

Center for Global Trade Analysis Newsletter

Estimating the Global Land Use Impacts of Biofuels

In the January 2007, Governor Schwarzenegger asserted California's leadership in clean energy and environmental policy by establishing a Low-Carbon Fuel Standard (LCFS) by Executive Order. This first-in-the-world greenhouse gas (GHG) standard for transportation fuels will spark research in alternatives to oil and reduce GHG emissions. Under this Order, the California Air Resources Board (ARB), the University of California and other agencies have taken coordinated actions to develop the protocols for measuring the "life-cycle carbon intensity" of various transportation fuels.

In assessing the relative global warming effect of increased use of biofuels made from a variety of feedstocks, so-called *indirect land use change* (iLUC) has rapidly grown in salience for decision makers. Alla Golub and Thomas Hertel, in collaboration with the Energy Resources Group at the University of California-Berkeley, undertook an independent analysis of the indirect land use impacts of corn ethanol and other food crop based biofuels for ARB using the GTAP Model, developed at Purdue. The ARB met April 23 in Sacramento to finalize their regulations.



Alla Golub



Thomas Hertel

Economic Analysis of Land Use in Global Climate Change Policy

Land has long been overlooked in economics. That is now changing. A substantial part of the solution to the climate crisis may lie in growing crops for fuel and using trees for storing carbon. This book investigates the potential of these options to reduce greenhouse gas emissions, estimates the costs to the economy, and analyses the trade-offs with growing food. The first part presents new databases that are necessary to underpin policy-relevant research in the field of climate change while describing and critically assessing the underlying data, the methodologies used, and the first applications.

Together, the new data and the extended models allow for a thorough and comprehensive analysis of a land use and climate policy. This book outlines key empirical and analytical issues associated with modelling land use and land use change in the context of global climate change policy. It places special emphasis on the economy-wide competition for land and other resources, especially;

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- The implications of changes in land use for the cost of climate change mitigation,
- Land use change as a result of mitigation, and
- Feedback from changes in the global climate to land use.



Steven Rose

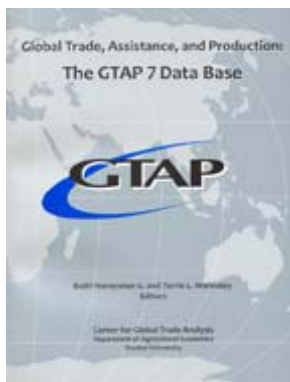


Richard Tol

By offering synthesis and evaluation of a variety of different approaches to this challenging field of research, this book will serve as a key reference for future work in the economic analysis of land use and climate change policy.

Hertel, T. W., S. Rose and R. Tol (eds.) (2009). Economic Analysis of Land Use in Global Climate Change Policy. Abingdon: Routledge.

GTAP Data Base Developments



GTAP 7 Data Base

As most users know, every version of GTAP Data Base undergoes immense scrutiny and discussion among the GTAP staff members, advisory board members and data contributors. This results in several pre-releases that involve improvements and error-fixing well before the final release. However, given that this data base involves a complex spectrum of policies and economic structure of so many countries and sectors, there is always some scope of improvement. GTAP users have always been contributing to these improvements.

To facilitate this further, the center has decided to inform all the users about the issues and known defects in the data base that are yet to be resolved. With this, the users could be more careful in their analysis using GTAP Data Base, in addition to helping us resolve them. As a step in this direction, we have posted the issues in GTAP 7 Data Base, some of which are expected to be addressed in the future releases. There are also various notes and e-mail summaries included in the website, which explain some of the issues at length. We look forward for your feedback, comments and suggestions on this.

For a listing of the known issues, please visit: www.gtap.agecon.purdue.edu/databases/v7/v7_data_issues.asp.

Annual GTAP Events

Seventeenth Annual Short Course

The Center for Global Trade Analysis will hold the Seventeenth Annual Short Course in Global Trade Analysis in Bangkok, Thailand from August 8-14, 2009.

The course will consist of two main parts:

Part I is a series of weekly, online modules aimed at increasing the familiarity of the course participants with the theory behind GTAP, the standard GTAP notation, and the course software. This part of the course will run from May 25 – July 26, 2009.

Part II is an intensive, week-long course consisting of a mix of daily lectures, lab assignments, and informal discussions designed to introduce participants to the basic features of the model and GTAP Data Base. This part of the course will run from August 8-14, 2009.

For further information on this course, please visit: www.gtap.agecon.purdue.edu/events/Short_Courses/2009/.


UNESCAP
Bangkok, Thailand

Twelfth Annual Conference

The Center for Global Trade Analysis will hold the Twelfth Annual Conference on Global Economic Analysis in Santiago, Chile from June 10-12, 2009.

The overall theme of the conference is “Trade Integration and Sustainable Development: Looking for an Inclusive World” with sub-themes on: Trade for an inclusive world: Multilateral and Bilateral Agreements; Terms of trade shocks and food crisis; Climate Change, Energy and Environment; Poverty, Income Distribution and Development, towards the Millennium Development Goals; and Geography of trade: Sub-national assessments.


ECLAC
Santiago, Chile

A free seminar on the GTAP 7 Data Base will be held immediately prior to the conference from 10:00-12:00 on June 10. The seminar is expected to include the following four presentations: “Incorporating the new OECD PSE classification into the GTAP V7 Data Base” by Hsin Huang (OECD); “Domestic Support and Agricultural factor shares in GTAP V7 Data Base” by Badri Narayanan; “Energy Data in GTAP v7 Data Base” by Angel Aguiar and Robert McDougall; and “Services Trade Data in GTAP V7 Data Base” by Robert McDougall.

For further information on this conference, please visit: www.gtap.agecon.purdue.edu/events/conferences/2009/.

GTAP Network Research Highlights

GTAP Resource Center

The following resources have been added to the GTAP Technical, Working, and/or Research Memoranda Series since the last newsletter.

GTAP Working Paper No. 54

“Why Previous Estimates of the Cost of Climate Mitigation are Likely Too Low”

by Beckman, Jayson and Thomas Hertel

GTAP Research Memorandum No. 14

“Calibration of a Land Cover Supply Function Using Transition Probabilities”

by Ahmed, Syud Amer, Thomas Hertel and Ruben Lubowski

GTAP Research Memorandum No. 15

“GTAP-E: A Revised Energy-Environmental Version of the GTAP Model”

by McDougall, Robert and Alla Golub

For further information or to search the GTAP Resource Center, please visit: www.gtap.agecon.purdue.edu/resources/search.asp.

Free Resources/Utilities

The Center would like to bring attention to the following resources and utilities which are accessible from the GTAP website.

Exercises in Contributing I-O Tables to the GTAP Data Base

by Horridge, Mark, Robert McDougall, Badri Narayanan and Terrie Walmsley

The exercises from the I-O contributor courses held in Finland and Purdue in recent years have now been made publicly available to all potential contributors of I-O tables. These exercises are also good for those wanting to improve their GEMPACK skills.

Inter-country distances between all 113 GTAP 7 regions

by Rutherford, Thomas

Inter-country distances between all 113 GTAP 7 regions Links to GAMs and GEMPACK versions of material prepared by Tom Rutherford showing inter-country distances between all 113 GTAP 7 regions; with short program to compute the distance matrix for an aggregated region set.

GTAP 7 Data Base Summary Matrices

by Strzelecki, Alexandra and the Australian Productivity Commission

The GTAP Summary Matrices are Excel workbooks containing country specific data in two formats: Summary tables and SAMs for each of the 95 GTAP countries; and 1 workbook containing sector specific data. Note that data is not included for composite (or aggregated regions) in the GTAP 7 Data Base, hence these 95 regions represent individual countries in the GTAP 7 Data Base.

Agricultural Incentives Database

By Gallagher, Peter

This database contains all of the data from the World Bank [Distortions to Agricultural Incentives](#) project. The tables display, however, only 10 of the 81 fields of the World Bank data.

For a complete listing of utilities on the GTAP website, please visit: www.gtap.agecon.purdue.edu/resources/free_utilities.asp.

Center News

Publications



Thomas Hertel



Nelson Villoria

Hertel, T.W. "Modeling Competition for Land in the Context of Energy and Climate Policy", presented to the EPA Forum on GHG Modeling for Forestry and Agriculture, Washington, D.C., April 6-8, 2009.

Hertel, T.W. "Global Poverty Impacts of Biofuels", presented to the Farm Foundation Conference on Trade and Policy Impacts of Biofuels, Washington, D.C., March 30, 2009.

Hertel, Thomas W., "Long Run Projections of Global Agricultural Activity using GTAP", presented to the UK Science Advisor's Foresight Project on the Future of the Global Food System, London, UK, March 9, 2009.

Hertel, Thomas W. (with Wolfgang Britz), "Impacts of EU Biofuel Directives on Global Markets and Environmental Quality", presented to the Conference on Agriculture and Environmental Sustainability, Egmond aan Zee, The Netherlands, March 11, 2009.

Nelson B. Villoria, a graduate student at the Center, had "*China and the Manufacturing Terms-of-Trade of African Exporters*" published in the Journal of African Economies 2009; doi: 10.1093/jae/ejp004.

Travel

Thomas Hertel, Executive Director of the Center, traveled to the United Kingdom in March to attend a meeting on the "Future of the Global Food System" which was convened by the UK Science Advisor as well as to the Netherlands for meeting on agriculture and the environment which were sponsored by the EU.



Terrie Walmsley



Csilla Lakatos

Also in March, Terrie Walmsley, Director of the Center, attended a seminar put on by the Ministry of Finance, Paraguay with funding provided by JICA, Japan on issues related to Paraguay in MERCOSUR. Following this seminar, she traveled to South Africa to participate in the second meeting for AGRODEP, a proposed modeling network in Africa for Africans.

Csilla Lakatos, a graduate student and research assistant at the Center, is currently visiting Monash University in Melbourne, Australia. During her two month visit she will work with Terrie Walmsley in further developing the dynamic GTAP Model to accommodate FDI.

About GTAP



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The Global Trade Analysis Project is coordinated by the Center for Global Trade Analysis, which is housed in the Department of Agricultural Economics at Purdue University.

The Center for Global Trade Analysis' mission is to provide leadership in economic policy analysis through better data, fostering collaboration, and research.

Guidance and financial support for the project is provided by the GTAP Consortium, which consists of national and international agencies, with further support provided by sales of the GTAP Data Base.

If you are interested in learning more about GTAP and the Center for Global Trade Analysis, please visit our website: www.gtap.agecon.purdue.edu.

