

### **GTAP-Related Activities at USDA Economic Research Service**

The Economic Research Service (ERS) of the U.S. Department of Agriculture has a long-standing set of research activities feeding into GTAP as well as building upon it. Mark Gehlhar contributes the bilateral trade and transport data base for GTAP. Mark is currently working on distinguishing trade by mode of transport. Marinos Tsigas provided agricultural protection data for OECD countries. Paul Gibson is coordinating a project with ERS, UNCTAD, the OECD, the EU Commission and other organizations to assemble a database of agricultural protection. Ken Hanson and Agapi Somwaru provided the U.S. input/output table, while Zhi Wang helped to produce a Chinese input/output table. ERS utilizes GTAP products to conduct research in three broad areas--world food security, trade agreements, and global change. Research on trade agreements focuses on free trade in three regions--Asia, the Americas, and Europe. Research on global change includes analyses of global climate change, trade and the environment, population growth, and ecosystem protection policies. For these analyses, ERS uses a modified version of GTAP as the main economic component in its Future Agricultural Resources Model (FARM). FARM allocates land as a primary factor to all economic sectors, disaggregates land by class, and treats supplies of agricultural and forest products from each land class in a distinct manner.

### **Recent Publications**

Coyle, William, Mark Gehlhar, Thomas Hertel, Zhi Wang and Wusheng Yu. 1998. "Understanding the Determinants of structural Change in World Food Markets" *American Journal of Agricultural Economics*, 80(December):1052-1062.

Coyle, William, Warwick McKibbin and Zhi Wang. 1998. "The Asia Financial Crisis and Global Adjustment: Implications for U.S. Agriculture" paper presented at Chinese Economist Society Annual Meeting, August, Towson University, Baltimore, MD.

Coyle, William, Warwick McKibbin and Zhi Wang. 1998. "The Asian Financial Crisis: Effects on U.S. Agriculture" (Staff paper No. 9805). United States Department of Agriculture, Economic Research Service, Washington, DC.

Coyle, William, Warwick McKibbin, Zhi Wang and Michael Lopez. 1998. "The Asian Financial Crisis: Impact on U.S. Agriculture" *Choices*, Fourth Quarter, 1998:2-7.

Coyle, William and Zhi Wang. 1998. "Economic Integration and Open Regionalism in APEC: the Gains for U.S. Agriculture", in Burfisher, Mary and Elizabeth Jones eds. *Regional Trade Agreements and U.S. Agriculture*. (Agriculture Economic Report, No. 771). United States Department of Agriculture, Economic Research Service, Washington, DC. pp. 108-120.

Coyle, William and Zhi Wang. 1998. "Open Regionalism in APEC: Impact on U.S. Agricultural Trade." Paper presented at Annual Meeting of the American Agricultural Economics Association, August 2-5, Salt Lake City, UT.

Darwin, R.F. 1998. "Economic Effects of CO<sub>2</sub> Fertilization of Crops." Working paper submitted to *Environmental Modeling and Assessment*.

Darwin, R.F. 1998. "Economic Modeling of Land Use and Cover Change." Presented at an Ecological Economics Program Seminar, March 10, Australian National University, Canberra, Australia.

Darwin, R.F. 1998. "FARM: A Global Framework for Integrated Land Use/Cover Modeling." Poster presented at the GCTE-LUCC Open Science Conference, March 14-18, Barcelona, Spain.

Darwin, R.F. 1998. "Land Use and Cover Change in Ecological Economics." Presented at a meeting of the Centre for Resource and Environmental Studies, February 26, Australian National University, Canberra, Australia.

Darwin, R.F. 1998. "Modeling Global Change and Agricultural Systems." Presented at a meeting of the Australian Capital Territory Branch of the Australian Agricultural and Resource Economics Society, February 18, Canberra, Australia.

Darwin, R.F. 1998. "Modeling Global Climate Change and Agriculture: Recent Findings and Implications." Presented at a *Workshop on Climate Change Impacts and Integrated Assessment*, sponsored by the Energy Modeling Forum, August 2-11, Snowmass, CO.

Darwin, R.F. 1999. "A FARMer's View of the Ricardian Approach to Measuring Effects of Climatic Change on Agriculture." Forthcoming in *Climatic Change*.

Darwin, R.F. and R.S.J. Tol. 1998. "Estimates of the Economic Effects of Sea Level Rise," Vrije Universiteit, Institute for Environmental Studies, Amsterdam.

Echavarria, Juan Jose and Marinos E. Tsigas. 1998. "Open Regionalism in the Andean Countries," paper presented in First Annual Conference on Global Economic Analysis, June 8-10, Purdue University, West Lafayette, IN.

Ehui, Simeon and Marinos E. Tsigas,. 1998. "Trade and Productivity Policy Options in South Asia: Implications for Livestock Products," paper presented in First Annual Conference on Global Economic Analysis, June 8-10, Purdue University, West Lafayette, IN

Frisvold, G. and M. Tsigas. 1998. "How Reliable Are Partial Equilibrium Measures of Climate Change Impacts?" Under review at the *Agricultural and Resource Economics Review*.

Gehlhar M. 1998. "Multilateral and Regional Trade Reforms: A Global Assessment from a U.S. Perspective" in *Regional Trade Agreements and U.S. Agriculture*. (Agricultural Economic Report No. 771) U.S. Economic Research Service, Washington, DC.

Ingco, Merlinda and Marinos E. Tsigas. 1998. "Implementation of Market Access Commitments in Agriculture: Welfare Evaluation of Issues for the Next Round of Negotiations," paper presented in First Annual Conference on Global Economic Analysis, June 8-10, Purdue University, West Lafayette, IN.

Lewandrowski, J., R.F. Darwin, M. Tsigas, and A. Ranases. 1999. "Estimating Costs of Protecting Global Ecosystem Diversity,." Forthcoming in *Ecological Economics*.

Liapis, Pete and Marinos E. Tsigas. 1998. "CEEC (Central and Eastern European Countries) Accession to the European Union: A General Equilibrium Analysis," chapter 5 in *Regional Trade Agreements and U.S. Agriculture*. (Agricultural Economics Report No. 771). U.S. Department of Agriculture, Economic Research Service, Washington, DC.

Liu, Li-Gang, Marcus Noland, Sherman Robinson and Zhi Wang. 1998. "Asian Competitive Devaluations." (Working Paper Series, No. 98-2). Institute for International Economics, Washington DC.

Liu, Li-Gang, Marcus Noland, Sherman Robinson and Zhi Wang "Asian Competitive Devaluations" Forthcoming in *The World Economy*.

Noland, Marcus, Li-Gang Liu, Sherman Robinson and Zhi Wang. 1998. "Global Economic Effects of the Asian Currency Devaluations", Institute of International Economics, Washington DC.

Noland, Marcus, Sherman Robinson and Zhi Wang. 1998. "The Global Economic Effects of the Japanese Crisis." (Working Paper Series, No. 98-6). Institute for International Economics, Washington DC.

Shane, M., Teigen, L., Gehlhar, M., and Roe, T. 1998. "Economic Growth and World Food Insecurity: A Parametric Approach," Paper presented to the Annual GTAP Conference, June 8-10, Purdue University, West Lafayette, IN.

Stevens, Jennifer and Marinos E. Tsigas. 1998. "Trade Implications of Timber Certification in the European Union." Paper presented at Annual Meeting of the American Agricultural Economics Association, August 2-5, Salt Lake City, UT.

Wang, Zhi. 1998. "The Emergence of a 'Create China' and its Impact on World Trade -- a Computable General Equilibrium Analysis." Paper presented at annual meeting of American Association of Chinese Studies, October 31, New York, NY.

Wang, Zhi. 1998. "The Impact of Joining WTO on Trade Relationship across Taiwan Straits" Economic Report, Chung-Hwa Institute for Economic Research, Taipei, Taiwan.

Wang, Zhi, Zhai Fan and Shang-tong Li. 1998. "The Global and Domestic Impact of China Joining the World Trade Organization." Paper presented at annual conference of China Economic Research Program supported by Ford Foundation, June 20, Beijing, China.

Wei, Shag-Jin, Ligang Liu, Zhi Wang and Wing Woo. 1998. "The China Money Puzzle: Will Devaluation of the Yuan Hurt Hong Kong Dollar?" Working paper.