A significant overhaul of the energy module is therefore needed for the 2001 IEA price data to be incorporated into the energy dataset. Robert McDougall and Vitaly Kharitonov are currently working on this overhaul of the energy module and significant progress has been made to revise the energy price data for the GTAP 6 Data Base.

The energy price data in the GTAP Data Base originally came from a number of different sources, including the International Energy Agency (IEA), Organización Latinoamericana de Energía (OLADE), US Department of Energy (DOE), The Asian Development Bank (ADB), China Energy Databook (CED), Teri Energy Data Directory & Yearbook (TEDDY, India). Some of the data have been updated to 2001 price data, including the IEA and OLADE data (both currently published by IEA), and the TEDDY data. However the ADB does not publish data on energy prices anymore, the DOE publishes data taken from the IEA, and the CED does not contain data after 1993. Therefore, data from these sources have not been properly updated.

Once the overhaul is completed it is expected that a special version of the GTAP 6 Data Base with fully updated energy data will be produced. This data base will be made available to Consortium members and potentially to other users who are interested in reviewing progress in the energy data.

The 2001 energy volumes and prices data will be incorporated in the initial pre-release of the GTAP 7 Data Base. Energy volumes for 2004 will be incorporated in a later pre-release of the GTAP 7 Data Base when the IEA energy data becomes available later in the year. Indexed prices will be used in the GTAP 7 data Base until the procedure being examined by Robert and Vitaly for updating prices is ready to be incorporated into version 7.

Robert McDougall will provide an update on the energy data work at the board meeting.

iii. Taxes

Data on income and factor taxes from the IMF Government Financial Statistics were introduced into the GTAP Data Base for the first time in the final release of the GTAP 6 Data Base. The board acknowledged the importance of these improvements to the tax data and expressed interest in seeing continued improvements in this area. There has been no progress in the Center in this area. However, John Reilly and his colleagues have compared the taxes in the GTAP Data Base with taxes obtained using their own methodology. Gilbert Metcalf, professor at Tufts University and collaborator of John Reilly, has been invited to talk about his work in taxes at the board meeting. The MIT group plans to update and extend this work so that it might be incorporated into the GTAP 7 Data Base.

iv. Primary Factors

Although not discussed in detail at the 2005 board meeting, there is some interest in improving the ways in which factor splits and accounting for self-employed labor are dealt with in the GTAP Data Base. New estimates of the primary factor splits based on a survey of the literature commissioned by the World Bank, and estimates of the payments to self-employed labor will be incorporated into the GTAP 7 Data Base. We also anticipated drawing on the land use data base to disaggregate land by Agro-Ecological Zone in the standard data base.

Action Plan for Forthcoming Year

The following is a preliminary list of action plans for the forthcoming year:

1. Review and revise strategic plan GTAP staff

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

Multilateral and Bilateral Trade Agreements

2. Refine and document Dynamic GTAP Model Terrie Walmsley Elena Ianchovichina, Robert McDougall, Alla Golub, Rod Tyers, Ken Itakura and others
3. Use the GTAP Website as a repository for baseline data Terrie Walmsley Ginger Batta, Grad student
4. Document GMig2 Data Base and Model and make data available Terrie Walmsley Grad student (Amer Ahmed)
5. Facilitate GTAP-disaggregated analysis of trade policy at the tariff line level by developing a prototype application that can be applied to disaggregate strategic sectors in any GTAP analysis. This draws on the HS-6 trade and tariff data available in the MAcMap data base. Tom Hertel and Tom Rutherford Grad student (Jason Grant)

Global Environmental Issues

6. Extend Dynamic GTAP to include energy (GDyn-E) Terrie Walmsley Tom Hertel, Robert McDougall
7. Incorporate land use data into the standard GTAP Data Base. Huey-lin Lee Robert McDougall, Tom Hertel
8. Refine and document a special purpose version of the GTAP Model focusing on land use (GTAP-AEZ). Tom Hertel Huey-lin Lee, Navin Ramankutty, Steven Rose
9. Refine the methodology for producing long run projections (including GHG emissions) with a modified version of the Dynamic GTAP Model, including AIDADS demands, disaggregated land use, and improved specifications of savings and technical change. Alla Golub Tom Hertel, Terrie Walmsley, Huey-lin Lee and Carlos Ludena

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| 10. Produce a draft book on global land use modeling in general equilibrium. | Tom Hertel | Steven Rose, Richard Tol |
| 11. Produce a GTAP technical paper and a 2001 data base on Green House Gas emissions, including not only CO2 from fossil fuels, but also non-CO2 emissions. | Huey-lin Lee | Tom Hertel, Steven Rose (EPA) |
| 12. Hire a Research Assistant Professor in the environmental area to work on special projects | Tom Hertel | Wally Tyner, Terrie Walmsley, Gerald Shively |

Trade and Development

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| 13. Develop a module for poverty analysis in GTAP | Tom Hertel | Ken Pearson, Maros Ivanic |
| 14. Produce a paper on the distributional impacts of agricultural policies on farmers in rich and poor countries. | Tom Hertel | Maros Ivanic, Roman Keeney, L. Alan Winters |

Data Goal: To Improve Data Products.

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| 15. Examine ways in which the data can be viewed to make it more readily accessible and usable in its own right – also adding ample “health warnings”. | Tom Hertel | Grad student (Tasneem Mirza), Ginger Batta |
| 16. Continue efforts to obtain new I-O tables for China, Africa and Latin America, as well as other regions where the opportunity presents itself. | Terrie Walmsley | Fan Zhai, Patrick Osakwe, Robert Koopman, Antoine Bouët |
| 17. Incorporate work done by CPB on bilateral services trade data into the GTAP 7 Data Base. | Robert McDougall and Arjan Lejour (Chair) | TW and Grad student (Amer Ahmed) |
| 18. Continue to improve the quality of national I-O data | Terrie Walmsley | Ginger Batta, Grad student (Tasneem Mirza) |
| 19. Update energy volume data for incorporation into GTAP 7 Data Base. | Robert McDougall | Huey-lin Lee, Betina Dimaranan, Vitaly K |
| 20. Update energy price data in GTAP 6 Data Base with eventual incorporation into the GTAP 7 Data Base. | Robert McDougall | Vitaly Kharitonov, Betina Dimaranan |

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| 21. Fix problems with the agricultural I-O disaggregation module | Robert McDougall | |
| 22. Incorporate Maros Ivanic's value added splits into version 7 of the GTAP Data Base. | Betina Dimaranan | Tom Hertel, Grad student (Nelson Villoria) |
| 23. Incorporate information from updated literature survey on the primary factor shares in agriculture | Betina Dimaranan | Tom Hertel, Grad student (Nelson Villoria) |
| 24. Examine ways to further improve tax data for the GTAP 7 Data Base. | Robert McDougall | Tom Hertel, Gilbert Metcalf, John Reilly and Grad student |
| 25. Implement the GTAP 7 Data Base release schedule | Betina Dimaranan | Robert McDougall |
| 26. Working committee to explore approaches for addressing classification problem in textiles and wearing apparel and report to the board next year | Peter Minor | Terrie Walmsley, Joe Francois, Grad student |
| 27. Report comparing the IMF totals to those produced by Mark Gehlhar. | Terrie Walmsley | Mark Gehlhar, Robert McDougall, Grad student |
| 28. Hire a new staff member to assist with the production and documentation of the GTAP Data Base | Tom Hertel | Terrie Walmsley, Betina Dimaranan, Robert McDougall |

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

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| 29. Hold Fourteenth Annual GTAP Short Course at Purdue in August, 2006 | Terrie Walmsley | Judy Conner, Betina Dimaranan, Tom Hertel, Huey-lin Lee, Robert McDougall |
| 30. Hold Dynamic GTAP Short Course at Purdue in October 2006 | Terrie Walmsley | Judy Conner, Robert McDougall, Tom Hertel, Betina Dimaranan |

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

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| 31. Finalize Technical Paper on adjustment cost | Joe Francois | Tom Hertel, Grad student (Vitaly Kharitonov) |
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| 32. Finalize work on estimating the GTAP-Dyn parameters | Alla Golub | Terrie Walmsley |
| 33. Revise the GTAP-E model | Robert McDougall | Terrie Walmsley, Tom Hertel |
| 34. Estimate new set of consumer demand elasticities, for use in GTAP Data Base. | Tom Hertel | Grad student (Tasneem Mirza) |
| 35. Collaborate with USITC on model validation and parameter estimation | Terrie Walmsley | Tom Hertel, Grad student |

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

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| 36. Organize the Tenth Annual Conference on Global Economic Analysis to be held at Purdue University, USA, June 2007 | Tom Hertel | Wally Tyner, Ginger Batta, Judy Conner, Terrie Walmsley |
| 37. Work with the group in Finland to refine their planning for the 2008 Conference on Global Economic Analysis to be held in Helsinki. | Tom Hertel | Ginger Batta, Judy Conner, Terrie Walmsley |
| 38. Solicit proposals for the 2009 Conference on Global Economic Analysis to be circulated to the Board in December, 2006. | Tom Hertel | Ginger Batta, Judy Conner, Wally Tyner, Terrie Walmsley |
| 39. Explore funding opportunities for scholarships for the 2007 conference. | Wally Tyner | John Beyer, Frank van Tongeren, Paolo Giordano, Will Martin, Marco Fugazza, Joe Francois, Hom Pant |
| 40. Developing country plan | Wally Tyner | John Beyer, Frank van Tongeren, Paolo Giordano, Will Martin, Marco Fugazza, Joe Francois, Hom Pant, Terrie Walmsley |

IV. The GTAP Data Base

A Brief History of the Development of the GTAP Data Base

The GTAP Data Base consists of bilateral trade, transport, and protection matrices that link individual country/regional economic data bases. The regional data bases are derived from individual country input-output tables, from varying years.

The GTAP 1 Data Base relied exclusively on I-O tables inherited from the Australian Industry Commission's SALTER project. For this reason, GTAP adopted the SALTER concordance that identified 37 sectors/commodities.

In GTAP 3 Data Base, 12 of the 24 national data bases still traced their roots back to the Industry Commission's SALTER project. Of course they were updated for each new release using the FIT program³. These I-O tables were heavily concentrated in the Pacific Rim, reflecting SALTER's focus on APEC issues.

Six of these twelve SALTER inherited regions were updated in version 4 (New Zealand, China, Indonesia, Thailand, Taiwan, and Canada). This left old I-O tables only for Japan, Korea, Malaysia, Philippines, Singapore, and Hong Kong. In addition to these updates of the original SALTER I-O tables, version 4 featured updates of four more existing regional data bases, as well as entirely new data bases for 14 countries (Vietnam, Sri Lanka, Venezuela, Colombia, Uruguay, UK, Germany, Denmark, Sweden, Finland, rest of EU, Turkey, Morocco and South Africa). In version 4 the number of sectors was also expanded to 50 to include more agricultural sectors. A special project on energy and climate change led to the creation of the first GTAP Data Base with improved treatment of energy and carbon emissions. The result was the GTAP-E Data Base.

Version 5 updated 16 national data bases (Australia, China, Japan, Korea, Taiwan, Vietnam, India, Colombia, United States, United Kingdom,) and added 23 more countries (including 15 EU countries contributed by the LEI and EU Commission, 7 Southern African countries contributed by Mark Horridge, DFID and IFPRI and Bangladesh). A system of interim releases was also established to allow new I-O tables to be incorporated into the Data Base as they were contributed. During these interim releases no changes were to be made to the macro data, the only difference would be the disaggregation of a region to incorporate the new country I-O data. Interim releases of version 5 have added 13 more countries in Central and Eastern Europe (contributed by Martin Banse and EU Commission), Albania (contributed by Mark Horridge and US Department of Commerce) and Russia (contributed by US ITC and Sergey Kieslev, Moscow State University). Malaysia, the Philippines, Singapore, Indonesia and Thailand were updated in version 5.3, based on data from the Institute for Developing Economies (IDE) in Japan. This leaves Hong Kong as the last remaining I-O table inherited from SALTER. Since there is no actual I-O table in existence for Hong Kong, this had to be “fabricated” by SALTER staff. We may wish to contemplate a change in the treatment of Hong Kong in the future – possibly re-estimating this I-O table, or eventually combining Hong Kong with China. Input from the board on this issue would be welcome. In version 5 the number of sectors was further increased to 57, this time services were disaggregated. The treatment of energy was also further improved and incorporated into the primary GTAP Data Base.

³ The FIT program lies at the heart of the GTAP Data Base construction process. FIT uses entropy theoretic methods to update and create a consistent data base, where all the data - Input-output tables, trade, protection, macro and energy - are consistent with each other. It is this consistency which is the core value-add of the GTAP Data Base.

In version 6, 2 new countries were added, Madagascar (pre-release 2) and Tunisia (pre-release 3), and 11 other I-O tables were updated (Argentina, Australia, New Zealand, Singapore, India, Colombia, Brazil, Korea, The Netherlands, Turkey and Taiwan). All of these updated I-O tables are significant improvements on previous contributions in terms of a more recent I-O table being used or in the case of Singapore additional external data being used to disaggregate. In version 6.1, 6 new I-O tables were included for Nigeria, Pakistan, Bolivia, Ecuador, Iran and Mauritius. With the exception of the IDE tables, the original I-O tables are all available to consortium members on the GTAP Website.

http://www.gtap.agecon.purdue.edu/access_board/IO_tables.asp

The remaining 18 regions in the 87 regions of GTAP 6 Data Base are made up of composite data bases representing groups of countries. In light of recent requests the number of composite regions was increased in version 6 to allow for more accurate analysis of regional free trade agreements. As a result the 10 old composite regions have been sub-divided into 18 new composite regions.

The tariff data for the GTAP 6 Data Base also changed significantly in terms of sourcing, coverage, nature and quality, and data processing. In version 5 of the GTAP Data Base, agricultural tariffs and merchandise tariffs were obtained from the two separate sources. Agricultural tariff data were obtained from the Agricultural Trade Policy Database which is based on the Agricultural Market Access Database (AMAD) while data on merchandise tariffs were obtained from the World Bank and UNCTAD through an early version of the World Integrated Trade Software (WITS). In version 6 the tariff data was supplied by the Market Access Maps (MAcMap) contributed by the Centre d'Etudes Prospectives et d'Information Internationales (CEPII). The MAcMap data base is compiled from UNCTAD TRAINS data, country notifications to the WTO, AMAD, and from national customs information. More information on the MAcMap data base can be found on the web at:

http://www.gtap.agecon.purdue.edu/access_staff/resources/res_display.asp?RecordID=1670

Review of the Data Goal

The Data Goal is to improve data products. Five strategies aimed at achieving this goal are listed below. The action plans that were laid out under these strategies cover activities for many years. Several of them entail working through each of the different modules or segments in the entire data base construction process to review and revise existing methods of evaluating and comparing incoming, intermediate, and final datasets and to review and revise methods for filling in missing data. Tasks such as regularly reviewing data procurement policies and data release policies will be done every two years. Several action plans are scheduled to commence in 2006, in conjunction with the start of the GTAP 7 Data Base cycle.

1. Improve Data Quality and User Service.

CEPII provided data for 10 tariff-cutting scenarios under the Doha Development Round. The dataset was provided at the GTAP 6 Data Base level of regional and sectoral aggregation. To facilitate ease for the data user in aggregating the tariff scenarios data at the same aggregation as the GTAP Data Base, the Doha Scenarios dataset was incorporated into the GTAPAgg aggregation facility. A preliminary version of this was demonstrated by Betina Dimaranan in the 2005 board meeting. The package was further refined and released to the board members in November 2005. It was also made available to interested purchasers of the GTAP 6 Data Base in January 2006.

The first interim release (GTAP 6.1 Data Base) was made available on the GTAP Website in October 2005. It includes I-O table data for six new regions (Pakistan, Bolivia, Ecuador, Iran, Mauritius and Nigeria) and updated I-O table data for two regions (Australia and Chile). The inclusion of Bolivia and Ecuador eliminated the Rest of Andean Pact (XAP) composite region in the GTAP 6 Data Base and, together with four other new regions, brought the total up to 92 regions.

The second interim release (GTAP 6.2 Data Base) is under construction at the time of writing. The input-output tables for new regions that are slated for inclusion in this release are those for Cambodia, Paraguay, Egypt, and Senegal. Updated I-O tables for Australia, Vietnam, USA, Mexico, and Bolivia will also be incorporated. Barring unforeseen problems, the GTAP 6.2 Data Base should be available by the first week of May.

One of the ways through which we intend to improve user service is to make the data more readily accessible. This year, Tasneem Mirza has examined other data websites to look for ideas on how the GTAP Data Base can be made more user-friendly, as well as provide appropriate “health warnings.”

2. Improve Data Procurement.

One of the ways to improve data procurement is by reviewing existing I-O tables and identifying the countries for which new or updated I-O tables are most needed. This was done last year by Amer Ahmed and Terrie Walmsley. This work had now been updated by Tasneem Mirza after some of the “most wanted” regions (Pakistan, Nigeria, Iran, Chile, Mexico, and Egypt) were either incorporated in the GTAP 6.1 Data Base or obtained for inclusion in GTAP 6.2.

Improved procurement of input-output data has been further facilitated with the development of a new webpage, by Ginger Batta, whereby data contributors can now submit I-O tables and reports from the Center can be provided back to them.

Raising funds for data and data-related projects is another way through which data procurement is improved. This past year, the Center secured funding from the World Bank and the USITC for the development of an updated 2004 MAcMap data base. This funding was necessitated by the concern expressed by CEPII about personnel problems involved in updating the MAcMap data base to 2004 for GTAP. The Center also secured funding for Mark Horridge’s development of SplitCom, a data-related disaggregation package. ABARE, Nathan Associates, and the Productivity Commission contributed to this project.

3. Improve Data Development Efficiency and Quality by Distributing A Data Construction Program.

The separation of data and programs is an essential step towards the strategy of improving data development efficiency and quality. This will entail substantial overhauling of the automated GTAP Data Base construction process. We hope to make great strides on this task this year while working on the GTAP 7 Data Base.

4. Expand Scope Of Data Base.

There are a number of ways by which we intend to expand the scope of the GTAP Data Base. These are by integrating taxes (income and commodity taxes); integrating global land use data; adding supplementary data on Greenhouse Gas emissions; integrating data on self-employed labor; including model-driven innovations, developing a multi-year data base, and developing a

database with universal country coverage. Some of these activities are envisioned for the GTAP 7 Data Base. As a first pass, income and factor usage tax data from the IMF Government Finance Statistics was introduced in the GTAP 6 Data Base. Further improvements in the tax data are expected for the GTAP 7 Data Base.

5. *Improve Marketing of Data Base.*

The packaging of the GTAP 6 Data Base CD-ROMs was improved to include more information about GTAP and the data product, installation instructions, and a reminder about the licensing agreement.

A data base pricing policy was implemented at the beginning of the year. The new pricing included a price increase since the data base prices had not been raised in the last 5 years. The new pricing structure also allows for discounted prices for purchases from developing countries. Discounted pricing is available for lower-middle and low income developing countries.

Specific Data Base Issues

In addition to the data base issues discussed at last years board meeting and included in section III above, a number of other data base related activities have taken place this year and are discussed in turn below.

I-O Tables

Last year Amer Ahmed and Terrie Walmsley produced a report which examined the status of the I-O tables in GTAP and produced a “GTAP’s Most Wanted” list. Since this list was first created, 6 of GTAP’s most wanted countries have been obtained: Pakistan, Nigeria, Iran, Chile, Mexico and Egypt. We have also been contacted by potential contributors of Venezuela, Sri Lanka, Canada and Ethiopia. A copy of the updated report can be found in the supplementary material. The revised ‘Most Wanted Countries’ list is provided below:

Countries most in need of Updating	Top Countries not in GTAP (by GDP & Population)
Uruguay*	Saudi Arabia*
Venezuela*	Norway*
Peru*	Israel*
Sri Lanka	Ethiopia
Canada*	Myanmar
Morocco	Iraq
Cyprus	Puerto Rico*
Tanzania	Ukraine

* Identifies those countries for which we know data are available.

After starting GTAP’s most wanted list, Carlos Ludena, a visiting researcher and former graduate student of the Center, has been looking for I-O tables and other data which might be included in the GTAP Data Base. In particular he is interested in South and Latin America and has already assisted with the contribution of Ecuador, Bolivia and Paraguay. A list of some of the countries for which data has been found is provided in Appendix 3 (the focus is on countries which have older data or are missing completely from the GTAP Data Base).

There are two other very important countries which were not updated in the public release of version 6: the USA and China. Zhi Wang, from the US ITC, and the Asian Development Bank will work together to contribute China to version 7 of the GTAP Data Base. Marinos Tsigas from the US ITC has recently contributed the USA and this is expected to be included in v6.2.

While the Center does not undertake additional special projects to incorporate new countries into the GTAP Data Base we are increasingly trying to match potential funding agencies with those who have the data and expertise to effectively carry this out. The World Bank has expressed an interest in funding some more tables in African and CIS countries⁴, and the EU Commission has also expressed a willingness to fund work in Latin America and the Caribbean. The biggest problem appears to be the lack of good quality data from which to build these I-O tables.

In light of this problem Mark Horridge has put together a proposal to develop a method constructing I-O tables from very limited data for the GTAP Data Base. The proposal is included in the supplementary information included on the web site and with this issues document. The proposal involves fabricating data and therefore raises a number of issues which need to be considered carefully:

- a) Quality – new regions produced in this way will be based on a limited amount of information and should be treated more carefully by users. Should the data for these countries be made accessible to the public and if so how do we communicate to users that these regions are based on only partial information.
- b) Other Data - the proposal relies heavily on good trade and macro data. Mark Gehlhar is also concerned that we are reaching a point where we are running out of good trade data. There may be concerns about other macro data too.

It has also been suggested that the production of a publicly available GAMS utility/program which would convert supply and use tables into the GTAP format would be very helpful. This could be used on data currently compatible with the IFPRI/Gams models, and it might be useful as a way of assisting less experienced people to contribute data to the GTAP Data Base and increasing the quality of contributions. This might also help those within regions to supply updated data and hence help us address another future concern -- who will update all these new countries.

In addition to updating the report on I-O tables in GTAP and the “GTAP Most Wanted” list, Tasneem Mirza and Terrie Walmsley have also been using an entropy program to compare the shares in 39 I-O tables from the GTAP Data Base with the representative table. This exercise is being used to see if there are any significant problems with particular sectors which might affect a large number of countries. For example this analysis has revealed that the share of paddy rice in the production of processed rice is very small for most countries (<5%). The initial results from this analysis show problems with a number of countries, including Eastern European, Russia and Korea, and have also indicated some problems with the representative table used in the GTAP 6 Data Base. A summary of the results will be included in the supplementary materials and discussed at the board meeting.

⁴ Two funding bids have gone forward for funding. The first would involve David Tarr and Jesper Jensen and could involve at least the following countries: Ukraine, Kazakhstan, Armenia, Belarus, Georgia, Kyrgyzstan, and perhaps Azerbaijan and one or two others (Moldova and Tajikistan). The other bid is for more and faster African breakouts.

Trade

In previous versions of the GTAP Data Base Mark Gehlhar, Economic Research Service (ERS) has contributed the trade data for the GTAP Data Base. In 2005, the ERS asked other board members and partners to provide supplemental data, expertise, and support in a number of areas. These areas include:

Area 1. China and East Asian trans-shipments

Re-export margins and source- destination matrices for Hong Kong and Singapore need to be updated. The USITC and Zhi Wang are now working closely with Mark Gehlhar to make improvements in this area.

Area 2. Exchange rates checks.

Considerable exchange rate volatility took place between 2001 and 2004. As a result suspicious trade flows emerged, particularly among EURO and non-EURO partners. Analysis is needed.

Area 3. Netherlands and EU re-exports.

Supplemental data and detailed commodity trade data are needed. Intra-EU data is becoming more complicated and needs expertise.

Area 4. Global energy trade data (gas and petroleum sectors).

Trade is highly volatile with large discrepancies in bilateral flows -- many suspicious, missing or unidentified partners. Verification is needed.

Area 5. Global textile and apparel sectors.

Frequent miss-classification at detailed level. Expertise for data verification is needed. Peter Minor from Nathan Associates has met with Mark Gehlhar to discuss this problem.

We are very grateful to all the board members who have offered to assist with these issues. We hope to get an update on these issues from the ERS/USDA at the board meeting.

V. Research

Review of the Research Goal

The research goal contains 3 parts related to the three different areas of research which the Center is pursuing under its strategic plan: Multilateral and Bilateral Trade Agreements, Global environmental issues, Trade and development. Each of these is discussed in turn below.

Multilateral and Bilateral Trade Agreements

1. Further develop the Dynamic GTAP Model.
2. Improve treatment of trade preferences and their utilization.
3. Enhance the analysis of trade agreements' treatment of foreign investment in services.
4. Enhance analysis of labor migration.

This year work has progress along two fronts: the Dynamic GTAP Model and Labor Migration.

Further Develop the Dynamic GTAP Model.

The Dynamic GTAP Model, developed by Elena Ianchovichina and Robert McDougall, emphasizes international capital mobility and tracking cross-country ownership of assets (Technical Paper #17). Some progress has been made gathering the chapters and applications for a book on the Dynamic GTAP Model, drafts of 12 of the 15 chapters have been completed. The remaining chapters include the introduction and evaluation, and a chapter on the environment. It is hoped that this book will be sent to the publishers in 2006.

Alla Golub, one of the Center's graduate students, has also been revising the savings behavior in the GTAP-Dyn Model. Robert McDougall will be presenting this research at the conference in Addis.

The model, the RunGDyn software for running the model, and the data aggregation program⁵ will be made available to those who take the short course in October. This is the second course on the Dynamic GTAP Model.

We continue to maintain a shared baseline data base, which can be used by consortium members for their own dynamic modeling work. Modifications have now been made to update this to the GTAP 6 Data Base. Forecasts are available on the board website for 226 countries and for the 92 regions in the GTAP 6.1 Data Base.

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

We are currently collecting papers on other forecasts and baselines produced elsewhere. If you would like to contribute or have some suggestions for baselines please let us know.

Enhance Analysis of Labor Migration.

The bilateral labor migration data base produced by Parsons, Sheldon, Winters and Walmsley (2005) has now been made publicly available on the Sussex University website:

http://www.migrationdrc.org/research/typesofmigration/global_migrant_origin_database.html

⁵ Restricted to those who also have a license for the GTAP data base.

Two matrices are available: foreign born and nationality; and the data is limited to that collected from country census data and surveys. For the GMig2 model these two matrices were combined and missing data filled to create a single matrix of foreign born. An aggregated version, consistent with the GTAP 6 Data Base, of the filled matrix of foreign born will be made available on the GTAP Website shortly.

The complete GMig2 data base is based on this foreign born matrix and has been extended to include foreign labor by skill, wages and remittances. The GMig2 data Base is currently being updated to the GTAP 6.1 Data Base and revisions are being made to the migrant skills splits following work undertaken by Docquier at the World Bank. It is hoped that a technical paper will be produced over the next year documenting the model and data base, at which stage the model and the complete GMig2 Data Base will be made publicly available.

The GMig2 Data Base was used in the Global Economic Prospects 2006 and will shortly be used in the 2007 GEP. Other applications of the model and Data base include:

Walmsley, Terrie, Alan Winters, Syud Amer Ahmed and Christopher Parsons, "Measuring the Impact of the Movement of Labour Using a Model of Bilateral Migration Flows" Presented at the 8th Annual Conference on Global Economic Analysis, Lübeck, Germany, June, 2005

Walmsley, Terrie, Syud Amer Ahmed and Christopher Parsons, "The Impact of Liberalizing Labor Mobility in the Pacific Region", GTAP Working Paper No. 32, 2005

Syud Amer Ahmed and Walmsley, Terrie "The Liberalization of Temporary Migration: India's Story", To be presented at the 9th Annual Conference on Global Economic Analysis, Addis Ababa, Ethiopia, June, 2006

Further information on this research and links to data bases as they become available can be found at:

https://www.gtap.agecon.purdue.edu/models/labor_migration.asp

Global Environment Issues

1. Enable integrated assessment of climate change mitigation policies in an economy-wide setting.
2. Develop a dynamic framework that characterizes land use and net green house gas emissions in agriculture and forestry.
3. Develop an IPCC-consistent emissions baseline

This year the focus has been on documenting the GTAP land use model and data base in a GTAP Technical Paper and updating the GTAP Greenhouse Gases Emissions data base. Technical Paper #25 "Towards an Integrated Land Use Data Base for Assessing the Potential for Greenhouse Gas Mitigation" by Huey-Lin Lee, Thomas Hertel, Brent Sohngen and Navin Ramankutty, and the GTAP Land Use Data Base are now available to the public on the website:

https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=1900.

Subsequent updates of the GTAP Land Use Data Base—releases 1.1 and 1.2—are posted at the same web address. In release 1.1, we fixed the problem of misplacement of Ecuador data of

timberland area and carbon stock. In release 1.2, we included the dimension of tree species in the timberland area and carbon stock for all 226 countries/regions.

We also updated the 2001 CO₂ and non-CO₂ to match with GTAP 6 Data Base (benchmark year 2001). The 2001 GTAP CO₂ data are available on the website:

https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=1143.

As off April 2006, the 2001 GTAP non-CO₂ data are currently available for 3-regions (U.S., China, and Rest of World). We continue on to work on the full 87-region non-CO₂ emissions data of 2001. Greenhouse gases emissions from biomass/bio-fuel burning are also accounted for in the upcoming 2001 non-CO₂ emissions data base.

In addition to this data base work, we have been actively extending the GTAP Model to take advantage of this new information. Two papers will be presented at the conference – one based on an extended version of the static model, and one based on the dynamic model. These focus on issues related to land use and climate change policy. Tom Hertel, Steven Rose and Richard Tol are also editing a volume focused on global land use modeling in general equilibrium for use in climate change analysis.

Trade and Development

1. Enable household-disaggregated analysis within the GTAP framework.
2. Encourage network members to contribute household surveys to the GTAP Data Base, and conduct trade/development analysis for their respective economies.

In December of 2005, Tom Hertel's "sabbatical book" was published. This was co-edited with L. Alan Winters of the World Bank; it featured two global studies and a dozen different country case studies of the poverty impacts flowing from a prospective Doha Development Agenda. While quite satisfying as a one-off research project, this type of integrated research is expensive and not easily replicated on a widespread basis. Recently, Tom has been working on ways to incorporate some of these features of poverty analysis into the global GTAP Model. In the coming year he plans to produce a poverty module that will enable users to draw some broad conclusions about the poverty impacts of global economic shocks.

VI. Validation

Review of the Model Goal

The model goal is to improve understanding and credibility of the GTAP-based models.

1. Enhance testing and evaluation of the GTAP-based models.
2. Further enhance the ability of users to understand and explain model results.

Further work needs to be undertaken in the area of model validation and parameter estimation if the credibility of CGE modeling is to be improved. Work at the USITC is progressing on model validation and Robert Koopman will update us on this at the board meeting. It is hoped that the Center can collaborate further with the USITC in this endeavor. The Productivity Commission, in Australia has also recently done some work looking at the terms of trade issue in CGE models and will also update us on their work at the board meeting. A number of papers at the conference also attempt to tackle the issue of terms of trade effects and model validation.

This year validation work at the Center has proceeded along three lines:

1. *The Dynamic GTAP Model*

Alla Golub (with the help of Thomas Hertel, Elena Ianchovichina, Robert McDougall and Terrie Walmsley) has been using time series data to estimate/calibrate the parameters used in the dynamic model. Three types of parameters in the dynamic model are being investigated:

- a. The convergence parameters*
Results show that rates of return converge at a rate of 17% per year for the developed economies – in the absence of new shocks.
- b. The elasticity of the rate of return with respect to the capital stock*
This has been calibrated to ensure model consistent elasticities.
- c. The rigidity parameters in the entropy theoretic approach to the portfolio allocation*
Results indicate that the shares of domestic and foreign ownership of regional capital stocks are less susceptible to changes than the shares of household's wealth allocated domestically and abroad. This has important implications for the dynamic adjustment of the model.

2. *Validation of the Static GTAP Model*

The working paper (#33) “Assessing Global CGE Model Validity Using Agricultural Price Volatility” by Valenzuela, Ernesto, Thomas Hertel, Roman Keeney and Jeff Reimer has now been finalized. This paper develops an approach to validating CGE models based on the ability to reproduce observed price volatility in agricultural markets. It shows how patterns in the deviations between model predictions and validation criteria can be used to identify the weak points of a model and guide development of improved specifications with firmer empirical foundations.

The Center continues to engage in parameter estimation to support the static model – most recently focusing on the demand side. We plan to have a new set of consumer demand elasticities available for the GTAP 7 Data Base.

3. Report on the Usage of GTAP

In the Center's 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 database dedicated to Economics, and
- 3) Google Scholar: Google's dedicated engine for searching scholarly literature.

The report is provided in the supplementary materials.

VII. Network

Review of the Network Goal

The network goal is to increase effective participation in the global network, particularly in developing countries.

1. Obtain funding from donor agencies for developing country participants.
2. Conduct more courses and conferences in developing countries.
3. Review pricing to enable greater developing country participation.

This year the UNECA is hosting the Ninth Annual conference on Global Trade Analysis and has offered 40 scholarships to participants from developing countries. At the Tenth Annual conference at Purdue, Wallace Tyner will be looking to obtain funding to assist participants from developing countries attend the conference.

In addition to conferences we continue to offer a high number of places at our courses to people from developing countries. Moreover the course in South Asia – underwritten by the Ford Foundation, with additional support from ERS/USDA and the Indira Gandhi Institute, provided an excellent opportunity for participants from South Asia to attend a GTAP Short Course. At the end of the course the participants also discussed how the momentum established at the course could be continued. A workshop where participants could present their work and a South Asia email list were suggested. We also encouraged people to use the GTAP Website to post events on what was happening in South Asia.

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

Overall, holding the conference in Ethiopia, the course in South Asia and the new pricing policy do appear to have had an impact on developing country participation in the GTAP Network.

	2004	2005	Change
Total number of members in GTAP Network	3,357	4,361	+30%
Developed Countries	2551	3144	+23%
Lower-Middle Income Countries	486	672	+38%
Lower Income Countries	320	545	+70%
Total number of countries represented	121	130	+7.4%

4. Foster Communication Within the GTAP Network and Beyond.

While there is generally excellent communication among network members on matters of trade policy analysis, the lines of communication in the area of global environmental policy analysis are less well-developed, and new opportunities are emerging, pointing to an enhanced role for GTAP in this area. Towards this end, we have had a number of visitors present their work and engage in discussions with Center staff over the past six months. In January, Navin Ramankutty, Brent Sohngen and Steven Rose spent three days at Purdue, planning next steps with the land use and emissions data base and modeling work as it relates to climate change policy analysis. In February, Richard Tol, of Hamburg University, and Ximing Cai, of the University of Illinois,

visited the Center for a day to present their work on modeling global water supply and demand and discuss the potential for GTAP applications in this area. In March, Ron Sands from the Pacific Northwest National Labs energy group visited the Center to discuss energy data base and modeling issues. Tom Hertel and Huey-Lin Lee have also been actively involved in the Energy Modeling Forum, which gathers economists interested in global environmental modeling. This has been a good venue for exploring potential new directions for the GTAP Data Base and modeling framework.

Research Fellows

Patrick Jomini will report on the committee's decisions at the Board meeting. The committee included Patrick Jomini (Chair), Will Martin, Sebastian Jean, Betina Dimaranan and Judy Conner. The CVs of the research fellows are included in the supplementary material in your folder and on the website.

Conference Proposals

Purdue 2007

Thomas Hertel will report to the board at the meeting on the progress made for the 2007 conference at Purdue University.

Finland 2008

This year we have received only one proposal (fortunately it was an excellent one!) for the 2008 conference. This was offered by the VATT and UN-WIDER in Finland. Juha Honkatukia will present an update on preparations for the 2008 conference at the board meeting. A copy of the proposal is contained in the supplementary materials.

New Technical and Working Papers

Technical Papers

Towards An Integrated Land Use Database for Assessing the Potential for Greenhouse Gas Mitigation by Lee, Huey-Lin, Thomas Hertel, Brent Sohngen and Navin Ramankutty, GTAP Technical Paper No. 25, 2005

New Working Papers

Assessing Global CGE Model Validity Using Agricultural Price Volatility by Valenzuela, Ernesto, Thomas Hertel, Roman Keeney and Jeff Reimer, GTAP Working Paper No. 33, 2005

Research Memorandum

“Comparing Tax Rates Using OECD and GTAP 6 Data” by Angelo Gurgel, Gilbert Metcalf and John Reilly

The GTAP Website Report

The website report is contained in the supplementary materials provided in your folder and on the board we site.

Working Committees

Services

At the board meeting Arjan Lejour will provide us with an update on the Bilateral Services trade data which he and his colleagues at the CPB have been working on. Incorporating this data into the GTAP 7 Data Base will be a priority for the next year.

Wearing Apparel

At last years board meeting Joe Francois raised an issue regarding the classification of textiles and wearing apparel. The main concern here is the issue of knit to shape garments and the fact that they are classified as textiles and not apparel, which relates to both the trade data and the I-O tables. Peter Minor from Nathan Associates plans to use the new splitcom program to a) adjust the data; and b) examine if the data adjustment has any material impact on the results.

The focus will be on the US, since the US recently instituted the new NAICS industry classification – which specifically takes knit to shape garments into account – and good data is available. Another issue Peter Minor plans to explore is that of cut piece being categorized as apparel, which results in the US data reporting large apparel exports to Mexico and the Caribbean.

Peter Minor has also discussed this issue with Mark Gehlhar from the USDA who reconciles the trade data in GTAP.

Other Working Committees

The other working committees include Sugar and the Developing Country Plan. Neither committee has made progress this year. Unfortunately the sugar committee is now without leadership since Frank van Tongeren moved to the OECD.

VIII. Education

Review of the Education Goal

The education goal is to expand and improve global economic analysis education worldwide (both within and outside the network).

1. *Promote Learning Among Data Base Contributors.*

This year, Carlos Ludena and Terrie Walmsley have been working with Ministry of Finance of Paraguay and Central Bank of Paraguay on a project funded by the Japanese International Cooperation Agency (JICA). The project has involved offering training in contributing I-O data to the GTAP Data Base and in the GTAP Model. This is not something that the Center will ordinarily undertake given that skilled people are a scarce resource, but has been led by Carlos Ludena.

2. *Use Workshops and Web-Based Products to Provide Specialized Learning.*

This year Ginger Batta, Carlos Ludena, Terrie Walmsley and Tom Hertel have updated the web course materials to extend and include a number of previously recorded short course presentations. This web course is offered to graduate students at Purdue. It is thought that these web materials might be useful for individuals who have been through the short course and want to undertake web modules on more advanced topics, such as energy, imperfect competition or on the GTAP Data Base.

3. *Improve Communication, Learning, and Transfer Of Knowledge Within the Center.*

The Center continues to contribute to the transfer of knowledge within the Center. Staff meetings are held every 3 weeks and the Center has a seminar program which allows staff and students to share information on what they are doing and improve their presentation skills. There is also an orientation and mentoring program for new graduate students.

4. *Improve Marketing of GTAP Courses.*

Demand for places at the GTAP Short Courses continues to be high. To date we have received 66 applications for the August 2006 short course, 37 of these arrived before the end of January. We therefore encourage board members to apply early and let us know well in advance how many people they would like to send. Board members continue to be an important source of demand and have been instrumental in helping us reach out to people from developing countries. In particular we'd like to thank the USDA, Nathan Associates and the UNECA for their leadership in this area.

We are interested in holding more of our annual courses abroad in order to reduce the costs to participants, particularly those from developing countries. At this stage we do not plan on holding more than 2 courses per year. A document has been produced for those considering hosting a short course. If your organization would be interested in hosting one of our annual short courses please contact Judy Conner.

Upcoming Courses and Plans

The 14th Annual Short Course in Global Trade Analysis will be held at Purdue University, West Lafayette, IN, USA July 29 to August 4, 2006. 32 participants are expected to attend the course. It is shaping up to be a very successful course.

In October we will be holding the Second Short Course in the Global Dynamic GTAP Model. Places are still available for this course if you or your colleagues are interested in applying please let Judy Conner know and register at:

https://www.gtap.agecon.purdue.edu/events/Dynamic_Courses/2006/default.asp

IX. Finances, Budgets and Staffing Plan

Budgeting

To be handed out and discussed at the board meeting.

Staffing Plan

To be handed out and discussed at the board meeting.

X. Appendices

Appendix 1: List of issues for the discussion during the session on “Data Base and Research Issues”

Research Goal:

- Dynamic GTAP Model
- Consumer demand in GTAP
- the GTAP Baseline
- labor migration
- land use data base and modeling
- bio fuels
- Trade and Development
- poverty analysis
- GTAP-AGR
- adjustment costs
- services liberalization and FDI
- wearing apparel
- sugar
- ad-hoc expert groups and in particular links with FAO
- data management issues
- multi-year data bases

Model Goal:

- validation exercises
- parameter estimation
- terms of trade issues
- the dynamic GTAP model parameters

Data Goal:

- energy
- services
- trade
- protection
- taxes
- I-O tables
- Regional disaggregation
- quality comparisons of inputs
- quality comparisons of the final data base (FIT statistics)
- factor splits
- the facility for disaggregating commodities (SplitCom)
- margins
- IMF trade totals
- CEPII trade data
- Data Sourcing
- releasing the Data Base in GAMS format
- marine bunkers
- intra-regional trade

Education Goal:

- GAMs courses
- Further overseas courses

Network Goal:

- pricing policies
- developing country plan

Appendix 2: Biomass Energy: Exploring Potentials and Competing Resource Claims

Frank van Tongeren, 5 July 2005-07-05

Based on a presentation given at the SHELL Biomass Upstream Steering group (BUS) meeting 5 Feb 2005

Outline

- Issues: technology and economics
- Biomass supply
- Bio-energy demand
- What next?

Issues: technical feasibility and economic choices

- Utilisation of biomass potential depends on
 - Agronomic features, including land availability and growing conditions
 - (supply) response of farmers, i.e. the decision to grow bio-energy relevant crops
 - Technical substitutability of biomass energy for conventional energy sources
 - Economic substitutability of biomass energy for conventional energy sources
 - National and global policies
 - Social considerations
 - Environmental considerations
 -

Models?

- Projections based only on technical feasibility usually off-mark
 - Over-optimistic or over-pessimistic
- Model based only on economics are weak on technology and agronomics

Modeling needs

- ***Biomass Supply Side:***
 - Integrate agronomics and economic choices
 - Land allocation
 - Competing claims: bio-energy and food (security)
- ***Biomass Demand Side:***
 - Modeling of energy demand
 - Substitution between alternative energy sources

Supply side: land allocation in GTAP amended with land types etc (GTAP-AGR+ and GTAPEM)

Demand side: Energy demand in GTAP-E

Where to go from here?

- ***Global scenarios with GTAP ++ as consistency framework***
 - Multidisciplinary interactive scenario design
 - Identify economic and technical driving forces
- ***Work needed:***
 - Biomass issues folded into energy demand and crop supply

Appendix 3: List of Countries for Which Data are Available⁶

GTAP**			Not Currently in GTAP	
Country	Year in GTAP	Year Data Available	Country	Year Available
Uruguay*	1983	1997	Norway*	2003
Peru*	1989	1994	Israel*	2000
Venezuela*	1986	1997	Saudi Arabia*	N/A
Canada*	1990	2000	Dominican Republic	N/A
United Kingdom	1990	N/A	Panama	N/A
			Puerto Rico*	N/A
			Costa Rica	1997
			Nicaragua	1994
			Honduras	1997
			El Salvador	2002
			Guatemala	N/A
			Panama	2003
			Dominican Rep.	1991
			Jamaica	1994
			Trinidad & Tob.	2004
			Cuba	N/A
			Maldives	N/A
			Kuwait	2000

* Country is on GTAP's most wanted list

⁶ Carlos Ludena, a recent graduate of the center, has shown a keen interest in finding I-O tables for the GTAP data base, particularly in South and Latin America. This list contains some of the countries for which he has found data or made contacts. The list focuses on those countries which are either in the GTAP data base but where data is old, or are not currently in the GTAP data base.