

Report on GTAP-Related Activities at the World Bank 2006-7

Kym Anderson used GTAP extensively in analyses of the Doha agenda, which received the AAEA Quality of Communication award and the Australian Association of Agricultural and Resource Economists' award for quality of research discovery. His current focus is on the measurement of distortions to agricultural incentives, which will contribute a substantial set of papers to this year's Global Economic Analysis conference. Some publications included:

- Anderson, K., Martin, W. and van der Mensbrugghe, D. (2006) 'Doha merchandise trade reform: what is at stake for developing countries?' *World Bank Economic Review* 20(2):169-96.
- Anderson, K., Martin, W. and van der Mensbrugghe, D. (2006) 'Impact of global trade and subsidy policies on developing country trade' *Journal of World Trade* 40(5):945-69, Oct.
- Anderson, K., Martin, W. and Valenzuela, E. (2006) 'The Relative Importance of Global Agricultural Subsidies and Market Access' *World Trade Review* 5: 1-23, Nov.
- Anderson, K., Martin, W. and van der Mensbrugghe, D. (2006) 'Distortions to World Trade: Impacts on Agricultural Markets and Incomes', *Review of Agricultural Economics* 28(2):168-194. An earlier version was circulated as World Bank Policy Research Working Paper 3736, Washington DC, October 2005.
- Anderson, K., Martin, W. and van der Mensbrugghe, D. (2006) 'Would Multilateral Trade Reform Benefit Sub-Saharan Africa?' *Journal of African Economies* 15(1): 626-670. An earlier version was circulated as CEPR Discussion Paper No. 5049, London and as World Bank Policy Research Working Paper 3616, Washington DC, June 2005.

Maurizio Bussolo, Rafael De Hoyos, and Denis Medvedev have developed a new framework for *ex ante* analysis of the income distribution and poverty effects of trends in global markets and macroeconomic policy changes. Their GIDD system (Global Income Distribution Dynamics) pools and harmonizes most of the currently available household surveys, with the final dataset covering 91 percent of the world's population in 2000. GIDD uses price and quantity changes from a global CGE model (LINKAGE) to create a counterfactual global income distribution, which for the first time allows researchers to simultaneously analyze both between- and within-country distributional consequences of global policies. GIDD has been featured in the following work:

- Bussolo, Maurizio and Denis Medvedev. "Income Distribution, Inequality, and Those Left Behind." In World Bank, *Global Economic Prospects 2007: Managing the Next Wave of Globalization*. Washington, DC: World Bank, 2006.
- Bussolo, Maurizio, Rafael De Hoyos, Denis Medvedev and Dominique van der Mensbrugghe. "Global Growth and Distribution: Asia and Its Progression to Developed Status." Paper presented at ADB conference, Bangkok, Thailand, 11-12 December 2006.

Bussolo, Maurizio, Rafael De Hoyos, Denis Medvedev and Dominique van der Mensbrugge. "Global Growth and Distribution: Are China and India Reshaping the World?" Paper presented at UNU-WIDER conference, Beijing, China, 12-13 January 2007.

Bussolo, Maurizio, Rafael De Hoyos and Denis Medvedev. "Are Incomes Around the World Converging or Diverging? The Prospects for Global Income Inequality." Paper prepared for the 10th Annual GTAP conference, West Lafayette, Indiana, 6-9 June 2007.

Bussolo, Maurizio, Rafael De Hoyos, Denis Medvedev and Victor Sulla. "Demographic Changes, Economic Growth and Income Distribution: An Empirical Analysis Using Ex-Ante Microsimulations." Background Paper for *Global Economic Prospects 2007: Developing Countries and the Coming Globalization*. Washington, DC: World Bank, forthcoming.

Simeon K. Ehui of the Nigeria Country Office, Abuja worked on:

Tsigas, M. and S. Ehui, 2006, "The Role of Agriculture in Nigeria's Economic Growth: A General Equilibrium Analysis," paper presented at 9th Annual Conference on Global Economic Analysis, June, Addis Ababa, Ethiopia.

And is working now on: Simeon Ehui and Marinos Tsigas. Policies for growth and poverty alleviation in Nigeria (in progress).

Thomas Hertel and **Alan Winters** work using GTAP included:

Hertel, T.W., R. Keeney, M. Ivanic and L.A. Winters, 2007. "Distributional Impacts of WTO Reforms in Rich and Poor Countries," *Economic Policy* 50(1):1-49 (April).

Hertel, T.W., R. Keeney, M. Ivanic and L.A. Winters, 2007. "Why Isn't the Doha Development Agenda More Poverty Friendly?" under review with the *Review of Development Economics*. (Also presented by Alan at a conference at Vanderbilt.)

Co-Editor, AAEA Quality of Communication Award Winning Book: Hertel, Thomas W. and L. Alan Winters (editors), 2006. *Poverty and the WTO: Impacts of the Doha Development Agenda*, New York: Palgrave MacMillan.

Elena Ianchovichina worked using the dynamic GTAP model and a model incorporating duty exemptions for intermediate inputs used in the production of exports:

Walmsley, T., T. Hertel, and E. Ianchovichina (2006) "Assessing the Impact of China's WTO Accession on Investment," *Pacific Economic Review* 11(3).

Ianchovichina, E. (2007) "Are Duty Drawbacks on Exports Worth the Hassle?" *Canadian Journal of Economics*, forthcoming.

Dimaranan, B., E. Ianchovichina and W. Martin (2006) "Competing with Giants: Who Wins? Who Loses?" in Winters and Yusuf (eds.) *Dancing With Giants: China, India and the Global Economy*, World Bank Press.

Will Martin worked with Kym Anderson, Dominique van der Mensbrugge and Ernesto Valenzuela on Doha analyses; with Betina Dimaranan and Elena Ianchovichina on modeling trade export growth taking into account the impact of new products on export demand; with Tom Hertel on developing scenarios for the Doha Agenda; Sebastien Jean and David Laborde on modeling sensitive products; with Maros Ivanic on Special Products. Some publications not reported elsewhere in this report included:

Martin, W. and Anderson, K. (2006) 'The Doha Agenda negotiations on agriculture: what could they deliver?' *American Journal of Agricultural Economics* 88(5):1211-18.

Ianchovichina, E. and Martin, W. (2006), 'Trade Impacts of China's World Trade Organization Accession' *Asian Economic Policy Review* 1(1): 45-65, June.

Anderson, K. and Martin, W. (2007). 'Agricultural tariff and subsidy cuts in the Doha round. Ch 3 in Crump, L. and Maswood, S.J. eds. *Developing Countries and Global Trade Negotiations* . Routledge, London.

Sebnem Sahin and **Dominique van der Mensbrugghe** have been working on the effects of consumer demand parameters on trade policy analysis by linking GTAP and UN - COICOP databases and their application to the World Bank Linkage model (*to be presented at the GTAP conference 2007*).

David Tarr and Jesper Jensen are undertaking to contribute additional countries to the GTAP database from the 11 CIS countries not presently in the database. They have committed to supply Armenia, Azerbaijan and Georgia to the database. In addition, they will attempt to supply additional CIS countries not presently represented in the GTAP database. The database already includes Russia, and GTAP has recently received submissions for Kazakhstan and Kyrgyzstan. . These data will be available to the GTAP community very shortly.

Thomas Rutherford, David Tarr and Jesper Jensen have recently produced several CGE based papers in which they have incorporated foreign direct investment in services and endogenous productivity effects from liberalization of barriers against multinational service providers. The results for welfare and poverty impacts of trade liberalization are significantly different in these models. The papers include:

Jesper Jensen, Thomas Rutherford and David Tarr (2007), "The Impact of Liberalizing Barriers to Foreign Direct Investment in Services: The Case of Russian Accession to the World Trade Organization," forthcoming in *Review of Development Economics*, Vol 11 (3), August.

Jesper Jensen, Thomas Rutherford and David Tarr (2006) "Telecommunications Reform within Russia's Accession to the WTO," *Eastern European Economics*. Vol 44 (1), January-February, 25-58.

Thomas Rutherford, David Tarr and Oleksandr Shepotylo (2006), "The Impact on Russia of WTO Accession and The Doha Agenda,": in Thomas Hertel and L. Alan Winters (eds.), *Putting Development Back into the Doha Agenda: Poverty Impacts of a WTO Agreement*.

Ernesto Valenzuela prepared the following papers using GTAP model and database published in 2006-07:

Anderson, Kym, Ernesto Valenzuela, and Lee Jackson (2008). "Recent and Prospective Adoption of Genetically Modified Cotton: A Global CGE Analysis of Economic Impacts". *Economic Development and Cultural Change* 56(2) forthcoming January.

- Anderson, Kym, and Ernesto Valenzuela (forthcoming). "The World Trade Organization's Doha Cotton Initiative: A Tale of Two Issues". *The World Economy*.
- Valenzuela, Ernesto, Thomas Hertel, Roman Keeney, and Jeffrey Reimer (2007). "Assessing Global CGE Model validity using Agricultural Price Volatility". *American Journal of Agricultural Economics* 89(2):385-399.
- Anderson, Kym, and Ernesto Valenzuela (2007). "Do Global Trade Distortions Still Harm Developing Countries?". *Review of World Economics* 143(1):108-139 (formerly *Weltwirtschaftliches Archiv*).
- Anderson, Kym, Will Martin, and Ernesto Valenzuela (2006). "The Relative Importance of Global Agricultural Subsidies and Market Access". *World Trade Review* 5(3):1-23.

Dominique van der Mensbrugge used GTAP data in a number of analyses, including:

1. Used Linkage coupled with GTAP 6.2 to look at various scenarios of the world in 2030. Some of the highlights included a focus on demographics and labor markets, including how demographics influences savings and investment, and labor supply. We also looked at internal migration (rural to urban) and skilled vs. unskilled labor. The results from the scenario exercise were fed into **Maurizio Bussolo's** new GIDD system (Global Income Distribution Dynamics). Essentially, the GIDD pools all existing household surveys (after considerable harmonization) into a single world distribution. This world distribution is 'aged' til 2030. The results from the Linkage model--for example on wages (rural/urban, skilled/unskilled) are fed into the world survey and a new distribution is the outcome. The scenario work was the basis for Chapter 2 in this year's global economic prospects ("The Coming Globalization") that fed into chapter 3 on global distribution ("Income Distribution, Inequality and those left behind") and chapter 4 on labor markets ("New Pressures in Labor Markets: Integrating Large Emerging Economies and the Global Sourcing of Services"). There are a number of spinoffs of this work. 1) We are working with the Chief Economist's office on the Long-term Strategy Note requested by the Executive Board; 2) We are preparing a paper for Michael Spence's Growth Commission Report; and 3) We are helping with the Chinese CEM that is devoted to China, its future role in the global economy and resource use.
2. Continued a fair amount of work with Linkage in the context of Doha. Three main areas: 1) Work with Will Martin and David Laborde on specific Doha scenarios and their implications; 2) Work with Kym Anderson on his major new project; and 3) more work on variants of the model to compare with other models and the critics. In the case of the latter, we presented a paper in Addis comparing the Linkage results with the standard GTAP model. More recently, I have prepared a paper that looks more carefully at labor market issues.
3. We are beginning to use the preliminary release of GTAP 7. This will provide the basis for a new project on the economics of climate change with a focus on developing countries.