



Center for Global Trade Analysis

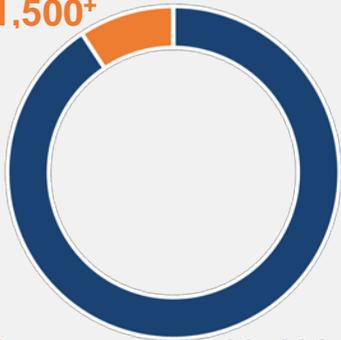
Newsletter, December 2015

Global Trade Analysis Project Overview (1992-2015)

GTAP NETWORK

New Members (2015)

1,500+



168

Countries
Represented

13,400+

Total Members

GTAP DATA BASE REGIONAL DISAGGREGATION



GTAP RESEARCH

"GTAP" Google Scholar Citations

19,000+



Impact Factors

15.195

GTAP Technical Paper Series

12.3

GTAP Working Paper Series

4.038

GTAP Research Memoranda Series

GTAP CONSORTIUM

Members

27

Members-at-Large

3

15

Countries Represented

GTAP EDUCATIONAL OUTREACH



Courses

48

Graduates

1,000+

Countries Represented

81

Scholarships Awarded

\$170,000+ externally funded

\$38,000+ internally funded

GTAP 9 Data Base

In May 2015, the Center for Global Trade Analysis released the ninth version of the GTAP Data Base, the centerpiece of the Global Trade Analysis Project, which is a fully documented, publicly available global data base containing complete bilateral trade information, transport and protection linkages. The GTAP Data Base represents the world economy and is utilized by thousands worldwide as a key input into contemporary applied general equilibrium (AGE) analysis of global economic issues.

What's New in GTAP 9?

- Three reference years: 2004, 2007 and 2011
- Additional regional disaggregation: 140 regions and 57 sectors

New regions: Benin, Burkina Faso, Guinea, Togo, Rwanda, Brunei Darussalam, Jordan, Dominican Republic, Jamaica, Puerto Rico, and Trinidad and Tobago

Updated regions: Brazil, Colombia, Paraguay, Belarus, Pakistan, Turkey, China, Japan, Korea, Singapore, Taiwan, Australia, New Zealand, Norway, Malawi, Mozambique, Nigeria, Senegal, Tanzania, and Zambia

- New macro-economic data for 2004, 2007, and 2011
- New bilateral merchandise trade data for 2011
- New protection data for 2007 and 2011
- New Time-Series Bilateral Trade data from 1995-2013
- Improved bilateral services trade and energy data for 2004, 2007, and 2011
- Revised OECD domestic support for 2004, 2007, and 2011
- Decomposition of tariff (into ad valorem and specific)
- CO₂ emissions dataset integrated into core data base
- Five labor skill categories

www.gtap.agecon.purdue.edu/databases/v9/

GTAP 9 Satellite Data and Utilities

The GTAP 9 Satellite Data and Utilities are developed for use alongside the GTAP 9 Data Base allowing users to more easily adapt the full suite of GTAP Models for analysis of global trade and environmental issues.

Currently Available

- **GTAP-Power** - electricity-detailed extension of the GTAP 9 Data Base
(cost: free with purchase of GTAP 9)

Coming in 2016

- **GDyn** - facilitates development of baseline projections consistent with GTAP 9 and for use with the GDyn Model
- **GMig₂** - contains global bilateral migration and remittances data consistent with the GTAP 9 Data Base
- **GTAP-E** - provides carbon dioxide emissions data distinguished by fuel and user for each GTAP 9 region
- **Non-CO₂ Emissions** - complements GTAP-E providing information on other greenhouse gas emissions

www.gtap.agecon.purdue.edu/databases/Utilities/

2015 GTAP Research Highlights

GTAP Technical Paper Series

Modern Trade Theory for CGE Modelling: the Armington, Krugman and Melitz Models
by Dixon, Peter, Michael Jerie and Maureen Rimmer
GTAP Technical Paper No. 36

GTAP Working Paper Series

Using continental grids to improve our understanding of global land supply responses: Implications for policy-driven land use changes in the Americas
by Villoria, Nelson and Jing Liu
GTAP Working Paper No. 81

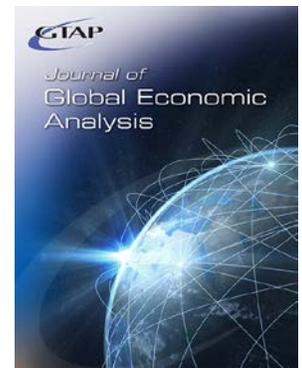
GTAP Research Memoranda Series

Development of the GTAP Land Use Data Base for 2011
by Pena Levano, Luis Moises, Farzad Taheripour and Wally Tyner
GTAP Research Memorandum No. 28

Journal of Global Economic Analysis

Set to release its inaugural issue in 2016, the *Journal of Global Economic Analysis* (JGEA), edited by Thomas Hertel, Center for Global Trade Analysis, Purdue University, and Niven Winchester, MIT, and guided by an Editorial Advisory Board comprised of distinguished scholars and practitioners in AGE modeling and related disciplines,

- provides an open access, peer-reviewed platform for publication and dissemination of innovations in applied general equilibrium (AGE) modeling;
- publishes developments in theory, data, statistical analysis, methods, and teaching;
- enhances the credibility of AGE modeling by requiring replication of results during the peer-review process and, when possible, publication of new model code and data on the journal's website; and
- builds on and extends the high-impact, peer-reviewed GTAP Technical Paper Series.



www.jgea.org

Center for Global Trade Analysis Publications

Liu, J., T.W. Hertel, N.S. Diffenbaugh, M.S. Delgado and M. Ashfaq (2015). "Future property damage from flooding: Sensitivities to Economy and Climate Change", *Climatic Change* August, DOI 10.1007/s10584-015-1478-z

Baldos, U.L.C. and T.W. Hertel (2015). "The Role of International Trade in Managing Food Security Risks from Climate Change", *Food Security* <http://link.springer.com/article/10.1007/s12571-015-0435-z#page-1>

Golub, A., T.W. Hertel, and S. Rose. "Global Land Use Impacts of US Ethanol: Revised Analysis Using Dynamic GTAP-BIO framework". Book chapter prepared for inclusion in *Handbook of Bioenergy Economics and Policy: Modeling Land use and Greenhouse Gas Emissions Implications*, edited by Madhu Khanna and David Zilberman. *Forthcoming*.

Publications (cont.)

- Hertel, T.W. (2015). "The Challenges of Sustainably Feeding a Growing Planet", *Food Security*
<http://link.springer.com/article/10.1007/s12571-015-0440-2>
- Irfanoglu, B., J. Sesmero, and A. Golub. (2015). "Potential of Border Tax Adjustments to Deter Free Riding in International Climate Agreements", *Environmental Research Letters*, 10.
- Liu, Jianguo, H. Mooney, V. Hull, S.J. Davis, J. Gaskell, T.W. Hertel, J. Lubchenco, et al. (2015). "Systems Integration for Global Sustainability." *Science* 347 (6225): 1258832. doi:10.1126/science.1258832.
- Plevin, R., J. Beckman, A. Golub, J. Witcover, and M. O'Hare. (2015). "Carbon Accounting and Economic Model Uncertainty of Emissions from Biofuels-Induced Land use Change", *Environmental Science and Technology*.
- Walmsley, T.L., A.H. Aguiar and S.A. Ahmed (2015). "Labor Migration and Economic Growth in East and Southeast Asia", *World Economy*, forthcoming.
- Britz, Wolfgang, Perez, Ignacio and G. Badri Narayanan (2015). Analyzing Results from Large-Scale Agricultural Economic Simulation Model Results: Recent Progress and the Way Ahead, *German Journal of Agricultural Economics* 64(2): 107-119.
- Steinbuck, Jevgenijs and G. Badri Narayanan. (2015) Fossil Fuel Producing Economies have Greater Potential for Inter-fuel Substitution, *Energy Economics* 47: 168-77.
- Prity Sinha, Brinda Viswanathan and Badri Narayanan (2015). Financial Market and Growth: Evidence from post-reforms India, *Cogent Economics and Finance* 3(1).
- Huang, Cheng-kui, Ting-Yi Chang and G. Badri Narayanan (2015), Mining the Change of Customer Behavior in Dynamic Markets, *Information Technology and Management*: 16(2):117-138.
- Hertel, T., W., J. Steinbuck and W.E. Tyner, (2015) "What Is the Social Value of Second Generation Biofuels?", *Applied Economic Perspectives and Policy*, doi: 10.1093/aep/ppv027.
- Hertel, Thomas W. and U.L.C. Baldos, 2016. *Global Change and the Challenge of Sustainably Feeding a Growing Planet*, New York: Springer, E-book available at: <http://link.springer.com/book/10.1007/978-3-319-22662-0>.

Center for Global Trade Analysis Presentations

- Akgul, Z., N. Villoria and T.W. Hertel. (2015). "Firm Heterogeneity for Mainstream Policy Analysis: Introducing Melitz into the GTAP Model," Invited Seminar at USDA-ERS, January 2015.
- Hertel, T.W., based on work with Uris Baldos, Noah Diffenbaugh, Monika Verma and others, "Climate Change, Agriculture, Land Use and Poverty", Presentation to the Johns Hopkins School of Advanced International Studies (SAIS), February 5, 2015, Washington, DC.
- Hertel, T.W., based on work with Uris Baldos, Noah Diffenbaugh and Monika Verma, "Climate Change, Agriculture and Food Security", Presentation to the Climate Change Group of the World Bank, February 5, 2015, Washington, DC.
- Hertel, T.W. "Global Change and the Challenges of Sustainably Feeding a Growing Planet", Opening plenary address to the meetings of the Australian Agriculture and Resource Economics Society, Rotorua, New Zealand, February 11, 2015.
- Hertel, T.W. "Global Change and the Challenges of Sustainably Feeding a Growing Planet", Filley-Geary Annual Lecture, Department of Agricultural Economics, University of Nebraska, Lincoln, March 6, 2015.

Presentations (cont.)

- Hertel, T.W. "Climate Adaptation and Mitigation: An Economic Perspective on Land-based Policies and Food Security", plenary talk to the IPCC Summit on Food Security, Dublin, Ireland, May 28, 2015.
- Narayanan, Badri. An Overview of GTAP Data Base, 23rd IIOA (International Input Output Association) Conference, Mexico City, June 2015, coauthored with Robert McDougall and Angel Aguiar.
- Narayanan, Badri. Impact of India's Food Security Policy across Household Types, 18th Annual Conference on Global Economic Analysis, Melbourne, Australia, June 2015 and 2015 AAEA Meetings at San Francisco, July 2015, co-authored with Dileep Birur and Angel Aguiar.
- Narayanan, Badri. Water Scarcity in South Asia: A Dynamic Computable General Equilibrium Analysis, 18th Annual Conference on Global Economic Analysis, Melbourne, Australia, June 2015, and 2015 AAEA Meetings at San Francisco, July 2015, co-authored with Farzad Taheripour, Thomas Hertel, Sebnem Sahin and Jorge Escurra.
- Golub, A., T. Hertel, Y. Cai, and J. Steinbuks. "Energy Price Uncertainty and Global Land Use". Poster presented at 2015 AAEA meeting. San Francisco, California, USA, July 26-28, 2015.
- Hertel, T.W. "Agricultural Impacts of Climate Change: Adaptation and Mitigation", presentation to the 21st annual meeting on Integrated Assessment of Climate Change, Snowmass, Colorado, July 28, 2015.
- Hertel, T.W. and U.L.C. Baldos, "Green Revolutions Past and Future: Implications for Food Security and the Environment", presentation to the EU-IATRC conference on Global Food Security Challenges, Milan, Italy, August 7-8, 2015.
- Hertel, T.W. "Green Revolutions Past and Future: Implications for Food Security and the Environment", presentation to the EAAE-IATRC Conference on Global Food Security, Milan, Italy, August 7-8, 2015.
- Baldos, U.L.C., T.W. Hertel and Keith Fuglie, "Appraising the costs and benefits for R&D led climate adaptation", invited panel presentation at the International Conference of Agricultural Economists, Milan, Italy, August 10, 2015.
- Hertel, T.W., based on a paper with Uris Baldos and Keith Fuglie "Appraising the gains from R&D-led climate adaptation in agriculture", presentation at the International Conference of Agricultural Economists, Milan, Italy, August 10, 2015.
- Dominique van der Mensbrugghe participated at an AgMIP workshop on "Coordinated Global and Regional Integrated Assessments of Climate Change and Food Security" hosted by the Aspen Global Change Institute in Aspen, CO 14-18 September.
- Dominique van der Mensbrugghe participated on a panel on "Defining Inequality and its Role in Complex Systems" held during the 9th Annual Ecological Sciences and Engineering (ESE) Symposium on 21 September at Purdue University.
- Hertel, T.W., based on work with U.L.C. Baldos and Keith Fuglie, "Food and Environmental Security in an Era of Globalization", Opening plenary talk to the German Association of Agricultural Economists, Gewisola, in Giessen, Germany, September 23, 2015.
- Hertel, T.W., "Global Land use Modeling for the Food-Energy-Water Nexus", presentation to the NSF workshop on Food Energy and Water Systems, Iowa State University, October 12, 2015.
- Dominique van der Mensbrugghe participated in a 1-day workshop on "The Nexus Between Land, Water and Energy" at the OECD in Paris on 20 October. The workshop was the third ad-hoc technical workshop on the *Costs of Inaction and Resource Scarcity: Consequences for Long-term Economic Growth (CIRCLE)* project of the OECD's Environment Directorate. While in Europe, he also visited LEI/Wageningen in The Hague and the Institute for Food and Resource Economics (ILR) at Bonn University.
- Narayanan, Badri and Roman Keeney. "Evaluating Agricultural Domestic Support in Developing Countries", 2015 IATRC Annual Meeting, Clearwater Beach, Florida, December 2015.

Presentations (cont.)

Akgul, Zeynep and Nelson Villoria. "Firm Heterogeneity, Non-Tariff Measures, and International Trade Agreements: The Case of US-EU TTIP Agreement on Beef Trade", 2015 IATRC Annual Meeting, Clearwater Beach, Florida, December 2015.

Golub, Alla and Badri Narayanan. "Global Economic Impacts of Russian Restrictions on Food Imports", 2015 IATRC Annual Meeting, Clearwater Beach, Florida, December 2015.

Birur, Dileep, Angel Aguiar and Badri Narayanan. "Impact of India's Food Security Policy across Household Types", 2015 IATRC Annual Meeting, Clearwater Beach, Florida, December 2015.

2016 GTAP Events

2016-1 GTAP 101 Course

"Introduction to Computable General Equilibrium Modeling"

January 25 - March 6, 2016 | Online Course

**Application period closed*

2016 GTAP Advisory Board Meeting

June 13-14, 2016 | Washington DC, USA

19th Annual Conference on Global Economic Analysis

"Analytical Foundations for Cooperation in a Multipolar World"

June 15-17, 2016 | Washington DC, USA

**Abstracts and organized session proposals due January 15*

24th Annual Short Course in Global Trade Analysis

"Introduction to Applied General Equilibrium Analysis in a Multi-Region Framework"

August 6-12, 2016 | West Lafayette, IN, USA

**Applications due February 28*

2016-2 GTAP 101 Course

"Introduction to Computable General Equilibrium Modeling"

September 12 - October 28, 2016 | Online Course

**Accepting applications April 1 – June 26*

www.gtap.agecon.purdue.edu/events/



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